

Appendix I

Transportation Study



From: Maximous, Andrew <Andrew.Maximous@culvercity.org>
Sent: Monday, September 11, 2023 9:10 PM
To: David Roachford <droachford@gibsontrans.com>
Cc: Richard Gibson <rgibson@gibsontrans.com>; Rebecca Avanesian <ravanesian@gibsontrans.com>; Mendivil, Jose <jose.mendivil@culvercity.org>; Ramirez, Erika <Erika.Ramirez@culvercity.org>
Subject: RE: 5700 Hannum Avenue Transportation Study

Hi David,

Thank you. No comments. This TIA is approved.

I already show payment for the MOU and TIA reviews.

+Andrew Maximous, P.E., T.E.
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From: David Roachford <droachford@gibsontrans.com>
Sent: Thursday, August 24, 2023 10:03 AM
To: Maximous, Andrew <Andrew.Maximous@culvercity.org>
Cc: Richard Gibson <rgibson@gibsontrans.com>; Rebecca Avanesian <ravanesian@gibsontrans.com>
Subject: 5700 Hannum Avenue Transportation Study

Hi Andrew,

Please find the attached *Transportation Study For 5700 Hannum Avenue*, Gibson Transportation Consulting, Inc., August 2023.

Let us know if you have any questions or comments and we will be happy to review and discuss.

Please also send us the invoice for the traffic study review at your earliest convenience.

Thanks,
David

David Roachford

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**TRANSPORTATION STUDY
FOR
5700 HANNUM AVENUE
CULVER CITY, CALIFORNIA**

AUGUST 2023



**PREPARED FOR
LPC WEST, INC**

PREPARED BY



**TRANSPORTATION STUDY
FOR
5700 HANNUM AVENUE
CULVER CITY, CALIFORNIA**

August 2023

Prepared for:

LPC WEST, INC.

Prepared by:

GIBSON TRANSPORTATION CONSULTING, INC.

555 W. 5th Street, Suite 3375
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Ref: J2041

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Chapter 1

Introduction

This study presents the transportation assessment for the proposed development of a mixed-use project (Project) at 5700 Hannum Avenue (Project Site) in the City of Culver City, California (City). The methodology and base assumptions used in the analysis were established in conjunction with the City Public Works Department (CCPWD) Mobility and Traffic Engineering Division.

PROJECT DESCRIPTION

The Project proposes the development of a six-story mixed-use building with 309 total apartment units, 27 of which are reserved for Very Low Income households, and 5,600 square feet (sf) of ground floor retail uses. The existing 30,672 sf of office uses would be replaced with development of the Project. Vehicular access to the three-level parking structure on-site would be provided via two driveways, one on Hannum Avenue (Hannum Driveway) and one on Buckingham Parkway (Buckingham Driveway). Both driveways would provide full access to the parking structure, though the Buckingham Driveway would be restricted to residential vehicles only. Pedestrian and bicyclist access to the Project Site would be provided via separate entrances along Hannum Avenue, with separate entrances for the residential and commercial uses.

The conceptual Project site plan is illustrated in Figure 1.

Full buildout of the Project is anticipated in Year 2027.

PROJECT LOCATION

As shown in Figure 2, the Project Site is bounded by Hannum Avenue to the north, Buckingham Parkway to the east and south, and commercial uses to the west. The surrounding area is urbanized with a mixture of residential, industrial, and commercial uses.

The Project is located approximately 0.5 miles east of State Route 90 (SR 90), which provides regional transportation between Culver City and Marina Del Rey. The Project is also located approximately 0.8 miles east of Interstate 405 (I-405), which provides regional access between the San Fernando Valley and Irvine. The Project Site is primarily served by Hannum Avenue.

Nearby transit service is provided along Hannum Avenue and Slauson Avenue by Culver CityBus and Los Angeles County Metropolitan Transportation Authority (Metro) bus lines.

STUDY SCOPE

The scope of analysis for this study was developed in consultation with the City and is consistent with *Culver City Transportation Study Criteria and Guidelines* (CCPWD, July 2020) (Guidelines) and in compliance with the California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Title 14, Section 15000 and following). The base assumptions and technical methodologies (i.e., trip generation, study locations, analysis methodology, etc.) were identified as part of the study approach and were outlined in a Memorandum of Understanding (MOU) that was reviewed and approved by CCPWD in July 2023 and is provided in Appendix A.

ORGANIZATION OF REPORT

This report is divided into six chapters, including this introduction. Chapter 2 describes the transportation network including the existing and future circulation system, traffic volumes, and traffic conditions in the Project area. Chapter 3 provides the Project traffic and trip distribution analyses. Chapter 4 presents the CEQA analysis of transportation impacts. Chapter 5 details the non-CEQA transportation analyses. Chapter 6 summarizes the analyses and study conclusions. The appendices contain supporting documentation, including the signed MOU that outlines the study scope and assumptions and additional details supporting the technical analyses.



PROJECT SITE PLAN

FIGURE
1



LEGEND

 Project Site



PROJECT SITE LOCATION

FIGURE 2

Chapter 2

Transportation Network Review

A comprehensive data collection effort was undertaken to develop a detailed description of existing and future conditions in the Project area.

The Existing Conditions analysis includes an assessment of the existing transportation infrastructure and conditions including freeway and street systems, and transit service, as well as pedestrian and bicycle circulation, at the time the MOU was approved in June 2023. Fieldwork (lane configurations, signal phasing, parking restrictions, etc.) for the analyzed intersections was collected in Year 2023.

In addition, this Chapter contains a discussion of the Future Conditions assumptions used to develop the Future without Project Conditions in Year 2027, which corresponds to projected occupancy of the Project, and Cumulative without Project Conditions in Year 2045, which corresponds to the horizon year of the *Culver City General Plan* (City of Culver City, May 1995) (General Plan) update.

STUDY AREA

The Project's transportation analysis Study Area, shown in Figure 3, includes intersections along Slauson Avenue, Green Valley Circle, and Bristol Parkway. This Study Area was established in consultation with CCPWD.

A total of 11 intersections, listed in Table 1, were identified for detailed analysis during the MOU process. The list of Study Intersections was reviewed and approved by the City. The existing lane configurations at the analyzed intersections are provided in Figure 4.

EXISTING TRANSPORTATION CONDITIONS

Existing Street System

The existing street system in the Study Area consists of a regional roadway system including arterials and local streets that provide regional, sub-regional, or local access and circulation within the Study Area. These transportation facilities generally provide two to six travel lanes and left-turn lanes and usually allow parking on one or both sides of the street. Hannum Avenue provides Class II bicycle lanes. Typically, the speed limits range between 25 and 35 miles per hour (mph) on the streets and 55 mph on the freeways.

Street classifications for City roadways are designated in *Culver City General Plan Circulation Element* (adopted May 24, 2004) (Circulation Element). The Circulation Element defines specific street standards in an effort to effectively link and serve local and regional transportation systems. Per the Circulation Element, street classifications are defined as follows:

- Freeways are specialized arterials with limited access and are grade-separated from the City's street system. Their primary function is to carry large volumes of traffic at high speed throughout the region.
- Primary Arterials are major cross-town thoroughfares with desired ROW widths of 95 feet or more. Traffic flow on Primary Arterials is characterized as high volume and fast-moving. Direct access onto Primary Arterials from private driveways should be limited or prohibited. Where private driveways are prohibited, Primary Arterials are designed as controlled access streets.
- Secondary Arterials provide links between Collectors and Primary Arterials with desired ROW widths of 80 to 94 feet.
- Collectors provide a means for the movement of traffic from Local Streets to larger streets with desired ROW widths between 60 to 79 feet.
- Neighborhood Feeders are generally located within residential neighborhoods and provide direct routes between Local Streets and the adjacent arterials.
- Local Streets provide access for vehicles to travel between private parking and driveways to larger, non-Local Streets. Generally, Local Streets do not exceed 60 feet of ROW widths and are mostly in residential neighborhoods.

Primary regional access to the Project Site is provided by I-405 and SR 90. In proximity to the Project Site, the Study Area is served by arterial streets such as Hannum Avenue, Bristol Parkway and Slauson Avenue. The following is a brief description of the roadways in the Study Area, including their classifications under the Circulation Element:

Freeways

- **I-405** – I-405 generally runs in the north-south direction and is located 0.8 miles west of the Project Site. In the vicinity of the Project Site, I-405 provides five travel lanes in each direction. Access to and from I-405 is available via interchanges at SR 90 and La Cienega Boulevard.
- **SR 90** – SR 90 generally runs in an east-west direction and is located 0.5 miles west of the Project Site. In the vicinity of the Project Site, SR 90 provides four travel lanes in each direction. Access to and from SR 90 is available via interchanges at Slauson Avenue and Centinela Avenue.

Roadways

- **Hannum Avenue** – Hannum Avenue is a designated Secondary Arterial that runs in the east-west direction and is located adjacent to the northern boundary of the Project Site. It provides four travel lanes, two in each direction. On-street parking is generally prohibited within the Study Area. Travel lanes are typically 10 feet wide, and the total paved width is generally 75 feet.
- **Slauson Avenue** – Slauson Avenue is a designated Primary Arterial that runs in the east-west direction and is located north of the Project Site. It provides six travel lanes, three in each direction. On-street parking is generally prohibited within the Study Area. Travel lanes are typically 10 feet wide and the total paved width ranges from 80 to 100 feet.
- **Bristol Parkway** – Bristol Parkway is a designated Secondary Arterial that runs in the north-south direction and is located west of the Project Site. It provides four travel lanes, two in each direction, with a left-turn lane in the middle. On-street parking is generally prohibited within the Study Area. The total paved width ranges from 65 to 80 feet.
- **Buckingham Parkway** – Buckingham Parkway is a designated Secondary Arterial that runs in the north-south direction and is located at the eastern boundary of the Project Site. It provides four travel lanes, two in each direction. Unmetered on-street parking is generally provided on both sides of the street south of Hannum Avenue with restrictions. The total paved width is generally 60 feet.
- **Fox Hills Drive** – Fox Hills Drive is a designated Local Street that runs in the north-south direction and is located southwest of the Project Site. It provides two travel lanes, one in

each direction as well as left-turn lanes at intersections. On-street parking is generally prohibited within the Study Area. The total paved width is generally 40 feet.

- Uplander Way – Uplander Avenue is a designated Local Street that runs in the north-south direction and is located to the southwest of the Project Site. It provides two travel lanes, one in each direction. Metered on-street parking is generally provided on both sides of the street. The total paved width is generally 50 feet.
- Green Valley Circle – Green Valley Circle is a designated Secondary Arterial that runs in the east-west direction and is located south of the Project Site. It provides four travel lanes, two in each direction with left-turn lanes. Limited unmetered on-street parking is provided on both sides of the street. The total paved width is generally 60 feet.
- Centinela Avenue – Centinela Avenue is a designated Primary Arterial that runs in the east-west direction and is located west of the Project Site. It provides four travel lanes, two in each direction with left-turn lanes. A Class II bike lane follows both sides of the street from Green Valley Circle to Bristol Parkway. Limited unmetered on-street parking is provided on the south side of the street. The total paved width is generally 50 feet.

The existing intersection mobility facilities at the Study Intersections are shown in Figure 5.

Existing Transit System

Figure 6 illustrates the existing public transit service in the Study Area, which is served by bus lines operated by Metro and Culver CityBus.

Table 2 summarizes the existing transit service operating in the Study Area for each of the service providers in the region, the type of service (peak vs. off-peak, express vs. local), and frequency of service. The average headways during the peak hour were estimated using detailed trip data from Year 2023 provided by Metro and Culver CityBus.

Existing Bicycle System

The City adopted the *Culver City Bicycle & Pedestrian Action Plan* (CCPWD, June 2020), which supersedes *Culver City Bicycle and Pedestrian Master Plan* (Alta Planning and Design, November 2010). As shown in *Culver City Bicycle & Pedestrian Action Plan*, the existing bicycle system in the Study Area consists of a variety of bicycle facilities.

Culver City Bicycle & Pedestrian Action Plan is comprised of a network of streets that prioritize bicyclists and provide Class I Shared-Use Paths, Class II Bicycle Lanes, Class III Bicycle Routes and Bike Boulevards, which provide sharrows and signage, and Class IV Separated Bikeways.

Adjacent to the Project Site, Hannum Avenue/Buckingham Parkway contains a Class II Bike lane which extends throughout the Study Area. Additionally, a Class II bike lane follows both sides of Centinela Avenue from Green Valley Circle to Bristol Parkway, as shown in Figure 5.

Existing Pedestrian Facilities

Per *Culver City Bicycle & Pedestrian Action Plan*, most streets in the City have existing sidewalks in good condition. Marked crosswalks, including traverse lines and continental crosswalks, are provided at most major intersections throughout the City.

The walkability of existing facilities is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile. These attributes are quantified by Walk Score and assigned a score out of 100 points. With access to numerous commercial businesses, residences, and cultural centers, the walkability of the Project Site is approximately 71 points¹.

The sidewalks that serve as routes to the Project Site provide proper connectivity and adequate widths for a comfortable and safe pedestrian environment. The sidewalks provide connectivity to pedestrian crossings at signalized intersections within the Study Area. Pedestrian facilities, such as pedestrian phasing, curb ramps, and crosswalk striping, at the Study Intersections are shown in Figure 5.

Vision Zero

The City adopted the Vision Zero initiative in 2016. Vision Zero is a traffic safety policy that promotes strategies, including modifying the design of streets, to eliminate collisions that result in

¹ Walk Score (www.walkscore.com) rates the Project Site (5700 Hannum Avenue) with a score of 71 of 100 possible points (scores assessed on May 15, 2023). Walk Score calculates the walkability of specific addresses by taking into account the ease of living in the neighborhood with a reduced reliance on automobile travel.

severe injury or death and increase safety for the most vulnerable road users. Vision Zero has identified the High Injury Network (HIN), a network of streets based on the collision data from *Culver City Bicycle & Pedestrian Action Plan* between Years 2014-2019, where strategic investments would have the biggest impact in reducing death and severe injury. Within the Study Area, National Boulevard is identified as part of the HIN.

Existing Traffic Volumes

Intersection turning movement counts for most intersections were collected in October 2022 and April 2023, on days when schools were in session. One supplemental count was provided by the City and was collected in May 2019, prior to the COVID-19 pandemic. The Existing Conditions (2023) peak hour traffic volumes are shown in Figure 7.

The traffic count collected in 2019 was increased by 1% per year to account for general growth in regional traffic between the year they were conducted and 2023. With these adjustments incorporated, the Existing Conditions (2023) peak hour traffic volumes are shown in Figure 7. The traffic counts are provided in Appendix B.

FUTURE AND CUMULATIVE TRANSPORTATION CONDITIONS

The forecast of Future without Project Conditions (Year 2027) and Cumulative without Project Conditions (Year 2045) was prepared in accordance with procedures outlined in the Guidelines. Specifically, two requirements are provided for developing the cumulative traffic volume forecast: (1) projected future volumes and (2) Related Projects.

The ambient growth factor discussed below likely includes some traffic increases resulting from the Related Projects. Therefore, through some inherent double-counting of vehicles, the traffic analysis provides a highly conservative estimate of Future without Project and Cumulative without Project traffic volumes.

The forecast base year traffic volumes, therefore, include ambient growth, which reflects increases in traffic due to regional growth and development outside the Study Area, as well as traffic generated by ongoing or entitled projects near or within the Study Area.

Ambient Traffic Growth

Existing traffic levels have historically been projected to increase as a result of regional growth and development; however, the implications of COVID-19 may influence those future rate projections. Nevertheless, to provide a conservative estimate of future background conditions, this analysis used the 4% annual growth precedent as approved in the MOU to simulate anticipated buildout for both Year 2027 and Year 2045 traffic volumes. The total adjustments applied over the four-year and 22-year periods were 4% and 22%, respectively. These growth factors account for increases in traffic due to potential projects not yet proposed and projects located outside the Study Area.

Related Projects

In accordance with the Guidelines, this study also considered the effects of the Project in relation to the Related Projects. Including this analysis step, the potential impact of the Project was evaluated within the context of past, present, and probable future developments capable of producing cumulative impacts. The list of Related Projects is based on information provided by the City and the neighboring City of Los Angeles in early 2023, as well as recent studies of development projects in the area. Related Projects within 0.5 miles of the Project Site were considered in the analysis and represent development projects most likely to add traffic to the Study Intersections. The Related Projects are detailed in Table 3 and their approximate locations are shown in Figure 8.

Though the buildout years of many of these Related Projects are uncertain and may be well beyond the buildout year of the Project, and notwithstanding that some may never be approved or developed, they were all considered as part of this transportation assessment and conservatively assumed to be completed by the Project buildout year of 2027 and General Plan horizon year of 2045. The traffic growth due to the development of Related Projects considered in this analysis is

highly conservative and, by itself, substantially overestimates the actual traffic volume growth in the area that would likely occur prior to Project buildout years. With the addition of the 1% per year ambient growth factor previously discussed, the Future without Project Year 2027 and Cumulative without Project Year 2045 Conditions are even more conservative.

Using these conservative assumptions, the potential traffic operations of the Project were evaluated. The development of estimated traffic volumes added to the Study Intersections as a result of Related Projects involves the use of a three-step process: trip generation, trip distribution, and trip assignment.

Trip Generation. Trip generation estimates for the Related Projects were calculated using a combination of previous study findings and the trip generation rates contained in *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021) or were provided by the respective jurisdiction. The Related Projects trip generation estimates summarized in Table 3 are conservative in that they do not in every case account for either the trips generated by the existing uses to be removed or the likely use of other travel modes (e.g., transit, bus, bicycling, walking, carpool, etc.) Further, they do not account for the internal capture trips within a multi-use development or for the interaction of trips between multiple Related Projects, in which one Related Project serves as the origin for a trip destined for another Related Project.

Trip Distribution. The geographic distribution of the traffic generated by the Related Projects is dependent on several factors. These factors include the type and density of the proposed land uses, the geographic distribution of population from which the employees / residents and potential patrons of the proposed developments are drawn, and the location of these projects in relation to the surrounding street system. These factors were considered along with logical travel routes through the street system to develop a reasonable pattern of trip distribution.

Traffic Assignment. The trip generation estimates for the Related Projects were assigned to the local street system using the trip distribution pattern described above. Figure 9 shows the peak hour traffic volumes associated with these Related Projects at the Study Intersections.

Future without Project Traffic Volumes

The Related Projects volumes were then added to the existing traffic volumes after adjustment for ambient growth through the projected Project completion year of 2027. As discussed above, this is a conservative approach as many of the Related Projects may be reflected in the ambient growth rate. These volumes represent the Future without Project Conditions (i.e., ambient traffic growth and Related Project traffic added to existing traffic volumes) for Year 2027 at the Study Intersections and are shown in Figure 10.

Cumulative without Project Traffic Volumes

Similar to the Future without Project Conditions traffic volumes, the Related Projects volumes were added to the existing traffic volumes after adjustment for ambient growth through the projected General Plan horizon year of 2045. These volumes represent the Cumulative without Project Conditions (Year 2045) at the Study Intersections and are shown in Figure 11.

Future Improvements

The analysis of Future Conditions considered transportation improvements that are funded and expected to be implemented prior to the buildout of the Project. These improvements could result in changes to the physical configuration at the study intersections. Other proposed improvement projects that are not funded and traffic / trip reduction strategies such as Transportation Demand Management (TDM) programs for individual buildings and developments were conservatively omitted from the Future and Cumulative Conditions analyses. A summary of future improvements is provided below.

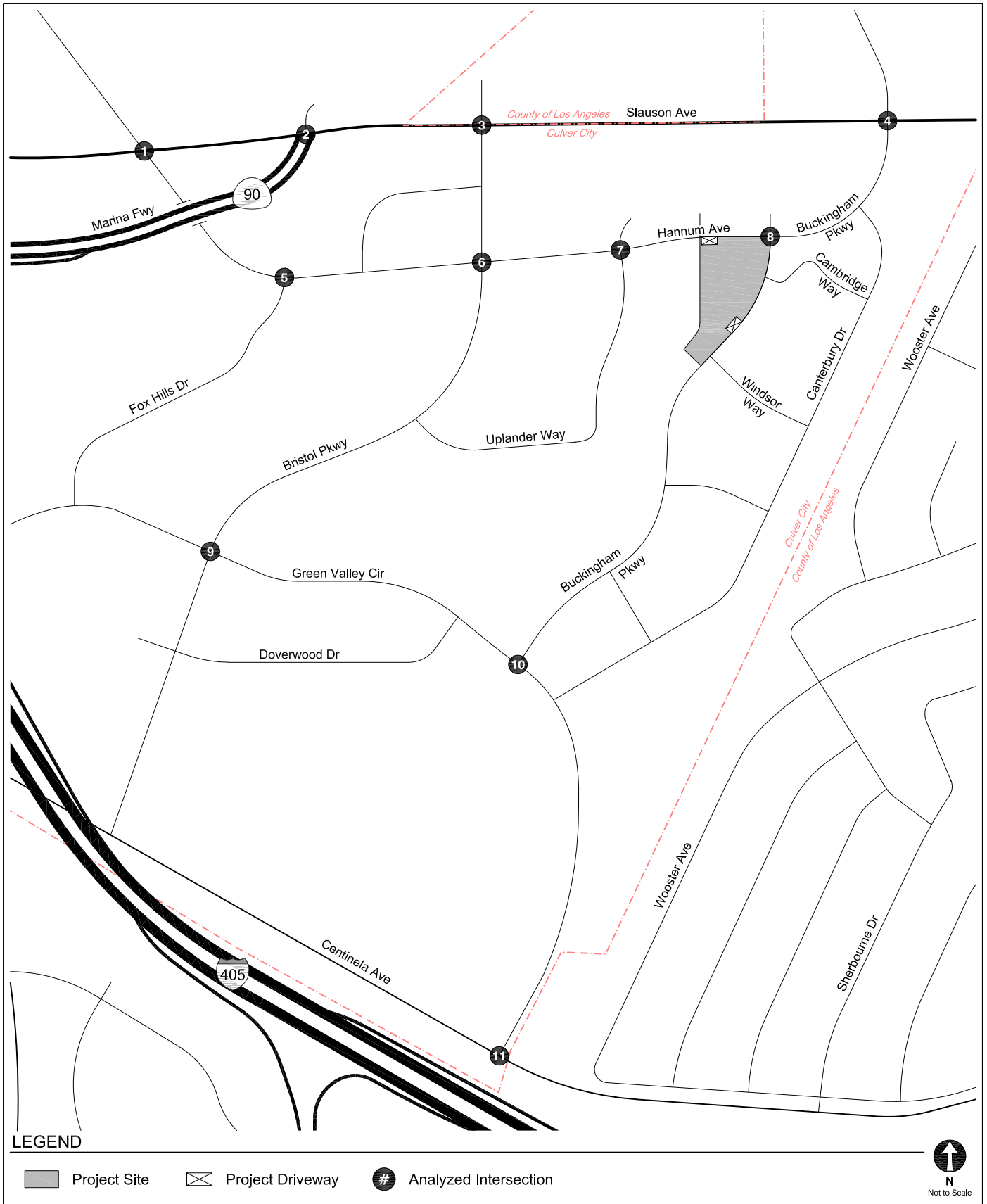
Bicycle and Pedestrian Action Plan. *Culver City Bicycle & Pedestrian Action Plan* identifies key recommended improvements for corridors throughout the City. The goal of this plan is to improve active forms of transportation by providing accessible, safe, and comfortable environments for all road users. The following summarizes the recommended network upgrades, depicted in Figure 12, planned on corridors within 0.25 miles of the Project Site:

-
- Recommended Bicycle Facilities: New Class III bikeways have been recommended for installation on Helms Avenue (north of the Expo Line tracks) and Fay Avenue, and Class IV bike lanes on Washington Boulevard.
 - Recommended Pedestrian Facilities: New crossings and curb treatments have been recommended for installation at National Boulevard & Hayden Avenue and along Jacob Street between Helms Avenue and Cattaraugus Avenue
 - Opportunity Corridors: Three Opportunity Corridors consisting of “planning-level projects” for additional improvements for bicycling and walking include the Downtown Core, Overland Avenue, and Farragut Drive. None of these Opportunity Corridors are located within 0.25 miles of the Project Site.

The specific timeline for implementation of these recommendations has not been identified; therefore, no changes to intersection lane configurations were made as a result of *Culver City Bicycle & Pedestrian Action Plan*.

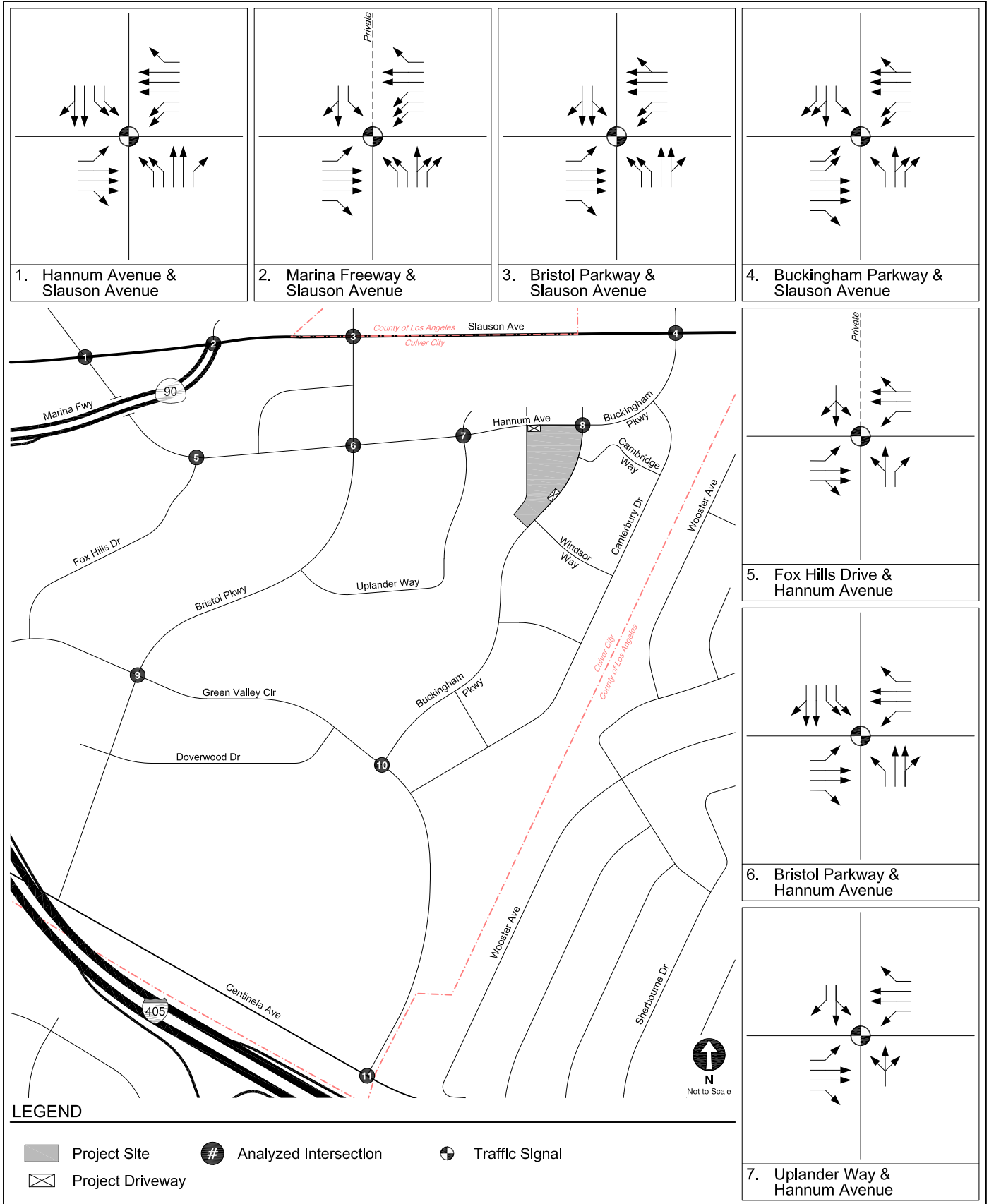
Fox Hills Neighborhood Traffic Management Plan (NTMP). The Fox Hills NTMP would install a variety of traffic reduction and calming measures to improve traffic flow and safety within the neighborhood. The Fox Hills NTMP is still under development and is in the design phase as of the latest meeting in September 2022. Most of the improvement measures identified at this stage would either not affect any of the Study Intersections or they would not modify lane configurations that would alter the traffic analysis in Chapter 5A. However, some potential alternatives include travel lane reductions along Bristol Parkway and Green Valley Circle inside and around the Study Area.

As the NTMP is still in the development process, for the purposes of this analysis, no modifications to the existing lane configurations were made under Future without Project (Year 2023) Conditions and Cumulative without Project (Year 2045) Conditions.



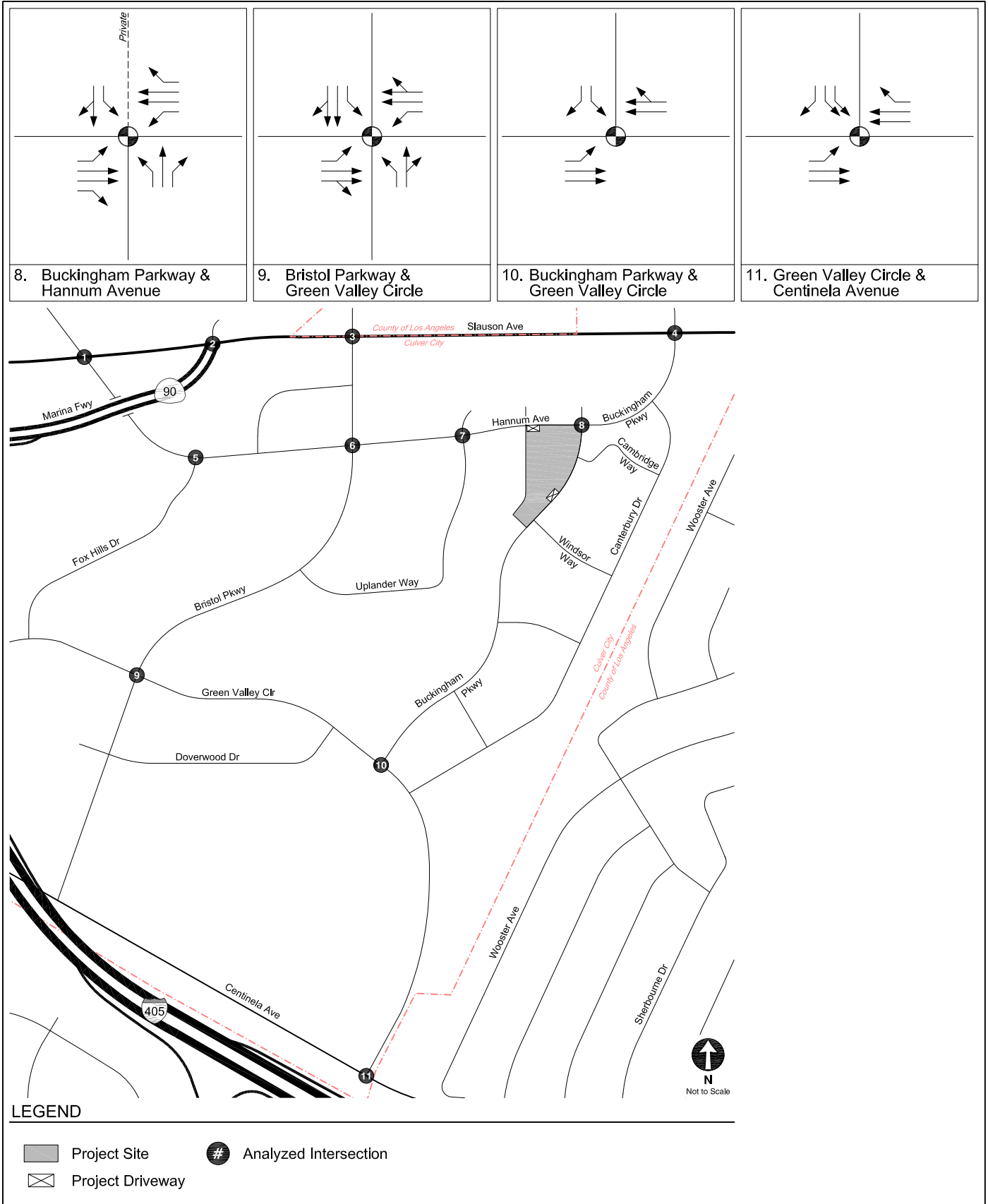
STUDY AREA AND ANALYZED INTERSECTIONS

FIGURE 3



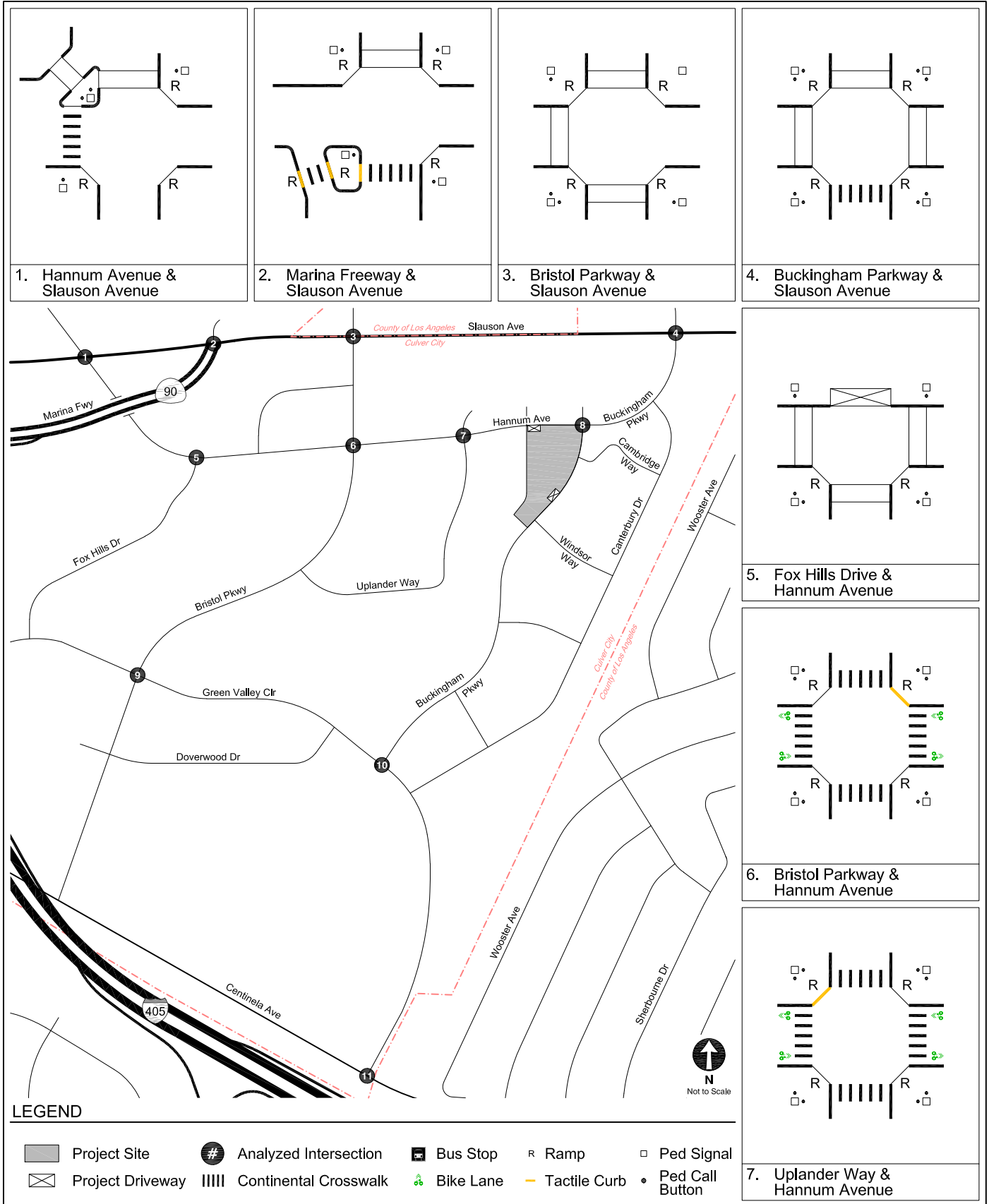
INTERSECTION LANE CONFIGURATIONS

FIGURE
4



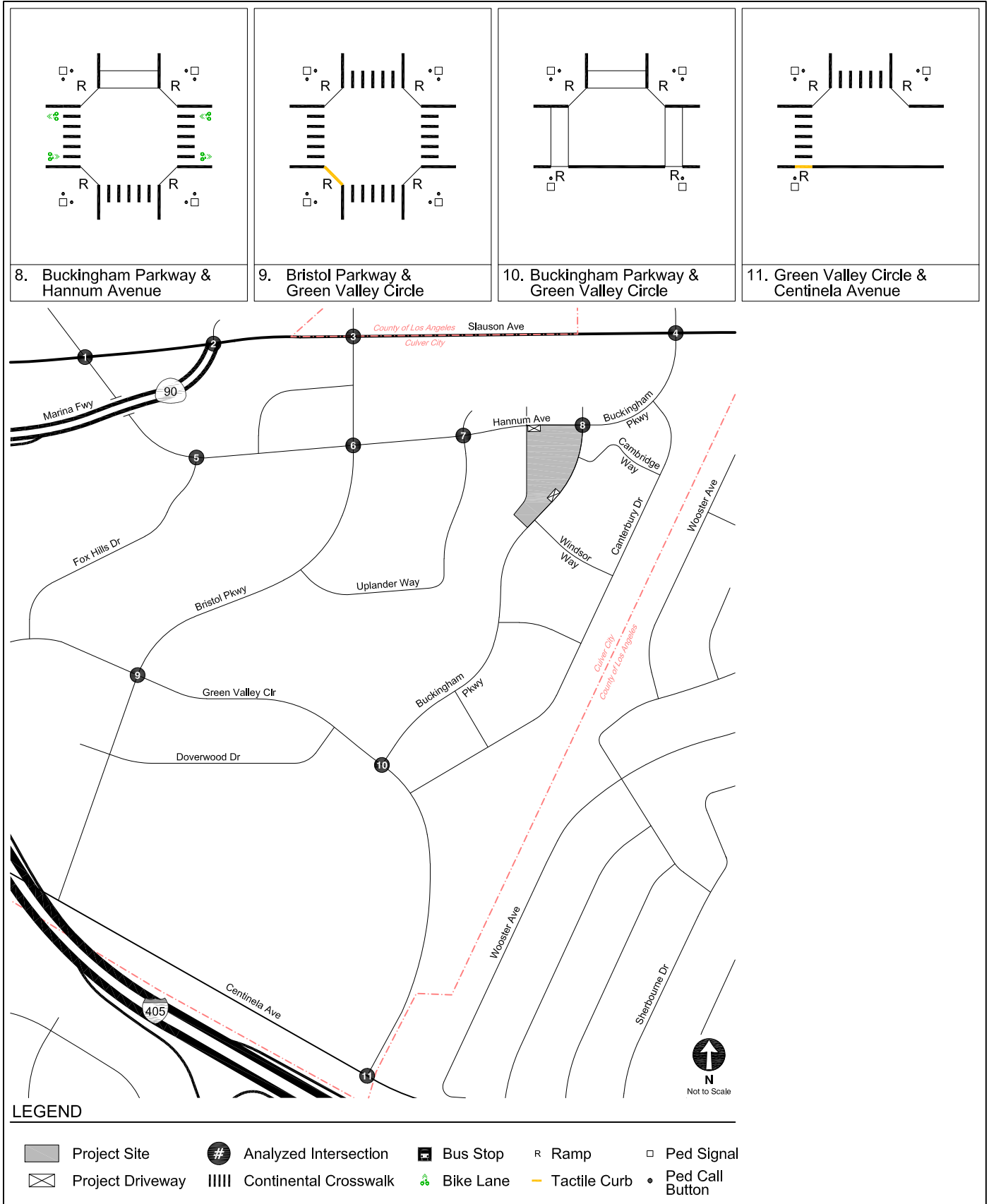
INTERSECTION LANE CONFIGURATIONS

FIGURE 4(CONT.)



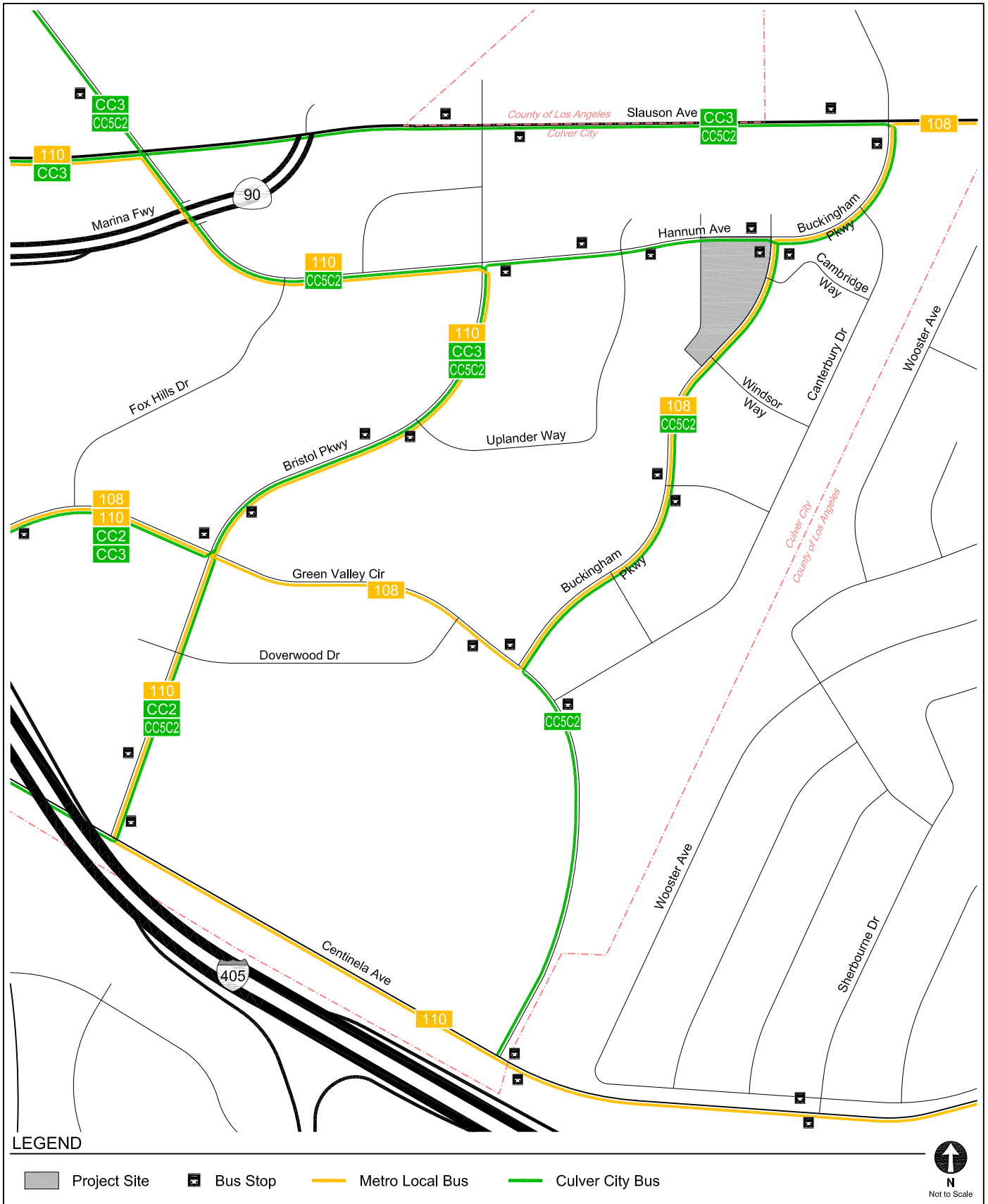
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 5



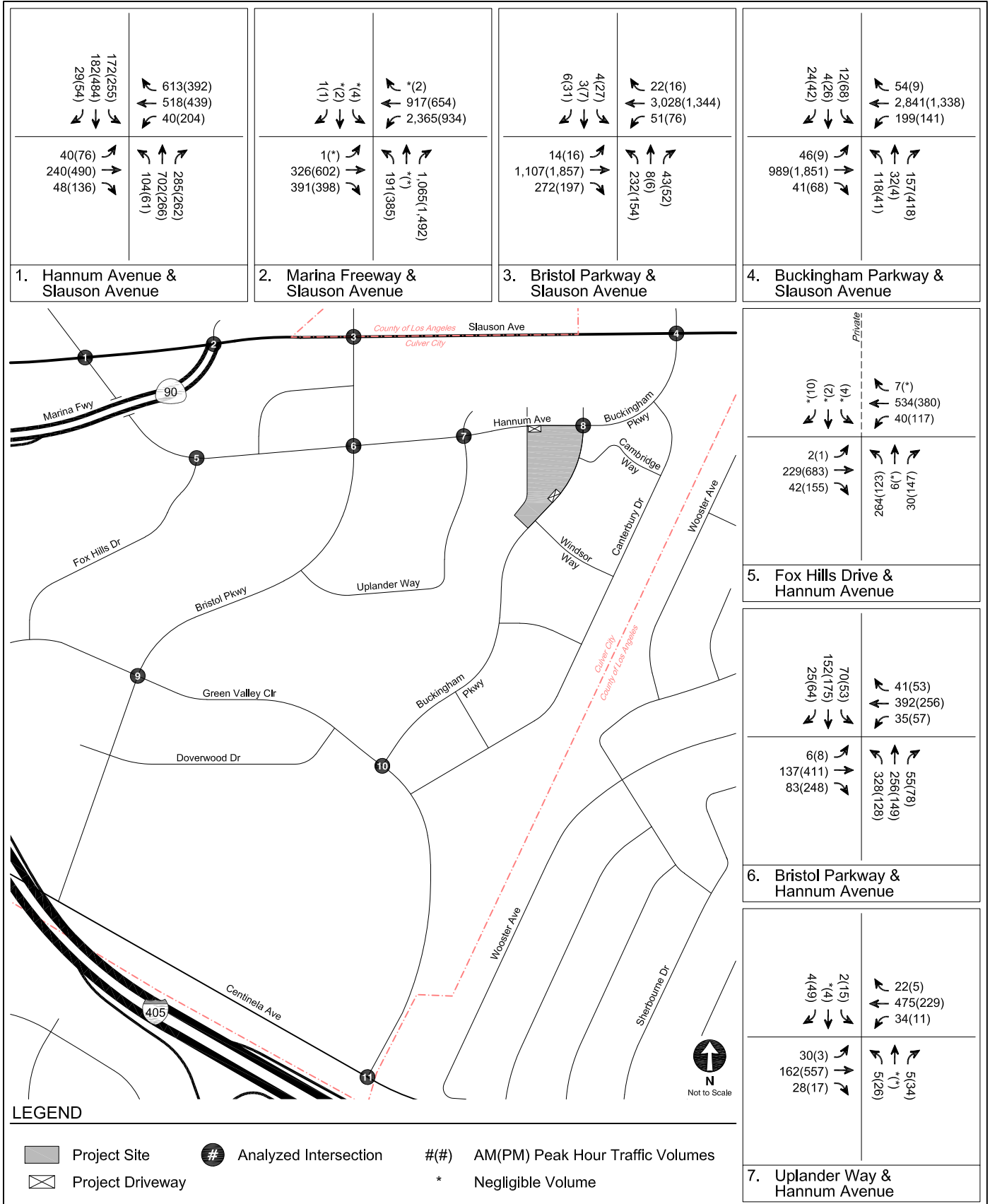
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 5 (CONT.)



EXISTING TRANSIT SERVICE

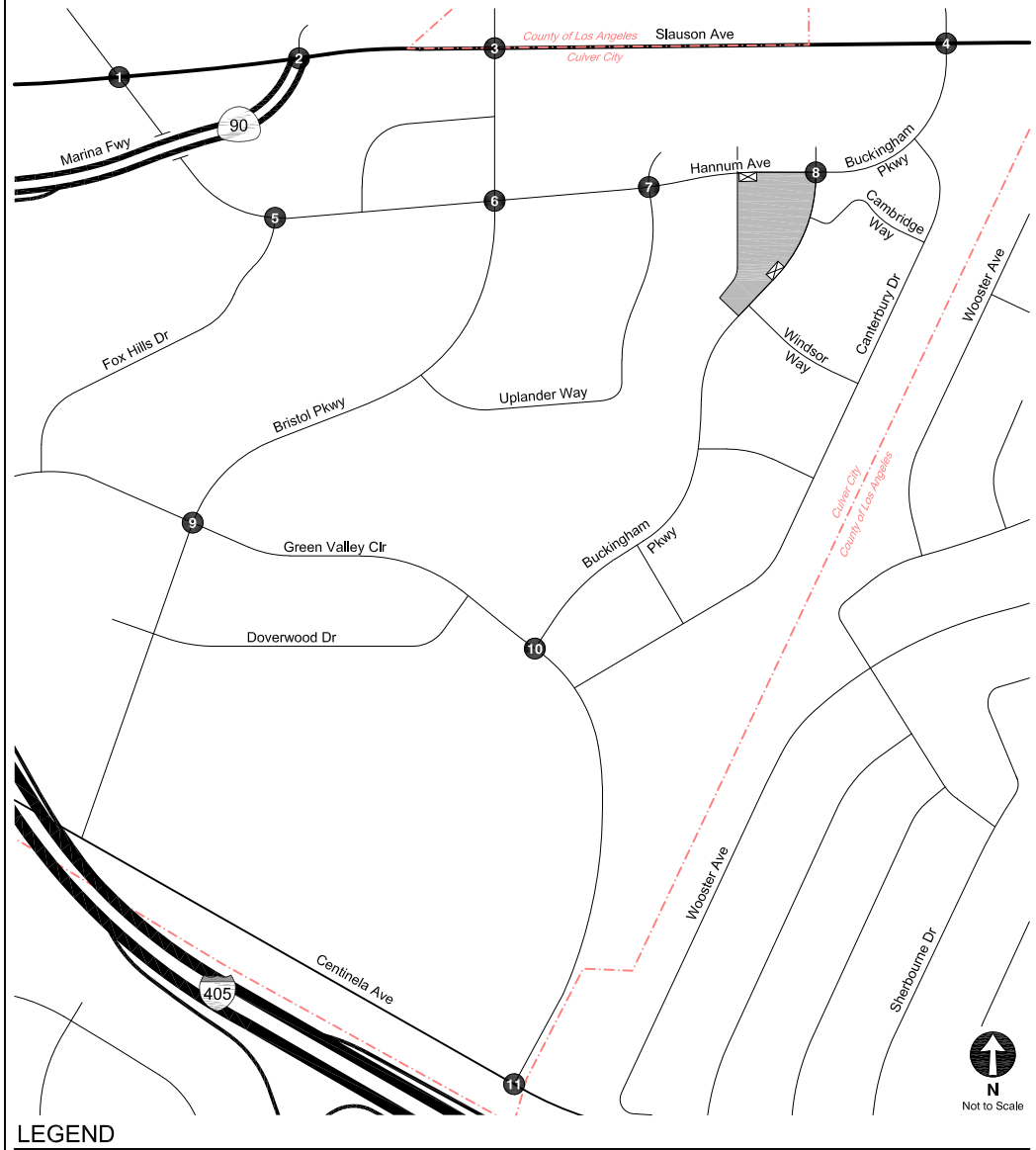
FIGURE 6



EXISTING CONDITIONS (YEAR 2023)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
7

<table border="1"> <tr> <td> <p>* (13) * (2) * (5)</p> <p>6(*) 233(120) 42(85)</p> </td> <td> <p>92(277) 118(687) 43(124)</p> <p>426(89) 597(206) 47(67)</p> </td> </tr> <tr> <td> <p>1(*) 83(419) 66(182)</p> <p>150(89) 8(*) 327(72)</p> </td> <td> <p>102(93) 110(332) 20(123)</p> <p>45(63) 532(148) 333(113)</p> </td> </tr> </table>	<p>* (13) * (2) * (5)</p> <p>6(*) 233(120) 42(85)</p>	<p>92(277) 118(687) 43(124)</p> <p>426(89) 597(206) 47(67)</p>	<p>1(*) 83(419) 66(182)</p> <p>150(89) 8(*) 327(72)</p>	<p>102(93) 110(332) 20(123)</p> <p>45(63) 532(148) 333(113)</p>	<table border="1"> <tr> <td> <p>39(139) 51(68)</p> </td> <td> <p>315(72) 680(148)</p> </td> </tr> <tr> <td> <p>39(80) 96(411)</p> </td> <td></td> </tr> </table>	<p>39(139) 51(68)</p>	<p>315(72) 680(148)</p>	<p>39(80) 96(411)</p>		<table border="1"> <tr> <td> <p>148(495) 43(84)</p> </td> <td> <p>840(161) 1,622(529)</p> </td> </tr> <tr> <td> <p>36(76) 384(1,436)</p> </td> <td></td> </tr> </table>	<p>148(495) 43(84)</p>	<p>840(161) 1,622(529)</p>	<p>36(76) 384(1,436)</p>	
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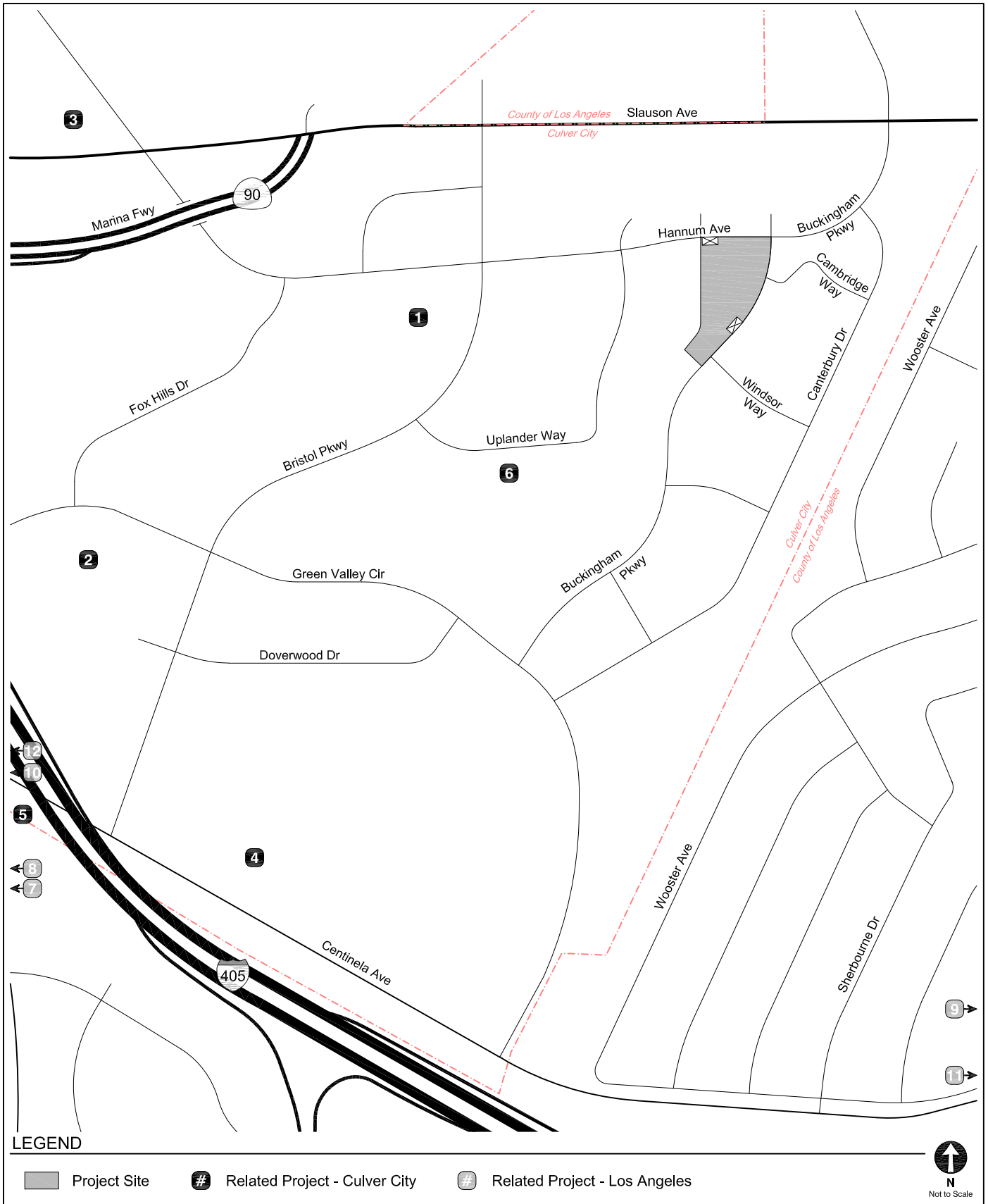


LEGEND

Project Site	Analyzed Intersection	AM(PM) Peak Hour Traffic Volumes
Project Driveway	Negligible Volume	

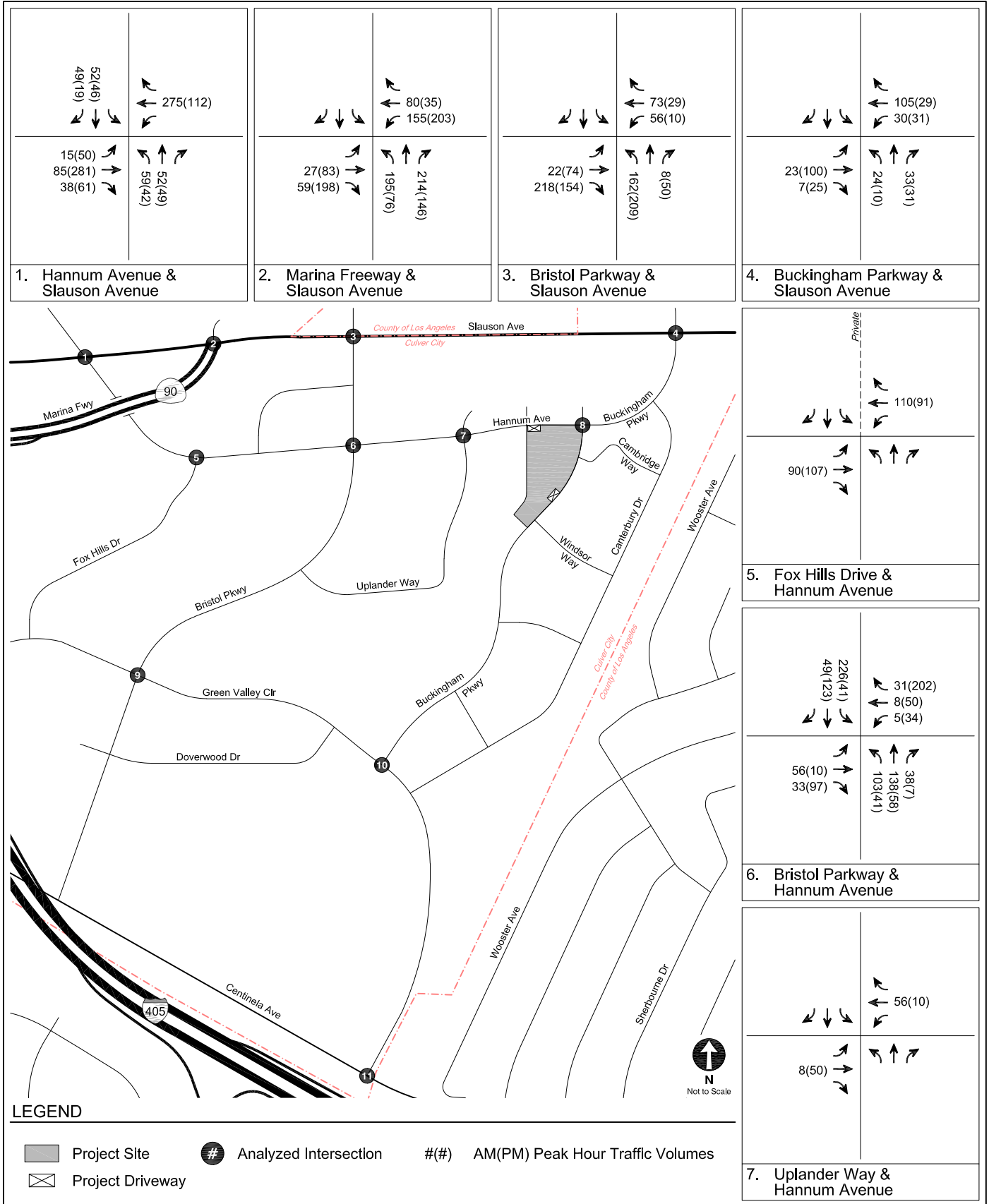
EXISTING CONDITIONS (YEAR 2023)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
7 (CONT.)



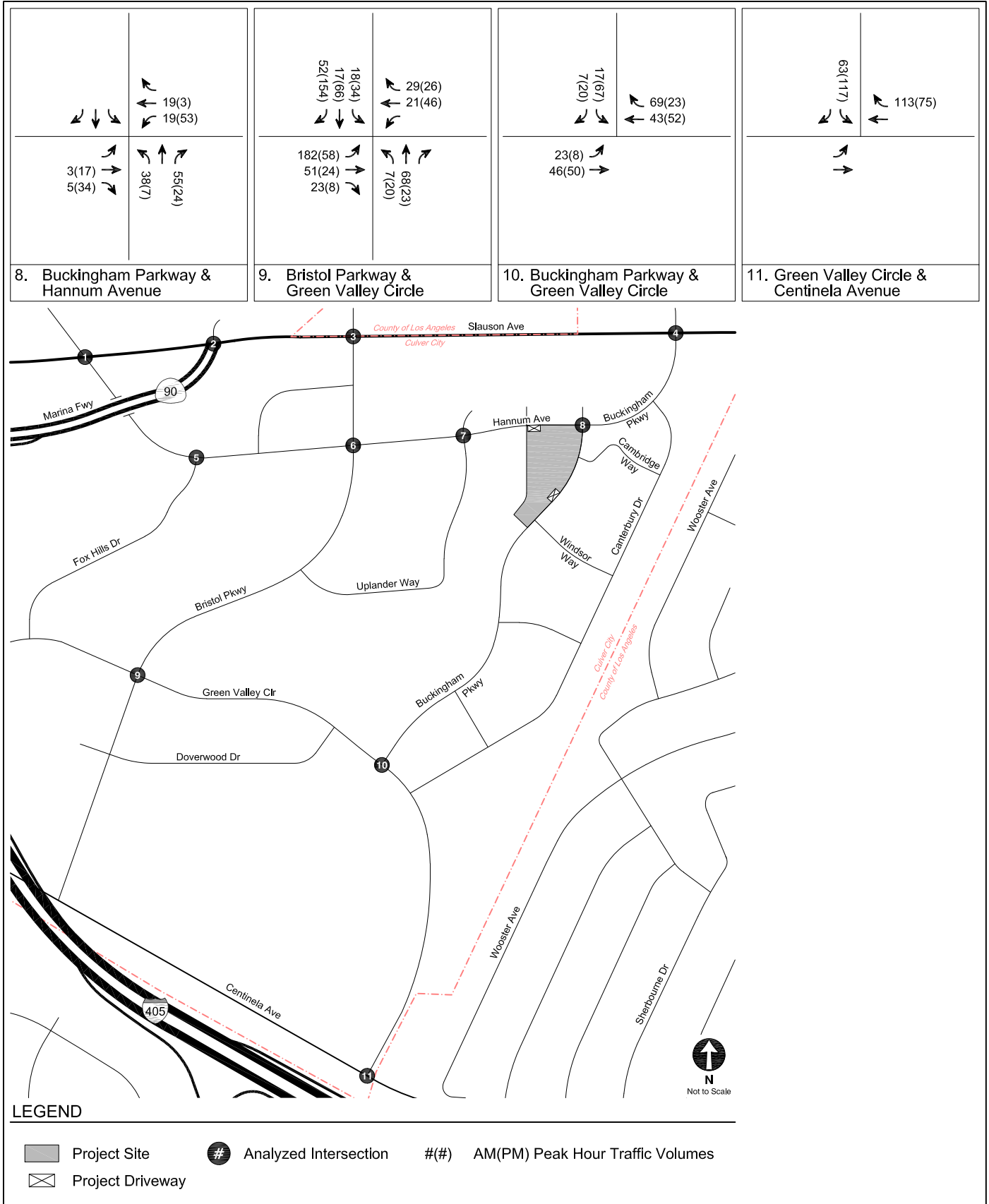
LOCATIONS OF RELATED PROJECTS

FIGURE
8



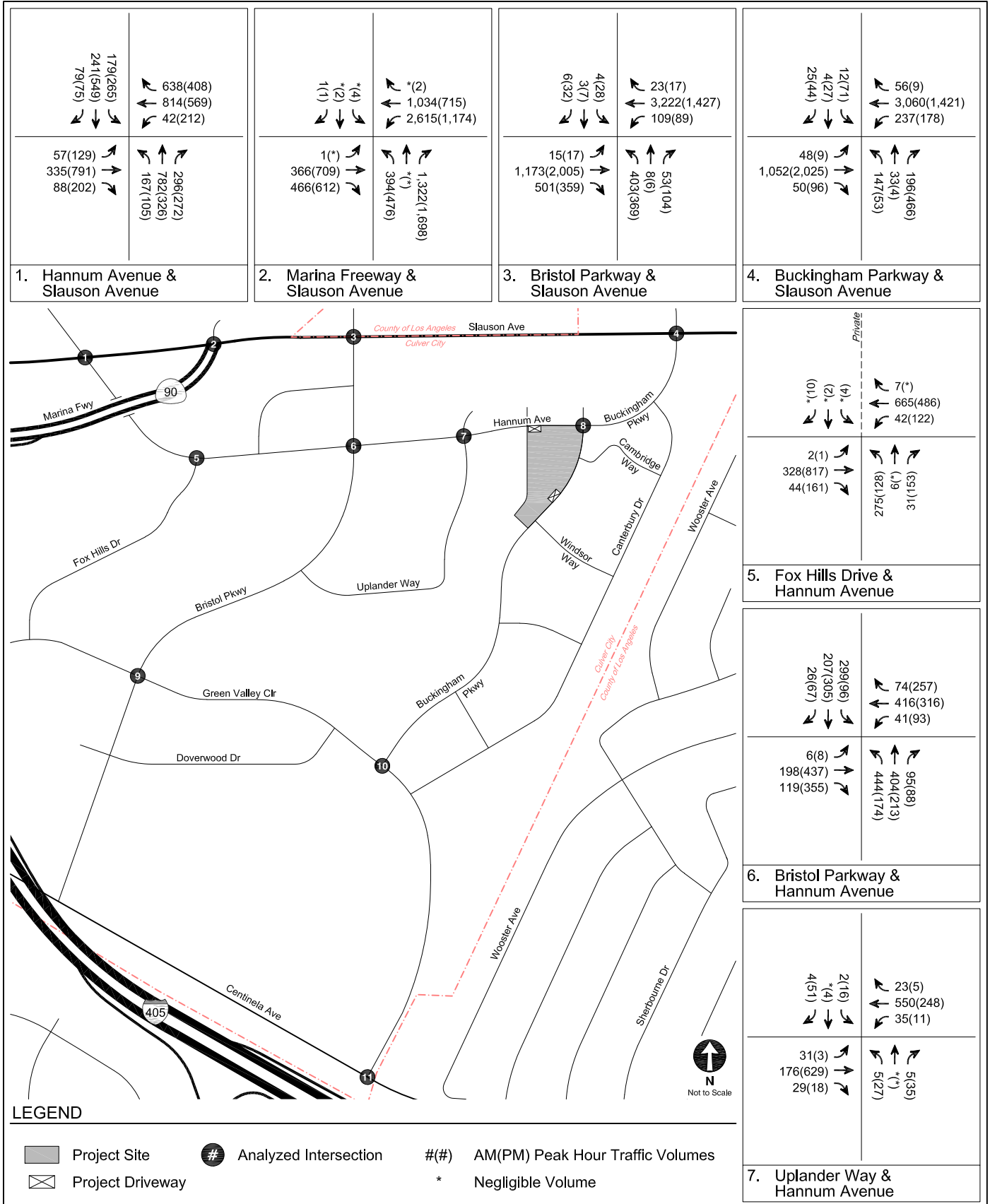
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
9



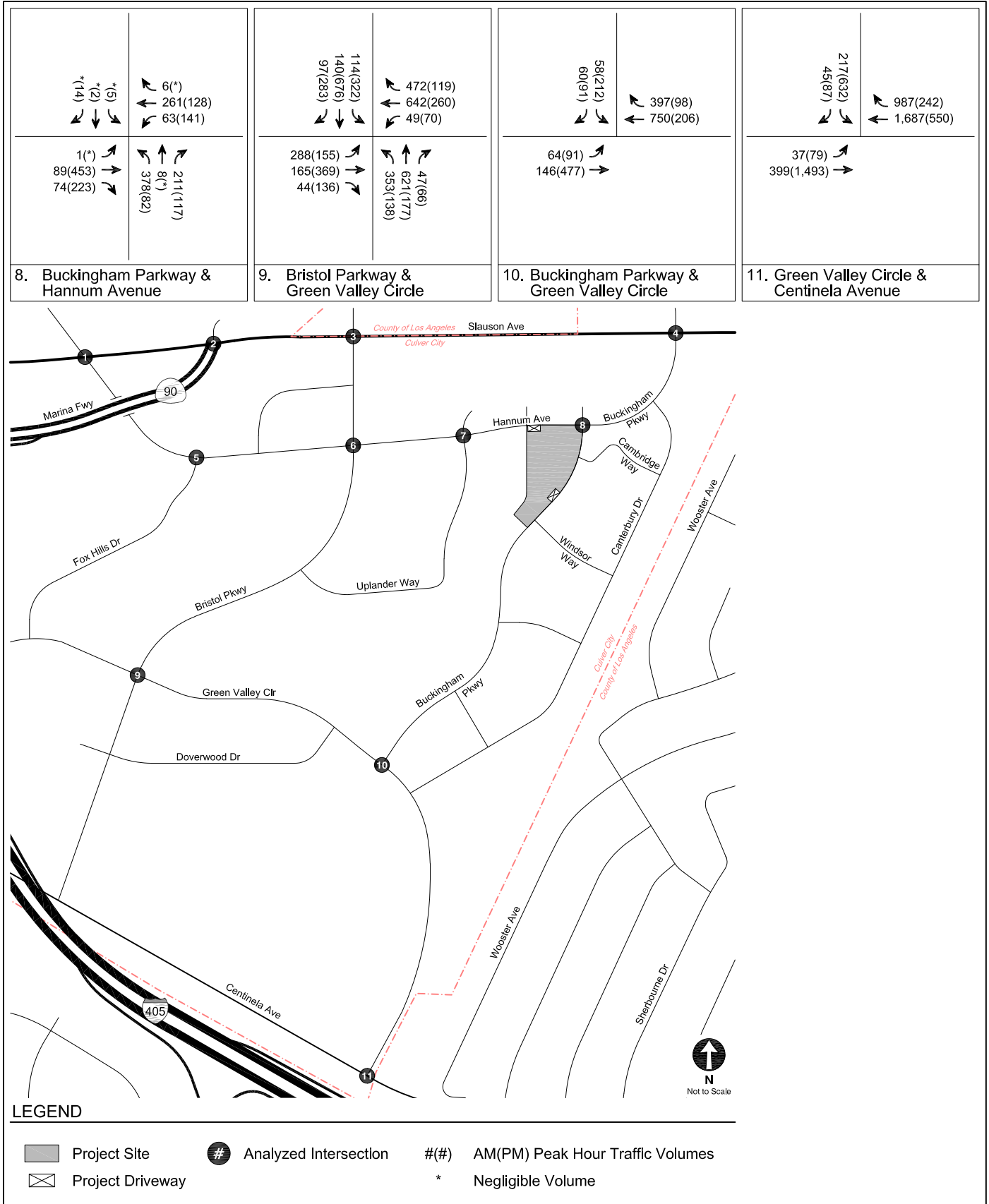
**RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE
9 (CONT.)**



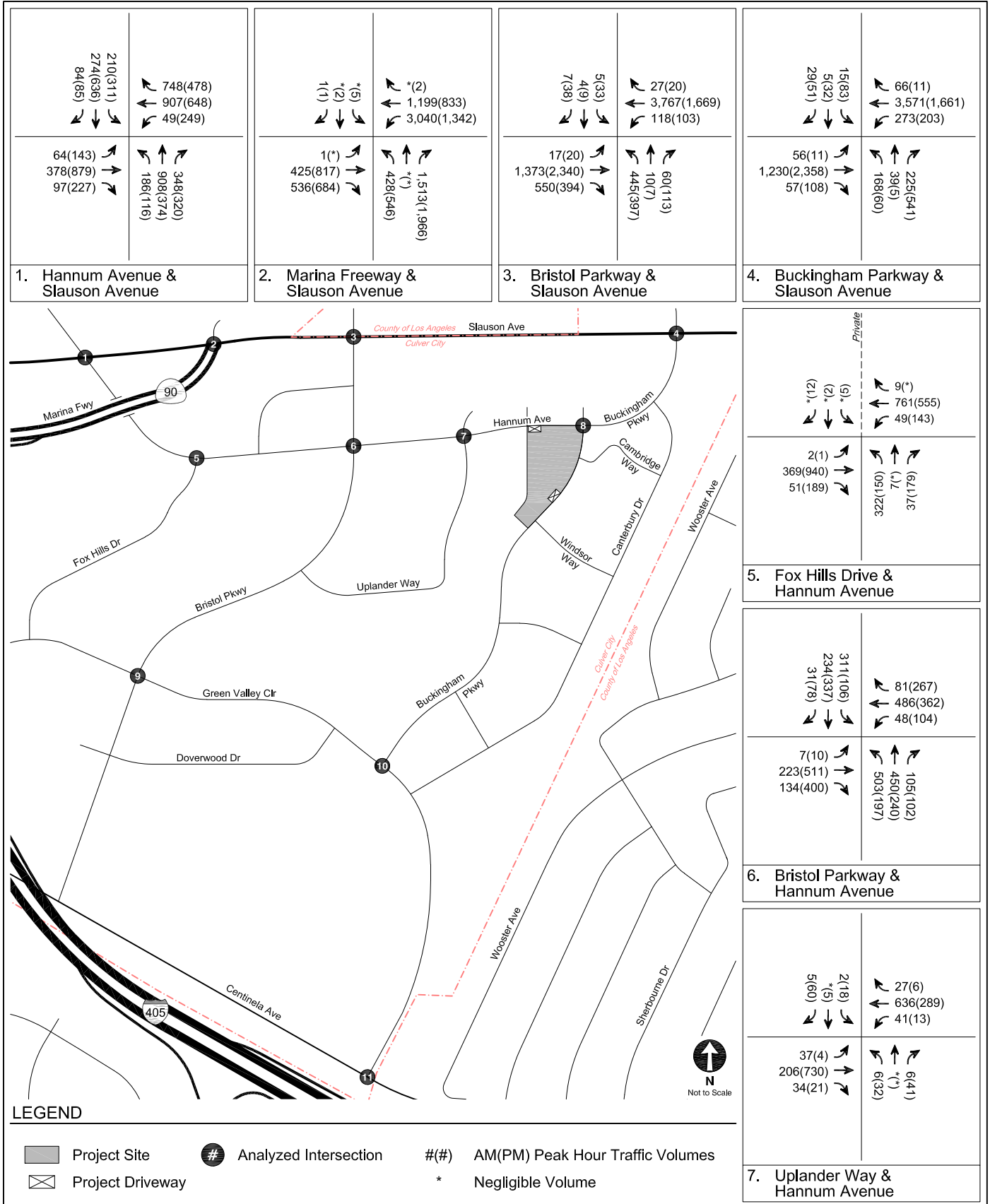
FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2027)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
10



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2027)
PEAK HOUR TRAFFIC VOLUMES

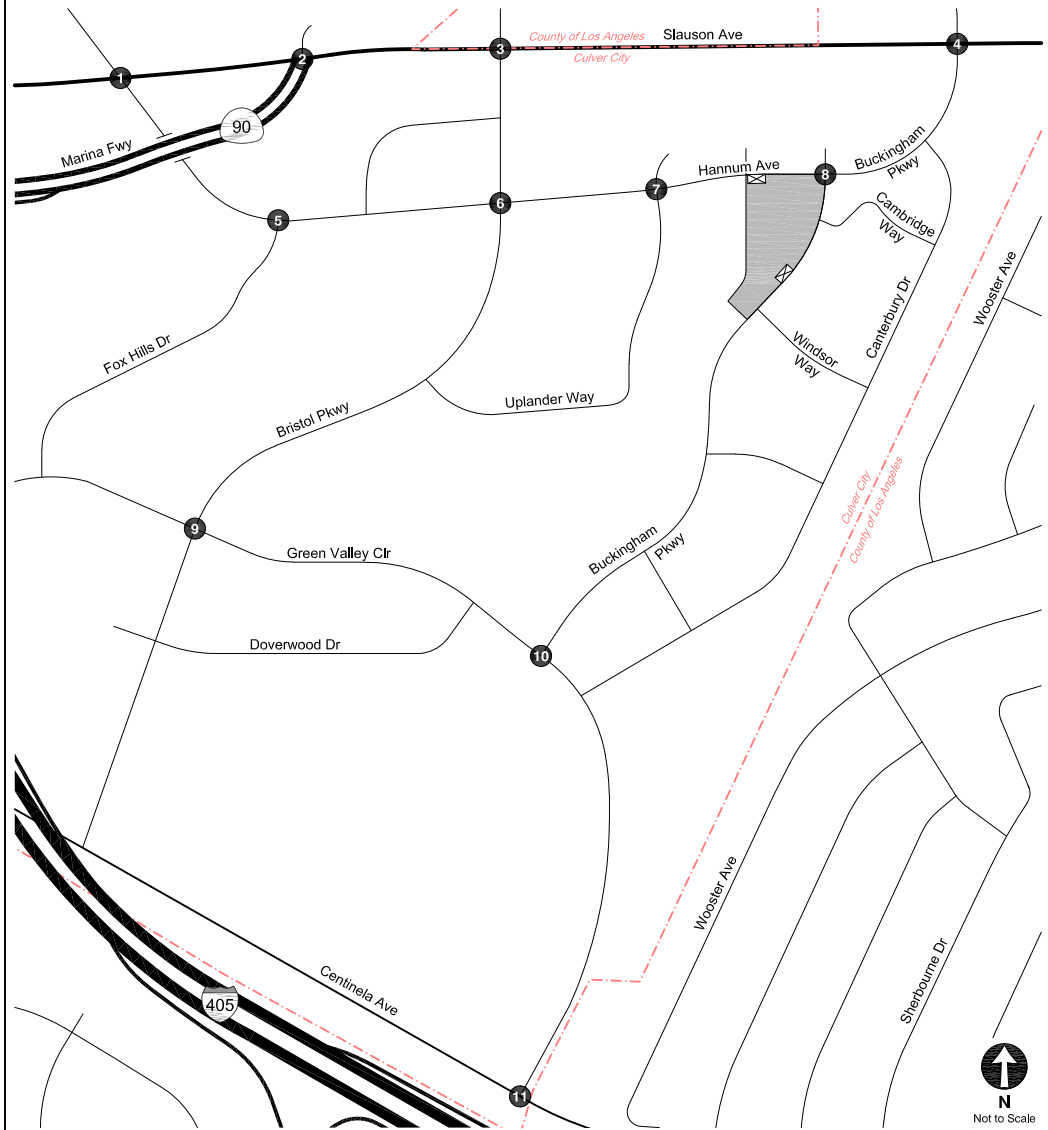
FIGURE
10 (CONT.)



CUMULATIVE WITHOUT PROJECT CONDITIONS (YEAR 2045)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
11

<table border="1"> <tr> <td> 7(*) 303(149) 70(157) </td> <td> 130(372) 161(782) 104(305) </td> </tr> <tr> <td> 1(*) 104(528) 86(256) </td> <td> 549(135) 749(297) 57(82) </td> </tr> <tr> <td> 238(133) 437(95) 10(*) </td> <td> 65(237) 69(103) </td> </tr> </table>	 7(*) 303(149) 70(157)	130(372) 161(782) 104(305)	1(*) 104(528) 86(256)	549(135) 749(297) 57(82)	238(133) 437(95) 10(*)	65(237) 69(103)	<table border="1"> <tr> <td> 306(171) 185(429) 47(158) </td> <td> 55(77) 717(204) 413(158) </td> </tr> <tr> <td> 71(106) 163(551) </td> <td> 453(111) 873(233) </td> </tr> </table>	306(171) 185(429) 47(158)	55(77) 717(204) 413(158)	71(106) 163(551)	453(111) 873(233)	<table border="1"> <tr> <td> 244(721) 52(102) </td> <td> 1,138(271) 1,979(645) </td> </tr> <tr> <td> 44(93) 468(1,752) </td> <td></td> </tr> </table>	244(721) 52(102)	1,138(271) 1,979(645)	44(93) 468(1,752)	
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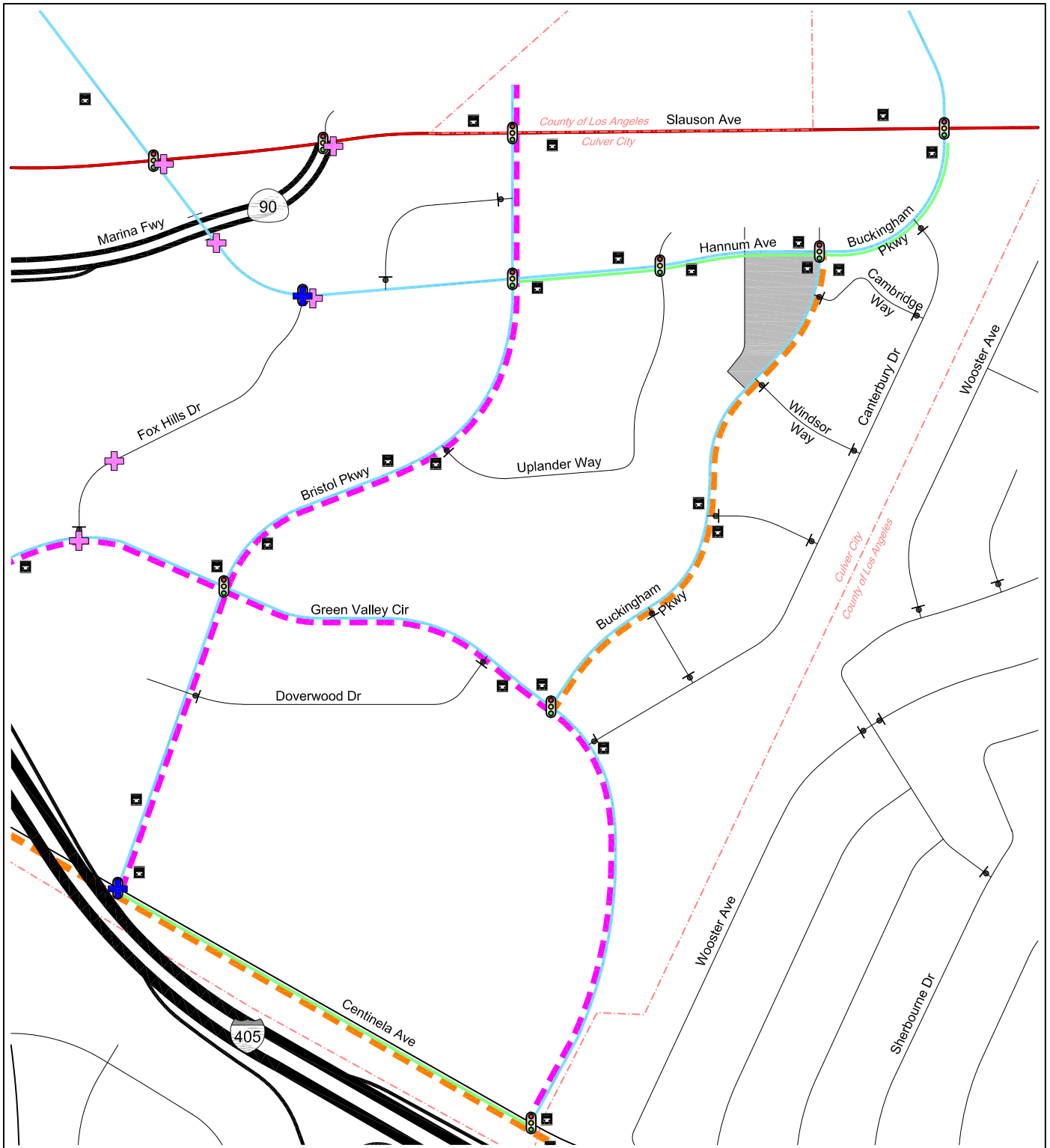


LEGEND

Project Site	Analyzed Intersection	AM(PM) Peak Hour Traffic Volumes
Project Driveway	Negligible Volume	

**CUMULATIVE WITHOUT PROJECT CONDITIONS (YEAR 2045)
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE
11 (CONT.)**



LEGEND

- | | | | |
|--------------|-----------------------|--------------------------|---------------------------------------|
| Project Site | Traffic Signal | Primary Artery | Class II Bicycle Lane (Proposed) |
| Bus Stop | Stop Sign | Collector | Class IV Separated Bikeway (Proposed) |
| Local Street | Class II Bicycle Lane | New or Improved Crossing | Beacon/Signal Improvement |



PROPOSED TRANSPORTATION CIRCULATION SYSTEM

FIGURE 12

**TABLE 1
STUDY INTERSECTIONS**

No	North/South Street	East/West Street	Existing Traffic Control	Jurisdiction
1.	Hannum Ave	Slauson Ave	Traffic Signal	Culver City
2.	Marina Fwy	Slauson Ave	Traffic Signal	Culver City/Caltrans
3.	Bristol Pkwy	Slauson Ave	Traffic Signal	Culver City
4.	Buckingham Pkwy	Slauson Ave	Traffic Signal	Culver City
5.	Fox Hills Dr	Hannum Ave	Traffic Signal	Culver City
6.	Bristol Pkwy	Hannum Ave	Traffic Signal	Culver City
7.	Uplander Wy	Hannum Ave	Traffic Signal	Culver City
8.	Buckingham Pkwy	Hannum Ave	Traffic Signal	Culver City
9.	Bristol Pkwy	Green Valley Cir	Traffic Signal	Culver City
10.	Buckingham Pkwy	Green Valley Cir	Traffic Signal	Culver City
11.	Green Valley Cir	Centinela Ave	Traffic Signal	Culver City

**TABLE 2
EXISTING TRANSIT SERVICE**

Provider, Route, and Service Area	Service Type	Hours of Operation [a]	Average Headway (minutes)				
			Morning Peak Period		Afternoon Peak Period		
			NB/EB	SB/WB	NB/EB	SB/WB	
Culver City Bus							
2	Culver City - Venice	Local	6:00 A.M. - 5:00 P.M.	60	45	80	80
3	Culver City - Playa Vista	Local	6:30 A.M. - 10:00 P.M.	30	36	34	34
5C2	Culver City - Mar Vista	Local	[b]	N/A	N/A	N/A	N/A
Metro Bus Service							
108	Marina Del Rey - Pico Rivera via Slauson Av	Local	4:00 A.M. - 11:30 P.M.	9	11	10	8
110	Playa Vista - Bell Gardens via Jefferson Bl - Gage Av	Local	5:00 A.M. - 12:00 A.M.	15	20	17	15

**TABLE 3
RELATED PROJECTS LIST**

No.	Project [a]	Address	Use	Trip Generation						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
City of Culver City										
1.	C3 - Office & Retail Building	5800 Bristol Pkwy / 5801 Hannum Ave	281,400 sf office	3,050	376	52	428	69	336	405
2.	Bristol Parkway Mixed Use	6221 Bristol Pkwy	712 apartments, 50 liive-work units, 20,767 sf retail	3,275	52	300	352	234	83	317
3.	Auto Dealership Showroom Expansion	6101 Slauson Ave	8,046 sf expansion of show room	224	11	4	15	8	11	19
4.	Hillside Memorial Cemetary	6001 Centinela Ave	Conversion of maintenance yards to burial plots	12	0	0	0	0	1	1
5.	4-Story Commercial	5645 Sepulveda Blvd	38,712 sf medical office, 3,193 sf retail	1,399	73	20	93	39	99	138
6.	Primary School	5840 Uplander Way	Conversion of 16,128 sf office building for a Preschool/Kindergarten	736	74	66	140	67	75	142
7.	Entrada Office Tower	6161 Centinela Blvd	281,194 sf creative office	3,102	386	53	439	71	348	419
8.	Boutique Hotel	11469 Jefferson Blvd	183 hotel rooms with restaurant and outdoor dining	1,495	57	40	97	56	54	110
City of Los Angeles										
9.	6733 Sepulveda	6733 Sepulveda Blvd	176 apartments	628	(31)	55	24	52	(40)	12
10.	Apartment Building	6711 Sepulveda Blvd	180 apartments	1,063	17	70	87	73	37	110
11.	Chick-fil-A	5208 Centinela Ave	4,642 sf fast-food restaurant w/ drive-through	1,093	47	46	93	38	36	74
12.	Mixed-Use Residential & Restaurant	6501 Sepulveda Blvd	362 apartments, 3,700 sf restaurant	2,002	34	105	139	112	75	187

Notes:

[a] Related Project information provided by the City of Culver City in January 2023, by the City of Los Angeles in May 2023, and by the County of Los Angeles in May 2023. No related Projects within the County of Los Angeles were identified.

Related Projects include developments within 1.0 miles from the Project Site.

Chapter 3

Project Traffic

Trip generation estimates, trip distribution patterns, and trip assignments were prepared for the Project. These components form the basis of the Project's non-CEQA traffic analysis.

PROJECT TRIP GENERATION

The number of vehicle trips expected to be generated by the Project was estimated using rates published in *Trip Generation Manual, 11th Edition*. These rates are based on surveys of similar land uses at sites around the country and are utilized to calculate the number of vehicle trips traveling to and from the Project Site during the morning and afternoon peak hours relative to the size of development.

Conservatively, no trip reductions were applied to account for public transit usage, internal capture, and pass-by trips. The Project is not located within 0.5 miles walking distance of a transit hub.

The number of trips currently generated by the existing office uses to be removed with development of the Project was also estimated using the rates published in *Trip Generation Manual, 11th Edition*. The existing use trip estimates also account for trip reductions consistent with the Project.

As shown in Table 4, after accounting for the adjustments above and the removal of existing uses, the Project is expected to generate 59 net new morning peak hour trips (39 inbound trips, 20 outbound trips) and 59 net new afternoon peak hour trips (27 inbound trips, 32 outbound trips).

PROJECT TRIP DISTRIBUTION

The geographic distribution of trips generated by the Project is dependent on the location of employment, residential, and commercial centers to and from which employees and patrons of the Project would be drawn, characteristics of the street system serving the Project Site, the location of the Project driveways, existing traffic patterns, as well as input from CCPWD staff. As detailed in Figures 13A and 13B, both Project driveways would accommodate left- and right-turn ingress and right-turn only egress maneuvers, however the Buckingham Driveway would be limited to residential only traffic.

The intersection-level trip distribution pattern for the residential and retail traffic at the study intersections is shown in Figures 13A and 13B, respectively. Generally, the regional pattern is as follows:

Residential

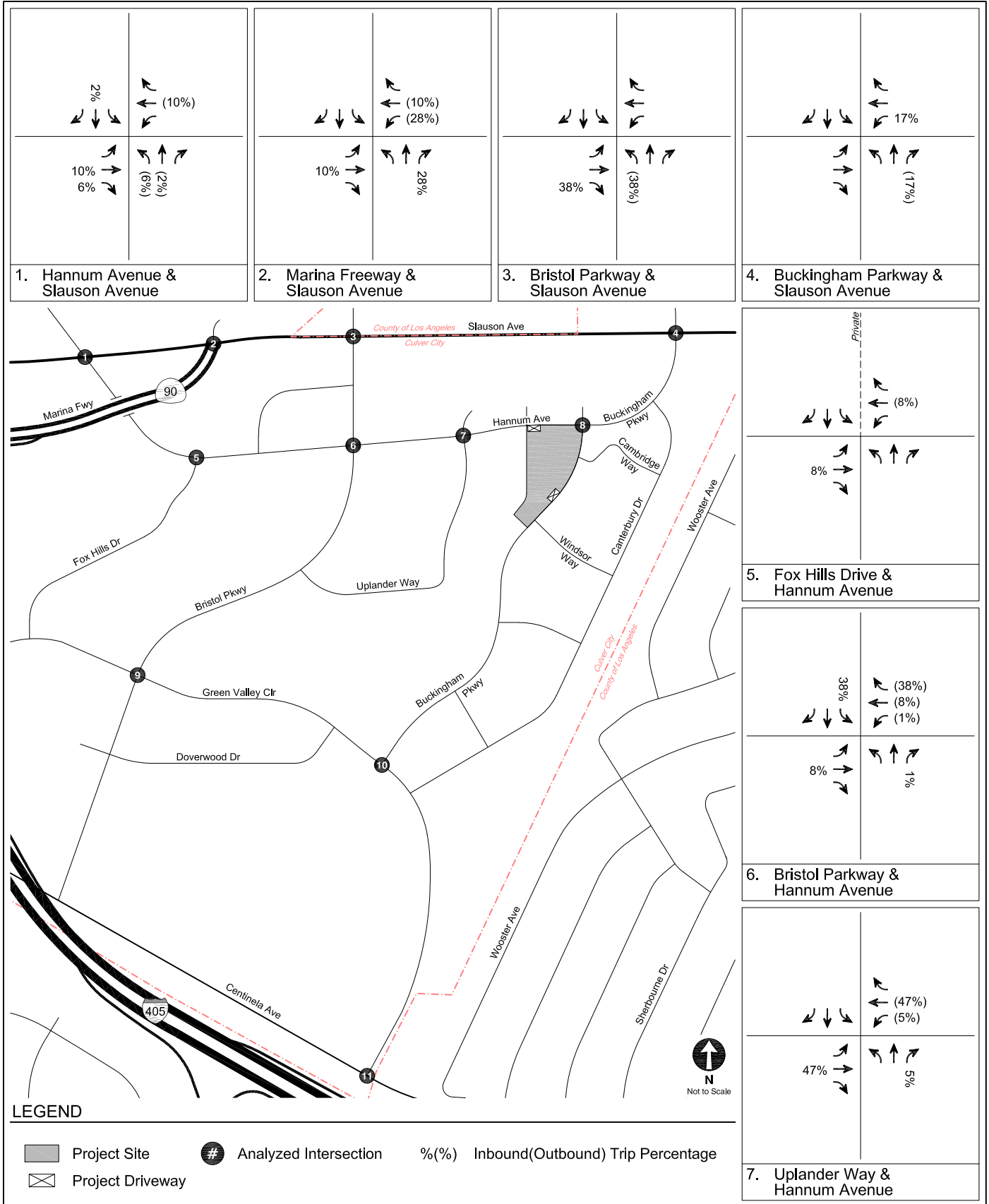
- 15% to/from the north
- 30% to/from the east
- 25% to/from the south
- 30% to/from the west

Retail

- 25% to/from the north
- 25% to/from the east
- 25% to/from the south
- 25% to/from the west

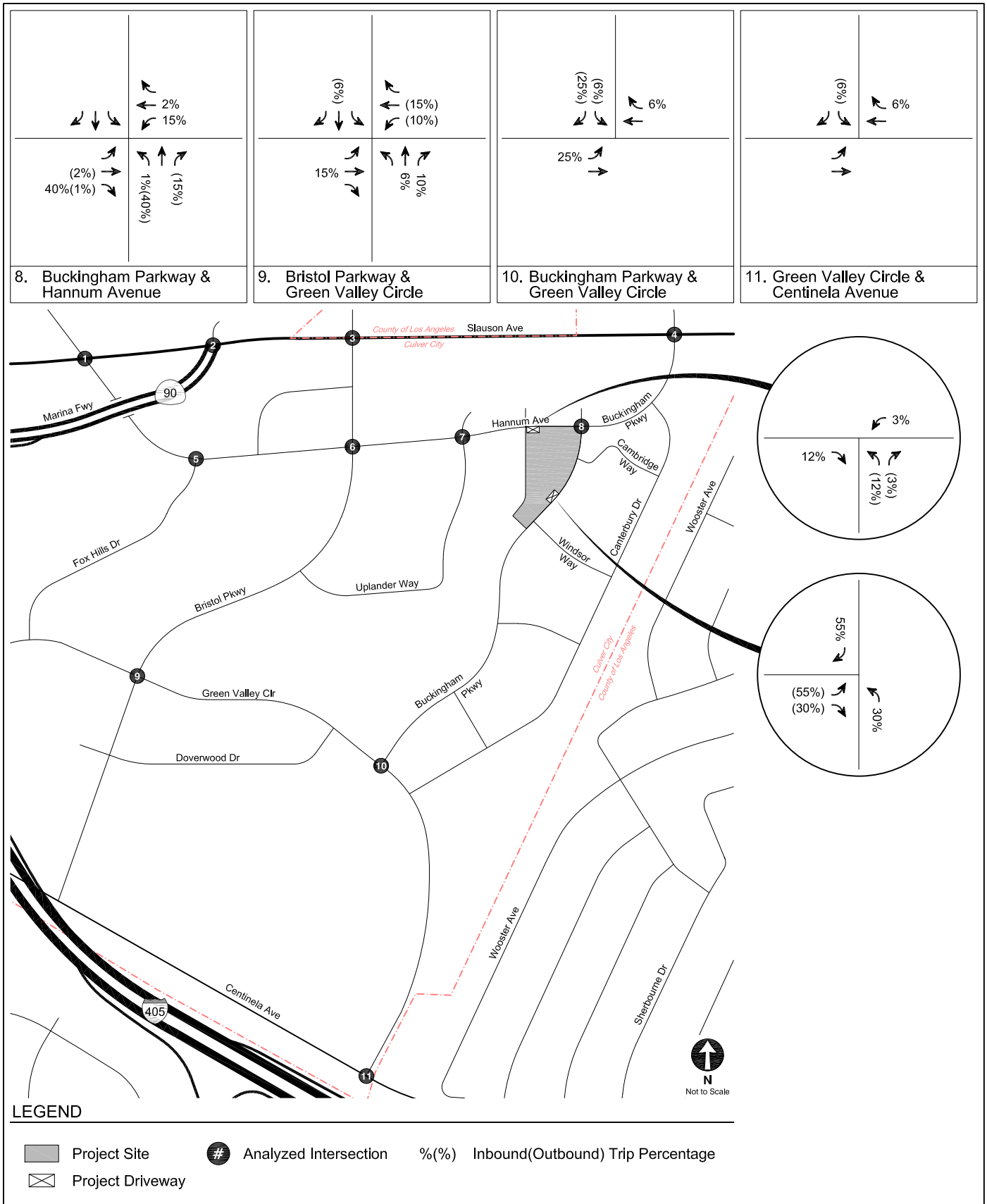
PROJECT TRIP ASSIGNMENT

The Project trip generation estimates summarized in Table 4 and the trip distribution pattern shown in Figures 13A and 13B were used to assign the Project-generated traffic through the study intersections. Figure 14 illustrates the Project-only traffic volumes for the Project at the study intersections during typical weekday morning and afternoon peak hours.



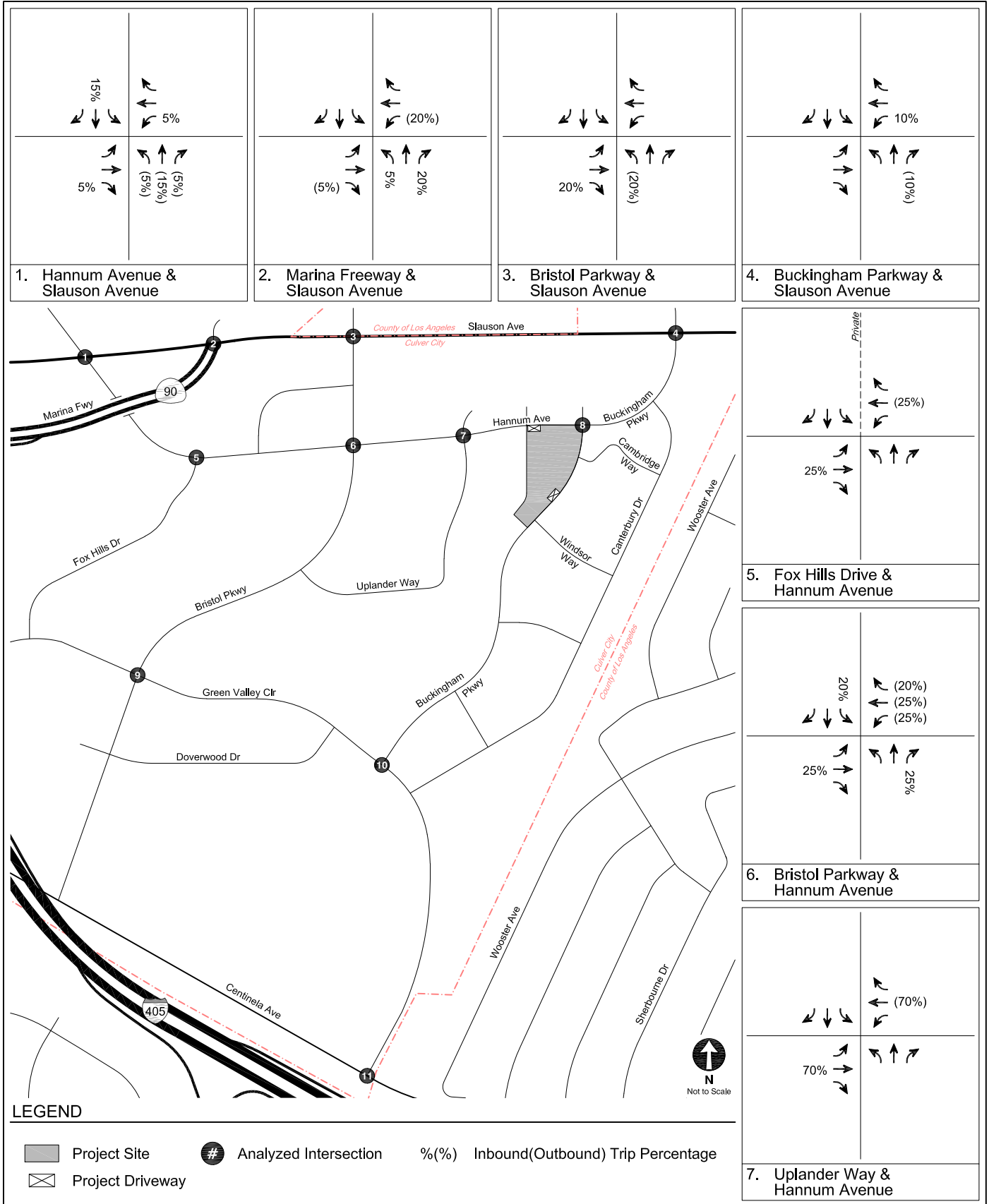
PROJECT TRIP DISTRIBUTION
RESIDENTIAL

FIGURE
13A



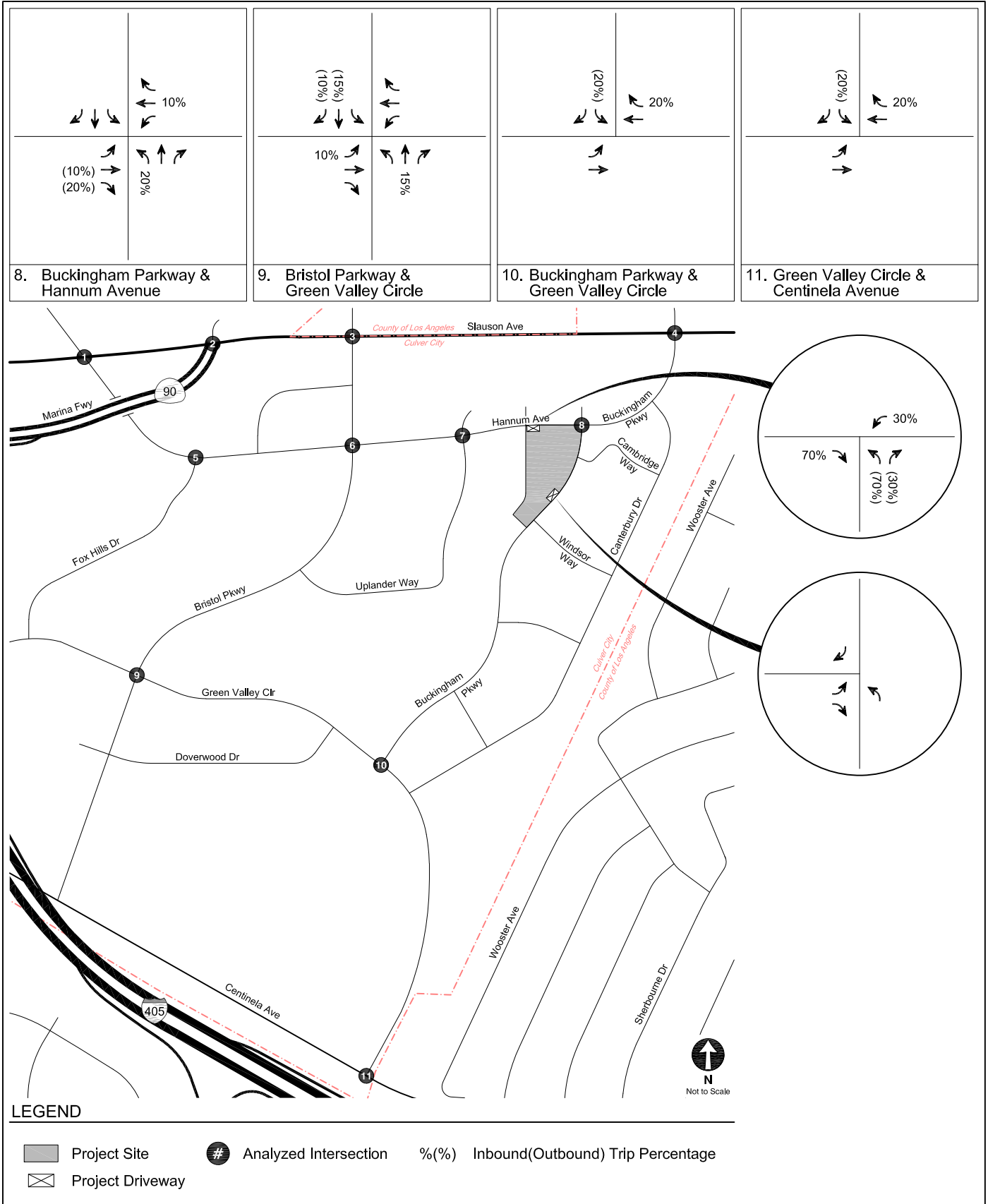
**PROJECT TRIP DISTRIBUTION
RESIDENTIAL**

**FIGURE
13A (CONT.)**



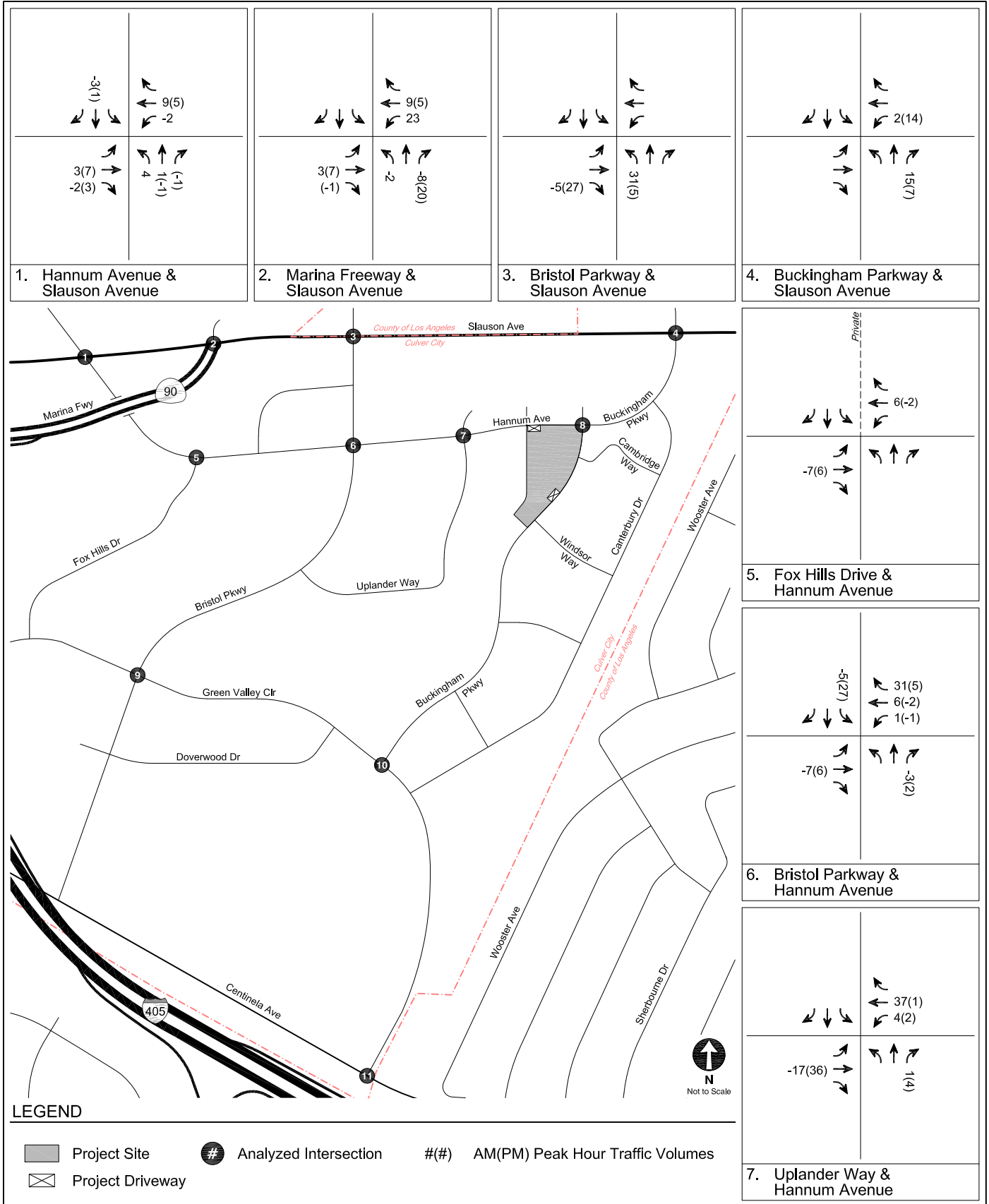
PROJECT TRIP DISTRIBUTION
RETAIL

FIGURE
13B



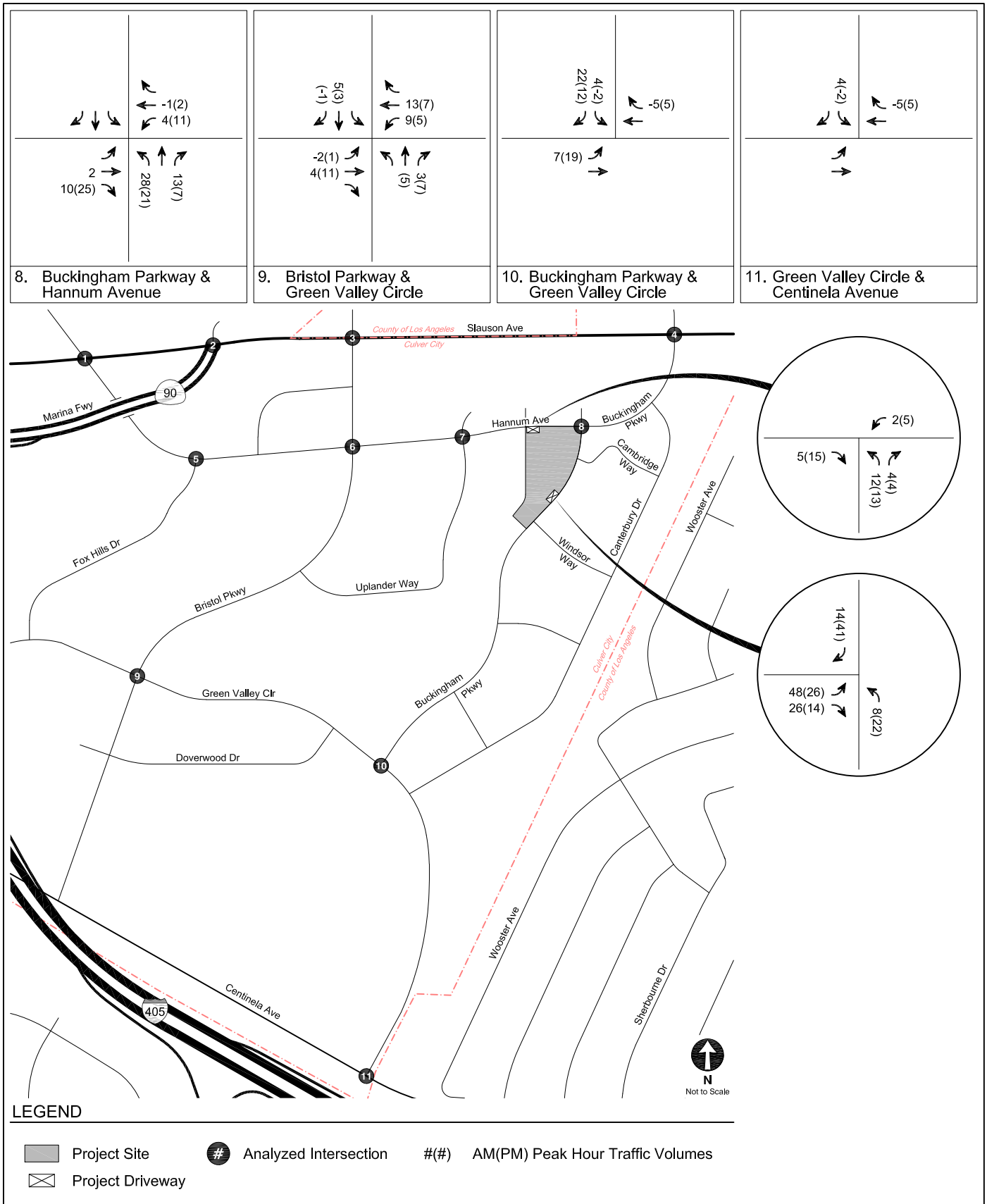
**PROJECT TRIP DISTRIBUTION
RETAIL**

**FIGURE
13B (CONT.)**



NET PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
14



**TABLE 4
PROJECT TRIP GENERATION ESTIMATES**

Land Use	ITE Land Use	Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
<u>Trip Generation Rates [a]</u>									
Shopping Center	820	per ksf	[a]	62%	38%	0.84	48%	52%	3.40
Multifamily Housing (Mid-Rise)	221	per DU	[a]	23%	77%	0.37	61%	39%	0.39
General Office Building	710	per ksf	[a]	88%	12%	1.52	17%	83%	1.44
<u>Proposed Project</u>									
Shopping Center	820	5.6 ksf	[a]	3	2	5	9	10	19
Multifamily Housing (Mid-Rise)	221	309 DU	[a]	26	88	114	74	47	121
Total Project Trips			1,462	26	88	114	74	47	121
<u>Existing Land Uses</u>									
General Office Building	710	30.672 ksf	192	41	6	47	7	37	44
Total Existing Trips to be Removed			192	41	6	47	7	37	44
TOTAL - NET NEW PROJECT TRIPS			1,270	(15)	82	67	67	10	77

Notes:

ksf: 1,000 square feet, DU: dwelling unit

[a] Source: Daily Rates: Culver City VMT Tool. AM and PM Peak Hour Rates: Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021.

Chapter 4

CEQA Analysis of Transportation Impacts

This chapter presents an analysis of potential CEQA-related transportation impacts. The analysis also discusses the consistency of the Project with adopted City plans and policies and the improvements, if necessary, associated with the results of a vehicle miles traveled (VMT) analysis compliant with State requirements under *State of California Senate Bill 743* (Steinberg, 2013) (SB 743).

METHODOLOGY

SB 743 required the Governor's Office of Planning and Research to change the CEQA Guidelines regarding the analysis of transportation impacts. Under SB 743, the focus of transportation analysis shifted from vehicular delay (level of service [LOS]) to VMT, with the intent of reducing greenhouse gas emissions, creating multimodal networks, and promoting mixed-use developments.

Section 4 of the Guidelines defines the required CEQA methodology of analyzing a project's transportation impacts in accordance with SB 743. Per the Guidelines, the CEQA transportation analysis contains the following thresholds for identifying significant impacts:

- Threshold A: Programs, Plans, Ordinances, and Policies
- Threshold B: VMT – Land Use Projects
- Threshold C: VMT – Transportation Projects
- Threshold D: Geometric Design Hazards

These thresholds were reviewed and analyzed, as detailed in the following Sections 4A-4D.

Section 4A:

Conflicting with Programs, Plans, Ordinances, or Policies Analysis

Threshold A states that a project would result in an impact if it conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities.

PROGRAMS, PLANS, ORDINANCES, AND POLICIES

Table 1 of the Guidelines identifies the City programs, plans, ordinances, and policies relevant in determining project consistency. As discussed below, the Project is consistent and does not conflict with the City's adopted programs, plans, ordinances, and policies listed in Table 1 of the Guidelines; therefore, the Project would not result in a significant impact under Threshold 4A. Detailed discussion of the plans, programs, ordinances, or policies related is provided below.

Traffic Code, Chapter 7.05: Motor Vehicle Air Quality Management

Chapter 7.05 of *Culver City Municipal Code* (CCMC) establishes TDM and trip reduction measures to reduce vehicular emissions of new developments in excess of 25,000 sf. The Project is greater than 25,000 sf and would adhere to the TDM requirements of the CCMC, including providing bicycle parking in accordance with the CCMC and improving Project frontages to encourage walking.

Circulation Element

The purpose of the Circulation Element is to effectively link both local and regional transportation systems in order to protect and serve the City's residents and businesses. As specified in Chapter 2, the Circulation Element consists of a series of roadway and bikeway classifications, as well as

pedestrian access objectives and policies. The Project does not propose to modify or make any modifications to the street classifications, nor would it preclude the City from making improvements to the transportation network.

The City is currently working on a General Plan update that is anticipated to be released to the public in the summer/fall of Year 2023.

NTMP

The City adopted a series of procedures for the implementation of NTMPs, as defined in its *Neighborhood Traffic Management Program (NTMP) Procedures Manual* (November 22, 2004). The program requires a series of actions by the neighborhood and City/Engineering Division to determine the traffic issues, study them, develop a plan, test proposed improvements, and finalize the plan. As later detailed in Section 5A, no streets would be considered significantly affected with the addition of Project-related traffic. Furthermore, the Project is not projected to lead to trip diversion along residential Local Streets, nor is the Project projected to add a substantial amount of automobile traffic to congested Arterial Streets that could potentially cause a shift to residential Local Streets. Therefore, the Project would not be required to propose an NTMP for the surrounding residential neighborhoods. In addition, the Project would not conflict with the Fox Hills NTMP or preclude any measures identified therein from being installed.

Gateway Neighborhood Design Guidelines

The City's *Multi-Family Neighborhood Residential Design Guidelines – Gateway Neighborhood* (Adopted March 24, 2010) is intended to encourage new residential projects to be compatible with, maintain the integrity of, and preserve the unique character and best features of the Gateway Neighborhood by promoting desirable design qualities, guiding change in ways that are compatible with the existing neighborhood development pattern, and respecting the diversity and vitality of the neighborhood. The Project is not located within the Gateway Neighborhood and, therefore, *Multi-Family Neighborhood Residential Design Guidelines – Gateway Neighborhood* does not apply to the Project.

Gateway Adjacent Neighborhood Design Guidelines

The City's *Multi-Family Neighborhood Residential Design Guidelines – Gateway Adjacent Neighborhood* (July 13, 2011) is intended to encourage new residential projects to be compatible with, maintain the integrity of, and preserve the unique character and best features of the Gateway Adjacent Neighborhood by promoting desirable design qualities, guiding change in ways that are compatible with the existing neighborhood development pattern, and respecting the diversity and vitality of the neighborhood. The Project is not located within the Gateway Adjacent Neighborhood and, therefore, *Multi-Family Neighborhood Residential Design Guidelines – Gateway Adjacent Neighborhood* does not apply to the Project.

Residential Parkway Guidelines

The City's *Culver City Residential Parkway Guidelines* (2016) informs the general public about parkway regulations and provides guidance on planning, creating, and maintaining a parkway landscape. Property owners are expected to maintain the parkway space adjacent to their properties, with the exception of street trees, which are maintained by the City. Sidewalk access and step-out strips are to be installed and maintained along all residential parkways in the City. The Project is not along a residential parkway. Therefore, *Culver City Residential Parkway Guidelines* does not apply to the Project. Nevertheless, the Project will maintain the surrounding landscaping and sidewalks adjacent to the Project Site.

Upper Culver Crest Hillside Design Standards

Culver Crest: Recommendations for R-1 Neighborhood Hillside Development Standards (John Kaliski Architects, PlaceWorks, and RMA GeoScience, January 4, 2017) specifies a zoning code overlay for the Culver Crest residential community to ensure that the unique planning and development concerns of this hillside neighborhood are addressed. The Project is not located within the Upper Culver Crest community and, therefore, *Culver Crest: Recommendations for R-1 Neighborhood Hillside Development Standards* does not apply to the Project.

Short-Range Transit Plan

Short-Range Transit Plan (Culver CityBus, FY 2019-2020) provides a strategic blueprint designed to maintain a forward-thinking focus on improved mobility services with a continued dedication to customer service and fiscal responsibility. The plan provides an overview of the City's existing mobility services and policies that further improve mobility in the City, such as transit-oriented development and complete streets projects. Further, the plan proposes a variety of measures to improve mobility services, implement physical changes to transit facilities and roadways, and upgrade existing buses with fully electric vehicles. The Project would not conflict with any of the proposed changes in *Short-Range Transit Plan*, and improvements made in the plan would likely enhance transit alternatives for residents and visitors to the site.

Bicycle and Pedestrian Action Plan

Culver City Bicycle & Pedestrian Action Plan seeks to promote a long-term vision for the City that would "ensure comfortable, safe, and attractive places to bike and walk so that these forms of active transportation become first choices for travelling around our city." A Class IV separated bikeway on Buckingham Parkway between Hannum Avenue and Green Valley Circle would be located adjacent to the Project Site.

The Buckingham Driveway would intersect with the proposed southbound bicycle lane on Buckingham Parkway based on the current designs for the facility. However, the Project would meet City guidelines for driveway design and visibility, ensuring maximum visibility would be provided for all road users, including bicycles, pedestrians, and motorized vehicles. Further, the Project would not preclude the installation of the bicycle lane on Buckingham Parkway or any other street within the Study Area that has been identified for bicycle and/or pedestrian improvements. The Project would also support active modes of transportation by providing bicycle parking and improving the pedestrian facilities adjacent to the Project frontage.

Complete Streets Policy

The City's *City of Culver City Complete Streets Policy* (Adopted January 13, 2020) intends to "promote healthy and sustainable mobility for Culver City residents and visitors by providing safe, convenient, and comfortable access to destinations throughout the City by walking, bicycling, transit, and autos." The policy sets a variety of goals and standards in the application of complete streets principles including improving mobility for all road users, enhancing safety, and creating a standard set of criteria applicable to all city departments and private developers who construct within the public ROW. The Project would incorporate the complete streets principles into the Project design to encourage multi-modal transportation options within the community.

Local Road Safety Plan

The City's *Local Roadway Safety Plan* (November 2021) (LRSP) is a document that enables the City to determine potential traffic safety projects on roadways and intersections within the City. In an effort to eliminate fatal and severe injury collisions, the document provides a comprehensive collisions analysis through the LRSP to identify high-risk corridors and intersections with the highest collision frequency and severity. Of the several high-risk intersections and street segments identified in the plan, none are located adjacent to the Project Site. Thus, the Project would not preclude the City from implementing improvements to eliminate fatal and severe injury collisions as part of the LRSP.

Vision Zero

The City adopted the Vision Zero initiative in 2016 and has incorporated policies and infrastructure improvements into *Culver City Bicycle & Pedestrian Action Plan*.

None of the streets located on the City's HIN are located adjacent to the Project Site and no Vision Zero improvements have been proposed adjacent to the Project Site, as of June 2023. Nevertheless, the Project would not preclude future Vision Zero Safety Improvements by the City. Thus, the Project does not conflict with Vision Zero.

Section 4B: VMT Analysis – Land Use Projects

Threshold B of the Guidelines analyzes whether a project causes substantial VMT and is generally applied to land use projects. Specifically, Threshold 4B inquires whether a project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(1), which states that (for land use projects) “vehicle miles travelled exceeding an applicable threshold of significance may indicate a significant impact.” This subdivision also states that a lead agency has discretion to choose the most appropriate method to evaluate a project’s VMT.

Per the Guidelines, a “no impact” determination can be made for a project if any of the following screening criteria are met:

1. *Small projects that result in less than 250 daily or 25 peak hour trips*
2. *Projects within 0.50 miles from these key Transit Priority Areas (TPAs): Metro E (Expo) Line Culver City Station, Metro E (Expo) Line La Cienega Station, Westfield-Culver City Transit Center or Sepulveda/Venice Boulevard intersection may be screened*
3. *Projects located within any TPA where at least 15% of the on-site residential units are affordable*
4. *Affordable housing projects where 100% of the dwelling units are affordable*
5. *Local serving retail projects having less than 50,000 sf in size at a single store*

If none of the above screening criteria are met, the Guidelines provide guidance for the further analysis of VMT, as discussed in the following section.

VMT METHODOLOGY

The following details the methodology that vehicle trips and VMT are calculated in *Culver City VMT Tool* (October 2021) (VMT Calculator), as detailed in the Guidelines. The VMT Calculator

estimates the project-specific daily number of trips as well as the daily household VMT per capita and daily work VMT per employee for developments within City limits.

As noted in Section 4B of the Guidelines, small-scale retail/restaurant components less than 50,000 sf of larger mixed-use development projects are not considered for the purposes of identifying significant work VMT per employee impacts, as those trips are assumed to be local serving and would have a negligible effect on VMT.

Table 2 of the Guidelines, as presented below, shows the VMT thresholds by type of land use. Note that the table was modified to include the current threshold values for the City.

Use	Metric	Threshold	Threshold Value
Residential	Daily home-based daily VMT/capita	15% below existing levels (Existing level = 8.3)	7.1
Work	Daily home-based-work VMT/employee	15% below existing levels (Existing level = 10.1)	8.6
Regional Retail	Total VMT	Any net positive change in citywide VMT	N/A

Source: Guidelines

The Project consists of residential and neighborhood serving retail uses, under 50,000 sf in size.

TDM Measures

Additionally, the VMT Calculator measures the reduction in VMT resulting from a project's incorporation of TDM strategies. The following four categories of TDM strategies are included in the VMT Calculator:

1. Parking
2. Transit

3. Commute Trip Reductions
4. Site Design

TDM strategies within each of these categories have been empirically demonstrated to reduce trip-making or mode choice in such a way as to reduce VMT, as documented in *Quantifying Greenhouse Gas Mitigation Measures* (California Air Pollution Control Officers Association, 2010).

PROJECT VMT ANALYSIS

The latest VMT Calculator was used to conduct the VMT screening evaluation. Based on guidance from the City, the VMT Calculator was modeled for the Project's land uses and density as the primary input. A summary of the results is provided in Table 5 and the detailed screening output from the VMT Calculator is provided in Appendix C.

As shown in Appendix C, the Project does not meet the screening criteria as identified in the Guidelines. Thus, further VMT analysis was required to determine if the Project would have a significant impact.

The VMT Calculator utilized the Project's land uses and their respective sizes, including 282 multi-family units, 27 affordable units, and 5,600 sf of retail. Because the retail is less than 50,000 sf, no further analysis was required for the retail component as it is neighborhood serving.

Not accounting for any project design features or mitigations, the Project would result in a household VMT of 6.8 per capita, which is below the citywide household VMT threshold of 8.3 per capita, as shown in Table 5. Thus, the Project does not result in a significant VMT impact, and no further mitigation would be required.

Nonetheless, as previously detailed, the Project would implement strategies and action plans as part of a comprehensive TDM program in compliance with the requirements set forth in CCMC Section 07.05.015 to reduce single occupancy vehicle trips while promoting the use of alternative transportation modes, thereby reducing Project VMT.

**TABLE 5
VMT ANALYSIS SUMMARY**

<i>Project Information</i>	
Address	5700 Hannum
Project Parcel Number	4134005015
Project Land Uses	
Multi-Family Housing	282 units
Affordable Housing (Family)	27 units
Retail	5,600 square feet
<i>Project VMT Analysis</i> [a]	
Daily Vehicle Trips	1,462
Daily VMT	10,504
Household VMT per Capita	6.8
Impact Threshold	8.3
Significant Impact	NO

Notes:

[a] Project Analysis is from VMT Calculator output reports provided in Appendix D.

Section 4C: VMT Analysis – Transportation Projects

The intent of Threshold C is to assess whether a transportation project would induce substantial VMT by increasing vehicular capacity on the roadway network, such as the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges.

The Project is not a transportation project that would induce automobile travel. Therefore, the Project would not result in a significant impact under Threshold C and further evaluation is not required.

Section 4D: Geometric Design Hazards Analysis

DRIVEWAY DESIGN FEATURES

Vehicular access to the Project Site would be provided via two driveways, the Hannum Driveway and the Buckingham Driveway. Both driveways would provide full access to the Project, with the Buckingham Driveway restricted to residential access only. Pedestrian access to the Project would be provided via separate lobby and retail entrances along Hannum Avenue.

The section of Hannum Avenue along which the Hannum Driveway is situated provides four travel lanes, two in each direction, and metered parking on the south side of the street. With development of the Project, a few on-street parking spaces adjacent to the Project may be removed to accommodate the Hannum Driveway. Sidewalks are provided along the northern boundary of the Project Site. An existing Class II bike lane is provided on both sides of the street adjacent to the Project. Development of the Project would maintain the existing bike lane; however, the Hannum Driveway would intersect with the eastbound bike lane on the south side of Hannum Avenue. To ensure maximum visibility, the Hannum Driveway would meet all of the City's requirements and would provide adequate sight distance for drivers of vehicles entering and leaving the Project Site as well as bicyclists and pedestrians wishing to cross the driveway. No exceptional horizontal or vertical curvatures exist along this section of roadway that would create sight distance issues for Project traffic utilizing the proposed driveway.

The section of Buckingham Parkway along which the Buckingham Driveway is situated provides two travel lanes, one in each direction, and a two-way left-turn median. Unmetered parking is generally available on both sides of the street; however, a few spaces may be lost to accommodate the Buckingham Driveway. Sidewalks are provided along the eastern boundary of the Project Site. While no existing bicycle lanes are provided on Buckingham Parkway, *Culver City Bicycle & Pedestrian Action Plan* calls for a Class IV bike lane to be installed. As previously mentioned, the design for this bicycle lane has not been finalized. However, the Buckingham Driveway would intersect the southbound bicycle lane on the west side of Buckingham Parkway.

Similar to the Hannum Driveway, the Buckingham Driveway would ensure maximum visibility by meeting all of the City's driveway requirements and would provide adequate sight distance for drivers of vehicles entering and leaving the Project Site as well as bicyclists and pedestrians wishing to cross the driveway. No exceptional horizontal or vertical curvatures exist along this section of roadway that would create sight distance issues for Project traffic utilizing the proposed driveway. The Buckingham Driveway would be restricted to residential access only.

No unusual or new obstacles are presented in the Project design that would be considered hazardous to motorized vehicles, non-motorized vehicles, or pedestrians. Access to the Project would be consolidated to two driveways in order to minimize potential hazards to pedestrians, bicyclists, and motorists along Buckingham Parkway and Hannum Avenue.

All driveways will be subject to review by the City.

Pedestrian, Bicycle, and Transit Activity

Adequate sight distance would be provided at both Project driveways to ensure safety for all road users, including pedestrians and bicyclists.

Minimal pedestrian and bicycle traffic was observed to travel on Hannum Avenue and Buckingham Parkway adjacent to the Project Site. Based on the trip generation estimates detailed in Table 4, the Project would generate fewer than two vehicles per minute at either driveway. Thus, pedestrians and bicyclists would have adequate gaps in vehicular traffic at the driveways to safely cross and the Project is unlikely to result in an increase in vehicle-pedestrian and vehicle-bicycle conflicts.

Metro Line 108 has a bus stop located adjacent to the Project Site along Buckingham Parkway. No modifications are proposed to this bus stop, which would remain with completion of the Project. Neither the Hannum Driveway or Buckingham Driveway would conflict with the bus stop operation, and adequate sight distance would be provided to ensure visibility between buses and vehicles at the driveway. Therefore, the Project would not affect transit activity or access.

The Project driveways would be designed to remain clear of hardscapes, vegetation, or signage that would impede sight lines.

Physical Terrain

The Project Site is located on a flat parcel with only slight changes in vertical elevation. Therefore, no line-of-sight issues would be caused by changes in elevation, and drivers would be able to safely identify approaching vehicles, pedestrians, and bicycles at both driveways. The driveways are designed to intersect the public ROW at right angles to the extent possible, with adequate building setback to allow pedestrians and bicyclists to observe vehicles within either driveway.

Incompatible Uses

The Project would be compatible with the surrounding residential uses to the east and south. Furthermore, no elements of the Project's uses or design would be considered incompatible.

Summary

Based on the site plan review and design, the Project does not present any geometric design features that would substantially increase hazards related to traffic movement, mobility, or pedestrian accessibility and, thus, Project impacts are considered less than significant.

Chapter 5

Supplemental Transportation Analysis

This chapter summarizes the supplemental transportation analysis of the Project, including Project traffic, access, safety, and circulation, as well as the Project's effect on nearby pedestrian, bicycle, and transit facilities. This chapter also summarizes the evaluation of the Project's operational conditions, parking supply and requirements, and potential effects due to Project construction.

Section 5 of the Guidelines identifies the following supplemental transportation analyses for reviewing potential transportation deficiencies that may result from a development project:

- Traffic Operations
- Transit Operations
- Driveways
- Parking
- Curb Space Allocation
- Safety Analysis

The supplemental transportation analyses were reviewed in detail in Sections 5A-5F. In addition, a review of the construction activities of the Project is provided in Section 5G.

Section 5A Traffic Operations

This section assesses the ability of the circulation system to accommodate the addition of vehicular traffic generated by the Project and Related Projects.

OPERATIONAL ANALYSIS METHODOLOGY

Intersection peak hour operations were evaluated for typical weekday morning (7:00 AM to 9:00 AM) and afternoon (4:00 PM to 6:00 PM) periods. A total of three intersections in the vicinity of the Project Site were selected for detailed transportation analysis and are shown in Figure 3.

The following traffic conditions were developed and analyzed as part of this study:

- Existing with Project Conditions (Year 2023): This analysis condition projects the potential intersection operating conditions that could be expected if the Project were built under Existing Conditions.
- Future with Project Conditions (Year 2027): This analysis condition projects the potential intersection operating conditions that could be expected if the Project were occupied in the projected buildout year. In this analysis, the Project-generated traffic is added to Future without Project Conditions in Year 2027.
- Cumulative with Project Conditions (Year 2045): This analysis condition projects the potential intersection operating conditions that could be expected if the Project were occupied in the horizon year of the General Plan. In this analysis, the Project-generated traffic is added to Cumulative without Project Conditions in Year 2045.

Operational Evaluation

In accordance with the Guidelines, the intersection delay and queue analyses for the operational evaluation were conducted using the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016) (HCM) methodology, which was implemented using Synchro software and signal timing worksheets from the agency of jurisdiction to analyze intersection operating

conditions. The HCM signalized methodology calculates the average delay, in seconds, for each vehicle passing through the intersections, while the HCM unsignalized two-way stop-control methodology calculates the control delay, in seconds, for individual approaches of an intersection. Table 6 presents a description of the LOS categories, which range from excellent, nearly free-flow traffic at LOS A, to stop-and-go conditions at LOS F, for signalized and unsignalized intersections. The queue lengths were estimated using Synchro, which reports the 95th percentile queue length, in vehicles for each approach lane, which can be converted to linear feet by multiplying by 25 feet per vehicle. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology.

LOS and queuing worksheets for each scenario are provided in Appendix D.

LOS ANALYSIS

The intersection analysis was conducted based on the HCM methodologies to identify delay and LOS at each of the study intersections with development of the Project. Detailed LOS calculation worksheets are provided in Appendix D.

Existing with Project Conditions

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes, described in Chapter 3 and shown in Figure 14, were added to the existing morning and afternoon peak hour traffic volumes shown in Figure 7. The resulting volumes are illustrated in Figure 15 and represent Existing with Project Conditions, assuming Project operation under Existing Conditions.

Intersection LOS. Table 7 summarizes the weekday morning and afternoon peak hour LOS results for each of the study intersections under Existing and Existing with Project Conditions. As shown in Table 7, 10 of the 11 study intersections would operate at LOS D or better during both the morning and afternoon peak hours under Existing and Existing with Project Conditions. The remaining intersection of Bristol Parkway & Slauson Avenue (Intersection #3) operates at LOS F in the morning peak hour and LOS B in the afternoon peak hour under Existing and Existing with Project Conditions.

Future with Project Conditions

All future cumulative traffic growth (i.e., ambient and Related Project traffic growth) and transportation infrastructure improvements through Year 2027 described in Chapter 2 were incorporated into this analysis.

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes, described in Chapter 3 and shown in Figure 14, were added to the Future without Project (Year 2027) morning and afternoon peak hour traffic volumes shown in Figure 10. The resulting volumes are illustrated in Figure 16 and represent Future with Project Conditions after development of the Project in Year 2027.

Intersection LOS. Table 8 summarizes the results of the Future without Project (Year 2027) and Future with Project Conditions during the weekday morning and afternoon peak hours for the study intersections. As shown in Table 8, eight of the 11 study intersections would operate at LOS D or better during both the morning and afternoon peak hours under Future without Project and Future with Project Conditions. The remaining intersections, including Marina Freeway & Slauson Avenue (Intersection #2), Bristol Parkway & Slauson Avenue (Intersection #3), and Bristol Parkway & Green Valley Circle (Intersection #9) are projected to operate at LOS E or F during at least one of the morning or afternoon peak hours under Future without Project and Future with Project Conditions.

Cumulative with Project Conditions

All future cumulative traffic growth (i.e., ambient and Related Project traffic growth) and transportation infrastructure improvements through the General Plan horizon year of 2045 were incorporated into this analysis.

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes, described in Chapter 3 and shown in Figure 14, were added to the Cumulative without Project (Year 2045) morning and afternoon peak hour traffic volumes shown in Figure 11. The resulting volumes are illustrated in Figure 17 and represent Cumulative with Project Conditions after development of the Project in Year 2045.

Intersection LOS. Table 9 summarizes the results of the Cumulative without Project (Year 2045) and Cumulative with Project Conditions during the weekday morning and afternoon peak hours for the study intersections. As shown in Table 9, six of the 11 study intersections would operate at LOS D or better during both the morning and afternoon peak hours under Cumulative without Project and Cumulative with Project Conditions. The remaining intersections, including Hannum Avenue & Slauson Avenue (Intersection #1), Marina Freeway & Slauson Avenue (Intersection #2), Bristol Parkway & Slauson Avenue (Intersection #3), Buckingham Place & Slauson Avenue (Intersection #4), and Bristol Parkway & Green Valley Circle (Intersection #9) are projected to operate at LOS E or F during at least one of the morning or afternoon peak hours under Cumulative without Project and Cumulative with Project Conditions.

INTERSECTION QUEUING ANALYSIS

The study intersections were also analyzed to determine whether the lengths of intersection turning lanes could accommodate vehicle queue lengths. The queue lengths were estimated using Synchro software, which reports the 95th percentile queue length, in feet, for each approach lane. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology. Detailed queuing analysis worksheets are provided in Appendix D.

DRIVEWAY ANALYSIS

Utilizing the same methodology for the intersection analyses, a driveway queuing analysis was conducted to determine whether the driveway and adjacent streets could accommodate vehicle queue lengths. The queue lengths were estimated using Synchro software, which reports the 95th percentile queue length, in feet, for each approach lane. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology.

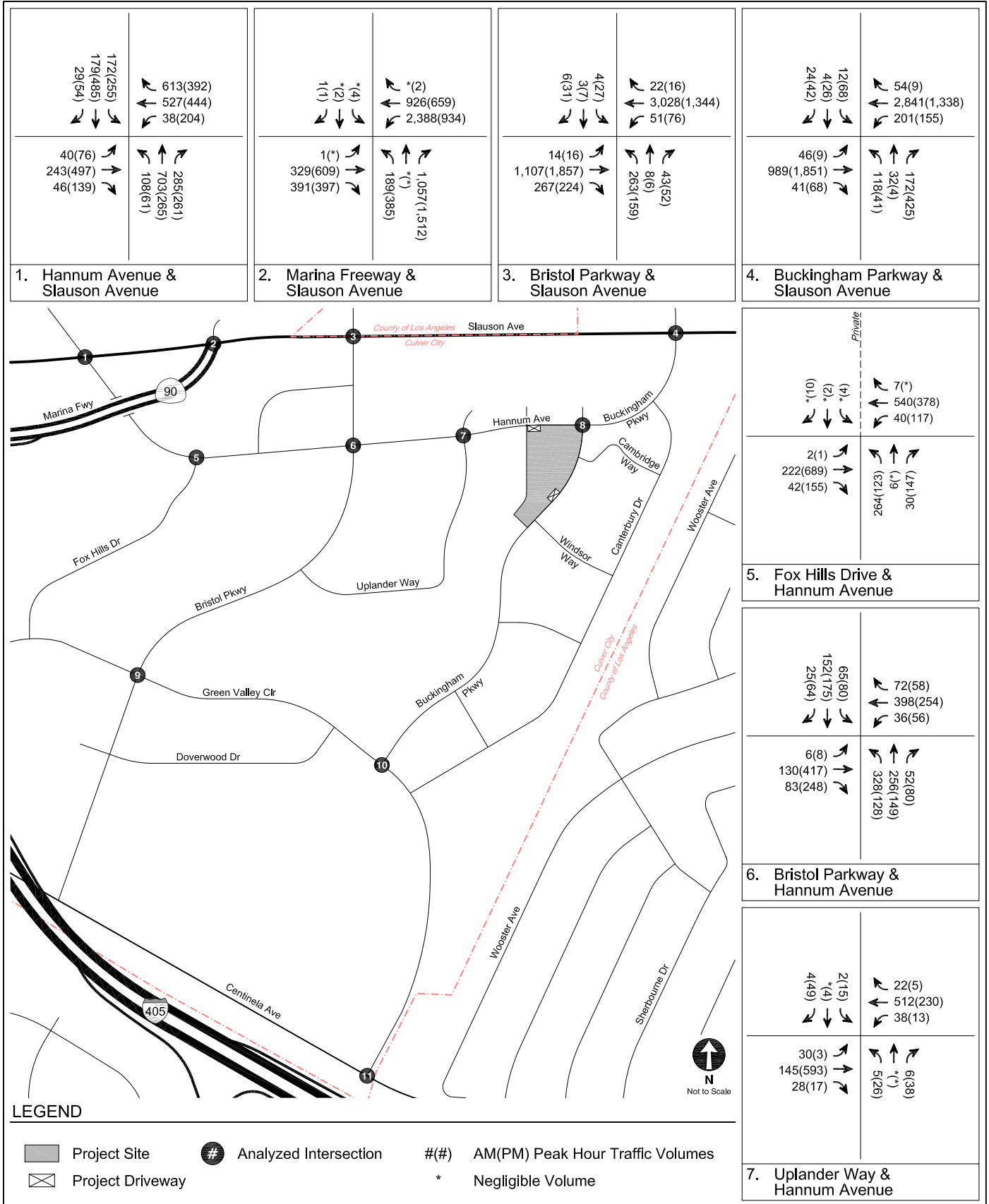
The HCM Two-Way Stop Control Unsignalized methodology calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, typically on the lower volume minor street, and does not account for traffic gaps created by adjacent traffic signals that allow turn movements to proceed from the minor street.

Detailed queuing analysis worksheets are provided in Appendix D.

RESIDENTIAL STREET CUT-THROUGH ANALYSIS

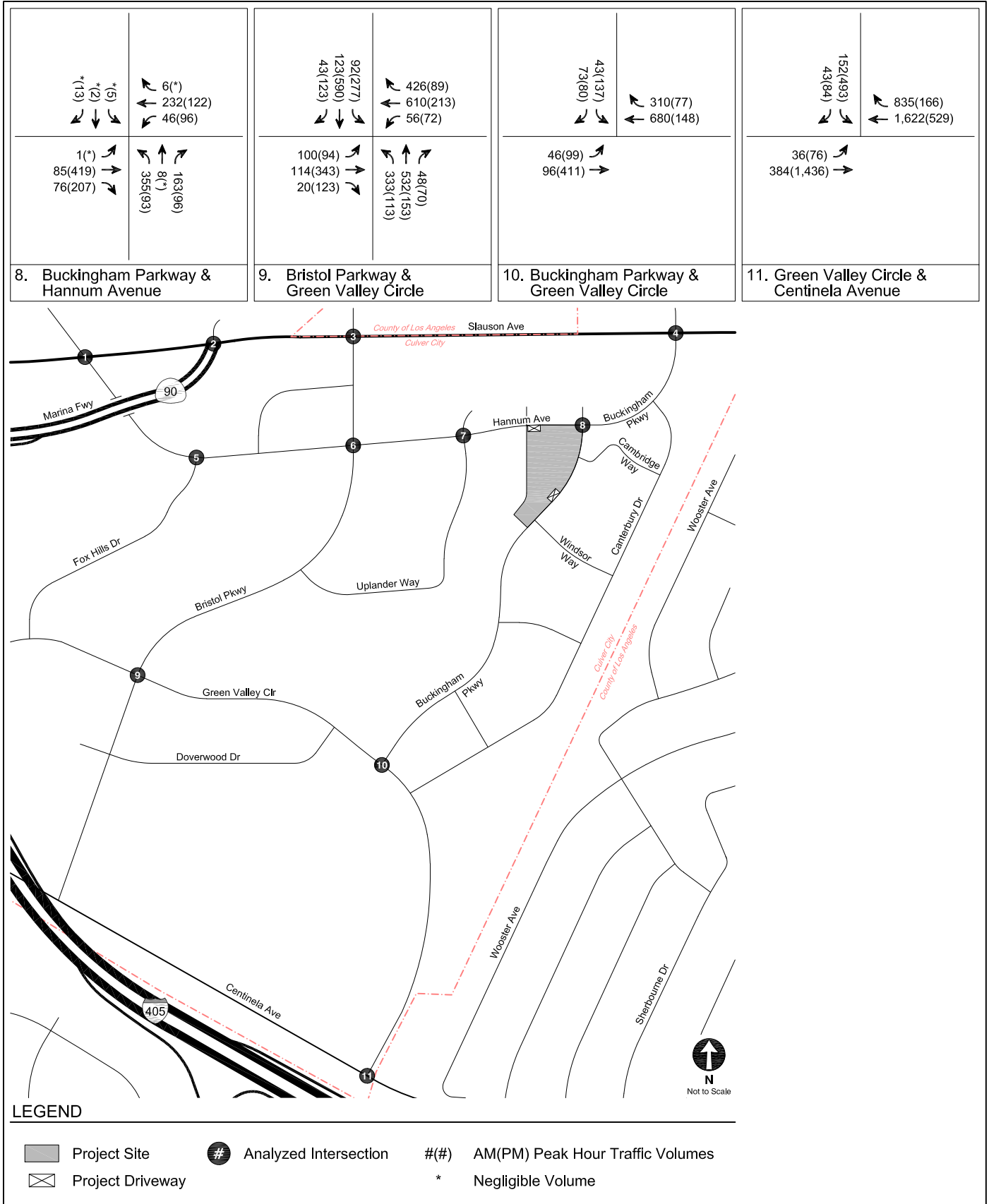
A residential street cut-through analysis is used to determine potential increases in average daily traffic volumes on designated Local Streets, as classified in the Circulation Element, that can be identified as cut-through trips generated by the Project and that can adversely affect the character and function of those streets.

The Project is not projected to lead to trip diversion along residential Local Streets, nor is the Project projected to add a substantial amount of automobile traffic to congested Arterial Streets that could potentially cause a shift to residential Local Streets, as the surrounding area uses mainly consist of industrial and commercial uses. Therefore, no improvement measures to address residential neighborhood traffic are required.



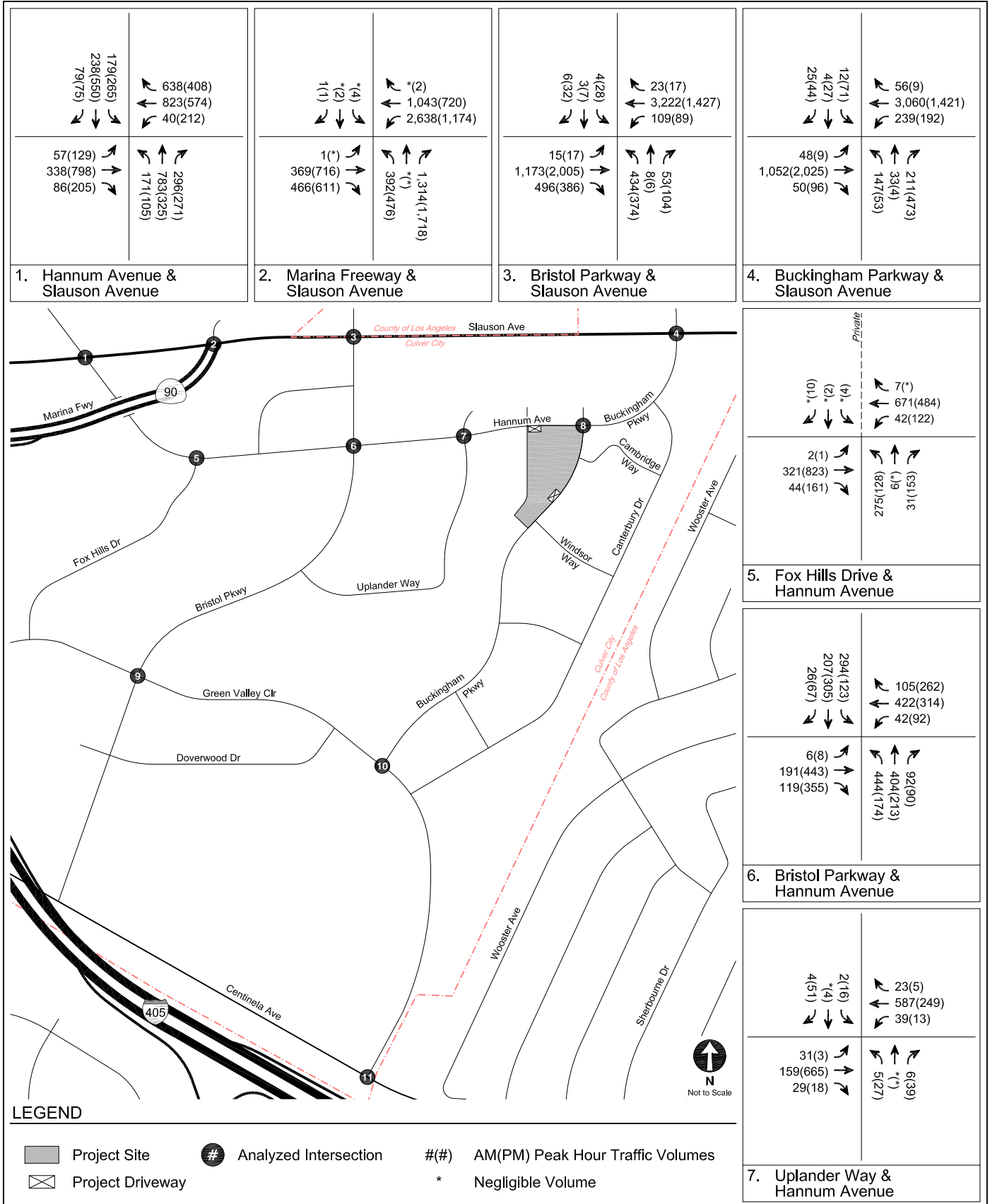
EXISTING WITH PROJECT CONDITIONS (YEAR 2023)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
15



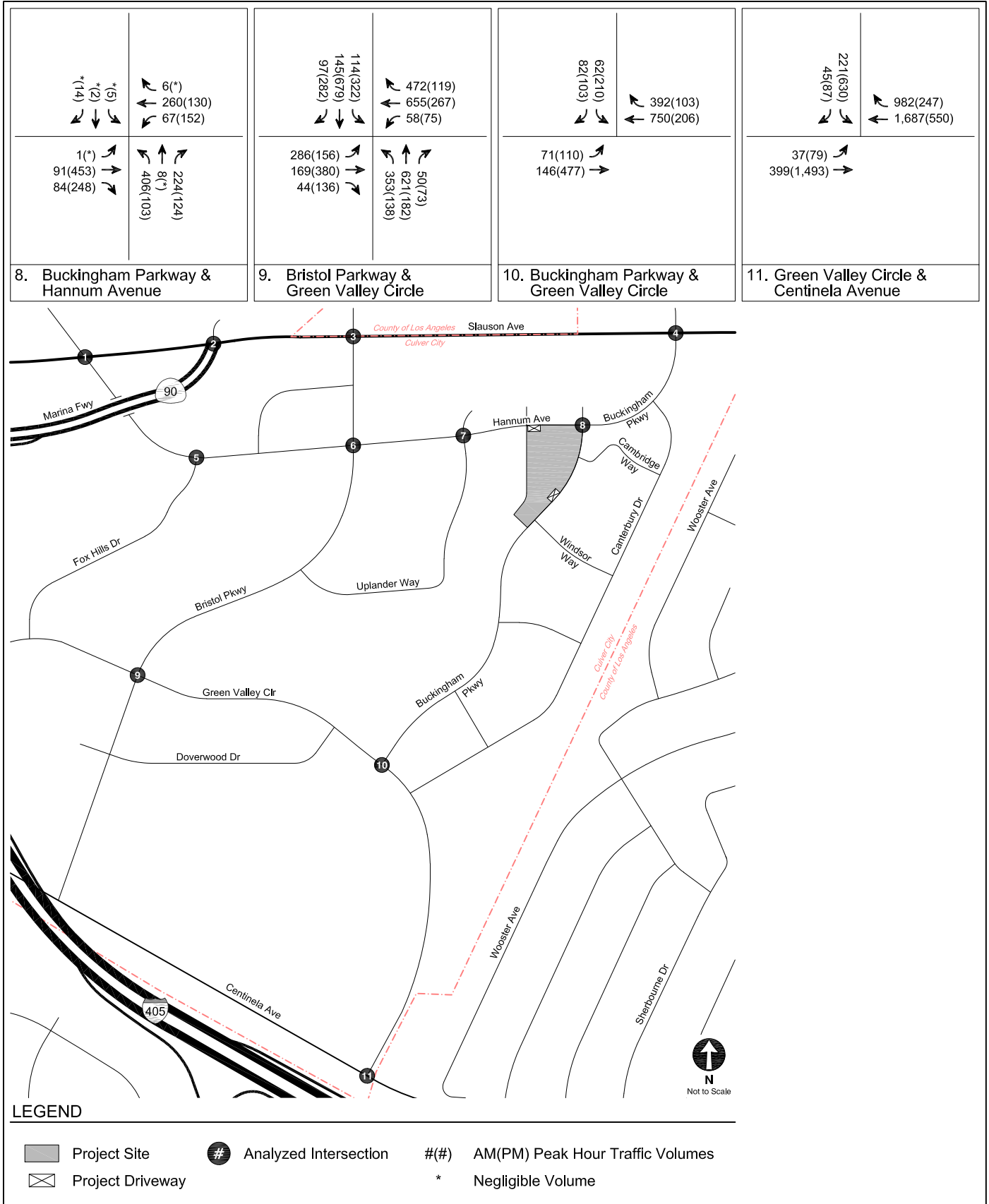
**EXISTING WITH PROJECT CONDITIONS (YEAR 2023)
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE
15 (CONT.)**



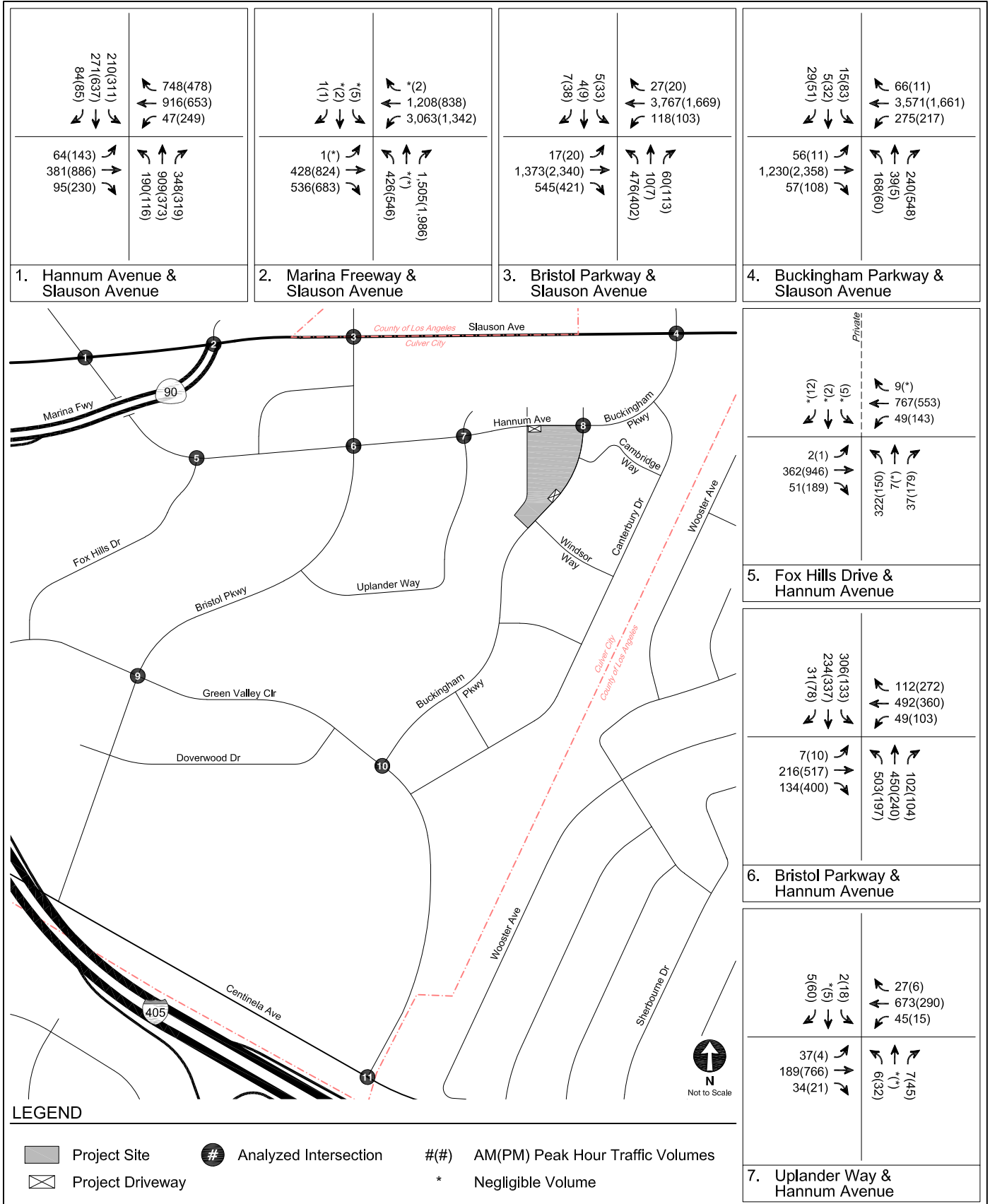
FUTURE WITH PROJECT CONDITIONS (YEAR 2027)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
16



FUTURE WITH PROJECT CONDITIONS (YEAR 2027)
PEAK HOUR TRAFFIC VOLUMES

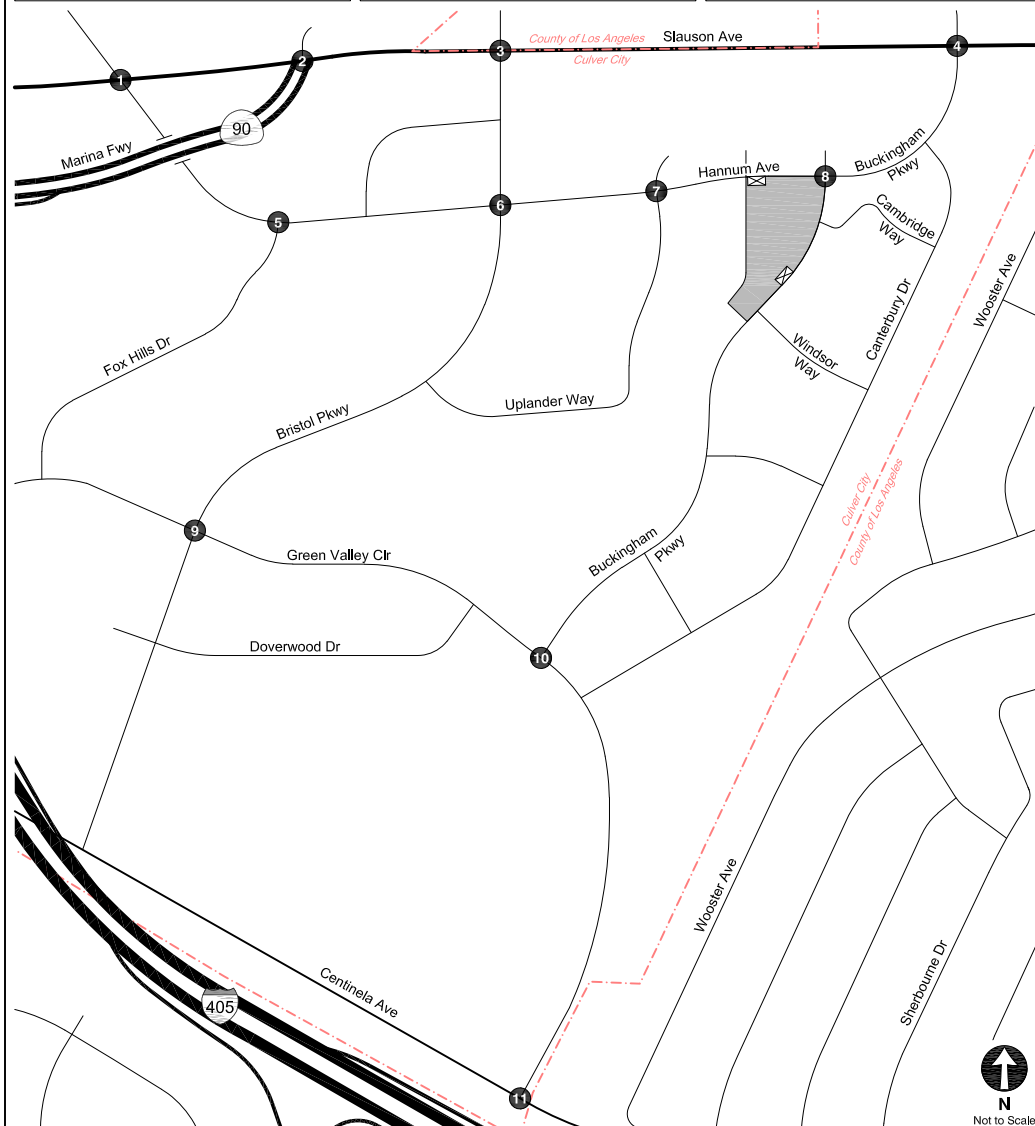
FIGURE
16 (CONT.)



CUMULATIVE WITH PROJECT CONDITIONS (YEAR 2045)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
17

<p>8. Buckingham Parkway & Hannum Avenue</p>	<p>9. Bristol Parkway & Green Valley Circle</p>	<p>10. Buckingham Parkway & Green Valley Circle</p>	<p>11. Green Valley Circle & Centinela Avenue</p>



LEGEND

Project Site	Analyzed Intersection	AM(PM) Peak Hour Traffic Volumes
Project Driveway	Negligible Volume	

CUMULATIVE WITH PROJECT CONDITIONS (YEAR 2045)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
17 (CONT.)

**TABLE 6
LEVEL OF SERVICE DEFINITIONS FOR INTERSECTIONS**

Level of Service	Definition	Delay [a]	
		Signalized Intersections	Unsignalized Intersections
A	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.	0.0 - 10.0	0.0 - 10.0
B	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	10.1 - 20.0	10.1 - 15.0
C	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	20.1 - 35.0	15.1 - 25.0
D	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.	35.1 - 55.0	25.1 - 35.0
E	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	55.1 - 80.0	35.1 - 50.0
F	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.	> 80.0	> 50.0

Notes

Source: *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016).

[a] Measured in seconds.

**TABLE 7
EXISTING WITH PROJECT CONDITIONS (YEAR 2023)
INTERSECTION LEVELS OF SERVICE**

No	Intersection	Peak Hour	Existing		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Hannum Avenue & Slauson Avenue	AM	48.8	D	48.7	D
		PM	40.9	D	40.8	D
2.	Marina Freeway & Slauson Avenue	AM	11.6	B	11.4	B
		PM	31.3	C	31.9	C
3.	Bristol Parkway & Slauson Avenue	AM	91.7	F	94.6	F
		PM	16.7	B	16.7	B
4.	Buckingham Place & Slauson Avenue	AM	22.1	C	22.2	C
		PM	24.8	C	25.1	C
5.	Fox Hills Drive & Hannum Avenue	AM	20.0	B	20.0	B
		PM	16.7	B	16.7	B
6.	Bristol Parkway & Hannum Avenue	AM	44.0	D	44.2	D
		PM	33.7	C	34.0	C
7.	Uplander Parkway & Hannum Avenue	AM	2.3	A	2.3	A
		PM	9.7	A	9.7	A
8.	Buckingham Place & Hannum Avenue	AM	28.2	C	28.4	C
		PM	10.8	B	11.7	B
9.	Bristol Parkway & Green Valley Circle	AM	30.7	C	30.9	C
		PM	19.1	B	19.1	B
10.	Buckingham Place & Green Valley Circle	AM	6.4	A	7.6	A
		PM	20.1	C	20.3	C
11.	Green Valley Circle & Centinela Avenue	AM	9.7	A	9.7	A
		PM	17.2	B	17.2	B

Notes

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Synchro 11 (HCM 6th Edition Methodology)

**TABLE 8
FUTURE WITH PROJECT CONDITIONS (YEAR 2027)
INTERSECTION LEVELS OF SERVICE**

No	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Hannum Avenue & Slauson Avenue	AM	52.8	D	52.8	D
		PM	42.9	D	42.8	D
2.	Marina Freeway & Slauson Avenue	AM	44.2	D	43.6	D
		PM	56.9	E	58.9	E
3.	Bristol Parkway & Slauson Avenue	AM	147.4	F	154.1	F
		PM	38.5	D	39.2	D
4.	Buckingham Place & Slauson Avenue	AM	29.9	C	30.0	C
		PM	26.7	C	27.1	C
5.	Fox Hills Drive & Hannum Avenue	AM	18.7	B	18.7	B
		PM	16.5	B	16.5	B
6.	Bristol Parkway & Hannum Avenue	AM	44.9	D	45.0	D
		PM	33.8	C	35.0	C
7.	Uplander Parkway & Hannum Avenue	AM	2.2	A	2.2	A
		PM	9.4	A	9.5	A
8.	Buckingham Place & Hannum Avenue	AM	26.5	C	26.5	C
		PM	11.1	B	11.9	B
9.	Bristol Parkway & Green Valley Circle	AM	90.9	F	92.2	F
		PM	18.1	B	18.3	B
10.	Buckingham Place & Green Valley Circle	AM	7.1	A	8.1	A
		PM	22.4	C	22.6	C
11.	Green Valley Circle & Centinela Avenue	AM	12.8	B	12.7	B
		PM	20.8	C	20.7	C

Notes

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Synchro 11 (HCM 6th Edition Methodology)

**TABLE 9
CUMULATIVE WITH PROJECT CONDITIONS (YEAR 2045)
INTERSECTION LEVELS OF SERVICE**

No	Intersection	Peak Hour	Cumulative without Project Conditions		Cumulative with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Hannum Avenue & Slauson Avenue	AM	77.4	E	77.4	E
		PM	46.6	D	46.6	D
2.	Marina Freeway & Slauson Avenue	AM	57.1	E	58.3	E
		PM	102.3	F	105.2	F
3.	Bristol Parkway & Slauson Avenue	AM	221.8	F	228.0	F
		PM	48.5	D	49.1	D
4.	Buckingham Place & Slauson Avenue	AM	68.4	E	68.6	E
		PM	35.9	D	36.4	D
5.	Fox Hills Drive & Hannum Avenue	AM	20.8	C	20.8	C
		PM	18.8	B	18.8	B
6.	Bristol Parkway & Hannum Avenue	AM	44.1	D	44.0	D
		PM	35.8	D	36.1	D
7.	Uplander Parkway & Hannum Avenue	AM	2.4	A	2.3	A
		PM	9.9	A	10.0	A
8.	Buckingham Place & Hannum Avenue	AM	26.2	C	26.3	C
		PM	11.1	B	11.8	B
9.	Bristol Parkway & Green Valley Circle	AM	164.9	F	166.3	F
		PM	19.5	B	19.9	B
10.	Buckingham Place & Green Valley Circle	AM	7.6	A	8.6	A
		PM	23.0	C	23.1	C
11.	Green Valley Circle & Centinela Avenue	AM	21.2	C	20.9	C
		PM	24.5	C	24.4	C

Notes

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Synchro 11 (HCM 6th Edition Methodology)

Section 5B Transit Operations

This section reviews the Project's potential effect on existing transit capacity of transit routes and stops that serve the Project area.

TRAVEL DEMAND ANALYSIS

Although the Project (and other Related Projects) will cumulatively add transit ridership, the Project Site and the Study Area are served by multiple bus lines along Hannum Avenue and Buckingham Parkway, as detailed in Table 2. As illustrated in Figure 6, the nearest stops to the Project Site are located at Hannum Avenue & Buckingham Parkway, serving Culver CityBus Line 3 and Metro Line 108. At this intersection, three of the four bus stops have benches and none include bus shelters. The westbound stop on the north side of Hannum Avenue is the only stop without a bench.

While no reductions to the trip generation in Table 4 were taken to account for transit usage, conservatively assuming 10% of the vehicle trips were taken via transit, approximately 11 morning peak hour and 12 afternoon peak hour vehicle-transit trips would occur. Based on the average vehicle occupancy factor of 1.55 for all trip purposes in Los Angeles County as identified in *SCAG Regional Travel Demand Model and 2012 Model Validation* (Southern California Association of Governments, March 2016), the total vehicle-transit trips correspond to approximately 17 person-transit trips in the morning peak hour and 19 person-transit trips in the afternoon peak hour. As such, the adjacent transit capacity can easily accommodate the intensification of transit usage attributable to the Project without significantly absorbing excess capacity.

Section 5C

Driveways

This section provides a qualitative evaluation of the Project vehicle, pedestrian, and bicycle access per Section 5C of the Guidelines.


VEHICLES

Vehicular access to the three-level parking structure on-site would be provided via two driveways, Hannum Driveway and the Buckingham Driveway. Both driveways would provide full access to the parking structure, with the Buckingham Driveway restricted to residential vehicles only. Pedestrian and bicyclist access to the Project Site would be provided via separate entrances along Hannum Avenue, with separate entrances for residential and commercial use.

Both driveways would be designed to safely accommodate all anticipated vehicle types generated by the Project. Adequate internal circulation and queuing area would be provided on-site to limit spillover into the public ROW.

PEDESTRIANS AND BICYCLES

Pedestrian and bicycle access to the Project Site would be provided separately from the vehicular driveways via separate entrances along Hannum Avenue to reduce potential vehicle-pedestrian and vehicle-bicycle conflicts. The driveways would be designed to provide maximum visibility between all roadway users. Furthermore, the Project would include landscaping and lighting along Project frontages to create an attractive pedestrian and bicyclist environment. Bicycle parking amenities would also be provided for residents, employees, and visitors to the site.



Section 5D Parking

This section provides an analysis of the proposed parking and the potential parking impacts of the Project.

PARKING SUPPLY

The Project would provide vehicle and bicycle parking spaces within the parking structure.

In October 2022, the City Council passed a motion that eliminated minimum parking requirements citywide. As a result, no parking is required to be constructed by code. However, the Project would provide a supply of 428 vehicle parking spaces (399 residential, five guest, and 24 commercial), using the ratios shown in Table 10.

BICYCLE PARKING CODE REQUIREMENTS

CCMC Section 17.320 details the bicycle parking requirements for new developments.

As shown in Table 11, the Project would be required to provide 11 short-term and 81 long-term bicycle parking spaces, for a total of 92 parking spaces. The Project proposes to provide 92 parking spaces, which meets the CCMC requirement.

**TABLE 10
VEHICLE PARKING PROVIDED**

Land Use	Size	Parking Rate	Total Spaces
Residential			
Studio	39 du	1.0 space per 1 du	39
1 Bedroom	180 du	1.0 spaces per 1 du	180
2 or more Bedrooms	90 du	2.0 spaces per 1 du	180
Guest Parking		5.0 spaces	5
Retail	5,600 sf	1.0 spaces per 250 sf	24
Total Parking Provided			428

Notes:

du = dwelling units; sf = square feet.

**TABLE 11
BICYCLE CODE PARKING REQUIREMENTS**

Land Use	Size	Short-Term		Long-Term	
		Rate [a]	Requirement	Rate [a]	Requirement
Apartments (201+ DU)	309 DUs	1.0 sp / 40 DU	8 sp	1.0 sp / 4 DU	78 sp
Commercial	5,600 sf	1.0 sp / 2,000 sf	3 sp	1.0 sp / 2,000 sf	3 sp
Total Short-Term			11 sp	Total Long-Term	81 sp
Total Code Bicycle Parking Requirement					92 sp
Total Bicycle Parking Provided					92 sp

Notes:

[a] Bicycle parking requirements per City of Culver City Municipal Code Chapter 17.320.

Section 5E

Curb Space Allocation

This section details the review of the management of curb space adjacent to the Project Site, including passenger and commercial loading and parking areas, bus stop facilities, and bicycle and other alternative transportation mode parking, while maintaining visibility at driveways.

ON-STREET PARKING

As previously detailed, the on-street metered parking spaces along Hannum Avenue and the unmetered parking spaces along Buckingham Parkway adjacent to the Project Site would mostly be maintained with development of the Project. Some spaces may be removed to accommodate the Project's driveways and a limited number of red curbs would be installed adjacent to both driveways to provide adequate visibility for vehicles exiting the Project Site.

PASSENGER AND COMMERCIAL LOADING

Passenger and commercial loading would be provided on-site and in a new loading area along Buckingham Parkway. The new loading zone would be located to the north of the Buckingham Driveway and allow easy loading for moving trucks, mail delivery, and trash collection. Accommodating the loading zone would likely eliminate approximately four to five on-street parking spaces on Buckingham Parkway.

The sidewalk would also be narrowed adjacent to the loading zone. However, the sidewalk would still be designed to meet Americans with Disabilities Act (ADA) accessibility requirements and provide a comfortable and friendly pedestrian environment

TRANSIT FACILITIES

There is an existing bus stop located adjacent to the eastern boundary of the Project Site at Buckingham Parkway / Hannum Avenue, which serves Metro Line 108 heading southwest. With the Project development, temporary relocation of the stop may be necessary as detailed in Chapter 5G. However, no permanent relocation of the bus stop would be necessary, as the Buckingham Driveway would be located further to the south. The bus stop is located well over 200 feet away from the proposed driveway. Therefore, transit stops would not affect visibility at the Project driveway.

BICYCLE PARKING FACILITIES

There are currently no existing or proposed public bicycle parking facilities adjacent to the Project Site along Hannum Avenue or Buckingham Parkway. In addition, the Project does not propose the installation of bicycle parking within the public ROW. Therefore, no bicycle parking facilities are anticipated to affect visibility at the Project driveways.

Section 5F

Safety Analysis

This section details the Project's potential effects on corridors within the HIN identified in *Culver City Bicycle & Pedestrian Action Plan*, as well as the Project's proximity to high-risk corridors and intersections where pedestrian and bicycle involved collisions have been recorded by the City as part of the LRSP, which is currently under development.

VEHICULAR SAFETY

The Project Site is not located adjacent to any streets identified as part of the HIN in *Culver City Bicycle & Pedestrian Action Plan*. However, as previously discussed, the driveways along Hannum Avenue and Buckingham Parkway would be designed in accordance with City standards to maximize sight lines and limit potential vehicle-vehicle, vehicle-pedestrian, and vehicle-bicycle conflicts. The Project would locate the driveway away from existing intersections to reduce potential turning conflicts with vehicles as well as bicycles and pedestrians.

PEDESTRIAN AND BICYCLE SAFETY

As previously detailed, none of the streets adjacent to the Project Site have been identified as part of the HIN nor have any been identified in the LRSP as an area with high levels of collisions involving pedestrians and bicyclists. Nevertheless, the Project would ensure the adjacent sidewalks provide access which meets ADA standards and ensure pedestrians and bicyclists are visible at Project driveways.

Section 5G

Construction Impact Analysis

This section summarizes the construction schedule and construction activities associated with the Project. The quantities for trucks and worker activity are preliminary estimates and these values may change once the construction program is finalized.

PROPOSED CONSTRUCTION SCHEDULE

The Project is anticipated to be constructed over an approximately 30-month period, with completion anticipated in Year 2027. Peak haul truck activity occurs during the grading / excavation phase and peak worker activity occurs during the building finishing phase. These two phases of construction were studied in greater detail.

GRADING / EXCAVATION SUBPHASE

With the implementation of the Construction Management Plan, which is described in more detail below, it is anticipated that almost all haul truck activity to and from the Project Site would occur outside of the morning and afternoon peak hours. In addition, as discussed in more detail in the following section, worker trips to and from the Project Site would also occur outside of the peak hours. Therefore, no peak hour construction traffic constraints are expected during the grading / excavation and shoring phase of construction.

Haul trucks would travel on approved truck routes designated within the City and take the most direct route to the appropriate freeway ramps. The haul route will be reviewed and approved by the City.

Excavation / Shoring Phase Trip Generation

Based on projections compiled for the Project, approximately 51,400 cubic yards (CY) of material would be excavated and removed from the Project Site over a 29-day period. It is anticipated that a maximum of 127 haul truckloads per workday, based on an anticipated haul truck capacity of 14 CY, would be required during this phase. Thus, up to 254 daily truck trips (127 inbound, 127 outbound) are forecasted to occur during the excavation and grading period, with approximately 42 trips per hour (21 inbound, 21 outbound) uniformly over a typical six-hour off-peak hauling period.

In addition, a maximum of 15 daily construction worker trips are anticipated during the excavation/shoring period. The 15 construction worker trips would result in 30 one-way vehicle trips (15 inbound, 15 outbound) to and from the Project Site on a daily basis. It is anticipated that the majority of workers would arrive on-site prior to the weekday morning commuter peak hour and leave prior to or after the afternoon commuter peak hour. Therefore, no peak hour construction traffic constraints are expected during the excavation / shoring subphase of construction.

BUILDING FINISHING PHASE

During the building finishing phase, parking for construction workers would generally be provided off-site at private parking lots located at 300 & 600 Corporate Pointe. Restrictions against workers parking in the public ROW in the vicinity of (or adjacent to) the Project Site would be identified as part of the Construction Management Plan. Construction materials storage and truck staging would generally be contained on-site or in the parking lane along the Project frontage on Hannum Avenue and Buckingham Parkway.

The traffic constraints associated with construction workers depend on the number of construction workers employed during various phases of construction, as well as the travel mode and travel time of the workers. In general, the hours of construction typically require workers to be on-site before the weekday morning commuter peak period and allow them to leave before or after the afternoon commuter peak period (i.e., arrive at the site prior to 7:00 AM and depart before 4:00 PM or after 6:00 PM). Therefore, most, if not all, construction worker trips would occur outside of the typical weekday commuter peak periods.

According to construction projections prepared for the Project, the building finishing phase would employ the most construction workers, with a maximum of 120 workers per day. The estimated number of daily vehicle trips associated with the construction workers is approximately 240 one-way trips (120 inbound, 120 outbound), but nearly all those trips would occur outside of the peak hours, as described above. As such, the building finishing phase of Project construction is not expected to cause traffic constraints at any of the study intersections.

In addition, it is anticipated that approximately two daily delivery truck trips (one inbound, one outbound) would occur during the building finishing phase. As part of the Construction Management Plan, these trips would occur during off-peak hours and are not anticipated to affect peak hour traffic conditions.

POTENTIAL CONSTRAINTS ON ACCESS, TRANSIT, AND PARKING

Project construction is not expected to create hazards for roadway travelers, bus riders, or parkers, so long as commonly practiced safety procedures for construction are followed. Such procedures and other measures (e.g., to address temporary traffic control, lane closures, sidewalk closures, etc.) have been incorporated into the Construction Management Plan.

Access

Construction activities are expected to be primarily contained within the Project Site boundaries. However, it is expected that construction fences may encroach into the public ROW (e.g., sidewalks and roadways) adjacent to the Project Site. The adjacent sidewalk and parking lane on Hannum Avenue and Buckingham Parkway may be temporarily closed throughout the construction period, with very few specific travel lane closures for major concrete pours. However, two-way operations would primarily be maintained along both roadways. Temporary traffic controls would be provided to direct traffic around any closures as required in the Construction Management Plan and emergency access would not be impeded.

The use of the public ROW would require temporary re-routing of pedestrian and bicycle traffic. The Construction Management Plan would include measures (e.g., use of light-duty barriers and

cones, use of directional signage, maintaining continuous and unobstructed pedestrian paths, and/or providing overhead covering) to ensure pedestrian and bicycle safety along the affected sidewalks, bicycle facilities, and temporary walkways.

Transit

The bus stop located adjacent to the Project Site along Buckingham Parkway / Hannum Avenue would need to be temporarily relocated during Project Construction. The stop serves Metro Line 108 heading southwest toward Marina del Rey and Venice. A specific spot for the bus stop relocation would be included in the Construction Management Plan through coordination with Metro and the City. No spot has been determined at this time.

Parking

The adjacent parking lanes along Hannum Avenue and Buckingham Parkway are anticipated to be used for staging during construction. Thus, construction activities would potentially result in the temporary loss of several public parking spaces, including up to six metered spaces along Hannum Avenue.

CONSTRUCTION MANAGEMENT PLAN

A detailed Construction Management Plan, including street closure information, a detour plan, haul routes, and a staging plan would be prepared and submitted to the City for review and approval prior to commencing construction. The Construction Management Plan would formalize how construction would be carried out and identify specific actions that would be required to reduce effects on the surrounding community. The Construction Management Plan shall be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site, and shall include, but not be limited to, the following elements, as appropriate:

- Advance bilingual notification of adjacent property owners and occupants of upcoming construction activities, including durations and daily hours of operation.

-
- Temporary pedestrian, bicycle, and vehicular traffic controls during all construction activities on Hannum Avenue and Buckingham Parkway to ensure traffic safety on the public ROW. These controls shall include, but not be limited to, flag people trained in pedestrian and bicycle safety.
 - Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets.
 - Spacing of trucks so as to discourage a convoy effect.
 - Containment of construction activity within the Project Site boundaries to the extent feasible.
 - Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers shall be implemented as appropriate.
 - Scheduling of construction-related deliveries, haul trips, etc., to occur outside the commuter peak hours.
 - Maintenance of a log, available on the job site at all times, documenting the dates of hauling and the number of trips (i.e., trucks) per day.
 - Identification of a construction manager and provision of a telephone number for any inquiries or complaints from residents regarding construction activities. The telephone number shall be posted at the site readily visible to any interested party during site preparation, grading, and construction.

It should be noted that the Project is requesting extended construction hours, which may minimally affect the peak hour periods. Further details would be provided in the final Construction Management Plan.

It is likely that construction management plans would also be submitted for approval to the City by the Related Projects prior to the start of construction activities. As part of the City's established review process of construction management plans, potential overlapping construction activities and proposed haul routes would be reviewed to minimize the impacts of cumulative construction activities on any particular roadway.

Chapter 6

Summary and Conclusions

This study was undertaken to analyze the potential transportation impacts of the mixed-use development Project on regional VMT as well as the local street system. The following summarizes the results of this analysis:

- The Project is located at 5700 Hannum Avenue.
- The Project proposes the development of a mixed-use building with 309 apartment units, 27 of which designated for Very Low Income households, and 5,600 sf of ground floor retail uses. The Project would replace the existing 30,672 sf of office uses. The Project is anticipated to be complete in Year 2027.
- The Project is estimated to generate 1,266 net new daily trips, including 67 net new morning peak hour trips (-15 inbound trips, 82 outbound trips) and 77 net new afternoon peak hour trips (67 inbound trips, 10 outbound trips).
- The Project is consistent with the City plans, programs, ordinances, and policies and would not result in geometric design hazard impacts.
- The Project was required to perform a VMT analysis because it is not located within 0.5 miles of a transit hub. Based on this analysis, the Project was determined to be below the citywide VMT threshold for household VMT. Therefore, the Project would not result in a significant VMT impact, and no mitigation measures would be required.
- The Project provides adequate internal circulation to accommodate vehicular, pedestrian, and bicycle traffic without impeding traffic movements on City streets.
- The design of Project driveways does not introduce safety hazards for pedestrians, bicyclists, or motorists.
- The Project will incorporate pedestrian and bicycle-friendly designs, such as bicycle parking and improved sidewalks.
- The Project would satisfy the CCMC bicycle parking requirements.
- All construction activities would occur outside of the commuter morning and afternoon peak hours to the extent feasible and will not result in significant traffic impacts. A Construction Management Plan will ensure that construction impacts are less than significant.

References

California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Title 14, Section 15000 and following).

City of Culver City Complete Streets Policy, City of Culver City, Adopted January 13, 2020.

City of Culver City VMT Calculator Version 1.0, March 2021.

Culver City Bicycle & Pedestrian Action Plan, Culver City Public Works Department, June 2020.

Culver City Bicycle and Pedestrian Master Plan, Alta Planning and Design, November 2010.

Culver City General Plan, City of Culver City, May 1995.

Culver City General Plan Circulation Element, City of Culver City, adopted May 24, 2004.

Culver City General Plan Land Use Element, City of Culver City, adopted May 24, 2004.

Culver City Municipal Code, City of Culver City.

Culver City Residential Parkway Guidelines, City of Culver City, 2016.

Culver City Transportation Study Criteria and Guidelines, Culver City Public Works Department, July 2020.

Culver Crest: Recommendations for R-1 Neighborhood Hillside Development Standards, John Kaliski Architects PlaceWorks, and RMA GeoScience, January 4, 2017.

Highway Capacity Manual, 6th Edition, Transportation Research Board, 2016.

Multi-Family Neighborhood Residential Design Guidelines Gateway Neighborhood, City of Culver City, Adopted March 24, 2010.

Neighborhood Traffic Management Program (NTMP) Procedures Manual, City of Culver City, November 22, 2004.

SCAG Regional Travel Demand Model and 2012 Model Validation, Southern California Association of Governments, March 2016.

Short-Range Transit Plan, Culver City Bus, FY 2019-2020.

State of California Senate Bill 743, Steinberg, 2013.

Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, 2021.

Appendix A

Memorandum of Understanding

Memorandum of Understanding for Transportation Study

This Memorandum of Understanding (MOU) acknowledges and agrees to all the City of Culver City requirements and fees for the review of a transportation study for the following project.

Date Submitted: 06/27/2023 MOU Version # 3

Project Name: 5700 Hannum

Project Address: 5700 Hannum Avenue, Culver City, CA 90230

Project Description: Construction of a multi-family building with 309 dwelling units (including 27 affordable units) and 5,600 square feet of ground-floor commercial spaces replacing a 30,672 square foot general office building

Land Use	Gross Floor Area (sq. ft.) <i>Defined per latest ITE publication</i>	Residential Units (#)
General Retail	5,600	
Multi-Family Housing		282
Affordable Housing		27

Project Horizon Year: 2027 Ambient Growth Rate (% per year): 1%

Directional Distribution (%): N: 40 S: 30 E: 25 W: 5

Trip Generation Rates: Show AM, PM and daily trip generation rates for each land use and attach total daily trips generation calculations. Indicate ITE Latest Edition/Other ITE 11th Ed

Land Use	ITE Code#	AM Trips		PM Trips		Daily Totals	
		In	Out	In	Out	In	Out
See Table 2							

Study Intersections: Show all study intersections, intersections subject to capacity analysis credit for advanced traffic signal control synchronization, whether intersections are signalized or non-signalized, and use the same numbering system for all lists of intersections and figures in the study.

No.	Intersection	Signalized/Non-Signalized	Jurisdiction
	See Table 3		

Residential Streets: Show all residential streets to be studied.

No.	Street Name	Limits	Jurisdiction
	N/A		

Trip Credits: Indicate trip credits to be requested (subject to City approval)

	Trip Credits	Yes/No
Existing Uses	30,672 sf general office uses	Yes
Pass-By Trips		No
Internal Trip Capture		No
Transit-Oriented Development (TOD)		No
Transportation Demand Management (TDM)		No

Related Projects: Before the start of any proposed project analysis, consultants shall:

1. Obtain a list of related projects from the Culver City Current Planning Division and other affected jurisdictions.
2. Prepare a draft list of “related projects specific to the proposed project.”
3. Obtain written approval from the City of the “related projects specific to the proposed project.”

Maps: The following maps shall be attached to the MOU:

1. A map showing the study intersections and street segments to be analyzed, including City limit lines where applicable.
2. A map showing the project’s trip distribution percentages for each land use (inbound and outbound) on the area’s road network.
3. A map showing the project’s trip assignments at the study intersections and project driveways, as well as road segments when applicable.
4. A site plan of the project showing property lines, alleys, project’s driveways and nearby driveways and intersections on both sides of the street including dimensions.

Proposed Mitigation and Transportation Improvements: Any proposed transportation improvement(s) or mitigation measure(s) shall be listed and accompanied by plans of the existing and proposed improvements, including city limit lines and existing and proposed property lines. The City may initially accept conceptual plans to be included in the Transportation Study. Detailed design of such improvements will be part of the project’s plans submittals.

Post-Occupancy Traffic Counts: By signing below, the Property Owner/ Developer/Applicant hereby agrees to pay for and submit to the City a post-occupancy traffic count analysis of the development to the satisfaction of the City. The analysis shall determine the amount of actual traffic (motor vehicle, bicycle, and pedestrian) generated by the development compared to the ITE trip generation rates. The analysis shall include a traffic count of all onsite driveways taken upon reaching eighty-five percent (85%) occupancy of the total building gross floor area or within one (1) year of the issuance of the first Temporary Certificate of Occupancy (TCO), as determined by the City. The data shall be used to confirm the findings in the approved study and not result in any additional traffic mitigation measures and/or conditions of approval on the subject project.

Fees: Payment of a fee to the City’s PWD for the City’s processing of the MOU shall be required before the City approves the MOU. Payment for review of the Transportation Study shall be paid before the City’s PWD completes its review of the Transportation Study. Said fees shall be per the most recent Fee Schedule as approved by the City Council.

Applicant Information:

	Property Owner/Applicant	Developer/Applicant	Traffic Consultant
Name	Alan Lee		Richard Gibson
Title			Senior Associate
Company	LPC WEST		Gibson Transportation Consulting, Inc.
Street Address	915 Wilshire Blvd, Suite 2050		555 W 5th Street #3375
City, State, Zip	Los Angeles, CA 90017		Los Angeles, CA 90013
Office			213-683-0088
Cell			
Fax			
Email	Alee@LPC.COM		rgibson@gibsontrans.com

Public Agency Information: If any of the intersection(s) to be studied as part of this study are located within the City of Los Angeles, the unincorporated areas of Los Angeles County and/or impact any other public agency (i.e., Caltrans), then this MOU shall also be approved by the reviewing staff representative from each agency:

	City of Los Angeles	County of Los Angeles	Other Public Agency
Name		Kent Tsujii	
Title		Senior Civil Engineer	
Company		Los Angeles County Public Works	
Street Address			
City, State, Zip			
Office		(626) 300-4776	
Cell			
Fax			
Email		KTSUJII@dpw.lacounty.gov	

Signatures/Expiration: This MOU shall become valid as of the date of the City's signature and expire one year thereafter. If the administrative draft of the study has not been filed with the City by the expiration date, the MOU shall expire and a new MOU filing, fee, review, and approval process shall be required.

Approved By:



Date:

6/27/23

Property Owner/Applicant

Developer/Applicant



6/27/2023

Traffic Consultant



7/10/2023

City of Culver City

**TABLE 1
CULVER CITY TRANSPORTATION STUDY SCREENING REVIEW**

Analysis [a]	Required?	Analysis to be Provided in Transportation Study
Transportation Study Contents		
Site Plan Review	Yes	A site plan will be provided which provides existing and proposed on-site and off-site Project details and improvements as specified in the Transportation Study Guidelines.
Existing Transportation Network Review	Yes	<p>The existing transportation network review will establish the bicycle, pedestrian, transit, and auto traffic conditions in which the project is proposed, which shall be illustrated in the following maps:</p> <ul style="list-style-type: none"> ▪ Study Area Circulation Map ▪ Traffic Routes Map ▪ Base Year Traffic Volumes Map ▪ Project Trip Generation and Future Traffic Volumes Map ▪ Site Vicinity Map ▪ Lane Configurations Map
Existing Transit Network Review	Yes	<p>For transit analysis, the study will provide an analysis of weekday transit service and stops/stations within a quarter mile of the project site, including:</p> <ul style="list-style-type: none"> ▪ Confirmation of transit features listed in the Project Description and Existing Transportation Network Review ▪ Any existing operational conflicts or hazards to transit operations in the study area, especially along travel lanes where transit vehicles operate and at transit stop/station locations
CEQA Transportation Analysis and Mitigations		
Programs, Plans, Ordinances, and Policies	Yes	The study will review the City's programs, plans, ordinances and policies addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as specified in Table 1 of the <i>Culver City Transportation Study Criteria and Guidelines</i> .
VMT - Land Use Projects	Yes	The proposed development Project exceeds the thresholds for screening out from VMT analysis. The study will include a VMT analysis.
VMT - Transportation Projects	No	The proposed development is not considered a "Transportation Project" and therefore, it is not conflicting or inconsistent with CEQA Guideline Section 15064.3(b)(2).
Geometric Design Hazards	Yes	The study will provide a review of potentially hazardous conditions due to geometric design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., oversized vehicles).

Notes:

[a] Based on *Culver City Transportation Study Criteria and Guidelines*, City of Culver City, July 2020.

**TABLE 1 (CONTINUED)
CULVER CITY TRANSPORTATION STUDY SCREENING REVIEW**

Analysis [a]	Required?	Analysis to be Provided in Transportation Study
Supplemental Transportation Analysis Requirements		
Traffic Operations	Yes	<p>The study will assess the ability of the circulation system to accommodate the addition of vehicular traffic generated by the related projects and the subject project, including:</p> <ul style="list-style-type: none"> ▪ Intersection LOS and queuing including trip generation, distribution under Existing, Existing with Project, Future without Project, Future with Project, Cumulative without Project, and Cumulative with Project Conditions ▪ Driveway LOS and queuing including potential vehicular conflicts, motorists' visibility at project driveways, and potential conflicts with pedestrians and bicyclists, ▪ Ability to conduct loading operations on the site and maneuver into parking stalls ▪ The potential increase in average daily traffic on the adjacent street segments
Transit Operations	Yes	<p>The study will identify regional and local fixed-route transit operators providing service to the project and obtain relevant ridership data. The study will document potential project trip impact on transit demand and capacity for routes servicing the project.</p>
Driveways	Yes	<p>The study will provide a review of the Project driveways and consult with the City Mobility & Traffic Engineering and Current Planning Divisions to determine if vehicle access is limited on certain streets where the City is focusing on efforts to enhance the pedestrian-oriented environment. A pedestrian and bicyclist access assessment would also be included to ensure the project avoids unsafe conflicts between pedestrians, cyclists, and autos.</p>
Parking	Yes	<p>The study will review the Project's effect on the on-street parking conditions adjacent to the Project Site and ensure compliance with PWD's guidelines.</p>
Curb Space Allocation	Yes	<p>The study will review the proposed curb space allocation to ensure that the curb space is managed appropriately between passenger and commercial loading and parking, bus stop facilities, and bike and other alternative transportation mode parking while maintaining visibility at driveways.</p>
Safety Analysis	Yes	<p>The Project is not located on a high injury network (HIN) street, as identified in the Local Road Safety Plan (LRSP) or other analysis. The study will evaluate the adverse effect of the project and associated measures to enhance safety conditions. If it is determined that the project would have an adverse effect on a HIN corridor including intersections and road segments, the applicant shall work with the City's PWD to improve roadway safety at impacted locations for all users, including the design and construction of engineering measures and possibly safety education measures. The applicant shall also work with the City to confirm that the project does not inhibit future implementation of projects identified by the City in the LRSP.</p> <p>The LRSP will also be reviewed to determine if the project is located near a hot spot of collisions that involve people walking and bicycling. If this is the case, the applicant shall demonstrate how project features will not worsen the issue per the LRSP.</p>

Notes:

[a] Based on *Culver City Transportation Study Criteria and Guidelines*, City of Culver City, July 2020.

**TABLE 2
PROJECT TRIP GENERATION ESTIMATES**

Land Use	ITE Land Use	Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
<u>Trip Generation Rates [a]</u>									
Shopping Center	820	per ksf	[a]	62%	38%	0.84	48%	52%	3.40
Multifamily Housing (Mid-Rise)	221	per DU	[a]	23%	77%	0.37	61%	39%	0.39
General Office Building	710	per ksf	[a]	88%	12%	1.52	17%	83%	1.44
<u>Proposed Project</u>									
Shopping Center	820	5.6 ksf	[a]	3	2	5	9	10	19
Multifamily Housing (Mid-Rise)	221	309 DU	[a]	26	88	114	74	47	121
Total Project Trips			1,462	26	88	114	74	47	121
<u>Existing Land Uses</u>									
General Office Building	710	30.672 ksf	196	41	6	47	7	37	44
Total Existing Trips to be Removed			196	41	6	47	7	37	44
TOTAL - NET NEW PROJECT TRIPS			1,266	(15)	82	67	67	10	77

Notes:

ksf: 1,000 square feet, DU: dwelling unit

[a] Source: Daily Rates: Culver City VMT Tool. AM and PM Peak Hour Rates: Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021.

**TABLE 3
STUDY INTERSECTIONS**

No	North/South Street	East/West Street	Existing Traffic Control	Jurisdiction
1.	Hannum Ave	Slauson Ave	Traffic Signal	Culver City
2.	Marina Fwy	Slauson Ave	Traffic Signal	Culver City/Caltrans
3.	Bristol Pkwy	Slauson Ave	Traffic Signal	Culver City
4.	Buckingham Pkwy	Slauson Ave	Traffic Signal	Culver City
5.	Fox Hills Dr	Hannum Ave	Traffic Signal	Culver City
6.	Bristol Pkwy	Hannum Ave	Traffic Signal	Culver City
7.	Uplander Wy	Hannum Ave	Traffic Signal	Culver City
8.	Buckingham Pkwy	Hannum Ave	Traffic Signal	Culver City
9.	Bristol Pkwy	Green Valley Cir	Traffic Signal	Culver City
10.	Buckingham Pkwy	Green Valley Cir	Traffic Signal	Culver City
11.	Green Valley Cir	Centinela Ave	Traffic Signal	Culver City

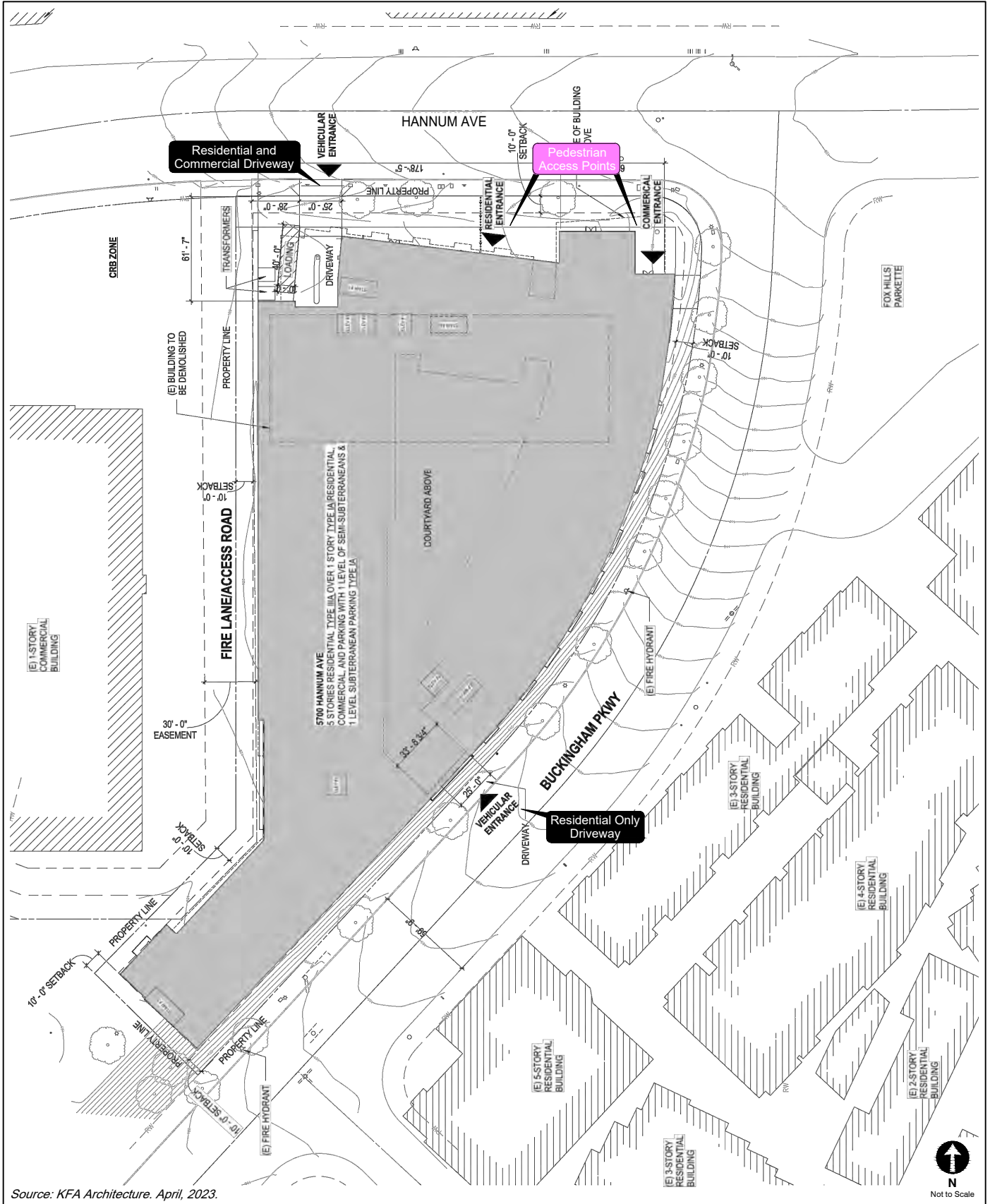
**TABLE 4
RELATED PROJECTS LIST**

No.	Project [a]	Address	Use	Trip Generation						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
City of Culver City										
1.	C3 - Office & Retail Building	5800 Bristol Pkwy / 5801 Hannum Ave	281,400 sf office	3,050	376	52	428	69	336	405
2.	Bristol Parkway Mixed Use	6221 Bristol Pkwy	712 apartments, 50 liive-work units, 20,767 sf retail	3,275	52	300	352	234	83	317
3.	Auto Dealership Showroom Expansion	6101 Slauson Ave	8,046 sf expansion of show room	224	11	4	15	8	11	19
4.	Hillside Memorial Cemetary	6001 Centinela Ave	Conversion of maintenance yards to burial plots	12	0	0	0	0	1	1
5.	4-Story Commercial	5645 Sepulveda Blvd	38,712 sf medical office, 3,193 sf retail	1,399	73	20	93	39	99	138
6.	Primary School	5840 Uplander Way	Conversion of 16,128 sf office building for a Preschool/Kindergarten	736	74	66	140	67	75	142
7.	Entrada Office Tower	6161 Centinela Blvd	281,194 sf creative office	3,102	386	53	439	71	348	419
8.	Boutique Hotel	11469 Jefferson Blvd	183 hotel rooms with restaurant and outdoor dining	1,495	57	40	97	56	54	110
City of Los Angeles										
9.	6733 Sepulveda	6733 Sepulveda Blvd	176 apartments	628	(31)	55	24	52	(40)	12
10.	Apartment Building	6711 Sepulveda Blvd	180 apartments	1,063	17	70	87	73	37	110
11.	Chick-fil-A	5208 Centinela Ave	4,642 sf fast-food restaurant w/ drive-through	1,093	47	46	93	38	36	74
12.	Mixed-Use Residential & Restaurant	6501 Sepulveda Blvd	362 apartments, 3,700 sf restaurant	2,002	34	105	139	112	75	187

Notes:

[a] Related Project information provided by the City of Culver City in January 2023, by the City of Los Angeles in May 2023, and by the County of Los Angeles in May 2023. No related Projects within the County of Los Angeles were identified.

Related Projects include developments within 1.0 miles from the Project Site.



PROJECT SITE PLAN

FIGURE
1



LEGEND

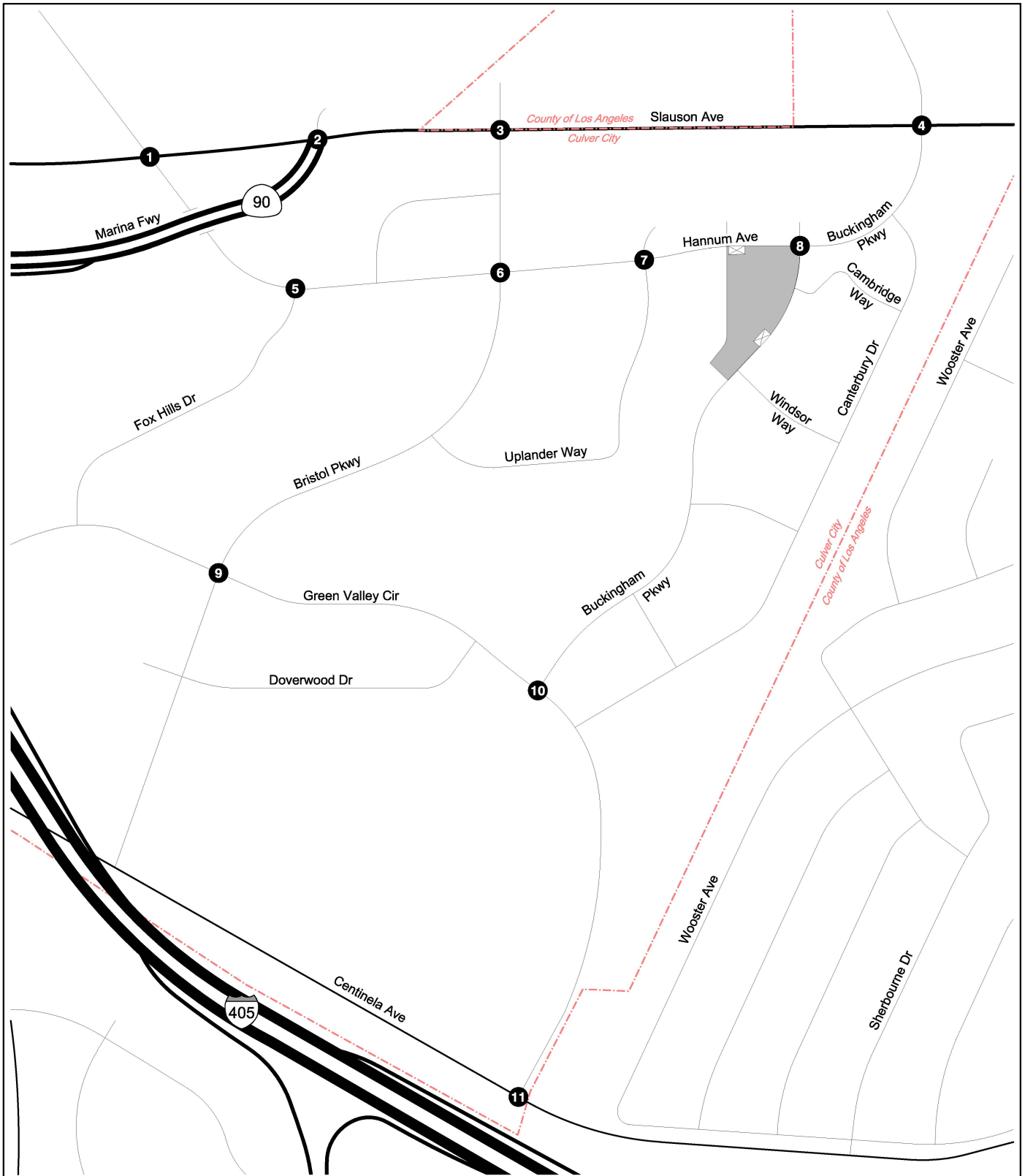
 Project Site



Not to Scale

PROJECT SITE LOCATION

FIGURE
2



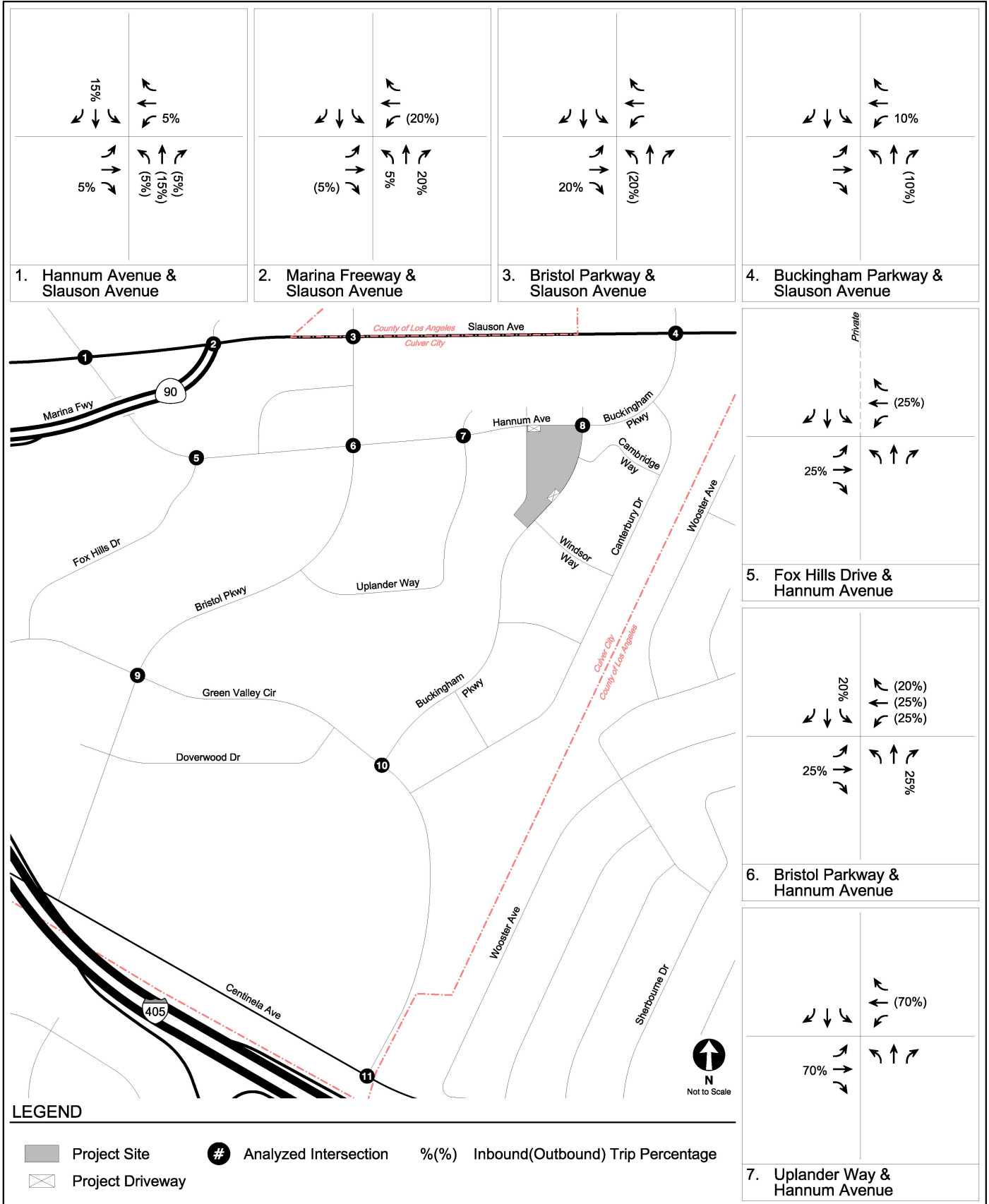
LEGEND

- Project Site
- Project Driveway
- # Analyzed Intersection



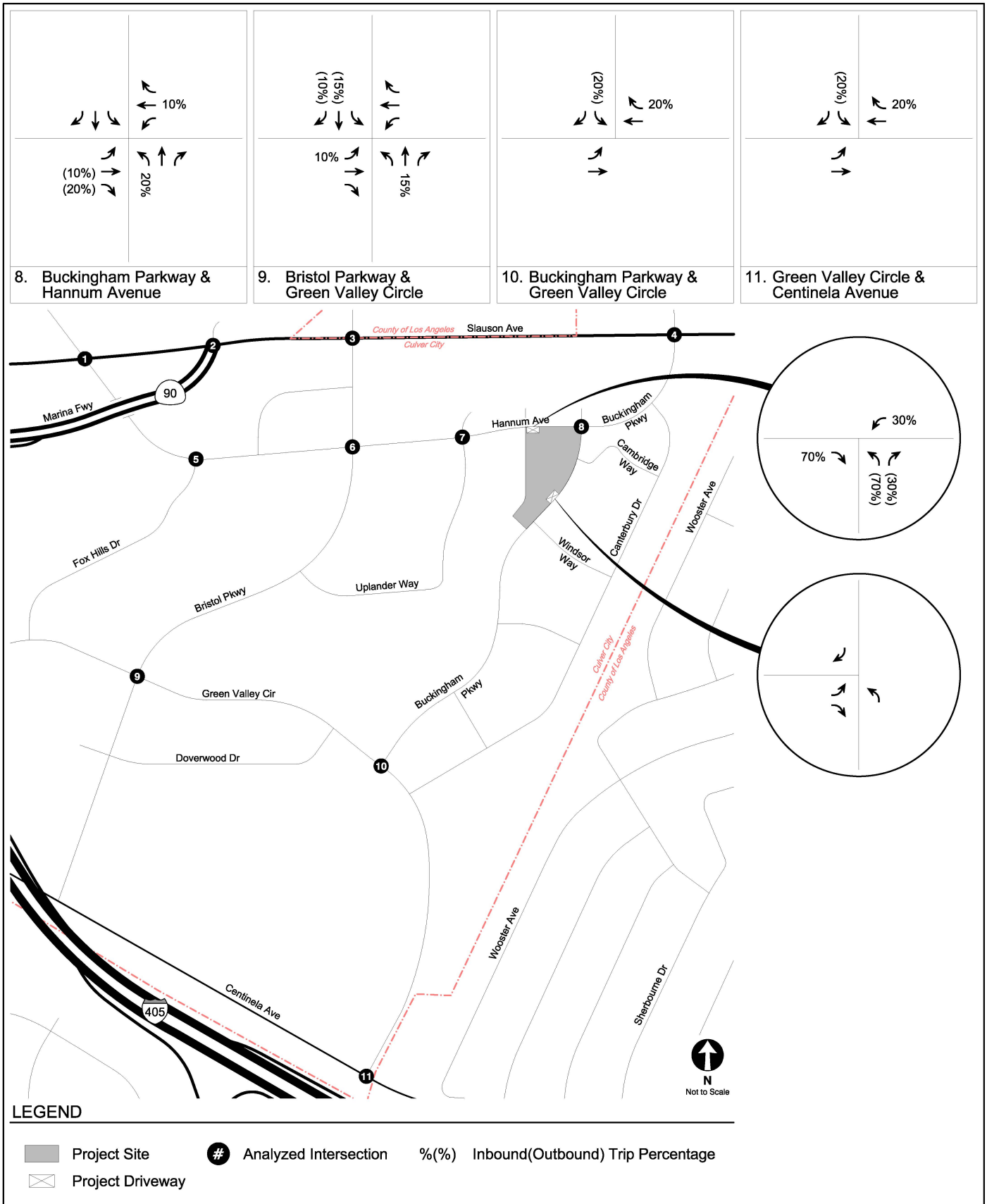
STUDY AREA AND ANALYZED INTERSECTIONS

**FIGURE
3**



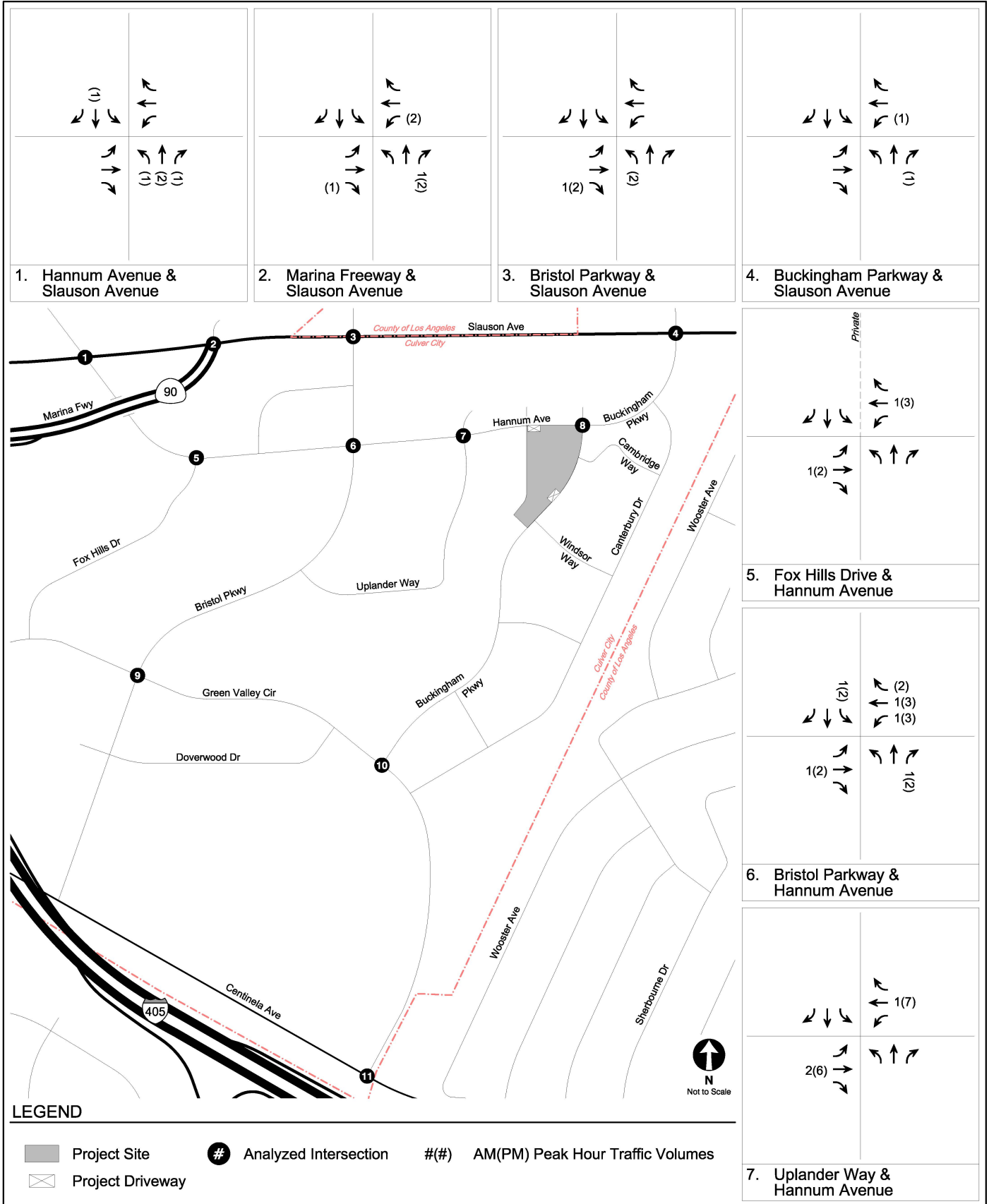
PROJECT TRIP DISTRIBUTION
RETAIL

FIGURE
4A



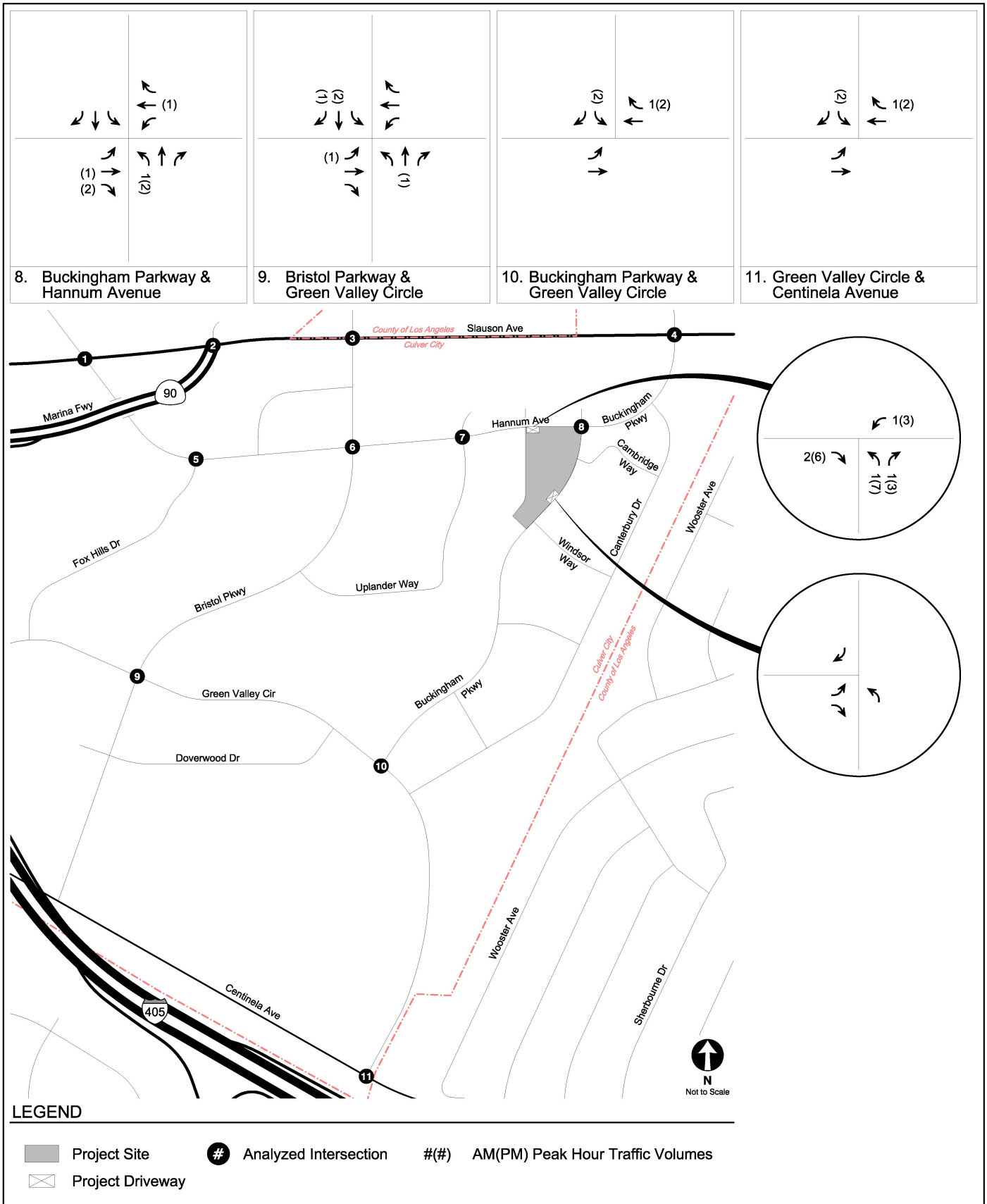
**PROJECT TRIP DISTRIBUTION
RETAIL**

**FIGURE
4A (CONT.)**



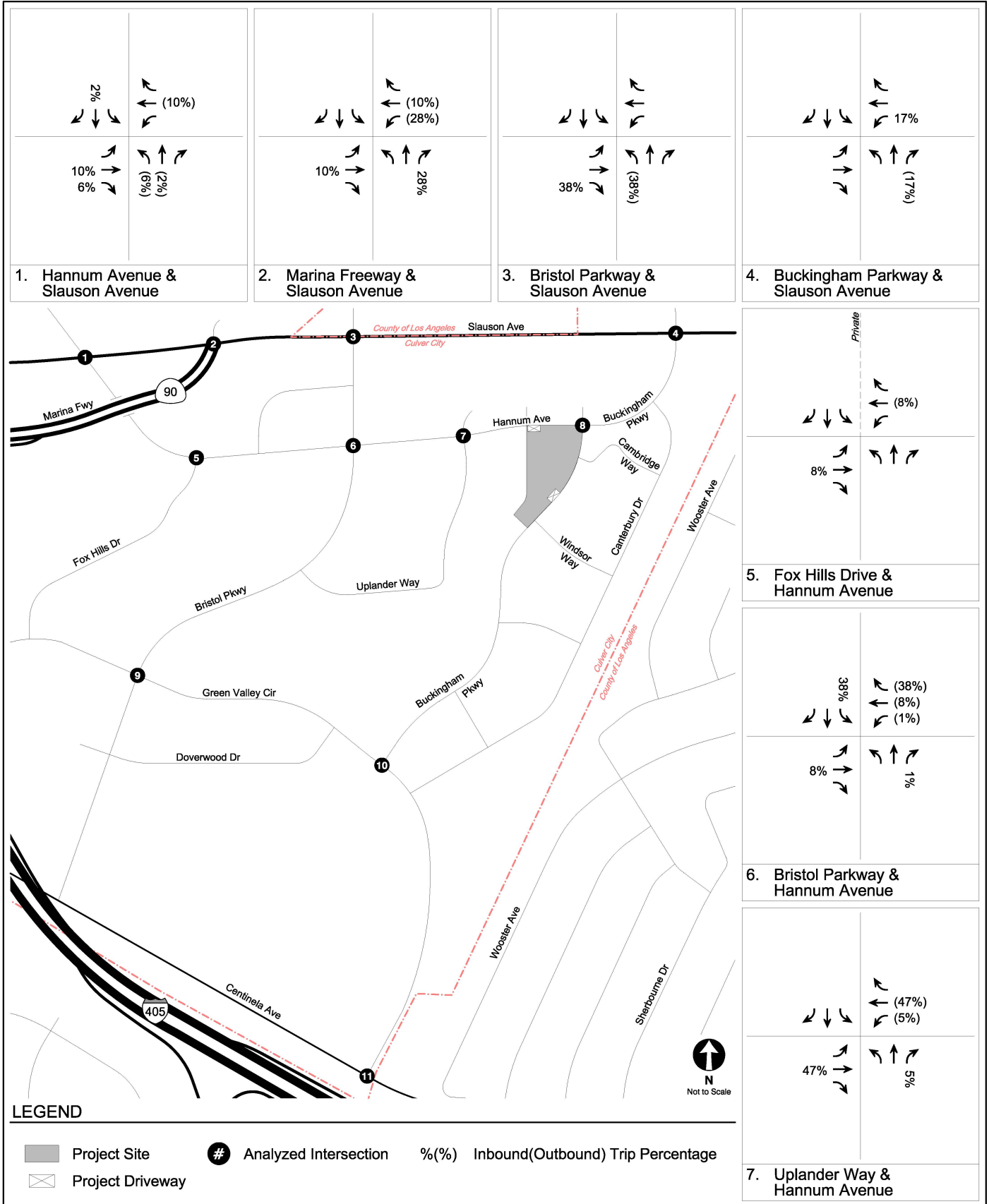
RETAIL PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
4B



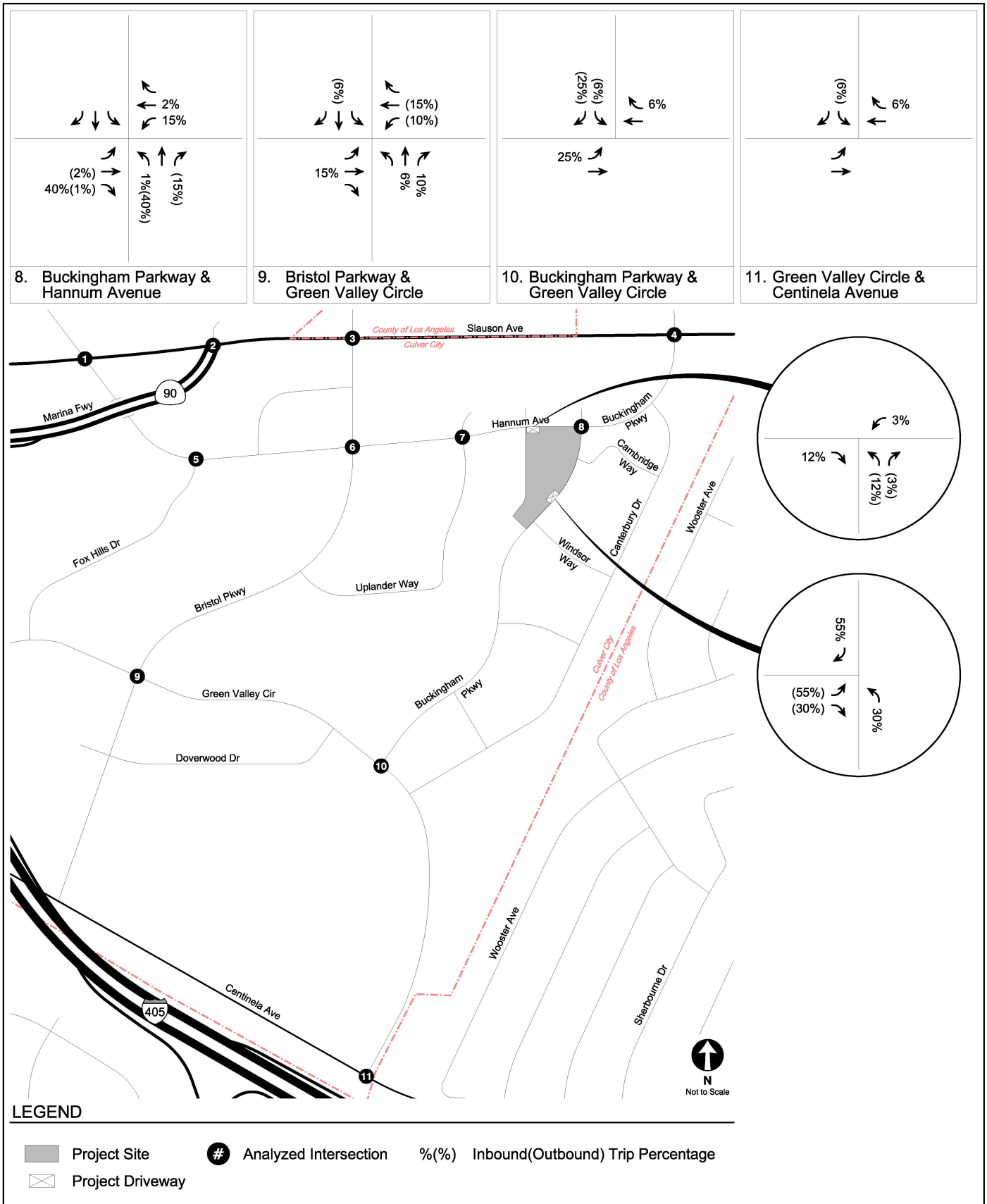
RETAIL PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
4B (CONT.)



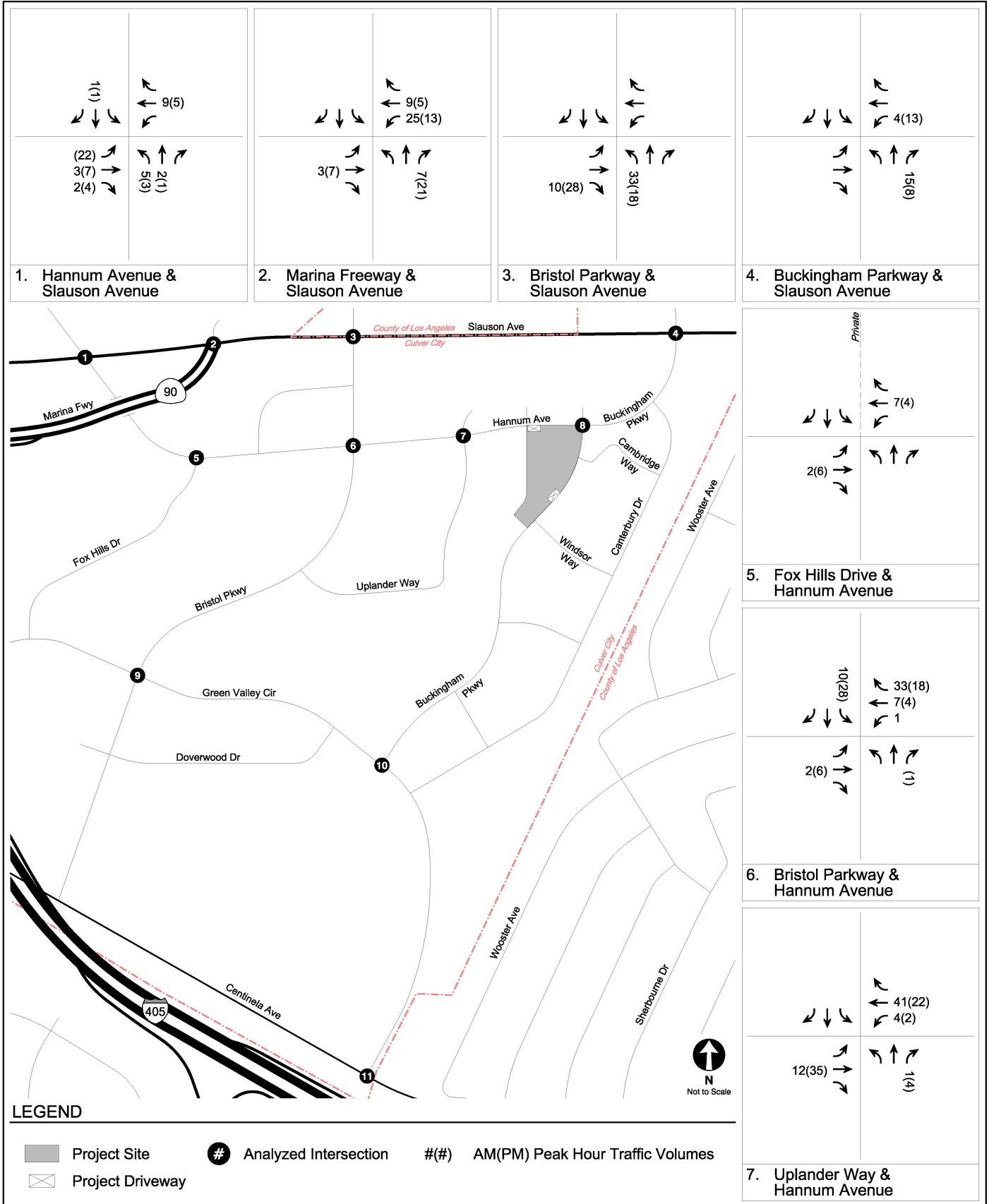
**PROJECT TRIP DISTRIBUTION
RESIDENTIAL**

**FIGURE
5A**



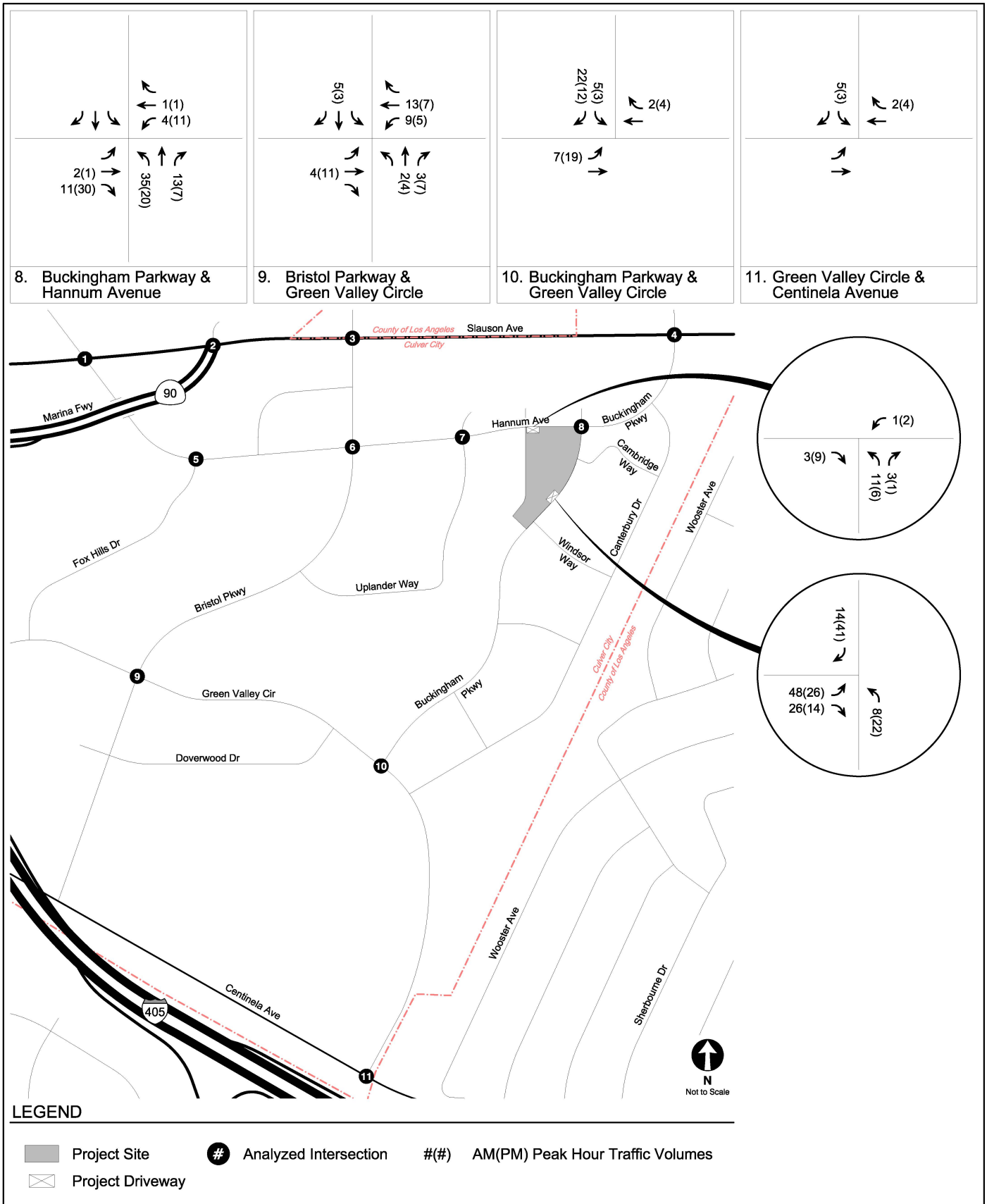
PROJECT TRIP DISTRIBUTION
RESIDENTIAL

FIGURE
5A (CONT.)



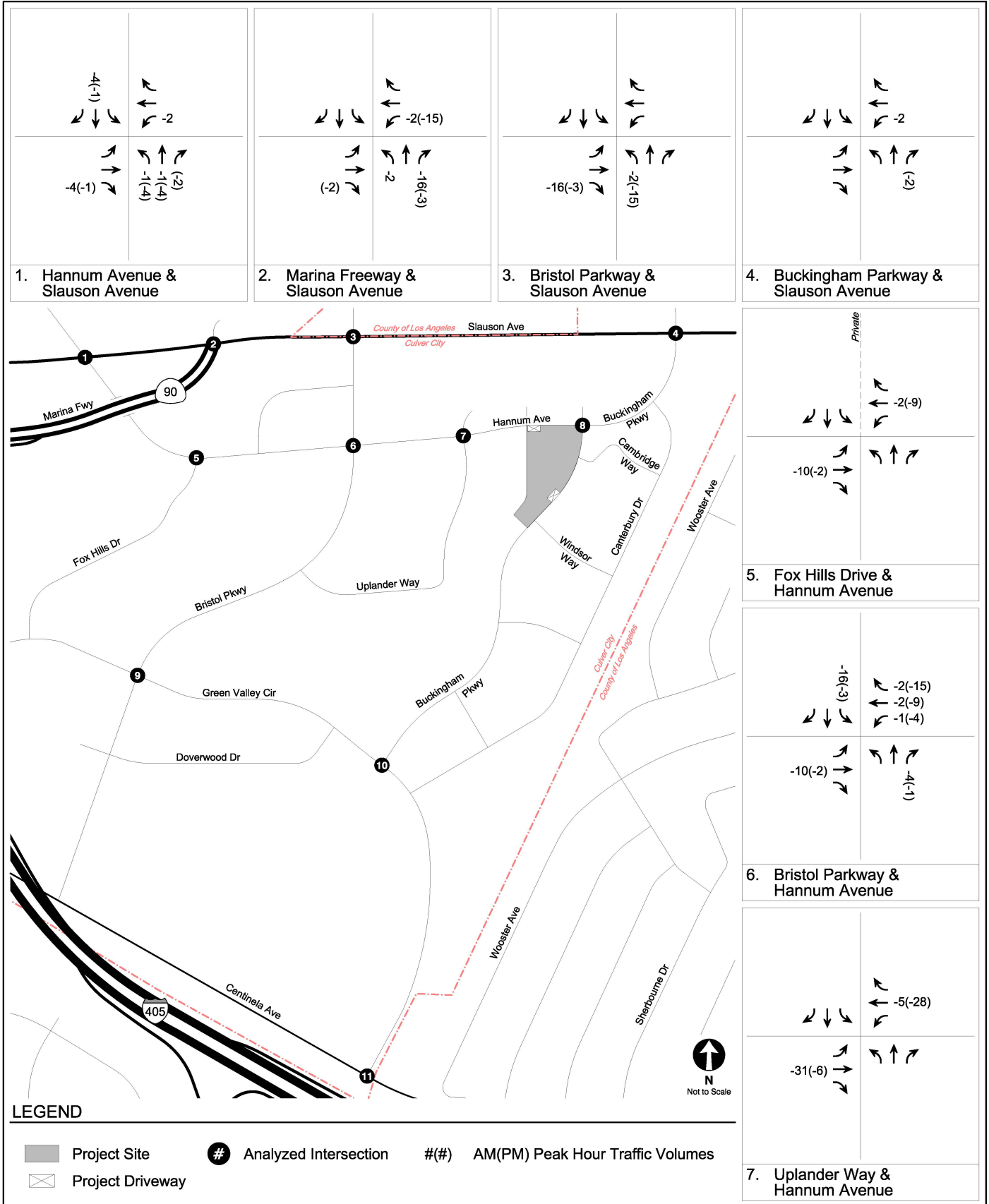
RESIDENTIAL PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
5B



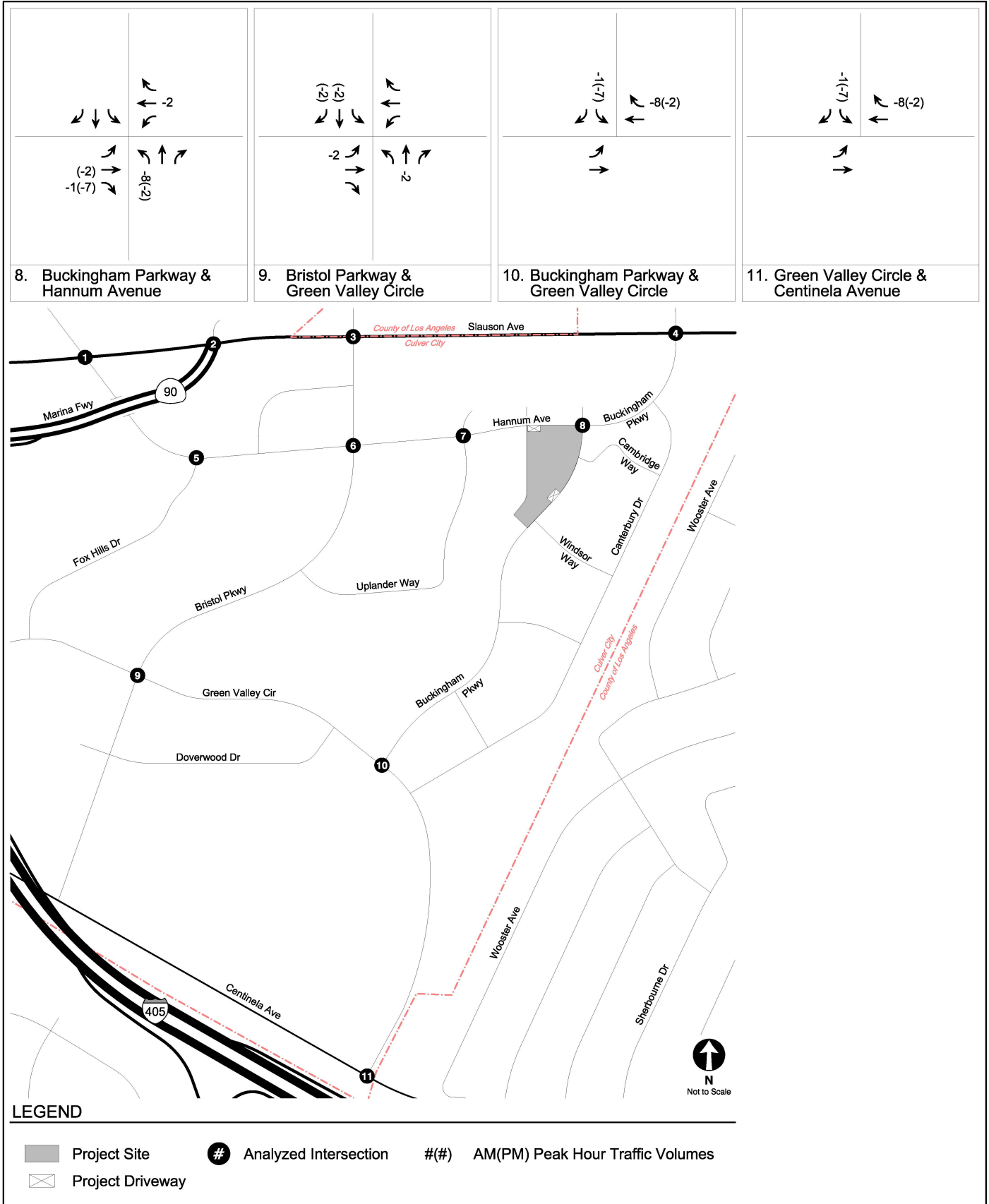
RESIDENTIAL PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
5B (CONT.)



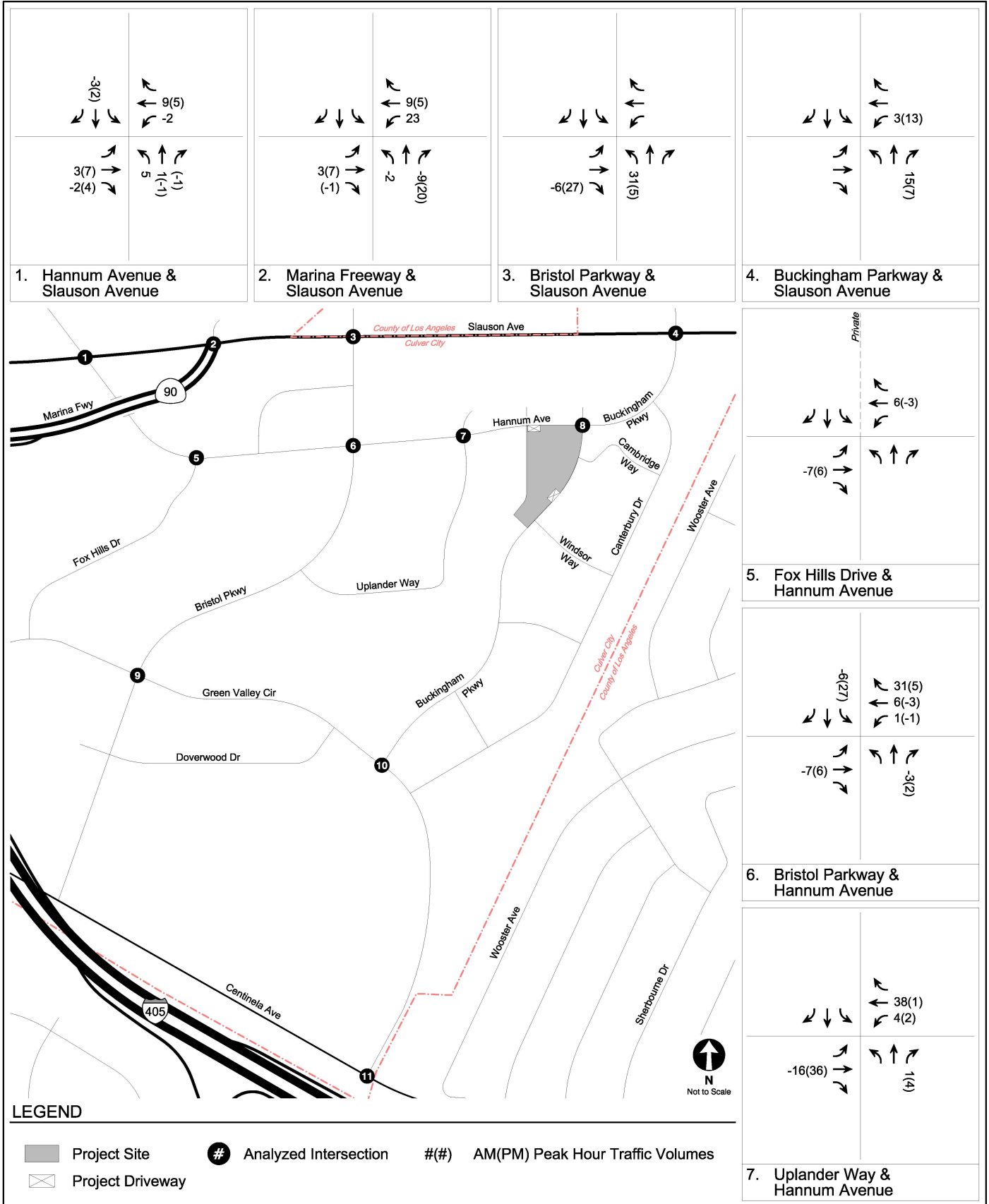
EXISTING USES TO BE REMOVED
PEAK HOUR TRAFFIC VOLUMES

FIGURE
6



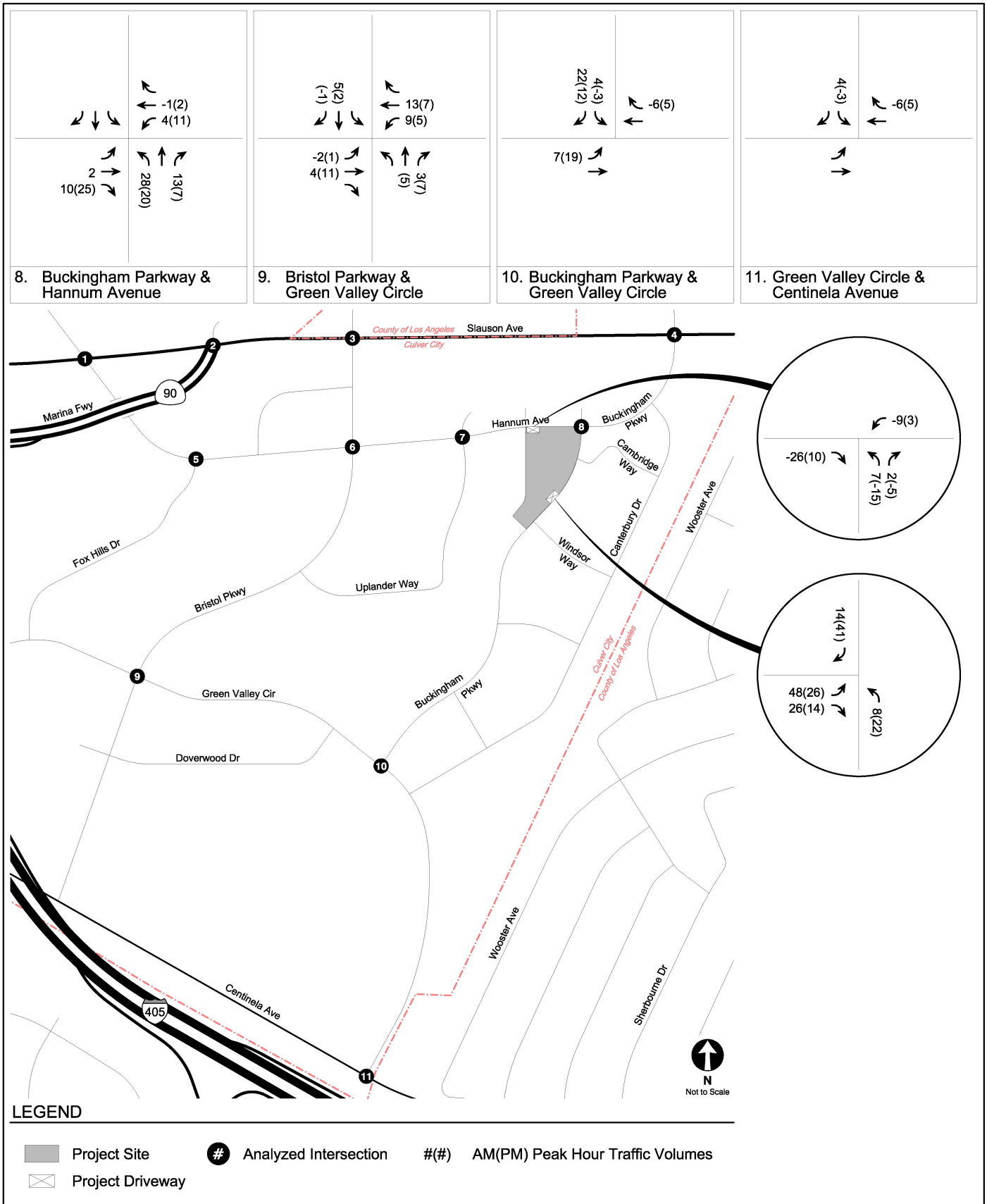
**EXISTING USES TO BE REMOVED
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE
6 (CONT.)**



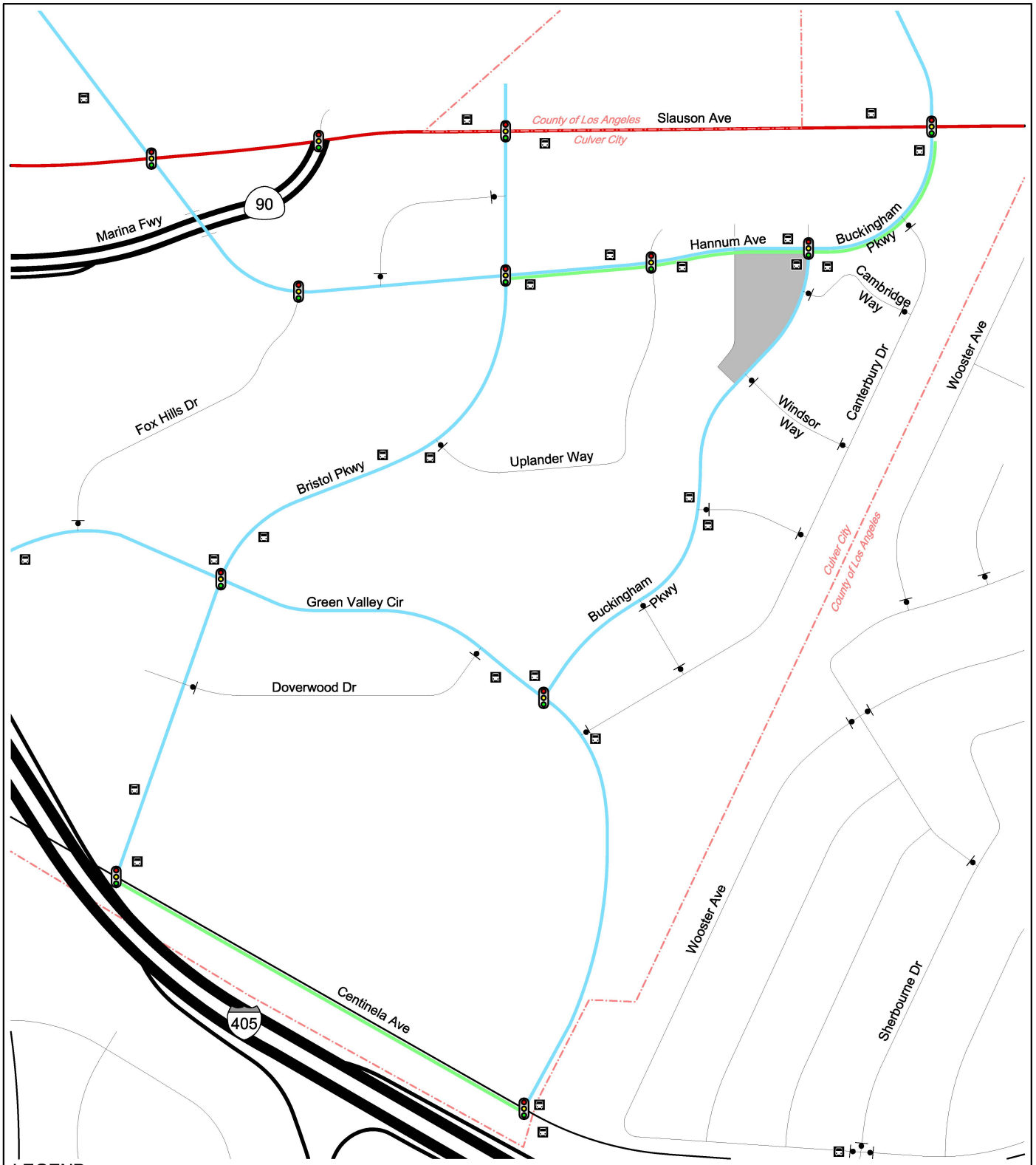
TOTAL PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES

FIGURE 7



**TOTAL PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE
7 (CONT.)**



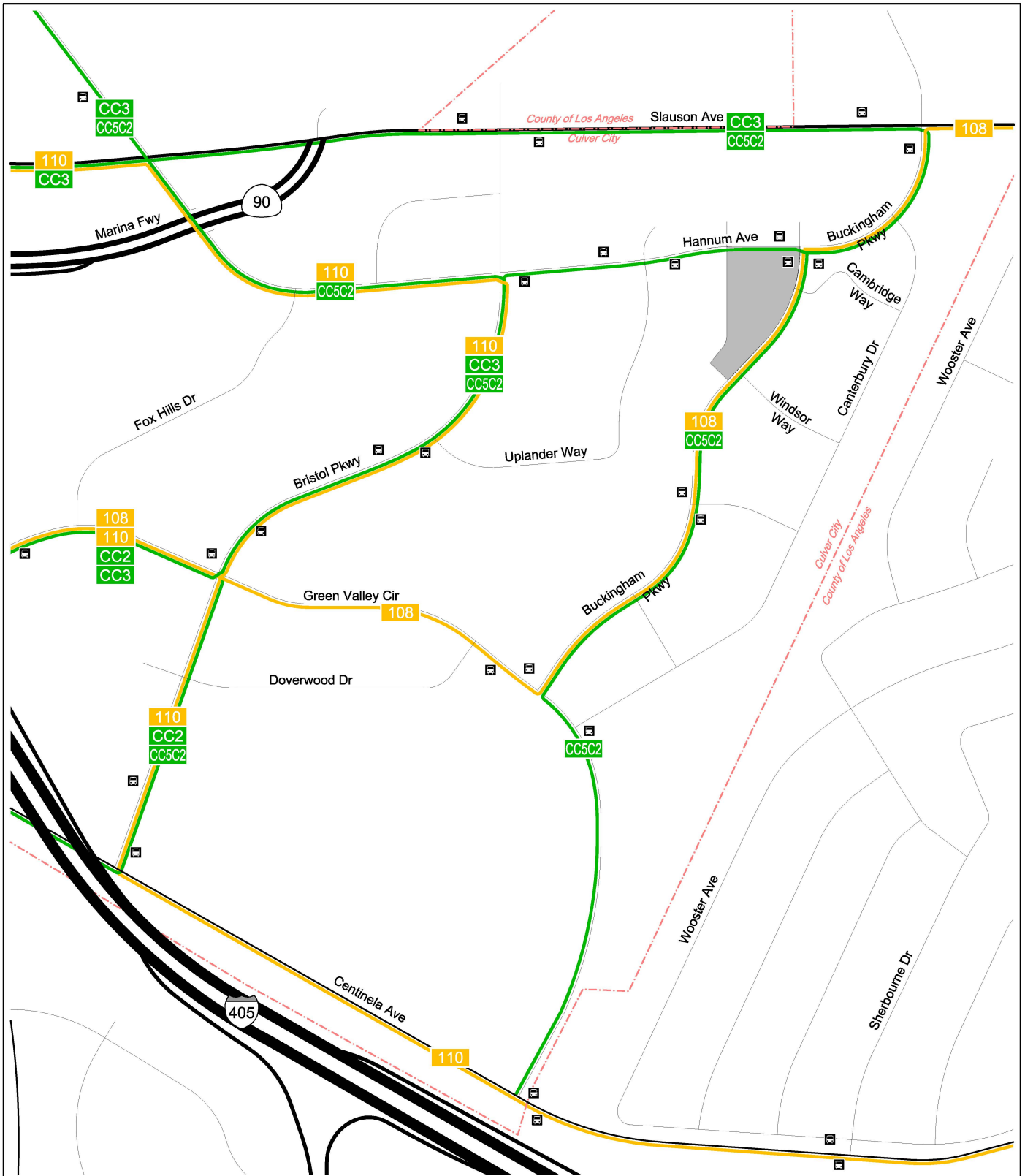
LEGEND

- | | | | |
|--------------|----------------|-----------------------|--------------|
| Project Site | Traffic Signal | Primary Artery | Collector |
| Bus Stop | Stop Sign | Class II Bicycle Lane | Local Street |



TRANSPORTATION CIRCULATION SYSTEM

FIGURE 8



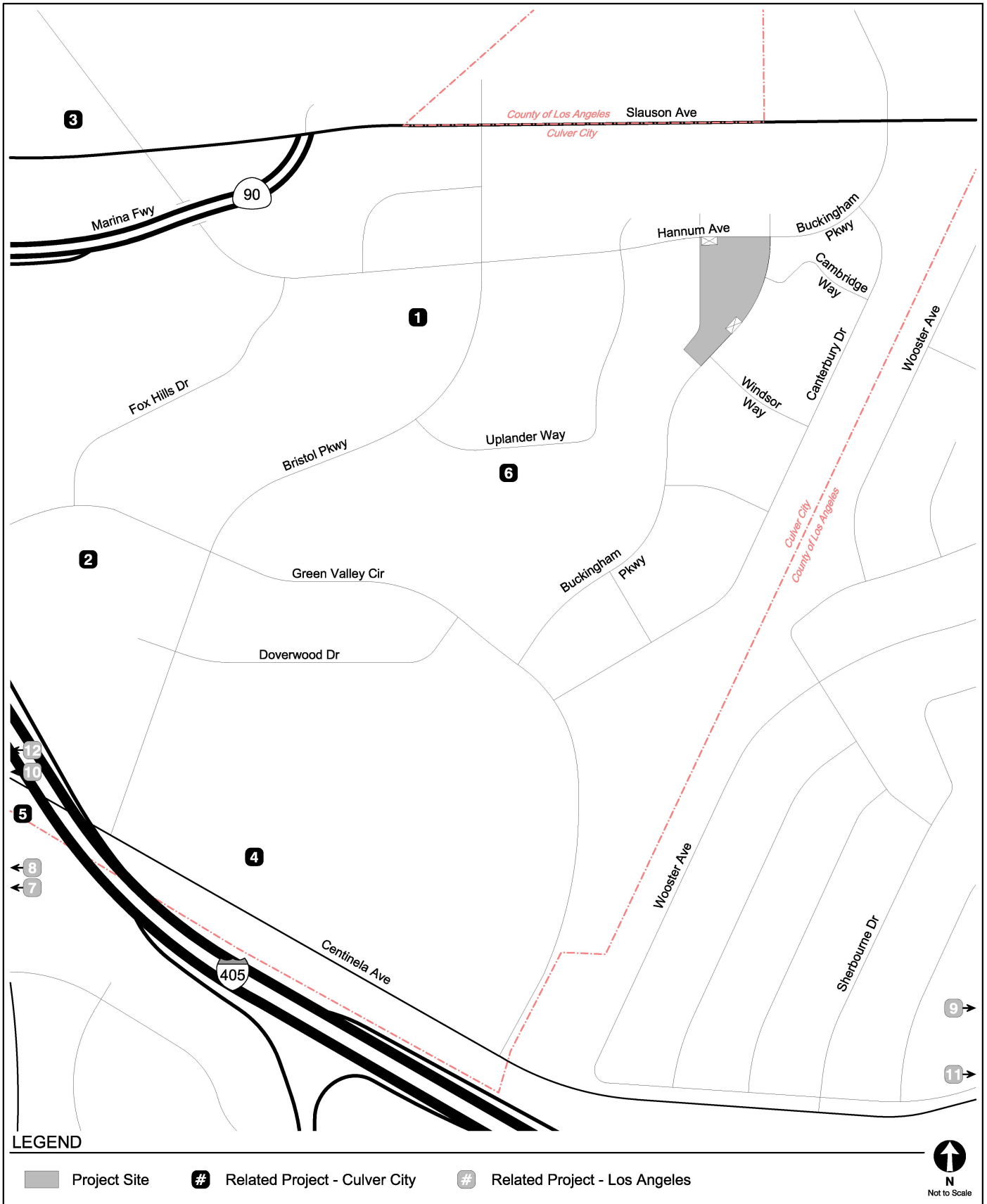
LEGEND

- Project Site
- Bus Stop
- Metro Local Bus
- Culver City Bus



EXISTING TRANSIT SERVICE

FIGURE 9



LOCATIONS OF RELATED PROJECTS

FIGURE 10

Appendix B
Traffic Volume Data

Turning Movement Count Report AM

Location ID: 1
 North/South: Hannum Avenue
 East/West: Slauson Avenue

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	2	21	9	110	108	8	35	57	4	6	37	6	403
7:15	4	8	22	139	119	6	55	129	6	6	44	3	541
7:30	1	25	16	173	121	7	35	205	20	10	37	6	656
7:45	6	25	45	154	123	10	69	207	22	13	36	5	715
8:00	7	56	43	169	118	6	71	161	28	6	41	11	717
8:15	11	43	49	125	122	7	75	200	33	10	69	7	751
8:30	5	56	33	159	150	17	67	127	20	19	92	17	762
8:45	10	76	53	101	102	16	59	88	7	22	62	13	609

Total Volume:	46	310	270	1130	963	77	466	1174	140	92	418	68	5154
Approach %	7%	50%	43%	52%	44%	4%	26%	66%	8%	16%	72%	12%	

Peak Hr Begin:	7:45												
PHV	29	180	170	607	513	40	282	695	103	48	238	40	2945
PHF	0.894			0.890			0.877			0.637			0.966

Turning Movement Count Report PM

Location ID: 1
 North/South: Hannum Avenue
 East/West: Slauson Avenue

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	14	108	72	99	91	50	54	53	22	18	122	27	730
16:15	12	90	48	108	98	48	49	77	11	29	113	22	705
16:30	12	109	62	71	94	29	59	57	6	28	127	24	678
16:45	13	108	60	89	112	47	44	57	13	29	124	15	711
17:00	12	110	75	100	112	48	58	73	14	36	112	16	766
17:15	14	111	54	116	106	50	66	70	16	27	118	26	774
17:30	14	150	63	83	105	57	91	63	17	43	131	18	835
17:45	18	114	72	87	91	53	47	47	13	39	106	21	708

Total Volume:	109	900	506	753	809	382	468	497	112	249	953	169	5907
Approach %	7%	59%	33%	39%	42%	20%	43%	46%	10%	18%	70%	12%	

Peak Hr Begin:	16:45												
PHV	53	479	252	388	435	202	259	263	60	135	485	75	3086
PHF	0.863			0.942			0.851			0.905			0.924

Pedestrian/Bicycle Count Report

Location ID: 1
 North/South: Hannum Avenue
 East/West: Slauson Avenue

Date: 10/06/22
 City: Culver City, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	0	0	0	1	0	1
7:15	0	0	0	0	0	0	1	0
7:30	2	0	0	0	0	0	3	1
7:45	2	0	0	0	1	0	1	0
8:00	1	0	0	0	0	0	3	0
8:15	0	0	0	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	1	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	3	0	0	0	0	0	1	0
16:15	2	0	0	0	0	0	1	0
16:30	0	0	0	0	0	0	2	0
16:45	1	0	0	1	0	0	3	0
17:00	2	0	0	0	0	0	2	1
17:15	2	0	0	0	0	0	2	0
17:30	0	0	0	0	0	0	3	0
17:45	1	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 2
 North/South: Marina Fwy
 East/West: Slauson Avenue

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	1	0	0	2	205	608	118	1	23	51	24	2	1035
7:15	0	0	0	0	227	652	131	0	35	80	41	0	1166
7:30	0	0	2	0	275	592	184	0	34	55	34	0	1176
7:45	0	0	0	0	235	509	233	0	51	93	50	0	1171
8:00	1	0	0	0	246	518	288	0	46	105	52	0	1256
8:15	0	0	0	0	223	635	250	0	34	110	79	1	1332
8:30	0	0	0	0	268	598	244	0	61	93	99	0	1363
8:45	0	0	0	0	171	591	272	0	48	79	93	0	1254

Total Volume:	2	0	2	2	1850	4703	1720	1	332	666	472	3	9753
Approach %	50%	0%	50%	0%	28%	72%	84%	0%	16%	58%	41%	0%	

Peak Hr Begin:	8:00												
PHV	1	0	0	0	908	2342	1054	0	189	387	323	1	5205
PHF	0.250			0.938			0.930			0.926			0.955

Turning Movement Count Report PM

Location ID: 2
 North/South: Marina Fwy
 East/West: Slauson Avenue

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	4	1	9	0	128	197	337	0	91	73	168	0	1008
16:15	0	0	1	0	177	180	345	0	102	67	151	0	1023
16:30	0	3	1	0	126	219	386	0	63	92	145	2	1037
16:45	0	0	1	0	171	212	410	0	76	85	140	0	1095
17:00	1	1	3	2	155	219	342	0	109	96	142	0	1070
17:15	0	1	0	0	157	248	364	0	113	90	144	0	1117
17:30	0	0	0	0	165	246	361	0	83	123	170	0	1148
17:45	0	0	0	0	170	228	348	0	68	86	147	1	1048

Total Volume:	5	6	15	2	1249	1749	2893	0	705	712	1207	3	8546
Approach %	19%	23%	58%	0%	42%	58%	80%	0%	20%	37%	63%	0%	

Peak Hr Begin:	16:45												
PHV	1	2	4	2	648	925	1477	0	381	394	596	0	4430
PHF	0.350			0.958			0.956			0.845			0.965

Pedestrian/Bicycle Count Report

Location ID: 2
 North/South: Marina Fwy
 East/West: Slauson Avenue

Date: 10/06/22
 City: Culver City, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	1	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	1	0	0	0	1	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	1	0	0	0
16:15	2	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	3	0	0	0	0	0	0	0
17:45	1	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 3
 North/South: Bristol Pkwy
 East/West: Slauson Avenue

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	1	0	1	0	768	9	8	0	41	16	125	2	971
7:15	0	0	0	0	820	15	9	2	43	26	147	0	1062
7:30	0	0	0	0	800	7	9	2	51	41	178	1	1089
7:45	0	0	0	2	669	4	5	1	73	42	233	2	1031
8:00	2	1	1	8	711	7	9	2	64	62	263	3	1133
8:15	2	0	0	6	794	10	10	1	60	45	286	5	1219
8:30	0	2	0	5	784	18	11	3	62	80	242	1	1208
8:45	2	0	3	3	709	15	13	2	44	82	305	5	1183

Total Volume:	7	3	5	24	6055	85	74	13	438	394	1779	19	8896
Approach %	47%	20%	33%	0%	98%	1%	14%	2%	83%	18%	81%	1%	

Peak Hr Begin:	8:00												
PHV	6	3	4	22	2998	50	43	8	230	269	1096	14	4743
PHF	0.650			0.948			0.924			0.879			0.973

Turning Movement Count Report PM

Location ID: 3
 North/South: Bristol Pkwy
 East/West: Slauson Avenue

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	9	3	3	3	275	7	23	1	24	35	472	5	860
16:15	10	4	6	1	345	9	15	2	28	46	438	8	912
16:30	9	6	9	3	290	18	18	1	31	43	478	6	912
16:45	11	1	10	5	299	18	13	4	33	48	494	2	938
17:00	7	3	6	6	324	18	18	2	47	44	436	6	917
17:15	8	2	2	3	349	18	13	0	45	58	442	4	944
17:30	5	1	9	2	359	21	7	0	27	45	467	4	947
17:45	7	5	4	1	355	17	17	0	25	45	452	0	928

Total Volume:	66	25	49	24	2596	126	124	10	260	364	3679	35	7358
Approach %	47%	18%	35%	1%	95%	5%	31%	3%	66%	9%	90%	1%	

Peak Hr Begin:	16:45												
PHV	31	7	27	16	1331	75	51	6	152	195	1839	16	3746
PHF	0.739			0.931			0.780			0.942			0.989

Pedestrian/Bicycle Count Report

Location ID: 3
 North/South: Bristol Pkwy
 East/West: Slauson Avenue

Date: 10/06/22
 City: Culver City, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	1	0	0	0	0	0	0
7:15	2	0	0	0	0	0	0	0
7:30	1	0	0	0	0	0	0	0
7:45	0	0	0	0	1	0	0	0
8:00	2	1	0	0	2	0	0	0
8:15	0	1	0	0	2	0	1	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	1	0	0	0	2	0	1	0
16:15	0	0	0	0	2	0	2	0
16:30	0	0	0	0	2	0	2	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	1	0
17:15	0	0	0	0	0	0	0	0
17:30	1	0	0	0	1	0	2	0
17:45	0	0	0	0	0	0	1	0

Turning Movement Count Report AM

Location ID: 4
 North/South: Buckingham Pkwy
 East/West: Slauson Avenue

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	1	0	0	12	725	36	33	2	9	5	108	14	945
7:15	6	3	4	7	761	35	25	4	11	8	127	8	999
7:30	4	3	3	5	749	18	30	5	13	11	163	9	1013
7:45	3	0	0	3	624	31	39	3	22	7	203	10	945
8:00	3	0	1	7	702	29	42	7	28	13	252	10	1094
8:15	4	2	0	9	752	55	41	7	28	11	230	10	1149
8:30	4	1	5	22	700	54	32	11	31	6	259	10	1135
8:45	13	1	6	15	659	59	40	7	30	11	238	16	1095

Total Volume:	38	10	19	80	5672	317	282	46	172	72	1580	87	8375
Approach %	57%	15%	28%	1%	93%	5%	56%	9%	34%	4%	91%	5%	

Peak Hr Begin:	8:00												
PHV	24	4	12	53	2813	197	155	32	117	41	979	46	4473
PHF	0.500			0.938			0.987			0.969			0.973

Turning Movement Count Report PM

Location ID: 4
 North/South: Buckingham Pkwy
 East/West: Slauson Avenue

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	12	4	9	1	290	28	84	5	8	9	500	4	954
16:15	5	5	6	4	303	36	88	4	6	9	442	3	911
16:30	5	9	16	3	298	45	99	5	6	5	466	4	961
16:45	9	9	12	1	296	38	88	4	7	15	488	2	969
17:00	9	14	20	3	313	36	117	1	8	16	435	1	973
17:15	7	1	18	3	332	37	113	0	9	18	475	7	1020
17:30	14	8	19	1	350	32	102	2	11	19	450	0	1008
17:45	12	3	10	2	330	35	82	1	13	14	473	1	976

Total Volume:	73	53	110	18	2512	287	773	22	68	105	3729	22	7772
Approach %	31%	22%	47%	1%	89%	10%	90%	3%	8%	3%	97%	1%	

Peak Hr Begin:	17:00												
PHV	42	26	67	9	1325	140	414	4	41	67	1833	9	3977
PHF	0.785			0.962			0.911			0.955			0.975

Pedestrian/Bicycle Count Report

Location ID: 4
 North/South: Buckingham Pkwy
 East/West: Slauson Avenue

Date: 10/06/22
 City: Culver City, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	1	1	0	0	0	0	1
7:15	2	0	4	0	0	0	0	0
7:30	0	0	0	0	0	0	1	0
7:45	2	0	0	0	0	0	1	0
8:00	0	0	1	0	0	0	2	0
8:15	0	0	1	0	0	0	0	0
8:30	0	0	3	0	3	0	2	0
8:45	0	0	2	0	1	0	1	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	3	0
16:15	0	0	0	0	1	0	0	0
16:30	0	0	1	0	3	0	0	0
16:45	1	0	1	0	0	0	0	0
17:00	0	0	2	0	0	0	0	0
17:15	0	0	1	0	0	0	0	0
17:30	0	0	10	0	3	0	0	0
17:45	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 1
 North/South: Fox Hills Dr/Private Driveway
 East/West: Hannum Ave

Date: 04/27/23
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	60	3	1	0	24	4	14	0	106
7:15	0	0	0	0	80	6	4	0	54	6	20	0	170
7:30	0	0	0	1	114	4	3	0	66	3	21	0	212
7:45	0	0	0	1	153	12	4	1	68	6	40	0	285
8:00	0	0	0	0	122	8	5	2	82	10	45	1	275
8:15	0	0	0	4	142	10	9	1	58	11	68	0	303
8:30	0	0	0	2	117	10	12	2	56	15	76	1	291
8:45	0	0	0	1	74	15	6	1	38	14	96	1	246

Total Volume:	0	0	0	9	862	68	44	7	446	69	380	3	1888
Approach %	0%	0%	0%	1%	92%	7%	9%	1%	90%	15%	84%	1%	

Peak Hr Begin:	7:45												
PHV	0	0	0	7	534	40	30	6	264	42	229	2	1154
PHF	0.000			0.875			0.843			0.742			

Turning Movement Count Report PM

Location ID: 1
 North/South: Fox Hills Dr/Private Driveway
 East/West: Hannum Ave

Date: 04/27/23
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	1	1	4	1	77	30	33	0	29	41	148	0	365
16:15	2	0	0	0	71	31	44	0	24	38	150	0	360
16:30	2	1	1	1	84	34	37	0	39	37	143	0	379
16:45	0	0	0	1	85	26	31	0	30	31	146	0	350
17:00	5	2	1	0	122	31	49	0	26	40	159	1	436
17:15	1	0	2	0	88	29	33	0	25	40	150	0	368
17:30	2	0	1	0	94	31	31	0	36	28	198	0	421
17:45	2	0	0	0	76	26	34	0	36	47	176	0	397

Total Volume:	15	4	9	3	697	238	292	0	245	302	1270	1	3076
Approach %	54%	14%	32%	0%	74%	25%	54%	0%	46%	19%	81%	0%	

Peak Hr Begin:	17:00												
PHV	10	2	4	0	380	117	147	0	123	155	683	1	1622
PHF	0.500			0.812			0.900			0.928			

Pedestrian/Bicycle Count Report

Location ID: 1
 North/South: Fox Hills Dr/Private Driveway
 East/West: Hannum Ave

Date: 04/27/23
 City: Culver City, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	2	0	0	0
7:15	1	0	0	0	4	0	1	0
7:30	0	0	0	0	2	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	2	0	3	0	0	0
8:15	0	0	1	0	3	0	0	0
8:30	0	0	0	0	2	0	0	0
8:45	0	0	0	0	4	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	1	0	0	0	0	0	0	0
16:15	1	0	1	0	1	0	0	0
16:30	0	0	0	0	4	1	0	0
16:45	0	0	0	0	0	0	0	0
17:00	1	0	0	0	25	0	1	0
17:15	0	0	1	0	2	0	0	0
17:30	2	0	0	0	0	0	0	0
17:45	4	0	0	0	1	1	0	0

Turning Movement Count Report AM

Location ID: 5
 North/South: Bristol Pkwy
 East/West: Hannum Avenue

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	7	15	3	6	48	8	12	42	29	7	13	0	190
7:15	5	24	3	4	60	13	3	50	60	10	13	1	246
7:30	8	25	13	9	78	4	10	54	88	16	16	0	321
7:45	2	28	13	15	114	5	14	60	84	9	25	2	371
8:00	7	39	17	10	87	8	8	66	90	26	29	1	388
8:15	6	32	17	6	100	7	15	62	88	20	37	1	391
8:30	10	51	22	10	87	15	17	65	63	27	45	2	414
8:45	8	45	20	5	48	9	16	48	46	42	52	2	341

Total Volume:	53	259	108	65	622	69	95	447	548	157	230	9	2662
Approach %	13%	62%	26%	9%	82%	9%	9%	41%	50%	40%	58%	2%	

Peak Hr Begin:	7:45												
PHV	25	150	69	41	388	35	54	253	325	82	136	6	1564
PHF	0.735			0.866			0.958			0.757			0.944

Turning Movement Count Report PM

Location ID: 5
 North/South: Bristol Pkwy
 East/West: Hannum Avenue

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	13	30	6	16	66	14	8	24	21	65	87	4	354
16:15	15	38	6	14	48	19	8	23	24	52	75	4	326
16:30	14	44	9	22	55	12	18	27	22	72	70	1	366
16:45	13	46	11	10	50	11	17	30	31	51	96	5	371
17:00	11	36	18	13	78	22	22	54	32	55	100	4	445
17:15	26	47	13	19	55	16	25	34	40	66	94	1	436
17:30	12	38	10	9	69	7	17	29	32	58	125	0	406
17:45	14	52	11	11	51	11	13	31	23	67	88	3	375

Total Volume:	118	331	84	114	472	112	128	252	225	486	735	22	3079
Approach %	22%	62%	16%	16%	68%	16%	21%	42%	37%	39%	59%	2%	

Peak Hr Begin:	17:00												
PHV	63	173	52	52	253	56	77	148	127	246	407	8	1662
PHF	0.837			0.799			0.815			0.903			0.934

Pedestrian/Bicycle Count Report

Location ID: 5
 North/South: Bristol Pkwy
 East/West: Hannum Avenue

Date: 10/06/22
 City: Culver City, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	0	0	1	0	0	0
7:15	0	1	0	0	0	0	0	0
7:30	0	0	0	0	1	0	0	0
7:45	0	0	0	0	1	0	0	0
8:00	0	0	0	0	2	0	1	0
8:15	1	0	0	0	0	0	1	1
8:30	0	0	1	0	3	0	1	0
8:45	0	0	0	0	3	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	3	0	0	0	0	1	0	0
16:15	1	0	0	0	0	0	1	0
16:30	1	0	1	0	0	0	2	0
16:45	1	0	0	0	1	0	0	0
17:00	0	0	0	0	3	0	1	0
17:15	3	0	2	0	2	0	2	0
17:30	1	0	0	0	0	1	0	0
17:45	0	0	1	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 6
 North/South: Uplander Way
 East/West: Hannum Avenue

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	3	57	5	1	0	1	2	22	1	92
7:15	3	0	1	6	72	9	2	0	1	0	12	4	110
7:30	0	0	0	4	99	4	0	0	1	4	26	3	141
7:45	1	0	0	5	129	5	2	0	2	6	32	6	188
8:00	2	0	0	6	108	7	1	0	2	8	37	1	172
8:15	1	0	1	5	128	13	1	0	0	9	40	8	206
8:30	0	0	1	6	105	9	1	0	1	5	51	15	194
8:45	1	0	1	12	71	14	2	0	2	5	59	5	172

Total Volume:	8	0	4	47	769	66	10	0	10	39	279	43	1275
Approach %	67%	0%	33%	5%	87%	7%	50%	0%	50%	11%	77%	12%	

Peak Hr Begin:	7:45												
PHV	4	0	2	22	470	34	5	0	5	28	160	30	760
PHF	0.750			0.901			0.625			0.768			0.922

Turning Movement Count Report PM

Location ID: 6
 North/South: Uplander Way
 East/West: Hannum Avenue

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	16	0	12	0	63	3	8	0	3	0	119	0	224
16:15	21	0	4	1	51	5	7	0	8	5	80	2	184
16:30	10	0	5	1	43	4	10	0	10	6	121	2	212
16:45	8	0	3	0	47	3	11	0	7	5	120	1	205
17:00	15	3	6	0	60	3	9	0	12	7	146	1	262
17:15	8	1	2	2	66	2	7	0	3	1	137	0	229
17:30	18	0	4	3	54	3	7	0	4	4	148	1	246
17:45	5	1	6	0	53	2	10	0	5	5	110	2	199

Total Volume:	101	5	42	7	437	25	69	0	52	33	981	9	1761
Approach %	68%	3%	28%	1%	93%	5%	57%	0%	43%	3%	96%	1%	

Peak Hr Begin:	16:45												
PHV	49	4	15	5	227	11	34	0	26	17	551	3	942
PHF	0.708			0.868			0.714			0.927			0.899

Pedestrian/Bicycle Count Report

Location ID: 6
 North/South: Uplander Way
 East/West: Hannum Avenue

Date: 10/06/22
 City: Culver City, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	2	0	3	0	3	0	1	0
7:15	3	0	0	0	2	0	0	0
7:30	1	0	1	0	5	0	0	0
7:45	0	0	1	0	1	0	1	0
8:00	2	0	0	0	3	0	1	0
8:15	1	0	0	0	5	0	5	0
8:30	0	0	1	0	6	0	9	0
8:45	1	0	3	0	1	0	2	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	1	0	3	0	0	0
16:15	0	0	1	0	1	0	1	0
16:30	2	0	1	0	3	0	2	0
16:45	0	0	0	0	0	0	0	0
17:00	2	0	0	0	0	0	1	0
17:15	3	0	1	0	1	0	3	0
17:30	0	0	0	0	2	0	1	0
17:45	2	0	0	0	3	0	0	0

Turning Movement Count Report AM

Location ID: 7
 North/South: Buckingham Pkwy
 East/West: Hannum Avenue - Buckingham Pkwy

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	42	8	22	1	33	7	13	1	127
7:15	0	0	0	0	44	4	19	0	48	8	7	0	130
7:30	0	0	0	4	45	4	19	1	64	8	11	1	157
7:45	0	0	0	1	59	6	27	2	91	12	19	0	217
8:00	0	0	0	1	42	6	40	1	80	17	14	1	202
8:15	0	0	0	2	71	12	44	1	83	17	23	0	253
8:30	0	0	0	2	59	18	38	4	70	19	26	0	236
8:45	1	0	0	3	51	13	37	1	48	23	26	0	203

Total Volume:	1	0	0	13	413	71	246	11	517	111	139	3	1525
Approach %	100%	0%	0%	3%	83%	14%	32%	1%	67%	44%	55%	1%	

Peak Hr Begin:	7:45												
PHV	0	0	0	6	231	42	149	8	324	65	82	1	908
PHF	0.000			0.821			0.939			0.822			0.897

Turning Movement Count Report PM

Location ID: 7
 North/South: Buckingham Pkwy
 East/West: Hannum Avenue - Buckingham Pkwy

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	0	0	0	35	6	21	0	18	29	87	1	197
16:15	1	0	3	0	34	16	11	0	14	23	83	0	185
16:30	1	2	0	0	26	18	14	0	16	37	90	1	205
16:45	2	0	0	0	28	25	18	0	23	43	88	0	227
17:00	4	2	2	0	35	21	24	0	18	49	103	0	258
17:15	2	0	2	0	30	19	23	0	10	36	112	0	234
17:30	5	0	1	0	26	19	23	0	20	52	112	0	258
17:45	0	1	0	1	26	19	16	0	17	41	83	0	204

Total Volume:	15	5	8	1	240	143	150	0	136	310	758	2	1768
Approach %	54%	18%	29%	0%	63%	37%	52%	0%	48%	29%	71%	0%	

Peak Hr Begin:	16:45												
PHV	13	2	5	0	119	84	88	0	71	180	415	0	977
PHF	0.625			0.906			0.924			0.907			0.947

Pedestrian/Bicycle Count Report

Location ID: 7
 North/South: Buckingham Pkwy
 East/West: Hannum Avenue - Buckingham Pkwy

Date: 10/06/22
 City: Culver City, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	2	0	0	0	5	0	0	0
7:15	2	0	0	0	4	0	0	0
7:30	2	0	0	0	5	0	0	0
7:45	1	0	0	0	3	0	1	0
8:00	2	0	1	0	2	0	0	0
8:15	0	0	0	0	2	0	0	0
8:30	0	0	0	0	6	0	1	0
8:45	0	0	0	0	0	0	3	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	1	0	1	0	2	0	1	0
16:15	0	0	0	0	6	0	4	0
16:30	1	0	2	0	1	0	0	0
16:45	1	0	1	0	0	0	0	0
17:00	1	0	1	0	3	0	1	0
17:15	0	0	0	0	5	0	1	0
17:30	1	0	1	0	2	0	0	0
17:45	1	0	1	0	4	0	0	0

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

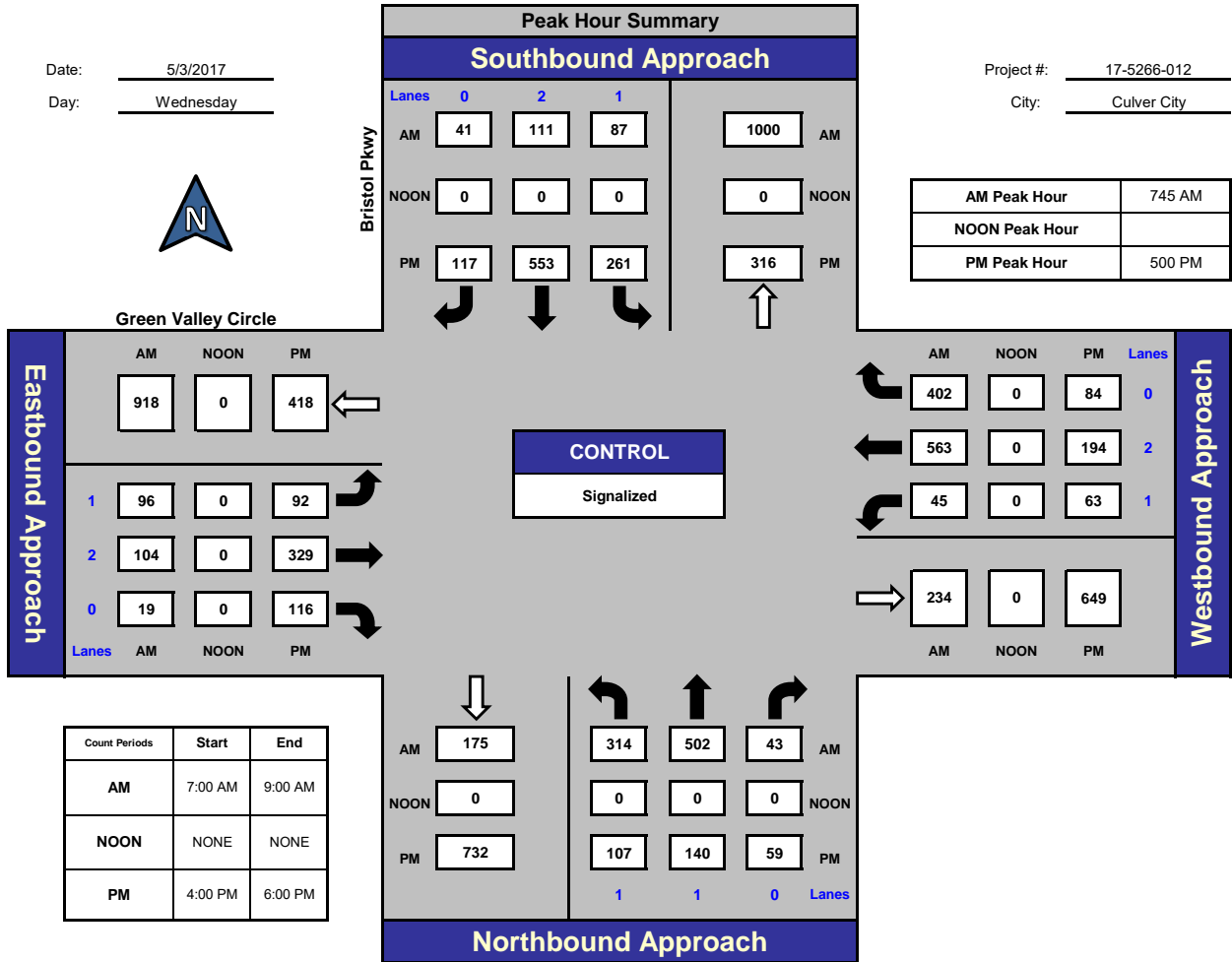
Bristol Pkwy and Green Valley Circle, Culver City

Date: 5/3/2017

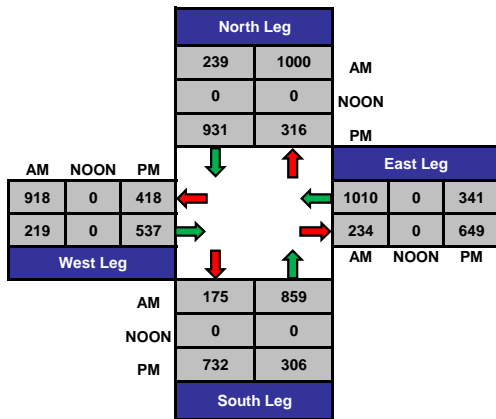
Day: Wednesday

Project #: 17-5266-012

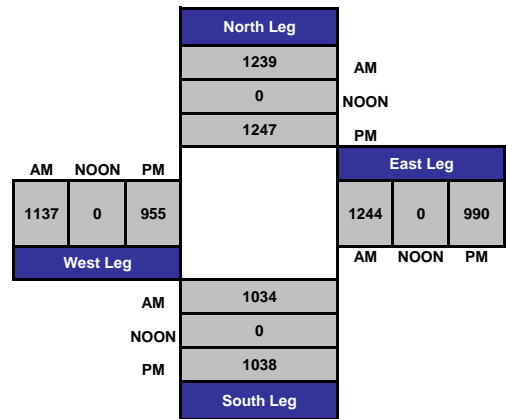
City: Culver City



Total Ins & Outs



Total Volume Per Leg



Turning Movement Count Report AM

Location ID: 8
 North/South: Green Valley Circle
 East/West: Buckingham Pkwy

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	4	7	8	0	4	27	69	0	0	0	0	119
7:15	0	11	7	9	0	9	39	106	0	0	0	0	181
7:30	0	16	8	7	0	9	63	170	0	0	0	0	273
7:45	0	19	4	10	0	12	81	213	0	0	0	0	339
8:00	0	27	12	13	0	9	77	162	0	0	0	0	300
8:15	0	33	15	20	0	9	91	128	0	0	0	0	296
8:30	0	36	9	16	0	17	74	121	0	0	0	0	273
8:45	0	53	10	14	0	14	58	119	0	0	0	0	268

Total Volume:	0	199	72	97	0	83	510	1088	0	0	0	0	2049
Approach %	0%	73%	27%	54%	0%	46%	32%	68%	0%	0%	0%	0%	

Peak Hr Begin:	7:30												
PHV	0	95	39	50	0	39	312	673	0	0	0	0	1208
PHF	0.698			0.767			0.838			0.000			0.891

Turning Movement Count Report PM

Location ID: 8
 North/South: Green Valley Circle
 East/West: Buckingham Pkwy

Date: 10/06/22
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	93	20	11	0	25	14	38	0	0	0	0	201
16:15	0	73	18	15	0	21	12	39	0	0	0	0	178
16:30	0	97	17	15	0	34	21	43	0	0	0	0	227
16:45	0	103	15	21	0	30	15	39	0	0	0	0	223
17:00	0	99	25	13	0	49	18	35	0	0	0	0	239
17:15	0	108	22	18	0	25	17	30	0	0	0	0	220
17:30	0	71	21	13	0	36	23	32	1	0	0	0	197
17:45	0	85	32	19	0	27	19	28	0	0	0	0	210

Total Volume:	0	729	170	125	0	247	139	284	1	0	0	0	1695
Approach %	0%	81%	19%	34%	0%	66%	33%	67%	0%	0%	0%	0%	

Peak Hr Begin:	16:30												
PHV	0	407	79	67	0	138	71	147	0	0	0	0	909
PHF	0.935			0.827			0.852			0.000			0.951

Pedestrian/Bicycle Count Report

Location ID: 8
 North/South: Green Valley Circle
 East/West: Buckingham Pkwy

Date: 10/06/22
 City: Culver City, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	3	0	0	0	3	1	0	0
7:15	3	0	5	0	0	0	0	0
7:30	2	0	4	2	5	0	0	0
7:45	1	0	1	0	2	0	0	0
8:00	6	0	5	0	2	0	0	0
8:15	2	0	5	0	0	0	0	0
8:30	3	0	2	0	1	0	0	0
8:45	2	0	1	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	3	0	8	1	0	0	0	0
16:15	1	0	5	0	4	1	0	0
16:30	2	0	2	0	0	0	0	0
16:45	0	0	9	0	2	0	0	0
17:00	1	0	8	0	0	0	0	0
17:15	3	0	5	0	3	0	0	0
17:30	1	0	12	0	5	1	0	0
17:45	2	0	6	0	2	0	0	0

Turning Movement Count Report AM

Location ID: 2
 North/South: Green Valley Circle
 East/West: Centinela Ave

Date: 04/27/23
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	4	0	26	89	344	0	0	0	0	0	39	3	505
7:15	9	0	31	134	371	0	0	0	0	0	58	3	606
7:30	4	0	31	168	430	0	0	0	0	0	40	8	681
7:45	7	0	38	242	466	0	0	0	0	0	77	10	840
8:00	11	0	33	221	399	0	0	0	0	0	96	4	764
8:15	10	0	33	189	375	0	0	0	0	0	126	12	745
8:30	15	0	44	188	382	0	0	0	0	0	85	10	724
8:45	9	0	46	149	325	0	0	0	0	0	108	18	655

Total Volume:	69	0	282	1380	3092	0	0	0	0	0	629	68	5520
Approach %	20%	0%	80%	31%	69%	0%	0%	0%	0%	0%	90%	10%	

Peak Hr Begin:	7:45												
PHV	43	0	148	840	1622	0	0	0	0	0	384	36	3073
PHF	0.809			0.869			0.000			0.761			

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 2
 North/South: Green Valley Circle
 East/West: Centinela Ave

Date: 04/27/23
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	12	0	89	38	138	0	0	0	0	0	311	15	603
16:15	16	0	100	37	167	0	0	0	0	0	292	22	634
16:30	14	0	127	46	133	0	0	0	0	0	346	22	688
16:45	28	0	109	37	140	0	0	0	0	0	346	25	685
17:00	22	0	132	40	124	0	0	0	0	0	384	15	717
17:15	20	0	127	38	132	0	0	0	0	0	360	14	691
17:30	10	0	93	33	140	0	0	0	0	0	371	26	673
17:45	11	0	115	37	136	0	0	0	0	0	355	19	673

Total Volume:	133	0	892	306	1110	0	0	0	0	0	2765	158	5364
Approach %	13%	0%	87%	22%	78%	0%	0%	0%	0%	0%	95%	5%	

Peak Hr Begin:	16:30												
PHV	84	0	495	161	529	0	0	0	0	0	1436	76	2781
PHF	0.940			0.964			0.000			0.947			

Pedestrian/Bicycle Count Report

Location ID: 2
 North/South: Green Valley Circle
 East/West: Centinela Ave

Date: 04/27/23
 City: Culver City, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	2	0	0	0	0	0	0	0
7:15	6	0	0	0	0	0	0	0
7:30	0	0	0	0	6	0	3	0
7:45	2	0	0	0	3	0	1	0
8:00	5	0	0	0	0	0	0	0
8:15	3	0	0	0	1	1	0	0
8:30	1	0	0	0	1	0	1	0
8:45	1	0	0	0	2	0	2	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	7	0	0	0	3	1	3	0
16:30	1	0	0	0	0	0	1	0
16:45	3	1	0	0	0	0	0	0
17:00	1	2	0	0	2	0	1	0
17:15	3	1	0	0	2	0	1	0
17:30	1	0	0	0	0	0	0	0
17:45	0	0	1	0	0	0	0	0

Appendix C

VMT Analysis Worksheets



Analysis is required. This project does not meet screening criteria. No separate analysis is required for retail.

Project Name
5700 Hannum

Project Parcel [Click here for parcel viewer](#)
4134005015

Project Screening

Apply to Full Project

Is this project within 1/2 mile of one of the following transit hubs? No

- Culver City Expo Station
- La Cienega/Jefferson Expo Station
- Westfield-Culver City Transit Center
- Sepulveda/Venice intersection

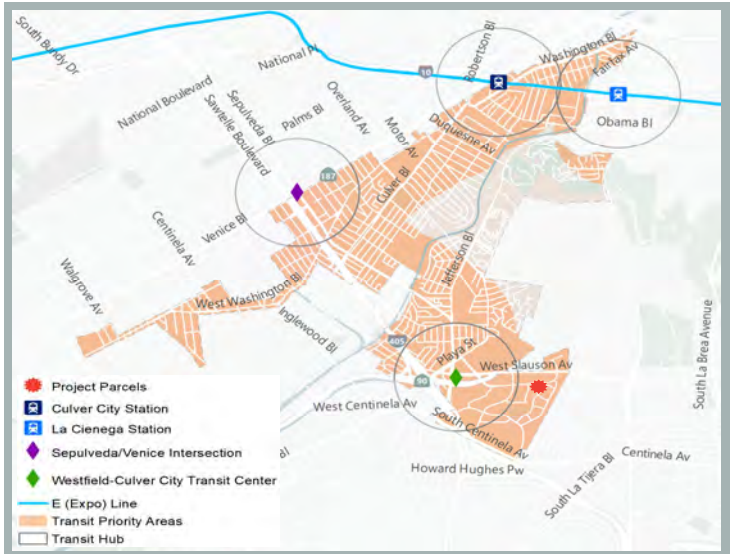
Is the project located within any TPA and are at least 15% of the on-site residential units are affordable? No

Does this project generate fewer than 250 daily trips? No

Apply to Specific Land Uses

Is the retail component of project fewer than 50,000 square feet in size at every store? Yes

Is this residential component of the project 100% affordable housing? No



Project Daily Trips 1,462

Project Land Use ?

Residential	Value (du)			
Single Family				
Multi-Family		282		
Affordable Housing				
Family		27		
Senior				
Special Needs				
Permanent Supportive				
Office	Value (ksf)			
Standard				
Medical	Value (ksf)			
Medical Office				
Hospital				
Industrial	Value (ksf)			
Light Industrial				
Manufacturing				
Warehousing / Self-Storage				
Movie Studio	Value (ksf)			
Office				
Post Production				
Stage				
Support				

The following land uses will require separate impact analysis (outside of this tool) if not screened out. Please leave the land uses in the table below if they are part of a mixed use project.

Retail	Value (ksf)
General	5,600
Supermarket	
Bank	
Health Club	
Gas Station	
Auto Repair	
Home Improvement Superstore	
Free-Standing Discount	
Restaurant Non-fast-food	
Restaurant Fast-food	
	Value (seats)
Theater w/ Matinee	
Hotel	Value (rooms)
Hotel	
Motel	
School	Value (students)
University	
High School	
Middle School	
Elementary	



Preliminary Results

Project: 5700 Hannum	Significant VMT Impact?					
	Daily Vehicle Trips	Daily VMT	Household VMT per Capita [?]	Work VMT per Employee [?]	Household Threshold = 15% below 8.3 (7.1)	Work Threshold = 15% below 10.1 (8.6)
Proposed Project	1,462	10,504	6.8	N/A	No	N/A
Project w/ Mitigation	1,462	10,504	6.8	N/A	No	N/A

Transportation Demand Management Strategies

Parking

Off-Street Parking Pricing

 proposed project

Applies to employees, residents, and/or visitors

	Employees	Residents	Visitors	
\$				Baseline Off-Street Cost (\$/space)
\$				Proposed Off-Street Cost (\$/space)

On-Street Parking Pricing

 proposed project

Applies to employees, residents, and/or visitors

	Employees	Residents	Visitors	
\$				Baseline On-Street Cost (\$/space)
\$				Proposed On-Street Cost (\$/space)

Parking Supply

 proposed project

Applies to residential land uses only

	Required Number of Spaces (for resident)
	Proposed Number of Spaces (for resident)

Transit

Transit Frequency

 proposed project

Applies to all land uses

	Baseline Frequency (minutes)
	Proposed Frequency (minutes)

Point-to-point Shuttles

 proposed project

Applies to employment uses only

Select to include in the project.

Last Mile Shuttles

 proposed project

Applies to employment uses only

Select to include in the project.

Commute Trip Reductions

Commute Marketing Program

 proposed project

Applies to employees, and/or residents

<input type="checkbox"/>	Employees
<input type="checkbox"/>	Residents

Financial Commuter Incentives

 proposed project

You may choose only one Financial Commuter Strategy, Commuter Incentives or Transit Subsidies.

Applies to employment uses only

<input type="checkbox"/>	Commuter Incentives	\$		per		Financial Incentive (\$/day or \$/month)
		\$		per		Average Baseline Commute Cost (\$/day or \$/month)

Applies to employees, and/or residents

<input type="checkbox"/>	Transit Subsidies	<input type="checkbox"/>	Employees		Percentage of Cost Subsidized
		<input type="checkbox"/>	Residents		Percentage of Cost Subsidized

Site Design

Pedestrian-Oriented Design

 proposed project

Applies to all land uses

Select to include in the project.



Project Name
5700 Hannum

Project Parcel(s)
4134005015

Project Screening		Yes/No	Yes/No
Is this project within 1/2 mile of one of the following transit hubs? - Culver City Expo Station - La Cienega/Jefferson Expo Station - Westfield-Culver City Transit Center - Sepulveda/Venice intersection		No	Does this project generate fewer than 250 daily trips? No
Is the project located within any TPA and are at least 15% of the on-site residential units are affordable?		No	Is the retail component of project fewer than 50,000 square feet in size at every store? Yes
			Is this residential component of the project 100% affordable housing? No

Analysis is required. This project does not meet screening criteria. No separate analysis is required for retail.

Project Land Use			
Residential	Value (du)	<i>The following land uses will require separate impact analysis (outside of this tool) if not screened out. Please leave the land uses in the table below if they are part of a mixed use project.</i>	
Single Family	0	Retail	Value (ksf)
Multi-Family	282	General	5.600
Affordable Housing		Supermarket	0.000
Family	27	Bank	0.000
Senior	0	Health Club	0.000
Special Needs	0	Gas Station	0.000
Permanent Supportive	0	Auto Repair	0.000
Office	Value (ksf)	Home Improvement Superstore	0.000
Standard	0.000	Free-Standing Discount	0.000
Medical	Value (ksf)	Restaurant Non-fast-food	0.000
Medical Office	0.000	Restaurant Fast-food	0.000
Hospital	0.000		Value (seats)
Industrial	Value (ksf)	Theater w/ Matinee	0.000
Light Industrial	0.000	Hotel	Value (rooms)
Manufacturing	0.000	Hotel	0
Warehousing / Self-Storage	0.000	Motel	0
Movie Studio	Value (ksf)	School	Value (students)
Office	0.000	University	0
Post Production	0.000	High School	0
Stage	0.000	Middle School	0
Support	0.000	Elementary	0

Proposed Project Summary										
	Total Daily		Household VMT				Work VMT			
	Trips	VMT	City VMT per capita	Project VMT per capita	Project vs. City Difference (%)	Significant VMT Impact?*	City VMT per employee	Project VMT per employee	Project vs. City Difference (%)	Significant VMT Impact?*
Proposed Project	1,462	10,504	8.3	6.8	-18.1%	No	10.1	N/A	N/A	N/A
Proposed Project w/ Mitigation	1,462	10,504	8.3	6.8	-18.1%	No	10.1	N/A	N/A	N/A

* A significant impact occurs unless the project metric is 15% or more below the City metric. For VMT per capita, the project metric must be below 7.1 for VMT per employee the project must be below 8.6.
























Appendix D

HCM Analysis Worksheets

HCM 6th Signalized Intersection Summary

1: Hannum Ave & Slauson Ave
























07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	240	48	40	518	613	104	702	285	172	182	29
Future Volume (veh/h)	40	240	48	40	518	613	104	702	285	172	182	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	261	52	43	563	666	113	763	0	187	198	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	1952	374	200	2317	719	705	852		247	381	
Arrive On Green	0.06	0.45	0.45	0.06	0.45	0.45	0.20	0.24	0.00	0.07	0.11	0.00
Sat Flow, veh/h	1781	4302	824	3456	5106	1585	3456	3554	1585	3456	3647	0
Grp Volume(v), veh/h	43	204	109	43	563	666	113	763	0	187	198	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1722	1728	1702	1585	1728	1777	1585	1728	1777	0
Q Serve(g_s), s	3.3	4.9	5.2	1.7	9.5	55.4	3.8	29.1	0.0	7.4	7.4	0.0
Cycle Q Clear(g_c), s	3.3	4.9	5.2	1.7	9.5	55.4	3.8	29.1	0.0	7.4	7.4	0.0
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	103	1545	781	200	2317	719	705	852		247	381	
V/C Ratio(X)	0.42	0.13	0.14	0.21	0.24	0.93	0.16	0.90		0.76	0.52	
Avail Cap(c_a), veh/h	129	1545	781	247	2317	719	705	932		264	949	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.7	22.2	22.3	62.9	23.5	36.0	45.9	51.5	0.0	63.8	59.1	0.0
Incr Delay (d2), s/veh	2.7	0.2	0.4	0.5	0.2	18.7	0.1	10.6	0.0	11.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	3.7	4.0	1.3	7.0	32.7	3.0	20.4	0.0	6.6	6.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.3	22.4	22.7	63.4	23.7	54.7	46.0	62.1	0.0	75.1	60.2	0.0
LnGrp LOS	E	C	C	E	C	D	D	E		E	E	
Approach Vol, veh/h		356			1272			876			385	
Approach Delay, s/veh		27.8			41.3			60.1			67.4	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	69.6	34.8	21.3	14.2	69.6	16.3	39.9				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3				
Max Green Setting (Gmax), s	* 10	* 58	10.0	37.4	* 10	* 58	10.7	36.7				
Max Q Clear Time (g_c+I1), s	3.7	7.2	5.8	9.4	5.3	57.4	9.4	31.1				
Green Ext Time (p_c), s	0.0	2.2	0.1	1.3	0.0	0.2	0.1	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			48.8									
HCM 6th LOS			D									
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	240	48	40	518	613	104	702	285	172	182	29
Future Volume (veh/h)	40	240	48	40	518	613	104	702	285	172	182	29
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	261	52	43	563	666	113	763	0	187	198	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	103	1952	374	200	2317	719	705	852		247	381	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.45	0.45	0.06	0.45	0.45	0.20	0.24	0.00	0.07	0.11	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	66.3	22.4	22.7	63.4	23.7	54.7	46.0	62.1	0.0	75.1	60.2	0.0
Ln Grp LOS	E	C	C	E	C	D	D	E		E	E	
Approach Vol, veh/h		356			1272			876			385	
Approach Delay, s/veh		27.8			41.3			60.1			67.4	
Approach LOS		C			D			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	4.0	4.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.2	69.6	21.3	34.8	14.2	69.6	16.3	39.9			
Change Period (Y+Rc), s		* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3			
Max Green (Gmax), s		* 10	* 58	37.4	10.0	* 10	* 58	10.7	36.7			
Max Allow Headway (MAH), s		3.8	5.3	5.2	3.8	3.8	4.6	3.8	5.2			
Max Q Clear (g_c+I1), s		3.7	7.2	9.4	5.8	5.3	57.4	9.4	31.1			
Green Ext Time (g_e), s		0.0	2.2	1.3	0.1	0.0	0.2	0.1	2.5			
Prob of Phs Call (p_c)		0.81	1.00	1.00	0.99	0.81	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.02	0.00	0.00	0.62	0.23	1.00	1.00	0.94			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	1781		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			4302	3647			5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			824	0			1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	43	0	0	113	43	0	187	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1781	0	1728	0
Q Serve Time (g_s), s	1.7	0.0	0.0	3.8	3.3	0.0	7.4	0.0
Cycle Q Clear Time (g_c), s	1.7	0.0	0.0	3.8	3.3	0.0	7.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	200	0	0	705	103	0	247	0
V/C Ratio (X)	0.21	0.00	0.00	0.16	0.42	0.00	0.76	0.00
Avail Cap (c_a), veh/h	247	0	0	705	129	0	264	0
Upstream Filter (I)	0.93	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	62.9	0.0	0.0	45.9	63.7	0.0	63.8	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.1	2.7	0.0	11.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.4	0.0	0.0	46.0	66.3	0.0	75.1	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.0	1.6	1.5	0.0	3.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	1.3	0.0	0.0	3.0	2.8	0.0	6.6	0.0
%ile Storage Ratio (RQ%)	0.16	0.00	0.00	0.38	0.65	0.00	0.84	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	2	2	0	0	3	0	2
Grp Vol (v), veh/h	0	204	198	0	0	563	0	763
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	4.9	7.4	0.0	0.0	9.5	0.0	29.1
Cycle Q Clear Time (g_c), s	0.0	4.9	7.4	0.0	0.0	9.5	0.0	29.1
Lane Grp Cap (c), veh/h	0	1545	381	0	0	2317	0	852
V/C Ratio (X)	0.00	0.13	0.52	0.00	0.00	0.24	0.00	0.90
Avail Cap (c_a), veh/h	0	1545	949	0	0	2317	0	932
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.93	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.2	59.1	0.0	0.0	23.5	0.0	51.5
Incr Delay (d2), s/veh	0.0	0.2	1.1	0.0	0.0	0.2	0.0	10.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.4	60.2	0.0	0.0	23.7	0.0	62.1
1st-Term Q (Q1), veh/ln	0.0	2.0	3.3	0.0	0.0	3.9	0.0	13.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.3

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.80	0.00	0.00	1.80	0.00	1.43
%ile Back of Q (95%), veh/ln	0.0	3.7	6.1	0.0	0.0	7.0	0.0	20.4
%ile Storage Ratio (RQ%)	0.00	0.27	0.74	0.00	0.00	0.31	0.00	2.27
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		T+R				R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	109	0	0	0	666	0	0
Grp Sat Flow (s), veh/h/ln	0	1722	0	0	0	1585	0	1585
Q Serve Time (g_s), s	0.0	5.2	0.0	0.0	0.0	55.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	0.0	0.0	55.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.48	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	781	0	0	0	719	0	380
V/C Ratio (X)	0.00	0.14	0.00	0.00	0.00	0.93	0.00	0.00
Avail Cap (c_a), veh/h	0	781	0	0	0	719	0	416
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.93	0.00	0.00
Uniform Delay (d1), s/veh	0.0	22.3	0.0	0.0	0.0	36.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	18.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.7	0.0	0.0	0.0	54.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	0.0	0.0	21.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	3.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	0.00	0.00	1.32	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	4.0	0.0	0.0	0.0	32.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.30	0.00	0.00	0.00	5.35	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	48.8
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑	↗	↖	↑	↗↘	↖	↘	
Traffic Volume (veh/h)	1	326	391	2365	917	0	191	0	1065	0	0	1
Future Volume (veh/h)	1	326	391	2365	917	0	191	0	1065	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	354	0	2571	997	0	208	0	1158	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	511		3284	2723	1214	214	0	2262	5	0	5
Arrive On Green	0.00	0.10	0.00	1.00	1.00	0.00	0.06	0.00	0.06	0.00	0.00	0.00
Sat Flow, veh/h	1781	5106	1585	5023	3554	1585	3563	0	3170	1781	0	1585
Grp Volume(v), veh/h	1	354	0	2571	997	0	208	0	1158	0	0	1
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1674	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.1	10.1	0.0	0.0	0.0	0.0	8.7	0.0	9.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	10.1	0.0	0.0	0.0	0.0	8.7	0.0	9.0	0.0	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	6	511		3284	2723	1214	214	0	2262	5	0	5
V/C Ratio(X)	0.16	0.69		0.78	0.37	0.00	0.97	0.00	0.51	0.00	0.00	0.21
Avail Cap(c_a), veh/h	154	1454		3284	2723	1214	214	0	2262	131	0	116
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.00	0.12	0.12	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	74.5	65.3	0.0	0.0	0.0	0.0	70.4	0.0	9.7	0.0	0.0	74.6
Incr Delay (d2), s/veh	11.0	1.7	0.0	0.2	0.0	0.0	53.7	0.0	0.2	0.0	0.0	20.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	7.9	0.0	0.1	0.0	0.0	9.5	0.0	13.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.5	66.9	0.0	0.2	0.0	0.0	124.1	0.0	9.9	0.0	0.0	95.3
LnGrp LOS	F	E		A	A	A	F	A	A	A	A	F
Approach Vol, veh/h		355		3568			1366					1
Approach Delay, s/veh		67.0		0.1			27.3					95.3
Approach LOS		E		A			C					F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	65.9	22.8		6.2	5.9	122.7		15.1				
Change Period (Y+Rc), s	7.8	* 7.8		* 5.8	5.4	7.8		6.1				
Max Green Setting (Gmax), s	43	* 43		* 11	13.0	91.9		9.0				
Max Q Clear Time (g_c+1), s	12.1	12.1		2.1	2.1	2.0		11.0				
Green Ext Time (p_c), s	23.3	2.5		0.0	0.0	9.6		0.0				

Intersection Summary

HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
2: Marina Fwy/Private Dwy & Slauson Ave
































07/19/2023

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	 				 		 	
Traffic Volume (veh/h)	1	326	391	2365	917	0	191	0	1065	0	0	1
Future Volume (veh/h)	1	326	391	2365	917	0	191	0	1065	0	0	1
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	354	0	2571	997	0	208	0	1158	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	6	511		3284	2723	1214	214	0	2262	5	0	5
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.10	0.00	1.00	1.00	0.00	0.06	0.00	0.06	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	85.5	66.9	0.0	0.2	0.0	0.0	124.1	0.0	9.9	0.0	0.0	95.3
Ln Grp LOS	F	E		A	A	A	F	A	A	A	A	F
Approach Vol, veh/h		355			3568			1366				1
Approach Delay, s/veh		67.0			0.1			27.3				95.3
Approach LOS		E			A			C				F
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	3.0	9.0	10.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		105.9	22.8	15.1	6.2	5.9	122.7					
Change Period (Y+Rc), s		7.8	* 7.8	6.1	* 5.8	5.4	7.8					
Max Green (Gmax), s		61.2	* 43	9.0	* 11	13.0	91.9					
Max Allow Headway (MAH), s		3.8	5.2	4.0	5.6	3.8	5.2					
Max Q Clear (g_c+I1), s		2.0	12.1	11.0	2.1	2.1	2.0					
Green Ext Time (g_e), s		23.3	2.5	0.0	0.0	0.0	9.6					
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.04	0.04	1.00					
Prob of Max Out (p_x)		0.11	0.00	1.00	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		5023		3563	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			5106	0	0		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			1585	3170	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Lanes in Grp	3	0	2	1	1	0	0	0
Grp Vol (v), veh/h	2571	0	208	0	1	0	0	0
Grp Sat Flow (s), veh/h/ln	1674	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	8.7	0.0	0.1	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	8.7	0.0	0.1	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	3284	0	214	5	6	0	0	0
V/C Ratio (X)	0.78	0.00	0.97	0.00	0.16	0.00	0.00	0.00
Avail Cap (c_a), veh/h	3284	0	214	131	154	0	0	0
Upstream Filter (I)	0.12	0.00	1.00	0.00	0.97	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	70.4	0.0	74.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	53.7	0.0	11.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.2	0.0	124.1	0.0	85.5	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.69	1.00	1.80	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.1	0.0	9.5	0.0	0.1	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.01	0.00	0.50	0.00	0.03	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	354	0	0	0	997	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	10.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	511	0	0	0	2723	0	0
V/C Ratio (X)	0.00	0.69	0.00	0.00	0.00	0.37	0.00	0.00
Avail Cap (c_a), veh/h	0	1454	0	0	0	2723	0	0
Upstream Filter (I)	0.00	0.97	0.00	0.00	0.00	0.12	0.00	0.00
Uniform Delay (d1), s/veh	0.0	65.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	66.9	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.76	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		R	R	T+R		R		
Lanes in Grp	0	1	2	1	0	1	0	0
Grp Vol (v), veh/h	0	0	1158	1	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	9.0	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	9.0	0.1	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	98.1	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	159	2262	5	0	1214	0	0
V/C Ratio (X)	0.00	0.00	0.51	0.21	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	451	2262	116	0	1214	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	9.7	74.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	20.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	9.9	95.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.57	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	13.0	0.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.68	0.02	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑↑		↖↗	↑	↗		↖↗	
Traffic Volume (veh/h)	14	1107	272	51	3028	22	232	8	43	4	3	6
Future Volume (veh/h)	14	1107	272	51	3028	22	232	8	43	4	3	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1203	296	55	3291	24	252	0	53	4	3	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	3299	1024	207	2566	19	242	0	406	69	52	106
Arrive On Green	0.42	1.00	1.00	0.12	0.98	0.98	0.07	0.00	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1781	5106	1585	3456	5230	38	3563	0	3170	1039	779	1585
Grp Volume(v), veh/h	15	1203	296	55	2139	1176	252	0	53	7	0	7
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1864	1781	0	1585	1818	0	1585
Q Serve(g_s), s	0.7	0.0	0.0	2.2	73.6	73.6	10.2	0.0	2.2	0.5	0.0	0.6
Cycle Q Clear(g_c), s	0.7	0.0	0.0	2.2	73.6	73.6	10.2	0.0	2.2	0.5	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.57		1.00
Lane Grp Cap(c), veh/h	376	3299	1024	207	1670	914	242	0	406	121	0	106
V/C Ratio(X)	0.04	0.36	0.29	0.27	1.28	1.29	1.04	0.00	0.13	0.06	0.00	0.07
Avail Cap(c_a), veh/h	376	3299	1024	230	1670	914	242	0	406	388	0	338
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	0.36	0.36	0.36	0.99	0.00	0.99	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	0.0	63.0	1.4	1.4	69.9	0.0	58.0	65.6	0.0	65.6
Incr Delay (d2), s/veh	0.0	0.3	0.6	0.2	128.2	131.6	68.4	0.0	0.1	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.1	0.3	1.7	42.7	47.7	11.4	0.0	1.6	0.5	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	0.3	0.6	63.3	129.6	133.0	138.3	0.0	58.2	65.8	0.0	65.9
LnGrp LOS	C	A	A	E	F	F	F	A	E	E	A	E
Approach Vol, veh/h		1514			3370			305				14
Approach Delay, s/veh		0.7			129.7			124.4				65.8
Approach LOS		A			F			F				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.2	103.0		15.8	37.8	80.4		16.0				
Change Period (Y+Rc), s	6.2	6.1		* 5.8	6.1	* 6.8		5.8				
Max Green Setting (Gmax), s	10.0	73.9		* 32	10.0	* 74		10.2				
Max Q Clear Time (g_c+1), s	10.0	2.0		2.6	2.7	75.6		12.2				
Green Ext Time (p_c), s	0.0	14.7		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	91.7
HCM 6th LOS	F

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1107	272	51	3028	22	232	8	43	4	3	6
Future Volume (veh/h)	14	1107	272	51	3028	22	232	8	43	4	3	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1203	296	55	3291	24	252	0	53	4	3	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	376	3299	1024	207	2566	19	242	0	406	69	52	106
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.42	1.00	1.00	0.12	0.98	0.98	0.07	0.00	0.07	0.07	0.07	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	34.4	0.3	0.6	63.3	129.6	133.0	138.3	0.0	58.2	65.8	0.0	65.9
Ln Grp LOS	C	A	A	E	F	F	F	A	E	E	A	E
Approach Vol, veh/h		1514			3370			305			14	
Approach Delay, s/veh		0.7			129.7			124.4			65.8	
Approach LOS		A			F			F			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	6	5					
Case No		2.0	3.0	9.0	12.0	4.0	2.0					
Phs Duration (G+Y+Rc), s		15.2	103.0	16.0	15.8	80.4	37.8					
Change Period (Y+Rc), s		6.2	6.1	5.8	* 5.8	* 6.8	6.1					
Max Green (Gmax), s		10.0	73.9	10.2	* 32	* 74	10.0					
Max Allow Headway (MAH), s		3.8	5.0	3.9	5.4	5.2	3.8					
Max Q Clear (g_c+I1), s		4.2	2.0	12.2	2.6	75.6	2.7					
Green Ext Time (g_e), s		0.0	14.7	0.0	0.0	0.0	0.0					
Prob of Phs Call (p_c)		0.90	1.00	1.00	1.00	1.00	0.46					
Prob of Max Out (p_x)		0.05	0.01	1.00	0.00	1.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7		5					
Mvmt Sat Flow, veh/h		3456		3563	1039		1781					
Through Movement Data												
Assigned Mvmt			2	8	4	6						
Mvmt Sat Flow, veh/h			5106	0	779	5230						
Right-Turn Movement Data												
Assigned Mvmt			12	18	14	16						
Mvmt Sat Flow, veh/h			1585	3170	1585	38						
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	0	5	0	0			
Lane Assignment		L (Prot)		L	L+T		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023

Lanes in Grp	2	0	2	1	0	1	0	0
Grp Vol (v), veh/h	55	0	252	7	0	15	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	1818	0	1781	0	0
Q Serve Time (g_s), s	2.2	0.0	10.2	0.5	0.0	0.7	0.0	0.0
Cycle Q Clear Time (g_c), s	2.2	0.0	10.2	0.5	0.0	0.7	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.57	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	207	0	242	121	0	376	0	0
V/C Ratio (X)	0.27	0.00	1.04	0.06	0.00	0.04	0.00	0.00
Avail Cap (c_a), veh/h	230	0	242	388	0	376	0	0
Upstream Filter (I)	0.36	0.00	0.99	1.00	0.00	0.83	0.00	0.00
Uniform Delay (d1), s/veh	63.0	0.0	69.9	65.6	0.0	34.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	68.4	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.3	0.0	138.3	65.8	0.0	34.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	4.7	0.3	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.64	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	1.7	0.0	11.4	0.5	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	1.35	0.06	0.00	0.15	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	3	0	0	2	0	0	0
Grp Vol (v), veh/h	0	1203	0	0	2139	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	1702	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	73.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	73.6	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	3299	0	0	1670	0	0	0
V/C Ratio (X)	0.00	0.36	0.00	0.00	1.28	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	3299	0	0	1670	0	0	0
Upstream Filter (I)	0.00	0.83	0.00	0.00	0.36	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	128.2	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	0.0	129.6	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	29.7	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	1.41	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	42.7	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.63	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	117.3	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	16	0	0	0
Lane Assignment		R	R	T+R	T+R			
Lanes in Grp	0	1	2	1	1	0	0	0
Grp Vol (v), veh/h	0	296	53	7	1176	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	1864	0	0	0
Q Serve Time (g_s), s	0.0	0.0	2.2	0.6	73.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	2.2	0.6	73.6	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.02	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1024	406	106	914	0	0	0
V/C Ratio (X)	0.00	0.29	0.13	0.07	1.29	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1024	406	338	914	0	0	0
Upstream Filter (I)	0.00	0.83	0.99	1.00	0.36	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	58.0	65.6	1.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.1	0.3	131.6	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.6	58.2	65.9	133.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.9	0.3	0.6	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	33.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.80	1.80	1.40	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.3	1.6	0.5	47.7	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.10	0.06	0.70	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	65.3	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	91.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑		↖	↖	↗	↖	↖	↗
Traffic Volume (veh/h)	46	989	41	199	2841	54	118	32	157	12	4	24
Future Volume (veh/h)	46	989	41	199	2841	54	118	32	157	12	4	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	1075	45	216	3088	59	128	0	194	13	0	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	3512	1090	265	3644	69	205	0	603	183	0	359
Arrive On Green	0.12	1.00	1.00	0.08	0.71	0.71	0.11	0.00	0.11	0.11	0.00	0.11
Sat Flow, veh/h	3456	5106	1585	3456	5159	98	1381	0	3170	1189	0	3170
Grp Volume(v), veh/h	50	1075	45	216	2031	1116	128	0	194	13	0	29
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1853	1381	0	1585	1189	0	1585
Q Serve(g_s), s	2.0	0.0	0.0	9.2	65.2	66.7	13.6	0.0	7.9	1.5	0.0	1.2
Cycle Q Clear(g_c), s	2.0	0.0	0.0	9.2	65.2	66.7	13.6	0.0	7.9	1.5	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	3512	1090	265	2404	1309	205	0	603	183	0	359
V/C Ratio(X)	0.25	0.31	0.04	0.81	0.84	0.85	0.63	0.00	0.32	0.07	0.00	0.08
Avail Cap(c_a), veh/h	230	3512	1090	366	2404	1309	390	0	1028	342	0	784
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.93	0.93	0.93	1.00	1.00	1.00	0.99	0.00	0.99	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.3	0.0	0.0	68.2	16.0	16.3	65.0	0.0	52.4	59.6	0.0	59.5
Incr Delay (d2), s/veh	0.6	0.2	0.1	9.5	3.9	7.2	3.1	0.0	0.3	0.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	0.1	0.0	7.9	33.0	37.7	8.6	0.0	5.8	0.8	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	0.2	0.1	77.7	19.9	23.5	68.1	0.0	52.7	59.8	0.0	59.6
LnGrp LOS	E	A	A	E	B	C	E	A	D	E	A	E
Approach Vol, veh/h		1170			3363			322				42
Approach Delay, s/veh		2.9			24.8			58.8				59.7
Approach LOS		A			C			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	109.3		22.9	15.1	112.0		22.9				
Change Period (Y+Rc), s	6.3	6.1		* 5.9	6.3	6.1		* 5.9				
Max Green Setting (Gmax), s	15.9	78.7		* 37	10.0	84.6		* 37				
Max Q Clear Time (g_c+M), s	15.9	2.0		15.6	4.0	68.7		3.5				
Green Ext Time (p_c), s	0.3	10.7		1.1	0.0	15.2		0.1				

Intersection Summary

























HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	989	41	199	2841	54	118	32	157	12	4	24
Future Volume (veh/h)	46	989	41	199	2841	54	118	32	157	12	4	24
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	1075	45	216	3088	59	128	0	194	13	0	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	202	3512	1090	265	3644	69	205	0	603	183	0	359
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	1.00	1.00	0.08	0.71	0.71	0.11	0.00	0.11	0.11	0.00	0.11
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.8	0.2	0.1	77.7	19.9	23.5	68.1	0.0	52.7	59.8	0.0	59.6
Ln Grp LOS	E	A	A	E	B	C	E	A	D	E	A	E
Approach Vol, veh/h		1170			3363			322			42	
Approach Delay, s/veh		2.9			24.8			58.8			59.7	
Approach LOS		A			C			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		17.8	109.3		22.9	15.1	112.0		22.9			
Change Period (Y+Rc), s		6.3	6.1		* 5.9	6.3	6.1		* 5.9			
Max Green (Gmax), s		15.9	78.7		* 37	10.0	84.6		* 37			
Max Allow Headway (MAH), s		3.8	5.2		4.0	3.8	5.2		4.1			
Max Q Clear (g_c+I1), s		11.2	2.0		15.6	4.0	68.7		3.5			
Green Ext Time (g_e), s		0.3	10.7		1.1	0.0	15.2		0.1			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.88	1.00		1.00			
Prob of Max Out (p_x)		0.49	0.00		0.00	0.04	0.96		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1381	3456			1189			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		0		5159		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		3170		98		3170			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	1	2	0	0	1
Grp Vol (v), veh/h	216	0	0	128	50	0	0	13
Grp Sat Flow (s), veh/h/ln	1728	0	0	1381	1728	0	0	1189
Q Serve Time (g_s), s	9.2	0.0	0.0	13.6	2.0	0.0	0.0	1.5
Cycle Q Clear Time (g_c), s	9.2	0.0	0.0	13.6	2.0	0.0	0.0	1.5
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1381	0	0	0	1189
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	17.0	0.0	0.0	0.0	17.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	17.0	0.0	0.0	0.0	17.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	13.6	0.0	0.0	0.0	1.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	265	0	0	205	202	0	0	183
V/C Ratio (X)	0.81	0.00	0.00	0.63	0.25	0.00	0.00	0.07
Avail Cap (c_a), veh/h	366	0	0	390	230	0	0	342
Upstream Filter (I)	1.00	0.00	0.00	0.99	0.93	0.00	0.00	1.00
Uniform Delay (d1), s/veh	68.2	0.0	0.0	65.0	63.3	0.0	0.0	59.6
Incr Delay (d2), s/veh	9.5	0.0	0.0	3.1	0.6	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	77.7	0.0	0.0	68.1	63.8	0.0	0.0	59.8
1st-Term Q (Q1), veh/ln	4.1	0.0	0.0	4.8	0.9	0.0	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.78	0.00	0.00	1.73	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	7.9	0.0	0.0	8.6	1.6	0.0	0.0	0.8
%ile Storage Ratio (RQ%)	0.68	0.00	0.00	1.46	0.26	0.00	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1075	0	0	0	2031	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	65.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	65.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	3512	0	0	0	2404	0	0
V/C Ratio (X)	0.00	0.31	0.00	0.00	0.00	0.84	0.00	0.00
Avail Cap (c_a), veh/h	0	3512	0	0	0	2404	0	0
Upstream Filter (I)	0.00	0.93	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	3.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	19.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	23.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	1.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.33	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	0.0	33.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	2.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	45	0	194	0	1116	0	29
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1853	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	7.9	0.0	66.7	0.0	1.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	7.9	0.0	66.7	0.0	1.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	11.5	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.05	0.00	1.00
Lane Grp Cap (c), veh/h	0	1090	0	603	0	1309	0	359
V/C Ratio (X)	0.00	0.04	0.00	0.32	0.00	0.85	0.00	0.08
Avail Cap (c_a), veh/h	0	1090	0	1028	0	1309	0	784
Upstream Filter (I)	0.00	0.93	0.00	0.99	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.4	0.0	16.3	0.0	59.5
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	7.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	52.7	0.0	23.5	0.0	59.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.2	0.0	26.3	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.31	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	5.8	0.0	37.7	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.98	0.00	2.33	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	229	42	40	534	7	264	6	30	0	0	0
Future Volume (veh/h)	2	229	42	40	534	7	264	6	30	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	249	46	43	580	8	287	7	33	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	2161	393	800	2450	34	328	8	299	0	2	0
Arrive On Green	0.00	0.72	0.72	0.68	0.68	0.68	0.19	0.19	0.19	0.00	0.00	0.00
Sat Flow, veh/h	1781	3003	546	1084	3589	49	1741	42	1585	0	1870	0
Grp Volume(v), veh/h	2	146	149	43	287	301	294	0	33	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1772	1084	1777	1861	1783	0	1585	0	1870	0
Q Serve(g_s), s	0.1	3.0	3.1	1.6	7.3	7.3	19.2	0.0	2.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	3.0	3.1	1.6	7.3	7.3	19.2	0.0	2.1	0.0	0.0	0.0
Prop In Lane	1.00		0.31	1.00		0.03	0.98		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	7	1279	1275	800	1213	1271	336	0	299	0	2	0
V/C Ratio(X)	0.30	0.11	0.12	0.05	0.24	0.24	0.87	0.00	0.11	0.00	0.00	0.00
Avail Cap(c_a), veh/h	113	1279	1275	800	1213	1271	484	0	431	0	436	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.57	0.57	0.57	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	59.6	5.1	5.1	6.3	7.2	7.2	47.3	0.0	40.3	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.0	0.2	0.2	0.1	0.3	0.3	11.8	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	2.0	2.0	0.6	4.8	4.9	14.7	0.0	1.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.6	5.3	5.3	6.4	7.5	7.5	59.1	0.0	40.5	0.0	0.0	0.0
LnGrp LOS	F	A	A	A	A	A	E	A	D	A	A	A
Approach Vol, veh/h		297		631		327		0				
Approach Delay, s/veh		5.8		7.4		57.2		0.0				
Approach LOS		A		A		E						
Timer - Assigned Phs	1	2	4	6	8							
Phs Duration (G+Y+Rc), s	4.5	87.5	0.0	92.0	28.0							
Change Period (Y+Rc), s	4.0	5.6	* 5	* 5.6	5.4							
Max Green Setting (Gmax), s	31.8		* 28	* 44	32.6							
Max Q Clear Time (g_c+1), s	9.3		0.0	5.1	21.2							
Green Ext Time (p_c), s	0.0	3.8	0.0	1.9	1.4							

Intersection Summary

HCM 6th Ctrl Delay	20.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕	↗		↕	
Traffic Volume (veh/h)	2	229	42	40	534	7	264	6	30	0	0	0
Future Volume (veh/h)	2	229	42	40	534	7	264	6	30	0	0	0
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	249	46	43	580	8	287	7	33	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	7	2161	393	800	2450	34	328	8	299	0	2	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.72	0.72	0.68	0.68	0.68	0.19	0.19	0.19	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	82.6	5.3	5.3	6.4	7.5	7.5	59.1	0.0	40.5	0.0	0.0	0.0
Ln Grp LOS	F	A	A	A	A	A	E	A	D	A	A	A
Approach Vol, veh/h		297			631			327				0
Approach Delay, s/veh		5.8			7.4			57.2				0.0
Approach LOS		A			A			E				
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4		6					
Case No		2.0	6.3	11.0	12.0		4.0					
Phs Duration (G+Y+Rc), s		4.5	87.5	28.0	0.0		92.0					
Change Period (Y+Rc), s		4.0	5.6	5.4	* 5		* 5.6					
Max Green (Gmax), s		7.6	31.8	32.6	* 28		* 44					
Max Allow Headway (MAH), s		3.8	5.2	5.2	0.0		5.3					
Max Q Clear (g_c+I1), s		2.1	9.3	21.2	0.0		5.1					
Green Ext Time (g_e), s		0.0	3.8	1.4	0.0		1.9					
Prob of Phs Call (p_c)		0.06	1.00	1.00	0.00		1.00					
Prob of Max Out (p_x)		0.01	0.03	0.11	0.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5	3	7							
Mvmt Sat Flow, veh/h		1781	1084	1741	0							
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3589	42	1870		3003					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			49	1585	0		546					
Left Lane Group Data												
Assigned Mvmt		1	5	3	7	0	0	0	0			
Lane Assignment		L (Prot)	L	L+T								

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

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Lanes in Grp	1	1	1	0	0	0	0	0
Grp Vol (v), veh/h	2	43	294	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	1084	1783	0	0	0	0	0
Q Serve Time (g_s), s	0.1	1.6	19.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	1.6	19.2	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1084	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	81.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	81.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.98	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	7	800	336	0	0	0	0	0
V/C Ratio (X)	0.30	0.05	0.87	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	113	800	484	0	0	0	0	0
Upstream Filter (I)	1.00	0.57	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	59.6	6.3	47.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.0	0.1	11.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	82.6	6.4	59.1	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.1	0.3	8.5	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	1.53	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.2	0.6	14.7	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.04	0.10	0.28	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T		T		T		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	287	0	0	0	146	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	7.3	0.0	0.0	0.0	3.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.3	0.0	0.0	0.0	3.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1213	0	2	0	1279	0	0
V/C Ratio (X)	0.00	0.24	0.00	0.00	0.00	0.11	0.00	0.00
Avail Cap (c_a), veh/h	0	1213	0	436	0	1279	0	0
Upstream Filter (I)	0.00	0.57	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.2	0.0	0.0	0.0	5.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.5	0.0	0.0	0.0	5.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.6	0.0	0.0	0.0	1.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.75	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	4.8	0.0	0.0	0.0	2.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.00	0.00	0.16	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	301	33	0	0	149	0	0
Grp Sat Flow (s), veh/h/ln	0	1861	1585	0	0	1772	0	0
Q Serve Time (g_s), s	0.0	7.3	2.1	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.3	2.1	0.0	0.0	3.1	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.03	1.00	0.00	0.00	0.31	0.00	0.00
Lane Grp Cap (c), veh/h	0	1271	299	0	0	1275	0	0
V/C Ratio (X)	0.00	0.24	0.11	0.00	0.00	0.12	0.00	0.00
Avail Cap (c_a), veh/h	0	1271	431	0	0	1275	0	0
Upstream Filter (I)	0.00	0.57	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.2	40.3	0.0	0.0	5.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.5	40.5	0.0	0.0	5.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.8	0.8	0.0	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.73	1.80	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	4.9	1.5	0.0	0.0	2.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.14	0.00	0.00	0.17	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.0
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
6: Bristol Pkwy & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	137	83	35	392	41	328	256	55	70	152	25
Future Volume (veh/h)	6	137	83	35	392	41	328	256	55	70	152	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	149	90	38	426	45	357	278	60	76	165	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	563	251	199	563	251	398	1910	406	202	1502	241
Arrive On Green	0.16	0.16	0.16	0.05	0.05	0.05	0.07	0.22	0.22	0.06	0.49	0.49
Sat Flow, veh/h	922	3554	1585	1141	3554	1585	1781	2916	620	3456	3066	493
Grp Volume(v), veh/h	7	149	90	38	426	45	357	168	170	76	94	98
Grp Sat Flow(s),veh/h/ln	922	1777	1585	1141	1777	1585	1781	1777	1759	1728	1777	1782
Q Serve(g_s), s	0.9	4.4	6.1	3.9	14.2	3.3	23.9	9.2	9.4	2.5	3.4	3.5
Cycle Q Clear(g_c), s	15.1	4.4	6.1	8.3	14.2	3.3	23.9	9.2	9.4	2.5	3.4	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		0.28
Lane Grp Cap(c), veh/h	97	563	251	199	563	251	398	1164	1152	202	871	873
V/C Ratio(X)	0.07	0.26	0.36	0.19	0.76	0.18	0.90	0.14	0.15	0.38	0.11	0.11
Avail Cap(c_a), veh/h	200	959	428	326	959	428	594	1164	1152	547	871	873
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	0.53	0.53	0.53	0.97	0.97	0.97
Uniform Delay (d), s/veh	55.7	44.4	45.1	53.9	54.6	49.4	54.2	19.8	19.9	54.4	16.5	16.5
Incr Delay (d2), s/veh	0.3	0.2	0.9	0.5	2.1	0.3	6.8	0.1	0.1	1.1	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	3.6	4.4	2.2	11.3	2.4	16.4	6.7	6.8	2.0	2.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	44.6	45.9	54.4	56.7	49.7	61.1	20.0	20.1	55.5	16.7	16.8
LnGrp LOS	E	D	D	D	E	D	E	B	C	E	B	B
Approach Vol, veh/h		246			509			695			268	
Approach Delay, s/veh		45.4			55.9			41.1			27.7	
Approach LOS		D			E			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	84.4		24.6	30.8	64.6		24.6				
Change Period (Y+Rc), s	4.0	5.8		* 5.6	4.0	5.8		* 5.6				
Max Green Setting (Gmax), s	19.0	53.2		* 32	40.0	32.2		* 32				
Max Q Clear Time (g_c+14), s	11.4	11.4		17.1	25.9	5.5		16.2				
Green Ext Time (p_c), s	0.1	2.2		1.0	0.9	1.1		2.8				

Intersection Summary
























HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	137	83	35	392	41	328	256	55	70	152	25
Future Volume (veh/h)	6	137	83	35	392	41	328	256	55	70	152	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	149	90	38	426	45	357	278	60	76	165	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	97	563	251	199	563	251	398	1910	406	202	1502	241
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.16	0.16	0.16	0.05	0.05	0.05	0.07	0.22	0.22	0.06	0.49	0.49
Unsig. Movement Delay												
Ln Grp Delay, s/veh	56.0	44.6	45.9	54.4	56.7	49.7	61.1	20.0	20.1	55.5	16.7	16.8
Ln Grp LOS	E	D	D	D	E	D	E	B	C	E	B	B
Approach Vol, veh/h		246			509			695			268	
Approach Delay, s/veh		45.4			55.9			41.1			27.7	
Approach LOS		D			E			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		11.0	84.4		24.6	30.8	64.6		24.6			
Change Period (Y+Rc), s		4.0	5.8		* 5.6	4.0	5.8		* 5.6			
Max Green (Gmax), s		19.0	53.2		* 32	40.0	32.2		* 32			
Max Allow Headway (MAH), s		3.8	5.3		4.8	3.8	5.3		5.1			
Max Q Clear (g_c+I1), s		4.5	11.4		17.1	25.9	5.5		16.2			
Green Ext Time (g_e), s		0.1	2.2		1.0	0.9	1.1		2.8			
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.04			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			922	1781			1141			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2916		3554		3066		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			620		1585		493		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis
 6: Bristol Pkwy & Hannum Ave

07/19/2023

Lanes in Grp	2	0	0	1	1	0	0	1
Grp Vol (v), veh/h	76	0	0	7	357	0	0	38
Grp Sat Flow (s), veh/h/ln	1728	0	0	922	1781	0	0	1141
Q Serve Time (g_s), s	2.5	0.0	0.0	0.9	23.9	0.0	0.0	3.9
Cycle Q Clear Time (g_c), s	2.5	0.0	0.0	15.1	23.9	0.0	0.0	8.3
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	922	0	0	0	1141
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	19.0	0.0	0.0	0.0	19.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	4.8	0.0	0.0	0.0	14.6
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	3.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	202	0	0	97	398	0	0	199
V/C Ratio (X)	0.38	0.00	0.00	0.07	0.90	0.00	0.00	0.19
Avail Cap (c_a), veh/h	547	0	0	200	594	0	0	326
Upstream Filter (I)	0.97	0.00	0.00	1.00	0.53	0.00	0.00	0.99
Uniform Delay (d1), s/veh	54.4	0.0	0.0	55.7	54.2	0.0	0.0	53.9
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.3	6.8	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	55.5	0.0	0.0	56.0	61.1	0.0	0.0	54.4
1st-Term Q (Q1), veh/ln	1.1	0.0	0.0	0.2	11.4	0.0	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.34	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	2.0	0.0	0.0	0.4	16.4	0.0	0.0	2.2
%ile Storage Ratio (RQ%)	0.27	0.00	0.00	0.07	2.08	0.00	0.00	0.28
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	168	0	149	0	94	0	426
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	9.2	0.0	4.4	0.0	3.4	0.0	14.2
Cycle Q Clear Time (g_c), s	0.0	9.2	0.0	4.4	0.0	3.4	0.0	14.2
Lane Grp Cap (c), veh/h	0	1164	0	563	0	871	0	563
V/C Ratio (X)	0.00	0.14	0.00	0.26	0.00	0.11	0.00	0.76
Avail Cap (c_a), veh/h	0	1164	0	959	0	871	0	959
Upstream Filter (I)	0.00	0.53	0.00	1.00	0.00	0.97	0.00	0.99
Uniform Delay (d1), s/veh	0.0	19.8	0.0	44.4	0.0	16.5	0.0	54.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.2	0.0	2.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	44.6	0.0	16.7	0.0	56.7
1st-Term Q (Q1), veh/ln	0.0	4.2	0.0	2.0	0.0	1.4	0.0	6.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis
 6: Bristol Pkwy & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.58	0.00	1.80	0.00	1.80	0.00	1.62
%ile Back of Q (95%), veh/ln	0.0	6.7	0.0	3.6	0.0	2.6	0.0	11.3
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.11	0.00	0.15	0.00	0.50
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	170	0	90	0	98	0	45
Grp Sat Flow (s), veh/h/ln	0	1759	0	1585	0	1782	0	1585
Q Serve Time (g_s), s	0.0	9.4	0.0	6.1	0.0	3.5	0.0	3.3
Cycle Q Clear Time (g_c), s	0.0	9.4	0.0	6.1	0.0	3.5	0.0	3.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.35	0.00	1.00	0.00	0.28	0.00	1.00
Lane Grp Cap (c), veh/h	0	1152	0	251	0	873	0	251
V/C Ratio (X)	0.00	0.15	0.00	0.36	0.00	0.11	0.00	0.18
Avail Cap (c_a), veh/h	0	1152	0	428	0	873	0	428
Upstream Filter (I)	0.00	0.53	0.00	1.00	0.00	0.97	0.00	0.99
Uniform Delay (d1), s/veh	0.0	19.9	0.0	45.1	0.0	16.5	0.0	49.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.9	0.0	0.3	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.1	0.0	45.9	0.0	16.8	0.0	49.7
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	2.4	0.0	1.5	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.57	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	6.8	0.0	4.4	0.0	2.7	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.13	0.00	0.16	0.00	0.28
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	162	28	34	475	22	5	0	5	2	0	4
Future Volume (veh/h)	30	162	28	34	475	22	5	0	5	2	0	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	176	30	37	516	24	5	0	5	2	0	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	776	2655	1184	997	2669	1191	171	0	120	173	0	132
Arrive On Green	0.04	0.75	0.75	0.08	1.00	1.00	0.08	0.00	0.08	0.08	0.00	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1336	0	1442	1357	0	1585
Grp Volume(v), veh/h	33	176	30	37	516	24	5	0	5	2	0	4
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1336	0	1442	1357	0	1585
Q Serve(g_s), s	0.5	1.6	0.6	0.5	0.0	0.0	0.4	0.0	0.4	0.2	0.0	0.3
Cycle Q Clear(g_c), s	0.5	1.6	0.6	0.5	0.0	0.0	0.9	0.0	0.4	0.5	0.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	776	2655	1184	997	2669	1191	171	0	120	173	0	132
V/C Ratio(X)	0.04	0.07	0.03	0.04	0.19	0.02	0.03	0.00	0.04	0.01	0.00	0.03
Avail Cap(c_a), veh/h	914	2655	1184	1128	2669	1191	395	0	349	397	0	383
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	2.8	4.0	3.9	2.6	0.0	0.0	51.1	0.0	50.6	50.8	0.0	50.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	1.0	0.3	0.3	0.1	0.0	0.3	0.0	0.3	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.8	4.1	4.0	2.7	0.2	0.0	51.2	0.0	50.7	50.9	0.0	50.6
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h	239		577				10		6			
Approach Delay, s/veh	3.9		0.3				50.9		50.7			
Approach LOS	A		A				D		D			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	7.7	95.7	15.6		9.2	95.2	15.6					
Change Period (Y+Rc), s	4.0	5.6	5.6		* 4.2	* 5.6	5.6					
Max Green Setting (Gmax), s	14.0	61.8	29.0		* 14	* 62	29.0					
Max Q Clear Time (g_c+1), s	12.5	2.0	2.5		2.5	3.6	2.9					
Green Ext Time (p_c), s	0.0	4.1	0.0		0.0	1.3	0.0					

Intersection Summary

HCM 6th Ctrl Delay	2.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↘	↙	↕	↘		↕			↕	↘
Traffic Volume (veh/h)	30	162	28	34	475	22	5	0	5	2	0	4
Future Volume (veh/h)	30	162	28	34	475	22	5	0	5	2	0	4
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	176	30	37	516	24	5	0	5	2	0	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	776	2655	1184	997	2669	1191	171	0	120	173	0	132
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.75	0.75	0.08	1.00	1.00	0.08	0.00	0.08	0.08	0.00	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	2.8	4.1	4.0	2.7	0.2	0.0	51.2	0.0	50.7	50.9	0.0	50.6
Ln Grp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h		239			577			10			6	
Approach Delay, s/veh		3.9			0.3			50.9			50.7	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		1.1	3.0		7.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		8.7	95.7		15.6	9.2	95.2		15.6			
Change Period (Y+Rc), s		4.0	5.6		5.6	* 4.2	* 5.6		5.6			
Max Green (Gmax), s		14.0	61.8		29.0	* 14	* 62		29.0			
Max Allow Headway (MAH), s		3.8	5.2		4.5	3.8	5.1		5.4			
Max Q Clear (g_c+I1), s		2.5	2.0		2.5	2.5	3.6		2.9			
Green Ext Time (g_e), s		0.0	4.1		0.0	0.0	1.3		0.0			
Prob of Phs Call (p_c)		0.67	1.00		1.00	0.71	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1357	1781			1336			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		0		3554		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1442			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Pr/Pm)			L+TL (Pr/Pm)			L+T				

HCM 6th Signalized Intersection Capacity Analysis
 7: Uplander Way & Hannum Ave

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Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	33	0	0	2	37	0	0	5
Grp Sat Flow (s), veh/h/ln	1781	0	0	1357	1781	0	0	1336
Q Serve Time (g_s), s	0.5	0.0	0.0	0.2	0.5	0.0	0.0	0.4
Cycle Q Clear Time (g_c), s	0.5	0.0	0.0	0.5	0.5	0.0	0.0	0.9
Perm LT Sat Flow (s_l), veh/h/ln	866	0	0	1434	1176	0	0	1435
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	89.6	0.0	0.0	10.0	89.6	0.0	0.0	10.0
Perm LT Serve Time (g_u), s	89.6	0.0	0.0	9.6	88.1	0.0	0.0	9.5
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	776	0	0	173	997	0	0	171
V/C Ratio (X)	0.04	0.00	0.00	0.01	0.04	0.00	0.00	0.03
Avail Cap (c_a), veh/h	914	0	0	397	1128	0	0	395
Upstream Filter (I)	0.97	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	2.8	0.0	0.0	50.8	2.6	0.0	0.0	51.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	2.8	0.0	0.0	50.9	2.7	0.0	0.0	51.2
1st-Term Q (Q1), veh/ln	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.3	0.0	0.0	0.1	0.3	0.0	0.0	0.3
%ile Storage Ratio (RQ%)	0.13	0.00	0.00	0.04	0.05	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	516	0	0	0	176	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	2669	0	0	0	2655	0	0
V/C Ratio (X)	0.00	0.19	0.00	0.00	0.00	0.07	0.00	0.00
Avail Cap (c_a), veh/h	0	2669	0	0	0	2655	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.97	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	4.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	0.0	1.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	24	0	4	0	30	0	5
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1442
Q Serve Time (g_s), s	0.0	0.0	0.0	0.3	0.0	0.6	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.3	0.0	0.6	0.0	0.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1191	0	132	0	1184	0	120
V/C Ratio (X)	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
Avail Cap (c_a), veh/h	0	1191	0	383	0	1184	0	349
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.97	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	50.5	0.0	3.9	0.0	50.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	50.6	0.0	4.0	0.0	50.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.08	0.00	0.09	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	2.3
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	83	66	42	233	6	327	8	150	0	0	0
Future Volume (veh/h)	1	83	66	42	233	6	327	8	150	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	90	72	46	253	7	355	9	163	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	2143	956	864	2098	936	459	419	427	0	419	0
Arrive On Green	0.06	0.60	0.60	0.05	0.59	0.59	0.22	0.22	0.22	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	0	1870	0
Grp Volume(v), veh/h	1	90	72	46	253	7	355	9	163	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	0	1870	0
Q Serve(g_s), s	0.1	1.2	2.3	1.2	3.8	0.2	23.2	0.5	10.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	1.2	2.3	1.2	3.8	0.2	23.2	0.5	10.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	104	2143	956	864	2098	936	459	419	427	0	419	0
V/C Ratio(X)	0.01	0.04	0.08	0.05	0.12	0.01	0.77	0.02	0.38	0.00	0.00	0.00
Avail Cap(c_a), veh/h	275	2143	956	916	2098	936	850	829	775	0	829	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	53.2	9.7	9.9	8.2	10.8	10.1	45.1	36.3	35.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	0.1	0.0	2.8	0.0	0.6	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.9	1.5	0.8	2.7	0.1	15.9	0.4	7.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.3	9.7	10.1	8.2	10.9	10.1	48.0	36.3	36.2	0.0	0.0	0.0
LnGrp LOS	D	A	B	A	B	B	D	D	D	A	A	A
Approach Vol, veh/h		163			306			527				0
Approach Delay, s/veh		10.1			10.5			44.1				0.0
Approach LOS		B			B			D				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.0	76.4		32.7	9.5	77.9		32.7				
Change Period (Y+Rc), s	4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8				
Max Green Setting (Gmax), s	10.5	* 33		* 53	9.0	* 43		* 53				
Max Q Clear Time (g_c+1), s	10.5	5.8		25.2	3.2	4.3		0.0				
Green Ext Time (p_c), s	0.0	1.7		1.7	0.0	0.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C























Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	83	66	42	233	6	327	8	150	0	0	0
Future Volume (veh/h)	1	83	66	42	233	6	327	8	150	0	0	0
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	90	72	46	253	7	355	9	163	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	104	2143	956	864	2098	936	459	419	427	0	419	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.60	0.60	0.05	0.59	0.59	0.22	0.22	0.22	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	53.3	9.7	10.1	8.2	10.9	10.1	48.0	36.3	36.2	0.0	0.0	0.0
Ln Grp LOS	D	A	B	A	B	B	D	D	D	A	A	A
Approach Vol, veh/h		163			306			527				0
Approach Delay, s/veh		10.1			10.5			44.1				0.0
Approach LOS		B			B			D				
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		11.0	76.4		32.7	9.5	77.9		32.7			
Change Period (Y+Rc), s		4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8			
Max Green (Gmax), s		18.5	* 33		* 53	9.0	* 43		* 53			
Max Allow Headway (MAH), s		3.8	5.2		3.8	3.8	4.7		0.0			
Max Q Clear (g_c+I1), s		2.1	5.8		25.2	3.2	4.3		0.0			
Green Ext Time (g_e), s		0.0	1.7		1.7	0.0	0.8		0.0			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.78	1.00		0.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.06	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1781	1781			0			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		1870		3554		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		0			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			LL (Pr/Pm)							

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	0
Grp Vol (v), veh/h	1	0	0	355	46	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.1	0.0	0.0	23.2	1.2	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	0.0	0.0	23.2	1.2	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	1224	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	26.9	70.9	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	26.9	70.9	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	23.2	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.9
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	104	0	0	459	864	0	0	0
V/C Ratio (X)	0.01	0.00	0.00	0.77	0.05	0.00	0.00	0.00
Avail Cap (c_a), veh/h	275	0	0	850	916	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.85	0.00	0.00	0.00
Uniform Delay (d1), s/veh	53.2	0.0	0.0	45.1	8.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	53.3	0.0	0.0	48.0	8.2	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	10.2	0.4	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.50	1.80	0.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.1	0.0	0.0	15.9	0.8	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	3.51	0.11	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	253	0	9	0	90	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	3.8	0.0	0.5	0.0	1.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.8	0.0	0.5	0.0	1.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	2098	0	419	0	2143	0	419
V/C Ratio (X)	0.00	0.12	0.00	0.02	0.00	0.04	0.00	0.00
Avail Cap (c_a), veh/h	0	2098	0	829	0	2143	0	829
Upstream Filter (I)	0.00	0.85	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.8	0.0	36.3	0.0	9.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.9	0.0	36.3	0.0	9.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	0.2	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	2.7	0.0	0.4	0.0	0.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.03	0.00	0.12	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	7	0	163	0	72	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.2	0.0	10.0	0.0	2.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	10.0	0.0	2.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	936	0	427	0	956	0	0
V/C Ratio (X)	0.00	0.01	0.00	0.38	0.00	0.08	0.00	0.00
Avail Cap (c_a), veh/h	0	936	0	775	0	956	0	0
Upstream Filter (I)	0.00	0.85	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.1	0.0	35.7	0.0	9.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.1	0.0	36.2	0.0	10.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	3.9	0.0	0.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	7.1	0.0	1.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	1.58	0.00	0.39	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 9: Bristol Pkwy & Green Valley Cir

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	102	110	20	47	597	426	333	532	45	92	118	43
Future Volume (veh/h)	102	110	20	47	597	426	333	532	45	92	118	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	120	22	51	649	463	362	578	49	100	128	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1458	261	637	960	683	552	719	61	161	1090	384
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.42	0.42	0.42	0.71	0.71	0.71
Sat Flow, veh/h	507	3010	540	1246	1982	1411	1210	1700	144	799	2576	908
Grp Volume(v), veh/h	111	70	72	51	582	530	362	0	627	100	87	88
Grp Sat Flow(s),veh/h/ln	507	1777	1773	1246	1777	1616	1210	0	1844	799	1777	1707
Q Serve(g_s), s	25.8	2.5	2.6	2.8	30.1	30.2	30.4	0.0	35.7	15.0	1.9	2.0
Cycle Q Clear(g_c), s	56.0	2.5	2.6	5.4	30.1	30.2	32.4	0.0	35.7	50.7	1.9	2.0
Prop In Lane	1.00		0.30	1.00		0.87	1.00		0.08	1.00		0.53
Lane Grp Cap(c), veh/h	178	861	859	637	861	783	552	0	780	161	752	722
V/C Ratio(X)	0.62	0.08	0.08	0.08	0.68	0.68	0.66	0.00	0.80	0.62	0.12	0.12
Avail Cap(c_a), veh/h	179	866	864	640	866	788	552	0	780	161	752	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	0.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	45.2	16.6	16.6	18.1	23.7	23.7	30.2	0.0	30.3	35.4	10.4	10.5
Incr Delay (d2), s/veh	6.5	0.0	0.0	0.0	1.9	2.2	6.0	0.0	8.6	16.7	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.4	1.9	2.0	1.5	18.5	17.2	14.8	0.0	24.2	6.2	1.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	16.6	16.7	18.1	25.6	25.9	36.2	0.0	38.9	52.1	10.7	10.8
LnGrp LOS	D	B	B	B	C	C	D	A	D	D	B	B
Approach Vol, veh/h		253			1163			989			275	
Approach Delay, s/veh		32.0			25.4			37.9			25.8	
Approach LOS		C			C			D			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.4		63.6		56.4		63.6				
Change Period (Y+Rc), s		* 5.6		* 5.5		* 5.6		* 5.5				
Max Green Setting (Gmax), s		* 50		* 59		* 50		* 59				
Max Q Clear Time (g_c+I1), s		37.7		58.0		52.7		32.2				
Green Ext Time (p_c), s		4.7		0.1		0.0		9.1				

Intersection Summary

HCM 6th Ctrl Delay	30.7
HCM 6th LOS	C






















Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	110	20	47	597	426	333	532	45	92	118	43
Future Volume (veh/h)	102	110	20	47	597	426	333	532	45	92	118	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	120	22	51	649	463	362	578	49	100	128	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	178	1458	261	637	960	683	552	719	61	161	1090	384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Prop Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.42	0.42	0.42	0.71	0.71	0.71
Unsig. Movement Delay												
Ln Grp Delay, s/veh	51.7	16.6	16.7	18.1	25.6	25.9	36.2	0.0	38.9	52.1	10.7	10.8
Ln Grp LOS	D	B	B	B	C	C	D	A	D	D	B	B
Approach Vol, veh/h		253			1163			989			275	
Approach Delay, s/veh		32.0			25.4			37.9			25.8	
Approach LOS		C			C			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			56.4		63.6		56.4		63.6			
Change Period (Y+Rc), s			* 5.6		* 5.5		* 5.6		* 5.5			
Max Green (Gmax), s			* 50		* 59		* 50		* 59			
Max Allow Headway (MAH), s			4.9		6.6		5.5		5.3			
Max Q Clear (g_c+I1), s			37.7		58.0		52.7		32.2			
Green Ext Time (g_e), s			4.7		0.1		0.0		9.1			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		0.18			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1210		507		799		1246			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1700		3010		2576		1982			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			144		540		908		1411			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	362	0	111	0	100	0	51
Grp Sat Flow (s), veh/h/ln	0	1210	0	507	0	799	0	1246
Q Serve Time (g_s), s	0.0	30.4	0.0	25.8	0.0	15.0	0.0	2.8
Cycle Q Clear Time (g_c), s	0.0	32.4	0.0	56.0	0.0	50.7	0.0	5.4
Perm LT Sat Flow (s_l), veh/h/ln	0	1210	0	507	0	799	0	1246
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	50.8	0.0	58.1	0.0	50.8	0.0	58.1
Perm LT Serve Time (g_u), s	0.0	48.8	0.0	27.9	0.0	15.1	0.0	55.5
Perm LT Q Serve Time (g_ps), s	0.0	30.4	0.0	25.8	0.0	15.0	0.0	2.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	552	0	178	0	161	0	637
V/C Ratio (X)	0.00	0.66	0.00	0.62	0.00	0.62	0.00	0.08
Avail Cap (c_a), veh/h	0	552	0	179	0	161	0	640
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.99	0.00	0.93
Uniform Delay (d1), s/veh	0.0	30.2	0.0	45.2	0.0	35.4	0.0	18.1
Incr Delay (d2), s/veh	0.0	6.0	0.0	6.5	0.0	16.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	36.2	0.0	51.7	0.0	52.1	0.0	18.1
1st-Term Q (Q1), veh/ln	0.0	8.7	0.0	3.2	0.0	2.7	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	0.3	0.0	0.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.53	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	14.8	0.0	6.4	0.0	6.2	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	3.12	0.00	1.80	0.00	1.38	0.00	0.37
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	70	0	87	0	582
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	2.5	0.0	1.9	0.0	30.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.5	0.0	1.9	0.0	30.1
Lane Grp Cap (c), veh/h	0	0	0	861	0	752	0	861
V/C Ratio (X)	0.00	0.00	0.00	0.08	0.00	0.12	0.00	0.68
Avail Cap (c_a), veh/h	0	0	0	866	0	752	0	866
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.99	0.00	0.93
Uniform Delay (d1), s/veh	0.0	0.0	0.0	16.6	0.0	10.4	0.0	23.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	16.6	0.0	10.7	0.0	25.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.0	0.0	0.7	0.0	12.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	1.44
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	1.9	0.0	1.4	0.0	18.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.02	0.00	0.28
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	627	0	72	0	88	0	530
Grp Sat Flow (s), veh/h/ln	0	1844	0	1773	0	1707	0	1616
Q Serve Time (g_s), s	0.0	35.7	0.0	2.6	0.0	2.0	0.0	30.2
Cycle Q Clear Time (g_c), s	0.0	35.7	0.0	2.6	0.0	2.0	0.0	30.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.08	0.00	0.30	0.00	0.53	0.00	0.87
Lane Grp Cap (c), veh/h	0	780	0	859	0	722	0	783
V/C Ratio (X)	0.00	0.80	0.00	0.08	0.00	0.12	0.00	0.68
Avail Cap (c_a), veh/h	0	780	0	864	0	722	0	788
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.99	0.00	0.93
Uniform Delay (d1), s/veh	0.0	30.3	0.0	16.6	0.0	10.5	0.0	23.7
Incr Delay (d2), s/veh	0.0	8.6	0.0	0.0	0.0	0.3	0.0	2.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	38.9	0.0	16.7	0.0	10.8	0.0	25.9
1st-Term Q (Q1), veh/ln	0.0	15.5	0.0	1.1	0.0	0.8	0.0	11.3
2nd-Term Q (Q2), veh/ln	0.0	1.9	0.0	0.0	0.0	0.1	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.39	0.00	1.80	0.00	1.80	0.00	1.46
%ile Back of Q (95%), veh/ln	0.0	24.2	0.0	2.0	0.0	1.5	0.0	17.2
%ile Storage Ratio (RQ%)	0.00	1.12	0.00	0.05	0.00	0.02	0.00	0.26
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.7
HCM 6th LOS	C

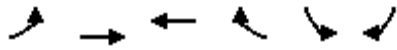
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

10: Green Valley Cir & Buckingham

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↶↶	↶↷		↶	↶↷
Traffic Volume (veh/h)	39	96	680	315	39	51
Future Volume (veh/h)	39	96	680	315	39	51
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	104	739	342	42	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	458	2976	1976	914	148	132
Arrive On Green	1.00	1.00	0.84	0.84	0.08	0.08
Sat Flow, veh/h	522	3647	2453	1091	1781	1585
Grp Volume(v), veh/h	42	104	556	525	42	55
Grp Sat Flow(s),veh/h/ln	522	1777	1777	1674	1781	1585
Q Serve(g_s), s	0.9	0.0	8.9	8.9	2.7	4.0
Cycle Q Clear(g_c), s	9.9	0.0	8.9	8.9	2.7	4.0
Prop In Lane	1.00			0.65	1.00	1.00
Lane Grp Cap(c), veh/h	458	2976	1488	1402	148	132
V/C Ratio(X)	0.09	0.03	0.37	0.37	0.28	0.42
Avail Cap(c_a), veh/h	458	2976	1488	1402	460	409
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.4	0.0	2.3	2.3	51.6	52.2
Incr Delay (d2), s/veh	0.1	0.0	0.7	0.8	1.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	4.2	4.0	2.2	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.5	0.0	3.0	3.1	52.7	54.3
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h		146	1081		97	
Approach Delay, s/veh		0.2	3.0		53.6	
Approach LOS		A	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		106.0		14.0		106.0
Change Period (Y+Rc), s		* 5.5		4.0		* 5.5
Max Green Setting (Gmax), s		* 80		31.0		* 80
Max Q Clear Time (g_c+I1), s		10.9		6.0		11.9
Green Ext Time (p_c), s		10.0		0.2		1.3

Intersection Summary

HCM 6th Ctrl Delay	6.4
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↵	↑↑	↑↑		↵	↵			
Traffic Volume (veh/h)	39	96	680	315	39	51			
Future Volume (veh/h)	39	96	680	315	39	51			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	42	104	739	342	42	55			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	458	2976	1976	914	148	132			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	1.00	1.00	0.84	0.84	0.08	0.08			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	0.5	0.0	3.0	3.1	52.7	54.3			
Ln Grp LOS	A	A	A	A	D	D			
Approach Vol, veh/h		146	1081		97				
Approach Delay, s/veh		0.2	3.0		53.6				
Approach LOS		A	A		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		9.0		6.0		
Phs Duration (G+Y+Rc), s			106.0		14.0		106.0		
Change Period (Y+Rc), s			* 5.5		4.0		* 5.5		
Max Green (Gmax), s			* 80		31.0		* 80		
Max Allow Headway (MAH), s			5.3		3.9		6.1		
Max Q Clear (g_c+I1), s			10.9		6.0		11.9		
Green Ext Time (g_e), s			10.0		0.2		1.3		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1781		522		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			2453		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			1091		1585		0		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment					L		L		

HCM 6th Signalized Intersection Capacity Analysis
 10: Green Valley Cir & Buckingham

07/19/2023

Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	42	0	42	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	0	522	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	2.7	0.0	0.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.7	0.0	9.9	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	522	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	100.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	91.6	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
Time to First Blk (g_f), s	0.0	100.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	148	0	458	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.28	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	460	0	458	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.97	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	51.6	0.0	0.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	52.7	0.0	0.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	556	0	0	0	104	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1488	0	0	0	2976	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.00	0.00	0.03	0.00	0.00
Avail Cap (c_a), veh/h	0	1488	0	0	0	2976	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.97	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	525	0	55	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1674	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	8.9	0.0	4.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.9	0.0	4.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.65	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1402	0	132	0	0	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.42	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1402	0	409	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.3	0.0	52.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	2.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.1	0.0	54.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	1.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	4.0	0.0	3.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	6.4
HCM 6th LOS	A

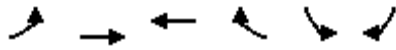
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

11: Centinela Ave & Green Valley Cir

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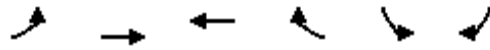


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	36	384	1622	840	148	43
Future Volume (veh/h)	36	384	1622	840	148	43
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	417	1763	913	161	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	121	2763	2763	1232	432	198
Arrive On Green	0.78	0.78	0.78	0.78	0.13	0.13
Sat Flow, veh/h	110	3647	3647	1585	3456	1585
Grp Volume(v), veh/h	39	417	1763	913	161	47
Grp Sat Flow(s),veh/h/ln	110	1777	1777	1585	1728	1585
Q Serve(g_s), s	29.1	3.5	26.3	36.3	5.1	3.2
Cycle Q Clear(g_c), s	55.4	3.5	26.3	36.3	5.1	3.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	121	2763	2763	1232	432	198
V/C Ratio(X)	0.32	0.15	0.64	0.74	0.37	0.24
Avail Cap(c_a), veh/h	121	2763	2763	1232	760	349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	3.4	5.9	7.0	48.2	47.3
Incr Delay (d2), s/veh	6.9	0.1	0.5	2.4	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	2.0	12.8	16.0	4.1	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.0	3.5	6.4	9.4	48.7	48.0
LnGrp LOS	C	A	A	A	D	D
Approach Vol, veh/h		456	2676		208	
Approach Delay, s/veh		5.3	7.4		48.5	
Approach LOS		A	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		99.4		20.6		99.4
Change Period (Y+Rc), s		6.1		* 5.6		6.1
Max Green Setting (Gmax), s		81.9		* 26		81.9
Max Q Clear Time (g_c+I1), s		57.4		7.1		38.3
Green Ext Time (p_c), s		6.1		0.6		31.0
Intersection Summary						
HCM 6th Ctrl Delay			9.7			
HCM 6th LOS			A			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↶	↷	↷	↶	↷	↶			
Traffic Volume (veh/h)	36	384	1622	840	148	43			
Future Volume (veh/h)	36	384	1622	840	148	43			
Number	5	2	6	16	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	39	417	1763	913	161	47			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	121	2763	2763	1232	432	198			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.78	0.78	0.78	0.78	0.13	0.13			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	25.0	3.5	6.4	9.4	48.7	48.0			
Ln Grp LOS	C	A	A	A	D	D			
Approach Vol, veh/h		456	2676		208				
Approach Delay, s/veh		5.3	7.4		48.5				
Approach LOS		A	A		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s			99.4		20.6		99.4		
Change Period (Y+Rc), s			6.1		* 5.6		6.1		
Max Green (Gmax), s			81.9		* 26		81.9		
Max Allow Headway (MAH), s			7.6		3.9		4.8		
Max Q Clear (g_c+I1), s			57.4		7.1		38.3		
Green Ext Time (g_e), s			6.1		0.6		31.0		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.09		0.00		0.60		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			110		3456		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis
 11: Centinela Ave & Green Valley Cir

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Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	39	0	161	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	110	0	1728	0	0	0	0
Q Serve Time (g_s), s	0.0	29.1	0.0	5.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	55.4	0.0	5.1	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	110	0	1728	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	93.3	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	67.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	29.1	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	93.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	121	0	432	0	0	0	0
V/C Ratio (X)	0.00	0.32	0.00	0.37	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	121	0	760	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	18.1	0.0	48.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.9	0.0	0.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.0	0.0	48.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	2.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	1.7	0.0	4.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.08	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	417	0	0	0	1763	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.5	0.0	0.0	0.0	26.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	0.0	0.0	26.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	2763	0	0	0	2763	0	0
V/C Ratio (X)	0.00	0.15	0.00	0.00	0.00	0.64	0.00	0.00
Avail Cap (c_a), veh/h	0	2763	0	0	0	2763	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.4	0.0	0.0	0.0	5.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.5	0.0	0.0	0.0	6.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.0	0.0	8.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.57	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.0	0.0	0.0	0.0	12.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.00	0.00	0.53	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	47	0	913	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.2	0.0	36.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.2	0.0	36.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	198	0	1232	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.24	0.00	0.74	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	349	0	1232	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	47.3	0.0	7.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	2.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	48.0	0.0	9.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.3	0.0	9.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.50	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	2.3	0.0	16.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.66	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

1: Hannum Ave & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖↖	↑↑↑	↖	↖↖	↑↑	↖	↖↖	↑↑	
Traffic Volume (veh/h)	76	490	136	204	439	392	61	266	262	255	484	54
Future Volume (veh/h)	76	490	136	204	439	392	61	266	262	255	484	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	533	148	222	477	426	66	289	0	277	526	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	1980	536	278	2589	804	228	532		337	644	
Arrive On Green	0.07	0.50	0.50	0.08	0.51	0.51	0.07	0.15	0.00	0.10	0.18	0.00
Sat Flow, veh/h	1781	3998	1082	3456	5106	1585	3456	3554	1585	3456	3647	0
Grp Volume(v), veh/h	83	452	229	222	477	426	66	289	0	277	526	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1676	1728	1702	1585	1728	1777	1585	1728	1777	0
Q Serve(g_s), s	6.4	10.8	11.2	8.8	7.1	25.4	2.5	10.5	0.0	11.0	19.9	0.0
Cycle Q Clear(g_c), s	6.4	10.8	11.2	8.8	7.1	25.4	2.5	10.5	0.0	11.0	19.9	0.0
Prop In Lane	1.00		0.65	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	122	1686	830	278	2589	804	228	532		337	644	
V/C Ratio(X)	0.68	0.27	0.28	0.80	0.18	0.53	0.29	0.54		0.82	0.82	
Avail Cap(c_a), veh/h	202	1686	830	442	2589	804	289	805		536	1058	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.7	20.6	20.6	63.3	18.8	23.3	62.3	55.1	0.0	62.0	55.1	0.0
Incr Delay (d2), s/veh	6.5	0.4	0.8	5.1	0.1	2.3	0.7	0.9	0.0	5.6	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.6	7.9	8.2	7.3	5.2	15.0	2.1	8.4	0.0	8.8	14.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	20.9	21.5	68.3	18.9	25.6	63.0	55.9	0.0	67.6	57.7	0.0
LnGrp LOS	E	C	C	E	B	C	E	E		E	E	
Approach Vol, veh/h		764			1125			355			803	
Approach Delay, s/veh		26.4			31.2			57.3			61.1	
Approach LOS		C			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.3	75.5	15.5	31.7	15.7	77.1	19.9	27.3				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3				
Max Green Setting (Gmax), s	* 18	* 44	11.7	41.7	* 16	* 46	21.7	31.7				
Max Q Clear Time (g_c+I1), s	10.8	13.2	4.5	21.9	8.4	27.4	13.0	12.5				
Green Ext Time (p_c), s	0.4	5.0	0.1	3.5	0.1	4.7	0.6	1.7				

Intersection Summary

HCM 6th Ctrl Delay	40.9
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	490	136	204	439	392	61	266	262	255	484	54
Future Volume (veh/h)	76	490	136	204	439	392	61	266	262	255	484	54
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	533	148	222	477	426	66	289	0	277	526	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	122	1980	536	278	2589	804	228	532		337	644	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.50	0.50	0.08	0.51	0.51	0.07	0.15	0.00	0.10	0.18	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	70.1	20.9	21.5	68.3	18.9	25.6	63.0	55.9	0.0	67.6	57.7	0.0
Ln Grp LOS	E	C	C	E	B	C	E	E		E	E	
Approach Vol, veh/h		764			1125			355			803	
Approach Delay, s/veh		26.4			31.2			57.3			61.1	
Approach LOS		C			C			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	4.0	4.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		17.3	75.5	31.7	15.5	15.7	77.1	19.9	27.3			
Change Period (Y+Rc), s		* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3			
Max Green (Gmax), s		* 18	* 44	41.7	11.7	* 16	* 46	21.7	31.7			
Max Allow Headway (MAH), s		3.8	5.3	5.2	3.8	3.8	4.7	3.8	5.2			
Max Q Clear (g_c+I1), s		10.8	13.2	21.9	4.5	8.4	27.4	13.0	12.5			
Green Ext Time (g_e), s		0.4	5.0	3.5	0.1	0.1	4.7	0.6	1.7			
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.92	0.96	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.07	0.00	0.02	0.01	0.01	0.08	0.03	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	1781		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			3998	3647			5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1082	0			1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	222	0	0	66	83	0	277	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1781	0	1728	0
Q Serve Time (g_s), s	8.8	0.0	0.0	2.5	6.4	0.0	11.0	0.0
Cycle Q Clear Time (g_c), s	8.8	0.0	0.0	2.5	6.4	0.0	11.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	278	0	0	228	122	0	337	0
V/C Ratio (X)	0.80	0.00	0.00	0.29	0.68	0.00	0.82	0.00
Avail Cap (c_a), veh/h	442	0	0	289	202	0	536	0
Upstream Filter (I)	0.94	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	63.3	0.0	0.0	62.3	63.7	0.0	62.0	0.0
Incr Delay (d2), s/veh	5.1	0.0	0.0	0.7	6.5	0.0	5.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	68.3	0.0	0.0	63.0	70.1	0.0	67.6	0.0
1st-Term Q (Q1), veh/ln	3.9	0.0	0.0	1.1	2.9	0.0	4.9	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.2	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.79	0.00	0.00	1.80	1.80	0.00	1.73	0.00
%ile Back of Q (95%), veh/ln	7.3	0.0	0.0	2.1	5.6	0.0	8.8	0.0
%ile Storage Ratio (RQ%)	0.84	0.00	0.00	0.26	1.30	0.00	1.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	2	2	0	0	3	0	2
Grp Vol (v), veh/h	0	452	526	0	0	477	0	289
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	10.8	19.9	0.0	0.0	7.1	0.0	10.5
Cycle Q Clear Time (g_c), s	0.0	10.8	19.9	0.0	0.0	7.1	0.0	10.5
Lane Grp Cap (c), veh/h	0	1686	644	0	0	2589	0	532
V/C Ratio (X)	0.00	0.27	0.82	0.00	0.00	0.18	0.00	0.54
Avail Cap (c_a), veh/h	0	1686	1058	0	0	2589	0	805
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.94	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.6	55.1	0.0	0.0	18.8	0.0	55.1
Incr Delay (d2), s/veh	0.0	0.4	2.6	0.0	0.0	0.1	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.9	57.7	0.0	0.0	18.9	0.0	55.9
1st-Term Q (Q1), veh/ln	0.0	4.4	8.9	0.0	0.0	2.9	0.0	4.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.78	1.54	0.00	0.00	1.80	0.00	1.75
%ile Back of Q (95%), veh/ln	0.0	7.9	14.1	0.0	0.0	5.2	0.0	8.4
%ile Storage Ratio (RQ%)	0.00	0.59	1.72	0.00	0.00	0.23	0.00	0.94
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		T+R				R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	229	0	0	0	426	0	0
Grp Sat Flow (s), veh/h/ln	0	1676	0	0	0	1585	0	1585
Q Serve Time (g_s), s	0.0	11.2	0.0	0.0	0.0	25.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.2	0.0	0.0	0.0	25.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.65	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	830	0	0	0	804	0	237
V/C Ratio (X)	0.00	0.28	0.00	0.00	0.00	0.53	0.00	0.00
Avail Cap (c_a), veh/h	0	830	0	0	0	804	0	359
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.94	0.00	0.00
Uniform Delay (d1), s/veh	0.0	20.6	0.0	0.0	0.0	23.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	2.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.5	0.0	0.0	0.0	25.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.4	0.0	0.0	0.0	9.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.76	1.00	0.00	0.00	1.50	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	8.2	0.0	0.0	0.0	15.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.61	0.00	0.00	0.00	2.46	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	40.9
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↖↖	↑↑	↗	↖	↑	↗↗	↖	↗	
Traffic Volume (veh/h)	0	602	398	934	654	2	385	0	1492	4	2	1
Future Volume (veh/h)	0	602	398	934	654	2	385	0	1492	4	2	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	654	0	1015	711	2	418	0	1622	4	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	910		2341	2520	1124	383	0	1818	34	22	11
Arrive On Green	0.00	0.18	0.00	0.78	1.00	1.00	0.11	0.00	0.11	0.02	0.02	0.02
Sat Flow, veh/h	1781	5106	1585	5023	3554	1585	3563	0	3170	1781	1176	588
Grp Volume(v), veh/h	0	654	0	1015	711	2	418	0	1622	4	0	3
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1674	1777	1585	1781	0	1585	1781	0	1764
Q Serve(g_s), s	0.0	14.5	0.0	8.1	0.0	0.0	12.9	0.0	12.9	0.3	0.0	0.2
Cycle Q Clear(g_c), s	0.0	14.5	0.0	8.1	0.0	0.0	12.9	0.0	12.9	0.3	0.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	1	910		2341	2520	1124	383	0	1818	34	0	34
V/C Ratio(X)	0.00	0.72		0.43	0.28	0.00	1.09	0.00	0.89	0.12	0.00	0.09
Avail Cap(c_a), veh/h	193	1864		2341	2520	1124	383	0	1818	163	0	162
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.94	0.00	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	46.5	0.0	8.0	0.0	0.0	53.5	0.0	22.4	57.9	0.0	57.8
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.1	0.2	0.0	72.8	0.0	6.1	1.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	10.2	0.0	4.2	0.2	0.0	15.2	0.0	27.7	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	47.5	0.0	8.1	0.2	0.0	126.4	0.0	28.4	59.4	0.0	59.0
LnGrp LOS	A	D		A	A	A	F	A	C	E	A	E
Approach Vol, veh/h		654		1728			2040					7
Approach Delay, s/veh		47.5		4.9			48.5					59.2
Approach LOS		D		A			D					E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	63.7	29.2		8.1	0.0	92.9		19.0				
Change Period (Y+Rc), s	7.8	* 7.8		* 5.8	5.4	7.8		6.1				
Max Green Setting (Gmax), s	20.2	* 44		* 11	13.0	58.0		12.9				
Max Q Clear Time (g_c+10), s	10.1	16.5		2.3	0.0	2.0		14.9				
Green Ext Time (p_c), s	3.9	4.9		0.0	0.0	5.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	602	398	934	654	2	385	0	1492	4	2	1
Future Volume (veh/h)	0	602	398	934	654	2	385	0	1492	4	2	1
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	654	0	1015	711	2	418	0	1622	4	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	1	910		2341	2520	1124	383	0	1818	34	22	11
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.18	0.00	0.78	1.00	1.00	0.11	0.00	0.11	0.02	0.02	0.02
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	47.5	0.0	8.1	0.2	0.0	126.4	0.0	28.4	59.4	0.0	59.0
Ln Grp LOS	A	D		A	A	A	F	A	C	E	A	E
Approach Vol, veh/h		654			1728			2040			7	
Approach Delay, s/veh		47.5			4.9			48.5			59.2	
Approach LOS		D			A			D			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	3.0	9.0	10.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		63.7	29.2	19.0	8.1	0.0	92.9					
Change Period (Y+Rc), s		7.8	* 7.8	6.1	* 5.8	5.4	7.8					
Max Green (Gmax), s		26.2	* 44	12.9	* 11	13.0	58.0					
Max Allow Headway (MAH), s		3.8	5.2	4.0	4.5	0.0	5.2					
Max Q Clear (g_c+I1), s		10.1	16.5	14.9	2.3	0.0	2.0					
Green Ext Time (g_e), s		3.9	4.9	0.0	0.0	0.0	5.9					
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.21	0.00	1.00					
Prob of Max Out (p_x)		0.05	0.01	1.00	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		5023		3563	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			5106	0	1176		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			1585	3170	588		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis
 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Lanes in Grp	3	0	2	1	1	0	0	0
Grp Vol (v), veh/h	1015	0	418	4	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1674	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	8.1	0.0	12.9	0.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	8.1	0.0	12.9	0.3	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	2341	0	383	34	1	0	0	0
V/C Ratio (X)	0.43	0.00	1.09	0.12	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	2341	0	383	163	193	0	0	0
Upstream Filter (I)	0.87	0.00	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	8.0	0.0	53.5	57.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	72.8	1.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	8.1	0.0	126.4	59.4	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	5.8	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.58	1.80	1.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	4.2	0.0	15.2	0.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.46	0.00	0.80	0.20	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	654	0	0	0	711	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	14.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	910	0	0	0	2520	0	0
V/C Ratio (X)	0.00	0.72	0.00	0.00	0.00	0.28	0.00	0.00
Avail Cap (c_a), veh/h	0	1864	0	0	0	2520	0	0
Upstream Filter (I)	0.00	0.94	0.00	0.00	0.00	0.87	0.00	0.00
Uniform Delay (d1), s/veh	0.0	46.5	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	47.5	0.0	0.0	0.0	0.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.64	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	10.2	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.45	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		R	R	T+R		R		
Lanes in Grp	0	1	2	1	0	1	0	0
Grp Vol (v), veh/h	0	0	1622	3	0	2	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1764	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	12.9	0.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	12.9	0.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	55.9	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.33	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	283	1818	34	0	1124	0	0
V/C Ratio (X)	0.00	0.00	0.89	0.09	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	579	1818	162	0	1124	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	0.00	0.87	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	22.4	57.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.1	1.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	28.4	59.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	18.8	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.36	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	27.7	0.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	1.45	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑↑		↖↗	↑	↗		↖↗	
Traffic Volume (veh/h)	16	1857	197	76	1344	16	154	6	52	27	7	31
Future Volume (veh/h)	16	1857	197	76	1344	16	154	6	52	27	7	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	2018	214	83	1461	17	167	0	62	29	8	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	553	2840	881	270	1658	19	297	0	512	118	32	132
Arrive On Green	0.62	1.00	1.00	0.16	0.64	0.64	0.08	0.00	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	5106	1585	3456	5203	61	3563	0	3170	1411	389	1585
Grp Volume(v), veh/h	17	2018	214	83	956	522	167	0	62	37	0	34
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1859	1781	0	1585	1800	0	1585
Q Serve(g_s), s	0.4	0.0	0.0	2.6	27.9	27.9	5.4	0.0	2.0	2.3	0.0	2.4
Cycle Q Clear(g_c), s	0.4	0.0	0.0	2.6	27.9	27.9	5.4	0.0	2.0	2.3	0.0	2.4
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	0.78		1.00
Lane Grp Cap(c), veh/h	553	2840	881	270	1085	592	297	0	512	150	0	132
V/C Ratio(X)	0.03	0.71	0.24	0.31	0.88	0.88	0.56	0.00	0.12	0.25	0.00	0.26
Avail Cap(c_a), veh/h	553	2840	881	288	1242	679	297	0	512	480	0	423
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	0.93	0.93	0.93	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	0.0	47.8	19.9	19.9	52.9	0.0	43.0	51.5	0.0	51.5
Incr Delay (d2), s/veh	0.0	0.9	0.4	0.6	9.7	16.1	2.4	0.0	0.1	0.8	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.4	0.2	2.0	12.9	15.2	4.5	0.0	1.4	1.9	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	0.9	0.4	48.3	29.6	36.0	55.3	0.0	43.1	52.3	0.0	52.5
LnGrp LOS	B	A	A	D	C	D	E	A	D	D	A	D
Approach Vol, veh/h		2249			1561			229			71	
Approach Delay, s/veh		0.9			32.7			52.0			52.4	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.6	72.8		15.8	43.4	45.0		15.8				
Change Period (Y+Rc), s	6.2	6.1		* 5.8	6.1	* 6.8		5.8				
Max Green Setting (Gmax), s	44.1	44.1		* 32	10.0	* 44		10.0				
Max Q Clear Time (g_c+1), s	11.6	2.0		4.4	2.4	29.9		7.4				
Green Ext Time (p_c), s	0.1	26.4		0.3	0.0	8.3		0.2				

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

























Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	1857	197	76	1344	16	154	6	52	27	7	31
Future Volume (veh/h)	16	1857	197	76	1344	16	154	6	52	27	7	31
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	2018	214	83	1461	17	167	0	62	29	8	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	553	2840	881	270	1658	19	297	0	512	118	32	132
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.62	1.00	1.00	0.16	0.64	0.64	0.08	0.00	0.08	0.08	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	15.8	0.9	0.4	48.3	29.6	36.0	55.3	0.0	43.1	52.3	0.0	52.5
Ln Grp LOS	B	A	A	D	C	D	E	A	D	D	A	D
Approach Vol, veh/h		2249			1561			229			71	
Approach Delay, s/veh		0.9			32.7			52.0			52.4	
Approach LOS		A			C			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	6	5					
Case No		2.0	3.0	9.0	12.0	4.0	2.0					
Phs Duration (G+Y+Rc), s		15.6	72.8	15.8	15.8	45.0	43.4					
Change Period (Y+Rc), s		6.2	6.1	5.8	* 5.8	* 6.8	6.1					
Max Green (Gmax), s		10.0	44.1	10.0	* 32	* 44	10.0					
Max Allow Headway (MAH), s		3.8	5.1	3.9	5.4	5.2	3.8					
Max Q Clear (g_c+I1), s		4.6	2.0	7.4	4.4	29.9	2.4					
Green Ext Time (g_e), s		0.1	26.4	0.2	0.3	8.3	0.0					
Prob of Phs Call (p_c)		0.94	1.00	1.00	1.00	1.00	0.43					
Prob of Max Out (p_x)		0.13	0.43	1.00	0.00	0.60	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7		5					
Mvmt Sat Flow, veh/h		3456		3563	1411		1781					
Through Movement Data												
Assigned Mvmt			2	8	4	6						
Mvmt Sat Flow, veh/h			5106	0	389	5203						
Right-Turn Movement Data												
Assigned Mvmt			12	18	14	16						
Mvmt Sat Flow, veh/h			1585	3170	1585	61						
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	0	5	0	0			
Lane Assignment		L (Prot)		L	L+T		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis 3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023

Lanes in Grp	2	0	2	1	0	1	0	0
Grp Vol (v), veh/h	83	0	167	37	0	17	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	1800	0	1781	0	0
Q Serve Time (g_s), s	2.6	0.0	5.4	2.3	0.0	0.4	0.0	0.0
Cycle Q Clear Time (g_c), s	2.6	0.0	5.4	2.3	0.0	0.4	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.78	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	270	0	297	150	0	553	0	0
V/C Ratio (X)	0.31	0.00	0.56	0.25	0.00	0.03	0.00	0.00
Avail Cap (c_a), veh/h	288	0	297	480	0	553	0	0
Upstream Filter (I)	0.93	0.00	1.00	1.00	0.00	0.56	0.00	0.00
Uniform Delay (d1), s/veh	47.8	0.0	52.9	51.5	0.0	15.8	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	2.4	0.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.3	0.0	55.3	52.3	0.0	15.8	0.0	0.0
1st-Term Q (Q1), veh/ln	1.1	0.0	2.4	1.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	2.0	0.0	4.5	1.9	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.32	0.00	0.54	0.25	0.00	0.09	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	3	0	0	2	0	0	0
Grp Vol (v), veh/h	0	2018	0	0	956	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	1702	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	27.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	27.9	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2840	0	0	1085	0	0	0
V/C Ratio (X)	0.00	0.71	0.00	0.00	0.88	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	2840	0	0	1242	0	0	0
Upstream Filter (I)	0.00	0.56	0.00	0.00	0.93	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	19.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	9.7	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.9	0.0	0.0	29.6	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	6.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	1.5	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	1.55	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.4	0.0	0.0	12.9	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.19	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	16	0	0	0
Lane Assignment		R	R	T+R	T+R			
Lanes in Grp	0	1	2	1	1	0	0	0
Grp Vol (v), veh/h	0	214	62	34	522	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	1859	0	0	0
Q Serve Time (g_s), s	0.0	0.0	2.0	2.4	27.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	2.0	2.4	27.9	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.03	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	881	512	132	592	0	0	0
V/C Ratio (X)	0.00	0.24	0.12	0.26	0.88	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	881	512	423	679	0	0	0
Upstream Filter (I)	0.00	0.56	1.00	1.00	0.93	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	43.0	51.5	19.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.1	1.0	16.1	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.4	43.1	52.5	36.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.8	1.0	7.5	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	2.7	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.80	1.80	1.50	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.2	1.4	1.8	15.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.08	0.23	0.22	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔↑↑	↑↑↑		↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	9	1851	68	141	1338	9	41	4	418	68	26	42
Future Volume (veh/h)	9	1851	68	141	1338	9	41	4	418	68	26	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	2012	74	153	1454	10	45	0	457	74	42	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	3077	955	286	3463	24	248	0	776	211	303	257
Arrive On Green	0.02	0.40	0.40	0.08	0.66	0.66	0.05	0.00	0.05	0.16	0.16	0.16
Sat Flow, veh/h	3456	5106	1585	3456	5232	36	1320	0	3170	934	1870	1585
Grp Volume(v), veh/h	10	2012	74	153	946	518	45	0	457	74	42	37
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1864	1320	0	1585	934	1870	1585
Q Serve(g_s), s	0.3	38.3	3.4	5.1	15.6	15.6	3.9	0.0	15.5	8.6	2.3	2.4
Cycle Q Clear(g_c), s	0.3	38.3	3.4	5.1	15.6	15.6	6.3	0.0	15.5	8.6	2.3	2.4
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	3077	955	286	2253	1234	248	0	776	211	303	257
V/C Ratio(X)	0.12	0.65	0.08	0.53	0.42	0.42	0.18	0.00	0.59	0.35	0.14	0.14
Avail Cap(c_a), veh/h	288	3077	955	291	2253	1234	442	0	1240	348	577	489
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	1.00	1.00	1.00	0.99	0.00	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	25.6	15.2	52.8	9.5	9.5	51.7	0.0	45.3	45.8	43.1	43.1
Incr Delay (d2), s/veh	0.4	0.7	0.1	1.8	0.6	1.1	0.3	0.0	0.7	1.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	21.9	2.3	4.1	9.6	10.5	2.5	0.0	10.9	3.7	2.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	26.3	15.3	54.6	10.1	10.6	52.0	0.0	46.0	46.7	43.3	43.4
LnGrp LOS	E	C	B	D	B	B	D	A	D	D	D	D
Approach Vol, veh/h		2096			1617			502			153	
Approach Delay, s/veh		26.1			14.4			46.5			45.0	
Approach LOS		C			B			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	78.4		25.3	9.1	85.5		25.3				
Change Period (Y+Rc), s	6.3	6.1		* 5.9	6.3	6.1		* 5.9				
Max Green Setting (Gmax), s	10.0	54.6		* 37	10.0	54.7		* 37				
Max Q Clear Time (g_c+1T), s	40.3			17.5	2.3	17.6		10.6				
Green Ext Time (p_c), s	0.1	11.5		1.9	0.0	13.8		0.7				

Intersection Summary






























HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  							
Traffic Volume (veh/h)	9	1851	68	141	1338	9	41	4	418	68	26	42
Future Volume (veh/h)	9	1851	68	141	1338	9	41	4	418	68	26	42
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	2012	74	153	1454	10	45	0	457	74	42	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	82	3077	955	286	3463	24	248	0	776	211	303	257
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.40	0.40	0.08	0.66	0.66	0.05	0.00	0.05	0.16	0.16	0.16
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.3	26.3	15.3	54.6	10.1	10.6	52.0	0.0	46.0	46.7	43.3	43.4
Ln Grp LOS	E	C	B	D	B	B	D	A	D	D	D	D
Approach Vol, veh/h		2096			1617			502			153	
Approach Delay, s/veh		26.1			14.4			46.5			45.0	
Approach LOS		C			B			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		16.2	78.4		25.3	9.1	85.5		25.3			
Change Period (Y+Rc), s		6.3	6.1		* 5.9	6.3	6.1		* 5.9			
Max Green (Gmax), s		10.1	54.6		* 37	10.0	54.7		* 37			
Max Allow Headway (MAH), s		3.8	5.2		4.0	3.8	5.2		4.9			
Max Q Clear (g_c+I1), s		7.1	40.3		17.5	2.3	17.6		10.6			
Green Ext Time (g_e), s		0.1	11.5		1.9	0.0	13.8		0.7			
Prob of Phs Call (p_c)		0.99	1.00		1.00	0.28	1.00		1.00			
Prob of Max Out (p_x)		1.00	0.79		0.00	0.00	0.15		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1320	3456			934			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		0		5232		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		3170		36		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	1	2	0	0	1
Grp Vol (v), veh/h	153	0	0	45	10	0	0	74
Grp Sat Flow (s), veh/h/ln	1728	0	0	1320	1728	0	0	934
Q Serve Time (g_s), s	5.1	0.0	0.0	3.9	0.3	0.0	0.0	8.6
Cycle Q Clear Time (g_c), s	5.1	0.0	0.0	6.3	0.3	0.0	0.0	8.6
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1320	0	0	0	934
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	19.4	0.0	0.0	0.0	19.4
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	17.1	0.0	0.0	0.0	19.4
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	3.9	0.0	0.0	0.0	8.6
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	286	0	0	248	82	0	0	211
V/C Ratio (X)	0.53	0.00	0.00	0.18	0.12	0.00	0.00	0.35
Avail Cap (c_a), veh/h	291	0	0	442	288	0	0	348
Upstream Filter (I)	1.00	0.00	0.00	0.99	0.65	0.00	0.00	1.00
Uniform Delay (d1), s/veh	52.8	0.0	0.0	51.7	57.8	0.0	0.0	45.8
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.3	0.4	0.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	54.6	0.0	0.0	52.0	58.3	0.0	0.0	46.7
1st-Term Q (Q1), veh/ln	2.2	0.0	0.0	1.4	0.1	0.0	0.0	2.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	4.1	0.0	0.0	2.5	0.3	0.0	0.0	3.7
%ile Storage Ratio (RQ%)	0.35	0.00	0.00	0.42	0.05	0.00	0.00	0.49
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	3	0	0	0	2	0	1
Grp Vol (v), veh/h	0	2012	0	0	0	946	0	42
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	38.3	0.0	0.0	0.0	15.6	0.0	2.3
Cycle Q Clear Time (g_c), s	0.0	38.3	0.0	0.0	0.0	15.6	0.0	2.3
Lane Grp Cap (c), veh/h	0	3077	0	0	0	2253	0	303
V/C Ratio (X)	0.00	0.65	0.00	0.00	0.00	0.42	0.00	0.14
Avail Cap (c_a), veh/h	0	3077	0	0	0	2253	0	577
Upstream Filter (I)	0.00	0.65	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.6	0.0	0.0	0.0	9.5	0.0	43.1
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.6	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.3	0.0	0.0	0.0	10.1	0.0	43.3
1st-Term Q (Q1), veh/ln	0.0	16.3	0.0	0.0	0.0	5.5	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.33	0.00	1.00	0.00	1.69	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	21.9	0.0	0.0	0.0	9.6	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.32	0.00	0.00	0.00	0.59	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	74	0	457	0	518	0	37
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1864	0	1585
Q Serve Time (g_s), s	0.0	3.4	0.0	15.5	0.0	15.6	0.0	2.4
Cycle Q Clear Time (g_c), s	0.0	3.4	0.0	15.5	0.0	15.6	0.0	2.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	9.9	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.02	0.00	1.00
Lane Grp Cap (c), veh/h	0	955	0	776	0	1234	0	257
V/C Ratio (X)	0.00	0.08	0.00	0.59	0.00	0.42	0.00	0.14
Avail Cap (c_a), veh/h	0	955	0	1240	0	1234	0	489
Upstream Filter (I)	0.00	0.65	0.00	0.99	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.2	0.0	45.3	0.0	9.5	0.0	43.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.7	0.0	1.1	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.3	0.0	46.0	0.0	10.6	0.0	43.4
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	6.6	0.0	6.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.63	0.00	1.65	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.3	0.0	10.9	0.0	10.5	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	1.84	0.00	0.65	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	683	155	117	380	0	123	0	147	4	2	10
Future Volume (veh/h)	1	683	155	117	380	0	123	0	147	4	2	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	742	168	127	413	0	134	0	160	4	2	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	2034	460	431	2386	0	221	0	196	14	7	39
Arrive On Green	0.00	0.71	0.71	0.67	0.67	0.00	0.12	0.00	0.12	0.04	0.04	0.04
Sat Flow, veh/h	1781	2878	652	613	3647	0	1781	0	1585	390	195	1073
Grp Volume(v), veh/h	1	458	452	127	413	0	134	0	160	17	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1753	613	1777	0	1781	0	1585	1658	0	0
Q Serve(g_s), s	0.1	12.2	12.2	12.4	5.2	0.0	8.6	0.0	11.8	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.1	12.2	12.2	20.4	5.2	0.0	8.6	0.0	11.8	1.2	0.0	0.0
Prop In Lane	1.00		0.37	1.00		0.00	1.00		1.00	0.24		0.65
Lane Grp Cap(c), veh/h	3	1256	1239	431	2386	0	221	0	196	60	0	0
V/C Ratio(X)	0.29	0.36	0.36	0.29	0.17	0.00	0.61	0.00	0.81	0.28	0.00	0.00
Avail Cap(c_a), veh/h	111	1256	1239	431	2386	0	416	0	370	387	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.8	7.0	7.0	11.8	7.3	0.0	49.8	0.0	51.2	56.3	0.0	0.0
Incr Delay (d2), s/veh	41.9	0.8	0.8	1.5	0.1	0.0	2.7	0.0	7.9	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	8.0	8.0	3.3	3.5	0.0	7.2	0.0	8.8	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.7	7.8	7.8	13.3	7.5	0.0	52.5	0.0	59.1	58.9	0.0	0.0
LnGrp LOS	F	A	A	B	A	A	D	A	E	E	A	A
Approach Vol, veh/h		911		540		294		17				
Approach Delay, s/veh		7.9		8.8		56.1		58.9				
Approach LOS		A		A		E		E				
Timer - Assigned Phs	1	2	4	6	8							
Phs Duration (G+Y+Rc), s	4.2	86.2	9.3	90.4	20.3							
Change Period (Y+Rc), s	4.0	5.6	* 5	* 5.6	5.4							
Max Green Setting (Gmax), s	5	36.5	* 28	* 48	28.0							
Max Q Clear Time (g_c+1), s	12	22.4	3.2	14.2	13.8							
Green Ext Time (p_c), s	0.0	3.4	0.0	7.0	1.1							

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↗	↖
Traffic Volume (veh/h)	1	683	155	117	380	0	123	0	147	4	2	10
Future Volume (veh/h)	1	683	155	117	380	0	123	0	147	4	2	10
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	742	168	127	413	0	134	0	160	4	2	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	3	2034	460	431	2386	0	221	0	196	14	7	39
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.71	0.71	0.67	0.67	0.00	0.12	0.00	0.12	0.04	0.04	0.04
Unsig. Movement Delay												
Ln Grp Delay, s/veh	101.7	7.8	7.8	13.3	7.5	0.0	52.5	0.0	59.1	58.9	0.0	0.0
Ln Grp LOS	F	A	A	B	A	A	D	A	E	E	A	A
Approach Vol, veh/h		911			540			294			17	
Approach Delay, s/veh		7.9			8.8			56.1			58.9	
Approach LOS		A			A			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4		6					
Case No		2.0	6.3	11.0	12.0		4.0					
Phs Duration (G+Y+Rc), s		4.2	86.2	20.3	9.3		90.4					
Change Period (Y+Rc), s		4.0	5.6	5.4	* 5		* 5.6					
Max Green (Gmax), s		7.5	36.5	28.0	* 28		* 48					
Max Allow Headway (MAH), s		3.8	5.7	4.6	5.5		5.3					
Max Q Clear (g_c+I1), s		2.1	22.4	13.8	3.2		14.2					
Green Ext Time (g_e), s		0.0	3.4	1.1	0.0		7.0					
Prob of Phs Call (p_c)		0.03	1.00	1.00	0.43		1.00					
Prob of Max Out (p_x)		0.01	0.16	0.01	0.00		0.03					
Left-Turn Movement Data												
Assigned Mvmt		1	5	3	7							
Mvmt Sat Flow, veh/h		1781	613	1781	390							
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3647	0	195		2878					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			0	1585	1073		652					
Left Lane Group Data												
Assigned Mvmt		1	5	3	7	0	0	0	0			
Lane Assignment		L (Prot)	L	L+T	L+T+R							

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

Lanes in Grp	1	1	1	1	0	0	0	0
Grp Vol (v), veh/h	1	127	134	17	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	613	1781	1658	0	0	0	0
Q Serve Time (g_s), s	0.1	12.4	8.6	1.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	20.4	8.6	1.2	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	613	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	80.6	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	72.6	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	12.4	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	1.00	0.24	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	3	431	221	60	0	0	0	0
V/C Ratio (X)	0.29	0.29	0.61	0.28	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	111	431	416	387	0	0	0	0
Upstream Filter (I)	1.00	0.86	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	59.8	11.8	49.8	56.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	41.9	1.5	2.7	2.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	101.7	13.3	52.5	58.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.6	3.8	0.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	1.80	1.80	0.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.1	3.3	7.2	1.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.03	0.51	0.14	0.19	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	1	0	0
Grp Vol (v), veh/h	0	413	0	0	0	458	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	5.2	0.0	0.0	0.0	12.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	0.0	0.0	12.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	2386	0	0	0	1256	0	0
V/C Ratio (X)	0.00	0.17	0.00	0.00	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	2386	0	0	0	1256	0	0
Upstream Filter (I)	0.00	0.86	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.3	0.0	0.0	0.0	7.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.5	0.0	0.0	0.0	7.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.0	0.0	4.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	0.00	1.77	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	3.5	0.0	0.0	0.0	8.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.00	0.00	0.67	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment			R			T+R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	160	0	0	452	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1753	0	0
Q Serve Time (g_s), s	0.0	0.0	11.8	0.0	0.0	12.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	11.8	0.0	0.0	12.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.65	0.00	0.37	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	196	0	0	1239	0	0
V/C Ratio (X)	0.00	0.00	0.81	0.00	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	0	370	0	0	1239	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	51.2	0.0	0.0	7.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	7.9	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	59.1	0.0	0.0	7.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	4.7	0.0	0.0	4.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.73	1.00	0.00	1.77	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	8.8	0.0	0.0	8.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.83	0.00	0.00	0.66	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

6: Bristol Pkwy & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	411	248	57	256	53	128	149	78	53	175	64
Future Volume (veh/h)	8	411	248	57	256	53	128	149	78	53	175	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	447	270	62	278	58	139	162	85	58	190	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	799	357	143	799	357	168	1350	675	202	1418	505
Arrive On Green	0.22	0.22	0.22	0.45	0.45	0.45	0.16	0.98	0.98	0.02	0.18	0.18
Sat Flow, veh/h	1044	3554	1585	734	3554	1585	1781	2294	1147	3456	2568	915
Grp Volume(v), veh/h	9	447	270	62	278	58	139	124	123	58	130	130
Grp Sat Flow(s),veh/h/ln	1044	1777	1585	734	1777	1585	1781	1777	1664	1728	1777	1706
Q Serve(g_s), s	0.9	13.4	19.1	9.4	6.1	2.6	9.1	0.2	0.2	2.0	7.3	7.7
Cycle Q Clear(g_c), s	7.0	13.4	19.1	22.8	6.1	2.6	9.1	0.2	0.2	2.0	7.3	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.69	1.00		0.54
Lane Grp Cap(c), veh/h	242	799	357	143	799	357	168	1045	979	202	981	942
V/C Ratio(X)	0.04	0.56	0.76	0.43	0.35	0.16	0.83	0.12	0.13	0.29	0.13	0.14
Avail Cap(c_a), veh/h	367	1226	547	231	1226	547	371	1045	979	576	981	942
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.67	1.67	1.67	0.33	0.33	0.33
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	0.96	0.96	0.96	0.98	0.98	0.98
Uniform Delay (d), s/veh	41.3	41.2	43.4	38.1	27.3	26.3	49.6	0.4	0.4	56.4	25.0	25.1
Incr Delay (d2), s/veh	0.1	0.6	3.1	2.1	0.3	0.2	9.3	0.2	0.3	0.8	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	9.8	12.2	2.8	4.4	1.8	7.5	0.2	0.2	1.6	6.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	41.8	46.5	40.1	27.5	26.5	58.9	0.7	0.7	57.1	25.2	25.4
LnGrp LOS	D	D	D	D	C	C	E	A	A	E	C	C
Approach Vol, veh/h		726			398			386			318	
Approach Delay, s/veh		43.5			29.3			21.6			31.1	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	76.4		32.6	15.3	72.1		32.6				
Change Period (Y+Rc), s	4.0	5.8		* 5.6	4.0	5.8		* 5.6				
Max Green Setting (Gmax), s	20.0	43.2		* 41	25.0	38.2		* 41				
Max Q Clear Time (g_c+1), s	14.0	2.2		21.1	11.1	9.7		24.8				
Green Ext Time (p_c), s	0.1	1.6		3.9	0.3	1.6		2.2				

Intersection Summary

HCM 6th Ctrl Delay	33.7
HCM 6th LOS	C

























Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	411	248	57	256	53	128	149	78	53	175	64
Future Volume (veh/h)	8	411	248	57	256	53	128	149	78	53	175	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	447	270	62	278	58	139	162	85	58	190	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	242	799	357	143	799	357	168	1350	675	202	1418	505
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.67	1.67	1.67	0.33	0.33	0.33
Prop Arrive On Green	0.22	0.22	0.22	0.45	0.45	0.45	0.16	0.98	0.98	0.02	0.18	0.18
Unsig. Movement Delay												
Ln Grp Delay, s/veh	41.4	41.8	46.5	40.1	27.5	26.5	58.9	0.7	0.7	57.1	25.2	25.4
Ln Grp LOS	D	D	D	D	C	C	E	A	A	E	C	C
Approach Vol, veh/h		726			398			386			318	
Approach Delay, s/veh		43.5			29.3			21.6			31.1	
Approach LOS		D			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		11.0	76.4		32.6	15.3	72.1		32.6			
Change Period (Y+Rc), s		4.0	5.8		* 5.6	4.0	5.8		* 5.6			
Max Green (Gmax), s		20.0	43.2		* 41	25.0	38.2		* 41			
Max Allow Headway (MAH), s		3.8	5.4		4.8	3.8	5.3		5.2			
Max Q Clear (g_c+I1), s		4.0	2.2		21.1	11.1	9.7		24.8			
Green Ext Time (g_e), s		0.1	1.6		3.9	0.3	1.6		2.2			
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.03	0.00	0.00		0.02			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1044	1781			734			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2294		3554		2568		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1147		1585		915		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

Lanes in Grp	2	0	0	1	1	0	0	1
Grp Vol (v), veh/h	58	0	0	9	139	0	0	62
Grp Sat Flow (s), veh/h/ln	1728	0	0	1044	1781	0	0	734
Q Serve Time (g_s), s	2.0	0.0	0.0	0.9	9.1	0.0	0.0	9.4
Cycle Q Clear Time (g_c), s	2.0	0.0	0.0	7.0	9.1	0.0	0.0	22.8
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1044	0	0	0	734
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	27.0	0.0	0.0	0.0	27.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	20.9	0.0	0.0	0.0	13.6
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	9.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	202	0	0	242	168	0	0	143
V/C Ratio (X)	0.29	0.00	0.00	0.04	0.83	0.00	0.00	0.43
Avail Cap (c_a), veh/h	576	0	0	367	371	0	0	231
Upstream Filter (I)	0.98	0.00	0.00	0.93	0.96	0.00	0.00	1.00
Uniform Delay (d1), s/veh	56.4	0.0	0.0	41.3	49.6	0.0	0.0	38.1
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.1	9.3	0.0	0.0	2.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	57.1	0.0	0.0	41.4	58.9	0.0	0.0	40.1
1st-Term Q (Q1), veh/ln	0.9	0.0	0.0	0.2	3.8	0.0	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.78	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	1.6	0.0	0.0	0.4	7.5	0.0	0.0	2.8
%ile Storage Ratio (RQ%)	0.22	0.00	0.00	0.07	0.96	0.00	0.00	0.37
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	124	0	447	0	130	0	278
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.2	0.0	13.4	0.0	7.3	0.0	6.1
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	13.4	0.0	7.3	0.0	6.1
Lane Grp Cap (c), veh/h	0	1045	0	799	0	981	0	799
V/C Ratio (X)	0.00	0.12	0.00	0.56	0.00	0.13	0.00	0.35
Avail Cap (c_a), veh/h	0	1045	0	1226	0	981	0	1226
Upstream Filter (I)	0.00	0.96	0.00	0.93	0.00	0.98	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.4	0.0	41.2	0.0	25.0	0.0	27.3
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.0	0.3	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.7	0.0	41.8	0.0	25.2	0.0	27.5
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	5.9	0.0	3.3	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.65	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	9.8	0.0	6.0	0.0	4.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.30	0.00	0.35	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	123	0	270	0	130	0	58
Grp Sat Flow (s), veh/h/ln	0	1664	0	1585	0	1706	0	1585
Q Serve Time (g_s), s	0.0	0.2	0.0	19.1	0.0	7.7	0.0	2.6
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	19.1	0.0	7.7	0.0	2.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.69	0.00	1.00	0.00	0.54	0.00	1.00
Lane Grp Cap (c), veh/h	0	979	0	357	0	942	0	357
V/C Ratio (X)	0.00	0.13	0.00	0.76	0.00	0.14	0.00	0.16
Avail Cap (c_a), veh/h	0	979	0	547	0	942	0	547
Upstream Filter (I)	0.00	0.96	0.00	0.93	0.00	0.98	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.4	0.0	43.4	0.0	25.1	0.0	26.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	3.1	0.0	0.3	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.7	0.0	46.5	0.0	25.4	0.0	26.5
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	7.5	0.0	3.3	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.57	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	12.2	0.0	6.1	0.0	1.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.37	0.00	0.36	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.7
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	557	17	11	229	5	26	0	34	15	4	49
Future Volume (veh/h)	3	557	17	11	229	5	26	0	34	15	4	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	605	18	12	249	5	28	0	37	16	4	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	936	2733	1219	673	2788	1243	129	0	120	123	25	132
Arrive On Green	0.01	0.77	0.77	0.04	1.00	1.00	0.08	0.00	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	832	0	1442	823	299	1585
Grp Volume(v), veh/h	3	605	18	12	249	5	28	0	37	20	0	53
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	832	0	1442	1122	0	1585
Q Serve(g_s), s	0.0	5.7	0.3	0.2	0.0	0.0	2.4	0.0	2.9	0.9	0.0	3.8
Cycle Q Clear(g_c), s	0.0	5.7	0.3	0.2	0.0	0.0	6.2	0.0	2.9	3.8	0.0	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.80		1.00
Lane Grp Cap(c), veh/h	936	2733	1219	673	2788	1243	129	0	120	148	0	132
V/C Ratio(X)	0.00	0.22	0.01	0.02	0.09	0.00	0.22	0.00	0.31	0.14	0.00	0.40
Avail Cap(c_a), veh/h	1089	2733	1219	814	2788	1243	403	0	413	442	0	454
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.1	3.9	3.2	2.8	0.0	0.0	55.1	0.0	51.7	52.3	0.0	52.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.0	0.8	0.0	1.4	0.4	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	3.3	0.2	0.1	0.0	0.0	1.5	0.0	2.0	1.1	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.1	4.0	3.3	2.8	0.1	0.0	56.0	0.0	53.2	52.7	0.0	54.1
LnGrp LOS	A	A	A	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h	626			266			65			73		
Approach Delay, s/veh	4.0			0.2			54.4			53.7		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	4.7	99.7	15.6		6.5	97.9	15.6					
Change Period (Y+Rc), s	4.0	5.6	5.6		* 4.2	* 5.6	5.6					
Max Green Setting (Gmax), s	59.4		34.4		* 12	* 59	34.4					
Max Q Clear Time (g_c+1), s	2.0		5.8		2.2	7.7	8.2					
Green Ext Time (p_c), s	0.0	1.8	0.2		0.0	4.9	0.3					

Intersection Summary

HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A























Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	557	17	11	229	5	26	0	34	15	4	49
Future Volume (veh/h)	3	557	17	11	229	5	26	0	34	15	4	49
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	605	18	12	249	5	28	0	37	16	4	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	936	2733	1219	673	2788	1243	129	0	120	123	25	132
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.77	0.77	0.04	1.00	1.00	0.08	0.00	0.08	0.08	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	3.1	4.0	3.3	2.8	0.1	0.0	56.0	0.0	53.2	52.7	0.0	54.1
Ln Grp LOS	A	A	A	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		626			266			65			73	
Approach Delay, s/veh		4.0			0.2			54.4			53.7	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		1.1	3.0		7.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		4.7	99.7		15.6	6.5	97.9		15.6			
Change Period (Y+Rc), s		4.0	5.6		5.6	* 4.2	* 5.6		5.6			
Max Green (Gmax), s		11.0	59.4		34.4	* 12	* 59		34.4			
Max Allow Headway (MAH), s		3.8	5.2		4.4	3.8	5.2		5.5			
Max Q Clear (g_c+I1), s		2.0	2.0		5.8	2.2	7.7		8.2			
Green Ext Time (g_e), s		0.0	1.8		0.2	0.0	4.9		0.3			
Prob of Phs Call (p_c)		0.10	1.00		1.00	0.33	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			823	1781			832			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		299		3554		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1442			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Pr/Pm)			L+TL (Pr/Pm)			L+T				

HCM 6th Signalized Intersection Capacity Analysis
 7: Uplander Way & Hannum Ave

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	3	0	0	20	12	0	0	28
Grp Sat Flow (s), veh/h/ln	1781	0	0	1122	1781	0	0	832
Q Serve Time (g_s), s	0.0	0.0	0.0	0.9	0.2	0.0	0.0	2.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.8	0.2	0.0	0.0	6.2
Perm LT Sat Flow (s_l), veh/h/ln	1126	0	0	1393	801	0	0	1368
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	92.3	0.0	0.0	10.0	92.3	0.0	0.0	10.0
Perm LT Serve Time (g_u), s	92.3	0.0	0.0	7.1	86.6	0.0	0.0	6.2
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.9	0.1	0.0	0.0	2.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.80	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	936	0	0	148	673	0	0	129
V/C Ratio (X)	0.00	0.00	0.00	0.14	0.02	0.00	0.00	0.22
Avail Cap (c_a), veh/h	1089	0	0	442	814	0	0	403
Upstream Filter (I)	0.74	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	3.1	0.0	0.0	52.3	2.8	0.0	0.0	55.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	3.1	0.0	0.0	52.7	2.8	0.0	0.0	56.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	1.1	0.1	0.0	0.0	1.5
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	0.41	0.02	0.00	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	249	0	0	0	605	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	5.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	5.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	2788	0	0	0	2733	0	0
V/C Ratio (X)	0.00	0.09	0.00	0.00	0.00	0.22	0.00	0.00
Avail Cap (c_a), veh/h	0	2788	0	0	0	2733	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.74	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	0.0	0.0	4.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	5	0	53	0	18	0	37
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1442
Q Serve Time (g_s), s	0.0	0.0	0.0	3.8	0.0	0.3	0.0	2.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.8	0.0	0.3	0.0	2.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1243	0	132	0	1219	0	120
V/C Ratio (X)	0.00	0.00	0.00	0.40	0.00	0.01	0.00	0.31
Avail Cap (c_a), veh/h	0	1243	0	454	0	1219	0	413
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.74	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.2	0.0	3.2	0.0	51.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.0	0.0	0.0	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	54.1	0.0	3.3	0.0	53.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.5	0.0	0.1	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	2.9	0.0	0.2	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.10	0.00	0.05	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	419	182	85	120	0	72	0	89	5	2	13
Future Volume (veh/h)	0	419	182	85	120	0	72	0	89	5	2	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	455	198	92	130	0	78	0	97	5	2	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	2607	1163	731	2923	1304	181	156	220	53	28	89
Arrive On Green	0.00	1.00	1.00	0.02	0.27	0.00	0.08	0.00	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1397	1870	1585	191	341	1063
Grp Volume(v), veh/h	0	455	198	92	130	0	78	0	97	21	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1397	1870	1585	1595	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.3	3.2	0.0	4.7	0.0	6.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.3	3.2	0.0	6.1	0.0	6.7	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.24		0.67
Lane Grp Cap(c), veh/h	1	2607	1163	731	2923	1304	181	156	220	170	0	0
V/C Ratio(X)	0.00	0.17	0.17	0.13	0.04	0.00	0.43	0.00	0.44	0.12	0.00	0.00
Avail Cap(c_a), veh/h	312	2607	1163	854	2923	1304	544	642	632	567	0	0
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.96	0.96	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	2.5	8.9	0.0	53.1	0.0	47.4	51.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3	0.1	0.0	0.0	1.6	0.0	1.4	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.1	0.2	0.7	1.7	0.0	4.2	0.0	5.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.1	0.3	2.6	9.0	0.0	54.7	0.0	48.8	51.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		653			222			175			21	
Approach Delay, s/veh		0.2			6.3			51.4			51.4	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	104.2		15.8	10.7	93.5		15.8				
Change Period (Y+Rc), s	4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8				
Max Green Setting (Gmax), s	2.0	* 43		* 41	15.0	* 49		* 41				
Max Q Clear Time (g_c+1), s	10.0	5.2		8.7	3.3	2.0		3.4				
Green Ext Time (p_c), s	0.0	0.8		0.5	0.1	4.2		0.1				

Intersection Summary

HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗	↙	↑	↗		↕	
Traffic Volume (veh/h)	0	419	182	85	120	0	72	0	89	5	2	13
Future Volume (veh/h)	0	419	182	85	120	0	72	0	89	5	2	13
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	455	198	92	130	0	78	0	97	5	2	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	1	2607	1163	731	2923	1304	181	156	220	53	28	89
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	1.00	1.00	0.02	0.27	0.00	0.08	0.00	0.08	0.08	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	0.1	0.3	2.6	9.0	0.0	54.7	0.0	48.8	51.4	0.0	0.0
Ln Grp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		653			222			175			21	
Approach Delay, s/veh		0.2			6.3			51.4			51.4	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		0.0	104.2		15.8	10.7	93.5		15.8			
Change Period (Y+Rc), s		4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8			
Max Green (Gmax), s		21.0	* 43		* 41	15.0	* 49		* 41			
Max Allow Headway (MAH), s		0.0	5.2		3.9	3.8	4.9		5.5			
Max Q Clear (g_c+I1), s		0.0	5.2		8.7	3.3	2.0		3.4			
Green Ext Time (g_e), s		0.0	0.8		0.5	0.1	4.2		0.1			
Prob of Phs Call (p_c)		0.00	1.00		1.00	0.95	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1397	1781			191			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		1870		3554		341			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1063			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			LL (Pr/Pm)				L+T+R			

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

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Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	0	0	0	78	92	0	0	21
Grp Sat Flow (s), veh/h/ln	1781	0	0	1397	1781	0	0	1595
Q Serve Time (g_s), s	0.0	0.0	0.0	4.7	1.3	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.1	1.3	0.0	0.0	1.4
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1397	779	0	0	1319
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1781	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	10.0	90.0	0.0	0.0	10.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	8.6	88.0	0.0	0.0	10.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	4.7	0.3	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.24
Lane Grp Cap (c), veh/h	1	0	0	181	731	0	0	170
V/C Ratio (X)	0.00	0.00	0.00	0.43	0.13	0.00	0.00	0.12
Avail Cap (c_a), veh/h	312	0	0	544	854	0	0	567
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.96	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	53.1	2.5	0.0	0.0	51.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.6	0.1	0.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	54.7	2.6	0.0	0.0	51.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.3	0.4	0.0	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	4.2	0.7	0.0	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.94	0.09	0.00	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		
Lanes in Grp	0	2	0	1	0	2	0	0
Grp Vol (v), veh/h	0	130	0	0	0	455	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2923	0	156	0	2607	0	0
V/C Ratio (X)	0.00	0.04	0.00	0.00	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	2923	0	642	0	2607	0	0
Upstream Filter (I)	0.00	0.96	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.0	0.0	0.0	0.0	0.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	1.7	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	97	0	198	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.67
Lane Grp Cap (c), veh/h	0	1304	0	220	0	1163	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.44	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	1304	0	632	0	1163	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	47.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.4	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	48.8	0.0	0.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	5.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.09	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

9: Bristol Pkwy & Green Valley Cir

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	93	332	123	67	206	89	113	148	63	277	587	124
Future Volume (veh/h)	93	332	123	67	206	89	113	148	63	277	587	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	361	134	73	224	97	123	161	68	301	638	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	605	221	158	579	243	527	837	353	776	1957	413
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.67	0.67	0.67	1.00	1.00	1.00
Sat Flow, veh/h	1059	2548	932	902	2440	1023	697	1248	527	1152	2919	617
Grp Volume(v), veh/h	101	250	245	73	161	160	123	0	229	301	388	385
Grp Sat Flow(s),veh/h/ln	1059	1777	1703	902	1777	1686	697	0	1775	1152	1777	1759
Q Serve(g_s), s	10.7	15.0	15.4	9.4	9.1	9.6	8.5	0.0	5.9	3.7	0.0	0.0
Cycle Q Clear(g_c), s	20.3	15.0	15.4	24.8	9.1	9.6	8.5	0.0	5.9	9.6	0.0	0.0
Prop In Lane	1.00		0.55	1.00		0.61	1.00		0.30	1.00		0.35
Lane Grp Cap(c), veh/h	227	422	404	158	422	400	527	0	1190	776	1191	1179
V/C Ratio(X)	0.45	0.59	0.61	0.46	0.38	0.40	0.23	0.00	0.19	0.39	0.33	0.33
Avail Cap(c_a), veh/h	306	555	532	226	555	527	527	0	1190	776	1191	1179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	47.1	40.6	40.8	51.8	38.4	38.6	7.9	0.0	7.5	0.4	0.0	0.0
Incr Delay (d2), s/veh	1.4	1.3	1.5	2.1	0.6	0.6	1.0	0.0	0.4	1.4	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	11.0	10.8	4.0	7.3	7.3	2.5	0.0	4.1	0.5	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.5	42.0	42.2	53.9	39.0	39.2	9.0	0.0	7.9	1.7	0.7	0.7
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		596		394		352		1074				
Approach Delay, s/veh		43.2		41.8		8.2		1.0				
Approach LOS		D		D		A		A				
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		86.0		34.0		86.0		34.0				
Change Period (Y+Rc), s		* 5.6		* 5.5		* 5.6		* 5.5				
Max Green Setting (Gmax), s		* 71		* 38		* 71		* 38				
Max Q Clear Time (g_c+I1), s		10.5		22.3		11.6		26.8				
Green Ext Time (p_c), s		2.7		3.1		7.7		1.7				

Intersection Summary

HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
9: Bristol Pkwy & Green Valley Cir

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	332	123	67	206	89	113	148	63	277	587	124
Future Volume (veh/h)	93	332	123	67	206	89	113	148	63	277	587	124
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	361	134	73	224	97	123	161	68	301	638	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	227	605	221	158	579	243	527	837	353	776	1957	413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.67	0.67	0.67	1.00	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	48.5	42.0	42.2	53.9	39.0	39.2	9.0	0.0	7.9	1.7	0.7	0.7
Ln Grp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		596			394			352			1074	
Approach Delay, s/veh		43.2			41.8			8.2			1.0	
Approach LOS		D			D			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			86.0		34.0		86.0		34.0			
Change Period (Y+Rc), s			* 5.6		* 5.5		* 5.6		* 5.5			
Max Green (Gmax), s			* 71		* 38		* 71		* 38			
Max Allow Headway (MAH), s			5.7		5.2		5.0		5.3			
Max Q Clear (g_c+I1), s			10.5		22.3		11.6		26.8			
Green Ext Time (g_e), s			2.7		3.1		7.7		1.7			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.11		0.00		0.19			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			697		1059		1152		902			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1248		2548		2919		2440			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			527		932		617		1023			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	123	0	101	0	301	0	73
Grp Sat Flow (s), veh/h/ln	0	697	0	1059	0	1152	0	902
Q Serve Time (g_s), s	0.0	8.5	0.0	10.7	0.0	3.7	0.0	9.4
Cycle Q Clear Time (g_c), s	0.0	8.5	0.0	20.3	0.0	9.6	0.0	24.8
Perm LT Sat Flow (s_l), veh/h/ln	0	697	0	1059	0	1152	0	902
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	80.4	0.0	28.5	0.0	80.4	0.0	28.5
Perm LT Serve Time (g_u), s	0.0	80.4	0.0	18.9	0.0	74.6	0.0	13.1
Perm LT Q Serve Time (g_ps), s	0.0	8.5	0.0	10.7	0.0	3.7	0.0	9.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	527	0	227	0	776	0	158
V/C Ratio (X)	0.00	0.23	0.00	0.45	0.00	0.39	0.00	0.46
Avail Cap (c_a), veh/h	0	527	0	306	0	776	0	226
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.94	0.00	1.00
Uniform Delay (d1), s/veh	0.0	7.9	0.0	47.1	0.0	0.4	0.0	51.8
Incr Delay (d2), s/veh	0.0	1.0	0.0	1.4	0.0	1.4	0.0	2.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.0	0.0	48.5	0.0	1.7	0.0	53.9
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	2.8	0.0	0.0	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.5	0.0	5.2	0.0	0.5	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.52	0.00	1.47	0.00	0.12	0.00	1.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	250	0	388	0	161
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	15.0	0.0	0.0	0.0	9.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	15.0	0.0	0.0	0.0	9.1
Lane Grp Cap (c), veh/h	0	0	0	422	0	1191	0	422
V/C Ratio (X)	0.00	0.00	0.00	0.59	0.00	0.33	0.00	0.38
Avail Cap (c_a), veh/h	0	0	0	555	0	1191	0	555
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.94	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	40.6	0.0	0.0	0.0	38.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	0.7	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	42.0	0.0	0.7	0.0	39.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	6.6	0.0	0.0	0.0	4.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.63	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	11.0	0.0	0.4	0.0	7.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.30	0.00	0.01	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	229	0	245	0	385	0	160
Grp Sat Flow (s), veh/h/ln	0	1775	0	1703	0	1759	0	1686
Q Serve Time (g_s), s	0.0	5.9	0.0	15.4	0.0	0.0	0.0	9.6
Cycle Q Clear Time (g_c), s	0.0	5.9	0.0	15.4	0.0	0.0	0.0	9.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.30	0.00	0.55	0.00	0.35	0.00	0.61
Lane Grp Cap (c), veh/h	0	1190	0	404	0	1179	0	400
V/C Ratio (X)	0.00	0.19	0.00	0.61	0.00	0.33	0.00	0.40
Avail Cap (c_a), veh/h	0	1190	0	532	0	1179	0	527
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.94	0.00	1.00
Uniform Delay (d1), s/veh	0.0	7.5	0.0	40.8	0.0	0.0	0.0	38.6
Incr Delay (d2), s/veh	0.0	0.4	0.0	1.5	0.0	0.7	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.9	0.0	42.2	0.0	0.7	0.0	39.2
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	6.4	0.0	0.0	0.0	4.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.64	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.1	0.0	10.8	0.0	0.4	0.0	7.3
%ile Storage Ratio (RQ%)	0.00	0.19	0.00	0.30	0.00	0.01	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

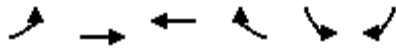
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

10: Green Valley Cir & Buckingham

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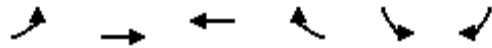


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	80	411	148	72	139	68
Future Volume (veh/h)	80	411	148	72	139	68
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	447	161	78	151	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	974	2898	1924	890	188	167
Arrive On Green	0.27	0.27	0.82	0.82	0.11	0.11
Sat Flow, veh/h	1141	3647	2453	1092	1781	1585
Grp Volume(v), veh/h	87	447	119	120	151	74
Grp Sat Flow(s),veh/h/ln	1141	1777	1777	1674	1781	1585
Q Serve(g_s), s	6.9	11.5	1.6	1.7	9.9	5.3
Cycle Q Clear(g_c), s	8.6	11.5	1.6	1.7	9.9	5.3
Prop In Lane	1.00			0.65	1.00	1.00
Lane Grp Cap(c), veh/h	974	2898	1449	1365	188	167
V/C Ratio(X)	0.09	0.15	0.08	0.09	0.81	0.44
Avail Cap(c_a), veh/h	974	2898	1449	1365	757	674
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.9	12.3	2.2	2.2	52.5	50.4
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.1	7.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.3	8.9	0.8	0.8	8.5	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.9	12.3	2.3	2.3	60.3	52.2
LnGrp LOS	B	B	A	A	E	D
Approach Vol, veh/h		534	239		225	
Approach Delay, s/veh		12.2	2.3		57.7	
Approach LOS		B	A		E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		103.4		16.6		103.4
Change Period (Y+Rc), s		* 5.5		4.0		* 5.5
Max Green Setting (Gmax), s		* 60		51.0		* 60
Max Q Clear Time (g_c+I1), s		3.7		11.9		13.5
Green Ext Time (p_c), s		1.6		0.7		3.7
Intersection Summary						
HCM 6th Ctrl Delay			20.1			
HCM 6th LOS			C			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↶	↷	↷		↶	↷			
Traffic Volume (veh/h)	80	411	148	72	139	68			
Future Volume (veh/h)	80	411	148	72	139	68			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	87	447	161	78	151	74			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	974	2898	1924	890	188	167			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.27	0.27	0.82	0.82	0.11	0.11			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	11.9	12.3	2.3	2.3	60.3	52.2			
Ln Grp LOS	B	B	A	A	E	D			
Approach Vol, veh/h		534	239		225				
Approach Delay, s/veh		12.2	2.3		57.7				
Approach LOS		B	A		E				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		9.0		6.0		
Phs Duration (G+Y+Rc), s			103.4		16.6		103.4		
Change Period (Y+Rc), s			* 5.5		4.0		* 5.5		
Max Green (Gmax), s			* 60		51.0		* 60		
Max Allow Headway (MAH), s			5.4		3.9		5.1		
Max Q Clear (g_c+I1), s			3.7		11.9		13.5		
Green Ext Time (g_e), s			1.6		0.7		3.7		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1781		1141		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			2453		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			1092		1585		0		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment					L		L		

HCM 6th Signalized Intersection Capacity Analysis
 10: Green Valley Cir & Buckingham

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Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	151	0	87	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	0	1141	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	9.9	0.0	6.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.9	0.0	8.6	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	1141	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	97.9	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	96.2	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0
Time to First Blk (g_f), s	0.0	97.9	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	188	0	974	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.81	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	757	0	974	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.78	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.5	0.0	11.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	7.9	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	60.3	0.0	11.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.4	0.0	1.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.74	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	8.5	0.0	3.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.12	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	119	0	0	0	447	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	1.6	0.0	0.0	0.0	11.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	0.0	0.0	11.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	1449	0	0	0	2898	0	0
V/C Ratio (X)	0.00	0.08	0.00	0.00	0.00	0.15	0.00	0.00
Avail Cap (c_a), veh/h	0	1449	0	0	0	2898	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.78	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.2	0.0	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.3	0.0	0.0	0.0	12.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.0	0.0	5.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.62	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.8	0.0	0.0	0.0	8.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.14	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	120	0	74	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1674	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	1.7	0.0	5.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.7	0.0	5.3	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.65	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1365	0	167	0	0	0	0
V/C Ratio (X)	0.00	0.09	0.00	0.44	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1365	0	674	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.2	0.0	50.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.3	0.0	52.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	2.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.8	0.0	3.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.06	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

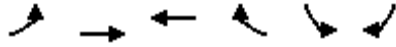
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

11: Centinela Ave & Green Valley Cir

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	76	1436	529	161	495	84
Future Volume (veh/h)	76	1436	529	161	495	84
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	1561	575	175	538	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	534	2557	2557	1141	632	290
Arrive On Green	0.72	0.72	0.72	0.72	0.18	0.18
Sat Flow, veh/h	712	3647	3647	1585	3456	1585
Grp Volume(v), veh/h	83	1561	575	175	538	91
Grp Sat Flow(s),veh/h/ln	712	1777	1777	1585	1728	1585
Q Serve(g_s), s	5.3	26.4	6.5	4.2	18.1	6.0
Cycle Q Clear(g_c), s	11.8	26.4	6.5	4.2	18.1	6.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	534	2557	2557	1141	632	290
V/C Ratio(X)	0.16	0.61	0.22	0.15	0.85	0.31
Avail Cap(c_a), veh/h	534	2557	2557	1141	904	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.6	8.4	5.6	5.3	47.4	42.5
Incr Delay (d2), s/veh	0.6	1.1	0.0	0.1	5.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	14.4	4.0	2.3	12.9	4.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.2	9.5	5.7	5.4	52.9	43.1
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h		1644	750		629	
Approach Delay, s/veh		9.4	5.6		51.5	
Approach LOS		A	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		92.4		27.6		92.4
Change Period (Y+Rc), s		6.1		* 5.6		6.1
Max Green Setting (Gmax), s		76.9		* 31		76.9
Max Q Clear Time (g_c+I1), s		28.4		20.1		8.5
Green Ext Time (p_c), s		20.6		1.9		5.2

Intersection Summary

HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

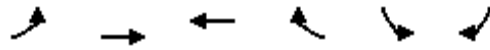
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖	↕	↕	↗	↖	↗			
Traffic Volume (veh/h)	76	1436	529	161	495	84			
Future Volume (veh/h)	76	1436	529	161	495	84			
Number	5	2	6	16	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	83	1561	575	175	538	91			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	534	2557	2557	1141	632	290			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.72	0.72	0.72	0.72	0.18	0.18			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	8.2	9.5	5.7	5.4	52.9	43.1			
Ln Grp LOS	A	A	A	A	D	D			
Approach Vol, veh/h		1644	750		629				
Approach Delay, s/veh		9.4	5.6		51.5				
Approach LOS		A	A		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s			92.4		27.6		92.4		
Change Period (Y+Rc), s			6.1		* 5.6		6.1		
Max Green (Gmax), s			76.9		* 31		76.9		
Max Allow Headway (MAH), s			5.3		3.8		5.0		
Max Q Clear (g_c+I1), s			28.4		20.1		8.5		
Green Ext Time (g_e), s			20.6		1.9		5.2		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.16		0.05		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			712		3456		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis
 11: Centinela Ave & Green Valley Cir

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Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	83	0	538	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	712	0	1728	0	0	0	0
Q Serve Time (g_s), s	0.0	5.3	0.0	18.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.8	0.0	18.1	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	712	0	1728	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	86.3	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	79.8	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	86.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	534	0	632	0	0	0	0
V/C Ratio (X)	0.00	0.16	0.00	0.85	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	534	0	904	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.6	0.0	47.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	5.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.2	0.0	52.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	7.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.5	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.57	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	1.6	0.0	12.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.26	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1561	0	0	0	575	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	26.4	0.0	0.0	0.0	6.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	26.4	0.0	0.0	0.0	6.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	2557	0	0	0	2557	0	0
V/C Ratio (X)	0.00	0.61	0.00	0.00	0.00	0.22	0.00	0.00
Avail Cap (c_a), veh/h	0	2557	0	0	0	2557	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	0.0	0.0	5.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.5	0.0	0.0	0.0	5.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	9.0	0.0	0.0	0.0	2.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.54	0.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	14.4	0.0	0.0	0.0	4.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.52	0.00	0.00	0.00	0.17	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	91	0	175	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	6.0	0.0	4.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.0	0.0	4.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	290	0	1141	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.31	0.00	0.15	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	415	0	1141	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	42.5	0.0	5.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	43.1	0.0	5.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.4	0.0	1.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	4.3	0.0	2.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.09	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B
























Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

1: Hannum Ave & Slauson Ave
























07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	243	46	38	527	613	108	703	285	172	179	29
Future Volume (veh/h)	40	243	46	38	527	613	108	703	285	172	179	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	264	50	41	573	666	117	764	0	187	195	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	1973	360	197	2316	719	705	852		247	381	
Arrive On Green	0.06	0.45	0.45	0.06	0.45	0.45	0.20	0.24	0.00	0.07	0.11	0.00
Sat Flow, veh/h	1781	4340	792	3456	5106	1585	3456	3554	1585	3456	3647	0
Grp Volume(v), veh/h	43	205	109	41	573	666	117	764	0	187	195	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1728	1728	1702	1585	1728	1777	1585	1728	1777	0
Q Serve(g_s), s	3.3	4.9	5.1	1.6	9.7	55.4	3.9	29.1	0.0	7.4	7.3	0.0
Cycle Q Clear(g_c), s	3.3	4.9	5.1	1.6	9.7	55.4	3.9	29.1	0.0	7.4	7.3	0.0
Prop In Lane	1.00		0.46	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	103	1548	786	197	2316	719	705	852		247	381	
V/C Ratio(X)	0.42	0.13	0.14	0.21	0.25	0.93	0.17	0.90		0.76	0.51	
Avail Cap(c_a), veh/h	129	1548	786	247	2316	719	705	932		264	949	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.7	22.2	22.2	63.0	23.5	36.0	45.9	51.5	0.0	63.8	59.0	0.0
Incr Delay (d2), s/veh	2.7	0.2	0.4	0.5	0.2	18.6	0.1	10.7	0.0	11.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	3.7	4.0	1.3	7.1	32.6	3.1	20.4	0.0	6.6	6.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.3	22.3	22.6	63.5	23.8	54.6	46.0	62.2	0.0	75.1	60.1	0.0
LnGrp LOS	E	C	C	E	C	D	D	E		E	E	
Approach Vol, veh/h		357			1280			881			382	
Approach Delay, s/veh		27.7			41.1			60.0			67.4	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.1	69.8	34.9	21.3	14.2	69.6	16.3	39.9				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3				
Max Green Setting (Gmax), s	* 10	* 58	10.0	37.4	* 10	* 58	10.7	36.7				
Max Q Clear Time (g_c+I1), s	3.6	7.1	5.9	9.3	5.3	57.4	9.4	31.1				
Green Ext Time (p_c), s	0.0	2.2	0.1	1.2	0.0	0.2	0.1	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			48.7									
HCM 6th LOS			D									
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	243	46	38	527	613	108	703	285	172	179	29
Future Volume (veh/h)	40	243	46	38	527	613	108	703	285	172	179	29
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	264	50	41	573	666	117	764	0	187	195	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	103	1973	360	197	2316	719	705	852		247	381	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.45	0.45	0.06	0.45	0.45	0.20	0.24	0.00	0.07	0.11	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	66.3	22.3	22.6	63.5	23.8	54.6	46.0	62.2	0.0	75.1	60.1	0.0
Ln Grp LOS	E	C	C	E	C	D	D	E		E	E	
Approach Vol, veh/h		357			1280			881			382	
Approach Delay, s/veh		27.7			41.1			60.0			67.4	
Approach LOS		C			D			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	4.0	4.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.1	69.8	21.3	34.9	14.2	69.6	16.3	39.9			
Change Period (Y+Rc), s		* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3			
Max Green (Gmax), s		* 10	* 58	37.4	10.0	* 10	* 58	10.7	36.7			
Max Allow Headway (MAH), s		3.8	5.3	5.2	3.8	3.8	4.6	3.8	5.2			
Max Q Clear (g_c+I1), s		3.6	7.1	9.3	5.9	5.3	57.4	9.4	31.1			
Green Ext Time (g_e), s		0.0	2.2	1.2	0.1	0.0	0.2	0.1	2.4			
Prob of Phs Call (p_c)		0.80	1.00	1.00	0.99	0.81	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.02	0.00	0.00	0.73	0.23	1.00	1.00	0.95			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	1781		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			4340	3647			5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			792	0			1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	41	0	0	117	43	0	187	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1781	0	1728	0
Q Serve Time (g_s), s	1.6	0.0	0.0	3.9	3.3	0.0	7.4	0.0
Cycle Q Clear Time (g_c), s	1.6	0.0	0.0	3.9	3.3	0.0	7.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	197	0	0	705	103	0	247	0
V/C Ratio (X)	0.21	0.00	0.00	0.17	0.42	0.00	0.76	0.00
Avail Cap (c_a), veh/h	247	0	0	705	129	0	264	0
Upstream Filter (I)	0.92	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	63.0	0.0	0.0	45.9	63.7	0.0	63.8	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.1	2.7	0.0	11.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.5	0.0	0.0	46.0	66.3	0.0	75.1	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.0	1.7	1.5	0.0	3.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	1.3	0.0	0.0	3.1	2.8	0.0	6.6	0.0
%ile Storage Ratio (RQ%)	0.15	0.00	0.00	0.39	0.65	0.00	0.84	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	2	2	0	0	3	0	2
Grp Vol (v), veh/h	0	205	195	0	0	573	0	764
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	4.9	7.3	0.0	0.0	9.7	0.0	29.1
Cycle Q Clear Time (g_c), s	0.0	4.9	7.3	0.0	0.0	9.7	0.0	29.1
Lane Grp Cap (c), veh/h	0	1548	381	0	0	2316	0	852
V/C Ratio (X)	0.00	0.13	0.51	0.00	0.00	0.25	0.00	0.90
Avail Cap (c_a), veh/h	0	1548	949	0	0	2316	0	932
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.92	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.2	59.0	0.0	0.0	23.5	0.0	51.5
Incr Delay (d2), s/veh	0.0	0.2	1.1	0.0	0.0	0.2	0.0	10.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.3	60.1	0.0	0.0	23.8	0.0	62.2
1st-Term Q (Q1), veh/ln	0.0	2.0	3.3	0.0	0.0	3.9	0.0	13.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.1	0.0	1.3

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.80	0.00	0.00	1.79	0.00	1.43
%ile Back of Q (95%), veh/ln	0.0	3.7	6.0	0.0	0.0	7.1	0.0	20.4
%ile Storage Ratio (RQ%)	0.00	0.27	0.73	0.00	0.00	0.31	0.00	2.28
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		T+R				R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	109	0	0	0	666	0	0
Grp Sat Flow (s), veh/h/ln	0	1728	0	0	0	1585	0	1585
Q Serve Time (g_s), s	0.0	5.1	0.0	0.0	0.0	55.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.1	0.0	0.0	0.0	55.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.46	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	786	0	0	0	719	0	380
V/C Ratio (X)	0.00	0.14	0.00	0.00	0.00	0.93	0.00	0.00
Avail Cap (c_a), veh/h	0	786	0	0	0	719	0	416
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.92	0.00	0.00
Uniform Delay (d1), s/veh	0.0	22.2	0.0	0.0	0.0	36.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	18.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.6	0.0	0.0	0.0	54.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	0.0	0.0	21.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	3.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	0.00	0.00	1.32	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	4.0	0.0	0.0	0.0	32.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.30	0.00	0.00	0.00	5.34	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	48.7
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑	↗	↖	↑	↗↘	↖	↘	
Traffic Volume (veh/h)	1	329	391	2388	926	0	189	0	1057	0	0	1
Future Volume (veh/h)	1	329	391	2388	926	0	189	0	1057	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	358	0	2596	1007	0	205	0	1149	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	511		3284	2723	1214	214	0	2262	5	0	5
Arrive On Green	0.00	0.10	0.00	1.00	1.00	0.00	0.06	0.00	0.06	0.00	0.00	0.00
Sat Flow, veh/h	1781	5106	1585	5023	3554	1585	3563	0	3170	1781	0	1585
Grp Volume(v), veh/h	1	358	0	2596	1007	0	205	0	1149	0	0	1
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1674	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.1	10.2	0.0	0.0	0.0	0.0	8.6	0.0	9.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	10.2	0.0	0.0	0.0	0.0	8.6	0.0	9.0	0.0	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	6	511		3284	2723	1214	214	0	2262	5	0	5
V/C Ratio(X)	0.16	0.70		0.79	0.37	0.00	0.96	0.00	0.51	0.00	0.00	0.21
Avail Cap(c_a), veh/h	154	1454		3284	2723	1214	214	0	2262	131	0	116
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.00	0.09	0.09	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	74.5	65.3	0.0	0.0	0.0	0.0	70.3	0.0	9.6	0.0	0.0	74.6
Incr Delay (d2), s/veh	11.0	1.7	0.0	0.1	0.0	0.0	49.8	0.0	0.2	0.0	0.0	20.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	8.0	0.0	0.1	0.0	0.0	9.2	0.0	12.9	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.5	67.0	0.0	0.1	0.0	0.0	120.1	0.0	9.8	0.0	0.0	95.3
LnGrp LOS	F	E		A	A	A	F	A	A	A	A	F
Approach Vol, veh/h		359		3603			1354					1
Approach Delay, s/veh		67.1		0.1			26.5					95.3
Approach LOS		E		A			C					F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	65.9	22.8		6.2	5.9	122.7		15.1				
Change Period (Y+Rc), s	7.8	* 7.8		* 5.8	5.4	7.8		6.1				
Max Green Setting (Gmax), s	43	* 43		* 11	13.0	91.9		9.0				
Max Q Clear Time (g_c+1), s	12.2			2.1	2.1	2.0		11.0				
Green Ext Time (p_c), s	23.9	2.6		0.0	0.0	9.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	329	391	2388	926	0	189	0	1057	0	0	1
Future Volume (veh/h)	1	329	391	2388	926	0	189	0	1057	0	0	1
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	358	0	2596	1007	0	205	0	1149	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	6	511		3284	2723	1214	214	0	2262	5	0	5
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.10	0.00	1.00	1.00	0.00	0.06	0.00	0.06	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	85.5	67.0	0.0	0.1	0.0	0.0	120.1	0.0	9.8	0.0	0.0	95.3
Ln Grp LOS	F	E		A	A	A	F	A	A	A	A	F
Approach Vol, veh/h		359			3603			1354				1
Approach Delay, s/veh		67.1			0.1			26.5				95.3
Approach LOS		E			A			C				F
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	3.0	9.0	10.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		105.9	22.8	15.1	6.2	5.9	122.7					
Change Period (Y+Rc), s		7.8	* 7.8	6.1	* 5.8	5.4	7.8					
Max Green (Gmax), s		61.2	* 43	9.0	* 11	13.0	91.9					
Max Allow Headway (MAH), s		3.8	5.2	4.0	5.6	3.8	5.2					
Max Q Clear (g_c+I1), s		2.0	12.2	11.0	2.1	2.1	2.0					
Green Ext Time (g_e), s		23.9	2.6	0.0	0.0	0.0	9.8					
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.04	0.04	1.00					
Prob of Max Out (p_x)		0.12	0.00	1.00	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		5023		3563	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			5106	0	0		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			1585	3170	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis
 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Lanes in Grp	3	0	2	1	1	0	0	0
Grp Vol (v), veh/h	2596	0	205	0	1	0	0	0
Grp Sat Flow (s), veh/h/ln	1674	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	8.6	0.0	0.1	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	8.6	0.0	0.1	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	3284	0	214	5	6	0	0	0
V/C Ratio (X)	0.79	0.00	0.96	0.00	0.16	0.00	0.00	0.00
Avail Cap (c_a), veh/h	3284	0	214	131	154	0	0	0
Upstream Filter (I)	0.09	0.00	1.00	0.00	0.97	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	70.3	0.0	74.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	49.8	0.0	11.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.1	0.0	120.1	0.0	85.5	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.70	1.00	1.80	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.1	0.0	9.2	0.0	0.1	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.01	0.00	0.48	0.00	0.03	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	358	0	0	0	1007	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	511	0	0	0	2723	0	0
V/C Ratio (X)	0.00	0.70	0.00	0.00	0.00	0.37	0.00	0.00
Avail Cap (c_a), veh/h	0	1454	0	0	0	2723	0	0
Upstream Filter (I)	0.00	0.97	0.00	0.00	0.00	0.09	0.00	0.00
Uniform Delay (d1), s/veh	0.0	65.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	67.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.76	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		R	R	T+R		R		
Lanes in Grp	0	1	2	1	0	1	0	0
Grp Vol (v), veh/h	0	0	1149	1	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	9.0	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	9.0	0.1	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	98.1	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	159	2262	5	0	1214	0	0
V/C Ratio (X)	0.00	0.00	0.51	0.21	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	451	2262	116	0	1214	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	9.6	74.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	20.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	9.8	95.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.57	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	12.9	0.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.68	0.02	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑↑		↖↗	↑	↗		↖↗	
Traffic Volume (veh/h)	14	1107	267	51	3028	22	263	8	43	4	3	6
Future Volume (veh/h)	14	1107	267	51	3028	22	263	8	43	4	3	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1203	290	55	3291	24	286	0	53	4	3	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	3299	1024	207	2566	19	242	0	406	69	52	106
Arrive On Green	0.42	1.00	1.00	0.12	0.98	0.98	0.07	0.00	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1781	5106	1585	3456	5230	38	3563	0	3170	1039	779	1585
Grp Volume(v), veh/h	15	1203	290	55	2139	1176	286	0	53	7	0	7
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1864	1781	0	1585	1818	0	1585
Q Serve(g_s), s	0.7	0.0	0.0	2.2	73.6	73.6	10.2	0.0	2.2	0.5	0.0	0.6
Cycle Q Clear(g_c), s	0.7	0.0	0.0	2.2	73.6	73.6	10.2	0.0	2.2	0.5	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.57		1.00
Lane Grp Cap(c), veh/h	376	3299	1024	207	1670	914	242	0	406	121	0	106
V/C Ratio(X)	0.04	0.36	0.28	0.27	1.28	1.29	1.18	0.00	0.13	0.06	0.00	0.07
Avail Cap(c_a), veh/h	376	3299	1024	230	1670	914	242	0	406	388	0	338
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	0.36	0.36	0.36	0.99	0.00	0.99	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	0.0	63.0	1.4	1.4	69.9	0.0	58.0	65.6	0.0	65.6
Incr Delay (d2), s/veh	0.0	0.3	0.6	0.2	128.2	131.6	115.2	0.0	0.1	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.1	0.3	1.7	42.7	47.7	14.0	0.0	1.6	0.5	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	0.3	0.6	63.3	129.6	133.0	185.1	0.0	58.2	65.8	0.0	65.9
LnGrp LOS	C	A	A	E	F	F	F	A	E	E	A	E
Approach Vol, veh/h		1508			3370			339				14
Approach Delay, s/veh		0.7			129.7			165.2				65.8
Approach LOS		A			F			F				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.2	103.0		15.8	37.8	80.4		16.0				
Change Period (Y+Rc), s	6.2	6.1		* 5.8	6.1	* 6.8		5.8				
Max Green Setting (Gmax), s	10.0	73.9		* 32	10.0	* 74		10.2				
Max Q Clear Time (g_c+1), s	10.0	2.0		2.6	2.7	75.6		12.2				
Green Ext Time (p_c), s	0.0	14.6		0.0	0.0	0.0		0.0				

Intersection Summary





























HCM 6th Ctrl Delay	94.6
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.

HCM 6th Signalized Intersection Capacity Analysis
3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  		 				 	
Traffic Volume (veh/h)	14	1107	267	51	3028	22	263	8	43	4	3	6
Future Volume (veh/h)	14	1107	267	51	3028	22	263	8	43	4	3	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1203	290	55	3291	24	286	0	53	4	3	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	376	3299	1024	207	2566	19	242	0	406	69	52	106
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.42	1.00	1.00	0.12	0.98	0.98	0.07	0.00	0.07	0.07	0.07	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	34.4	0.3	0.6	63.3	129.6	133.0	185.1	0.0	58.2	65.8	0.0	65.9
Ln Grp LOS	C	A	A	E	F	F	F	A	E	E	A	E
Approach Vol, veh/h		1508			3370			339			14	
Approach Delay, s/veh		0.7			129.7			165.2			65.8	
Approach LOS		A			F			F			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	6	5					
Case No		2.0	3.0	9.0	12.0	4.0	2.0					
Phs Duration (G+Y+Rc), s		15.2	103.0	16.0	15.8	80.4	37.8					
Change Period (Y+Rc), s		6.2	6.1	5.8	* 5.8	* 6.8	6.1					
Max Green (Gmax), s		10.0	73.9	10.2	* 32	* 74	10.0					
Max Allow Headway (MAH), s		3.8	5.0	3.8	5.4	5.2	3.8					
Max Q Clear (g_c+I1), s		4.2	2.0	12.2	2.6	75.6	2.7					
Green Ext Time (g_e), s		0.0	14.6	0.0	0.0	0.0	0.0					
Prob of Phs Call (p_c)		0.90	1.00	1.00	1.00	1.00	0.46					
Prob of Max Out (p_x)		0.05	0.01	1.00	0.00	1.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7		5					
Mvmt Sat Flow, veh/h		3456		3563	1039		1781					
Through Movement Data												
Assigned Mvmt			2	8	4	6						
Mvmt Sat Flow, veh/h			5106	0	779	5230						
Right-Turn Movement Data												
Assigned Mvmt			12	18	14	16						
Mvmt Sat Flow, veh/h			1585	3170	1585	38						
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	0	5	0	0			
Lane Assignment		L (Prot)		L	L+T		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis 3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023

Lanes in Grp	2	0	2	1	0	1	0	0
Grp Vol (v), veh/h	55	0	286	7	0	15	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	1818	0	1781	0	0
Q Serve Time (g_s), s	2.2	0.0	10.2	0.5	0.0	0.7	0.0	0.0
Cycle Q Clear Time (g_c), s	2.2	0.0	10.2	0.5	0.0	0.7	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.57	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	207	0	242	121	0	376	0	0
V/C Ratio (X)	0.27	0.00	1.18	0.06	0.00	0.04	0.00	0.00
Avail Cap (c_a), veh/h	230	0	242	388	0	376	0	0
Upstream Filter (I)	0.36	0.00	0.99	1.00	0.00	0.83	0.00	0.00
Uniform Delay (d1), s/veh	63.0	0.0	69.9	65.6	0.0	34.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	115.2	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.3	0.0	185.1	65.8	0.0	34.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	4.7	0.3	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.64	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	1.7	0.0	14.0	0.5	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	1.66	0.06	0.00	0.15	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	10.9	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	3	0	0	2	0	0	0
Grp Vol (v), veh/h	0	1203	0	0	2139	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	1702	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	73.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	73.6	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	3299	0	0	1670	0	0	0
V/C Ratio (X)	0.00	0.36	0.00	0.00	1.28	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	3299	0	0	1670	0	0	0
Upstream Filter (I)	0.00	0.83	0.00	0.00	0.36	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	128.2	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	0.0	129.6	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	29.7	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	1.41	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	42.7	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.63	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	117.3	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	16	0	0	0
Lane Assignment		R	R	T+R	T+R			
Lanes in Grp	0	1	2	1	1	0	0	0
Grp Vol (v), veh/h	0	290	53	7	1176	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	1864	0	0	0
Q Serve Time (g_s), s	0.0	0.0	2.2	0.6	73.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	2.2	0.6	73.6	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.02	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1024	406	106	914	0	0	0
V/C Ratio (X)	0.00	0.28	0.13	0.07	1.29	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1024	406	338	914	0	0	0
Upstream Filter (I)	0.00	0.83	0.99	1.00	0.36	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	58.0	65.6	1.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.1	0.3	131.6	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.6	58.2	65.9	133.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.9	0.3	0.6	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	33.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.80	1.80	1.40	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.3	1.6	0.5	47.7	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.10	0.06	0.70	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	65.3	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	94.6
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑		↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	46	989	41	201	2841	54	118	32	172	12	4	24
Future Volume (veh/h)	46	989	41	201	2841	54	118	32	172	12	4	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	1075	45	218	3088	59	128	0	210	13	0	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	3509	1089	267	3644	69	205	0	605	181	0	359
Arrive On Green	0.12	1.00	1.00	0.08	0.71	0.71	0.11	0.00	0.11	0.11	0.00	0.11
Sat Flow, veh/h	3456	5106	1585	3456	5159	98	1381	0	3170	1172	0	3170
Grp Volume(v), veh/h	50	1075	45	218	2031	1116	128	0	210	13	0	29
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1853	1381	0	1585	1172	0	1585
Q Serve(g_s), s	2.0	0.0	0.0	9.3	65.2	66.7	13.6	0.0	8.6	1.5	0.0	1.2
Cycle Q Clear(g_c), s	2.0	0.0	0.0	9.3	65.2	66.7	13.6	0.0	8.6	1.5	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	3509	1089	267	2404	1309	205	0	605	181	0	359
V/C Ratio(X)	0.25	0.31	0.04	0.82	0.84	0.85	0.63	0.00	0.35	0.07	0.00	0.08
Avail Cap(c_a), veh/h	230	3509	1089	366	2404	1309	390	0	1029	338	0	784
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	0.99	0.00	0.99	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.3	0.0	0.0	68.1	16.0	16.3	65.0	0.0	52.6	59.6	0.0	59.5
Incr Delay (d2), s/veh	0.6	0.2	0.1	9.7	3.9	7.2	3.1	0.0	0.3	0.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	0.1	0.0	8.0	33.0	37.7	8.6	0.0	6.3	0.8	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	0.2	0.1	77.9	19.9	23.5	68.1	0.0	52.9	59.8	0.0	59.6
LnGrp LOS	E	A	A	E	B	C	E	A	D	E	A	E
Approach Vol, veh/h		1170			3365			338				42
Approach Delay, s/veh		2.9			24.8			58.7				59.7
Approach LOS		A			C			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	109.2		22.9	15.1	112.0		22.9				
Change Period (Y+Rc), s	6.3	6.1		* 5.9	6.3	6.1		* 5.9				
Max Green Setting (Gmax), s	15.9	78.7		* 37	10.0	84.6		* 37				
Max Q Clear Time (g_c+I), s	11.3	2.0		15.6	4.0	68.7		3.5				
Green Ext Time (p_c), s	0.3	10.7		1.2	0.0	15.2		0.1				

Intersection Summary






























HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  							
Traffic Volume (veh/h)	46	989	41	201	2841	54	118	32	172	12	4	24
Future Volume (veh/h)	46	989	41	201	2841	54	118	32	172	12	4	24
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	1075	45	218	3088	59	128	0	210	13	0	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	202	3509	1089	267	3644	69	205	0	605	181	0	359
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	1.00	1.00	0.08	0.71	0.71	0.11	0.00	0.11	0.11	0.00	0.11
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.8	0.2	0.1	77.9	19.9	23.5	68.1	0.0	52.9	59.8	0.0	59.6
Ln Grp LOS	E	A	A	E	B	C	E	A	D	E	A	E
Approach Vol, veh/h		1170			3365			338			42	
Approach Delay, s/veh		2.9			24.8			58.7			59.7	
Approach LOS		A			C			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		17.9	109.2		22.9	15.1	112.0		22.9			
Change Period (Y+Rc), s		6.3	6.1		* 5.9	6.3	6.1		* 5.9			
Max Green (Gmax), s		15.9	78.7		* 37	10.0	84.6		* 37			
Max Allow Headway (MAH), s		3.8	5.2		4.0	3.8	5.2		4.1			
Max Q Clear (g_c+I1), s		11.3	2.0		15.6	4.0	68.7		3.5			
Green Ext Time (g_e), s		0.3	10.7		1.2	0.0	15.2		0.1			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.88	1.00		1.00			
Prob of Max Out (p_x)		0.53	0.00		0.00	0.04	0.96		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1381	3456			1172			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		0		5159		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		3170		98		3170			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

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Lanes in Grp	2	0	0	1	2	0	0	1
Grp Vol (v), veh/h	218	0	0	128	50	0	0	13
Grp Sat Flow (s), veh/h/ln	1728	0	0	1381	1728	0	0	1172
Q Serve Time (g_s), s	9.3	0.0	0.0	13.6	2.0	0.0	0.0	1.5
Cycle Q Clear Time (g_c), s	9.3	0.0	0.0	13.6	2.0	0.0	0.0	1.5
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1381	0	0	0	1172
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	17.0	0.0	0.0	0.0	17.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	17.0	0.0	0.0	0.0	17.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	13.6	0.0	0.0	0.0	1.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	267	0	0	205	202	0	0	181
V/C Ratio (X)	0.82	0.00	0.00	0.63	0.25	0.00	0.00	0.07
Avail Cap (c_a), veh/h	366	0	0	390	230	0	0	338
Upstream Filter (I)	1.00	0.00	0.00	0.99	0.92	0.00	0.00	1.00
Uniform Delay (d1), s/veh	68.1	0.0	0.0	65.0	63.3	0.0	0.0	59.6
Incr Delay (d2), s/veh	9.7	0.0	0.0	3.1	0.6	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	77.9	0.0	0.0	68.1	63.8	0.0	0.0	59.8
1st-Term Q (Q1), veh/ln	4.1	0.0	0.0	4.8	0.9	0.0	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.77	0.00	0.00	1.73	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	8.0	0.0	0.0	8.6	1.6	0.0	0.0	0.8
%ile Storage Ratio (RQ%)	0.69	0.00	0.00	1.46	0.26	0.00	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1075	0	0	0	2031	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	65.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	65.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	3509	0	0	0	2404	0	0
V/C Ratio (X)	0.00	0.31	0.00	0.00	0.00	0.84	0.00	0.00
Avail Cap (c_a), veh/h	0	3509	0	0	0	2404	0	0
Upstream Filter (I)	0.00	0.92	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	3.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	19.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	23.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	1.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.33	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	0.0	33.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	2.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	45	0	210	0	1116	0	29
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1853	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	8.6	0.0	66.7	0.0	1.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.6	0.0	66.7	0.0	1.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	11.6	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.05	0.00	1.00
Lane Grp Cap (c), veh/h	0	1089	0	605	0	1309	0	359
V/C Ratio (X)	0.00	0.04	0.00	0.35	0.00	0.85	0.00	0.08
Avail Cap (c_a), veh/h	0	1089	0	1029	0	1309	0	784
Upstream Filter (I)	0.00	0.92	0.00	0.99	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.6	0.0	16.3	0.0	59.5
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	7.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	52.9	0.0	23.5	0.0	59.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.5	0.0	26.3	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.31	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	6.3	0.0	37.7	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	1.06	0.00	2.33	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	222	42	40	540	7	264	6	30	0	0	0
Future Volume (veh/h)	2	222	42	40	540	7	264	6	30	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	241	46	43	587	8	287	7	33	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	2149	404	806	2450	33	328	8	299	0	2	0
Arrive On Green	0.00	0.72	0.72	0.68	0.68	0.68	0.19	0.19	0.19	0.00	0.00	0.00
Sat Flow, veh/h	1781	2986	561	1092	3589	49	1741	42	1585	0	1870	0
Grp Volume(v), veh/h	2	142	145	43	290	305	294	0	33	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1769	1092	1777	1862	1783	0	1585	0	1870	0
Q Serve(g_s), s	0.1	2.9	3.0	1.6	7.4	7.4	19.2	0.0	2.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	2.9	3.0	1.6	7.4	7.4	19.2	0.0	2.1	0.0	0.0	0.0
Prop In Lane	1.00		0.32	1.00		0.03	0.98		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	7	1279	1274	806	1213	1271	336	0	299	0	2	0
V/C Ratio(X)	0.30	0.11	0.11	0.05	0.24	0.24	0.87	0.00	0.11	0.00	0.00	0.00
Avail Cap(c_a), veh/h	113	1279	1274	806	1213	1271	484	0	431	0	436	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.57	0.57	0.57	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	59.6	5.1	5.1	6.3	7.2	7.2	47.3	0.0	40.3	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.0	0.2	0.2	0.1	0.3	0.3	11.8	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	1.9	2.0	0.6	4.8	5.0	14.7	0.0	1.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.6	5.3	5.3	6.4	7.5	7.5	59.1	0.0	40.5	0.0	0.0	0.0
LnGrp LOS	F	A	A	A	A	A	E	A	D	A	A	A
Approach Vol, veh/h	289		638				327			0		
Approach Delay, s/veh	5.8		7.4				57.2			0.0		
Approach LOS	A		A				E					
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	4.5	87.5	0.0		92.0		28.0					
Change Period (Y+Rc), s	4.0	5.6	* 5		* 5.6		5.4					
Max Green Setting (Gmax), s	31.8	31.8	* 28		* 44		32.6					
Max Q Clear Time (g_c+1/2), s	9.4	9.4	0.0		5.0		21.2					
Green Ext Time (p_c), s	0.0	3.9	0.0		1.8		1.4					

Intersection Summary

HCM 6th Ctrl Delay	20.0
HCM 6th LOS	C





















Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	222	42	40	540	7	264	6	30	0	0	0
Future Volume (veh/h)	2	222	42	40	540	7	264	6	30	0	0	0
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	241	46	43	587	8	287	7	33	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	7	2149	404	806	2450	33	328	8	299	0	2	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.72	0.72	0.68	0.68	0.68	0.19	0.19	0.19	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	82.6	5.3	5.3	6.4	7.5	7.5	59.1	0.0	40.5	0.0	0.0	0.0
Ln Grp LOS	F	A	A	A	A	A	E	A	D	A	A	A
Approach Vol, veh/h		289			638			327				0
Approach Delay, s/veh		5.8			7.4			57.2				0.0
Approach LOS		A			A			E				
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4		6					
Case No		2.0	6.3	11.0	12.0		4.0					
Phs Duration (G+Y+Rc), s		4.5	87.5	28.0	0.0		92.0					
Change Period (Y+Rc), s		4.0	5.6	5.4	* 5		* 5.6					
Max Green (Gmax), s		7.6	31.8	32.6	* 28		* 44					
Max Allow Headway (MAH), s		3.8	5.2	5.2	0.0		5.3					
Max Q Clear (g_c+I1), s		2.1	9.4	21.2	0.0		5.0					
Green Ext Time (g_e), s		0.0	3.9	1.4	0.0		1.8					
Prob of Phs Call (p_c)		0.06	1.00	1.00	0.00		1.00					
Prob of Max Out (p_x)		0.01	0.03	0.11	0.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5	3	7							
Mvmt Sat Flow, veh/h		1781	1092	1741	0							
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3589	42	1870		2986					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			49	1585	0		561					
Left Lane Group Data												
Assigned Mvmt		1	5	3	7	0	0	0	0			
Lane Assignment		L (Prot)	L	L+T								

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

Lanes in Grp	1	1	1	0	0	0	0	0
Grp Vol (v), veh/h	2	43	294	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	1092	1783	0	0	0	0	0
Q Serve Time (g_s), s	0.1	1.6	19.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	1.6	19.2	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1092	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	81.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	81.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.98	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	7	806	336	0	0	0	0	0
V/C Ratio (X)	0.30	0.05	0.87	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	113	806	484	0	0	0	0	0
Upstream Filter (I)	1.00	0.57	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	59.6	6.3	47.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.0	0.1	11.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	82.6	6.4	59.1	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.1	0.3	8.5	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	1.53	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.2	0.6	14.7	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.04	0.10	0.28	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T		T		T		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	290	0	0	0	142	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	7.4	0.0	0.0	0.0	2.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.4	0.0	0.0	0.0	2.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	1213	0	2	0	1279	0	0
V/C Ratio (X)	0.00	0.24	0.00	0.00	0.00	0.11	0.00	0.00
Avail Cap (c_a), veh/h	0	1213	0	436	0	1279	0	0
Upstream Filter (I)	0.00	0.57	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.2	0.0	0.0	0.0	5.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.5	0.0	0.0	0.0	5.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	0.0	0.0	1.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.75	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	4.8	0.0	0.0	0.0	1.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.00	0.00	0.16	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	305	33	0	0	145	0	0
Grp Sat Flow (s), veh/h/ln	0	1862	1585	0	0	1769	0	0
Q Serve Time (g_s), s	0.0	7.4	2.1	0.0	0.0	3.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.4	2.1	0.0	0.0	3.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.03	1.00	0.00	0.00	0.32	0.00	0.00
Lane Grp Cap (c), veh/h	0	1271	299	0	0	1274	0	0
V/C Ratio (X)	0.00	0.24	0.11	0.00	0.00	0.11	0.00	0.00
Avail Cap (c_a), veh/h	0	1271	431	0	0	1274	0	0
Upstream Filter (I)	0.00	0.57	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.2	40.3	0.0	0.0	5.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.5	40.5	0.0	0.0	5.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.8	0.8	0.0	0.0	1.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.73	1.80	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	5.0	1.5	0.0	0.0	2.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.14	0.00	0.00	0.16	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.0
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

6: Bristol Pkwy & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	130	83	36	398	72	328	256	52	65	152	25
Future Volume (veh/h)	6	130	83	36	398	72	328	256	52	65	152	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	141	90	39	433	78	357	278	57	71	165	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	574	256	206	574	256	398	1920	388	202	1493	240
Arrive On Green	0.16	0.16	0.16	0.05	0.05	0.05	0.07	0.22	0.22	0.06	0.49	0.49
Sat Flow, veh/h	889	3554	1585	1149	3554	1585	1781	2945	595	3456	3066	493
Grp Volume(v), veh/h	7	141	90	39	433	78	357	166	169	71	94	98
Grp Sat Flow(s),veh/h/ln	889	1777	1585	1149	1777	1585	1781	1777	1763	1728	1777	1782
Q Serve(g_s), s	0.9	4.2	6.1	3.9	14.4	5.7	23.9	9.1	9.3	2.4	3.5	3.6
Cycle Q Clear(g_c), s	15.3	4.2	6.1	8.1	14.4	5.7	23.9	9.1	9.3	2.4	3.5	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		0.28
Lane Grp Cap(c), veh/h	97	574	256	206	574	256	398	1158	1150	202	865	867
V/C Ratio(X)	0.07	0.25	0.35	0.19	0.75	0.30	0.90	0.14	0.15	0.35	0.11	0.11
Avail Cap(c_a), veh/h	193	959	428	331	959	428	594	1158	1150	547	865	867
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	0.53	0.53	0.53	0.97	0.97	0.97
Uniform Delay (d), s/veh	55.6	43.9	44.7	53.5	54.5	50.3	54.2	20.0	20.0	54.3	16.7	16.7
Incr Delay (d2), s/veh	0.3	0.2	0.8	0.4	2.0	0.7	6.8	0.1	0.1	1.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	3.3	4.4	2.2	11.4	4.3	16.4	6.6	6.7	1.9	2.7	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	44.2	45.6	53.9	56.5	51.0	61.1	20.1	20.2	55.3	16.9	17.0
LnGrp LOS	E	D	D	D	E	D	E	C	C	E	B	B
Approach Vol, veh/h		238			550			692			263	
Approach Delay, s/veh		45.0			55.5			41.2			27.3	
Approach LOS		D			E			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.0	84.0		25.0	30.8	64.2		25.0				
Change Period (Y+Rc), s	4.0	5.8		* 5.6	4.0	5.8		* 5.6				
Max Green Setting (Gmax), s	19.0	53.2		* 32	40.0	32.2		* 32				
Max Q Clear Time (g_c+1), s	11.4	11.3		17.3	25.9	5.6		16.4				
Green Ext Time (p_c), s	0.1	2.2		1.0	0.9	1.1		2.9				

Intersection Summary

HCM 6th Ctrl Delay	44.2
HCM 6th LOS	D

























Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	130	83	36	398	72	328	256	52	65	152	25
Future Volume (veh/h)	6	130	83	36	398	72	328	256	52	65	152	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	141	90	39	433	78	357	278	57	71	165	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	97	574	256	206	574	256	398	1920	388	202	1493	240
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.16	0.16	0.16	0.05	0.05	0.05	0.07	0.22	0.22	0.06	0.49	0.49
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.9	44.2	45.6	53.9	56.5	51.0	61.1	20.1	20.2	55.3	16.9	17.0
Ln Grp LOS	E	D	D	D	E	D	E	C	C	E	B	B
Approach Vol, veh/h		238			550			692			263	
Approach Delay, s/veh		45.0			55.5			41.2			27.3	
Approach LOS		D			E			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		11.0	84.0		25.0	30.8	64.2		25.0			
Change Period (Y+Rc), s		4.0	5.8		* 5.6	4.0	5.8		* 5.6			
Max Green (Gmax), s		19.0	53.2		* 32	40.0	32.2		* 32			
Max Allow Headway (MAH), s		3.8	5.3		4.8	3.8	5.3		5.0			
Max Q Clear (g_c+I1), s		4.4	11.3		17.3	25.9	5.6		16.4			
Green Ext Time (g_e), s		0.1	2.2		1.0	0.9	1.1		2.9			
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.05			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			889	1781			1149			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2945		3554		3066		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			595		1585		493		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

Lanes in Grp	2	0	0	1	1	0	0	1
Grp Vol (v), veh/h	71	0	0	7	357	0	0	39
Grp Sat Flow (s), veh/h/ln	1728	0	0	889	1781	0	0	1149
Q Serve Time (g_s), s	2.4	0.0	0.0	0.9	23.9	0.0	0.0	3.9
Cycle Q Clear Time (g_c), s	2.4	0.0	0.0	15.3	23.9	0.0	0.0	8.1
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	889	0	0	0	1149
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	19.4	0.0	0.0	0.0	19.4
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	4.9	0.0	0.0	0.0	15.2
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	3.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	202	0	0	97	398	0	0	206
V/C Ratio (X)	0.35	0.00	0.00	0.07	0.90	0.00	0.00	0.19
Avail Cap (c_a), veh/h	547	0	0	193	594	0	0	331
Upstream Filter (I)	0.97	0.00	0.00	1.00	0.53	0.00	0.00	0.99
Uniform Delay (d1), s/veh	54.3	0.0	0.0	55.6	54.2	0.0	0.0	53.5
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.3	6.8	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	55.3	0.0	0.0	55.9	61.1	0.0	0.0	53.9
1st-Term Q (Q1), veh/ln	1.0	0.0	0.0	0.2	11.4	0.0	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.34	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	1.9	0.0	0.0	0.4	16.4	0.0	0.0	2.2
%ile Storage Ratio (RQ%)	0.26	0.00	0.00	0.07	2.08	0.00	0.00	0.29
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	166	0	141	0	94	0	433
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	9.1	0.0	4.2	0.0	3.5	0.0	14.4
Cycle Q Clear Time (g_c), s	0.0	9.1	0.0	4.2	0.0	3.5	0.0	14.4
Lane Grp Cap (c), veh/h	0	1158	0	574	0	865	0	574
V/C Ratio (X)	0.00	0.14	0.00	0.25	0.00	0.11	0.00	0.75
Avail Cap (c_a), veh/h	0	1158	0	959	0	865	0	959
Upstream Filter (I)	0.00	0.53	0.00	1.00	0.00	0.97	0.00	0.99
Uniform Delay (d1), s/veh	0.0	20.0	0.0	43.9	0.0	16.7	0.0	54.5
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.2	0.0	2.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.1	0.0	44.2	0.0	16.9	0.0	56.5
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	1.8	0.0	1.4	0.0	6.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.58	0.00	1.80	0.00	1.80	0.00	1.61
%ile Back of Q (95%), veh/ln	0.0	6.6	0.0	3.3	0.0	2.7	0.0	11.4
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.10	0.00	0.16	0.00	0.51
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	169	0	90	0	98	0	78
Grp Sat Flow (s), veh/h/ln	0	1763	0	1585	0	1782	0	1585
Q Serve Time (g_s), s	0.0	9.3	0.0	6.1	0.0	3.6	0.0	5.7
Cycle Q Clear Time (g_c), s	0.0	9.3	0.0	6.1	0.0	3.6	0.0	5.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.34	0.00	1.00	0.00	0.28	0.00	1.00
Lane Grp Cap (c), veh/h	0	1150	0	256	0	867	0	256
V/C Ratio (X)	0.00	0.15	0.00	0.35	0.00	0.11	0.00	0.30
Avail Cap (c_a), veh/h	0	1150	0	428	0	867	0	428
Upstream Filter (I)	0.00	0.53	0.00	1.00	0.00	0.97	0.00	0.99
Uniform Delay (d1), s/veh	0.0	20.0	0.0	44.7	0.0	16.7	0.0	50.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.8	0.0	0.3	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.2	0.0	45.6	0.0	17.0	0.0	51.0
1st-Term Q (Q1), veh/ln	0.0	4.2	0.0	2.4	0.0	1.5	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.58	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	6.7	0.0	4.4	0.0	2.8	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.13	0.00	0.16	0.00	0.51
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	44.2
HCM 6th LOS	D

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	145	28	38	512	22	5	0	6	2	0	4
Future Volume (veh/h)	30	145	28	38	512	22	5	0	6	2	0	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	158	30	41	557	24	5	0	7	2	0	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	750	2647	1181	1014	2669	1191	170	0	120	171	0	132
Arrive On Green	0.04	0.74	0.74	0.09	1.00	1.00	0.08	0.00	0.08	0.08	0.00	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1314	0	1442	1333	0	1585
Grp Volume(v), veh/h	33	158	30	41	557	24	5	0	7	2	0	4
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1314	0	1442	1333	0	1585
Q Serve(g_s), s	0.5	1.4	0.6	0.6	0.0	0.0	0.4	0.0	0.5	0.2	0.0	0.3
Cycle Q Clear(g_c), s	0.5	1.4	0.6	0.6	0.0	0.0	1.1	0.0	0.5	0.7	0.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	750	2647	1181	1014	2669	1191	170	0	120	171	0	132
V/C Ratio(X)	0.04	0.06	0.03	0.04	0.21	0.02	0.03	0.00	0.06	0.01	0.00	0.03
Avail Cap(c_a), veh/h	889	2647	1181	1141	2669	1191	393	0	349	394	0	383
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	2.9	4.1	4.0	2.6	0.0	0.0	51.2	0.0	50.7	51.0	0.0	50.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.9	0.3	0.3	0.1	0.0	0.3	0.0	0.4	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.9	4.1	4.0	2.6	0.2	0.0	51.3	0.0	50.9	51.0	0.0	50.6
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h	221		622				12			6		
Approach Delay, s/veh	3.9		0.3				51.0			50.8		
Approach LOS	A		A				D			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	7.7	95.7	15.6		9.4	95.0	15.6					
Change Period (Y+Rc), s	4.0	5.6	5.6		* 4.2	* 5.6	5.6					
Max Green Setting (Gmax), s	14.0	61.8	29.0		* 14	* 62	29.0					
Max Q Clear Time (g_c+1), s	12.5	2.0	2.7		2.6	3.4	3.1					
Green Ext Time (p_c), s	0.0	4.5	0.0		0.0	1.2	0.0					

Intersection Summary























HCM 6th Ctrl Delay	2.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
7: Uplander Way & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	145	28	38	512	22	5	0	6	2	0	4
Future Volume (veh/h)	30	145	28	38	512	22	5	0	6	2	0	4
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	158	30	41	557	24	5	0	7	2	0	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	750	2647	1181	1014	2669	1191	170	0	120	171	0	132
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.74	0.74	0.09	1.00	1.00	0.08	0.00	0.08	0.08	0.00	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	2.9	4.1	4.0	2.6	0.2	0.0	51.3	0.0	50.9	51.0	0.0	50.6
Ln Grp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h		221			622			12			6	
Approach Delay, s/veh		3.9			0.3			51.0			50.8	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		1.1	3.0		7.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		8.7	95.7		15.6	9.4	95.0		15.6			
Change Period (Y+Rc), s		4.0	5.6		5.6	* 4.2	* 5.6		5.6			
Max Green (Gmax), s		14.0	61.8		29.0	* 14	* 62		29.0			
Max Allow Headway (MAH), s		3.8	5.2		4.5	3.8	5.1		5.4			
Max Q Clear (g_c+I1), s		2.5	2.0		2.7	2.6	3.4		3.1			
Green Ext Time (g_e), s		0.0	4.5		0.0	0.0	1.2		0.0			
Prob of Phs Call (p_c)		0.67	1.00		1.00	0.75	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1333	1781			1314			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		0		3554		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1442			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Pr/Pm)			L+TL (Pr/Pm)			L+T				

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	33	0	0	2	41	0	0	5
Grp Sat Flow (s), veh/h/ln	1781	0	0	1333	1781	0	0	1314
Q Serve Time (g_s), s	0.5	0.0	0.0	0.2	0.6	0.0	0.0	0.4
Cycle Q Clear Time (g_c), s	0.5	0.0	0.0	0.7	0.6	0.0	0.0	1.1
Perm LT Sat Flow (s_l), veh/h/ln	833	0	0	1431	1195	0	0	1435
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	89.4	0.0	0.0	10.0	89.4	0.0	0.0	10.0
Perm LT Serve Time (g_u), s	89.4	0.0	0.0	9.5	88.0	0.0	0.0	9.3
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	750	0	0	171	1014	0	0	170
V/C Ratio (X)	0.04	0.00	0.00	0.01	0.04	0.00	0.00	0.03
Avail Cap (c_a), veh/h	889	0	0	394	1141	0	0	393
Upstream Filter (I)	0.98	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	2.9	0.0	0.0	51.0	2.6	0.0	0.0	51.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	2.9	0.0	0.0	51.0	2.6	0.0	0.0	51.3
1st-Term Q (Q1), veh/ln	0.1	0.0	0.0	0.1	0.2	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.3	0.0	0.0	0.1	0.3	0.0	0.0	0.3
%ile Storage Ratio (RQ%)	0.14	0.00	0.00	0.04	0.05	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T			T				
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	557	0	0	0	158	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	2669	0	0	0	2647	0	0
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.06	0.00	0.00
Avail Cap (c_a), veh/h	0	2669	0	0	0	2647	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.98	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	4.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 7: Uplander Way & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	24	0	4	0	30	0	7
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1442
Q Serve Time (g_s), s	0.0	0.0	0.0	0.3	0.0	0.6	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.3	0.0	0.6	0.0	0.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1191	0	132	0	1181	0	120
V/C Ratio (X)	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.06
Avail Cap (c_a), veh/h	0	1191	0	383	0	1181	0	349
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.98	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	50.5	0.0	4.0	0.0	50.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	50.6	0.0	4.0	0.0	50.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.08	0.00	0.09	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	2.3
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	85	76	46	232	6	355	8	163	0	0	0
Future Volume (veh/h)	1	85	76	46	232	6	355	8	163	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	92	83	50	252	7	386	9	177	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	2074	925	837	2035	908	490	452	458	0	452	0
Arrive On Green	0.06	0.58	0.58	0.05	0.57	0.57	0.24	0.24	0.24	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	0	1870	0
Grp Volume(v), veh/h	1	92	83	50	252	7	386	9	177	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	0	1870	0
Q Serve(g_s), s	0.1	1.3	2.8	1.3	3.9	0.2	25.2	0.4	10.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	1.3	2.8	1.3	3.9	0.2	25.2	0.4	10.7	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	104	2074	925	837	2035	908	490	452	458	0	452	0
V/C Ratio(X)	0.01	0.04	0.09	0.06	0.12	0.01	0.79	0.02	0.39	0.00	0.00	0.00
Avail Cap(c_a), veh/h	275	2074	925	886	2035	908	850	829	778	0	829	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	53.2	10.7	11.0	8.9	11.8	11.0	44.1	34.7	34.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	0.1	0.0	2.8	0.0	0.5	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	1.0	1.8	0.9	2.8	0.1	17.0	0.4	7.6	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.3	10.7	11.2	8.9	11.9	11.0	46.9	34.7	34.7	0.0	0.0	0.0
LnGrp LOS	D	B	B	A	B	B	D	C	C	A	A	A
Approach Vol, veh/h		176			309			572				0
Approach Delay, s/veh		11.2			11.4			42.9				0.0
Approach LOS		B			B			D				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.0	74.2		34.8	9.7	75.5		34.8				
Change Period (Y+Rc), s	4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8				
Max Green Setting (Gmax), s	10.5	* 33		* 53	9.0	* 43		* 53				
Max Q Clear Time (g_c+1), s	10.5	5.9		27.2	3.3	4.8		0.0				
Green Ext Time (p_c), s	0.0	1.7		1.8	0.0	0.9		0.0				

Intersection Summary
























HCM 6th Ctrl Delay	28.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	85	76	46	232	6	355	8	163	0	0	0
Future Volume (veh/h)	1	85	76	46	232	6	355	8	163	0	0	0
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	92	83	50	252	7	386	9	177	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	104	2074	925	837	2035	908	490	452	458	0	452	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.58	0.58	0.05	0.57	0.57	0.24	0.24	0.24	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	53.3	10.7	11.2	8.9	11.9	11.0	46.9	34.7	34.7	0.0	0.0	0.0
Ln Grp LOS	D	B	B	A	B	B	D	C	C	A	A	A
Approach Vol, veh/h		176			309			572			0	
Approach Delay, s/veh		11.2			11.4			42.9			0.0	
Approach LOS		B			B			D				
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		11.0	74.2		34.8	9.7	75.5		34.8			
Change Period (Y+Rc), s		4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8			
Max Green (Gmax), s		18.5	* 33		* 53	9.0	* 43		* 53			
Max Allow Headway (MAH), s		3.8	5.2		3.8	3.8	4.7		0.0			
Max Q Clear (g_c+I1), s		2.1	5.9		27.2	3.3	4.8		0.0			
Green Ext Time (g_e), s		0.0	1.7		1.8	0.0	0.9		0.0			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.81	1.00		0.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.08	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1781	1781			0			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		1870		3554		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		0			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			LL (Pr/Pm)							

HCM 6th Signalized Intersection Capacity Analysis

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	0
Grp Vol (v), veh/h	1	0	0	386	50	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.1	0.0	0.0	25.2	1.3	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	0.0	0.0	25.2	1.3	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	1210	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	29.0	68.7	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	29.0	68.7	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	25.2	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	104	0	0	490	837	0	0	0
V/C Ratio (X)	0.01	0.00	0.00	0.79	0.06	0.00	0.00	0.00
Avail Cap (c_a), veh/h	275	0	0	850	886	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.85	0.00	0.00	0.00
Uniform Delay (d1), s/veh	53.2	0.0	0.0	44.1	8.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	53.3	0.0	0.0	46.9	8.9	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	11.0	0.5	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.49	1.80	0.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.1	0.0	0.0	17.0	0.9	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	3.75	0.12	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	252	0	9	0	92	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	3.9	0.0	0.4	0.0	1.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.9	0.0	0.4	0.0	1.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	2035	0	452	0	2074	0	452
V/C Ratio (X)	0.00	0.12	0.00	0.02	0.00	0.04	0.00	0.00
Avail Cap (c_a), veh/h	0	2035	0	829	0	2074	0	829
Upstream Filter (I)	0.00	0.85	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	34.7	0.0	10.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.9	0.0	34.7	0.0	10.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	0.2	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	2.8	0.0	0.4	0.0	1.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.03	0.00	0.13	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	7	0	177	0	83	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.2	0.0	10.7	0.0	2.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	10.7	0.0	2.8	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	908	0	458	0	925	0	0
V/C Ratio (X)	0.00	0.01	0.00	0.39	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	908	0	778	0	925	0	0
Upstream Filter (I)	0.00	0.85	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.0	0.0	34.1	0.0	11.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.0	0.0	34.7	0.0	11.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	4.1	0.0	1.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	7.6	0.0	1.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	1.67	0.00	0.49	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	28.4
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

9: Bristol Pkwy & Green Valley Cir

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	100	114	20	56	610	426	333	532	48	92	123	43
Future Volume (veh/h)	100	114	20	56	610	426	333	532	48	92	123	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	124	22	61	663	463	362	578	52	100	134	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	1473	256	636	974	678	546	712	64	156	1098	370
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.42	0.42	0.42	0.70	0.70	0.70
Sat Flow, veh/h	500	3027	526	1242	2002	1394	1203	1691	152	796	2609	880
Grp Volume(v), veh/h	109	72	74	61	588	538	362	0	630	100	90	91
Grp Sat Flow(s),veh/h/ln	500	1777	1776	1242	1777	1619	1203	0	1843	796	1777	1712
Q Serve(g_s), s	25.7	2.6	2.7	3.3	30.5	30.6	30.8	0.0	36.1	14.4	2.0	2.1
Cycle Q Clear(g_c), s	56.4	2.6	2.7	6.0	30.5	30.6	32.9	0.0	36.1	50.5	2.0	2.1
Prop In Lane	1.00		0.30	1.00		0.86	1.00		0.08	1.00		0.51
Lane Grp Cap(c), veh/h	176	864	864	636	864	788	546	0	776	156	748	721
V/C Ratio(X)	0.62	0.08	0.09	0.10	0.68	0.68	0.66	0.00	0.81	0.64	0.12	0.13
Avail Cap(c_a), veh/h	176	866	866	638	866	789	546	0	776	156	748	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	0.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	45.3	16.5	16.5	18.1	23.6	23.7	30.5	0.0	30.6	36.2	10.6	10.6
Incr Delay (d2), s/veh	6.5	0.0	0.0	0.1	2.0	2.3	6.3	0.0	9.1	18.4	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.3	1.9	2.0	1.7	18.7	17.4	14.9	0.0	24.5	6.4	1.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	16.5	16.6	18.2	25.7	25.9	36.8	0.0	39.6	54.6	10.9	11.0
LnGrp LOS	D	B	B	B	C	C	D	A	D	D	B	B
Approach Vol, veh/h		255			1187			992			281	
Approach Delay, s/veh		31.6			25.4			38.6			26.5	
Approach LOS		C			C			D			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.1		63.9		56.1		63.9				
Change Period (Y+Rc), s		* 5.6		* 5.5		* 5.6		* 5.5				
Max Green Setting (Gmax), s		* 50		* 59		* 50		* 59				
Max Q Clear Time (g_c+I1), s		38.1		58.4		52.5		32.6				
Green Ext Time (p_c), s		4.7		0.0		0.0		9.3				

Intersection Summary

HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	114	20	56	610	426	333	532	48	92	123	43
Future Volume (veh/h)	100	114	20	56	610	426	333	532	48	92	123	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	124	22	61	663	463	362	578	52	100	134	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	176	1473	256	636	974	678	546	712	64	156	1098	370
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.42	0.42	0.42	0.70	0.70	0.70
Unsig. Movement Delay												
Ln Grp Delay, s/veh	51.9	16.5	16.6	18.2	25.7	25.9	36.8	0.0	39.6	54.6	10.9	11.0
Ln Grp LOS	D	B	B	B	C	C	D	A	D	D	B	B
Approach Vol, veh/h		255			1187			992			281	
Approach Delay, s/veh		31.6			25.4			38.6			26.5	
Approach LOS		C			C			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			56.1		63.9		56.1		63.9			
Change Period (Y+Rc), s			* 5.6		* 5.5		* 5.6		* 5.5			
Max Green (Gmax), s			* 50		* 59		* 50		* 59			
Max Allow Headway (MAH), s			4.9		6.6		5.5		5.3			
Max Q Clear (g_c+I1), s			38.1		58.4		52.5		32.6			
Green Ext Time (g_e), s			4.7		0.0		0.0		9.3			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		0.20			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1203		500		796		1242			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1691		3027		2609		2002			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			152		526		880		1394			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	362	0	109	0	100	0	61
Grp Sat Flow (s), veh/h/ln	0	1203	0	500	0	796	0	1242
Q Serve Time (g_s), s	0.0	30.8	0.0	25.7	0.0	14.4	0.0	3.3
Cycle Q Clear Time (g_c), s	0.0	32.9	0.0	56.4	0.0	50.5	0.0	6.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1203	0	500	0	796	0	1242
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	50.5	0.0	58.4	0.0	50.5	0.0	58.4
Perm LT Serve Time (g_u), s	0.0	48.4	0.0	27.7	0.0	14.4	0.0	55.7
Perm LT Q Serve Time (g_ps), s	0.0	30.8	0.0	25.7	0.0	14.4	0.0	3.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	546	0	176	0	156	0	636
V/C Ratio (X)	0.00	0.66	0.00	0.62	0.00	0.64	0.00	0.10
Avail Cap (c_a), veh/h	0	546	0	176	0	156	0	638
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.99	0.00	0.93
Uniform Delay (d1), s/veh	0.0	30.5	0.0	45.3	0.0	36.2	0.0	18.1
Incr Delay (d2), s/veh	0.0	6.3	0.0	6.5	0.0	18.4	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	36.8	0.0	51.9	0.0	54.6	0.0	18.2
1st-Term Q (Q1), veh/ln	0.0	8.8	0.0	3.2	0.0	2.8	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	0.3	0.0	0.8	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.53	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	14.9	0.0	6.3	0.0	6.4	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	3.15	0.00	1.77	0.00	1.41	0.00	0.44
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	72	0	90	0	588
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	2.6	0.0	2.0	0.0	30.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.6	0.0	2.0	0.0	30.5
Lane Grp Cap (c), veh/h	0	0	0	864	0	748	0	864
V/C Ratio (X)	0.00	0.00	0.00	0.08	0.00	0.12	0.00	0.68
Avail Cap (c_a), veh/h	0	0	0	866	0	748	0	866
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.99	0.00	0.93
Uniform Delay (d1), s/veh	0.0	0.0	0.0	16.5	0.0	10.6	0.0	23.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	2.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	16.5	0.0	10.9	0.0	25.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.1	0.0	0.8	0.0	12.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	1.44
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	1.9	0.0	1.5	0.0	18.7
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.02	0.00	0.29
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	630	0	74	0	91	0	538
Grp Sat Flow (s), veh/h/ln	0	1843	0	1776	0	1712	0	1619
Q Serve Time (g_s), s	0.0	36.1	0.0	2.7	0.0	2.1	0.0	30.6
Cycle Q Clear Time (g_c), s	0.0	36.1	0.0	2.7	0.0	2.1	0.0	30.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.08	0.00	0.30	0.00	0.51	0.00	0.86
Lane Grp Cap (c), veh/h	0	776	0	864	0	721	0	788
V/C Ratio (X)	0.00	0.81	0.00	0.09	0.00	0.13	0.00	0.68
Avail Cap (c_a), veh/h	0	776	0	866	0	721	0	789
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.99	0.00	0.93
Uniform Delay (d1), s/veh	0.0	30.6	0.0	16.5	0.0	10.6	0.0	23.7
Incr Delay (d2), s/veh	0.0	9.1	0.0	0.0	0.0	0.4	0.0	2.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	39.6	0.0	16.6	0.0	11.0	0.0	25.9
1st-Term Q (Q1), veh/ln	0.0	15.7	0.0	1.1	0.0	0.8	0.0	11.5
2nd-Term Q (Q2), veh/ln	0.0	2.0	0.0	0.0	0.0	0.1	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.39	0.00	1.80	0.00	1.80	0.00	1.46
%ile Back of Q (95%), veh/ln	0.0	24.5	0.0	2.0	0.0	1.6	0.0	17.4
%ile Storage Ratio (RQ%)	0.00	1.13	0.00	0.05	0.00	0.02	0.00	0.27
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

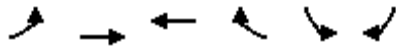
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

10: Green Valley Cir & Buckingham

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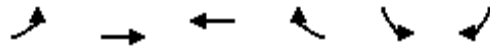


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	96	680	310	43	73
Future Volume (veh/h)	46	96	680	310	43	73
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	104	739	337	47	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	461	2976	1987	905	148	132
Arrive On Green	1.00	1.00	0.84	0.84	0.08	0.08
Sat Flow, veh/h	524	3647	2465	1081	1781	1585
Grp Volume(v), veh/h	50	104	553	523	47	79
Grp Sat Flow(s),veh/h/ln	524	1777	1777	1676	1781	1585
Q Serve(g_s), s	1.1	0.0	8.8	8.8	3.0	5.8
Cycle Q Clear(g_c), s	10.0	0.0	8.8	8.8	3.0	5.8
Prop In Lane	1.00			0.64	1.00	1.00
Lane Grp Cap(c), veh/h	461	2976	1488	1404	148	132
V/C Ratio(X)	0.11	0.03	0.37	0.37	0.32	0.60
Avail Cap(c_a), veh/h	461	2976	1488	1404	460	409
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.4	0.0	2.3	2.3	51.8	53.1
Incr Delay (d2), s/veh	0.1	0.0	0.7	0.8	1.2	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	4.2	4.0	2.5	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.5	0.0	3.0	3.1	53.0	57.3
LnGrp LOS	A	A	A	A	D	E
Approach Vol, veh/h		154	1076		126	
Approach Delay, s/veh		0.2	3.0		55.7	
Approach LOS		A	A		E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		106.0		14.0		106.0
Change Period (Y+Rc), s		* 5.5		4.0		* 5.5
Max Green Setting (Gmax), s		* 80		31.0		* 80
Max Q Clear Time (g_c+I1), s		10.8		7.8		12.0
Green Ext Time (p_c), s		9.9		0.3		1.4
Intersection Summary						
HCM 6th Ctrl Delay			7.6			
HCM 6th LOS			A			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↵	↑↑	↑↑		↵	↵			
Traffic Volume (veh/h)	46	96	680	310	43	73			
Future Volume (veh/h)	46	96	680	310	43	73			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	50	104	739	337	47	79			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	461	2976	1987	905	148	132			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	1.00	1.00	0.84	0.84	0.08	0.08			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	0.5	0.0	3.0	3.1	53.0	57.3			
Ln Grp LOS	A	A	A	A	D	E			
Approach Vol, veh/h		154	1076		126				
Approach Delay, s/veh		0.2	3.0		55.7				
Approach LOS		A	A		E				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		9.0		6.0		
Phs Duration (G+Y+Rc), s			106.0		14.0		106.0		
Change Period (Y+Rc), s			* 5.5		4.0		* 5.5		
Max Green (Gmax), s			* 80		31.0		* 80		
Max Allow Headway (MAH), s			5.3		4.0		6.2		
Max Q Clear (g_c+I1), s			10.8		7.8		12.0		
Green Ext Time (g_e), s			9.9		0.3		1.4		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1781		524		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			2465		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			1081		1585		0		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment					L		L		

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Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	47	0	50	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	0	524	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.0	0.0	10.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	524	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	100.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	91.7	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
Time to First Blk (g_f), s	0.0	100.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	148	0	461	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.32	0.00	0.11	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	460	0	461	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.97	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	51.8	0.0	0.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.2	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	53.0	0.0	0.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	553	0	0	0	104	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1488	0	0	0	2976	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.00	0.00	0.03	0.00	0.00
Avail Cap (c_a), veh/h	0	1488	0	0	0	2976	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.97	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment	T+R		R					
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	523	0	79	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1676	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	8.8	0.0	5.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.8	0.0	5.8	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.64	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1404	0	132	0	0	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.60	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1404	0	409	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.3	0.0	53.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	4.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.1	0.0	57.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	2.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	4.0	0.0	4.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.06	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

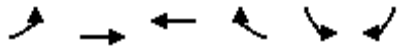
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

11: Centinela Ave & Green Valley Cir

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	36	384	1622	835	152	43
Future Volume (veh/h)	36	384	1622	835	152	43
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	417	1763	908	165	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	122	2763	2763	1232	432	198
Arrive On Green	0.78	0.78	0.78	0.78	0.13	0.13
Sat Flow, veh/h	111	3647	3647	1585	3456	1585
Grp Volume(v), veh/h	39	417	1763	908	165	47
Grp Sat Flow(s),veh/h/ln	111	1777	1777	1585	1728	1585
Q Serve(g_s), s	28.9	3.5	26.3	35.8	5.3	3.2
Cycle Q Clear(g_c), s	55.1	3.5	26.3	35.8	5.3	3.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	122	2763	2763	1232	432	198
V/C Ratio(X)	0.32	0.15	0.64	0.74	0.38	0.24
Avail Cap(c_a), veh/h	122	2763	2763	1232	760	349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	3.4	5.9	7.0	48.2	47.3
Incr Delay (d2), s/veh	6.8	0.1	0.5	2.4	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	2.0	12.8	15.8	4.2	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.9	3.5	6.4	9.3	48.8	48.0
LnGrp LOS	C	A	A	A	D	D
Approach Vol, veh/h		456	2671		212	
Approach Delay, s/veh		5.3	7.4		48.6	
Approach LOS		A	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		99.4		20.6		99.4
Change Period (Y+Rc), s		6.1		* 5.6		6.1
Max Green Setting (Gmax), s		81.9		* 26		81.9
Max Q Clear Time (g_c+I1), s		57.1		7.3		37.8
Green Ext Time (p_c), s		6.1		0.6		31.1
Intersection Summary						
HCM 6th Ctrl Delay			9.7			
HCM 6th LOS			A			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖	↑↑	↑↑	↗	↖↗	↘			
Traffic Volume (veh/h)	36	384	1622	835	152	43			
Future Volume (veh/h)	36	384	1622	835	152	43			
Number	5	2	6	16	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	39	417	1763	908	165	47			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	122	2763	2763	1232	432	198			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.78	0.78	0.78	0.78	0.13	0.13			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	24.9	3.5	6.4	9.3	48.8	48.0			
Ln Grp LOS	C	A	A	A	D	D			
Approach Vol, veh/h		456	2671		212				
Approach Delay, s/veh		5.3	7.4		48.6				
Approach LOS		A	A		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s			99.4		20.6		99.4		
Change Period (Y+Rc), s			6.1		* 5.6		6.1		
Max Green (Gmax), s			81.9		* 26		81.9		
Max Allow Headway (MAH), s			7.6		3.9		4.8		
Max Q Clear (g_c+I1), s			57.1		7.3		37.8		
Green Ext Time (g_e), s			6.1		0.6		31.1		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.09		0.00		0.60		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			111		3456		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis
 11: Centinela Ave & Green Valley Cir

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Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	39	0	165	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	111	0	1728	0	0	0	0
Q Serve Time (g_s), s	0.0	28.9	0.0	5.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	55.1	0.0	5.3	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	111	0	1728	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	93.3	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	67.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	28.9	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	93.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	122	0	432	0	0	0	0
V/C Ratio (X)	0.00	0.32	0.00	0.38	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	122	0	760	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	18.1	0.0	48.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.8	0.0	0.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.9	0.0	48.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	2.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	1.7	0.0	4.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.08	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	417	0	0	0	1763	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.5	0.0	0.0	0.0	26.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	0.0	0.0	26.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	2763	0	0	0	2763	0	0
V/C Ratio (X)	0.00	0.15	0.00	0.00	0.00	0.64	0.00	0.00
Avail Cap (c_a), veh/h	0	2763	0	0	0	2763	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.4	0.0	0.0	0.0	5.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.5	0.0	0.0	0.0	6.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.0	0.0	8.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.57	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.0	0.0	0.0	0.0	12.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.00	0.00	0.53	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	47	0	908	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.2	0.0	35.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.2	0.0	35.8	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	198	0	1232	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.24	0.00	0.74	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	349	0	1232	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	47.3	0.0	7.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	2.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	48.0	0.0	9.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.3	0.0	9.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.51	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	2.3	0.0	15.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.66	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
 12: Hannum Driveway & Hannum Ave

07/19/2023

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	159	5	2	596	12	4
Future Vol, veh/h	159	5	2	596	12	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	173	5	2	648	13	4

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	178	0	504
Stage 1	-	-	-	-	176
Stage 2	-	-	-	-	328
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1395	-	497
Stage 1	-	-	-	-	837
Stage 2	-	-	-	-	702
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1395	-	497
Mov Cap-2 Maneuver	-	-	-	-	497
Stage 1	-	-	-	-	837
Stage 2	-	-	-	-	701

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	564	-	-	1395	-
HCM Lane V/C Ratio	0.031	-	-	0.002	-
HCM Control Delay (s)	11.6	-	-	7.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	48	26	8	487	109	14
Future Vol, veh/h	48	26	8	487	109	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	28	9	529	118	15

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	409	67	133	0	-	0
Stage 1	126	-	-	-	-	-
Stage 2	283	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	570	983	1449	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	567	983	1449	-	-	-
Mov Cap-2 Maneuver	567	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	740	-	-	-	-	-

























Approach	EB	NB	SB
HCM Control Delay, s	11.1	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1449	-	666	-	-
HCM Lane V/C Ratio	0.006	-	0.121	-	-
HCM Control Delay (s)	7.5	-	11.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

HCM 6th Signalized Intersection Summary

1: Hannum Ave & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	497	139	204	444	392	61	265	261	255	485	54
Future Volume (veh/h)	76	497	139	204	444	392	61	265	261	255	485	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	540	151	222	483	426	66	288	0	277	527	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	1976	539	278	2588	803	228	533		337	645	
Arrive On Green	0.07	0.50	0.50	0.08	0.51	0.51	0.07	0.15	0.00	0.10	0.18	0.00
Sat Flow, veh/h	1781	3990	1088	3456	5106	1585	3456	3554	1585	3456	3647	0
Grp Volume(v), veh/h	83	459	232	222	483	426	66	288	0	277	527	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1674	1728	1702	1585	1728	1777	1585	1728	1777	0
Q Serve(g_s), s	6.4	11.0	11.4	8.8	7.2	25.4	2.5	10.5	0.0	11.0	20.0	0.0
Cycle Q Clear(g_c), s	6.4	11.0	11.4	8.8	7.2	25.4	2.5	10.5	0.0	11.0	20.0	0.0
Prop In Lane	1.00		0.65	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	122	1685	829	278	2588	803	228	533		337	645	
V/C Ratio(X)	0.68	0.27	0.28	0.80	0.19	0.53	0.29	0.54		0.82	0.82	
Avail Cap(c_a), veh/h	202	1685	829	442	2588	803	289	805		536	1058	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.7	20.6	20.7	63.3	18.8	23.3	62.3	55.0	0.0	62.0	55.1	0.0
Incr Delay (d2), s/veh	6.5	0.4	0.8	5.0	0.1	2.3	0.7	0.9	0.0	5.6	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.6	8.0	8.3	7.3	5.3	15.0	2.1	8.4	0.0	8.8	14.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	21.0	21.6	68.3	19.0	25.6	63.0	55.9	0.0	67.6	57.7	0.0
LnGrp LOS	E	C	C	E	B	C	E	E		E	E	
Approach Vol, veh/h		774			1131			354			804	
Approach Delay, s/veh		26.5			31.1			57.2			61.1	
Approach LOS		C			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.3	75.4	15.5	31.7	15.7	77.1	19.9	27.3				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3				
Max Green Setting (Gmax), s	* 18	* 44	11.7	41.7	* 16	* 46	21.7	31.7				
Max Q Clear Time (g_c+I1), s	10.8	13.4	4.5	22.0	8.4	27.4	13.0	12.5				
Green Ext Time (p_c), s	0.4	5.1	0.1	3.5	0.1	4.8	0.6	1.7				
Intersection Summary												
HCM 6th Ctrl Delay				40.8								
HCM 6th LOS				D								
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	497	139	204	444	392	61	265	261	255	485	54
Future Volume (veh/h)	76	497	139	204	444	392	61	265	261	255	485	54
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No				No
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	540	151	222	483	426	66	288	0	277	527	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	122	1976	539	278	2588	803	228	533		337	645	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.50	0.50	0.08	0.51	0.51	0.07	0.15	0.00	0.10	0.18	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	70.1	21.0	21.6	68.3	19.0	25.6	63.0	55.9	0.0	67.6	57.7	0.0
Ln Grp LOS	E	C	C	E	B	C	E	E		E	E	
Approach Vol, veh/h		774			1131			354			804	
Approach Delay, s/veh		26.5			31.1			57.2			61.1	
Approach LOS		C			C			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	4.0	4.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		17.3	75.4	31.7	15.5	15.7	77.1	19.9	27.3			
Change Period (Y+Rc), s		* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3			
Max Green (Gmax), s		* 18	* 44	41.7	11.7	* 16	* 46	21.7	31.7			
Max Allow Headway (MAH), s		3.8	5.3	5.2	3.8	3.8	4.7	3.8	5.2			
Max Q Clear (g_c+I1), s		10.8	13.4	22.0	4.5	8.4	27.4	13.0	12.5			
Green Ext Time (g_e), s		0.4	5.1	3.5	0.1	0.1	4.8	0.6	1.7			
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.92	0.96	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.07	0.00	0.02	0.01	0.01	0.09	0.03	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	1781		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			3990	3647			5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1088	0			1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	222	0	0	66	83	0	277	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1781	0	1728	0
Q Serve Time (g_s), s	8.8	0.0	0.0	2.5	6.4	0.0	11.0	0.0
Cycle Q Clear Time (g_c), s	8.8	0.0	0.0	2.5	6.4	0.0	11.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	278	0	0	228	122	0	337	0
V/C Ratio (X)	0.80	0.00	0.00	0.29	0.68	0.00	0.82	0.00
Avail Cap (c_a), veh/h	442	0	0	289	202	0	536	0
Upstream Filter (I)	0.93	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	63.3	0.0	0.0	62.3	63.7	0.0	62.0	0.0
Incr Delay (d2), s/veh	5.0	0.0	0.0	0.7	6.5	0.0	5.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	68.3	0.0	0.0	63.0	70.1	0.0	67.6	0.0
1st-Term Q (Q1), veh/ln	3.9	0.0	0.0	1.1	2.9	0.0	4.9	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.2	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.78	0.00	0.00	1.80	1.80	0.00	1.73	0.00
%ile Back of Q (95%), veh/ln	7.3	0.0	0.0	2.1	5.6	0.0	8.8	0.0
%ile Storage Ratio (RQ%)	0.84	0.00	0.00	0.26	1.30	0.00	1.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	2	2	0	0	3	0	2
Grp Vol (v), veh/h	0	459	527	0	0	483	0	288
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	11.0	20.0	0.0	0.0	7.2	0.0	10.5
Cycle Q Clear Time (g_c), s	0.0	11.0	20.0	0.0	0.0	7.2	0.0	10.5
Lane Grp Cap (c), veh/h	0	1685	645	0	0	2588	0	533
V/C Ratio (X)	0.00	0.27	0.82	0.00	0.00	0.19	0.00	0.54
Avail Cap (c_a), veh/h	0	1685	1058	0	0	2588	0	805
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.93	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.6	55.1	0.0	0.0	18.8	0.0	55.0
Incr Delay (d2), s/veh	0.0	0.4	2.6	0.0	0.0	0.1	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.0	57.7	0.0	0.0	19.0	0.0	55.9
1st-Term Q (Q1), veh/ln	0.0	4.4	9.0	0.0	0.0	2.9	0.0	4.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.77	1.54	0.00	0.00	1.80	0.00	1.75
%ile Back of Q (95%), veh/ln	0.0	8.0	14.2	0.0	0.0	5.3	0.0	8.4
%ile Storage Ratio (RQ%)	0.00	0.60	1.72	0.00	0.00	0.23	0.00	0.93
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		T+R				R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	232	0	0	0	426	0	0
Grp Sat Flow (s), veh/h/ln	0	1674	0	0	0	1585	0	1585
Q Serve Time (g_s), s	0.0	11.4	0.0	0.0	0.0	25.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.4	0.0	0.0	0.0	25.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.65	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	829	0	0	0	803	0	238
V/C Ratio (X)	0.00	0.28	0.00	0.00	0.00	0.53	0.00	0.00
Avail Cap (c_a), veh/h	0	829	0	0	0	803	0	359
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.93	0.00	0.00
Uniform Delay (d1), s/veh	0.0	20.7	0.0	0.0	0.0	23.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	2.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.6	0.0	0.0	0.0	25.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	0.0	0.0	9.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.76	1.00	0.00	0.00	1.50	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	8.3	0.0	0.0	0.0	15.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.62	0.00	0.00	0.00	2.46	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	40.8
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	609	397	934	659	2	385	0	1512	4	2	1
Future Volume (veh/h)	0	609	397	934	659	2	385	0	1512	4	2	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	662	0	1015	716	2	418	0	1643	4	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	920		2331	2520	1124	383	0	1812	34	22	11
Arrive On Green	0.00	0.18	0.00	0.77	1.00	1.00	0.11	0.00	0.11	0.02	0.02	0.02
Sat Flow, veh/h	1781	5106	1585	5023	3554	1585	3563	0	3170	1781	1176	588
Grp Volume(v), veh/h	0	662	0	1015	716	2	418	0	1643	4	0	3
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1674	1777	1585	1781	0	1585	1781	0	1764
Q Serve(g_s), s	0.0	14.7	0.0	8.2	0.0	0.0	12.9	0.0	12.9	0.3	0.0	0.2
Cycle Q Clear(g_c), s	0.0	14.7	0.0	8.2	0.0	0.0	12.9	0.0	12.9	0.3	0.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	1	920		2331	2520	1124	383	0	1812	34	0	34
V/C Ratio(X)	0.00	0.72		0.44	0.28	0.00	1.09	0.00	0.91	0.12	0.00	0.09
Avail Cap(c_a), veh/h	193	1864		2331	2520	1124	383	0	1812	163	0	162
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.94	0.00	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	46.3	0.0	8.2	0.0	0.0	53.5	0.0	22.9	57.9	0.0	57.8
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.1	0.2	0.0	72.8	0.0	7.1	1.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	10.3	0.0	4.2	0.2	0.0	15.2	0.0	28.8	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	47.3	0.0	8.3	0.2	0.0	126.4	0.0	29.9	59.4	0.0	59.0
LnGrp LOS	A	D		A	A	A	F	A	C	E	A	E
Approach Vol, veh/h		662		1733			2061				7	
Approach Delay, s/veh		47.3		4.9			49.5				59.2	
Approach LOS		D		A			D				E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	63.5	29.4		8.1	0.0	92.9		19.0				
Change Period (Y+Rc), s	7.8	* 7.8		* 5.8	5.4	7.8		6.1				
Max Green Setting (Gmax), s	20.2	* 44		* 11	13.0	58.0		12.9				
Max Q Clear Time (g_c+10), s	10.2	16.7		2.3	0.0	2.0		14.9				
Green Ext Time (p_c), s	3.9	5.0		0.0	0.0	6.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
2: Marina Fwy/Private Dwy & Slauson Ave
































07/19/2023

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	 				 		 	
Traffic Volume (veh/h)	0	609	397	934	659	2	385	0	1512	4	2	1
Future Volume (veh/h)	0	609	397	934	659	2	385	0	1512	4	2	1
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	662	0	1015	716	2	418	0	1643	4	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	1	920		2331	2520	1124	383	0	1812	34	22	11
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.18	0.00	0.77	1.00	1.00	0.11	0.00	0.11	0.02	0.02	0.02
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	47.3	0.0	8.3	0.2	0.0	126.4	0.0	29.9	59.4	0.0	59.0
Ln Grp LOS	A	D		A	A	A	F	A	C	E	A	E
Approach Vol, veh/h		662			1733			2061			7	
Approach Delay, s/veh		47.3			4.9			49.5			59.2	
Approach LOS		D			A			D			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	3.0	9.0	10.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		63.5	29.4	19.0	8.1	0.0	92.9					
Change Period (Y+Rc), s		7.8	* 7.8	6.1	* 5.8	5.4	7.8					
Max Green (Gmax), s		26.2	* 44	12.9	* 11	13.0	58.0					
Max Allow Headway (MAH), s		3.8	5.2	4.0	4.5	0.0	5.2					
Max Q Clear (g_c+I1), s		10.2	16.7	14.9	2.3	0.0	2.0					
Green Ext Time (g_e), s		3.9	5.0	0.0	0.0	0.0	6.0					
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.21	0.00	1.00					
Prob of Max Out (p_x)		0.05	0.01	1.00	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		5023		3563	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			5106	0	1176		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			1585	3170	588		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis
 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Lanes in Grp	3	0	2	1	1	0	0	0
Grp Vol (v), veh/h	1015	0	418	4	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1674	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	8.2	0.0	12.9	0.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	8.2	0.0	12.9	0.3	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	2331	0	383	34	1	0	0	0
V/C Ratio (X)	0.44	0.00	1.09	0.12	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	2331	0	383	163	193	0	0	0
Upstream Filter (I)	0.87	0.00	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	8.2	0.0	53.5	57.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	72.8	1.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	8.3	0.0	126.4	59.4	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	5.8	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.58	1.80	1.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	4.2	0.0	15.2	0.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.47	0.00	0.80	0.20	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	662	0	0	0	716	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	14.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	920	0	0	0	2520	0	0
V/C Ratio (X)	0.00	0.72	0.00	0.00	0.00	0.28	0.00	0.00
Avail Cap (c_a), veh/h	0	1864	0	0	0	2520	0	0
Upstream Filter (I)	0.00	0.94	0.00	0.00	0.00	0.87	0.00	0.00
Uniform Delay (d1), s/veh	0.0	46.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	47.3	0.0	0.0	0.0	0.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.63	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	10.3	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.45	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		R	R	T+R		R		
Lanes in Grp	0	1	2	1	0	1	0	0
Grp Vol (v), veh/h	0	0	1643	3	0	2	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1764	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	12.9	0.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	12.9	0.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	55.7	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.33	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	286	1812	34	0	1124	0	0
V/C Ratio (X)	0.00	0.00	0.91	0.09	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	579	1812	162	0	1124	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	0.00	0.87	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	22.9	57.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	7.1	1.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	29.9	59.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	19.4	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.36	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	28.8	0.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	1.51	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	1857	224	76	1344	16	159	6	52	27	7	31
Future Volume (veh/h)	16	1857	224	76	1344	16	159	6	52	27	7	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	2018	243	83	1461	17	173	0	62	29	8	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	553	2840	881	270	1658	19	297	0	512	118	32	132
Arrive On Green	0.62	1.00	1.00	0.16	0.64	0.64	0.08	0.00	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	5106	1585	3456	5203	61	3563	0	3170	1411	389	1585
Grp Volume(v), veh/h	17	2018	243	83	956	522	173	0	62	37	0	34
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1859	1781	0	1585	1800	0	1585
Q Serve(g_s), s	0.4	0.0	0.0	2.6	27.9	27.9	5.6	0.0	2.0	2.3	0.0	2.4
Cycle Q Clear(g_c), s	0.4	0.0	0.0	2.6	27.9	27.9	5.6	0.0	2.0	2.3	0.0	2.4
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	0.78		1.00
Lane Grp Cap(c), veh/h	553	2840	881	270	1085	592	297	0	512	150	0	132
V/C Ratio(X)	0.03	0.71	0.28	0.31	0.88	0.88	0.58	0.00	0.12	0.25	0.00	0.26
Avail Cap(c_a), veh/h	553	2840	881	288	1242	679	297	0	512	480	0	423
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	0.54	0.93	0.93	0.93	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	0.0	47.8	19.9	19.9	53.0	0.0	43.0	51.5	0.0	51.5
Incr Delay (d2), s/veh	0.0	0.8	0.4	0.6	9.7	16.1	2.9	0.0	0.1	0.8	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.4	0.2	2.0	12.9	15.2	4.7	0.0	1.4	1.9	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	0.8	0.4	48.3	29.6	36.0	55.9	0.0	43.1	52.3	0.0	52.5
LnGrp LOS	B	A	A	D	C	D	E	A	D	D	A	D
Approach Vol, veh/h	2278			1561			235			71		
Approach Delay, s/veh	0.9			32.7			52.5			52.4		
Approach LOS	A			C			D			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	15.6	72.8	15.8		43.4	45.0	15.8					
Change Period (Y+Rc), s	6.2	6.1	* 5.8		6.1	* 6.8	5.8					
Max Green Setting (Gmax), s	44.1	44.1	* 32		10.0	* 44	10.0					
Max Q Clear Time (g_c+1), s	14.6	2.0	4.4		2.4	29.9	7.6					
Green Ext Time (p_c), s	0.1	26.6	0.3		0.0	8.3	0.2					

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↑↑↑	↷	↶↷	↑↑↑		↶↷	↑	↷		↶↷	
Traffic Volume (veh/h)	16	1857	224	76	1344	16	159	6	52	27	7	31
Future Volume (veh/h)	16	1857	224	76	1344	16	159	6	52	27	7	31
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	2018	243	83	1461	17	173	0	62	29	8	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	553	2840	881	270	1658	19	297	0	512	118	32	132
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.62	1.00	1.00	0.16	0.64	0.64	0.08	0.00	0.08	0.08	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	15.8	0.8	0.4	48.3	29.6	36.0	55.9	0.0	43.1	52.3	0.0	52.5
Ln Grp LOS	B	A	A	D	C	D	E	A	D	D	A	D
Approach Vol, veh/h		2278			1561			235			71	
Approach Delay, s/veh		0.9			32.7			52.5			52.4	
Approach LOS		A			C			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	6	5					
Case No		2.0	3.0	9.0	12.0	4.0	2.0					
Phs Duration (G+Y+Rc), s		15.6	72.8	15.8	15.8	45.0	43.4					
Change Period (Y+Rc), s		6.2	6.1	5.8	* 5.8	* 6.8	6.1					
Max Green (Gmax), s		10.0	44.1	10.0	* 32	* 44	10.0					
Max Allow Headway (MAH), s		3.8	5.1	3.9	5.4	5.2	3.8					
Max Q Clear (g_c+I1), s		4.6	2.0	7.6	4.4	29.9	2.4					
Green Ext Time (g_e), s		0.1	26.6	0.2	0.3	8.3	0.0					
Prob of Phs Call (p_c)		0.94	1.00	1.00	1.00	1.00	0.43					
Prob of Max Out (p_x)		0.13	0.44	1.00	0.00	0.60	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7		5					
Mvmt Sat Flow, veh/h		3456		3563	1411		1781					
Through Movement Data												
Assigned Mvmt			2	8	4	6						
Mvmt Sat Flow, veh/h			5106	0	389	5203						
Right-Turn Movement Data												
Assigned Mvmt			12	18	14	16						
Mvmt Sat Flow, veh/h			1585	3170	1585	61						
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	0	5	0	0			
Lane Assignment		L (Prot)		L	L+T		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
 3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023

Lanes in Grp	2	0	2	1	0	1	0	0
Grp Vol (v), veh/h	83	0	173	37	0	17	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	1800	0	1781	0	0
Q Serve Time (g_s), s	2.6	0.0	5.6	2.3	0.0	0.4	0.0	0.0
Cycle Q Clear Time (g_c), s	2.6	0.0	5.6	2.3	0.0	0.4	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.78	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	270	0	297	150	0	553	0	0
V/C Ratio (X)	0.31	0.00	0.58	0.25	0.00	0.03	0.00	0.00
Avail Cap (c_a), veh/h	288	0	297	480	0	553	0	0
Upstream Filter (I)	0.93	0.00	1.00	1.00	0.00	0.54	0.00	0.00
Uniform Delay (d1), s/veh	47.8	0.0	53.0	51.5	0.0	15.8	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	2.9	0.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.3	0.0	55.9	52.3	0.0	15.8	0.0	0.0
1st-Term Q (Q1), veh/ln	1.1	0.0	2.5	1.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	2.0	0.0	4.7	1.9	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.32	0.00	0.56	0.25	0.00	0.09	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	3	0	0	2	0	0	0
Grp Vol (v), veh/h	0	2018	0	0	956	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	1702	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	27.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	27.9	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2840	0	0	1085	0	0	0
V/C Ratio (X)	0.00	0.71	0.00	0.00	0.88	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	2840	0	0	1242	0	0	0
Upstream Filter (I)	0.00	0.54	0.00	0.00	0.93	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	19.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	9.7	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.8	0.0	0.0	29.6	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	6.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	1.5	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	1.55	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.4	0.0	0.0	12.9	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.19	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	16	0	0	0
Lane Assignment		R	R	T+R	T+R			
Lanes in Grp	0	1	2	1	1	0	0	0
Grp Vol (v), veh/h	0	243	62	34	522	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	1859	0	0	0
Q Serve Time (g_s), s	0.0	0.0	2.0	2.4	27.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	2.0	2.4	27.9	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.03	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	881	512	132	592	0	0	0
V/C Ratio (X)	0.00	0.28	0.12	0.26	0.88	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	881	512	423	679	0	0	0
Upstream Filter (I)	0.00	0.54	1.00	1.00	0.93	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	43.0	51.5	19.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.1	1.0	16.1	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.4	43.1	52.5	36.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.8	1.0	7.5	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	2.7	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.80	1.80	1.50	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.2	1.4	1.8	15.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.08	0.23	0.22	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔↑↑	↑↑↑		↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	9	1851	68	155	1338	9	41	4	425	68	26	42
Future Volume (veh/h)	9	1851	68	155	1338	9	41	4	425	68	26	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	2012	74	168	1454	10	45	0	465	74	42	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	3064	951	287	3450	24	252	0	784	213	308	261
Arrive On Green	0.02	0.40	0.40	0.08	0.66	0.66	0.05	0.00	0.05	0.16	0.16	0.16
Sat Flow, veh/h	3456	5106	1585	3456	5232	36	1320	0	3170	928	1870	1585
Grp Volume(v), veh/h	10	2012	74	168	946	518	45	0	465	74	42	37
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1864	1320	0	1585	928	1870	1585
Q Serve(g_s), s	0.3	38.4	3.5	5.6	15.7	15.7	3.9	0.0	15.8	8.7	2.3	2.4
Cycle Q Clear(g_c), s	0.3	38.4	3.5	5.6	15.7	15.7	6.2	0.0	15.8	8.7	2.3	2.4
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	3064	951	287	2245	1229	252	0	784	213	308	261
V/C Ratio(X)	0.12	0.66	0.08	0.59	0.42	0.42	0.18	0.00	0.59	0.35	0.14	0.14
Avail Cap(c_a), veh/h	288	3064	951	291	2245	1229	442	0	1241	346	577	489
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	1.00	1.00	1.00	0.99	0.00	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	25.8	15.4	53.0	9.6	9.6	51.5	0.0	45.2	45.5	42.9	42.9
Incr Delay (d2), s/veh	0.4	0.7	0.1	2.9	0.6	1.1	0.3	0.0	0.7	1.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	22.0	2.3	4.6	9.7	10.6	2.5	0.0	11.0	3.7	2.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	26.6	15.5	56.0	10.2	10.7	51.8	0.0	45.9	46.5	43.1	43.1
LnGrp LOS	E	C	B	E	B	B	D	A	D	D	D	D
Approach Vol, veh/h		2096			1632			510			153	
Approach Delay, s/veh		26.3			15.1			46.4			44.7	
Approach LOS		C			B			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	78.1		25.6	9.1	85.2		25.6				
Change Period (Y+Rc), s	6.3	6.1		* 5.9	6.3	6.1		* 5.9				
Max Green Setting (Gmax), s	10.0	54.6		* 37	10.0	54.7		* 37				
Max Q Clear Time (g_c+1T), s	10.0	40.4		17.8	2.3	17.7		10.7				
Green Ext Time (p_c), s	0.1	11.4		2.0	0.0	13.8		0.7				

Intersection Summary






























HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  							
Traffic Volume (veh/h)	9	1851	68	155	1338	9	41	4	425	68	26	42
Future Volume (veh/h)	9	1851	68	155	1338	9	41	4	425	68	26	42
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	2012	74	168	1454	10	45	0	465	74	42	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	82	3064	951	287	3450	24	252	0	784	213	308	261
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.40	0.40	0.08	0.66	0.66	0.05	0.00	0.05	0.16	0.16	0.16
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.3	26.6	15.5	56.0	10.2	10.7	51.8	0.0	45.9	46.5	43.1	43.1
Ln Grp LOS	E	C	B	E	B	B	D	A	D	D	D	D
Approach Vol, veh/h		2096			1632			510			153	
Approach Delay, s/veh		26.3			15.1			46.4			44.7	
Approach LOS		C			B			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		16.3	78.1		25.6	9.1	85.2		25.6			
Change Period (Y+Rc), s		6.3	6.1		* 5.9	6.3	6.1		* 5.9			
Max Green (Gmax), s		10.1	54.6		* 37	10.0	54.7		* 37			
Max Allow Headway (MAH), s		3.8	5.2		4.0	3.8	5.2		4.9			
Max Q Clear (g_c+I1), s		7.6	40.4		17.8	2.3	17.7		10.7			
Green Ext Time (g_e), s		0.1	11.4		2.0	0.0	13.8		0.7			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.28	1.00		1.00			
Prob of Max Out (p_x)		1.00	0.79		0.00	0.00	0.15		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1320	3456			928			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		0		5232		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		3170		36		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	1	2	0	0	1
Grp Vol (v), veh/h	168	0	0	45	10	0	0	74
Grp Sat Flow (s), veh/h/ln	1728	0	0	1320	1728	0	0	928
Q Serve Time (g_s), s	5.6	0.0	0.0	3.9	0.3	0.0	0.0	8.7
Cycle Q Clear Time (g_c), s	5.6	0.0	0.0	6.2	0.3	0.0	0.0	8.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1320	0	0	0	928
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	19.7	0.0	0.0	0.0	19.7
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	17.4	0.0	0.0	0.0	19.7
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	3.9	0.0	0.0	0.0	8.7
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	287	0	0	252	82	0	0	213
V/C Ratio (X)	0.59	0.00	0.00	0.18	0.12	0.00	0.00	0.35
Avail Cap (c_a), veh/h	291	0	0	442	288	0	0	346
Upstream Filter (I)	1.00	0.00	0.00	0.99	0.65	0.00	0.00	1.00
Uniform Delay (d1), s/veh	53.0	0.0	0.0	51.5	57.8	0.0	0.0	45.5
Incr Delay (d2), s/veh	2.9	0.0	0.0	0.3	0.4	0.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	56.0	0.0	0.0	51.8	58.3	0.0	0.0	46.5
1st-Term Q (Q1), veh/ln	2.4	0.0	0.0	1.4	0.1	0.0	0.0	2.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	4.6	0.0	0.0	2.5	0.3	0.0	0.0	3.7
%ile Storage Ratio (RQ%)	0.40	0.00	0.00	0.42	0.05	0.00	0.00	0.48
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	3	0	0	0	2	0	1
Grp Vol (v), veh/h	0	2012	0	0	0	946	0	42
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	38.4	0.0	0.0	0.0	15.7	0.0	2.3
Cycle Q Clear Time (g_c), s	0.0	38.4	0.0	0.0	0.0	15.7	0.0	2.3
Lane Grp Cap (c), veh/h	0	3064	0	0	0	2245	0	308
V/C Ratio (X)	0.00	0.66	0.00	0.00	0.00	0.42	0.00	0.14
Avail Cap (c_a), veh/h	0	3064	0	0	0	2245	0	577
Upstream Filter (I)	0.00	0.65	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.8	0.0	0.0	0.0	9.6	0.0	42.9
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.6	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.6	0.0	0.0	0.0	10.2	0.0	43.1
1st-Term Q (Q1), veh/ln	0.0	16.4	0.0	0.0	0.0	5.5	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.32	0.00	1.00	0.00	1.69	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	22.0	0.0	0.0	0.0	9.7	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.32	0.00	0.00	0.00	0.60	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	74	0	465	0	518	0	37
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1864	0	1585
Q Serve Time (g_s), s	0.0	3.5	0.0	15.8	0.0	15.7	0.0	2.4
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	15.8	0.0	15.7	0.0	2.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.02	0.00	1.00
Lane Grp Cap (c), veh/h	0	951	0	784	0	1229	0	261
V/C Ratio (X)	0.00	0.08	0.00	0.59	0.00	0.42	0.00	0.14
Avail Cap (c_a), veh/h	0	951	0	1241	0	1229	0	489
Upstream Filter (I)	0.00	0.65	0.00	0.99	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.4	0.0	45.2	0.0	9.6	0.0	42.9
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.7	0.0	1.1	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.5	0.0	45.9	0.0	10.7	0.0	43.1
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	6.7	0.0	6.1	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.63	0.00	1.65	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.3	0.0	11.0	0.0	10.6	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	1.87	0.00	0.66	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↕	
Traffic Volume (veh/h)	1	689	155	117	378	0	123	0	147	4	2	10
Future Volume (veh/h)	1	689	155	117	378	0	123	0	147	4	2	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	749	168	127	411	0	134	0	160	4	2	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	2038	457	428	2386	0	221	0	196	14	7	39
Arrive On Green	0.00	0.71	0.71	0.67	0.67	0.00	0.12	0.00	0.12	0.04	0.04	0.04
Sat Flow, veh/h	1781	2884	647	609	3647	0	1781	0	1585	390	195	1073
Grp Volume(v), veh/h	1	461	456	127	411	0	134	0	160	17	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1754	609	1777	0	1781	0	1585	1658	0	0
Q Serve(g_s), s	0.1	12.3	12.4	12.5	5.2	0.0	8.6	0.0	11.8	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.1	12.3	12.4	20.6	5.2	0.0	8.6	0.0	11.8	1.2	0.0	0.0
Prop In Lane	1.00		0.37	1.00		0.00	1.00		1.00	0.24		0.65
Lane Grp Cap(c), veh/h	3	1256	1239	428	2386	0	221	0	196	60	0	0
V/C Ratio(X)	0.29	0.37	0.37	0.30	0.17	0.00	0.61	0.00	0.81	0.28	0.00	0.00
Avail Cap(c_a), veh/h	111	1256	1239	428	2386	0	416	0	370	387	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.8	7.0	7.0	11.9	7.3	0.0	49.8	0.0	51.2	56.3	0.0	0.0
Incr Delay (d2), s/veh	41.9	0.8	0.8	1.5	0.1	0.0	2.7	0.0	7.9	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	8.1	8.0	3.3	3.5	0.0	7.2	0.0	8.8	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.7	7.8	7.8	13.4	7.5	0.0	52.5	0.0	59.1	58.9	0.0	0.0
LnGrp LOS	F	A	A	B	A	A	D	A	E	E	A	A
Approach Vol, veh/h		918		538		294		17				
Approach Delay, s/veh		7.9		8.9		56.1		58.9				
Approach LOS		A		A		E		E				
Timer - Assigned Phs	1	2	4	6	8							
Phs Duration (G+Y+Rc), s	4.2	86.2	9.3	90.4	20.3							
Change Period (Y+Rc), s	4.0	5.6	* 5	* 5.6	5.4							
Max Green Setting (Gmax), s	5	36.5	* 28	* 48	28.0							
Max Q Clear Time (g_c+1), s	12	22.6	3.2	14.4	13.8							
Green Ext Time (p_c), s	0.0	3.3	0.0	7.1	1.1							

Intersection Summary





















HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	689	155	117	378	0	123	0	147	4	2	10
Future Volume (veh/h)	1	689	155	117	378	0	123	0	147	4	2	10
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	749	168	127	411	0	134	0	160	4	2	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	3	2038	457	428	2386	0	221	0	196	14	7	39
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.71	0.71	0.67	0.67	0.00	0.12	0.00	0.12	0.04	0.04	0.04
Unsig. Movement Delay												
Ln Grp Delay, s/veh	101.7	7.8	7.8	13.4	7.5	0.0	52.5	0.0	59.1	58.9	0.0	0.0
Ln Grp LOS	F	A	A	B	A	A	D	A	E	E	A	A
Approach Vol, veh/h		918			538			294			17	
Approach Delay, s/veh		7.9			8.9			56.1			58.9	
Approach LOS		A			A			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4		6					
Case No		2.0	6.3	11.0	12.0		4.0					
Phs Duration (G+Y+Rc), s		4.2	86.2	20.3	9.3		90.4					
Change Period (Y+Rc), s		4.0	5.6	5.4	* 5		* 5.6					
Max Green (Gmax), s		7.5	36.5	28.0	* 28		* 48					
Max Allow Headway (MAH), s		3.8	5.7	4.6	5.5		5.3					
Max Q Clear (g_c+I1), s		2.1	22.6	13.8	3.2		14.4					
Green Ext Time (g_e), s		0.0	3.3	1.1	0.0		7.1					
Prob of Phs Call (p_c)		0.03	1.00	1.00	0.43		1.00					
Prob of Max Out (p_x)		0.01	0.17	0.01	0.00		0.03					
Left-Turn Movement Data												
Assigned Mvmt		1	5	3	7							
Mvmt Sat Flow, veh/h		1781	609	1781	390							
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3647	0	195		2884					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			0	1585	1073		647					
Left Lane Group Data												
Assigned Mvmt		1	5	3	7	0	0	0	0			
Lane Assignment		L (Prot)	L	L+T	L+T+R							

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

Lanes in Grp	1	1	1	1	0	0	0	0
Grp Vol (v), veh/h	1	127	134	17	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	609	1781	1658	0	0	0	0
Q Serve Time (g_s), s	0.1	12.5	8.6	1.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	20.6	8.6	1.2	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	609	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	80.6	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	72.4	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	1.00	0.24	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	3	428	221	60	0	0	0	0
V/C Ratio (X)	0.29	0.30	0.61	0.28	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	111	428	416	387	0	0	0	0
Upstream Filter (I)	1.00	0.87	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	59.8	11.9	49.8	56.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	41.9	1.5	2.7	2.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	101.7	13.4	52.5	58.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.7	3.8	0.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	1.80	1.80	0.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.1	3.3	7.2	1.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.03	0.51	0.14	0.19	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	1	0	0
Grp Vol (v), veh/h	0	411	0	0	0	461	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	5.2	0.0	0.0	0.0	12.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	0.0	0.0	12.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	2386	0	0	0	1256	0	0
V/C Ratio (X)	0.00	0.17	0.00	0.00	0.00	0.37	0.00	0.00
Avail Cap (c_a), veh/h	0	2386	0	0	0	1256	0	0
Upstream Filter (I)	0.00	0.87	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.3	0.0	0.0	0.0	7.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.5	0.0	0.0	0.0	7.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.0	0.0	4.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	0.00	1.76	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	3.5	0.0	0.0	0.0	8.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.00	0.00	0.67	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment			R			T+R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	160	0	0	456	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1754	0	0
Q Serve Time (g_s), s	0.0	0.0	11.8	0.0	0.0	12.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	11.8	0.0	0.0	12.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.65	0.00	0.37	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	196	0	0	1239	0	0
V/C Ratio (X)	0.00	0.00	0.81	0.00	0.00	0.37	0.00	0.00
Avail Cap (c_a), veh/h	0	0	370	0	0	1239	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	51.2	0.0	0.0	7.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	7.9	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	59.1	0.0	0.0	7.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	4.7	0.0	0.0	4.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.73	1.00	0.00	1.77	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	8.8	0.0	0.0	8.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.83	0.00	0.00	0.66	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

6: Bristol Pkwy & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	417	248	56	254	58	128	149	80	80	175	64
Future Volume (veh/h)	8	417	248	56	254	58	128	149	80	80	175	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	453	270	61	276	63	139	162	87	87	190	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	802	358	142	802	358	168	1337	683	202	1416	505
Arrive On Green	0.23	0.23	0.23	0.45	0.45	0.45	0.16	0.98	0.98	0.02	0.18	0.18
Sat Flow, veh/h	1041	3554	1585	730	3554	1585	1781	2275	1163	3456	2568	915
Grp Volume(v), veh/h	9	453	270	61	276	63	139	125	124	87	130	130
Grp Sat Flow(s),veh/h/ln	1041	1777	1585	730	1777	1585	1781	1777	1661	1728	1777	1706
Q Serve(g_s), s	0.9	13.6	19.1	9.3	6.1	2.8	9.1	0.2	0.2	3.0	7.3	7.7
Cycle Q Clear(g_c), s	6.9	13.6	19.1	22.9	6.1	2.8	9.1	0.2	0.2	3.0	7.3	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.70	1.00		0.54
Lane Grp Cap(c), veh/h	243	802	358	142	802	358	168	1044	976	202	980	941
V/C Ratio(X)	0.04	0.56	0.75	0.43	0.34	0.18	0.83	0.12	0.13	0.43	0.13	0.14
Avail Cap(c_a), veh/h	367	1226	547	229	1226	547	371	1044	976	576	980	941
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.67	1.67	1.67	0.33	0.33	0.33
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	0.96	0.96	0.96	0.97	0.97	0.97
Uniform Delay (d), s/veh	41.2	41.2	43.4	38.1	27.1	26.3	49.6	0.5	0.5	56.9	25.0	25.2
Incr Delay (d2), s/veh	0.1	0.6	3.0	2.0	0.3	0.2	9.3	0.2	0.3	1.4	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	9.9	12.2	2.8	4.3	1.9	7.5	0.2	0.2	2.5	6.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	41.8	46.4	40.1	27.4	26.5	58.9	0.7	0.7	58.3	25.3	25.5
LnGrp LOS	D	D	D	D	C	C	E	A	A	E	C	C
Approach Vol, veh/h		732			400			388			347	
Approach Delay, s/veh		43.5			29.2			21.6			33.6	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.0	76.3		32.7	15.3	72.0		32.7				
Change Period (Y+Rc), s	4.0	5.8		* 5.6	4.0	5.8		* 5.6				
Max Green Setting (Gmax), s	20.0	43.2		* 41	25.0	38.2		* 41				
Max Q Clear Time (g_c+1), s	11.0	2.2		21.1	11.1	9.7		24.9				
Green Ext Time (p_c), s	0.2	1.6		4.0	0.3	1.6		2.2				

Intersection Summary

























HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	417	248	56	254	58	128	149	80	80	175	64
Future Volume (veh/h)	8	417	248	56	254	58	128	149	80	80	175	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	453	270	61	276	63	139	162	87	87	190	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	243	802	358	142	802	358	168	1337	683	202	1416	505
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.67	1.67	1.67	0.33	0.33	0.33
Prop Arrive On Green	0.23	0.23	0.23	0.45	0.45	0.45	0.16	0.98	0.98	0.02	0.18	0.18
Unsig. Movement Delay												
Ln Grp Delay, s/veh	41.2	41.8	46.4	40.1	27.4	26.5	58.9	0.7	0.7	58.3	25.3	25.5
Ln Grp LOS	D	D	D	D	C	C	E	A	A	E	C	C
Approach Vol, veh/h		732			400			388			347	
Approach Delay, s/veh		43.5			29.2			21.6			33.6	
Approach LOS		D			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		11.0	76.3		32.7	15.3	72.0		32.7			
Change Period (Y+Rc), s		4.0	5.8		* 5.6	4.0	5.8		* 5.6			
Max Green (Gmax), s		20.0	43.2		* 41	25.0	38.2		* 41			
Max Allow Headway (MAH), s		3.8	5.4		4.8	3.8	5.3		5.2			
Max Q Clear (g_c+I1), s		5.0	2.2		21.1	11.1	9.7		24.9			
Green Ext Time (g_e), s		0.2	1.6		4.0	0.3	1.6		2.2			
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.03	0.00	0.00		0.02			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1041	1781			730			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2275		3554		2568		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1163		1585		915		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

Lanes in Grp	2	0	0	1	1	0	0	1
Grp Vol (v), veh/h	87	0	0	9	139	0	0	61
Grp Sat Flow (s), veh/h/ln	1728	0	0	1041	1781	0	0	730
Q Serve Time (g_s), s	3.0	0.0	0.0	0.9	9.1	0.0	0.0	9.3
Cycle Q Clear Time (g_c), s	3.0	0.0	0.0	6.9	9.1	0.0	0.0	22.9
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1041	0	0	0	730
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	27.1	0.0	0.0	0.0	27.1
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	21.0	0.0	0.0	0.0	13.5
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	9.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	202	0	0	243	168	0	0	142
V/C Ratio (X)	0.43	0.00	0.00	0.04	0.83	0.00	0.00	0.43
Avail Cap (c_a), veh/h	576	0	0	367	371	0	0	229
Upstream Filter (I)	0.97	0.00	0.00	0.93	0.96	0.00	0.00	1.00
Uniform Delay (d1), s/veh	56.9	0.0	0.0	41.2	49.6	0.0	0.0	38.1
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.1	9.3	0.0	0.0	2.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	58.3	0.0	0.0	41.2	58.9	0.0	0.0	40.1
1st-Term Q (Q1), veh/ln	1.3	0.0	0.0	0.2	3.8	0.0	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.78	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	2.5	0.0	0.0	0.4	7.5	0.0	0.0	2.8
%ile Storage Ratio (RQ%)	0.33	0.00	0.00	0.07	0.96	0.00	0.00	0.36
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	125	0	453	0	130	0	276
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.2	0.0	13.6	0.0	7.3	0.0	6.1
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	13.6	0.0	7.3	0.0	6.1
Lane Grp Cap (c), veh/h	0	1044	0	802	0	980	0	802
V/C Ratio (X)	0.00	0.12	0.00	0.56	0.00	0.13	0.00	0.34
Avail Cap (c_a), veh/h	0	1044	0	1226	0	980	0	1226
Upstream Filter (I)	0.00	0.96	0.00	0.93	0.00	0.97	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.5	0.0	41.2	0.0	25.0	0.0	27.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.0	0.3	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.7	0.0	41.8	0.0	25.3	0.0	27.4
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	6.0	0.0	3.3	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.64	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	9.9	0.0	6.0	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.30	0.00	0.35	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	124	0	270	0	130	0	63
Grp Sat Flow (s), veh/h/ln	0	1661	0	1585	0	1706	0	1585
Q Serve Time (g_s), s	0.0	0.2	0.0	19.1	0.0	7.7	0.0	2.8
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	19.1	0.0	7.7	0.0	2.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.70	0.00	1.00	0.00	0.54	0.00	1.00
Lane Grp Cap (c), veh/h	0	976	0	358	0	941	0	358
V/C Ratio (X)	0.00	0.13	0.00	0.75	0.00	0.14	0.00	0.18
Avail Cap (c_a), veh/h	0	976	0	547	0	941	0	547
Upstream Filter (I)	0.00	0.96	0.00	0.93	0.00	0.97	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.5	0.0	43.4	0.0	25.2	0.0	26.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	3.0	0.0	0.3	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.7	0.0	46.4	0.0	25.5	0.0	26.5
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	7.5	0.0	3.3	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.57	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	12.2	0.0	6.1	0.0	1.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.37	0.00	0.36	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	593	17	13	230	5	26	0	38	15	4	49
Future Volume (veh/h)	3	593	17	13	230	5	26	0	38	15	4	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	645	18	14	250	5	28	0	41	16	4	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	932	2724	1215	651	2788	1243	126	0	120	119	24	132
Arrive On Green	0.01	0.77	0.77	0.04	1.00	1.00	0.08	0.00	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	787	0	1442	783	289	1585
Grp Volume(v), veh/h	3	645	18	14	250	5	28	0	41	20	0	53
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	787	0	1442	1073	0	1585
Q Serve(g_s), s	0.0	6.2	0.3	0.2	0.0	0.0	2.4	0.0	3.2	0.9	0.0	3.8
Cycle Q Clear(g_c), s	0.0	6.2	0.3	0.2	0.0	0.0	6.6	0.0	3.2	4.2	0.0	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.80		1.00
Lane Grp Cap(c), veh/h	932	2724	1215	651	2788	1243	126	0	120	143	0	132
V/C Ratio(X)	0.00	0.24	0.01	0.02	0.09	0.00	0.22	0.00	0.34	0.14	0.00	0.40
Avail Cap(c_a), veh/h	1085	2724	1215	787	2788	1243	399	0	413	437	0	454
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.1	4.0	3.3	2.8	0.0	0.0	55.4	0.0	51.9	52.5	0.0	52.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.1	0.0	0.9	0.0	1.7	0.4	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	3.6	0.2	0.1	0.0	0.0	1.5	0.0	2.2	1.1	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.1	4.1	3.3	2.8	0.1	0.0	56.3	0.0	53.6	53.0	0.0	54.1
LnGrp LOS	A	A	A	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		666			269			69				73
Approach Delay, s/veh		4.1			0.2			54.7				53.8
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	99.7		15.6	6.8	97.6		15.6				
Change Period (Y+Rc), s	4.0	5.6		5.6	* 4.2	* 5.6		5.6				
Max Green Setting (Gmax), s	59.4			34.4	* 12	* 59		34.4				
Max Q Clear Time (g_c+1), s	2.0			6.2	2.2	8.2		8.6				
Green Ext Time (p_c), s	0.0	1.8		0.2	0.0	5.3		0.3				

Intersection Summary























HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
7: Uplander Way & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	593	17	13	230	5	26	0	38	15	4	49
Future Volume (veh/h)	3	593	17	13	230	5	26	0	38	15	4	49
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	645	18	14	250	5	28	0	41	16	4	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	932	2724	1215	651	2788	1243	126	0	120	119	24	132
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.77	0.77	0.04	1.00	1.00	0.08	0.00	0.08	0.08	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	3.1	4.1	3.3	2.8	0.1	0.0	56.3	0.0	53.6	53.0	0.0	54.1
Ln Grp LOS	A	A	A	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		666			269			69			73	
Approach Delay, s/veh		4.1			0.2			54.7			53.8	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		1.1	3.0		7.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		4.7	99.7		15.6	6.8	97.6		15.6			
Change Period (Y+Rc), s		4.0	5.6		5.6	* 4.2	* 5.6		5.6			
Max Green (Gmax), s		11.0	59.4		34.4	* 12	* 59		34.4			
Max Allow Headway (MAH), s		3.8	5.2		4.4	3.8	5.2		5.5			
Max Q Clear (g_c+I1), s		2.0	2.0		6.2	2.2	8.2		8.6			
Green Ext Time (g_e), s		0.0	1.8		0.2	0.0	5.3		0.3			
Prob of Phs Call (p_c)		0.10	1.00		1.00	0.37	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			783	1781			787			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		289		3554		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1442			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Pr/Pm)			L+TL (Pr/Pm)			L+T				

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	3	0	0	20	14	0	0	28
Grp Sat Flow (s), veh/h/ln	1781	0	0	1073	1781	0	0	787
Q Serve Time (g_s), s	0.0	0.0	0.0	0.9	0.2	0.0	0.0	2.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.2	0.2	0.0	0.0	6.6
Perm LT Sat Flow (s_l), veh/h/ln	1125	0	0	1388	772	0	0	1368
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	92.0	0.0	0.0	10.0	92.0	0.0	0.0	10.0
Perm LT Serve Time (g_u), s	92.0	0.0	0.0	6.8	85.8	0.0	0.0	5.8
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.9	0.1	0.0	0.0	2.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.80	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	932	0	0	143	651	0	0	126
V/C Ratio (X)	0.00	0.00	0.00	0.14	0.02	0.00	0.00	0.22
Avail Cap (c_a), veh/h	1085	0	0	437	787	0	0	399
Upstream Filter (I)	0.74	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	3.1	0.0	0.0	52.5	2.8	0.0	0.0	55.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	3.1	0.0	0.0	53.0	2.8	0.0	0.0	56.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.1	0.0	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	1.1	0.1	0.0	0.0	1.5
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	0.41	0.02	0.00	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	250	0	0	0	645	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	2788	0	0	0	2724	0	0
V/C Ratio (X)	0.00	0.09	0.00	0.00	0.00	0.24	0.00	0.00
Avail Cap (c_a), veh/h	0	2788	0	0	0	2724	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.74	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	0.0	0.0	4.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 7: Uplander Way & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	5	0	53	0	18	0	41
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1442
Q Serve Time (g_s), s	0.0	0.0	0.0	3.8	0.0	0.3	0.0	3.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.8	0.0	0.3	0.0	3.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1243	0	132	0	1215	0	120
V/C Ratio (X)	0.00	0.00	0.00	0.40	0.00	0.01	0.00	0.34
Avail Cap (c_a), veh/h	0	1243	0	454	0	1215	0	413
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.74	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.2	0.0	3.3	0.0	51.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.0	0.0	0.0	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	54.1	0.0	3.3	0.0	53.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.5	0.0	0.1	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	2.9	0.0	0.2	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.10	0.00	0.05	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	419	207	96	122	0	93	0	96	5	2	13
Future Volume (veh/h)	0	419	207	96	122	0	93	0	96	5	2	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	455	225	104	133	0	101	0	104	5	2	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	2582	1152	713	2902	1294	189	167	231	55	30	95
Arrive On Green	0.00	1.00	1.00	0.02	0.27	0.00	0.09	0.00	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1397	1870	1585	197	334	1061
Grp Volume(v), veh/h	0	455	225	104	133	0	101	0	104	21	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1397	1870	1585	1591	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.5	3.3	0.0	6.7	0.0	7.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.5	3.3	0.0	8.1	0.0	7.2	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.24		0.67
Lane Grp Cap(c), veh/h	1	2582	1152	713	2902	1294	189	167	231	179	0	0
V/C Ratio(X)	0.00	0.18	0.20	0.15	0.05	0.00	0.53	0.00	0.45	0.12	0.00	0.00
Avail Cap(c_a), veh/h	312	2582	1152	835	2902	1294	544	642	634	566	0	0
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.95	0.95	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	2.7	9.3	0.0	53.3	0.0	46.8	50.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.4	0.1	0.0	0.0	2.3	0.0	1.4	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.1	0.2	0.8	1.8	0.0	5.6	0.0	5.3	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.1	0.4	2.8	9.3	0.0	55.6	0.0	48.2	50.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	D	D	A	A
Approach Vol, veh/h		680			237			205				21
Approach Delay, s/veh		0.2			6.4			51.9				50.7
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	103.5		16.5	10.8	92.7		16.5				
Change Period (Y+Rc), s	4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8				
Max Green Setting (Gmax), s	2.0	* 43		* 41	15.0	* 49		* 41				
Max Q Clear Time (g_c+1), s	10.0	5.3		10.1	3.5	2.0		3.4				
Green Ext Time (p_c), s	0.0	0.9		0.6	0.2	4.3		0.1				

Intersection Summary

HCM 6th Ctrl Delay	11.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	419	207	96	122	0	93	0	96	5	2	13
Future Volume (veh/h)	0	419	207	96	122	0	93	0	96	5	2	13
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	455	225	104	133	0	101	0	104	5	2	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	1	2582	1152	713	2902	1294	189	167	231	55	30	95
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	1.00	1.00	0.02	0.27	0.00	0.09	0.00	0.09	0.09	0.09	0.09
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	0.1	0.4	2.8	9.3	0.0	55.6	0.0	48.2	50.7	0.0	0.0
Ln Grp LOS	A	A	A	A	A	A	E	A	D	D	A	A
Approach Vol, veh/h		680			237			205			21	
Approach Delay, s/veh		0.2			6.4			51.9			50.7	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		0.0	103.5		16.5	10.8	92.7		16.5			
Change Period (Y+Rc), s		4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8			
Max Green (Gmax), s		21.0	* 43		* 41	15.0	* 49		* 41			
Max Allow Headway (MAH), s		0.0	5.2		3.9	3.8	4.8		5.5			
Max Q Clear (g_c+I1), s		0.0	5.3		10.1	3.5	2.0		3.4			
Green Ext Time (g_e), s		0.0	0.9		0.6	0.2	4.3		0.1			
Prob of Phs Call (p_c)		0.00	1.00		1.00	0.97	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1397	1781			197			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		1870		3554		334			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1061			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			LL (Pr/Pm)				L+T+R			

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	0	0	0	101	104	0	0	21
Grp Sat Flow (s), veh/h/ln	1781	0	0	1397	1781	0	0	1591
Q Serve Time (g_s), s	0.0	0.0	0.0	6.7	1.5	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.1	1.5	0.0	0.0	1.4
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1397	760	0	0	1311
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1781	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	10.7	89.2	0.0	0.0	10.7
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	9.3	87.2	0.0	0.0	10.7
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	6.7	0.3	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.24
Lane Grp Cap (c), veh/h	1	0	0	189	713	0	0	179
V/C Ratio (X)	0.00	0.00	0.00	0.53	0.15	0.00	0.00	0.12
Avail Cap (c_a), veh/h	312	0	0	544	835	0	0	566
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.95	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	53.3	2.7	0.0	0.0	50.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.3	0.1	0.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	55.6	2.8	0.0	0.0	50.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.0	0.4	0.0	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	5.6	0.8	0.0	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.23	0.11	0.00	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		
Lanes in Grp	0	2	0	1	0	2	0	0
Grp Vol (v), veh/h	0	133	0	0	0	455	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2902	0	167	0	2582	0	0
V/C Ratio (X)	0.00	0.05	0.00	0.00	0.00	0.18	0.00	0.00
Avail Cap (c_a), veh/h	0	2902	0	642	0	2582	0	0
Upstream Filter (I)	0.00	0.95	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.3	0.0	0.0	0.0	0.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	1.8	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	104	0	225	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.67
Lane Grp Cap (c), veh/h	0	1294	0	231	0	1152	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.45	0.00	0.20	0.00	0.00
Avail Cap (c_a), veh/h	0	1294	0	634	0	1152	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	46.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.4	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	48.2	0.0	0.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	5.3	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.17	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.7
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

9: Bristol Pkwy & Green Valley Cir

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	94	343	123	72	213	89	113	153	70	277	590	123
Future Volume (veh/h)	94	343	123	72	213	89	113	153	70	277	590	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	373	134	78	232	97	123	166	76	301	641	134
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	631	224	163	605	245	521	804	368	753	1938	404
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.66	0.66	0.66	1.00	1.00	1.00
Sat Flow, veh/h	1051	2572	911	892	2467	1000	696	1214	556	1138	2926	611
Grp Volume(v), veh/h	102	256	251	78	165	164	123	0	242	301	389	386
Grp Sat Flow(s),veh/h/ln	1051	1777	1706	892	1777	1690	696	0	1770	1138	1777	1760
Q Serve(g_s), s	10.8	15.2	15.6	10.2	9.3	9.7	8.7	0.0	6.4	4.3	0.0	0.0
Cycle Q Clear(g_c), s	20.5	15.2	15.6	25.8	9.3	9.7	8.7	0.0	6.4	10.7	0.0	0.0
Prop In Lane	1.00		0.53	1.00		0.59	1.00		0.31	1.00		0.35
Lane Grp Cap(c), veh/h	233	436	419	163	436	415	521	0	1172	753	1177	1166
V/C Ratio(X)	0.44	0.59	0.60	0.48	0.38	0.40	0.24	0.00	0.21	0.40	0.33	0.33
Avail Cap(c_a), veh/h	303	555	533	223	555	528	521	0	1172	753	1177	1166
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	46.4	39.9	40.1	51.5	37.7	37.8	8.3	0.0	7.9	0.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	1.3	1.4	2.2	0.5	0.6	1.1	0.0	0.4	1.5	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	11.1	11.0	4.3	7.4	7.4	2.5	0.0	4.5	0.6	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	41.2	41.4	53.6	38.2	38.4	9.4	0.0	8.3	1.9	0.7	0.7
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		609			407			365			1076	
Approach Delay, s/veh		42.4			41.3			8.7			1.1	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		85.1		34.9		85.1		34.9				
Change Period (Y+Rc), s		* 5.6		* 5.5		* 5.6		* 5.5				
Max Green Setting (Gmax), s		* 71		* 38		* 71		* 38				
Max Q Clear Time (g_c+I1), s		10.7		22.5		12.7		27.8				
Green Ext Time (p_c), s		2.9		3.2		7.8		1.7				

Intersection Summary






















HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 9: Bristol Pkwy & Green Valley Cir

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	343	123	72	213	89	113	153	70	277	590	123
Future Volume (veh/h)	94	343	123	72	213	89	113	153	70	277	590	123
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	373	134	78	232	97	123	166	76	301	641	134
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	233	631	224	163	605	245	521	804	368	753	1938	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.66	0.66	0.66	1.00	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	47.7	41.2	41.4	53.6	38.2	38.4	9.4	0.0	8.3	1.9	0.7	0.7
Ln Grp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		609			407			365			1076	
Approach Delay, s/veh		42.4			41.3			8.7			1.1	
Approach LOS		D			D			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			85.1		34.9		85.1		34.9			
Change Period (Y+Rc), s			* 5.6		* 5.5		* 5.6		* 5.5			
Max Green (Gmax), s			* 71		* 38		* 71		* 38			
Max Allow Headway (MAH), s			5.7		5.2		5.0		5.3			
Max Q Clear (g_c+I1), s			10.7		22.5		12.7		27.8			
Green Ext Time (g_e), s			2.9		3.2		7.8		1.7			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.12		0.00		0.26			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			696		1051		1138		892			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1214		2572		2926		2467			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			556		911		611		1000			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

07/19/2023

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	123	0	102	0	301	0	78
Grp Sat Flow (s), veh/h/ln	0	696	0	1051	0	1138	0	892
Q Serve Time (g_s), s	0.0	8.7	0.0	10.8	0.0	4.3	0.0	10.2
Cycle Q Clear Time (g_c), s	0.0	8.7	0.0	20.5	0.0	10.7	0.0	25.8
Perm LT Sat Flow (s_l), veh/h/ln	0	696	0	1051	0	1138	0	892
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	79.5	0.0	29.4	0.0	79.5	0.0	29.4
Perm LT Serve Time (g_u), s	0.0	79.5	0.0	19.7	0.0	73.0	0.0	13.8
Perm LT Q Serve Time (g_ps), s	0.0	8.7	0.0	10.8	0.0	4.3	0.0	10.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	521	0	233	0	753	0	163
V/C Ratio (X)	0.00	0.24	0.00	0.44	0.00	0.40	0.00	0.48
Avail Cap (c_a), veh/h	0	521	0	303	0	753	0	223
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.94	0.00	0.99
Uniform Delay (d1), s/veh	0.0	8.3	0.0	46.4	0.0	0.4	0.0	51.5
Incr Delay (d2), s/veh	0.0	1.1	0.0	1.3	0.0	1.5	0.0	2.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.4	0.0	47.7	0.0	1.9	0.0	53.6
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	2.8	0.0	0.0	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.5	0.0	5.2	0.0	0.6	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	1.47	0.00	0.12	0.00	1.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	256	0	389	0	165
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	15.2	0.0	0.0	0.0	9.3
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	15.2	0.0	0.0	0.0	9.3
Lane Grp Cap (c), veh/h	0	0	0	436	0	1177	0	436
V/C Ratio (X)	0.00	0.00	0.00	0.59	0.00	0.33	0.00	0.38
Avail Cap (c_a), veh/h	0	0	0	555	0	1177	0	555
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.94	0.00	0.99
Uniform Delay (d1), s/veh	0.0	0.0	0.0	39.9	0.0	0.0	0.0	37.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	0.7	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	41.2	0.0	0.7	0.0	38.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	6.7	0.0	0.0	0.0	4.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.63	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	11.1	0.0	0.4	0.0	7.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.30	0.00	0.01	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	242	0	251	0	386	0	164
Grp Sat Flow (s), veh/h/ln	0	1770	0	1706	0	1760	0	1690
Q Serve Time (g_s), s	0.0	6.4	0.0	15.6	0.0	0.0	0.0	9.7
Cycle Q Clear Time (g_c), s	0.0	6.4	0.0	15.6	0.0	0.0	0.0	9.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.31	0.00	0.53	0.00	0.35	0.00	0.59
Lane Grp Cap (c), veh/h	0	1172	0	419	0	1166	0	415
V/C Ratio (X)	0.00	0.21	0.00	0.60	0.00	0.33	0.00	0.40
Avail Cap (c_a), veh/h	0	1172	0	533	0	1166	0	528
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.94	0.00	0.99
Uniform Delay (d1), s/veh	0.0	7.9	0.0	40.1	0.0	0.0	0.0	37.8
Incr Delay (d2), s/veh	0.0	0.4	0.0	1.4	0.0	0.7	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	41.4	0.0	0.7	0.0	38.4
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	6.6	0.0	0.0	0.0	4.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.63	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.5	0.0	11.0	0.0	0.4	0.0	7.4
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.30	0.00	0.01	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

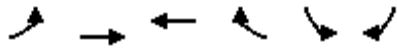
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

10: Green Valley Cir & Buckingham

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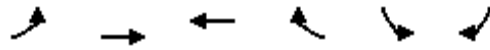


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑	↑↑		↵	↵
Traffic Volume (veh/h)	99	411	148	77	137	80
Future Volume (veh/h)	99	411	148	77	137	80
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	447	161	84	149	87
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	970	2901	1877	933	186	166
Arrive On Green	0.27	0.27	0.82	0.82	0.10	0.10
Sat Flow, veh/h	1135	3647	2393	1142	1781	1585
Grp Volume(v), veh/h	108	447	123	122	149	87
Grp Sat Flow(s),veh/h/ln	1135	1777	1777	1665	1781	1585
Q Serve(g_s), s	8.7	11.5	1.6	1.7	9.8	6.2
Cycle Q Clear(g_c), s	10.4	11.5	1.6	1.7	9.8	6.2
Prop In Lane	1.00			0.69	1.00	1.00
Lane Grp Cap(c), veh/h	970	2901	1451	1359	186	166
V/C Ratio(X)	0.11	0.15	0.08	0.09	0.80	0.53
Avail Cap(c_a), veh/h	970	2901	1451	1359	757	674
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	12.3	2.2	2.2	52.5	50.9
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.1	7.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	8.8	0.8	0.9	8.4	4.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.6	12.3	2.3	2.3	60.2	53.5
LnGrp LOS	B	B	A	A	E	D
Approach Vol, veh/h		555	245		236	
Approach Delay, s/veh		12.3	2.3		57.7	
Approach LOS		B	A		E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		103.5		16.5		103.5
Change Period (Y+Rc), s		* 5.5		4.0		* 5.5
Max Green Setting (Gmax), s		* 60		51.0		* 60
Max Q Clear Time (g_c+I1), s		3.7		11.8		13.5
Green Ext Time (p_c), s		1.6		0.7		3.8
Intersection Summary						
HCM 6th Ctrl Delay			20.3			
HCM 6th LOS			C			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖	↑↑	↑↗		↖	↗			
Traffic Volume (veh/h)	99	411	148	77	137	80			
Future Volume (veh/h)	99	411	148	77	137	80			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	108	447	161	84	149	87			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	970	2901	1877	933	186	166			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.27	0.27	0.82	0.82	0.10	0.10			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	12.6	12.3	2.3	2.3	60.2	53.5			
Ln Grp LOS	B	B	A	A	E	D			
Approach Vol, veh/h		555	245		236				
Approach Delay, s/veh		12.3	2.3		57.7				
Approach LOS		B	A		E				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		9.0		6.0		
Phs Duration (G+Y+Rc), s			103.5		16.5		103.5		
Change Period (Y+Rc), s			* 5.5		4.0		* 5.5		
Max Green (Gmax), s			* 60		51.0		* 60		
Max Allow Headway (MAH), s			5.4		3.9		5.1		
Max Q Clear (g_c+I1), s			3.7		11.8		13.5		
Green Ext Time (g_e), s			1.6		0.7		3.8		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1781		1135		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			2393		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			1142		1585		0		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment					L		L		

HCM 6th Signalized Intersection Capacity Analysis
 10: Green Valley Cir & Buckingham

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Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	149	0	108	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	0	1135	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	9.8	0.0	8.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.8	0.0	10.4	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	1135	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	98.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	96.2	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0
Time to First Blk (g_f), s	0.0	98.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	186	0	970	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.80	0.00	0.11	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	757	0	970	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.77	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.5	0.0	12.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	60.2	0.0	12.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.4	0.0	2.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.75	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	8.4	0.0	4.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.12	0.00	0.07	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	123	0	0	0	447	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	1.6	0.0	0.0	0.0	11.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	0.0	0.0	11.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	1451	0	0	0	2901	0	0
V/C Ratio (X)	0.00	0.08	0.00	0.00	0.00	0.15	0.00	0.00
Avail Cap (c_a), veh/h	0	1451	0	0	0	2901	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.77	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.2	0.0	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.3	0.0	0.0	0.0	12.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.0	0.0	5.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.61	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.8	0.0	0.0	0.0	8.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.13	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	122	0	87	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1665	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	1.7	0.0	6.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.7	0.0	6.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.69	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1359	0	166	0	0	0	0
V/C Ratio (X)	0.00	0.09	0.00	0.53	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1359	0	674	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.2	0.0	50.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	2.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.3	0.0	53.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	2.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.9	0.0	4.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.07	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

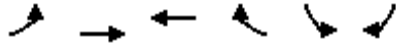
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

11: Centinela Ave & Green Valley Cir

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	76	1436	529	166	493	84
Future Volume (veh/h)	76	1436	529	166	493	84
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	1561	575	180	536	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	532	2559	2559	1141	630	289
Arrive On Green	0.72	0.72	0.72	0.72	0.18	0.18
Sat Flow, veh/h	709	3647	3647	1585	3456	1585
Grp Volume(v), veh/h	83	1561	575	180	536	91
Grp Sat Flow(s),veh/h/ln	709	1777	1777	1585	1728	1585
Q Serve(g_s), s	5.3	26.3	6.5	4.3	18.0	6.0
Cycle Q Clear(g_c), s	11.8	26.3	6.5	4.3	18.0	6.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	532	2559	2559	1141	630	289
V/C Ratio(X)	0.16	0.61	0.22	0.16	0.85	0.31
Avail Cap(c_a), veh/h	532	2559	2559	1141	904	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.6	8.4	5.6	5.3	47.5	42.6
Incr Delay (d2), s/veh	0.6	1.1	0.0	0.1	5.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	14.4	4.0	2.4	12.9	4.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.2	9.5	5.7	5.4	52.9	43.2
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h		1644	755		627	
Approach Delay, s/veh		9.4	5.6		51.5	
Approach LOS		A	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		92.5		27.5		92.5
Change Period (Y+Rc), s		6.1		* 5.6		6.1
Max Green Setting (Gmax), s		76.9		* 31		76.9
Max Q Clear Time (g_c+I1), s		28.3		20.0		8.5
Green Ext Time (p_c), s		20.6		1.9		5.3

Intersection Summary

HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

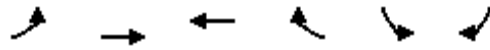
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↶	↷	↷	↶	↷	↶			
Traffic Volume (veh/h)	76	1436	529	166	493	84			
Future Volume (veh/h)	76	1436	529	166	493	84			
Number	5	2	6	16	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	83	1561	575	180	536	91			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	532	2559	2559	1141	630	289			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.72	0.72	0.72	0.72	0.18	0.18			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	8.2	9.5	5.7	5.4	52.9	43.2			
Ln Grp LOS	A	A	A	A	D	D			
Approach Vol, veh/h		1644	755		627				
Approach Delay, s/veh		9.4	5.6		51.5				
Approach LOS		A	A		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s			92.5		27.5		92.5		
Change Period (Y+Rc), s			6.1		* 5.6		6.1		
Max Green (Gmax), s			76.9		* 31		76.9		
Max Allow Headway (MAH), s			5.3		3.8		5.0		
Max Q Clear (g_c+I1), s			28.3		20.0		8.5		
Green Ext Time (g_e), s			20.6		1.9		5.3		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.16		0.05		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			709		3456		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis
 11: Centinela Ave & Green Valley Cir

07/19/2023

Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	83	0	536	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	709	0	1728	0	0	0	0
Q Serve Time (g_s), s	0.0	5.3	0.0	18.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.8	0.0	18.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	709	0	1728	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	86.4	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	79.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	86.4	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	532	0	630	0	0	0	0
V/C Ratio (X)	0.00	0.16	0.00	0.85	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	532	0	904	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.6	0.0	47.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	5.4	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.2	0.0	52.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	7.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.5	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.57	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	1.6	0.0	12.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.26	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1561	0	0	0	575	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	26.3	0.0	0.0	0.0	6.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	26.3	0.0	0.0	0.0	6.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	2559	0	0	0	2559	0	0
V/C Ratio (X)	0.00	0.61	0.00	0.00	0.00	0.22	0.00	0.00
Avail Cap (c_a), veh/h	0	2559	0	0	0	2559	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	0.0	0.0	5.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.5	0.0	0.0	0.0	5.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	9.0	0.0	0.0	0.0	2.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.54	0.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	14.4	0.0	0.0	0.0	4.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.52	0.00	0.00	0.00	0.17	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	91	0	180	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	6.0	0.0	4.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.0	0.0	4.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	289	0	1141	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.31	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	415	0	1141	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	42.6	0.0	5.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	43.2	0.0	5.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.4	0.0	1.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	4.3	0.0	2.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.09	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
12: Hannum Driveway & Hannum Ave

07/19/2023

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑↑	
Traffic Vol, veh/h	631	15	5	224	13	4
Future Vol, veh/h	631	15	5	224	13	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	686	16	5	243	14	4

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	702	0	826 351
Stage 1	-	-	-	-	694 -
Stage 2	-	-	-	-	132 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	891	-	310 645
Stage 1	-	-	-	-	457 -
Stage 2	-	-	-	-	880 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	891	-	308 645
Mov Cap-2 Maneuver	-	-	-	-	308 -
Stage 1	-	-	-	-	457 -
Stage 2	-	-	-	-	875 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	351	-	-	891	-
HCM Lane V/C Ratio	0.053	-	-	0.006	-
HCM Control Delay (s)	15.8	-	-	9.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	14	22	164	271	41
Future Vol, veh/h	26	14	22	164	271	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	15	24	178	295	45

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	455	170	340	0	-	0
Stage 1	318	-	-	-	-	-
Stage 2	137	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	534	844	1216	-	-	-
Stage 1	710	-	-	-	-	-
Stage 2	875	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	523	844	1216	-	-	-
Mov Cap-2 Maneuver	523	-	-	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	875	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1216	-	603	-	-
HCM Lane V/C Ratio	0.02	-	0.072	-	-
HCM Control Delay (s)	8	-	11.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM 6th Signalized Intersection Summary

1: Hannum Ave & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑	↖	↖	↑↑	↖	↖	↑↑	↖
Traffic Volume (veh/h)	57	335	88	42	814	638	167	782	296	179	241	79
Future Volume (veh/h)	57	335	88	42	814	638	167	782	296	179	241	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	364	96	46	885	693	182	850	0	195	262	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	1770	449	206	2198	682	761	910		247	381	
Arrive On Green	0.07	0.44	0.44	0.06	0.43	0.43	0.22	0.26	0.00	0.07	0.11	0.00
Sat Flow, veh/h	1781	4060	1029	3456	5106	1585	3456	3554	1585	3456	3647	0
Grp Volume(v), veh/h	62	303	157	46	885	693	182	850	0	195	262	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1685	1728	1702	1585	1728	1777	1585	1728	1777	0
Q Serve(g_s), s	4.7	7.7	8.1	1.8	16.7	60.3	6.1	32.7	0.0	7.8	9.9	0.0
Cycle Q Clear(g_c), s	4.7	7.7	8.1	1.8	16.7	60.3	6.1	32.7	0.0	7.8	9.9	0.0
Prop In Lane	1.00		0.61	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	116	1484	735	206	2198	682	761	910		247	381	
V/C Ratio(X)	0.54	0.20	0.21	0.22	0.40	1.02	0.24	0.93		0.79	0.69	
Avail Cap(c_a), veh/h	129	1484	735	247	2198	682	761	932		264	949	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.4	24.4	24.6	62.8	27.5	39.9	44.9	50.9	0.0	64.0	60.2	0.0
Incr Delay (d2), s/veh	3.8	0.3	0.7	0.5	0.5	35.5	0.2	15.8	0.0	14.1	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	5.8	6.2	1.4	10.9	38.5	4.8	23.2	0.0	7.1	8.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	24.8	25.2	63.2	27.9	75.4	45.1	66.8	0.0	78.1	62.5	0.0
LnGrp LOS	E	C	C	E	C	F	D	E		E	E	
Approach Vol, veh/h		522			1624			1032			457	
Approach Delay, s/veh		29.9			49.2			62.9			69.1	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	67.1	37.1	21.3	15.2	66.4	16.3	42.1				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3				
Max Green Setting (Gmax), s	* 10	* 58	10.0	37.4	* 10	* 58	10.7	36.7				
Max Q Clear Time (g_c+I1), s	3.8	10.1	8.1	11.9	6.7	62.3	9.8	34.7				
Green Ext Time (p_c), s	0.0	3.3	0.1	1.7	0.0	0.0	0.1	1.1				

Intersection Summary

HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.
























* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	335	88	42	814	638	167	782	296	179	241	79
Future Volume (veh/h)	57	335	88	42	814	638	167	782	296	179	241	79
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	364	96	46	885	693	182	850	0	195	262	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	116	1770	449	206	2198	682	761	910		247	381	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.44	0.44	0.06	0.43	0.43	0.22	0.26	0.00	0.07	0.11	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	67.2	24.8	25.2	63.2	27.9	75.4	45.1	66.8	0.0	78.1	62.5	0.0
Ln Grp LOS	E	C	C	E	C	F	D	E		E	E	
Approach Vol, veh/h		522			1624			1032			457	
Approach Delay, s/veh		29.9			49.2			62.9			69.1	
Approach LOS		C			D			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	4.0	4.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.4	67.1	21.3	37.1	15.2	66.4	16.3	42.1			
Change Period (Y+Rc), s		* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3			
Max Green (Gmax), s		* 10	* 58	37.4	10.0	* 10	* 58	10.7	36.7			
Max Allow Headway (MAH), s		3.8	5.3	5.2	3.8	3.8	4.7	3.8	5.2			
Max Q Clear (g_c+I1), s		3.8	10.1	11.9	8.1	6.7	62.3	9.8	34.7			
Green Ext Time (g_e), s		0.0	3.3	1.7	0.1	0.0	0.0	0.1	1.1			
Prob of Phs Call (p_c)		0.83	1.00	1.00	1.00	0.91	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.02	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	1781		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			4060	3647			5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1029	0			1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

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Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	46	0	0	182	62	0	195	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1781	0	1728	0
Q Serve Time (g_s), s	1.8	0.0	0.0	6.1	4.7	0.0	7.8	0.0
Cycle Q Clear Time (g_c), s	1.8	0.0	0.0	6.1	4.7	0.0	7.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	206	0	0	761	116	0	247	0
V/C Ratio (X)	0.22	0.00	0.00	0.24	0.54	0.00	0.79	0.00
Avail Cap (c_a), veh/h	247	0	0	761	129	0	264	0
Upstream Filter (I)	0.84	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	62.8	0.0	0.0	44.9	63.4	0.0	64.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	3.8	0.0	14.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.2	0.0	0.0	45.1	67.2	0.0	78.1	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	0.0	2.6	2.1	0.0	3.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	1.4	0.0	0.0	4.8	4.1	0.0	7.1	0.0
%ile Storage Ratio (RQ%)	0.17	0.00	0.00	0.61	0.94	0.00	0.90	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	2	2	0	0	3	0	2
Grp Vol (v), veh/h	0	303	262	0	0	885	0	850
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	7.7	9.9	0.0	0.0	16.7	0.0	32.7
Cycle Q Clear Time (g_c), s	0.0	7.7	9.9	0.0	0.0	16.7	0.0	32.7
Lane Grp Cap (c), veh/h	0	1484	381	0	0	2198	0	910
V/C Ratio (X)	0.00	0.20	0.69	0.00	0.00	0.40	0.00	0.93
Avail Cap (c_a), veh/h	0	1484	949	0	0	2198	0	932
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.84	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.4	60.2	0.0	0.0	27.5	0.0	50.9
Incr Delay (d2), s/veh	0.0	0.3	2.2	0.0	0.0	0.5	0.0	15.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.8	62.5	0.0	0.0	27.9	0.0	66.8
1st-Term Q (Q1), veh/ln	0.0	3.2	4.5	0.0	0.0	6.9	0.0	14.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.1	0.0	0.0	0.1	0.0	2.0

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.76	0.00	0.00	1.57	0.00	1.40
%ile Back of Q (95%), veh/ln	0.0	5.8	8.1	0.0	0.0	10.9	0.0	23.2
%ile Storage Ratio (RQ%)	0.00	0.43	0.99	0.00	0.00	0.48	0.00	2.59
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		T+R				R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	157	0	0	0	693	0	0
Grp Sat Flow (s), veh/h/ln	0	1685	0	0	0	1585	0	1585
Q Serve Time (g_s), s	0.0	8.1	0.0	0.0	0.0	60.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.1	0.0	0.0	0.0	60.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.61	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	735	0	0	0	682	0	406
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	1.02	0.00	0.00
Avail Cap (c_a), veh/h	0	735	0	0	0	682	0	416
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.84	0.00	0.00
Uniform Delay (d1), s/veh	0.0	24.6	0.0	0.0	0.0	39.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	35.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.2	0.0	0.0	0.0	75.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.3	0.0	0.0	0.0	23.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	6.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	0.00	0.00	1.29	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.2	0.0	0.0	0.0	38.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.46	0.00	0.00	0.00	6.31	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑	↖	↖	↑	↖↗	↖	↗	
Traffic Volume (veh/h)	1	366	466	2615	1034	0	394	0	1322	0	0	1
Future Volume (veh/h)	1	366	466	2615	1034	0	394	0	1322	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	398	0	2842	1124	0	428	0	1437	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	551		3244	2723	1214	214	0	2238	5	0	5
Arrive On Green	0.00	0.11	0.00	1.00	1.00	0.00	0.06	0.00	0.06	0.00	0.00	0.00
Sat Flow, veh/h	1781	5106	1585	5023	3554	1585	3563	0	3170	1781	0	1585
Grp Volume(v), veh/h	1	398	0	2842	1124	0	428	0	1437	0	0	1
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1674	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.1	11.3	0.0	0.0	0.0	0.0	9.0	0.0	9.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	11.3	0.0	0.0	0.0	0.0	9.0	0.0	9.0	0.0	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	6	551		3244	2723	1214	214	0	2238	5	0	5
V/C Ratio(X)	0.16	0.72		0.88	0.41	0.00	2.00	0.00	0.64	0.00	0.00	0.21
Avail Cap(c_a), veh/h	154	1454		3244	2723	1214	214	0	2238	131	0	116
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.00	0.09	0.09	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	74.5	64.7	0.0	0.0	0.0	0.0	70.5	0.0	11.9	0.0	0.0	74.6
Incr Delay (d2), s/veh	10.9	1.7	0.0	0.3	0.0	0.0	467.3	0.0	0.6	0.0	0.0	20.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	8.6	0.0	0.2	0.0	0.0	29.1	0.0	18.3	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.4	66.5	0.0	0.3	0.0	0.0	537.8	0.0	12.5	0.0	0.0	95.3
LnGrp LOS	F	E		A	A	A	F	A	B	A	A	F
Approach Vol, veh/h		399		3966			1865					1
Approach Delay, s/veh		66.5		0.2			133.0					95.3
Approach LOS		E		A			F					F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	64.7	24.0		6.2	5.9	122.7		15.1				
Change Period (Y+Rc), s	7.8	* 7.8		* 5.8	5.4	7.8		6.1				
Max Green Setting (Gmax), s	43	* 43		* 11	13.0	91.9		9.0				
Max Q Clear Time (g_c+1), s	13.3	13.3		2.1	2.1	2.0		11.0				
Green Ext Time (p_c), s	29.4	2.9		0.0	0.0	11.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	44.2
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
2: Marina Fwy/Private Dwy & Slauson Ave

























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Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	366	466	2615	1034	0	394	0	1322	0	0	1
Future Volume (veh/h)	1	366	466	2615	1034	0	394	0	1322	0	0	1
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	398	0	2842	1124	0	428	0	1437	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	6	551		3244	2723	1214	214	0	2238	5	0	5
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.11	0.00	1.00	1.00	0.00	0.06	0.00	0.06	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	85.4	66.5	0.0	0.3	0.0	0.0	537.8	0.0	12.5	0.0	0.0	95.3
Ln Grp LOS	F	E		A	A	A	F	A	B	A	A	F
Approach Vol, veh/h		399			3966			1865				1
Approach Delay, s/veh		66.5			0.2			133.0				95.3
Approach LOS		E			A			F				F
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	3.0	9.0	10.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		104.7	24.0	15.1	6.2	5.9	122.7					
Change Period (Y+Rc), s		7.8	* 7.8	6.1	* 5.8	5.4	7.8					
Max Green (Gmax), s		61.2	* 43	9.0	* 11	13.0	91.9					
Max Allow Headway (MAH), s		3.8	5.2	4.0	5.6	3.8	5.2					
Max Q Clear (g_c+I1), s		2.0	13.3	11.0	2.1	2.1	2.0					
Green Ext Time (g_e), s		29.4	2.9	0.0	0.0	0.0	11.7					
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.04	0.04	1.00					
Prob of Max Out (p_x)		0.22	0.00	1.00	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		5023		3563	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			5106	0	0		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			1585	3170	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

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Lanes in Grp	3	0	2	1	1	0	0	0
Grp Vol (v), veh/h	2842	0	428	0	1	0	0	0
Grp Sat Flow (s), veh/h/ln	1674	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	9.0	0.0	0.1	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	9.0	0.0	0.1	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	3244	0	214	5	6	0	0	0
V/C Ratio (X)	0.88	0.00	2.00	0.00	0.16	0.00	0.00	0.00
Avail Cap (c_a), veh/h	3244	0	214	131	154	0	0	0
Upstream Filter (I)	0.09	0.00	1.00	0.00	0.96	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	70.5	0.0	74.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	467.3	0.0	10.9	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.3	0.0	537.8	0.0	85.4	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	13.9	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.62	1.00	1.80	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.2	0.0	29.1	0.0	0.1	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	1.52	0.00	0.03	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	53.6	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	398	0	0	0	1124	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	551	0	0	0	2723	0	0
V/C Ratio (X)	0.00	0.72	0.00	0.00	0.00	0.41	0.00	0.00
Avail Cap (c_a), veh/h	0	1454	0	0	0	2723	0	0
Upstream Filter (I)	0.00	0.96	0.00	0.00	0.00	0.09	0.00	0.00
Uniform Delay (d1), s/veh	0.0	64.7	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	66.5	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.72	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	8.6	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		R	R	T+R		R		
Lanes in Grp	0	1	2	1	0	1	0	0
Grp Vol (v), veh/h	0	0	1437	1	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	9.0	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	9.0	0.1	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	96.9	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	171	2238	5	0	1214	0	0
V/C Ratio (X)	0.00	0.00	0.64	0.21	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	451	2238	116	0	1214	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	11.9	74.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.6	20.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	12.5	95.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	12.3	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.46	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	18.3	0.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.96	0.02	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	44.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑		↘↗	↑	↗		↔	
Traffic Volume (veh/h)	15	1173	501	109	3222	23	403	8	53	4	3	6
Future Volume (veh/h)	15	1173	501	109	3222	23	403	8	53	4	3	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	1275	545	118	3502	25	438	0	64	4	3	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	3267	1014	229	2566	18	242	0	425	69	52	106
Arrive On Green	0.42	1.00	1.00	0.09	0.65	0.65	0.07	0.00	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1781	5106	1585	3456	5230	37	3563	0	3170	1039	779	1585
Grp Volume(v), veh/h	16	1275	545	118	2276	1251	438	0	64	7	0	7
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1864	1781	0	1585	1818	0	1585
Q Serve(g_s), s	0.8	0.0	0.0	4.9	73.6	73.6	10.2	0.0	2.7	0.5	0.0	0.6
Cycle Q Clear(g_c), s	0.8	0.0	0.0	4.9	73.6	73.6	10.2	0.0	2.7	0.5	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.57		1.00
Lane Grp Cap(c), veh/h	376	3267	1014	229	1670	914	242	0	425	121	0	106
V/C Ratio(X)	0.04	0.39	0.54	0.52	1.36	1.37	1.81	0.00	0.15	0.06	0.00	0.07
Avail Cap(c_a), veh/h	376	3267	1014	230	1670	914	242	0	425	388	0	338
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	0.16	0.16	0.16	0.97	0.00	0.97	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	0.0	66.1	26.1	26.1	69.9	0.0	57.4	65.6	0.0	65.6
Incr Delay (d2), s/veh	0.0	0.3	1.5	0.3	163.9	166.6	379.1	0.0	0.2	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.1	0.8	3.1	86.3	95.3	28.1	0.0	2.0	0.5	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	0.3	1.5	66.4	190.0	192.7	449.0	0.0	57.5	65.8	0.0	65.9
LnGrp LOS	C	A	A	E	F	F	F	A	E	E	A	E
Approach Vol, veh/h		1836			3645			502				14
Approach Delay, s/veh		0.9			186.9			399.1				65.8
Approach LOS		A			F			F				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	66.1	102.1		15.8	37.8	80.4		16.0				
Change Period (Y+Rc), s	6.2	6.1		* 5.8	6.1	* 6.8		5.8				
Max Green Setting (Gmax), s	10.0	73.9		* 32	10.0	* 74		10.2				
Max Q Clear Time (g_c+10), s	10.0	2.0		2.6	2.8	75.6		12.2				
Green Ext Time (p_c), s	0.1	19.1		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	147.4
HCM 6th LOS	F

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑↑	↗	↙↗	↑↑↑		↙↗	↑	↗		↙↗	
Traffic Volume (veh/h)	15	1173	501	109	3222	23	403	8	53	4	3	6
Future Volume (veh/h)	15	1173	501	109	3222	23	403	8	53	4	3	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	1275	545	118	3502	25	438	0	64	4	3	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	376	3267	1014	229	2566	18	242	0	425	69	52	106
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.42	1.00	1.00	0.09	0.65	0.65	0.07	0.00	0.07	0.07	0.07	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	34.4	0.3	1.5	66.4	190.0	192.7	449.0	0.0	57.5	65.8	0.0	65.9
Ln Grp LOS	C	A	A	E	F	F	F	A	E	E	A	E
Approach Vol, veh/h		1836			3645			502				14
Approach Delay, s/veh		0.9			186.9			399.1				65.8
Approach LOS		A			F			F				E
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	6	5					
Case No		2.0	3.0	9.0	12.0	4.0	2.0					
Phs Duration (G+Y+Rc), s		16.1	102.1	16.0	15.8	80.4	37.8					
Change Period (Y+Rc), s		6.2	6.1	5.8	* 5.8	* 6.8	6.1					
Max Green (Gmax), s		10.0	73.9	10.2	* 32	* 74	10.0					
Max Allow Headway (MAH), s		3.8	4.9	3.8	5.4	5.2	3.8					
Max Q Clear (g_c+I1), s		6.9	2.0	12.2	2.6	75.6	2.8					
Green Ext Time (g_e), s		0.1	19.1	0.0	0.0	0.0	0.0					
Prob of Phs Call (p_c)		0.99	1.00	1.00	1.00	1.00	0.49					
Prob of Max Out (p_x)		1.00	0.04	1.00	0.00	1.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7		5					
Mvmt Sat Flow, veh/h		3456		3563	1039		1781					
Through Movement Data												
Assigned Mvmt			2	8	4	6						
Mvmt Sat Flow, veh/h			5106	0	779	5230						
Right-Turn Movement Data												
Assigned Mvmt			12	18	14	16						
Mvmt Sat Flow, veh/h			1585	3170	1585	37						
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	0	5	0	0			
Lane Assignment		L (Prot)		L	L+T		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
 3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

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Lanes in Grp	2	0	2	1	0	1	0	0
Grp Vol (v), veh/h	118	0	438	7	0	16	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	1818	0	1781	0	0
Q Serve Time (g_s), s	4.9	0.0	10.2	0.5	0.0	0.8	0.0	0.0
Cycle Q Clear Time (g_c), s	4.9	0.0	10.2	0.5	0.0	0.8	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.57	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	229	0	242	121	0	376	0	0
V/C Ratio (X)	0.52	0.00	1.81	0.06	0.00	0.04	0.00	0.00
Avail Cap (c_a), veh/h	230	0	242	388	0	376	0	0
Upstream Filter (I)	0.16	0.00	0.97	1.00	0.00	0.73	0.00	0.00
Uniform Delay (d1), s/veh	66.1	0.0	69.9	65.6	0.0	34.4	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	379.1	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	66.4	0.0	449.0	65.8	0.0	34.4	0.0	0.0
1st-Term Q (Q1), veh/ln	2.1	0.0	4.7	0.3	0.0	0.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	12.8	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.45	0.00	1.61	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	3.1	0.0	28.1	0.5	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.50	0.00	3.31	0.06	0.00	0.16	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	48.9	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	3	0	0	2	0	0	0
Grp Vol (v), veh/h	0	1275	0	0	2276	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	1702	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	73.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	73.6	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	3267	0	0	1670	0	0	0
V/C Ratio (X)	0.00	0.39	0.00	0.00	1.36	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	3267	0	0	1670	0	0	0
Upstream Filter (I)	0.00	0.73	0.00	0.00	0.16	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	26.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	163.9	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	0.0	190.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	25.5	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	38.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	1.36	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	86.3	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	1.27	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	151.5	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	16	0	0	0
Lane Assignment		R	R	T+R	T+R			
Lanes in Grp	0	1	2	1	1	0	0	0
Grp Vol (v), veh/h	0	545	64	7	1251	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	1864	0	0	0
Q Serve Time (g_s), s	0.0	0.0	2.7	0.6	73.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	2.7	0.6	73.6	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	9.9	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.02	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1014	425	106	914	0	0	0
V/C Ratio (X)	0.00	0.54	0.15	0.07	1.37	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1014	425	338	914	0	0	0
Upstream Filter (I)	0.00	0.73	0.97	1.00	0.16	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	57.4	65.6	26.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.2	0.3	166.6	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	1.5	57.5	65.9	192.7	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.1	0.3	28.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	42.3	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.80	1.80	1.36	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.8	2.0	0.5	95.3	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.11	0.06	1.41	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	84.1	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	147.4
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑		↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	48	1052	50	237	3060	56	147	33	196	12	4	25
Future Volume (veh/h)	48	1052	50	237	3060	56	147	33	196	12	4	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	1143	54	258	3326	61	160	0	237	13	0	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	3339	1037	306	3529	64	235	0	710	203	0	430
Arrive On Green	0.12	1.00	1.00	0.09	0.68	0.68	0.14	0.00	0.14	0.14	0.00	0.14
Sat Flow, veh/h	3456	5106	1585	3456	5163	94	1380	0	3170	1143	0	3170
Grp Volume(v), veh/h	52	1143	54	258	2186	1201	160	0	237	13	0	30
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1853	1380	0	1585	1143	0	1585
Q Serve(g_s), s	2.1	0.0	0.0	11.0	85.2	87.4	17.0	0.0	9.4	1.5	0.0	1.2
Cycle Q Clear(g_c), s	2.1	0.0	0.0	11.0	85.2	87.4	17.0	0.0	9.4	1.5	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	3339	1037	306	2327	1267	235	0	710	203	0	430
V/C Ratio(X)	0.25	0.34	0.05	0.84	0.94	0.95	0.68	0.00	0.33	0.06	0.00	0.07
Avail Cap(c_a), veh/h	230	3339	1037	366	2327	1267	389	0	1065	331	0	784
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	0.99	0.00	0.99	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.1	0.0	0.0	67.3	21.0	21.3	63.4	0.0	48.8	56.7	0.0	56.6
Incr Delay (d2), s/veh	0.5	0.2	0.1	14.2	9.0	15.6	3.4	0.0	0.3	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	0.1	0.0	9.3	44.0	51.1	10.3	0.0	6.8	0.8	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	0.2	0.1	81.5	30.0	36.9	66.8	0.0	49.1	56.8	0.0	56.7
LnGrp LOS	E	A	A	F	C	D	E	A	D	E	A	E
Approach Vol, veh/h		1249			3645			397				43
Approach Delay, s/veh		2.9			35.9			56.2				56.7
Approach LOS		A			D			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.6	104.2		26.2	15.2	108.6		26.2				
Change Period (Y+Rc), s	6.3	6.1		* 5.9	6.3	6.1		* 5.9				
Max Green Setting (Gmax), s	15.9	78.7		* 37	10.0	84.6		* 37				
Max Q Clear Time (g_c+M), s	11.3	2.0		19.0	4.1	89.4		3.5				
Green Ext Time (p_c), s	0.2	11.8		1.3	0.0	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	1052	50	237	3060	56	147	33	196	12	4	25
Future Volume (veh/h)	48	1052	50	237	3060	56	147	33	196	12	4	25
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	1143	54	258	3326	61	160	0	237	13	0	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	204	3339	1037	306	3529	64	235	0	710	203	0	430
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	1.00	1.00	0.09	0.68	0.68	0.14	0.00	0.14	0.14	0.00	0.14
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.7	0.2	0.1	81.5	30.0	36.9	66.8	0.0	49.1	56.8	0.0	56.7
Ln Grp LOS	E	A	A	F	C	D	E	A	D	E	A	E
Approach Vol, veh/h		1249			3645			397			43	
Approach Delay, s/veh		2.9			35.9			56.2			56.7	
Approach LOS		A			D			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		19.6	104.2		26.2	15.2	108.6		26.2			
Change Period (Y+Rc), s		6.3	6.1		* 5.9	6.3	6.1		* 5.9			
Max Green (Gmax), s		15.9	78.7		* 37	10.0	84.6		* 37			
Max Allow Headway (MAH), s		3.8	5.2		4.0	3.8	5.2		4.1			
Max Q Clear (g_c+I1), s		13.0	2.0		19.0	4.1	89.4		3.5			
Green Ext Time (g_e), s		0.2	11.8		1.3	0.0	0.0		0.1			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.89	1.00		1.00			
Prob of Max Out (p_x)		1.00	0.00		0.00	0.04	1.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1380	3456			1143			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		0		5163		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		3170		94		3170			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	1	2	0	0	1
Grp Vol (v), veh/h	258	0	0	160	52	0	0	13
Grp Sat Flow (s), veh/h/ln	1728	0	0	1380	1728	0	0	1143
Q Serve Time (g_s), s	11.0	0.0	0.0	17.0	2.1	0.0	0.0	1.5
Cycle Q Clear Time (g_c), s	11.0	0.0	0.0	17.0	2.1	0.0	0.0	1.5
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1380	0	0	0	1143
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	20.3	0.0	0.0	0.0	20.3
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	20.3	0.0	0.0	0.0	20.3
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	17.0	0.0	0.0	0.0	1.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	306	0	0	235	204	0	0	203
V/C Ratio (X)	0.84	0.00	0.00	0.68	0.25	0.00	0.00	0.06
Avail Cap (c_a), veh/h	366	0	0	389	230	0	0	331
Upstream Filter (I)	1.00	0.00	0.00	0.99	0.83	0.00	0.00	1.00
Uniform Delay (d1), s/veh	67.3	0.0	0.0	63.4	63.1	0.0	0.0	56.7
Incr Delay (d2), s/veh	14.2	0.0	0.0	3.4	0.5	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	81.5	0.0	0.0	66.8	63.7	0.0	0.0	56.8
1st-Term Q (Q1), veh/ln	4.9	0.0	0.0	6.0	0.9	0.0	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.6	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.70	0.00	0.00	1.65	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	9.3	0.0	0.0	10.3	1.6	0.0	0.0	0.8
%ile Storage Ratio (RQ%)	0.80	0.00	0.00	1.74	0.27	0.00	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1143	0	0	0	2186	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	85.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	85.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	3339	0	0	0	2327	0	0
V/C Ratio (X)	0.00	0.34	0.00	0.00	0.00	0.94	0.00	0.00
Avail Cap (c_a), veh/h	0	3339	0	0	0	2327	0	0
Upstream Filter (I)	0.00	0.83	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	21.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	9.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	30.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	31.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	2.9	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.28	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	0.0	44.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	2.72	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	54	0	237	0	1201	0	30
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1853	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	9.4	0.0	87.4	0.0	1.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.4	0.0	87.4	0.0	1.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	13.3	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.05	0.00	1.00
Lane Grp Cap (c), veh/h	0	1037	0	710	0	1267	0	430
V/C Ratio (X)	0.00	0.05	0.00	0.33	0.00	0.95	0.00	0.07
Avail Cap (c_a), veh/h	0	1037	0	1065	0	1267	0	784
Upstream Filter (I)	0.00	0.83	0.00	0.99	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	48.8	0.0	21.3	0.0	56.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	15.6	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	49.1	0.0	36.9	0.0	56.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.8	0.0	35.2	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.26	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	6.8	0.0	51.1	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	1.16	0.00	3.17	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	328	44	42	665	7	275	6	31	0	0	0
Future Volume (veh/h)	2	328	44	42	665	7	275	6	31	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	357	48	46	723	8	299	7	34	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	2247	300	723	2434	27	340	8	309	0	2	0
Arrive On Green	0.00	0.71	0.71	0.68	0.68	0.68	0.20	0.20	0.20	0.00	0.00	0.00
Sat Flow, veh/h	1781	3151	420	980	3600	40	1742	41	1585	0	1870	0
Grp Volume(v), veh/h	2	200	205	46	357	374	306	0	34	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	980	1777	1863	1783	0	1585	0	1870	0
Q Serve(g_s), s	0.1	4.4	4.4	1.9	9.8	9.8	20.0	0.0	2.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	4.4	4.4	1.9	9.8	9.8	20.0	0.0	2.1	0.0	0.0	0.0
Prop In Lane	1.00		0.23	1.00		0.02	0.98		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	7	1267	1280	723	1201	1260	348	0	309	0	2	0
V/C Ratio(X)	0.30	0.16	0.16	0.06	0.30	0.30	0.88	0.00	0.11	0.00	0.00	0.00
Avail Cap(c_a), veh/h	113	1267	1280	723	1201	1260	484	0	431	0	436	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.52	0.52	0.52	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	59.6	5.6	5.6	6.6	7.9	7.9	46.9	0.0	39.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.0	0.3	0.3	0.1	0.3	0.3	12.9	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	2.9	3.0	0.7	5.9	6.1	15.3	0.0	1.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.6	5.8	5.8	6.7	8.2	8.2	59.8	0.0	39.9	0.0	0.0	0.0
LnGrp LOS	F	A	A	A	A	A	E	A	D	A	A	A
Approach Vol, veh/h		407			777			340				0
Approach Delay, s/veh		6.2			8.1			57.8				0.0
Approach LOS		A			A			E				
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	4.5	86.7		0.0		91.2		28.8				
Change Period (Y+Rc), s	4.0	5.6		* 5		* 5.6		5.4				
Max Green Setting (Gmax), s	6	31.8		* 28		* 44		32.6				
Max Q Clear Time (g_c+1/2), s	11.8			0.0		6.4		22.0				
Green Ext Time (p_c), s	0.0	4.8		0.0		2.6		1.4				

Intersection Summary

HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	328	44	42	665	7	275	6	31	0	0	0
Future Volume (veh/h)	2	328	44	42	665	7	275	6	31	0	0	0
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	357	48	46	723	8	299	7	34	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	7	2247	300	723	2434	27	340	8	309	0	2	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.71	0.71	0.68	0.68	0.68	0.20	0.20	0.20	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	82.6	5.8	5.8	6.7	8.2	8.2	59.8	0.0	39.9	0.0	0.0	0.0
Ln Grp LOS	F	A	A	A	A	A	E	A	D	A	A	A
Approach Vol, veh/h		407			777			340				0
Approach Delay, s/veh		6.2			8.1			57.8				0.0
Approach LOS		A			A			E				
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4		6					
Case No		2.0	6.3	11.0	12.0		4.0					
Phs Duration (G+Y+Rc), s		4.5	86.7	28.8	0.0		91.2					
Change Period (Y+Rc), s		4.0	5.6	5.4	* 5		* 5.6					
Max Green (Gmax), s		7.6	31.8	32.6	* 28		* 44					
Max Allow Headway (MAH), s		3.8	5.2	5.2	0.0		5.3					
Max Q Clear (g_c+I1), s		2.1	11.8	22.0	0.0		6.4					
Green Ext Time (g_e), s		0.0	4.8	1.4	0.0		2.6					
Prob of Phs Call (p_c)		0.06	1.00	1.00	0.00		1.00					
Prob of Max Out (p_x)		0.01	0.09	0.15	0.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5	3	7							
Mvmt Sat Flow, veh/h		1781	980	1742	0							
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3600	41	1870		3151					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			40	1585	0		420					
Left Lane Group Data												
Assigned Mvmt		1	5	3	7	0	0	0	0			
Lane Assignment		L (Prot)	L	L+T								

HCM 6th Signalized Intersection Capacity Analysis
 5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

Lanes in Grp	1	1	1	0	0	0	0	0
Grp Vol (v), veh/h	2	46	306	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	980	1783	0	0	0	0	0
Q Serve Time (g_s), s	0.1	1.9	20.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	1.9	20.0	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	980	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	81.1	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	81.1	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.98	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	7	723	348	0	0	0	0	0
V/C Ratio (X)	0.30	0.06	0.88	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	113	723	484	0	0	0	0	0
Upstream Filter (I)	1.00	0.52	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	59.6	6.6	46.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.0	0.1	12.9	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	82.6	6.7	59.8	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.1	0.4	8.8	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	1.52	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.2	0.7	15.3	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.04	0.11	0.29	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T		T		T		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	357	0	0	0	200	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	9.8	0.0	0.0	0.0	4.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.8	0.0	0.0	0.0	4.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	1201	0	2	0	1267	0	0
V/C Ratio (X)	0.00	0.30	0.00	0.00	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	1201	0	436	0	1267	0	0
Upstream Filter (I)	0.00	0.52	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.9	0.0	0.0	0.0	5.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.2	0.0	0.0	0.0	5.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.5	0.0	0.0	0.0	1.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.62	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	5.9	0.0	0.0	0.0	2.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.00	0.00	0.24	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	374	34	0	0	205	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	1585	0	0	1795	0	0
Q Serve Time (g_s), s	0.0	9.8	2.1	0.0	0.0	4.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.8	2.1	0.0	0.0	4.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.02	1.00	0.00	0.00	0.23	0.00	0.00
Lane Grp Cap (c), veh/h	0	1260	309	0	0	1280	0	0
V/C Ratio (X)	0.00	0.30	0.11	0.00	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	1260	431	0	0	1280	0	0
Upstream Filter (I)	0.00	0.52	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.9	39.7	0.0	0.0	5.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.2	39.9	0.0	0.0	5.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.7	0.8	0.0	0.0	1.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.61	1.80	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	6.1	1.5	0.0	0.0	3.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.14	0.00	0.00	0.24	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

6: Bristol Pkwy & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	198	119	41	416	74	444	404	95	299	207	26
Future Volume (veh/h)	6	198	119	41	416	74	444	404	95	299	207	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	215	129	45	452	80	483	439	103	325	225	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	596	266	178	596	266	522	1689	393	393	1309	161
Arrive On Green	0.17	0.17	0.17	0.06	0.06	0.06	0.10	0.19	0.19	0.11	0.41	0.41
Sat Flow, veh/h	872	3554	1585	1037	3554	1585	1781	2861	666	3456	3185	392
Grp Volume(v), veh/h	7	215	129	45	452	80	483	271	271	325	124	129
Grp Sat Flow(s),veh/h/ln	872	1777	1585	1037	1777	1585	1781	1777	1750	1728	1777	1800
Q Serve(g_s), s	0.9	6.4	8.8	5.1	15.0	5.8	32.3	15.5	15.7	11.0	5.3	5.4
Cycle Q Clear(g_c), s	16.0	6.4	8.8	11.5	15.0	5.8	32.3	15.5	15.7	11.0	5.3	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		0.22
Lane Grp Cap(c), veh/h	97	596	266	178	596	266	522	1049	1033	393	730	740
V/C Ratio(X)	0.07	0.36	0.49	0.25	0.76	0.30	0.93	0.26	0.26	0.83	0.17	0.17
Avail Cap(c_a), veh/h	186	959	428	284	959	428	594	1049	1033	547	730	740
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	0.98	0.98	0.98	0.09	0.09	0.09	0.80	0.80	0.80
Uniform Delay (d), s/veh	55.5	44.2	45.2	55.7	54.3	49.9	52.9	26.1	26.1	52.0	22.4	22.4
Incr Delay (d2), s/veh	0.3	0.4	1.4	0.7	2.0	0.6	2.5	0.1	0.1	5.9	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	5.2	6.5	2.6	11.8	4.4	17.8	8.8	8.7	8.4	4.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	44.6	46.6	56.5	56.2	50.5	55.4	26.1	26.2	58.0	22.8	22.8
LnGrp LOS	E	D	D	E	E	D	E	C	C	E	C	C
Approach Vol, veh/h		351			577			1025			578	
Approach Delay, s/veh		45.6			55.5			40.0			42.6	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	76.6		25.7	39.2	55.1		25.7				
Change Period (Y+Rc), s	4.0	5.8		* 5.6	4.0	5.8		* 5.6				
Max Green Setting (Gmax), s	19.0	53.2		* 32	40.0	32.2		* 32				
Max Q Clear Time (g_c+M3), s	17.7			18.0	34.3	7.4		17.0				
Green Ext Time (p_c), s	0.6	3.7		1.5	0.9	1.4		3.1				

Intersection Summary

























HCM 6th Ctrl Delay	44.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	198	119	41	416	74	444	404	95	299	207	26
Future Volume (veh/h)	6	198	119	41	416	74	444	404	95	299	207	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	215	129	45	452	80	483	439	103	325	225	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	97	596	266	178	596	266	522	1689	393	393	1309	161
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.17	0.17	0.17	0.06	0.06	0.06	0.10	0.19	0.19	0.11	0.41	0.41
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.8	44.6	46.6	56.5	56.2	50.5	55.4	26.1	26.2	58.0	22.8	22.8
Ln Grp LOS	E	D	D	E	E	D	E	C	C	E	C	C
Approach Vol, veh/h		351			577			1025			578	
Approach Delay, s/veh		45.6			55.5			40.0			42.6	
Approach LOS		D			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		17.6	76.6		25.7	39.2	55.1		25.7			
Change Period (Y+Rc), s		4.0	5.8		* 5.6	4.0	5.8		* 5.6			
Max Green (Gmax), s		19.0	53.2		* 32	40.0	32.2		* 32			
Max Allow Headway (MAH), s		3.8	5.3		4.8	3.8	5.3		5.0			
Max Q Clear (g_c+I1), s		13.0	17.7		18.0	34.3	7.4		17.0			
Green Ext Time (g_e), s		0.6	3.7		1.5	0.9	1.4		3.1			
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.24	0.00		0.02	0.43	0.00		0.07			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			872	1781			1037			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2861		3554		3185		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			666		1585		392		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

Lanes in Grp	2	0	0	1	1	0	0	1
Grp Vol (v), veh/h	325	0	0	7	483	0	0	45
Grp Sat Flow (s), veh/h/ln	1728	0	0	872	1781	0	0	1037
Q Serve Time (g_s), s	11.0	0.0	0.0	0.9	32.3	0.0	0.0	5.1
Cycle Q Clear Time (g_c), s	11.0	0.0	0.0	16.0	32.3	0.0	0.0	11.5
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	872	0	0	0	1037
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	20.1	0.0	0.0	0.0	20.1
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	5.1	0.0	0.0	0.0	13.7
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	5.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	393	0	0	97	522	0	0	178
V/C Ratio (X)	0.83	0.00	0.00	0.07	0.93	0.00	0.00	0.25
Avail Cap (c_a), veh/h	547	0	0	186	594	0	0	284
Upstream Filter (I)	0.80	0.00	0.00	0.99	0.09	0.00	0.00	0.98
Uniform Delay (d1), s/veh	52.0	0.0	0.0	55.5	52.9	0.0	0.0	55.7
Incr Delay (d2), s/veh	5.9	0.0	0.0	0.3	2.5	0.0	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	58.0	0.0	0.0	55.8	55.4	0.0	0.0	56.5
1st-Term Q (Q1), veh/ln	4.8	0.0	0.0	0.2	15.5	0.0	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.0	0.0	0.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.65	0.00	0.00	1.80	1.12	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	8.4	0.0	0.0	0.4	17.8	0.0	0.0	2.6
%ile Storage Ratio (RQ%)	1.13	0.00	0.00	0.07	2.26	0.00	0.00	0.34
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	271	0	215	0	124	0	452
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	15.5	0.0	6.4	0.0	5.3	0.0	15.0
Cycle Q Clear Time (g_c), s	0.0	15.5	0.0	6.4	0.0	5.3	0.0	15.0
Lane Grp Cap (c), veh/h	0	1049	0	596	0	730	0	596
V/C Ratio (X)	0.00	0.26	0.00	0.36	0.00	0.17	0.00	0.76
Avail Cap (c_a), veh/h	0	1049	0	959	0	730	0	959
Upstream Filter (I)	0.00	0.09	0.00	0.99	0.00	0.80	0.00	0.98
Uniform Delay (d1), s/veh	0.0	26.1	0.0	44.2	0.0	22.4	0.0	54.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.4	0.0	2.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.1	0.0	44.6	0.0	22.8	0.0	56.2
1st-Term Q (Q1), veh/ln	0.0	7.4	0.0	2.8	0.0	2.2	0.0	7.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis
 6: Bristol Pkwy & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.18	0.00	1.80	0.00	1.80	0.00	1.60
%ile Back of Q (95%), veh/ln	0.0	8.8	0.0	5.2	0.0	4.2	0.0	11.8
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.16	0.00	0.24	0.00	0.52
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	271	0	129	0	129	0	80
Grp Sat Flow (s), veh/h/ln	0	1750	0	1585	0	1800	0	1585
Q Serve Time (g_s), s	0.0	15.7	0.0	8.8	0.0	5.4	0.0	5.8
Cycle Q Clear Time (g_c), s	0.0	15.7	0.0	8.8	0.0	5.4	0.0	5.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.38	0.00	1.00	0.00	0.22	0.00	1.00
Lane Grp Cap (c), veh/h	0	1033	0	266	0	740	0	266
V/C Ratio (X)	0.00	0.26	0.00	0.49	0.00	0.17	0.00	0.30
Avail Cap (c_a), veh/h	0	1033	0	428	0	740	0	428
Upstream Filter (I)	0.00	0.09	0.00	0.99	0.00	0.80	0.00	0.98
Uniform Delay (d1), s/veh	0.0	26.1	0.0	45.2	0.0	22.4	0.0	49.9
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.4	0.0	0.4	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.2	0.0	46.6	0.0	22.8	0.0	50.5
1st-Term Q (Q1), veh/ln	0.0	7.4	0.0	3.5	0.0	2.3	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.18	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	8.7	0.0	6.5	0.0	4.3	0.0	4.4
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.19	0.00	0.25	0.00	0.52
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	44.9
HCM 6th LOS	D

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	176	29	35	550	23	5	0	5	2	0	4
Future Volume (veh/h)	31	176	29	35	550	23	5	0	5	2	0	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	191	32	38	598	25	5	0	5	2	0	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	729	2653	1183	982	2667	1189	171	0	120	173	0	132
Arrive On Green	0.04	0.75	0.75	0.08	1.00	1.00	0.08	0.00	0.08	0.08	0.00	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1336	0	1442	1357	0	1585
Grp Volume(v), veh/h	34	191	32	38	598	25	5	0	5	2	0	4
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1336	0	1442	1357	0	1585
Q Serve(g_s), s	0.5	1.7	0.6	0.5	0.0	0.0	0.4	0.0	0.4	0.2	0.0	0.3
Cycle Q Clear(g_c), s	0.5	1.7	0.6	0.5	0.0	0.0	0.9	0.0	0.4	0.5	0.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	729	2653	1183	982	2667	1189	171	0	120	173	0	132
V/C Ratio(X)	0.05	0.07	0.03	0.04	0.22	0.02	0.03	0.00	0.04	0.01	0.00	0.03
Avail Cap(c_a), veh/h	866	2653	1183	1112	2667	1189	395	0	349	397	0	383
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	2.8	4.1	3.9	2.6	0.0	0.0	51.1	0.0	50.6	50.8	0.0	50.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	1.0	0.3	0.3	0.1	0.0	0.3	0.0	0.3	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.8	4.1	4.0	2.7	0.2	0.0	51.2	0.0	50.7	50.9	0.0	50.6
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h	257		661				10		6			
Approach Delay, s/veh	3.9		0.3				50.9		50.7			
Approach LOS	A		A				D		D			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	7	95.7	15.6		9.2	95.2	15.6					
Change Period (Y+Rc), s	4.0	5.6	5.6		* 4.2	* 5.6	5.6					
Max Green Setting (Gmax), s	14.0	61.8	29.0		* 14	* 62	29.0					
Max Q Clear Time (g_c+1), s	12.5	2.0	2.5		2.5	3.7	2.9					
Green Ext Time (p_c), s	0.0	4.9	0.0		0.0	1.4	0.0					

Intersection Summary























HCM 6th Ctrl Delay	2.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
7: Uplander Way & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	176	29	35	550	23	5	0	5	2	0	4
Future Volume (veh/h)	31	176	29	35	550	23	5	0	5	2	0	4
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	191	32	38	598	25	5	0	5	2	0	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	729	2653	1183	982	2667	1189	171	0	120	173	0	132
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.75	0.75	0.08	1.00	1.00	0.08	0.00	0.08	0.08	0.00	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	2.8	4.1	4.0	2.7	0.2	0.0	51.2	0.0	50.7	50.9	0.0	50.6
Ln Grp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h		257			661			10			6	
Approach Delay, s/veh		3.9			0.3			50.9			50.7	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		1.1	3.0		7.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		8.7	95.7		15.6	9.2	95.2		15.6			
Change Period (Y+Rc), s		4.0	5.6		5.6	* 4.2	* 5.6		5.6			
Max Green (Gmax), s		14.0	61.8		29.0	* 14	* 62		29.0			
Max Allow Headway (MAH), s		3.8	5.2		4.5	3.8	5.1		5.4			
Max Q Clear (g_c+I1), s		2.5	2.0		2.5	2.5	3.7		2.9			
Green Ext Time (g_e), s		0.0	4.9		0.0	0.0	1.4		0.0			
Prob of Phs Call (p_c)		0.68	1.00		1.00	0.72	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1357	1781			1336			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		0		3554		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1442			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Pr/Pm)			L+TL (Pr/Pm)			L+T				

HCM 6th Signalized Intersection Capacity Analysis
 7: Uplander Way & Hannum Ave

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	34	0	0	2	38	0	0	5
Grp Sat Flow (s), veh/h/ln	1781	0	0	1357	1781	0	0	1336
Q Serve Time (g_s), s	0.5	0.0	0.0	0.2	0.5	0.0	0.0	0.4
Cycle Q Clear Time (g_c), s	0.5	0.0	0.0	0.5	0.5	0.0	0.0	0.9
Perm LT Sat Flow (s_l), veh/h/ln	801	0	0	1434	1158	0	0	1435
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	89.6	0.0	0.0	10.0	89.6	0.0	0.0	10.0
Perm LT Serve Time (g_u), s	89.6	0.0	0.0	9.6	87.8	0.0	0.0	9.5
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	729	0	0	173	982	0	0	171
V/C Ratio (X)	0.05	0.00	0.00	0.01	0.04	0.00	0.00	0.03
Avail Cap (c_a), veh/h	866	0	0	397	1112	0	0	395
Upstream Filter (I)	0.82	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	2.8	0.0	0.0	50.8	2.6	0.0	0.0	51.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	2.8	0.0	0.0	50.9	2.7	0.0	0.0	51.2
1st-Term Q (Q1), veh/ln	0.1	0.0	0.0	0.1	0.2	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.3	0.0	0.0	0.1	0.3	0.0	0.0	0.3
%ile Storage Ratio (RQ%)	0.14	0.00	0.00	0.04	0.05	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	598	0	0	0	191	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	2667	0	0	0	2653	0	0
V/C Ratio (X)	0.00	0.22	0.00	0.00	0.00	0.07	0.00	0.00
Avail Cap (c_a), veh/h	0	2667	0	0	0	2653	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.82	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	4.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	0.0	1.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	25	0	4	0	32	0	5
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1442
Q Serve Time (g_s), s	0.0	0.0	0.0	0.3	0.0	0.6	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.3	0.0	0.6	0.0	0.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1189	0	132	0	1183	0	120
V/C Ratio (X)	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
Avail Cap (c_a), veh/h	0	1189	0	383	0	1183	0	349
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.82	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	50.5	0.0	3.9	0.0	50.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	50.6	0.0	4.0	0.0	50.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.08	0.00	0.09	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	2.2
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	89	74	63	261	6	378	8	211	0	0	0
Future Volume (veh/h)	1	89	74	63	261	6	378	8	211	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	97	80	68	284	7	411	9	229	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	2001	893	826	1980	883	518	481	490	0	481	0
Arrive On Green	0.12	1.00	1.00	0.05	0.56	0.56	0.26	0.26	0.26	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	0	1870	0
Grp Volume(v), veh/h	1	97	80	68	284	7	411	9	229	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	0	1870	0
Q Serve(g_s), s	0.1	0.0	0.0	1.9	4.6	0.2	26.7	0.4	14.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	1.9	4.6	0.2	26.7	0.4	14.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	104	2001	893	826	1980	883	518	481	490	0	481	0
V/C Ratio(X)	0.01	0.05	0.09	0.08	0.14	0.01	0.79	0.02	0.47	0.00	0.00	0.00
Avail Cap(c_a), veh/h	275	2001	893	866	1980	883	850	829	786	0	829	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	49.9	0.0	0.0	9.5	12.8	11.8	43.1	33.3	33.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	0.1	0.0	2.8	0.0	0.7	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.1	1.3	3.4	0.2	17.8	0.4	9.3	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	0.0	0.2	9.6	12.9	11.8	45.9	33.3	34.1	0.0	0.0	0.0
LnGrp LOS	D	A	A	A	B	B	D	C	C	A	A	A
Approach Vol, veh/h		178			359			649				0
Approach Delay, s/veh		0.4			12.3			41.6				0.0
Approach LOS		A			B			D				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.0	72.4		36.6	10.3	73.1		36.6				
Change Period (Y+Rc), s	4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8				
Max Green Setting (Gmax), s	10.5	* 33		* 53	9.0	* 43		* 53				
Max Q Clear Time (g_c+1), s	12.5	6.6		28.7	3.9	2.0		0.0				
Green Ext Time (p_c), s	0.0	1.9		2.1	0.0	0.9		0.0				

Intersection Summary























HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	89	74	63	261	6	378	8	211	0	0	0
Future Volume (veh/h)	1	89	74	63	261	6	378	8	211	0	0	0
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	97	80	68	284	7	411	9	229	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	104	2001	893	826	1980	883	518	481	490	0	481	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	1.00	1.00	0.05	0.56	0.56	0.26	0.26	0.26	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	50.0	0.0	0.2	9.6	12.9	11.8	45.9	33.3	34.1	0.0	0.0	0.0
Ln Grp LOS	D	A	A	A	B	B	D	C	C	A	A	A
Approach Vol, veh/h		178			359			649			0	
Approach Delay, s/veh		0.4			12.3			41.6			0.0	
Approach LOS		A			B			D				
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		11.0	72.4		36.6	10.3	73.1		36.6			
Change Period (Y+Rc), s		4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8			
Max Green (Gmax), s		18.5	* 33		* 53	9.0	* 43		* 53			
Max Allow Headway (MAH), s		3.8	5.2		3.9	3.8	4.7		0.0			
Max Q Clear (g_c+I1), s		2.1	6.6		28.7	3.9	2.0		0.0			
Green Ext Time (g_e), s		0.0	1.9		2.1	0.0	0.9		0.0			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.90	1.00		0.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.20	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1781	1781			0			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		1870		3554		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		0			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			LL (Pr/Pm)							

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	0
Grp Vol (v), veh/h	1	0	0	411	68	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.1	0.0	0.0	26.7	1.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	0.0	0.0	26.7	1.9	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	1207	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	30.8	66.9	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	30.8	66.9	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	26.7	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.8
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	104	0	0	518	826	0	0	0
V/C Ratio (X)	0.01	0.00	0.00	0.79	0.08	0.00	0.00	0.00
Avail Cap (c_a), veh/h	275	0	0	850	866	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.82	0.00	0.00	0.00
Uniform Delay (d1), s/veh	49.9	0.0	0.0	43.1	9.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.0	0.0	0.0	45.9	9.6	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	11.7	0.7	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.47	1.80	0.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.1	0.0	0.0	17.8	1.3	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	3.93	0.17	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	284	0	9	0	97	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	4.6	0.0	0.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.6	0.0	0.4	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1980	0	481	0	2001	0	481
V/C Ratio (X)	0.00	0.14	0.00	0.02	0.00	0.05	0.00	0.00
Avail Cap (c_a), veh/h	0	1980	0	829	0	2001	0	829
Upstream Filter (I)	0.00	0.82	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.8	0.0	33.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.9	0.0	33.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	0.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	3.4	0.0	0.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	7	0	229	0	80	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.2	0.0	14.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	14.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	883	0	490	0	893	0	0
V/C Ratio (X)	0.00	0.01	0.00	0.47	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	883	0	786	0	893	0	0
Upstream Filter (I)	0.00	0.82	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	33.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	34.1	0.0	0.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	5.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.70	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	9.3	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	2.06	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 9: Bristol Pkwy & Green Valley Cir

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	288	165	44	49	642	472	353	621	47	114	140	97
Future Volume (veh/h)	288	165	44	49	642	472	353	621	47	114	140	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	313	179	48	53	698	513	384	675	51	124	152	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	1359	355	581	956	697	501	721	54	92	867	563
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.42	0.42	0.42	0.70	0.70	0.70
Sat Flow, veh/h	461	2788	728	1154	1960	1430	1123	1717	130	728	2065	1341
Grp Volume(v), veh/h	313	112	115	53	632	579	384	0	726	124	129	128
Grp Sat Flow(s),veh/h/ln	461	1777	1739	1154	1777	1613	1123	0	1847	728	1777	1629
Q Serve(g_s), s	24.1	4.2	4.3	3.2	34.0	34.4	37.9	0.0	45.1	5.3	3.0	3.2
Cycle Q Clear(g_c), s	58.5	4.2	4.3	7.5	34.0	34.4	41.1	0.0	45.1	50.4	3.0	3.2
Prop In Lane	1.00		0.42	1.00		0.89	1.00		0.07	1.00		0.82
Lane Grp Cap(c), veh/h	153	866	848	581	866	786	501	0	776	92	746	684
V/C Ratio(X)	2.05	0.13	0.14	0.09	0.73	0.74	0.77	0.00	0.94	1.34	0.17	0.19
Avail Cap(c_a), veh/h	153	866	848	581	866	786	501	0	776	92	746	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	0.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	52.7	16.8	16.9	18.9	24.5	24.6	33.6	0.0	33.3	42.2	10.8	10.9
Incr Delay (d2), s/veh	495.0	0.1	0.1	0.1	2.8	3.3	10.7	0.0	20.0	209.6	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	3.1	3.2	1.6	20.6	19.2	17.2	0.0	32.0	14.4	2.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	547.7	16.9	16.9	19.0	27.3	27.9	44.3	0.0	53.3	251.7	11.3	11.5
LnGrp LOS	F	B	B	B	C	C	D	A	D	F	B	B
Approach Vol, veh/h		540			1264			1110			381	
Approach Delay, s/veh		324.6			27.2			50.1			89.6	
Approach LOS		F			C			D			F	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.0		64.0		56.0		64.0				
Change Period (Y+Rc), s		* 5.6		* 5.5		* 5.6		* 5.5				
Max Green Setting (Gmax), s		* 50		* 59		* 50		* 59				
Max Q Clear Time (g_c+1), s		47.1		60.5		52.4		36.4				
Green Ext Time (p_c), s		2.0		0.0		0.0		9.5				

Intersection Summary

HCM 6th Ctrl Delay	90.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	288	165	44	49	642	472	353	621	47	114	140	97
Future Volume (veh/h)	288	165	44	49	642	472	353	621	47	114	140	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	313	179	48	53	698	513	384	675	51	124	152	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	153	1359	355	581	956	697	501	721	54	92	867	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.42	0.42	0.42	0.70	0.70	0.70
Unsig. Movement Delay												
Ln Grp Delay, s/veh	547.7	16.9	16.9	19.0	27.3	27.9	44.3	0.0	53.3	251.7	11.3	11.5
Ln Grp LOS	F	B	B	B	C	C	D	A	D	F	B	B
Approach Vol, veh/h		540			1264			1110			381	
Approach Delay, s/veh		324.6			27.2			50.1			89.6	
Approach LOS		F			C			D			F	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			56.0		64.0		56.0		64.0			
Change Period (Y+Rc), s			* 5.6		* 5.5		* 5.6		* 5.5			
Max Green (Gmax), s			* 50		* 59		* 50		* 59			
Max Allow Headway (MAH), s			5.0		7.5		5.6		5.3			
Max Q Clear (g_c+I1), s			47.1		60.5		52.4		36.4			
Green Ext Time (g_e), s			2.0		0.0		0.0		9.5			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		0.32			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1123		461		728		1154			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1717		2788		2065		1960			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			130		728		1341		1430			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	384	0	313	0	124	0	53
Grp Sat Flow (s), veh/h/ln	0	1123	0	461	0	728	0	1154
Q Serve Time (g_s), s	0.0	37.9	0.0	24.1	0.0	5.3	0.0	3.2
Cycle Q Clear Time (g_c), s	0.0	41.1	0.0	58.5	0.0	50.4	0.0	7.5
Perm LT Sat Flow (s_l), veh/h/ln	0	1123	0	461	0	728	0	1154
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	50.4	0.0	58.5	0.0	50.4	0.0	58.5
Perm LT Serve Time (g_u), s	0.0	47.2	0.0	24.1	0.0	5.3	0.0	54.2
Perm LT Q Serve Time (g_ps), s	0.0	37.9	0.0	24.1	0.0	5.3	0.0	3.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	501	0	153	0	92	0	581
V/C Ratio (X)	0.00	0.77	0.00	2.05	0.00	1.34	0.00	0.09
Avail Cap (c_a), veh/h	0	501	0	153	0	92	0	581
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.98	0.00	0.90
Uniform Delay (d1), s/veh	0.0	33.6	0.0	52.7	0.0	42.2	0.0	18.9
Incr Delay (d2), s/veh	0.0	10.7	0.0	495.0	0.0	209.6	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	44.3	0.0	547.7	0.0	251.7	0.0	19.0
1st-Term Q (Q1), veh/ln	0.0	10.1	0.0	4.6	0.0	2.6	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	1.5	0.0	21.0	0.0	5.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.48	0.00	1.79	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	17.2	0.0	45.9	0.0	14.4	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	3.64	0.00	12.96	0.00	3.18	0.00	0.40
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	40.1	0.0	7.9	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.5	0.0	0.3	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	112	0	129	0	632
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	4.2	0.0	3.0	0.0	34.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.2	0.0	3.0	0.0	34.0
Lane Grp Cap (c), veh/h	0	0	0	866	0	746	0	866
V/C Ratio (X)	0.00	0.00	0.00	0.13	0.00	0.17	0.00	0.73
Avail Cap (c_a), veh/h	0	0	0	866	0	746	0	866
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.98	0.00	0.90
Uniform Delay (d1), s/veh	0.0	0.0	0.0	16.8	0.0	10.8	0.0	24.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.5	0.0	2.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	16.9	0.0	11.3	0.0	27.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.7	0.0	1.1	0.0	13.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.7

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	1.41
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	3.1	0.0	2.2	0.0	20.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.08	0.00	0.03	0.00	0.31
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	726	0	115	0	128	0	579
Grp Sat Flow (s), veh/h/ln	0	1847	0	1739	0	1629	0	1613
Q Serve Time (g_s), s	0.0	45.1	0.0	4.3	0.0	3.2	0.0	34.4
Cycle Q Clear Time (g_c), s	0.0	45.1	0.0	4.3	0.0	3.2	0.0	34.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	0.00	0.42	0.00	0.82	0.00	0.89
Lane Grp Cap (c), veh/h	0	776	0	848	0	684	0	786
V/C Ratio (X)	0.00	0.94	0.00	0.14	0.00	0.19	0.00	0.74
Avail Cap (c_a), veh/h	0	776	0	848	0	684	0	786
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.98	0.00	0.90
Uniform Delay (d1), s/veh	0.0	33.3	0.0	16.9	0.0	10.9	0.0	24.6
Incr Delay (d2), s/veh	0.0	20.0	0.0	0.1	0.0	0.6	0.0	3.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	53.3	0.0	16.9	0.0	11.5	0.0	27.9
1st-Term Q (Q1), veh/ln	0.0	19.7	0.0	1.7	0.0	1.1	0.0	12.8
2nd-Term Q (Q2), veh/ln	0.0	4.3	0.0	0.0	0.0	0.1	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.33	0.00	1.80	0.00	1.80	0.00	1.42
%ile Back of Q (95%), veh/ln	0.0	32.0	0.0	3.2	0.0	2.2	0.0	19.2
%ile Storage Ratio (RQ%)	0.00	1.48	0.00	0.09	0.00	0.03	0.00	0.29
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	90.9
HCM 6th LOS	F

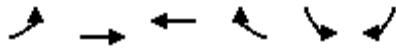
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

10: Green Valley Cir & Buckingham

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↗		↖	↘
Traffic Volume (veh/h)	64	146	750	397	58	60
Future Volume (veh/h)	64	146	750	397	58	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	159	815	432	63	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	392	2976	1884	992	148	132
Arrive On Green	1.00	1.00	0.84	0.84	0.08	0.08
Sat Flow, veh/h	446	3647	2343	1184	1781	1585
Grp Volume(v), veh/h	70	159	642	605	63	65
Grp Sat Flow(s),veh/h/ln	446	1777	1777	1657	1781	1585
Q Serve(g_s), s	2.6	0.0	11.0	11.2	4.0	4.7
Cycle Q Clear(g_c), s	13.8	0.0	11.0	11.2	4.0	4.7
Prop In Lane	1.00			0.71	1.00	1.00
Lane Grp Cap(c), veh/h	392	2976	1488	1388	148	132
V/C Ratio(X)	0.18	0.05	0.43	0.44	0.42	0.49
Avail Cap(c_a), veh/h	392	2976	1488	1388	460	409
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.8	0.0	2.5	2.5	52.3	52.6
Incr Delay (d2), s/veh	0.1	0.0	0.9	1.0	1.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	5.2	5.0	3.4	3.6	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.9	0.0	3.4	3.5	54.2	55.4
LnGrp LOS	A	A	A	A	D	E
Approach Vol, veh/h		229	1247		128	
Approach Delay, s/veh		0.3	3.4		54.8	
Approach LOS		A	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		106.0		14.0		106.0
Change Period (Y+Rc), s		* 5.5		4.0		* 5.5
Max Green Setting (Gmax), s		* 80		31.0		* 80
Max Q Clear Time (g_c+I1), s		13.2		6.7		15.8
Green Ext Time (p_c), s		12.9		0.3		2.4

Intersection Summary

HCM 6th Ctrl Delay	7.1
HCM 6th LOS	A

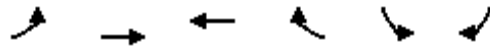
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖	↑↑	↗		↙	↘			
Traffic Volume (veh/h)	64	146	750	397	58	60			
Future Volume (veh/h)	64	146	750	397	58	60			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	70	159	815	432	63	65			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	392	2976	1884	992	148	132			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	1.00	1.00	0.84	0.84	0.08	0.08			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	0.9	0.0	3.4	3.5	54.2	55.4			
Ln Grp LOS	A	A	A	A	D	E			
Approach Vol, veh/h		229	1247		128				
Approach Delay, s/veh		0.3	3.4		54.8				
Approach LOS		A	A		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		9.0		6.0		
Phs Duration (G+Y+Rc), s			106.0		14.0		106.0		
Change Period (Y+Rc), s			* 5.5		4.0		* 5.5		
Max Green (Gmax), s			* 80		31.0		* 80		
Max Allow Headway (MAH), s			5.4		3.9		6.5		
Max Q Clear (g_c+I1), s			13.2		6.7		15.8		
Green Ext Time (g_e), s			12.9		0.3		2.4		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.02		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1781		446		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			2343		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			1184		1585		0		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment					L		L		

HCM 6th Signalized Intersection Capacity Analysis
 10: Green Valley Cir & Buckingham

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Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	63	0	70	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	0	446	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	4.0	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.0	0.0	13.8	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	446	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	100.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	89.3	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Time to First Blk (g_f), s	0.0	100.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	148	0	392	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.42	0.00	0.18	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	460	0	392	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.49	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.3	0.0	0.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.9	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	54.2	0.0	0.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	3.4	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	642	0	0	0	159	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1488	0	0	0	2976	0	0
V/C Ratio (X)	0.00	0.43	0.00	0.00	0.00	0.05	0.00	0.00
Avail Cap (c_a), veh/h	0	1488	0	0	0	2976	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.49	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment	T+R		R					
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	605	0	65	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1657	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	11.2	0.0	4.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.2	0.0	4.7	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.71	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1388	0	132	0	0	0	0
V/C Ratio (X)	0.00	0.44	0.00	0.49	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1388	0	409	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.5	0.0	52.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	2.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.5	0.0	55.4	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	1.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	5.0	0.0	3.6	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.05	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	7.1
HCM 6th LOS	A

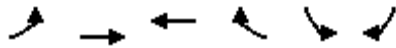
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

11: Centinela Ave & Green Valley Cir

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑	↗	↖↗	↗
Traffic Volume (veh/h)	37	399	1687	987	217	45
Future Volume (veh/h)	37	399	1687	987	217	45
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	434	1834	1073	236	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	107	2763	2763	1232	432	198
Arrive On Green	0.78	0.78	0.78	0.78	0.13	0.13
Sat Flow, veh/h	87	3647	3647	1585	3456	1585
Grp Volume(v), veh/h	40	434	1834	1073	236	49
Grp Sat Flow(s),veh/h/ln	87	1777	1777	1585	1728	1585
Q Serve(g_s), s	46.8	3.7	28.5	55.9	7.7	3.3
Cycle Q Clear(g_c), s	75.3	3.7	28.5	55.9	7.7	3.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	107	2763	2763	1232	432	198
V/C Ratio(X)	0.37	0.16	0.66	0.87	0.55	0.25
Avail Cap(c_a), veh/h	107	2763	2763	1232	760	349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	3.4	6.1	9.2	49.3	47.4
Incr Delay (d2), s/veh	9.7	0.1	0.6	7.0	1.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	2.1	13.7	24.3	6.1	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.1	3.5	6.7	16.2	50.4	48.0
LnGrp LOS	C	A	A	B	D	D
Approach Vol, veh/h		474	2907		285	
Approach Delay, s/veh		6.0	10.2		50.0	
Approach LOS		A	B		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		99.4		20.6		99.4
Change Period (Y+Rc), s		6.1		* 5.6		6.1
Max Green Setting (Gmax), s		81.9		* 26		81.9
Max Q Clear Time (g_c+I1), s		77.3		9.7		57.9
Green Ext Time (p_c), s		2.0		0.9		20.6

Intersection Summary

HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

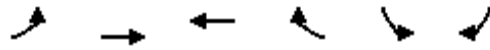
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↵	↑↑	↑↑	↵	↵↵	↵			
Traffic Volume (veh/h)	37	399	1687	987	217	45			
Future Volume (veh/h)	37	399	1687	987	217	45			
Number	5	2	6	16	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	40	434	1834	1073	236	49			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	107	2763	2763	1232	432	198			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.78	0.78	0.78	0.78	0.13	0.13			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	33.1	3.5	6.7	16.2	50.4	48.0			
Ln Grp LOS	C	A	A	B	D	D			
Approach Vol, veh/h		474	2907		285				
Approach Delay, s/veh		6.0	10.2		50.0				
Approach LOS		A	B		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s			99.4		20.6		99.4		
Change Period (Y+Rc), s			6.1		* 5.6		6.1		
Max Green (Gmax), s			81.9		* 26		81.9		
Max Allow Headway (MAH), s			7.6		3.9		4.8		
Max Q Clear (g_c+I1), s			77.3		9.7		57.9		
Green Ext Time (g_e), s			2.0		0.9		20.6		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			1.00		0.00		0.84		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			87		3456		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis
 11: Centinela Ave & Green Valley Cir

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Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	40	0	236	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	87	0	1728	0	0	0	0
Q Serve Time (g_s), s	0.0	46.8	0.0	7.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	75.3	0.0	7.7	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	87	0	1728	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	93.3	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	64.8	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	46.8	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	93.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	107	0	432	0	0	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.55	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	107	0	760	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	23.4	0.0	49.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	9.7	0.0	1.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.1	0.0	50.4	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	3.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.2	0.0	6.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.12	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	434	0	0	0	1834	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.7	0.0	0.0	0.0	28.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.7	0.0	0.0	0.0	28.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	2763	0	0	0	2763	0	0
V/C Ratio (X)	0.00	0.16	0.00	0.00	0.00	0.66	0.00	0.00
Avail Cap (c_a), veh/h	0	2763	0	0	0	2763	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.4	0.0	0.0	0.0	6.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.5	0.0	0.0	0.0	6.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.0	0.0	8.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.55	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.1	0.0	0.0	0.0	13.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.00	0.00	0.57	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	49	0	1073	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.3	0.0	55.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.3	0.0	55.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	198	0	1232	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.25	0.00	0.87	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	349	0	1232	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	47.4	0.0	9.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	7.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	48.0	0.0	16.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.3	0.0	15.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.39	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	2.5	0.0	24.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	1.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B
























Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

1: Hannum Ave & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	791	202	212	569	408	105	326	272	265	549	75
Future Volume (veh/h)	129	791	202	212	569	408	105	326	272	265	549	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	860	220	230	618	443	114	354	0	288	597	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1896	482	286	2338	726	244	612		348	719	
Arrive On Green	0.09	0.47	0.47	0.08	0.46	0.46	0.07	0.17	0.00	0.10	0.20	0.00
Sat Flow, veh/h	1781	4057	1032	3456	5106	1585	3456	3554	1585	3456	3647	0
Grp Volume(v), veh/h	140	721	359	230	618	443	114	354	0	288	597	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1685	1728	1702	1585	1728	1777	1585	1728	1777	0
Q Serve(g_s), s	10.8	20.0	20.2	9.2	10.4	29.4	4.4	12.8	0.0	11.4	22.5	0.0
Cycle Q Clear(g_c), s	10.8	20.0	20.2	9.2	10.4	29.4	4.4	12.8	0.0	11.4	22.5	0.0
Prop In Lane	1.00		0.61	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	164	1591	787	286	2338	726	244	612		348	719	
V/C Ratio(X)	0.85	0.45	0.46	0.81	0.26	0.61	0.47	0.58		0.83	0.83	
Avail Cap(c_a), veh/h	202	1591	787	442	2338	726	289	805		536	1058	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.6	25.2	25.2	63.1	23.4	28.5	62.5	53.3	0.0	61.8	53.5	0.0
Incr Delay (d2), s/veh	24.3	0.9	1.9	5.5	0.3	3.5	1.4	0.9	0.0	6.4	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.1	13.1	13.3	7.5	7.6	17.3	3.6	9.8	0.0	9.1	15.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.9	26.1	27.1	68.7	23.7	32.0	63.9	54.1	0.0	68.1	57.2	0.0
LnGrp LOS	F	C	C	E	C	C	E	D		E	E	
Approach Vol, veh/h		1220			1291			468			885	
Approach Delay, s/veh		33.4			34.5			56.5			60.8	
Approach LOS		C			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.7	71.5	16.2	34.6	19.0	70.2	20.4	30.4				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3				
Max Green Setting (Gmax), s	* 18	* 44	11.7	41.7	* 16	* 46	21.7	31.7				
Max Q Clear Time (g_c+I1), s	11.2	22.2	6.4	24.5	12.8	31.4	13.4	14.8				
Green Ext Time (p_c), s	0.4	7.8	0.1	3.8	0.1	5.2	0.6	2.1				
Intersection Summary												
HCM 6th Ctrl Delay			42.9									
HCM 6th LOS			D									
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	791	202	212	569	408	105	326	272	265	549	75
Future Volume (veh/h)	129	791	202	212	569	408	105	326	272	265	549	75
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	860	220	230	618	443	114	354	0	288	597	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	164	1896	482	286	2338	726	244	612		348	719	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.47	0.47	0.08	0.46	0.46	0.07	0.17	0.00	0.10	0.20	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	86.9	26.1	27.1	68.7	23.7	32.0	63.9	54.1	0.0	68.1	57.2	0.0
Ln Grp LOS	F	C	C	E	C	C	E	D		E	E	
Approach Vol, veh/h		1220			1291			468			885	
Approach Delay, s/veh		33.4			34.5			56.5			60.8	
Approach LOS		C			C			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	4.0	4.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		17.7	71.5	34.6	16.2	19.0	70.2	20.4	30.4			
Change Period (Y+Rc), s		* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3			
Max Green (Gmax), s		* 18	* 44	41.7	11.7	* 16	* 46	21.7	31.7			
Max Allow Headway (MAH), s		3.8	5.3	5.2	3.8	3.8	4.7	3.8	5.2			
Max Q Clear (g_c+I1), s		11.2	22.2	24.5	6.4	12.8	31.4	13.4	14.8			
Green Ext Time (g_e), s		0.4	7.8	3.8	0.1	0.1	5.2	0.6	2.1			
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.10	0.00	0.07	0.20	1.00	0.26	0.04	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	1781		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			4057	3647			5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1032	0			1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	230	0	0	114	140	0	288	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1781	0	1728	0
Q Serve Time (g_s), s	9.2	0.0	0.0	4.4	10.8	0.0	11.4	0.0
Cycle Q Clear Time (g_c), s	9.2	0.0	0.0	4.4	10.8	0.0	11.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	286	0	0	244	164	0	348	0
V/C Ratio (X)	0.81	0.00	0.00	0.47	0.85	0.00	0.83	0.00
Avail Cap (c_a), veh/h	442	0	0	289	202	0	536	0
Upstream Filter (I)	0.91	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	63.1	0.0	0.0	62.5	62.6	0.0	61.8	0.0
Incr Delay (d2), s/veh	5.5	0.0	0.0	1.4	24.3	0.0	6.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	68.7	0.0	0.0	63.9	86.9	0.0	68.1	0.0
1st-Term Q (Q1), veh/ln	4.0	0.0	0.0	2.0	4.9	0.0	5.0	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	1.1	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.76	0.00	0.00	1.80	1.67	0.00	1.71	0.00
%ile Back of Q (95%), veh/ln	7.5	0.0	0.0	3.6	10.1	0.0	9.1	0.0
%ile Storage Ratio (RQ%)	0.86	0.00	0.00	0.46	2.32	0.00	1.16	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	2	2	0	0	3	0	2
Grp Vol (v), veh/h	0	721	597	0	0	618	0	354
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	20.0	22.5	0.0	0.0	10.4	0.0	12.8
Cycle Q Clear Time (g_c), s	0.0	20.0	22.5	0.0	0.0	10.4	0.0	12.8
Lane Grp Cap (c), veh/h	0	1591	719	0	0	2338	0	612
V/C Ratio (X)	0.00	0.45	0.83	0.00	0.00	0.26	0.00	0.58
Avail Cap (c_a), veh/h	0	1591	1058	0	0	2338	0	805
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.91	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.2	53.5	0.0	0.0	23.4	0.0	53.3
Incr Delay (d2), s/veh	0.0	0.9	3.7	0.0	0.0	0.3	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.1	57.2	0.0	0.0	23.7	0.0	54.1
1st-Term Q (Q1), veh/ln	0.0	8.1	10.1	0.0	0.0	4.3	0.0	5.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.4	0.0	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.57	1.51	0.00	0.00	1.75	0.00	1.68
%ile Back of Q (95%), veh/ln	0.0	13.1	15.8	0.0	0.0	7.6	0.0	9.8
%ile Storage Ratio (RQ%)	0.00	0.98	1.92	0.00	0.00	0.33	0.00	1.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		T+R				R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	359	0	0	0	443	0	0
Grp Sat Flow (s), veh/h/ln	0	1685	0	0	0	1585	0	1585
Q Serve Time (g_s), s	0.0	20.2	0.0	0.0	0.0	29.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	20.2	0.0	0.0	0.0	29.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.61	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	787	0	0	0	726	0	273
V/C Ratio (X)	0.00	0.46	0.00	0.00	0.00	0.61	0.00	0.00
Avail Cap (c_a), veh/h	0	787	0	0	0	726	0	359
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.91	0.00	0.00
Uniform Delay (d1), s/veh	0.0	25.2	0.0	0.0	0.0	28.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.0	0.0	3.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.1	0.0	0.0	0.0	32.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.1	0.0	0.0	0.0	11.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.56	1.00	0.00	0.00	1.45	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	13.3	0.0	0.0	0.0	17.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.00	0.00	0.00	0.00	2.83	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	42.9
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	709	612	1174	715	2	476	0	1698	4	2	1
Future Volume (veh/h)	0	709	612	1174	715	2	476	0	1698	4	2	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	771	0	1276	777	2	517	0	1846	4	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	1052		2201	2520	1124	383	0	1730	34	22	11
Arrive On Green	0.00	0.21	0.00	0.73	1.00	1.00	0.11	0.00	0.11	0.02	0.02	0.02
Sat Flow, veh/h	1781	5106	1585	5023	3554	1585	3563	0	3170	1781	1176	588
Grp Volume(v), veh/h	0	771	0	1276	777	2	517	0	1846	4	0	3
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1674	1777	1585	1781	0	1585	1781	0	1764
Q Serve(g_s), s	0.0	16.9	0.0	14.2	0.0	0.0	12.9	0.0	12.9	0.3	0.0	0.2
Cycle Q Clear(g_c), s	0.0	16.9	0.0	14.2	0.0	0.0	12.9	0.0	12.9	0.3	0.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	1	1052		2201	2520	1124	383	0	1730	34	0	34
V/C Ratio(X)	0.00	0.73		0.58	0.31	0.00	1.35	0.00	1.07	0.12	0.00	0.09
Avail Cap(c_a), veh/h	193	1864		2201	2520	1124	383	0	1730	163	0	162
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.86	0.00	0.76	0.76	0.76	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	44.5	0.0	10.9	0.0	0.0	53.5	0.0	27.3	57.9	0.0	57.8
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.3	0.2	0.0	173.9	0.0	42.1	1.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	11.3	0.0	6.5	0.2	0.0	23.8	0.0	44.3	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.4	0.0	11.2	0.2	0.0	227.4	0.0	69.4	59.4	0.0	59.0
LnGrp LOS	A	D		B	A	A	F	A	F	E	A	E
Approach Vol, veh/h		771		2055			2363				7	
Approach Delay, s/veh		45.4		7.1			103.9				59.2	
Approach LOS		D		A			F				E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	60.4	32.5		8.1	0.0	92.9		19.0				
Change Period (Y+Rc), s	7.8	* 7.8		* 5.8	5.4	7.8		6.1				
Max Green Setting (Gmax), s	20.2	* 44		* 11	13.0	58.0		12.9				
Max Q Clear Time (g_c+10), s	10.2	18.9		2.3	0.0	2.0		14.9				
Green Ext Time (p_c), s	4.0	5.8		0.0	0.0	6.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	56.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
2: Marina Fwy/Private Dwy & Slauson Ave
































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Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	 				 		 	
Traffic Volume (veh/h)	0	709	612	1174	715	2	476	0	1698	4	2	1
Future Volume (veh/h)	0	709	612	1174	715	2	476	0	1698	4	2	1
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	771	0	1276	777	2	517	0	1846	4	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	1	1052		2201	2520	1124	383	0	1730	34	22	11
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.21	0.00	0.73	1.00	1.00	0.11	0.00	0.11	0.02	0.02	0.02
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	45.4	0.0	11.2	0.2	0.0	227.4	0.0	69.4	59.4	0.0	59.0
Ln Grp LOS	A	D		B	A	A	F	A	F	E	A	E
Approach Vol, veh/h		771			2055			2363				7
Approach Delay, s/veh		45.4			7.1			103.9				59.2
Approach LOS		D			A			F				E
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	3.0	9.0	10.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		60.4	32.5	19.0	8.1	0.0	92.9					
Change Period (Y+Rc), s		7.8	* 7.8	6.1	* 5.8	5.4	7.8					
Max Green (Gmax), s		26.2	* 44	12.9	* 11	13.0	58.0					
Max Allow Headway (MAH), s		3.8	5.2	4.0	4.5	0.0	5.2					
Max Q Clear (g_c+I1), s		16.2	18.9	14.9	2.3	0.0	2.0					
Green Ext Time (g_e), s		4.0	5.8	0.0	0.0	0.0	6.7					
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.21	0.00	1.00					
Prob of Max Out (p_x)		0.32	0.03	1.00	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		5023		3563	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			5106	0	1176		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			1585	3170	588		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Lanes in Grp	3	0	2	1	1	0	0	0
Grp Vol (v), veh/h	1276	0	517	4	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1674	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	14.2	0.0	12.9	0.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	14.2	0.0	12.9	0.3	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	2201	0	383	34	1	0	0	0
V/C Ratio (X)	0.58	0.00	1.35	0.12	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	2201	0	383	163	193	0	0	0
Upstream Filter (I)	0.76	0.00	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	10.9	0.0	53.5	57.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	173.9	1.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.2	0.0	227.4	59.4	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	3.7	0.0	5.8	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	9.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.74	0.00	1.59	1.80	1.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	6.5	0.0	23.8	0.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.72	0.00	1.25	0.20	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	33.5	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	771	0	0	0	777	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	16.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	16.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1052	0	0	0	2520	0	0
V/C Ratio (X)	0.00	0.73	0.00	0.00	0.00	0.31	0.00	0.00
Avail Cap (c_a), veh/h	0	1864	0	0	0	2520	0	0
Upstream Filter (I)	0.00	0.86	0.00	0.00	0.00	0.76	0.00	0.00
Uniform Delay (d1), s/veh	0.0	44.5	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	45.4	0.0	0.0	0.0	0.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.57	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	11.3	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.49	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		R	R	T+R		R		
Lanes in Grp	0	1	2	1	0	1	0	0
Grp Vol (v), veh/h	0	0	1846	3	0	2	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1764	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	12.9	0.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	12.9	0.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	52.6	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.33	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	327	1730	34	0	1124	0	0
V/C Ratio (X)	0.00	0.00	1.07	0.09	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	579	1730	162	0	1124	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	0.00	0.76	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	27.3	57.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	42.1	1.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	69.4	59.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	23.3	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	10.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.32	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	44.3	0.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	2.32	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	29.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	56.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑↑		↖↗	↑	↗		↖↗	
Traffic Volume (veh/h)	17	2005	359	89	1427	17	369	6	104	28	7	32
Future Volume (veh/h)	17	2005	359	89	1427	17	369	6	104	28	7	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	2179	390	97	1551	18	401	0	118	30	8	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	531	2829	878	277	1724	20	297	0	518	118	32	132
Arrive On Green	0.40	0.74	0.74	0.16	0.66	0.66	0.08	0.00	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	5106	1585	3456	5203	60	3563	0	3170	1421	379	1585
Grp Volume(v), veh/h	18	2179	390	97	1015	554	401	0	118	38	0	35
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1859	1781	0	1585	1799	0	1585
Q Serve(g_s), s	0.7	31.1	11.5	3.0	29.9	29.9	10.0	0.0	3.9	2.4	0.0	2.5
Cycle Q Clear(g_c), s	0.7	31.1	11.5	3.0	29.9	29.9	10.0	0.0	3.9	2.4	0.0	2.5
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	0.79		1.00
Lane Grp Cap(c), veh/h	531	2829	878	277	1128	616	297	0	518	150	0	132
V/C Ratio(X)	0.03	0.77	0.44	0.35	0.90	0.90	1.35	0.00	0.23	0.25	0.00	0.26
Avail Cap(c_a), veh/h	531	2829	878	288	1242	679	297	0	518	480	0	423
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.36	0.36	0.36	0.91	0.91	0.91	0.96	0.00	0.96	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.7	11.1	8.6	47.6	18.6	18.6	55.0	0.0	43.6	51.5	0.0	51.6
Incr Delay (d2), s/veh	0.0	0.8	0.6	0.7	10.6	17.3	177.7	0.0	0.2	0.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	11.4	5.2	2.3	13.1	15.5	19.1	0.0	2.8	2.0	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	11.9	9.1	48.3	29.2	35.9	232.7	0.0	43.8	52.4	0.0	52.6
LnGrp LOS	C	B	A	D	C	D	F	A	D	D	A	D
Approach Vol, veh/h		2587			1666			519				73
Approach Delay, s/veh		11.6			32.5			189.8				52.5
Approach LOS		B			C			F				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.8	72.6		15.8	41.8	46.6		15.8				
Change Period (Y+Rc), s	6.2	6.1		* 5.8	6.1	* 6.8		5.8				
Max Green Setting (Gmax), s	44.1	44.1		* 32	10.0	* 44		10.0				
Max Q Clear Time (g_c+1/3), s	33.1	33.1		4.5	2.7	31.9		12.0				
Green Ext Time (p_c), s	0.1	9.8		0.4	0.0	7.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑↑	↵	↵↵	↑↑↑		↵↵	↑	↵		↵↵	
Traffic Volume (veh/h)	17	2005	359	89	1427	17	369	6	104	28	7	32
Future Volume (veh/h)	17	2005	359	89	1427	17	369	6	104	28	7	32
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	2179	390	97	1551	18	401	0	118	30	8	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	531	2829	878	277	1724	20	297	0	518	118	32	132
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.74	0.74	0.16	0.66	0.66	0.08	0.00	0.08	0.08	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	25.7	11.9	9.1	48.3	29.2	35.9	232.7	0.0	43.8	52.4	0.0	52.6
Ln Grp LOS	C	B	A	D	C	D	F	A	D	D	A	D
Approach Vol, veh/h		2587			1666			519			73	
Approach Delay, s/veh		11.6			32.5			189.8			52.5	
Approach LOS		B			C			F			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	6	5					
Case No		2.0	3.0	9.0	12.0	4.0	2.0					
Phs Duration (G+Y+Rc), s		15.8	72.6	15.8	15.8	46.6	41.8					
Change Period (Y+Rc), s		6.2	6.1	5.8	* 5.8	* 6.8	6.1					
Max Green (Gmax), s		10.0	44.1	10.0	* 32	* 44	10.0					
Max Allow Headway (MAH), s		3.8	5.1	3.9	5.4	5.2	3.8					
Max Q Clear (g_c+I1), s		5.0	33.1	12.0	4.5	31.9	2.7					
Green Ext Time (g_e), s		0.1	9.8	0.0	0.4	7.9	0.0					
Prob of Phs Call (p_c)		0.96	1.00	1.00	1.00	1.00	0.45					
Prob of Max Out (p_x)		0.24	0.92	1.00	0.00	0.71	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7		5					
Mvmt Sat Flow, veh/h		3456		3563	1421		1781					
Through Movement Data												
Assigned Mvmt			2	8	4	6						
Mvmt Sat Flow, veh/h			5106	0	379	5203						
Right-Turn Movement Data												
Assigned Mvmt			12	18	14	16						
Mvmt Sat Flow, veh/h			1585	3170	1585	60						
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	0	5	0	0			
Lane Assignment		L (Prot)		L	L+T		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
 3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023

Lanes in Grp	2	0	2	1	0	1	0	0
Grp Vol (v), veh/h	97	0	401	38	0	18	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	1799	0	1781	0	0
Q Serve Time (g_s), s	3.0	0.0	10.0	2.4	0.0	0.7	0.0	0.0
Cycle Q Clear Time (g_c), s	3.0	0.0	10.0	2.4	0.0	0.7	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.79	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	277	0	297	150	0	531	0	0
V/C Ratio (X)	0.35	0.00	1.35	0.25	0.00	0.03	0.00	0.00
Avail Cap (c_a), veh/h	288	0	297	480	0	531	0	0
Upstream Filter (I)	0.91	0.00	0.96	1.00	0.00	0.36	0.00	0.00
Uniform Delay (d1), s/veh	47.6	0.0	55.0	51.5	0.0	25.7	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	177.7	0.9	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.3	0.0	232.7	52.4	0.0	25.7	0.0	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	4.5	1.1	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.62	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	2.3	0.0	19.1	2.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.37	0.00	2.26	0.26	0.00	0.15	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	26.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	3	0	0	2	0	0	0
Grp Vol (v), veh/h	0	2179	0	0	1015	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	1702	0	0	0
Q Serve Time (g_s), s	0.0	31.1	0.0	0.0	29.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	31.1	0.0	0.0	29.9	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2829	0	0	1128	0	0	0
V/C Ratio (X)	0.00	0.77	0.00	0.00	0.90	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	2829	0	0	1242	0	0	0
Upstream Filter (I)	0.00	0.36	0.00	0.00	0.91	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.1	0.0	0.0	18.6	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	10.6	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.9	0.0	0.0	29.2	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.3	0.0	0.0	6.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	1.7	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.34	1.00	1.00	1.54	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	11.4	0.0	0.0	13.1	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.43	0.00	0.00	0.19	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	16	0	0	0
Lane Assignment		R	R	T+R	T+R			
Lanes in Grp	0	1	2	1	1	0	0	0
Grp Vol (v), veh/h	0	390	118	35	554	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	1859	0	0	0
Q Serve Time (g_s), s	0.0	11.5	3.9	2.5	29.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.5	3.9	2.5	29.9	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.03	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	878	518	132	616	0	0	0
V/C Ratio (X)	0.00	0.44	0.23	0.26	0.90	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	878	518	423	679	0	0	0
Upstream Filter (I)	0.00	0.36	0.96	1.00	0.91	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.6	43.6	51.6	18.6	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.2	1.1	17.3	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.1	43.8	52.6	35.9	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	1.5	1.0	7.5	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	3.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.54	1.80	1.80	1.48	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	5.2	2.8	1.9	15.5	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.01	0.16	0.24	0.23	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑		↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	9	2025	96	178	1421	9	53	4	466	71	27	44
Future Volume (veh/h)	9	2025	96	178	1421	9	53	4	466	71	27	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	2201	104	193	1545	10	58	0	510	77	43	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	2991	928	288	3378	22	270	0	830	219	334	283
Arrive On Green	0.02	0.39	0.39	0.08	0.65	0.65	0.06	0.00	0.06	0.18	0.18	0.18
Sat Flow, veh/h	3456	5106	1585	3456	5234	34	1317	0	3170	890	1870	1585
Grp Volume(v), veh/h	10	2201	104	193	1005	550	58	0	510	77	43	38
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1864	1317	0	1585	890	1870	1585
Q Serve(g_s), s	0.3	44.2	5.0	6.5	17.8	17.8	5.1	0.0	17.2	9.3	2.3	2.4
Cycle Q Clear(g_c), s	0.3	44.2	5.0	6.5	17.8	17.8	7.4	0.0	17.2	9.3	2.3	2.4
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	2991	928	288	2197	1203	270	0	830	219	334	283
V/C Ratio(X)	0.12	0.74	0.11	0.67	0.46	0.46	0.22	0.00	0.61	0.35	0.13	0.13
Avail Cap(c_a), veh/h	288	2991	928	291	2197	1203	441	0	1241	334	577	489
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.99	0.00	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	28.5	16.6	53.4	10.7	10.7	51.0	0.0	44.8	44.3	41.4	41.5
Incr Delay (d2), s/veh	0.1	0.2	0.0	5.8	0.7	1.3	0.4	0.0	0.7	1.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	21.1	2.5	5.5	10.8	11.8	3.2	0.0	11.9	3.8	2.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	28.7	16.6	59.2	11.4	12.0	51.4	0.0	45.5	45.3	41.6	41.7
LnGrp LOS	E	C	B	E	B	B	D	A	D	D	D	D
Approach Vol, veh/h		2315			1748			568			158	
Approach Delay, s/veh		28.3			16.9			46.1			43.4	
Approach LOS		C			B			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	76.4		27.3	9.1	83.5		27.3				
Change Period (Y+Rc), s	6.3	6.1		* 5.9	6.3	6.1		* 5.9				
Max Green Setting (Gmax), s	10.5	54.6		* 37	10.0	54.7		* 37				
Max Q Clear Time (g_c+10), s	10.5	46.2		19.2	2.3	19.8		11.3				
Green Ext Time (p_c), s	0.1	7.5		2.2	0.0	14.8		0.7				

Intersection Summary

HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
4: Buckingham Pkwy/Buckingham & Slauson Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑		↖	↖	↖	↖	↖	↖
Traffic Volume (veh/h)	9	2025	96	178	1421	9	53	4	466	71	27	44
Future Volume (veh/h)	9	2025	96	178	1421	9	53	4	466	71	27	44
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	2201	104	193	1545	10	58	0	510	77	43	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	82	2991	928	288	3378	22	270	0	830	219	334	283
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.39	0.39	0.08	0.65	0.65	0.06	0.00	0.06	0.18	0.18	0.18
Unsig. Movement Delay												
Ln Grp Delay, s/veh	57.9	28.7	16.6	59.2	11.4	12.0	51.4	0.0	45.5	45.3	41.6	41.7
Ln Grp LOS	E	C	B	E	B	B	D	A	D	D	D	D
Approach Vol, veh/h		2315			1748			568			158	
Approach Delay, s/veh		28.3			16.9			46.1			43.4	
Approach LOS		C			B			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		16.3	76.4		27.3	9.1	83.5		27.3			
Change Period (Y+Rc), s		6.3	6.1		* 5.9	6.3	6.1		* 5.9			
Max Green (Gmax), s		10.1	54.6		* 37	10.0	54.7		* 37			
Max Allow Headway (MAH), s		3.8	5.2		4.0	3.8	5.2		5.0			
Max Q Clear (g_c+I1), s		8.5	46.2		19.2	2.3	19.8		11.3			
Green Ext Time (g_e), s		0.1	7.5		2.2	0.0	14.8		0.7			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.28	1.00		1.00			
Prob of Max Out (p_x)		1.00	0.94		0.00	0.00	0.21		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1317	3456			890			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		0		5234		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		3170		34		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

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Lanes in Grp	2	0	0	1	2	0	0	1
Grp Vol (v), veh/h	193	0	0	58	10	0	0	77
Grp Sat Flow (s), veh/h/ln	1728	0	0	1317	1728	0	0	890
Q Serve Time (g_s), s	6.5	0.0	0.0	5.1	0.3	0.0	0.0	9.3
Cycle Q Clear Time (g_c), s	6.5	0.0	0.0	7.4	0.3	0.0	0.0	9.3
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1317	0	0	0	890
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	21.4	0.0	0.0	0.0	21.4
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	19.1	0.0	0.0	0.0	21.4
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	5.1	0.0	0.0	0.0	9.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	288	0	0	270	82	0	0	219
V/C Ratio (X)	0.67	0.00	0.00	0.22	0.12	0.00	0.00	0.35
Avail Cap (c_a), veh/h	291	0	0	441	288	0	0	334
Upstream Filter (I)	1.00	0.00	0.00	0.99	0.09	0.00	0.00	1.00
Uniform Delay (d1), s/veh	53.4	0.0	0.0	51.0	57.8	0.0	0.0	44.3
Incr Delay (d2), s/veh	5.8	0.0	0.0	0.4	0.1	0.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.2	0.0	0.0	51.4	57.9	0.0	0.0	45.3
1st-Term Q (Q1), veh/ln	2.8	0.0	0.0	1.8	0.1	0.0	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	5.5	0.0	0.0	3.2	0.3	0.0	0.0	3.8
%ile Storage Ratio (RQ%)	0.47	0.00	0.00	0.55	0.04	0.00	0.00	0.50
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	3	0	0	0	2	0	1
Grp Vol (v), veh/h	0	2201	0	0	0	1005	0	43
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	44.2	0.0	0.0	0.0	17.8	0.0	2.3
Cycle Q Clear Time (g_c), s	0.0	44.2	0.0	0.0	0.0	17.8	0.0	2.3
Lane Grp Cap (c), veh/h	0	2991	0	0	0	2197	0	334
V/C Ratio (X)	0.00	0.74	0.00	0.00	0.00	0.46	0.00	0.13
Avail Cap (c_a), veh/h	0	2991	0	0	0	2197	0	577
Upstream Filter (I)	0.00	0.09	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.5	0.0	0.0	0.0	10.7	0.0	41.4
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.7	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.7	0.0	0.0	0.0	11.4	0.0	41.6
1st-Term Q (Q1), veh/ln	0.0	18.9	0.0	0.0	0.0	6.4	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.11	0.00	1.00	0.00	1.64	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	21.1	0.0	0.0	0.0	10.8	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.31	0.00	0.00	0.00	0.67	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	104	0	510	0	550	0	38
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1864	0	1585
Q Serve Time (g_s), s	0.0	5.0	0.0	17.2	0.0	17.8	0.0	2.4
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	17.2	0.0	17.8	0.0	2.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.02	0.00	1.00
Lane Grp Cap (c), veh/h	0	928	0	830	0	1203	0	283
V/C Ratio (X)	0.00	0.11	0.00	0.61	0.00	0.46	0.00	0.13
Avail Cap (c_a), veh/h	0	928	0	1241	0	1203	0	489
Upstream Filter (I)	0.00	0.09	0.00	0.99	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.6	0.0	44.8	0.0	10.7	0.0	41.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	1.3	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.6	0.0	45.5	0.0	12.0	0.0	41.7
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	7.3	0.0	7.0	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.36	0.00	1.60	0.00	1.60	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.5	0.0	11.9	0.0	11.8	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	0.41	0.00	2.01	0.00	0.73	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	817	161	122	486	0	128	0	153	4	2	10
Future Volume (veh/h)	1	817	161	122	486	0	128	0	153	4	2	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	888	175	133	528	0	139	0	166	4	2	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	2080	410	365	2372	0	228	0	203	14	7	39
Arrive On Green	0.00	0.70	0.70	0.67	0.67	0.00	0.13	0.00	0.13	0.04	0.04	0.04
Sat Flow, veh/h	1781	2959	583	531	3647	0	1781	0	1585	390	195	1073
Grp Volume(v), veh/h	1	533	530	133	528	0	139	0	166	17	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	531	1777	0	1781	0	1585	1658	0	0
Q Serve(g_s), s	0.1	15.3	15.3	17.0	7.0	0.0	8.9	0.0	12.2	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.1	15.3	15.3	28.1	7.0	0.0	8.9	0.0	12.2	1.2	0.0	0.0
Prop In Lane	1.00		0.33	1.00		0.00	1.00		1.00	0.24		0.65
Lane Grp Cap(c), veh/h	3	1249	1241	365	2372	0	228	0	203	60	0	0
V/C Ratio(X)	0.29	0.43	0.43	0.36	0.22	0.00	0.61	0.00	0.82	0.28	0.00	0.00
Avail Cap(c_a), veh/h	111	1249	1241	365	2372	0	416	0	370	387	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.8	7.6	7.6	14.4	7.8	0.0	49.5	0.0	51.0	56.3	0.0	0.0
Incr Delay (d2), s/veh	41.9	1.1	1.1	2.3	0.2	0.0	2.6	0.0	7.9	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	9.6	9.6	4.0	4.7	0.0	7.4	0.0	9.1	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.7	8.6	8.7	16.7	8.0	0.0	52.1	0.0	58.9	58.9	0.0	0.0
LnGrp LOS	F	A	A	B	A	A	D	A	E	E	A	A
Approach Vol, veh/h		1064			661			305				17
Approach Delay, s/veh		8.7			9.7			55.8				58.9
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	4.2	85.7		9.3		89.9		20.7				
Change Period (Y+Rc), s	4.0	5.6		* 5		* 5.6		5.4				
Max Green Setting (Gmax), s	5	36.5		* 28		* 48		28.0				
Max Q Clear Time (g_c+1), s	12	30.1		3.2		17.3		14.2				
Green Ext Time (p_c), s	0.0	2.6		0.0		8.5		1.1				

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕	↗		↕	
Traffic Volume (veh/h)	1	817	161	122	486	0	128	0	153	4	2	10
Future Volume (veh/h)	1	817	161	122	486	0	128	0	153	4	2	10
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	888	175	133	528	0	139	0	166	4	2	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	3	2080	410	365	2372	0	228	0	203	14	7	39
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.70	0.70	0.67	0.67	0.00	0.13	0.00	0.13	0.04	0.04	0.04
Unsig. Movement Delay												
Ln Grp Delay, s/veh	101.7	8.6	8.7	16.7	8.0	0.0	52.1	0.0	58.9	58.9	0.0	0.0
Ln Grp LOS	F	A	A	B	A	A	D	A	E	E	A	A
Approach Vol, veh/h		1064			661			305			17	
Approach Delay, s/veh		8.7			9.7			55.8			58.9	
Approach LOS		A			A			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4		6					
Case No		2.0	6.3	11.0	12.0		4.0					
Phs Duration (G+Y+Rc), s		4.2	85.7	20.7	9.3		89.9					
Change Period (Y+Rc), s		4.0	5.6	5.4	* 5		* 5.6					
Max Green (Gmax), s		7.5	36.5	28.0	* 28		* 48					
Max Allow Headway (MAH), s		3.8	5.8	4.6	5.5		5.3					
Max Q Clear (g_c+I1), s		2.1	30.1	14.2	3.2		17.3					
Green Ext Time (g_e), s		0.0	2.6	1.1	0.0		8.5					
Prob of Phs Call (p_c)		0.03	1.00	1.00	0.43		1.00					
Prob of Max Out (p_x)		0.01	0.90	0.01	0.00		0.09					
Left-Turn Movement Data												
Assigned Mvmt		1	5	3	7							
Mvmt Sat Flow, veh/h		1781	531	1781	390							
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3647	0	195		2959					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			0	1585	1073		583					
Left Lane Group Data												
Assigned Mvmt		1	5	3	7	0	0	0	0			
Lane Assignment		L (Prot)	L	L+T	L+T+R							

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

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Lanes in Grp	1	1	1	1	0	0	0	0
Grp Vol (v), veh/h	1	133	139	17	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	531	1781	1658	0	0	0	0
Q Serve Time (g_s), s	0.1	17.0	8.9	1.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	28.1	8.9	1.2	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	531	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	80.1	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	69.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	1.00	0.24	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	3	365	228	60	0	0	0	0
V/C Ratio (X)	0.29	0.36	0.61	0.28	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	111	365	416	387	0	0	0	0
Upstream Filter (I)	1.00	0.82	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	59.8	14.4	49.5	56.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	41.9	2.3	2.6	2.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	101.7	16.7	52.1	58.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.0	3.9	0.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	1.80	1.80	0.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.1	4.0	7.4	1.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.03	0.62	0.14	0.19	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	1	0	0
Grp Vol (v), veh/h	0	528	0	0	0	533	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	7.0	0.0	0.0	0.0	15.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.0	0.0	0.0	0.0	15.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	2372	0	0	0	1249	0	0
V/C Ratio (X)	0.00	0.22	0.00	0.00	0.00	0.43	0.00	0.00
Avail Cap (c_a), veh/h	0	2372	0	0	0	1249	0	0
Upstream Filter (I)	0.00	0.82	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.8	0.0	0.0	0.0	7.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.0	0.0	0.0	0.0	8.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	5.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	0.00	1.69	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	4.7	0.0	0.0	0.0	9.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.00	0.00	0.80	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment			R			T+R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	166	0	0	530	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1765	0	0
Q Serve Time (g_s), s	0.0	0.0	12.2	0.0	0.0	15.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	12.2	0.0	0.0	15.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.65	0.00	0.33	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	203	0	0	1241	0	0
V/C Ratio (X)	0.00	0.00	0.82	0.00	0.00	0.43	0.00	0.00
Avail Cap (c_a), veh/h	0	0	370	0	0	1241	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	51.0	0.0	0.0	7.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	7.9	0.0	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	58.9	0.0	0.0	8.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	4.9	0.0	0.0	5.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.71	1.00	0.00	1.69	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	9.1	0.0	0.0	9.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.85	0.00	0.00	0.79	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

6: Bristol Pkwy & Hannum Ave
























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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	437	355	93	316	257	174	213	88	96	305	67
Future Volume (veh/h)	8	437	355	93	316	257	174	213	88	96	305	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	475	386	101	343	279	189	232	96	104	332	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	250	1049	468	180	1049	468	219	1282	515	202	1316	286
Arrive On Green	0.30	0.30	0.30	0.49	0.49	0.49	0.16	0.69	0.69	0.02	0.15	0.15
Sat Flow, veh/h	802	3554	1585	642	3554	1585	1781	2475	993	3456	2903	630
Grp Volume(v), veh/h	9	475	386	101	343	279	189	165	163	104	202	203
Grp Sat Flow(s),veh/h/ln	802	1777	1585	642	1777	1585	1781	1777	1692	1728	1777	1757
Q Serve(g_s), s	1.0	13.0	27.2	17.6	7.0	15.2	12.4	3.9	4.1	3.6	12.0	12.3
Cycle Q Clear(g_c), s	8.0	13.0	27.2	30.7	7.0	15.2	12.4	3.9	4.1	3.6	12.0	12.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.59	1.00		0.36
Lane Grp Cap(c), veh/h	250	1049	468	180	1049	468	219	920	876	202	806	796
V/C Ratio(X)	0.04	0.45	0.82	0.56	0.33	0.60	0.86	0.18	0.19	0.52	0.25	0.26
Avail Cap(c_a), veh/h	290	1226	547	212	1226	547	371	920	876	576	806	796
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.33	1.33	1.33	0.33	0.33	0.33
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	0.87	0.87	0.87	0.88	0.88	0.88
Uniform Delay (d), s/veh	35.3	34.4	39.4	35.3	23.2	25.3	49.2	9.6	9.6	57.2	33.0	33.1
Incr Delay (d2), s/veh	0.1	0.3	8.1	2.7	0.2	1.3	9.0	0.4	0.4	1.8	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	9.4	16.9	4.7	5.0	8.6	9.5	2.9	2.8	3.0	9.6	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	34.7	47.4	38.0	23.4	26.6	58.2	10.0	10.0	59.0	33.7	33.8
LnGrp LOS	D	C	D	D	C	C	E	A	B	E	C	C
Approach Vol, veh/h	870			723			517			509		
Approach Delay, s/veh	40.3			26.7			27.6			38.9		
Approach LOS	D			C			C			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	1.0	68.0	41.0		18.8	60.2	41.0					
Change Period (Y+Rc), s	4.0	5.8	* 5.6		4.0	5.8	* 5.6					
Max Green Setting (Gmax), s	20.0	43.2	* 41		25.0	38.2	* 41					
Max Q Clear Time (g_c+1), s	11.6	6.1	29.2		14.4	14.3	32.7					
Green Ext Time (p_c), s	0.2	2.1	3.8		0.4	2.4	2.8					
Intersection Summary												
HCM 6th Ctrl Delay				33.8								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	437	355	93	316	257	174	213	88	96	305	67
Future Volume (veh/h)	8	437	355	93	316	257	174	213	88	96	305	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	475	386	101	343	279	189	232	96	104	332	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	250	1049	468	180	1049	468	219	1282	515	202	1316	286
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.33	1.33	1.33	0.33	0.33	0.33
Prop Arrive On Green	0.30	0.30	0.30	0.49	0.49	0.49	0.16	0.69	0.69	0.02	0.15	0.15
Unsig. Movement Delay												
Ln Grp Delay, s/veh	35.4	34.7	47.4	38.0	23.4	26.6	58.2	10.0	10.0	59.0	33.7	33.8
Ln Grp LOS	D	C	D	D	C	C	E	A	B	E	C	C
Approach Vol, veh/h		870			723			517			509	
Approach Delay, s/veh		40.3			26.7			27.6			38.9	
Approach LOS		D			C			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		11.0	68.0		41.0	18.8	60.2		41.0			
Change Period (Y+Rc), s		4.0	5.8		* 5.6	4.0	5.8		* 5.6			
Max Green (Gmax), s		20.0	43.2		* 41	25.0	38.2		* 41			
Max Allow Headway (MAH), s		3.8	5.3		4.7	3.8	5.3		5.0			
Max Q Clear (g_c+I1), s		5.6	6.1		29.2	14.4	14.3		32.7			
Green Ext Time (g_e), s		0.2	2.1		3.8	0.4	2.4		2.8			
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.25	0.00	0.00		0.47			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			802	1781			642			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2475		3554		2903		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			993		1585		630		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

Lanes in Grp	2	0	0	1	1	0	0	1
Grp Vol (v), veh/h	104	0	0	9	189	0	0	101
Grp Sat Flow (s), veh/h/ln	1728	0	0	802	1781	0	0	642
Q Serve Time (g_s), s	3.6	0.0	0.0	1.0	12.4	0.0	0.0	17.6
Cycle Q Clear Time (g_c), s	3.6	0.0	0.0	8.0	12.4	0.0	0.0	30.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	802	0	0	0	642
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	35.4	0.0	0.0	0.0	35.4
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	28.4	0.0	0.0	0.0	22.4
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	17.6
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	202	0	0	250	219	0	0	180
V/C Ratio (X)	0.52	0.00	0.00	0.04	0.86	0.00	0.00	0.56
Avail Cap (c_a), veh/h	576	0	0	290	371	0	0	212
Upstream Filter (I)	0.88	0.00	0.00	0.91	0.87	0.00	0.00	1.00
Uniform Delay (d1), s/veh	57.2	0.0	0.0	35.3	49.2	0.0	0.0	35.3
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.1	9.0	0.0	0.0	2.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.0	0.0	0.0	35.4	58.2	0.0	0.0	38.0
1st-Term Q (Q1), veh/ln	1.6	0.0	0.0	0.2	5.3	0.0	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.5	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.63	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	3.0	0.0	0.0	0.4	9.5	0.0	0.0	4.7
%ile Storage Ratio (RQ%)	0.40	0.00	0.00	0.06	1.21	0.00	0.00	0.61
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	165	0	475	0	202	0	343
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	3.9	0.0	13.0	0.0	12.0	0.0	7.0
Cycle Q Clear Time (g_c), s	0.0	3.9	0.0	13.0	0.0	12.0	0.0	7.0
Lane Grp Cap (c), veh/h	0	920	0	1049	0	806	0	1049
V/C Ratio (X)	0.00	0.18	0.00	0.45	0.00	0.25	0.00	0.33
Avail Cap (c_a), veh/h	0	920	0	1226	0	806	0	1226
Upstream Filter (I)	0.00	0.87	0.00	0.91	0.00	0.88	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.6	0.0	34.4	0.0	33.0	0.0	23.2
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.3	0.0	0.7	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.0	0.0	34.7	0.0	33.7	0.0	23.4
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	5.6	0.0	5.7	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.66	0.00	1.63	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.9	0.0	9.4	0.0	9.6	0.0	5.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.28	0.00	0.56	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	163	0	386	0	203	0	279
Grp Sat Flow (s), veh/h/ln	0	1692	0	1585	0	1757	0	1585
Q Serve Time (g_s), s	0.0	4.1	0.0	27.2	0.0	12.3	0.0	15.2
Cycle Q Clear Time (g_c), s	0.0	4.1	0.0	27.2	0.0	12.3	0.0	15.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.59	0.00	1.00	0.00	0.36	0.00	1.00
Lane Grp Cap (c), veh/h	0	876	0	468	0	796	0	468
V/C Ratio (X)	0.00	0.19	0.00	0.82	0.00	0.26	0.00	0.60
Avail Cap (c_a), veh/h	0	876	0	547	0	796	0	547
Upstream Filter (I)	0.00	0.87	0.00	0.91	0.00	0.88	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.6	0.0	39.4	0.0	33.1	0.0	25.3
Incr Delay (d2), s/veh	0.0	0.4	0.0	8.1	0.0	0.7	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.0	0.0	47.4	0.0	33.8	0.0	26.6
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	10.5	0.0	5.8	0.0	4.8
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.0	0.0	0.2	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.46	0.00	1.63	0.00	1.74
%ile Back of Q (95%), veh/ln	0.0	2.8	0.0	16.9	0.0	9.7	0.0	8.6
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.51	0.00	0.57	0.00	1.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	629	18	11	248	5	27	0	35	16	4	51
Future Volume (veh/h)	3	629	18	11	248	5	27	0	35	16	4	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	684	20	12	270	5	29	0	38	17	4	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	919	2733	1219	625	2788	1243	127	0	120	123	23	132
Arrive On Green	0.01	0.77	0.77	0.04	1.00	1.00	0.08	0.00	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	803	0	1442	821	281	1585
Grp Volume(v), veh/h	3	684	20	12	270	5	29	0	38	21	0	55
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	803	0	1442	1102	0	1585
Q Serve(g_s), s	0.0	6.6	0.4	0.2	0.0	0.0	2.5	0.0	3.0	1.0	0.0	4.0
Cycle Q Clear(g_c), s	0.0	6.6	0.4	0.2	0.0	0.0	6.5	0.0	3.0	4.0	0.0	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.81		1.00
Lane Grp Cap(c), veh/h	919	2733	1219	625	2788	1243	127	0	120	146	0	132
V/C Ratio(X)	0.00	0.25	0.02	0.02	0.10	0.00	0.23	0.00	0.32	0.14	0.00	0.42
Avail Cap(c_a), veh/h	1073	2733	1219	766	2788	1243	400	0	413	440	0	454
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.1	4.0	3.2	2.8	0.0	0.0	55.4	0.0	51.8	52.5	0.0	52.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.1	0.0	0.9	0.0	1.5	0.4	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	3.8	0.2	0.1	0.0	0.0	1.6	0.0	2.0	1.1	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.1	4.1	3.3	2.8	0.1	0.0	56.3	0.0	53.3	53.0	0.0	54.3
LnGrp LOS	A	A	A	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		707			287			67				76
Approach Delay, s/veh		4.1			0.2			54.6				53.9
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	99.7		15.6	6.5	97.9		15.6				
Change Period (Y+Rc), s	4.0	5.6		5.6	* 4.2	* 5.6		5.6				
Max Green Setting (Gmax), s	59.4			34.4	* 12	* 59		34.4				
Max Q Clear Time (g_c+1), s		2.0		6.0	2.2	8.6		8.5				
Green Ext Time (p_c), s	0.0	2.0		0.2	0.0	5.7		0.3				

Intersection Summary

HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↗	↘	↙	↗	↘		↕			↕	↘
Traffic Volume (veh/h)	3	629	18	11	248	5	27	0	35	16	4	51
Future Volume (veh/h)	3	629	18	11	248	5	27	0	35	16	4	51
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	684	20	12	270	5	29	0	38	17	4	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	919	2733	1219	625	2788	1243	127	0	120	123	23	132
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.77	0.77	0.04	1.00	1.00	0.08	0.00	0.08	0.08	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	3.1	4.1	3.3	2.8	0.1	0.0	56.3	0.0	53.3	53.0	0.0	54.3
Ln Grp LOS	A	A	A	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		707			287			67			76	
Approach Delay, s/veh		4.1			0.2			54.6			53.9	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		1.1	3.0		7.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		4.7	99.7		15.6	6.5	97.9		15.6			
Change Period (Y+Rc), s		4.0	5.6		5.6	* 4.2	* 5.6		5.6			
Max Green (Gmax), s		11.0	59.4		34.4	* 12	* 59		34.4			
Max Allow Headway (MAH), s		3.8	5.2		4.4	3.8	5.2		5.5			
Max Q Clear (g_c+I1), s		2.0	2.0		6.0	2.2	8.6		8.5			
Green Ext Time (g_e), s		0.0	2.0		0.2	0.0	5.7		0.3			
Prob of Phs Call (p_c)		0.10	1.00		1.00	0.33	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			821	1781			803			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		281		3554		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1442			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Pr/Pm)			L+TL (Pr/Pm)			L+T				

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	3	0	0	21	12	0	0	29
Grp Sat Flow (s), veh/h/ln	1781	0	0	1102	1781	0	0	803
Q Serve Time (g_s), s	0.0	0.0	0.0	1.0	0.2	0.0	0.0	2.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.0	0.2	0.0	0.0	6.5
Perm LT Sat Flow (s_l), veh/h/ln	1104	0	0	1391	743	0	0	1365
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	92.3	0.0	0.0	10.0	92.3	0.0	0.0	10.0
Perm LT Serve Time (g_u), s	92.3	0.0	0.0	7.0	85.7	0.0	0.0	6.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.0	0.1	0.0	0.0	2.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.81	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	919	0	0	146	625	0	0	127
V/C Ratio (X)	0.00	0.00	0.00	0.14	0.02	0.00	0.00	0.23
Avail Cap (c_a), veh/h	1073	0	0	440	766	0	0	400
Upstream Filter (I)	0.78	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	3.1	0.0	0.0	52.5	2.8	0.0	0.0	55.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	3.1	0.0	0.0	53.0	2.8	0.0	0.0	56.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	1.1	0.1	0.0	0.0	1.6
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	0.43	0.02	0.00	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T			T				
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	270	0	0	0	684	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	2788	0	0	0	2733	0	0
V/C Ratio (X)	0.00	0.10	0.00	0.00	0.00	0.25	0.00	0.00
Avail Cap (c_a), veh/h	0	2788	0	0	0	2733	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.78	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	0.0	0.0	4.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.17	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	5	0	55	0	20	0	38
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1442
Q Serve Time (g_s), s	0.0	0.0	0.0	4.0	0.0	0.4	0.0	3.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.0	0.0	0.4	0.0	3.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1243	0	132	0	1219	0	120
V/C Ratio (X)	0.00	0.00	0.00	0.42	0.00	0.02	0.00	0.32
Avail Cap (c_a), veh/h	0	1243	0	454	0	1219	0	413
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.78	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.2	0.0	3.2	0.0	51.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.1	0.0	0.0	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	54.3	0.0	3.3	0.0	53.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.6	0.0	0.1	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	3.0	0.0	0.2	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.14	0.00	0.05	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	453	223	141	128	0	82	0	117	5	2	14
Future Volume (veh/h)	0	453	223	141	128	0	82	0	117	5	2	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	492	242	153	139	0	89	0	127	5	2	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	2554	1139	683	2878	1284	199	179	244	55	30	104
Arrive On Green	0.00	1.00	1.00	0.02	0.27	0.00	0.10	0.00	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1396	1870	1585	187	317	1081
Grp Volume(v), veh/h	0	492	242	153	139	0	89	0	127	22	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1396	1870	1585	1586	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.3	3.5	0.0	5.5	0.0	8.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.3	3.5	0.0	7.0	0.0	8.8	1.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.23		0.68
Lane Grp Cap(c), veh/h	1	2554	1139	683	2878	1284	199	179	244	189	0	0
V/C Ratio(X)	0.00	0.19	0.21	0.22	0.05	0.00	0.45	0.00	0.52	0.12	0.00	0.00
Avail Cap(c_a), veh/h	312	2554	1139	802	2878	1284	544	642	636	565	0	0
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.94	0.94	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	2.9	9.6	0.0	52.0	0.0	46.7	49.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.4	0.2	0.0	0.0	1.6	0.0	1.7	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.1	0.2	1.3	2.0	0.0	4.8	0.0	6.5	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.2	0.4	3.1	9.7	0.0	53.6	0.0	48.4	50.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h	734			292			216			22		
Approach Delay, s/veh	0.3			6.2			50.6			50.0		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	0.0	102.7	17.3		11.0	91.7	17.3					
Change Period (Y+Rc), s	4.0	* 5.5	* 5.8		4.0	* 5.5	* 5.8					
Max Green Setting (Gmax), s	2.0	* 43	* 41		15.0	* 49	* 41					
Max Q Clear Time (g_c+I), s	1.0	5.5	10.8		4.3	2.0	3.5					
Green Ext Time (p_c), s	0.0	0.9	0.7		0.3	4.7	0.1					

Intersection Summary
























HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	453	223	141	128	0	82	0	117	5	2	14
Future Volume (veh/h)	0	453	223	141	128	0	82	0	117	5	2	14
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	492	242	153	139	0	89	0	127	5	2	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	1	2554	1139	683	2878	1284	199	179	244	55	30	104
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	1.00	1.00	0.02	0.27	0.00	0.10	0.00	0.10	0.10	0.10	0.10
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	0.2	0.4	3.1	9.7	0.0	53.6	0.0	48.4	50.0	0.0	0.0
Ln Grp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		734			292			216			22	
Approach Delay, s/veh		0.3			6.2			50.6			50.0	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		0.0	102.7		17.3	11.0	91.7		17.3			
Change Period (Y+Rc), s		4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8			
Max Green (Gmax), s		21.0	* 43		* 41	15.0	* 49		* 41			
Max Allow Headway (MAH), s		0.0	5.2		3.9	3.8	4.8		5.5			
Max Q Clear (g_c+I1), s		0.0	5.5		10.8	4.3	2.0		3.5			
Green Ext Time (g_e), s		0.0	0.9		0.7	0.3	4.7		0.1			
Prob of Phs Call (p_c)		0.00	1.00		1.00	0.99	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1396	1781			187			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		1870		3554		317			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1081			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			LL (Pr/Pm)				L+T+R			

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	0	0	0	89	153	0	0	22
Grp Sat Flow (s), veh/h/ln	1781	0	0	1396	1781	0	0	1586
Q Serve Time (g_s), s	0.0	0.0	0.0	5.5	2.3	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	7.0	2.3	0.0	0.0	1.5
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1396	723	0	0	1284
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1781	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	11.5	88.2	0.0	0.0	11.5
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	10.1	86.2	0.0	0.0	11.5
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	5.5	0.6	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.23
Lane Grp Cap (c), veh/h	1	0	0	199	683	0	0	189
V/C Ratio (X)	0.00	0.00	0.00	0.45	0.22	0.00	0.00	0.12
Avail Cap (c_a), veh/h	312	0	0	544	802	0	0	565
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.94	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.0	2.9	0.0	0.0	49.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.6	0.2	0.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	53.6	3.1	0.0	0.0	50.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.6	0.7	0.0	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	4.8	1.3	0.0	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.06	0.17	0.00	0.00	0.26
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		
Lanes in Grp	0	2	0	1	0	2	0	0
Grp Vol (v), veh/h	0	139	0	0	0	492	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2878	0	179	0	2554	0	0
V/C Ratio (X)	0.00	0.05	0.00	0.00	0.00	0.19	0.00	0.00
Avail Cap (c_a), veh/h	0	2878	0	642	0	2554	0	0
Upstream Filter (I)	0.00	0.94	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.7	0.0	0.0	0.0	0.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	2.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	127	0	242	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	8.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.8	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.68
Lane Grp Cap (c), veh/h	0	1284	0	244	0	1139	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.52	0.00	0.21	0.00	0.00
Avail Cap (c_a), veh/h	0	1284	0	636	0	1139	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	46.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.7	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	48.4	0.0	0.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	6.5	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.44	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

9: Bristol Pkwy & Green Valley Cir

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	155	369	136	70	260	119	138	177	66	322	676	283
Future Volume (veh/h)	155	369	136	70	260	119	138	177	66	322	676	283
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	401	148	76	283	129	150	192	72	350	735	308
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	750	273	198	704	313	392	795	298	669	1497	627
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.61	0.61	0.61	1.00	1.00	1.00
Sat Flow, veh/h	974	2550	930	858	2393	1063	541	1297	486	1115	2441	1022
Grp Volume(v), veh/h	168	278	271	76	208	204	150	0	264	350	535	508
Grp Sat Flow(s),veh/h/ln	974	1777	1703	858	1777	1679	541	0	1783	1115	1777	1686
Q Serve(g_s), s	20.1	15.7	16.0	9.8	11.2	11.7	17.8	0.0	8.1	8.4	0.0	0.0
Cycle Q Clear(g_c), s	31.8	15.7	16.0	25.8	11.2	11.7	17.8	0.0	8.1	16.5	0.0	0.0
Prop In Lane	1.00		0.55	1.00		0.63	1.00		0.27	1.00		0.61
Lane Grp Cap(c), veh/h	251	523	501	198	523	494	392	0	1094	669	1090	1034
V/C Ratio(X)	0.67	0.53	0.54	0.38	0.40	0.41	0.38	0.00	0.24	0.52	0.49	0.49
Avail Cap(c_a), veh/h	269	555	532	214	555	525	392	0	1094	669	1090	1034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	46.8	35.4	35.6	46.4	33.9	34.0	12.4	0.0	10.5	0.9	0.0	0.0
Incr Delay (d2), s/veh	5.7	0.8	1.0	1.2	0.5	0.5	2.8	0.0	0.5	2.6	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	11.2	11.1	3.9	8.6	8.5	4.3	0.0	5.9	0.9	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.5	36.3	36.5	47.6	34.4	34.6	15.2	0.0	11.0	3.5	1.4	1.5
LnGrp LOS	D	D	D	D	C	C	B	A	B	A	A	A
Approach Vol, veh/h		717			488			414			1393	
Approach Delay, s/veh		40.2			36.5			12.6			2.0	
Approach LOS		D			D			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		79.2		40.8		79.2		40.8				
Change Period (Y+Rc), s		* 5.6		* 5.5		* 5.6		* 5.5				
Max Green Setting (Gmax), s		* 71		* 38		* 71		* 38				
Max Q Clear Time (g_c+I1), s		19.8		33.8		18.5		27.8				
Green Ext Time (p_c), s		4.0		1.5		12.1		2.1				

Intersection Summary

HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 9: Bristol Pkwy & Green Valley Cir

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	369	136	70	260	119	138	177	66	322	676	283
Future Volume (veh/h)	155	369	136	70	260	119	138	177	66	322	676	283
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	401	148	76	283	129	150	192	72	350	735	308
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	251	750	273	198	704	313	392	795	298	669	1497	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.61	0.61	0.61	1.00	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	52.5	36.3	36.5	47.6	34.4	34.6	15.2	0.0	11.0	3.5	1.4	1.5
Ln Grp LOS	D	D	D	D	C	C	B	A	B	A	A	A
Approach Vol, veh/h		717			488			414			1393	
Approach Delay, s/veh		40.2			36.5			12.6			2.0	
Approach LOS		D			D			B			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			79.2		40.8		79.2		40.8			
Change Period (Y+Rc), s			* 5.6		* 5.5		* 5.6		* 5.5			
Max Green (Gmax), s			* 71		* 38		* 71		* 38			
Max Allow Headway (MAH), s			6.2		5.2		5.1		5.4			
Max Q Clear (g_c+I1), s			19.8		33.8		18.5		27.8			
Green Ext Time (g_e), s			4.0		1.5		12.1		2.1			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		0.33			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			541		974		1115		858			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1297		2550		2441		2393			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			486		930		1022		1063			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis
 9: Bristol Pkwy & Green Valley Cir

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	150	0	168	0	350	0	76
Grp Sat Flow (s), veh/h/ln	0	541	0	974	0	1115	0	858
Q Serve Time (g_s), s	0.0	17.8	0.0	20.1	0.0	8.4	0.0	9.8
Cycle Q Clear Time (g_c), s	0.0	17.8	0.0	31.8	0.0	16.5	0.0	25.8
Perm LT Sat Flow (s_l), veh/h/ln	0	541	0	974	0	1115	0	858
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	73.6	0.0	35.3	0.0	73.6	0.0	35.3
Perm LT Serve Time (g_u), s	0.0	73.6	0.0	23.6	0.0	65.5	0.0	19.3
Perm LT Q Serve Time (g_ps), s	0.0	17.8	0.0	20.1	0.0	8.4	0.0	9.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	392	0	251	0	669	0	198
V/C Ratio (X)	0.00	0.38	0.00	0.67	0.00	0.52	0.00	0.38
Avail Cap (c_a), veh/h	0	392	0	269	0	669	0	214
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.89	0.00	0.99
Uniform Delay (d1), s/veh	0.0	12.4	0.0	46.8	0.0	0.9	0.0	46.4
Incr Delay (d2), s/veh	0.0	2.8	0.0	5.7	0.0	2.6	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.2	0.0	52.5	0.0	3.5	0.0	47.6
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	4.9	0.0	0.0	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.4	0.0	0.5	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.72	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.3	0.0	9.0	0.0	0.9	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	0.91	0.00	2.54	0.00	0.19	0.00	0.99
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	278	0	535	0	208
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	15.7	0.0	0.0	0.0	11.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	15.7	0.0	0.0	0.0	11.2
Lane Grp Cap (c), veh/h	0	0	0	523	0	1090	0	523
V/C Ratio (X)	0.00	0.00	0.00	0.53	0.00	0.49	0.00	0.40
Avail Cap (c_a), veh/h	0	0	0	555	0	1090	0	555
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.89	0.00	0.99
Uniform Delay (d1), s/veh	0.0	0.0	0.0	35.4	0.0	0.0	0.0	33.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	1.4	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	36.3	0.0	1.4	0.0	34.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	6.8	0.0	0.0	0.0	4.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.62	0.00	1.80	0.00	1.73
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	11.2	0.0	0.8	0.0	8.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.31	0.00	0.01	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	264	0	271	0	508	0	204
Grp Sat Flow (s), veh/h/ln	0	1783	0	1703	0	1686	0	1679
Q Serve Time (g_s), s	0.0	8.1	0.0	16.0	0.0	0.0	0.0	11.7
Cycle Q Clear Time (g_c), s	0.0	8.1	0.0	16.0	0.0	0.0	0.0	11.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.27	0.00	0.55	0.00	0.61	0.00	0.63
Lane Grp Cap (c), veh/h	0	1094	0	501	0	1034	0	494
V/C Ratio (X)	0.00	0.24	0.00	0.54	0.00	0.49	0.00	0.41
Avail Cap (c_a), veh/h	0	1094	0	532	0	1034	0	525
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.89	0.00	0.99
Uniform Delay (d1), s/veh	0.0	10.5	0.0	35.6	0.0	0.0	0.0	34.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	1.0	0.0	1.5	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.0	0.0	36.5	0.0	1.5	0.0	34.6
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	6.7	0.0	0.0	0.0	4.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.4	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.63	0.00	1.80	0.00	1.74
%ile Back of Q (95%), veh/ln	0.0	5.9	0.0	11.1	0.0	0.8	0.0	8.5
%ile Storage Ratio (RQ%)	0.00	0.27	0.00	0.30	0.00	0.01	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B

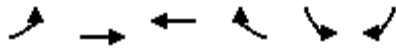
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

10: Green Valley Cir & Buckingham

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	91	477	206	98	212	91
Future Volume (veh/h)	91	477	206	98	212	91
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	518	224	107	230	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	841	2735	1818	839	269	239
Arrive On Green	0.25	0.25	0.77	0.77	0.15	0.15
Sat Flow, veh/h	1049	3647	2455	1089	1781	1585
Grp Volume(v), veh/h	99	518	167	164	230	99
Grp Sat Flow(s),veh/h/ln	1049	1777	1777	1674	1781	1585
Q Serve(g_s), s	8.8	13.7	2.9	3.0	15.1	6.8
Cycle Q Clear(g_c), s	11.8	13.7	2.9	3.0	15.1	6.8
Prop In Lane	1.00			0.65	1.00	1.00
Lane Grp Cap(c), veh/h	841	2735	1368	1289	269	239
V/C Ratio(X)	0.12	0.19	0.12	0.13	0.85	0.41
Avail Cap(c_a), veh/h	841	2735	1368	1289	757	674
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	15.4	3.5	3.5	49.6	46.1
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.2	7.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	10.3	1.7	1.7	11.7	5.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.9	15.4	3.7	3.7	57.3	47.3
LnGrp LOS	B	B	A	A	E	D
Approach Vol, veh/h		617	331		329	
Approach Delay, s/veh		15.5	3.7		54.2	
Approach LOS		B	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		97.9		22.1		97.9
Change Period (Y+Rc), s		* 5.5		4.0		* 5.5
Max Green Setting (Gmax), s		* 60		51.0		* 60
Max Q Clear Time (g_c+I1), s		5.0		17.1		15.7
Green Ext Time (p_c), s		2.2		1.0		4.5

Intersection Summary

HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

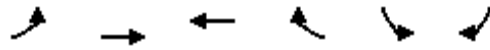
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↶	↷	↷		↶	↷			
Traffic Volume (veh/h)	91	477	206	98	212	91			
Future Volume (veh/h)	91	477	206	98	212	91			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	99	518	224	107	230	99			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	841	2735	1818	839	269	239			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.25	0.25	0.77	0.77	0.15	0.15			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	15.9	15.4	3.7	3.7	57.3	47.3			
Ln Grp LOS	B	B	A	A	E	D			
Approach Vol, veh/h		617	331		329				
Approach Delay, s/veh		15.5	3.7		54.2				
Approach LOS		B	A		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		9.0		6.0		
Phs Duration (G+Y+Rc), s			97.9		22.1		97.9		
Change Period (Y+Rc), s			* 5.5		4.0		* 5.5		
Max Green (Gmax), s			* 60		51.0		* 60		
Max Allow Headway (MAH), s			5.4		3.9		5.1		
Max Q Clear (g_c+I1), s			5.0		17.1		15.7		
Green Ext Time (g_e), s			2.2		1.0		4.5		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1781		1049		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			2455		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			1089		1585		0		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment					L		L		

HCM 6th Signalized Intersection Capacity Analysis
 10: Green Valley Cir & Buckingham

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Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	230	0	99	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	0	1049	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	15.1	0.0	8.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	15.1	0.0	11.8	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	1049	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	92.4	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	89.4	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	8.8	0.0	0.0
Time to First Blk (g_f), s	0.0	92.4	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	269	0	841	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.85	0.00	0.12	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	757	0	841	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.80	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	49.6	0.0	15.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	7.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	57.3	0.0	15.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	6.7	0.0	2.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.61	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	11.7	0.0	4.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.17	0.00	0.07	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	167	0	0	0	518	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	2.9	0.0	0.0	0.0	13.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.9	0.0	0.0	0.0	13.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	1368	0	0	0	2735	0	0
V/C Ratio (X)	0.00	0.12	0.00	0.00	0.00	0.19	0.00	0.00
Avail Cap (c_a), veh/h	0	1368	0	0	0	2735	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.80	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.5	0.0	0.0	0.0	15.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.7	0.0	0.0	0.0	15.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.0	0.0	6.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.57	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	1.7	0.0	0.0	0.0	10.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.00	0.00	0.16	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	164	0	99	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1674	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	3.0	0.0	6.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.0	0.0	6.8	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.65	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1289	0	239	0	0	0	0
V/C Ratio (X)	0.00	0.13	0.00	0.41	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1289	0	674	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.5	0.0	46.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	1.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.7	0.0	47.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	2.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	1.7	0.0	5.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.07	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

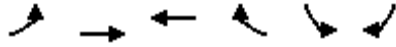
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

11: Centinela Ave & Green Valley Cir

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	79	1493	550	242	632	87
Future Volume (veh/h)	79	1493	550	242	632	87
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	1623	598	263	687	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	454	2412	2412	1076	773	355
Arrive On Green	0.68	0.68	0.68	0.68	0.22	0.22
Sat Flow, veh/h	642	3647	3647	1585	3456	1585
Grp Volume(v), veh/h	86	1623	598	263	687	95
Grp Sat Flow(s),veh/h/ln	642	1777	1777	1585	1728	1585
Q Serve(g_s), s	7.2	32.4	7.8	7.7	23.1	5.9
Cycle Q Clear(g_c), s	15.0	32.4	7.8	7.7	23.1	5.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	454	2412	2412	1076	773	355
V/C Ratio(X)	0.19	0.67	0.25	0.24	0.89	0.27
Avail Cap(c_a), veh/h	454	2412	2412	1076	904	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.3	11.4	7.4	7.4	45.1	38.5
Incr Delay (d2), s/veh	0.9	1.5	0.1	0.1	9.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	17.9	5.1	4.5	16.3	4.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.3	12.9	7.5	7.5	54.8	38.9
LnGrp LOS	B	B	A	A	D	D
Approach Vol, veh/h		1709	861		782	
Approach Delay, s/veh		12.8	7.5		52.8	
Approach LOS		B	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		87.5		32.5		87.5
Change Period (Y+Rc), s		6.1		* 5.6		6.1
Max Green Setting (Gmax), s		76.9		* 31		76.9
Max Q Clear Time (g_c+I1), s		34.4		25.1		9.8
Green Ext Time (p_c), s		21.0		1.7		5.9

Intersection Summary

HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↵	↑↑	↑↑	↵	↵↵	↵			
Traffic Volume (veh/h)	79	1493	550	242	632	87			
Future Volume (veh/h)	79	1493	550	242	632	87			
Number	5	2	6	16	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	86	1623	598	263	687	95			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	454	2412	2412	1076	773	355			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.68	0.68	0.68	0.68	0.22	0.22			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	11.3	12.9	7.5	7.5	54.8	38.9			
Ln Grp LOS	B	B	A	A	D	D			
Approach Vol, veh/h		1709	861		782				
Approach Delay, s/veh		12.8	7.5		52.8				
Approach LOS		B	A		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s			87.5		32.5		87.5		
Change Period (Y+Rc), s			6.1		* 5.6		6.1		
Max Green (Gmax), s			76.9		* 31		76.9		
Max Allow Headway (MAH), s			5.3		3.8		4.9		
Max Q Clear (g_c+I1), s			34.4		25.1		9.8		
Green Ext Time (g_e), s			21.0		1.7		5.9		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.25		0.46		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			642		3456		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis
 11: Centinela Ave & Green Valley Cir

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Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	86	0	687	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	642	0	1728	0	0	0	0
Q Serve Time (g_s), s	0.0	7.2	0.0	23.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	15.0	0.0	23.1	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	642	0	1728	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	81.4	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	73.6	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	81.4	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	454	0	773	0	0	0	0
V/C Ratio (X)	0.00	0.19	0.00	0.89	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	454	0	904	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.3	0.0	45.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	9.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.3	0.0	54.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	9.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.50	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.0	0.0	16.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.33	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1623	0	0	0	598	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	32.4	0.0	0.0	0.0	7.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	32.4	0.0	0.0	0.0	7.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	2412	0	0	0	2412	0	0
V/C Ratio (X)	0.00	0.67	0.00	0.00	0.00	0.25	0.00	0.00
Avail Cap (c_a), veh/h	0	2412	0	0	0	2412	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.4	0.0	0.0	0.0	7.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.9	0.0	0.0	0.0	7.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	11.7	0.0	0.0	0.0	2.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.47	0.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	17.9	0.0	0.0	0.0	5.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.65	0.00	0.00	0.00	0.21	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	95	0	263	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	5.9	0.0	7.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	5.9	0.0	7.7	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	355	0	1076	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.27	0.00	0.24	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	415	0	1076	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	38.5	0.0	7.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	38.9	0.0	7.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.3	0.0	2.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	4.3	0.0	4.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.09	0.00	0.19	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C
























Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

1: Hannum Ave & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	338	86	40	823	638	171	783	296	179	238	79
Future Volume (veh/h)	57	338	86	40	823	638	171	783	296	179	238	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	367	93	43	895	693	186	851	0	195	259	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	1791	437	200	2197	682	762	910		247	381	
Arrive On Green	0.07	0.44	0.44	0.06	0.43	0.43	0.22	0.26	0.00	0.07	0.11	0.00
Sat Flow, veh/h	1781	4096	999	3456	5106	1585	3456	3554	1585	3456	3647	0
Grp Volume(v), veh/h	62	303	157	43	895	693	186	851	0	195	259	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1691	1728	1702	1585	1728	1777	1585	1728	1777	0
Q Serve(g_s), s	4.7	7.7	8.1	1.7	17.0	60.2	6.2	32.8	0.0	7.8	9.8	0.0
Cycle Q Clear(g_c), s	4.7	7.7	8.1	1.7	17.0	60.2	6.2	32.8	0.0	7.8	9.8	0.0
Prop In Lane	1.00		0.59	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	116	1489	739	200	2197	682	762	910		247	381	
V/C Ratio(X)	0.54	0.20	0.21	0.21	0.41	1.02	0.24	0.93		0.79	0.68	
Avail Cap(c_a), veh/h	129	1489	739	247	2197	682	762	932		264	949	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.4	24.3	24.4	62.9	27.5	39.9	45.0	50.9	0.0	64.0	60.2	0.0
Incr Delay (d2), s/veh	3.8	0.3	0.7	0.4	0.5	35.6	0.2	15.9	0.0	14.1	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	5.8	6.2	1.3	11.1	38.5	4.9	23.3	0.0	7.1	8.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	24.6	25.1	63.3	28.0	75.5	45.1	66.8	0.0	78.1	62.3	0.0
LnGrp LOS	E	C	C	E	C	F	D	E		E	E	
Approach Vol, veh/h		522			1631			1037			454	
Approach Delay, s/veh		29.8			49.1			63.0			69.1	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	67.3	37.2	21.3	15.2	66.3	16.3	42.2				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3				
Max Green Setting (Gmax), s	* 10	* 58	10.0	37.4	* 10	* 58	10.7	36.7				
Max Q Clear Time (g_c+I1), s	3.7	10.1	8.2	11.8	6.7	62.2	9.8	34.8				
Green Ext Time (p_c), s	0.0	3.3	0.1	1.7	0.0	0.0	0.1	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			52.8									
HCM 6th LOS			D									
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	338	86	40	823	638	171	783	296	179	238	79
Future Volume (veh/h)	57	338	86	40	823	638	171	783	296	179	238	79
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	367	93	43	895	693	186	851	0	195	259	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	116	1791	437	200	2197	682	762	910		247	381	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.44	0.44	0.06	0.43	0.43	0.22	0.26	0.00	0.07	0.11	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	67.2	24.6	25.1	63.3	28.0	75.5	45.1	66.8	0.0	78.1	62.3	0.0
Ln Grp LOS	E	C	C	E	C	F	D	E		E	E	
Approach Vol, veh/h		522			1631			1037			454	
Approach Delay, s/veh		29.8			49.1			63.0			69.1	
Approach LOS		C			D			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	4.0	4.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.2	67.3	21.3	37.2	15.2	66.3	16.3	42.2			
Change Period (Y+Rc), s		* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3			
Max Green (Gmax), s		* 10	* 58	37.4	10.0	* 10	* 58	10.7	36.7			
Max Allow Headway (MAH), s		3.8	5.3	5.2	3.8	3.8	4.7	3.8	5.2			
Max Q Clear (g_c+I1), s		3.7	10.1	11.8	8.2	6.7	62.2	9.8	34.8			
Green Ext Time (g_e), s		0.0	3.3	1.7	0.1	0.0	0.0	0.1	1.1			
Prob of Phs Call (p_c)		0.81	1.00	1.00	1.00	0.91	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.02	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	1781		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			4096	3647			5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			999	0			1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	43	0	0	186	62	0	195	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1781	0	1728	0
Q Serve Time (g_s), s	1.7	0.0	0.0	6.2	4.7	0.0	7.8	0.0
Cycle Q Clear Time (g_c), s	1.7	0.0	0.0	6.2	4.7	0.0	7.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	200	0	0	762	116	0	247	0
V/C Ratio (X)	0.21	0.00	0.00	0.24	0.54	0.00	0.79	0.00
Avail Cap (c_a), veh/h	247	0	0	762	129	0	264	0
Upstream Filter (I)	0.84	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	62.9	0.0	0.0	45.0	63.4	0.0	64.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.2	3.8	0.0	14.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.3	0.0	0.0	45.1	67.2	0.0	78.1	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.0	2.7	2.1	0.0	3.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	1.3	0.0	0.0	4.9	4.1	0.0	7.1	0.0
%ile Storage Ratio (RQ%)	0.16	0.00	0.00	0.62	0.94	0.00	0.90	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	2	2	0	0	3	0	2
Grp Vol (v), veh/h	0	303	259	0	0	895	0	851
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	7.7	9.8	0.0	0.0	17.0	0.0	32.8
Cycle Q Clear Time (g_c), s	0.0	7.7	9.8	0.0	0.0	17.0	0.0	32.8
Lane Grp Cap (c), veh/h	0	1489	381	0	0	2197	0	910
V/C Ratio (X)	0.00	0.20	0.68	0.00	0.00	0.41	0.00	0.93
Avail Cap (c_a), veh/h	0	1489	949	0	0	2197	0	932
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.84	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.3	60.2	0.0	0.0	27.5	0.0	50.9
Incr Delay (d2), s/veh	0.0	0.3	2.1	0.0	0.0	0.5	0.0	15.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.6	62.3	0.0	0.0	28.0	0.0	66.8
1st-Term Q (Q1), veh/ln	0.0	3.2	4.4	0.0	0.0	7.0	0.0	14.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.1	0.0	0.0	0.1	0.0	2.0

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.77	0.00	0.00	1.57	0.00	1.40
%ile Back of Q (95%), veh/ln	0.0	5.8	8.1	0.0	0.0	11.1	0.0	23.3
%ile Storage Ratio (RQ%)	0.00	0.43	0.98	0.00	0.00	0.48	0.00	2.59
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		T+R				R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	157	0	0	0	693	0	0
Grp Sat Flow (s), veh/h/ln	0	1691	0	0	0	1585	0	1585
Q Serve Time (g_s), s	0.0	8.1	0.0	0.0	0.0	60.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.1	0.0	0.0	0.0	60.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.59	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	739	0	0	0	682	0	406
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	1.02	0.00	0.00
Avail Cap (c_a), veh/h	0	739	0	0	0	682	0	416
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.84	0.00	0.00
Uniform Delay (d1), s/veh	0.0	24.4	0.0	0.0	0.0	39.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	35.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.1	0.0	0.0	0.0	75.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.3	0.0	0.0	0.0	23.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	6.8	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	0.00	0.00	1.29	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.2	0.0	0.0	0.0	38.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.46	0.00	0.00	0.00	6.31	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑	↗	↖	↑	↗↖	↖	↗	
Traffic Volume (veh/h)	1	369	466	2638	1043	0	392	0	1314	0	0	1
Future Volume (veh/h)	1	369	466	2638	1043	0	392	0	1314	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	401	0	2867	1134	0	426	0	1428	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	554		3241	2723	1214	214	0	2235	5	0	5
Arrive On Green	0.00	0.11	0.00	1.00	1.00	0.00	0.06	0.00	0.06	0.00	0.00	0.00
Sat Flow, veh/h	1781	5106	1585	5023	3554	1585	3563	0	3170	1781	0	1585
Grp Volume(v), veh/h	1	401	0	2867	1134	0	426	0	1428	0	0	1
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1674	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.1	11.4	0.0	0.0	0.0	0.0	9.0	0.0	9.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	11.4	0.0	0.0	0.0	0.0	9.0	0.0	9.0	0.0	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	6	554		3241	2723	1214	214	0	2235	5	0	5
V/C Ratio(X)	0.16	0.72		0.88	0.42	0.00	1.99	0.00	0.64	0.00	0.00	0.21
Avail Cap(c_a), veh/h	154	1454		3241	2723	1214	214	0	2235	131	0	116
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.00	0.09	0.09	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	74.5	64.7	0.0	0.0	0.0	0.0	70.5	0.0	11.9	0.0	0.0	74.6
Incr Delay (d2), s/veh	10.9	1.7	0.0	0.3	0.0	0.0	463.1	0.0	0.6	0.0	0.0	20.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	8.7	0.0	0.2	0.0	0.0	28.9	0.0	18.2	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.4	66.4	0.0	0.3	0.0	0.0	533.6	0.0	12.5	0.0	0.0	95.3
LnGrp LOS	F	E		A	A	A	F	A	B	A	A	F
Approach Vol, veh/h		402		4001			1854					1
Approach Delay, s/veh		66.5		0.2			132.2					95.3
Approach LOS		E		A			F					F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	64.6	24.1		6.2	5.9	122.7		15.1				
Change Period (Y+Rc), s	7.8	* 7.8		* 5.8	5.4	7.8		6.1				
Max Green Setting (Gmax), s	43	* 43		* 11	13.0	91.9		9.0				
Max Q Clear Time (g_c+1), s	13.4	13.4		2.1	2.1	2.0		11.0				
Green Ext Time (p_c), s	29.9	2.9		0.0	0.0	11.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

Notes

























User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	369	466	2638	1043	0	392	0	1314	0	0	1
Future Volume (veh/h)	1	369	466	2638	1043	0	392	0	1314	0	0	1
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	401	0	2867	1134	0	426	0	1428	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	6	554		3241	2723	1214	214	0	2235	5	0	5
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.11	0.00	1.00	1.00	0.00	0.06	0.00	0.06	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	85.4	66.4	0.0	0.3	0.0	0.0	533.6	0.0	12.5	0.0	0.0	95.3
Ln Grp LOS	F	E		A	A	A	F	A	B	A	A	F
Approach Vol, veh/h		402			4001			1854				1
Approach Delay, s/veh		66.5			0.2			132.2				95.3
Approach LOS		E			A			F				F
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	3.0	9.0	10.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		104.6	24.1	15.1	6.2	5.9	122.7					
Change Period (Y+Rc), s		7.8	* 7.8	6.1	* 5.8	5.4	7.8					
Max Green (Gmax), s		61.2	* 43	9.0	* 11	13.0	91.9					
Max Allow Headway (MAH), s		3.8	5.2	4.0	5.6	3.8	5.2					
Max Q Clear (g_c+I1), s		2.0	13.4	11.0	2.1	2.1	2.0					
Green Ext Time (g_e), s		29.9	2.9	0.0	0.0	0.0	11.9					
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.04	0.04	1.00					
Prob of Max Out (p_x)		0.23	0.00	1.00	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		5023		3563	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			5106	0	0		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			1585	3170	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Lanes in Grp	3	0	2	1	1	0	0	0
Grp Vol (v), veh/h	2867	0	426	0	1	0	0	0
Grp Sat Flow (s), veh/h/ln	1674	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	9.0	0.0	0.1	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	9.0	0.0	0.1	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	3241	0	214	5	6	0	0	0
V/C Ratio (X)	0.88	0.00	1.99	0.00	0.16	0.00	0.00	0.00
Avail Cap (c_a), veh/h	3241	0	214	131	154	0	0	0
Upstream Filter (I)	0.09	0.00	1.00	0.00	0.96	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	70.5	0.0	74.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	463.1	0.0	10.9	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.3	0.0	533.6	0.0	85.4	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	13.7	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.62	1.00	1.80	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.2	0.0	28.9	0.0	0.1	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	1.51	0.00	0.03	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	53.1	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	401	0	0	0	1134	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	11.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	554	0	0	0	2723	0	0
V/C Ratio (X)	0.00	0.72	0.00	0.00	0.00	0.42	0.00	0.00
Avail Cap (c_a), veh/h	0	1454	0	0	0	2723	0	0
Upstream Filter (I)	0.00	0.96	0.00	0.00	0.00	0.09	0.00	0.00
Uniform Delay (d1), s/veh	0.0	64.7	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	66.4	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.71	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		R	R	T+R		R		
Lanes in Grp	0	1	2	1	0	1	0	0
Grp Vol (v), veh/h	0	0	1428	1	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	9.0	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	9.0	0.1	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	96.8	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	172	2235	5	0	1214	0	0
V/C Ratio (X)	0.00	0.00	0.64	0.21	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	451	2235	116	0	1214	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	11.9	74.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.6	20.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	12.5	95.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	12.2	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.47	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	18.2	0.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.95	0.02	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑↑		↖↗	↑	↗		↖↗	
Traffic Volume (veh/h)	15	1173	496	109	3222	23	434	8	53	4	3	6
Future Volume (veh/h)	15	1173	496	109	3222	23	434	8	53	4	3	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	1275	539	118	3502	25	472	0	64	4	3	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	3267	1014	229	2566	18	242	0	425	69	52	106
Arrive On Green	0.42	1.00	1.00	0.09	0.65	0.65	0.07	0.00	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1781	5106	1585	3456	5230	37	3563	0	3170	1039	779	1585
Grp Volume(v), veh/h	16	1275	539	118	2276	1251	472	0	64	7	0	7
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1864	1781	0	1585	1818	0	1585
Q Serve(g_s), s	0.8	0.0	0.0	4.9	73.6	73.6	10.2	0.0	2.7	0.5	0.0	0.6
Cycle Q Clear(g_c), s	0.8	0.0	0.0	4.9	73.6	73.6	10.2	0.0	2.7	0.5	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.57		1.00
Lane Grp Cap(c), veh/h	376	3267	1014	229	1670	914	242	0	425	121	0	106
V/C Ratio(X)	0.04	0.39	0.53	0.52	1.36	1.37	1.95	0.00	0.15	0.06	0.00	0.07
Avail Cap(c_a), veh/h	376	3267	1014	230	1670	914	242	0	425	388	0	338
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	0.16	0.16	0.16	0.97	0.00	0.97	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	0.0	66.1	26.1	26.1	69.9	0.0	57.4	65.6	0.0	65.6
Incr Delay (d2), s/veh	0.0	0.3	1.5	0.3	163.9	166.6	441.1	0.0	0.2	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.1	0.7	3.1	86.3	95.3	31.3	0.0	2.0	0.5	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	0.3	1.5	66.4	190.0	192.7	511.0	0.0	57.5	65.8	0.0	65.9
LnGrp LOS	C	A	A	E	F	F	F	A	E	E	A	E
Approach Vol, veh/h		1830			3645			536				14
Approach Delay, s/veh		0.9			186.9			456.8				65.8
Approach LOS		A			F			F				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	102.1		15.8	37.8	80.4		16.0				
Change Period (Y+Rc), s	6.2	6.1		* 5.8	6.1	* 6.8		5.8				
Max Green Setting (Gmax), s	10.0	73.9		* 32	10.0	* 74		10.2				
Max Q Clear Time (g_c+10), s	10.0	2.0		2.6	2.8	75.6		12.2				
Green Ext Time (p_c), s	0.1	19.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	154.1
HCM 6th LOS	F

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑↑	↵	↵↵	↑↑↑		↵↵	↵	↵		↵↵	
Traffic Volume (veh/h)	15	1173	496	109	3222	23	434	8	53	4	3	6
Future Volume (veh/h)	15	1173	496	109	3222	23	434	8	53	4	3	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	1275	539	118	3502	25	472	0	64	4	3	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	376	3267	1014	229	2566	18	242	0	425	69	52	106
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.42	1.00	1.00	0.09	0.65	0.65	0.07	0.00	0.07	0.07	0.07	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	34.4	0.3	1.5	66.4	190.0	192.7	511.0	0.0	57.5	65.8	0.0	65.9
Ln Grp LOS	C	A	A	E	F	F	F	A	E	E	A	E
Approach Vol, veh/h		1830			3645			536			14	
Approach Delay, s/veh		0.9			186.9			456.8			65.8	
Approach LOS		A			F			F			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	6	5					
Case No		2.0	3.0	9.0	12.0	4.0	2.0					
Phs Duration (G+Y+Rc), s		16.1	102.1	16.0	15.8	80.4	37.8					
Change Period (Y+Rc), s		6.2	6.1	5.8	* 5.8	* 6.8	6.1					
Max Green (Gmax), s		10.0	73.9	10.2	* 32	* 74	10.0					
Max Allow Headway (MAH), s		3.8	4.9	3.8	5.4	5.2	3.8					
Max Q Clear (g_c+I1), s		6.9	2.0	12.2	2.6	75.6	2.8					
Green Ext Time (g_e), s		0.1	19.0	0.0	0.0	0.0	0.0					
Prob of Phs Call (p_c)		0.99	1.00	1.00	1.00	1.00	0.49					
Prob of Max Out (p_x)		1.00	0.04	1.00	0.00	1.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7		5					
Mvmt Sat Flow, veh/h		3456		3563	1039		1781					
Through Movement Data												
Assigned Mvmt			2	8	4	6						
Mvmt Sat Flow, veh/h			5106	0	779	5230						
Right-Turn Movement Data												
Assigned Mvmt			12	18	14	16						
Mvmt Sat Flow, veh/h			1585	3170	1585	37						
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	0	5	0	0			
Lane Assignment		L (Prot)		L	L+T		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis 3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

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Lanes in Grp	2	0	2	1	0	1	0	0
Grp Vol (v), veh/h	118	0	472	7	0	16	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	1818	0	1781	0	0
Q Serve Time (g_s), s	4.9	0.0	10.2	0.5	0.0	0.8	0.0	0.0
Cycle Q Clear Time (g_c), s	4.9	0.0	10.2	0.5	0.0	0.8	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.57	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	229	0	242	121	0	376	0	0
V/C Ratio (X)	0.52	0.00	1.95	0.06	0.00	0.04	0.00	0.00
Avail Cap (c_a), veh/h	230	0	242	388	0	376	0	0
Upstream Filter (I)	0.16	0.00	0.97	1.00	0.00	0.73	0.00	0.00
Uniform Delay (d1), s/veh	66.1	0.0	69.9	65.6	0.0	34.4	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	441.1	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	66.4	0.0	511.0	65.8	0.0	34.4	0.0	0.0
1st-Term Q (Q1), veh/ln	2.1	0.0	4.7	0.3	0.0	0.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	14.8	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.45	0.00	1.60	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	3.1	0.0	31.3	0.5	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.50	0.00	3.69	0.06	0.00	0.16	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	57.4	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	3	0	0	2	0	0	0
Grp Vol (v), veh/h	0	1275	0	0	2276	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	1702	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	73.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	73.6	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	3267	0	0	1670	0	0	0
V/C Ratio (X)	0.00	0.39	0.00	0.00	1.36	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	3267	0	0	1670	0	0	0
Upstream Filter (I)	0.00	0.73	0.00	0.00	0.16	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	26.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	163.9	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	0.0	190.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	25.5	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	38.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	1.36	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	86.3	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	1.27	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	151.5	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	16	0	0	0
Lane Assignment		R	R	T+R	T+R			
Lanes in Grp	0	1	2	1	1	0	0	0
Grp Vol (v), veh/h	0	539	64	7	1251	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	1864	0	0	0
Q Serve Time (g_s), s	0.0	0.0	2.7	0.6	73.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	2.7	0.6	73.6	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	9.9	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.02	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1014	425	106	914	0	0	0
V/C Ratio (X)	0.00	0.53	0.15	0.07	1.37	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1014	425	338	914	0	0	0
Upstream Filter (I)	0.00	0.73	0.97	1.00	0.16	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	57.4	65.6	26.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.2	0.3	166.6	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	1.5	57.5	65.9	192.7	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.1	0.3	28.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	42.3	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.80	1.80	1.36	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.7	2.0	0.5	95.3	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.14	0.11	0.06	1.41	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	84.1	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	154.1
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑		↖	↖	↗	↖	↖	↗
Traffic Volume (veh/h)	48	1052	50	239	3060	56	147	33	211	12	4	25
Future Volume (veh/h)	48	1052	50	239	3060	56	147	33	211	12	4	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	1143	54	260	3326	61	160	0	253	13	0	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	3334	1035	308	3527	64	235	0	713	201	0	431
Arrive On Green	0.12	1.00	1.00	0.09	0.68	0.68	0.14	0.00	0.14	0.14	0.00	0.14
Sat Flow, veh/h	3456	5106	1585	3456	5163	94	1380	0	3170	1127	0	3170
Grp Volume(v), veh/h	52	1143	54	260	2186	1201	160	0	253	13	0	30
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1853	1380	0	1585	1127	0	1585
Q Serve(g_s), s	2.1	0.0	0.0	11.1	85.3	87.5	17.0	0.0	10.1	1.5	0.0	1.2
Cycle Q Clear(g_c), s	2.1	0.0	0.0	11.1	85.3	87.5	17.0	0.0	10.1	1.5	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	3334	1035	308	2325	1266	235	0	713	201	0	431
V/C Ratio(X)	0.25	0.34	0.05	0.84	0.94	0.95	0.68	0.00	0.35	0.06	0.00	0.07
Avail Cap(c_a), veh/h	230	3334	1035	366	2325	1266	389	0	1066	327	0	784
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	0.99	0.00	0.99	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.1	0.0	0.0	67.3	21.1	21.4	63.3	0.0	49.0	56.7	0.0	56.5
Incr Delay (d2), s/veh	0.5	0.2	0.1	14.4	9.1	15.7	3.4	0.0	0.3	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	0.1	0.0	9.4	44.1	51.2	10.3	0.0	7.3	0.8	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	0.2	0.1	81.7	30.1	37.1	66.7	0.0	49.3	56.8	0.0	56.6
LnGrp LOS	E	A	A	F	C	D	E	A	D	E	A	E
Approach Vol, veh/h		1249			3647			413				43
Approach Delay, s/veh		2.9			36.1			56.0				56.7
Approach LOS		A			D			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	104.1		26.3	15.2	108.6		26.3				
Change Period (Y+Rc), s	6.3	6.1		* 5.9	6.3	6.1		* 5.9				
Max Green Setting (Gmax), s	15.9	78.7		* 37	10.0	84.6		* 37				
Max Q Clear Time (g_c+M), s	11.3	2.0		19.0	4.1	89.5		3.5				
Green Ext Time (p_c), s	0.2	11.8		1.4	0.0	0.0		0.1				

Intersection Summary






























HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  							
Traffic Volume (veh/h)	48	1052	50	239	3060	56	147	33	211	12	4	25
Future Volume (veh/h)	48	1052	50	239	3060	56	147	33	211	12	4	25
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	1143	54	260	3326	61	160	0	253	13	0	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	204	3334	1035	308	3527	64	235	0	713	201	0	431
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	1.00	1.00	0.09	0.68	0.68	0.14	0.00	0.14	0.14	0.00	0.14
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.7	0.2	0.1	81.7	30.1	37.1	66.7	0.0	49.3	56.8	0.0	56.6
Ln Grp LOS	E	A	A	F	C	D	E	A	D	E	A	E
Approach Vol, veh/h		1249			3647			413			43	
Approach Delay, s/veh		2.9			36.1			56.0			56.7	
Approach LOS		A			D			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		19.7	104.1		26.3	15.2	108.6		26.3			
Change Period (Y+Rc), s		6.3	6.1		* 5.9	6.3	6.1		* 5.9			
Max Green (Gmax), s		15.9	78.7		* 37	10.0	84.6		* 37			
Max Allow Headway (MAH), s		3.8	5.2		4.0	3.8	5.2		4.2			
Max Q Clear (g_c+I1), s		13.1	2.0		19.0	4.1	89.5		3.5			
Green Ext Time (g_e), s		0.2	11.8		1.4	0.0	0.0		0.1			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.89	1.00		1.00			
Prob of Max Out (p_x)		1.00	0.00		0.00	0.04	1.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1380	3456			1127			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		0		5163		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		3170		94		3170			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	1	2	0	0	1
Grp Vol (v), veh/h	260	0	0	160	52	0	0	13
Grp Sat Flow (s), veh/h/ln	1728	0	0	1380	1728	0	0	1127
Q Serve Time (g_s), s	11.1	0.0	0.0	17.0	2.1	0.0	0.0	1.5
Cycle Q Clear Time (g_c), s	11.1	0.0	0.0	17.0	2.1	0.0	0.0	1.5
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1380	0	0	0	1127
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	20.4	0.0	0.0	0.0	20.4
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	20.4	0.0	0.0	0.0	20.4
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	17.0	0.0	0.0	0.0	1.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	308	0	0	235	204	0	0	201
V/C Ratio (X)	0.84	0.00	0.00	0.68	0.25	0.00	0.00	0.06
Avail Cap (c_a), veh/h	366	0	0	389	230	0	0	327
Upstream Filter (I)	1.00	0.00	0.00	0.99	0.82	0.00	0.00	1.00
Uniform Delay (d1), s/veh	67.3	0.0	0.0	63.3	63.1	0.0	0.0	56.7
Incr Delay (d2), s/veh	14.4	0.0	0.0	3.4	0.5	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	81.7	0.0	0.0	66.7	63.7	0.0	0.0	56.8
1st-Term Q (Q1), veh/ln	4.9	0.0	0.0	6.0	0.9	0.0	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.6	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.70	0.00	0.00	1.65	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	9.4	0.0	0.0	10.3	1.6	0.0	0.0	0.8
%ile Storage Ratio (RQ%)	0.81	0.00	0.00	1.74	0.27	0.00	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1143	0	0	0	2186	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	85.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	85.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	3334	0	0	0	2325	0	0
V/C Ratio (X)	0.00	0.34	0.00	0.00	0.00	0.94	0.00	0.00
Avail Cap (c_a), veh/h	0	3334	0	0	0	2325	0	0
Upstream Filter (I)	0.00	0.82	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	21.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	9.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	30.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	31.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	2.9	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.28	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	0.0	44.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	2.73	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	54	0	253	0	1201	0	30
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1853	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	10.1	0.0	87.5	0.0	1.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.1	0.0	87.5	0.0	1.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	13.4	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.05	0.00	1.00
Lane Grp Cap (c), veh/h	0	1035	0	713	0	1266	0	431
V/C Ratio (X)	0.00	0.05	0.00	0.35	0.00	0.95	0.00	0.07
Avail Cap (c_a), veh/h	0	1035	0	1066	0	1266	0	784
Upstream Filter (I)	0.00	0.82	0.00	0.99	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	49.0	0.0	21.4	0.0	56.5
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	15.7	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	49.3	0.0	37.1	0.0	56.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.0	0.0	35.2	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.26	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	7.3	0.0	51.2	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	1.24	0.00	3.17	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	321	44	42	671	7	275	6	31	0	0	0
Future Volume (veh/h)	2	321	44	42	671	7	275	6	31	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	349	48	46	729	8	299	7	34	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	2240	306	728	2434	27	340	8	309	0	2	0
Arrive On Green	0.00	0.71	0.71	0.68	0.68	0.68	0.20	0.20	0.20	0.00	0.00	0.00
Sat Flow, veh/h	1781	3142	429	987	3601	40	1742	41	1585	0	1870	0
Grp Volume(v), veh/h	2	196	201	46	360	377	306	0	34	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1793	987	1777	1863	1783	0	1585	0	1870	0
Q Serve(g_s), s	0.1	4.3	4.3	1.9	9.9	9.9	20.0	0.0	2.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	4.3	4.3	1.9	9.9	9.9	20.0	0.0	2.1	0.0	0.0	0.0
Prop In Lane	1.00		0.24	1.00		0.02	0.98		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	7	1267	1279	728	1201	1260	348	0	309	0	2	0
V/C Ratio(X)	0.30	0.15	0.16	0.06	0.30	0.30	0.88	0.00	0.11	0.00	0.00	0.00
Avail Cap(c_a), veh/h	113	1267	1279	728	1201	1260	484	0	431	0	436	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.52	0.52	0.52	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	59.6	5.5	5.6	6.6	7.9	7.9	46.9	0.0	39.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.0	0.3	0.3	0.1	0.3	0.3	12.9	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	2.8	2.9	0.7	5.9	6.2	15.3	0.0	1.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.6	5.8	5.8	6.7	8.2	8.2	59.8	0.0	39.9	0.0	0.0	0.0
LnGrp LOS	F	A	A	A	A	A	E	A	D	A	A	A
Approach Vol, veh/h		399			783			340				0
Approach Delay, s/veh		6.2			8.1			57.8				0.0
Approach LOS		A			A			E				
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	4.5	86.7		0.0		91.2		28.8				
Change Period (Y+Rc), s	4.0	5.6		* 5		* 5.6		5.4				
Max Green Setting (Gmax), s	31.8			* 28		* 44		32.6				
Max Q Clear Time (g_c+1/2), s	11.9			0.0		6.3		22.0				
Green Ext Time (p_c), s	0.0	4.8		0.0		2.6		1.4				

Intersection Summary

HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↶	↷		↷	
Traffic Volume (veh/h)	2	321	44	42	671	7	275	6	31	0	0	0
Future Volume (veh/h)	2	321	44	42	671	7	275	6	31	0	0	0
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	349	48	46	729	8	299	7	34	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	7	2240	306	728	2434	27	340	8	309	0	2	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.71	0.71	0.68	0.68	0.68	0.20	0.20	0.20	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	82.6	5.8	5.8	6.7	8.2	8.2	59.8	0.0	39.9	0.0	0.0	0.0
Ln Grp LOS	F	A	A	A	A	A	E	A	D	A	A	A
Approach Vol, veh/h		399			783			340				0
Approach Delay, s/veh		6.2			8.1			57.8				0.0
Approach LOS		A			A			E				
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4		6					
Case No		2.0	6.3	11.0	12.0		4.0					
Phs Duration (G+Y+Rc), s		4.5	86.7	28.8	0.0		91.2					
Change Period (Y+Rc), s		4.0	5.6	5.4	* 5		* 5.6					
Max Green (Gmax), s		7.6	31.8	32.6	* 28		* 44					
Max Allow Headway (MAH), s		3.8	5.2	5.2	0.0		5.3					
Max Q Clear (g_c+I1), s		2.1	11.9	22.0	0.0		6.3					
Green Ext Time (g_e), s		0.0	4.8	1.4	0.0		2.6					
Prob of Phs Call (p_c)		0.06	1.00	1.00	0.00		1.00					
Prob of Max Out (p_x)		0.01	0.10	0.15	0.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5	3	7							
Mvmt Sat Flow, veh/h		1781	987	1742	0							
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3601	41	1870		3142					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			40	1585	0		429					
Left Lane Group Data												
Assigned Mvmt		1	5	3	7	0	0	0	0			
Lane Assignment		L (Prot)	L	L+T								

HCM 6th Signalized Intersection Capacity Analysis
 5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

Lanes in Grp	1	1	1	0	0	0	0	0
Grp Vol (v), veh/h	2	46	306	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	987	1783	0	0	0	0	0
Q Serve Time (g_s), s	0.1	1.9	20.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	1.9	20.0	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	987	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	81.1	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	81.1	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.98	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	7	728	348	0	0	0	0	0
V/C Ratio (X)	0.30	0.06	0.88	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	113	728	484	0	0	0	0	0
Upstream Filter (I)	1.00	0.52	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	59.6	6.6	46.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.0	0.1	12.9	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	82.6	6.7	59.8	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.1	0.4	8.8	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	1.52	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.2	0.7	15.3	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.04	0.11	0.29	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T		T		T		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	360	0	0	0	196	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	9.9	0.0	0.0	0.0	4.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.9	0.0	0.0	0.0	4.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	1201	0	2	0	1267	0	0
V/C Ratio (X)	0.00	0.30	0.00	0.00	0.00	0.15	0.00	0.00
Avail Cap (c_a), veh/h	0	1201	0	436	0	1267	0	0
Upstream Filter (I)	0.00	0.52	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.9	0.0	0.0	0.0	5.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.2	0.0	0.0	0.0	5.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	0.0	0.0	1.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.62	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	5.9	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.00	0.00	0.23	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	377	34	0	0	201	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	1585	0	0	1793	0	0
Q Serve Time (g_s), s	0.0	9.9	2.1	0.0	0.0	4.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.9	2.1	0.0	0.0	4.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.02	1.00	0.00	0.00	0.24	0.00	0.00
Lane Grp Cap (c), veh/h	0	1260	309	0	0	1279	0	0
V/C Ratio (X)	0.00	0.30	0.11	0.00	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	1260	431	0	0	1279	0	0
Upstream Filter (I)	0.00	0.52	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.9	39.7	0.0	0.0	5.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.2	39.9	0.0	0.0	5.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.7	0.8	0.0	0.0	1.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.60	1.80	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	6.2	1.5	0.0	0.0	2.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.19	0.14	0.00	0.00	0.24	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
6: Bristol Pkwy & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	191	119	42	422	105	444	404	92	294	207	26
Future Volume (veh/h)	6	191	119	42	422	105	444	404	92	294	207	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	208	129	46	459	114	483	439	100	320	225	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	607	271	184	607	271	522	1695	383	388	1299	160
Arrive On Green	0.17	0.17	0.17	0.06	0.06	0.06	0.10	0.19	0.19	0.11	0.41	0.41
Sat Flow, veh/h	839	3554	1585	1043	3554	1585	1781	2879	651	3456	3185	392
Grp Volume(v), veh/h	7	208	129	46	459	114	483	270	269	320	124	129
Grp Sat Flow(s),veh/h/ln	839	1777	1585	1043	1777	1585	1781	1777	1753	1728	1777	1800
Q Serve(g_s), s	1.0	6.2	8.8	5.2	15.3	8.3	32.3	15.4	15.7	10.9	5.3	5.5
Cycle Q Clear(g_c), s	16.2	6.2	8.8	11.3	15.3	8.3	32.3	15.4	15.7	10.9	5.3	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.37	1.00		0.22
Lane Grp Cap(c), veh/h	97	607	271	184	607	271	522	1046	1032	388	725	734
V/C Ratio(X)	0.07	0.34	0.48	0.25	0.76	0.42	0.93	0.26	0.26	0.83	0.17	0.18
Avail Cap(c_a), veh/h	180	959	428	288	959	428	594	1046	1032	547	725	734
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	0.98	0.98	0.98	0.09	0.09	0.09	0.80	0.80	0.80
Uniform Delay (d), s/veh	55.4	43.8	44.9	55.3	54.2	50.9	52.9	26.1	26.2	52.1	22.6	22.7
Incr Delay (d2), s/veh	0.3	0.3	1.3	0.7	1.9	1.0	2.5	0.1	0.1	5.7	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	5.0	6.4	2.7	11.9	6.4	17.8	8.7	8.7	8.3	4.2	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	44.1	46.2	56.0	56.1	51.9	55.4	26.2	26.3	57.8	23.0	23.1
LnGrp LOS	E	D	D	E	E	D	E	C	C	E	C	C
Approach Vol, veh/h		344			619			1022			573	
Approach Delay, s/veh		45.1			55.3			40.0			42.5	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	76.4		26.1	39.2	54.7		26.1				
Change Period (Y+Rc), s	4.0	5.8		* 5.6	4.0	5.8		* 5.6				
Max Green Setting (Gmax), s	19.0	53.2		* 32	40.0	32.2		* 32				
Max Q Clear Time (g_c+M), s	11.0	17.7		18.2	34.3	7.5		17.3				
Green Ext Time (p_c), s	0.6	3.7		1.5	0.9	1.4		3.2				

Intersection Summary

























HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	191	119	42	422	105	444	404	92	294	207	26
Future Volume (veh/h)	6	191	119	42	422	105	444	404	92	294	207	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	208	129	46	459	114	483	439	100	320	225	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	97	607	271	184	607	271	522	1695	383	388	1299	160
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.17	0.17	0.17	0.06	0.06	0.06	0.10	0.19	0.19	0.11	0.41	0.41
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.7	44.1	46.2	56.0	56.1	51.9	55.4	26.2	26.3	57.8	23.0	23.1
Ln Grp LOS	E	D	D	E	E	D	E	C	C	E	C	C
Approach Vol, veh/h		344			619			1022			573	
Approach Delay, s/veh		45.1			55.3			40.0			42.5	
Approach LOS		D			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		17.5	76.4		26.1	39.2	54.7		26.1			
Change Period (Y+Rc), s		4.0	5.8		* 5.6	4.0	5.8		* 5.6			
Max Green (Gmax), s		19.0	53.2		* 32	40.0	32.2		* 32			
Max Allow Headway (MAH), s		3.8	5.3		4.8	3.8	5.3		5.0			
Max Q Clear (g_c+I1), s		12.9	17.7		18.2	34.3	7.5		17.3			
Green Ext Time (g_e), s		0.6	3.7		1.5	0.9	1.4		3.2			
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.22	0.00		0.02	0.43	0.00		0.08			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			839	1781			1043			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2879		3554		3185		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			651		1585		392		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

Lanes in Grp	2	0	0	1	1	0	0	1
Grp Vol (v), veh/h	320	0	0	7	483	0	0	46
Grp Sat Flow (s), veh/h/ln	1728	0	0	839	1781	0	0	1043
Q Serve Time (g_s), s	10.9	0.0	0.0	1.0	32.3	0.0	0.0	5.2
Cycle Q Clear Time (g_c), s	10.9	0.0	0.0	16.2	32.3	0.0	0.0	11.3
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	839	0	0	0	1043
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	20.5	0.0	0.0	0.0	20.5
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	5.2	0.0	0.0	0.0	14.3
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	5.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	388	0	0	97	522	0	0	184
V/C Ratio (X)	0.83	0.00	0.00	0.07	0.93	0.00	0.00	0.25
Avail Cap (c_a), veh/h	547	0	0	180	594	0	0	288
Upstream Filter (I)	0.80	0.00	0.00	0.99	0.09	0.00	0.00	0.98
Uniform Delay (d1), s/veh	52.1	0.0	0.0	55.4	52.9	0.0	0.0	55.3
Incr Delay (d2), s/veh	5.7	0.0	0.0	0.3	2.5	0.0	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	57.8	0.0	0.0	55.7	55.4	0.0	0.0	56.0
1st-Term Q (Q1), veh/ln	4.7	0.0	0.0	0.2	15.5	0.0	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.0	0.0	0.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.65	0.00	0.00	1.80	1.12	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	8.3	0.0	0.0	0.4	17.8	0.0	0.0	2.7
%ile Storage Ratio (RQ%)	1.11	0.00	0.00	0.06	2.26	0.00	0.00	0.35
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	270	0	208	0	124	0	459
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	15.4	0.0	6.2	0.0	5.3	0.0	15.3
Cycle Q Clear Time (g_c), s	0.0	15.4	0.0	6.2	0.0	5.3	0.0	15.3
Lane Grp Cap (c), veh/h	0	1046	0	607	0	725	0	607
V/C Ratio (X)	0.00	0.26	0.00	0.34	0.00	0.17	0.00	0.76
Avail Cap (c_a), veh/h	0	1046	0	959	0	725	0	959
Upstream Filter (I)	0.00	0.09	0.00	0.99	0.00	0.80	0.00	0.98
Uniform Delay (d1), s/veh	0.0	26.1	0.0	43.8	0.0	22.6	0.0	54.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	0.4	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.2	0.0	44.1	0.0	23.0	0.0	56.1
1st-Term Q (Q1), veh/ln	0.0	7.4	0.0	2.7	0.0	2.3	0.0	7.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.18	0.00	1.80	0.00	1.80	0.00	1.59
%ile Back of Q (95%), veh/ln	0.0	8.7	0.0	5.0	0.0	4.2	0.0	11.9
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.15	0.00	0.25	0.00	0.53
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	269	0	129	0	129	0	114
Grp Sat Flow (s), veh/h/ln	0	1753	0	1585	0	1800	0	1585
Q Serve Time (g_s), s	0.0	15.7	0.0	8.8	0.0	5.5	0.0	8.3
Cycle Q Clear Time (g_c), s	0.0	15.7	0.0	8.8	0.0	5.5	0.0	8.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.37	0.00	1.00	0.00	0.22	0.00	1.00
Lane Grp Cap (c), veh/h	0	1032	0	271	0	734	0	271
V/C Ratio (X)	0.00	0.26	0.00	0.48	0.00	0.18	0.00	0.42
Avail Cap (c_a), veh/h	0	1032	0	428	0	734	0	428
Upstream Filter (I)	0.00	0.09	0.00	0.99	0.00	0.80	0.00	0.98
Uniform Delay (d1), s/veh	0.0	26.2	0.0	44.9	0.0	22.7	0.0	50.9
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.3	0.0	0.4	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.3	0.0	46.2	0.0	23.1	0.0	51.9
1st-Term Q (Q1), veh/ln	0.0	7.4	0.0	3.5	0.0	2.3	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.18	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	8.7	0.0	6.4	0.0	4.4	0.0	6.4
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.19	0.00	0.25	0.00	0.76
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

7: Uplander Way & Hannum Ave























07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	159	29	39	587	23	5	0	6	2	0	4
Future Volume (veh/h)	31	159	29	39	587	23	5	0	6	2	0	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	173	32	42	638	25	5	0	7	2	0	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	705	2645	1180	999	2667	1189	170	0	120	171	0	132
Arrive On Green	0.04	0.74	0.74	0.09	1.00	1.00	0.08	0.00	0.08	0.08	0.00	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1314	0	1442	1333	0	1585
Grp Volume(v), veh/h	34	173	32	42	638	25	5	0	7	2	0	4
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1314	0	1442	1333	0	1585
Q Serve(g_s), s	0.5	1.6	0.6	0.6	0.0	0.0	0.4	0.0	0.5	0.2	0.0	0.3
Cycle Q Clear(g_c), s	0.5	1.6	0.6	0.6	0.0	0.0	1.1	0.0	0.5	0.7	0.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	705	2645	1180	999	2667	1189	170	0	120	171	0	132
V/C Ratio(X)	0.05	0.07	0.03	0.04	0.24	0.02	0.03	0.00	0.06	0.01	0.00	0.03
Avail Cap(c_a), veh/h	843	2645	1180	1126	2667	1189	393	0	349	394	0	383
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	2.9	4.1	4.0	2.6	0.0	0.0	51.2	0.0	50.7	51.0	0.0	50.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.9	0.4	0.3	0.1	0.0	0.3	0.0	0.4	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.9	4.2	4.0	2.7	0.2	0.0	51.3	0.0	50.9	51.0	0.0	50.6
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h	239			705			12			6		
Approach Delay, s/veh	4.0			0.4			51.0			50.8		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	8.7	95.7	15.6		9.5	94.9	15.6					
Change Period (Y+Rc), s	4.0	5.6	5.6		* 4.2	* 5.6	5.6					
Max Green Setting (Gmax), s	14.0	61.8	29.0		* 14	* 62	29.0					
Max Q Clear Time (g_c+1), s	12.5	2.0	2.7		2.6	3.6	3.1					
Green Ext Time (p_c), s	0.0	5.3	0.0		0.0	1.3	0.0					
Intersection Summary												
HCM 6th Ctrl Delay				2.2								
HCM 6th LOS				A								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Capacity Analysis
7: Uplander Way & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	159	29	39	587	23	5	0	6	2	0	4
Future Volume (veh/h)	31	159	29	39	587	23	5	0	6	2	0	4
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	173	32	42	638	25	5	0	7	2	0	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	705	2645	1180	999	2667	1189	170	0	120	171	0	132
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.74	0.74	0.09	1.00	1.00	0.08	0.00	0.08	0.08	0.00	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	2.9	4.2	4.0	2.7	0.2	0.0	51.3	0.0	50.9	51.0	0.0	50.6
Ln Grp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h		239			705			12			6	
Approach Delay, s/veh		4.0			0.4			51.0			50.8	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		1.1	3.0		7.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		8.7	95.7		15.6	9.5	94.9		15.6			
Change Period (Y+Rc), s		4.0	5.6		5.6	* 4.2	* 5.6		5.6			
Max Green (Gmax), s		14.0	61.8		29.0	* 14	* 62		29.0			
Max Allow Headway (MAH), s		3.8	5.2		4.5	3.8	5.1		5.4			
Max Q Clear (g_c+I1), s		2.5	2.0		2.7	2.6	3.6		3.1			
Green Ext Time (g_e), s		0.0	5.3		0.0	0.0	1.3		0.0			
Prob of Phs Call (p_c)		0.68	1.00		1.00	0.75	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1333	1781			1314			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		0		3554		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1442			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Pr/Pm)			L+TL (Pr/Pm)				L+T			

HCM 6th Signalized Intersection Capacity Analysis
7: Uplander Way & Hannum Ave

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	34	0	0	2	42	0	0	5
Grp Sat Flow (s), veh/h/ln	1781	0	0	1333	1781	0	0	1314
Q Serve Time (g_s), s	0.5	0.0	0.0	0.2	0.6	0.0	0.0	0.4
Cycle Q Clear Time (g_c), s	0.5	0.0	0.0	0.7	0.6	0.0	0.0	1.1
Perm LT Sat Flow (s_l), veh/h/ln	772	0	0	1431	1177	0	0	1435
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	89.3	0.0	0.0	10.0	89.3	0.0	0.0	10.0
Perm LT Serve Time (g_u), s	89.3	0.0	0.0	9.5	87.8	0.0	0.0	9.3
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	705	0	0	171	999	0	0	170
V/C Ratio (X)	0.05	0.00	0.00	0.01	0.04	0.00	0.00	0.03
Avail Cap (c_a), veh/h	843	0	0	394	1126	0	0	393
Upstream Filter (I)	0.82	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	2.9	0.0	0.0	51.0	2.6	0.0	0.0	51.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	2.9	0.0	0.0	51.0	2.7	0.0	0.0	51.3
1st-Term Q (Q1), veh/ln	0.1	0.0	0.0	0.1	0.2	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.3	0.0	0.0	0.1	0.3	0.0	0.0	0.3
%ile Storage Ratio (RQ%)	0.14	0.00	0.00	0.04	0.05	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	638	0	0	0	173	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	2667	0	0	0	2645	0	0
V/C Ratio (X)	0.00	0.24	0.00	0.00	0.00	0.07	0.00	0.00
Avail Cap (c_a), veh/h	0	2667	0	0	0	2645	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.82	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	4.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	25	0	4	0	32	0	7
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1442
Q Serve Time (g_s), s	0.0	0.0	0.0	0.3	0.0	0.6	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.3	0.0	0.6	0.0	0.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1189	0	132	0	1180	0	120
V/C Ratio (X)	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.06
Avail Cap (c_a), veh/h	0	1189	0	383	0	1180	0	349
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.82	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	50.5	0.0	4.0	0.0	50.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	50.6	0.0	4.0	0.0	50.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.08	0.00	0.09	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	2.2
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	91	84	67	260	6	406	8	224	0	0	0
Future Volume (veh/h)	1	91	84	67	260	6	406	8	224	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	99	91	73	283	7	441	9	243	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	1937	864	799	1919	856	548	513	519	0	513	0
Arrive On Green	0.12	1.00	1.00	0.05	0.54	0.54	0.27	0.27	0.27	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	0	1870	0
Grp Volume(v), veh/h	1	99	91	73	283	7	441	9	243	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	0	1870	0
Q Serve(g_s), s	0.1	0.0	0.0	2.1	4.8	0.2	28.7	0.4	14.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	2.1	4.8	0.2	28.7	0.4	14.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	104	1937	864	799	1919	856	548	513	519	0	513	0
V/C Ratio(X)	0.01	0.05	0.11	0.09	0.15	0.01	0.80	0.02	0.47	0.00	0.00	0.00
Avail Cap(c_a), veh/h	275	1937	864	838	1919	856	850	829	787	0	829	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	49.9	0.0	0.0	10.4	13.8	12.8	42.0	31.8	32.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.0	0.1	0.0	3.2	0.0	0.7	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.1	1.5	3.5	0.2	18.9	0.3	9.6	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	0.1	0.2	10.4	13.9	12.8	45.2	31.8	32.7	0.0	0.0	0.0
LnGrp LOS	D	A	A	B	B	B	D	C	C	A	A	A
Approach Vol, veh/h		191			363			693				0
Approach Delay, s/veh		0.4			13.2			40.6				0.0
Approach LOS		A			B			D				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.0	70.3		38.7	10.4	70.9		38.7				
Change Period (Y+Rc), s	4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8				
Max Green Setting (Gmax), s	10.5	* 33		* 53	9.0	* 43		* 53				
Max Q Clear Time (g_c+1), s	12.5	6.8		30.7	4.1	2.0		0.0				
Green Ext Time (p_c), s	0.0	1.9		2.3	0.1	0.9		0.0				

Intersection Summary























HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	91	84	67	260	6	406	8	224	0	0	0
Future Volume (veh/h)	1	91	84	67	260	6	406	8	224	0	0	0
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	99	91	73	283	7	441	9	243	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	104	1937	864	799	1919	856	548	513	519	0	513	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	1.00	1.00	0.05	0.54	0.54	0.27	0.27	0.27	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	50.0	0.1	0.2	10.4	13.9	12.8	45.2	31.8	32.7	0.0	0.0	0.0
Ln Grp LOS	D	A	A	B	B	B	D	C	C	A	A	A
Approach Vol, veh/h		191			363			693			0	
Approach Delay, s/veh		0.4			13.2			40.6			0.0	
Approach LOS		A			B			D				
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		11.0	70.3		38.7	10.4	70.9		38.7			
Change Period (Y+Rc), s		4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8			
Max Green (Gmax), s		18.5	* 33		* 53	9.0	* 43		* 53			
Max Allow Headway (MAH), s		3.8	5.2		3.8	3.8	4.7		0.0			
Max Q Clear (g_c+I1), s		2.1	6.8		30.7	4.1	2.0		0.0			
Green Ext Time (g_e), s		0.0	1.9		2.3	0.1	0.9		0.0			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.91	1.00		0.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.27	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1781	1781			0			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		1870		3554		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		0			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			LL (Pr/Pm)							

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

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Lanes in Grp	1	0	0	1	1	0	0	0
Grp Vol (v), veh/h	1	0	0	441	73	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.1	0.0	0.0	28.7	2.1	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	0.0	0.0	28.7	2.1	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	1193	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	32.9	64.8	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	32.9	64.8	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	28.7	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.9
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	104	0	0	548	799	0	0	0
V/C Ratio (X)	0.01	0.00	0.00	0.80	0.09	0.00	0.00	0.00
Avail Cap (c_a), veh/h	275	0	0	850	838	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.81	0.00	0.00	0.00
Uniform Delay (d1), s/veh	49.9	0.0	0.0	42.0	10.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.0	0.0	0.0	45.2	10.4	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	12.5	0.8	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.46	1.80	0.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.1	0.0	0.0	18.9	1.5	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	4.17	0.20	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	283	0	9	0	99	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	4.8	0.0	0.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.8	0.0	0.4	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1919	0	513	0	1937	0	513
V/C Ratio (X)	0.00	0.15	0.00	0.02	0.00	0.05	0.00	0.00
Avail Cap (c_a), veh/h	0	1919	0	829	0	1937	0	829
Upstream Filter (I)	0.00	0.81	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.8	0.0	31.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.9	0.0	31.8	0.0	0.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	3.5	0.0	0.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	7	0	243	0	91	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.2	0.0	14.6	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	14.6	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	856	0	519	0	864	0	0
V/C Ratio (X)	0.00	0.01	0.00	0.47	0.00	0.11	0.00	0.00
Avail Cap (c_a), veh/h	0	856	0	787	0	864	0	0
Upstream Filter (I)	0.00	0.81	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.8	0.0	32.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.8	0.0	32.7	0.0	0.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	5.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.69	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	9.6	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	2.12	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

9: Bristol Pkwy & Green Valley Cir

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	286	169	44	58	655	472	353	621	50	114	145	97
Future Volume (veh/h)	286	169	44	58	655	472	353	621	50	114	145	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	311	184	48	63	712	513	384	675	54	124	158	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	1368	348	577	965	689	498	718	57	90	881	552
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.42	0.42	0.42	0.70	0.70	0.70
Sat Flow, veh/h	455	2805	713	1148	1979	1414	1116	1709	137	726	2097	1314
Grp Volume(v), veh/h	311	115	117	63	639	586	384	0	729	124	132	131
Grp Sat Flow(s),veh/h/ln	455	1777	1742	1148	1777	1616	1116	0	1846	726	1777	1634
Q Serve(g_s), s	23.5	4.2	4.4	3.8	34.5	35.0	38.2	0.0	45.4	5.0	3.1	3.3
Cycle Q Clear(g_c), s	58.5	4.2	4.4	8.3	34.5	35.0	41.5	0.0	45.4	50.4	3.1	3.3
Prop In Lane	1.00		0.41	1.00		0.88	1.00		0.07	1.00		0.80
Lane Grp Cap(c), veh/h	149	866	849	577	866	788	498	0	775	90	746	686
V/C Ratio(X)	2.09	0.13	0.14	0.11	0.74	0.74	0.77	0.00	0.94	1.38	0.18	0.19
Avail Cap(c_a), veh/h	149	866	849	577	866	788	498	0	775	90	746	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	0.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	53.0	16.8	16.9	19.2	24.6	24.7	33.8	0.0	33.4	42.3	10.8	10.9
Incr Delay (d2), s/veh	510.9	0.1	0.1	0.1	3.0	3.5	11.0	0.0	20.7	223.8	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.1	3.2	3.2	1.9	20.9	19.6	17.3	0.0	32.3	14.7	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	563.9	16.9	17.0	19.2	27.6	28.2	44.7	0.0	54.0	266.1	11.4	11.5
LnGrp LOS	F	B	B	B	C	C	D	A	D	F	B	B
Approach Vol, veh/h		543			1288			1113			387	
Approach Delay, s/veh		330.2			27.5			50.8			93.0	
Approach LOS		F			C			D			F	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.0		64.0		56.0		64.0				
Change Period (Y+Rc), s		* 5.6		* 5.5		* 5.6		* 5.5				
Max Green Setting (Gmax), s		* 50		* 59		* 50		* 59				
Max Q Clear Time (g_c+I1), s		47.4		60.5		52.4		37.0				
Green Ext Time (p_c), s		1.8		0.0		0.0		9.6				

Intersection Summary

HCM 6th Ctrl Delay	92.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	286	169	44	58	655	472	353	621	50	114	145	97
Future Volume (veh/h)	286	169	44	58	655	472	353	621	50	114	145	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	311	184	48	63	712	513	384	675	54	124	158	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	149	1368	348	577	965	689	498	718	57	90	881	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.42	0.42	0.42	0.70	0.70	0.70
Unsig. Movement Delay												
Ln Grp Delay, s/veh	563.9	16.9	17.0	19.2	27.6	28.2	44.7	0.0	54.0	266.1	11.4	11.5
Ln Grp LOS	F	B	B	B	C	C	D	A	D	F	B	B
Approach Vol, veh/h		543			1288			1113			387	
Approach Delay, s/veh		330.2			27.5			50.8			93.0	
Approach LOS		F			C			D			F	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			56.0		64.0		56.0		64.0			
Change Period (Y+Rc), s			* 5.6		* 5.5		* 5.6		* 5.5			
Max Green (Gmax), s			* 50		* 59		* 50		* 59			
Max Allow Headway (MAH), s			5.0		7.5		5.6		5.3			
Max Q Clear (g_c+I1), s			47.4		60.5		52.4		37.0			
Green Ext Time (g_e), s			1.8		0.0		0.0		9.6			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		0.34			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1116		455		726		1148			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1709		2805		2097		1979			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			137		713		1314		1414			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis
 9: Bristol Pkwy & Green Valley Cir

07/19/2023

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	384	0	311	0	124	0	63
Grp Sat Flow (s), veh/h/ln	0	1116	0	455	0	726	0	1148
Q Serve Time (g_s), s	0.0	38.2	0.0	23.5	0.0	5.0	0.0	3.8
Cycle Q Clear Time (g_c), s	0.0	41.5	0.0	58.5	0.0	50.4	0.0	8.3
Perm LT Sat Flow (s_l), veh/h/ln	0	1116	0	455	0	726	0	1148
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	50.4	0.0	58.5	0.0	50.4	0.0	58.5
Perm LT Serve Time (g_u), s	0.0	47.1	0.0	23.5	0.0	5.0	0.0	54.1
Perm LT Q Serve Time (g_ps), s	0.0	38.2	0.0	23.5	0.0	5.0	0.0	3.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	498	0	149	0	90	0	577
V/C Ratio (X)	0.00	0.77	0.00	2.09	0.00	1.38	0.00	0.11
Avail Cap (c_a), veh/h	0	498	0	149	0	90	0	577
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.98	0.00	0.90
Uniform Delay (d1), s/veh	0.0	33.8	0.0	53.0	0.0	42.3	0.0	19.2
Incr Delay (d2), s/veh	0.0	11.0	0.0	510.9	0.0	223.8	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	44.7	0.0	563.9	0.0	266.1	0.0	19.2
1st-Term Q (Q1), veh/ln	0.0	10.2	0.0	4.5	0.0	2.6	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	1.5	0.0	21.2	0.0	5.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.48	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	17.3	0.0	46.1	0.0	14.7	0.0	1.9
%ile Storage Ratio (RQ%)	0.00	3.66	0.00	13.02	0.00	3.25	0.00	0.48
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	40.5	0.0	8.5	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.5	0.0	0.3	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	115	0	132	0	639
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	4.2	0.0	3.1	0.0	34.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.2	0.0	3.1	0.0	34.5
Lane Grp Cap (c), veh/h	0	0	0	866	0	746	0	866
V/C Ratio (X)	0.00	0.00	0.00	0.13	0.00	0.18	0.00	0.74
Avail Cap (c_a), veh/h	0	0	0	866	0	746	0	866
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.98	0.00	0.90
Uniform Delay (d1), s/veh	0.0	0.0	0.0	16.8	0.0	10.8	0.0	24.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.5	0.0	3.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	16.9	0.0	11.4	0.0	27.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.7	0.0	1.2	0.0	14.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.7

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	1.40
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	3.2	0.0	2.3	0.0	20.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.09	0.00	0.03	0.00	0.32
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	729	0	117	0	131	0	586
Grp Sat Flow (s), veh/h/ln	0	1846	0	1742	0	1634	0	1616
Q Serve Time (g_s), s	0.0	45.4	0.0	4.4	0.0	3.3	0.0	35.0
Cycle Q Clear Time (g_c), s	0.0	45.4	0.0	4.4	0.0	3.3	0.0	35.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	0.00	0.41	0.00	0.80	0.00	0.88
Lane Grp Cap (c), veh/h	0	775	0	849	0	686	0	788
V/C Ratio (X)	0.00	0.94	0.00	0.14	0.00	0.19	0.00	0.74
Avail Cap (c_a), veh/h	0	775	0	849	0	686	0	788
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.98	0.00	0.90
Uniform Delay (d1), s/veh	0.0	33.4	0.0	16.9	0.0	10.9	0.0	24.7
Incr Delay (d2), s/veh	0.0	20.7	0.0	0.1	0.0	0.6	0.0	3.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	54.0	0.0	17.0	0.0	11.5	0.0	28.2
1st-Term Q (Q1), veh/ln	0.0	19.8	0.0	1.8	0.0	1.2	0.0	13.0
2nd-Term Q (Q2), veh/ln	0.0	4.5	0.0	0.0	0.0	0.1	0.0	0.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.33	0.00	1.80	0.00	1.80	0.00	1.42
%ile Back of Q (95%), veh/ln	0.0	32.3	0.0	3.2	0.0	2.3	0.0	19.6
%ile Storage Ratio (RQ%)	0.00	1.49	0.00	0.09	0.00	0.03	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	92.2
HCM 6th LOS	F

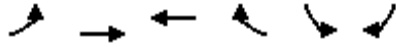
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

10: Green Valley Cir & Buckingham

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	71	146	750	392	62	82
Future Volume (veh/h)	71	146	750	392	62	82
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	159	815	426	67	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	394	2976	1894	983	148	132
Arrive On Green	1.00	1.00	0.84	0.84	0.08	0.08
Sat Flow, veh/h	448	3647	2355	1174	1781	1585
Grp Volume(v), veh/h	77	159	639	602	67	89
Grp Sat Flow(s),veh/h/ln	448	1777	1777	1659	1781	1585
Q Serve(g_s), s	2.9	0.0	11.0	11.1	4.3	6.5
Cycle Q Clear(g_c), s	14.0	0.0	11.0	11.1	4.3	6.5
Prop In Lane	1.00			0.71	1.00	1.00
Lane Grp Cap(c), veh/h	394	2976	1488	1389	148	132
V/C Ratio(X)	0.20	0.05	0.43	0.43	0.45	0.67
Avail Cap(c_a), veh/h	394	2976	1488	1389	460	409
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.50	0.50	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.8	0.0	2.5	2.5	52.4	53.4
Incr Delay (d2), s/veh	0.1	0.0	0.9	1.0	2.1	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	5.2	5.0	3.6	5.1	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.9	0.0	3.4	3.5	54.5	59.3
LnGrp LOS	A	A	A	A	D	E
Approach Vol, veh/h		236	1241		156	
Approach Delay, s/veh		0.3	3.4		57.2	
Approach LOS		A	A		E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		106.0		14.0		106.0
Change Period (Y+Rc), s		* 5.5		4.0		* 5.5
Max Green Setting (Gmax), s		* 80		31.0		* 80
Max Q Clear Time (g_c+I1), s		13.1		8.5		16.0
Green Ext Time (p_c), s		12.8		0.4		2.6

Intersection Summary

HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

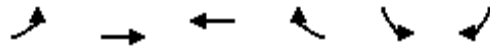
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖	↑↑	↗	↑	↙	↘			
Traffic Volume (veh/h)	71	146	750	392	62	82			
Future Volume (veh/h)	71	146	750	392	62	82			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	77	159	815	426	67	89			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	394	2976	1894	983	148	132			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	1.00	1.00	0.84	0.84	0.08	0.08			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	0.9	0.0	3.4	3.5	54.5	59.3			
Ln Grp LOS	A	A	A	A	D	E			
Approach Vol, veh/h		236	1241		156				
Approach Delay, s/veh		0.3	3.4		57.2				
Approach LOS		A	A		E				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		9.0		6.0		
Phs Duration (G+Y+Rc), s			106.0		14.0		106.0		
Change Period (Y+Rc), s			* 5.5		4.0		* 5.5		
Max Green (Gmax), s			* 80		31.0		* 80		
Max Allow Headway (MAH), s			5.4		3.9		6.5		
Max Q Clear (g_c+I1), s			13.1		8.5		16.0		
Green Ext Time (g_e), s			12.8		0.4		2.6		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.01		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1781		448		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			2355		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			1174		1585		0		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment					L		L		

HCM 6th Signalized Intersection Capacity Analysis
 10: Green Valley Cir & Buckingham

07/19/2023

Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	67	0	77	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	0	448	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	4.3	0.0	2.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.3	0.0	14.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	448	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	100.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	89.4	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0
Time to First Blk (g_f), s	0.0	100.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	148	0	394	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.45	0.00	0.20	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	460	0	394	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.50	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.4	0.0	0.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.1	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	54.5	0.0	0.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	3.6	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	639	0	0	0	159	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1488	0	0	0	2976	0	0
V/C Ratio (X)	0.00	0.43	0.00	0.00	0.00	0.05	0.00	0.00
Avail Cap (c_a), veh/h	0	1488	0	0	0	2976	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.50	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	602	0	89	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1659	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	11.1	0.0	6.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.1	0.0	6.5	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.71	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1389	0	132	0	0	0	0
V/C Ratio (X)	0.00	0.43	0.00	0.67	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1389	0	409	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.5	0.0	53.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	5.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.5	0.0	59.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	2.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	5.0	0.0	5.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.07	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

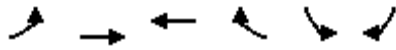
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

11: Centinela Ave & Green Valley Cir

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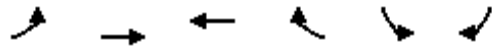


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑	↗	↖↗	↗
Traffic Volume (veh/h)	37	399	1687	982	221	45
Future Volume (veh/h)	37	399	1687	982	221	45
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	434	1834	1067	240	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	107	2763	2763	1232	432	198
Arrive On Green	0.78	0.78	0.78	0.78	0.13	0.13
Sat Flow, veh/h	88	3647	3647	1585	3456	1585
Grp Volume(v), veh/h	40	434	1834	1067	240	49
Grp Sat Flow(s),veh/h/ln	88	1777	1777	1585	1728	1585
Q Serve(g_s), s	46.3	3.7	28.5	55.0	7.8	3.3
Cycle Q Clear(g_c), s	74.7	3.7	28.5	55.0	7.8	3.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	107	2763	2763	1232	432	198
V/C Ratio(X)	0.37	0.16	0.66	0.87	0.56	0.25
Avail Cap(c_a), veh/h	107	2763	2763	1232	760	349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	3.4	6.1	9.1	49.4	47.4
Incr Delay (d2), s/veh	9.6	0.1	0.6	6.7	1.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	2.1	13.7	23.9	6.2	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.9	3.5	6.7	15.8	50.5	48.0
LnGrp LOS	C	A	A	B	D	D
Approach Vol, veh/h		474	2901		289	
Approach Delay, s/veh		6.0	10.1		50.1	
Approach LOS		A	B		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		99.4		20.6		99.4
Change Period (Y+Rc), s		6.1		* 5.6		6.1
Max Green Setting (Gmax), s		81.9		* 26		81.9
Max Q Clear Time (g_c+I1), s		76.7		9.8		57.0
Green Ext Time (p_c), s		2.2		0.9		21.3
Intersection Summary						
HCM 6th Ctrl Delay			12.7			
HCM 6th LOS			B			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↶	↷	↷	↷	↶	↶			
Traffic Volume (veh/h)	37	399	1687	982	221	45			
Future Volume (veh/h)	37	399	1687	982	221	45			
Number	5	2	6	16	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	40	434	1834	1067	240	49			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	107	2763	2763	1232	432	198			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.78	0.78	0.78	0.78	0.13	0.13			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	32.9	3.5	6.7	15.8	50.5	48.0			
Ln Grp LOS	C	A	A	B	D	D			
Approach Vol, veh/h		474	2901		289				
Approach Delay, s/veh		6.0	10.1		50.1				
Approach LOS		A	B		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s			99.4		20.6		99.4		
Change Period (Y+Rc), s			6.1		* 5.6		6.1		
Max Green (Gmax), s			81.9		* 26		81.9		
Max Allow Headway (MAH), s			7.6		3.8		4.8		
Max Q Clear (g_c+I1), s			76.7		9.8		57.0		
Green Ext Time (g_e), s			2.2		0.9		21.3		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			1.00		0.00		0.83		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			88		3456		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis
 11: Centinela Ave & Green Valley Cir

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Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	40	0	240	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	88	0	1728	0	0	0	0
Q Serve Time (g_s), s	0.0	46.3	0.0	7.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	74.7	0.0	7.8	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	88	0	1728	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	93.3	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	64.8	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	46.3	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	93.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	107	0	432	0	0	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.56	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	107	0	760	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	23.3	0.0	49.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	9.6	0.0	1.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.9	0.0	50.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	3.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.2	0.0	6.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.13	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	434	0	0	0	1834	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.7	0.0	0.0	0.0	28.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.7	0.0	0.0	0.0	28.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	2763	0	0	0	2763	0	0
V/C Ratio (X)	0.00	0.16	0.00	0.00	0.00	0.66	0.00	0.00
Avail Cap (c_a), veh/h	0	2763	0	0	0	2763	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.4	0.0	0.0	0.0	6.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.5	0.0	0.0	0.0	6.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.0	0.0	8.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.55	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.1	0.0	0.0	0.0	13.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.00	0.00	0.57	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	49	0	1067	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.3	0.0	55.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.3	0.0	55.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	198	0	1232	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.25	0.00	0.87	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	349	0	1232	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	47.4	0.0	9.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	6.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	48.0	0.0	15.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.3	0.0	14.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.40	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	2.5	0.0	23.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	1.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
12: Hannum Driveway & Hannum Ave

07/19/2023

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	173	5	2	674	12	4
Future Vol, veh/h	173	5	2	674	12	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	188	5	2	733	13	4

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	193	0	562
Stage 1	-	-	-	-	191
Stage 2	-	-	-	-	371
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1378	-	457
Stage 1	-	-	-	-	822
Stage 2	-	-	-	-	668
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1378	-	457
Mov Cap-2 Maneuver	-	-	-	-	457
Stage 1	-	-	-	-	822
Stage 2	-	-	-	-	667

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	524	-	-	1378	-
HCM Lane V/C Ratio	0.033	-	-	0.002	-
HCM Control Delay (s)	12.1	-	-	7.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	48	26	8	599	137	14
Future Vol, veh/h	48	26	8	599	137	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	28	9	651	149	15

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	501	82	164	0	0
Stage 1	157	-	-	-	-
Stage 2	344	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	499	961	1412	-	-
Stage 1	855	-	-	-	-
Stage 2	689	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	496	961	1412	-	-
Mov Cap-2 Maneuver	496	-	-	-	-
Stage 1	850	-	-	-	-
Stage 2	689	-	-	-	-
























Approach	EB	NB	SB
HCM Control Delay, s	12	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1412	-	598	-	-
HCM Lane V/C Ratio	0.006	-	0.135	-	-
HCM Control Delay (s)	7.6	-	12	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

HCM 6th Signalized Intersection Summary

1: Hannum Ave & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	798	205	212	574	408	105	325	271	265	550	75
Future Volume (veh/h)	129	798	205	212	574	408	105	325	271	265	550	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	867	223	230	624	443	114	353	0	288	598	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1892	484	286	2337	725	244	613		348	720	
Arrive On Green	0.09	0.47	0.47	0.08	0.46	0.46	0.07	0.17	0.00	0.10	0.20	0.00
Sat Flow, veh/h	1781	4051	1036	3456	5106	1585	3456	3554	1585	3456	3647	0
Grp Volume(v), veh/h	140	728	362	230	624	443	114	353	0	288	598	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1684	1728	1702	1585	1728	1777	1585	1728	1777	0
Q Serve(g_s), s	10.8	20.3	20.5	9.2	10.6	29.5	4.4	12.8	0.0	11.4	22.6	0.0
Cycle Q Clear(g_c), s	10.8	20.3	20.5	9.2	10.6	29.5	4.4	12.8	0.0	11.4	22.6	0.0
Prop In Lane	1.00		0.62	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	164	1590	786	286	2337	725	244	613		348	720	
V/C Ratio(X)	0.85	0.46	0.46	0.81	0.27	0.61	0.47	0.58		0.83	0.83	
Avail Cap(c_a), veh/h	202	1590	786	442	2337	725	289	805		536	1058	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.6	25.3	25.3	63.1	23.5	28.6	62.5	53.2	0.0	61.8	53.5	0.0
Incr Delay (d2), s/veh	24.3	1.0	1.9	5.5	0.3	3.5	1.4	0.9	0.0	6.4	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.1	13.2	13.5	7.5	7.6	17.3	3.6	9.8	0.0	9.1	15.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.9	26.2	27.3	68.7	23.7	32.0	63.9	54.1	0.0	68.1	57.2	0.0
LnGrp LOS	F	C	C	E	C	C	E	D		E	E	
Approach Vol, veh/h		1230			1297			467			886	
Approach Delay, s/veh		33.5			34.5			56.5			60.8	
Approach LOS		C			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.7	71.5	16.2	34.7	19.0	70.2	20.4	30.5				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3				
Max Green Setting (Gmax), s	* 18	* 44	11.7	41.7	* 16	* 46	21.7	31.7				
Max Q Clear Time (g_c+I1), s	11.2	22.5	6.4	24.6	12.8	31.5	13.4	14.8				
Green Ext Time (p_c), s	0.4	7.9	0.1	3.8	0.1	5.3	0.6	2.1				
Intersection Summary												
HCM 6th Ctrl Delay			42.8									
HCM 6th LOS			D									
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	798	205	212	574	408	105	325	271	265	550	75
Future Volume (veh/h)	129	798	205	212	574	408	105	325	271	265	550	75
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	867	223	230	624	443	114	353	0	288	598	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	164	1892	484	286	2337	725	244	613		348	720	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.47	0.47	0.08	0.46	0.46	0.07	0.17	0.00	0.10	0.20	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	86.9	26.2	27.3	68.7	23.7	32.0	63.9	54.1	0.0	68.1	57.2	0.0
Ln Grp LOS	F	C	C	E	C	C	E	D		E	E	
Approach Vol, veh/h		1230			1297			467			886	
Approach Delay, s/veh		33.5			34.5			56.5			60.8	
Approach LOS		C			C			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	4.0	4.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		17.7	71.5	34.7	16.2	19.0	70.2	20.4	30.5			
Change Period (Y+Rc), s		* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3			
Max Green (Gmax), s		* 18	* 44	41.7	11.7	* 16	* 46	21.7	31.7			
Max Allow Headway (MAH), s		3.8	5.3	5.2	3.8	3.8	4.7	3.8	5.2			
Max Q Clear (g_c+I1), s		11.2	22.5	24.6	6.4	12.8	31.5	13.4	14.8			
Green Ext Time (g_e), s		0.4	7.9	3.8	0.1	0.1	5.3	0.6	2.1			
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.10	0.00	0.07	0.20	1.00	0.26	0.04	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	1781		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			4051	3647			5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1036	0			1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	230	0	0	114	140	0	288	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1781	0	1728	0
Q Serve Time (g_s), s	9.2	0.0	0.0	4.4	10.8	0.0	11.4	0.0
Cycle Q Clear Time (g_c), s	9.2	0.0	0.0	4.4	10.8	0.0	11.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	286	0	0	244	164	0	348	0
V/C Ratio (X)	0.81	0.00	0.00	0.47	0.85	0.00	0.83	0.00
Avail Cap (c_a), veh/h	442	0	0	289	202	0	536	0
Upstream Filter (I)	0.91	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	63.1	0.0	0.0	62.5	62.6	0.0	61.8	0.0
Incr Delay (d2), s/veh	5.5	0.0	0.0	1.4	24.3	0.0	6.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	68.7	0.0	0.0	63.9	86.9	0.0	68.1	0.0
1st-Term Q (Q1), veh/ln	4.0	0.0	0.0	2.0	4.9	0.0	5.0	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	1.1	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.76	0.00	0.00	1.80	1.67	0.00	1.71	0.00
%ile Back of Q (95%), veh/ln	7.5	0.0	0.0	3.6	10.1	0.0	9.1	0.0
%ile Storage Ratio (RQ%)	0.86	0.00	0.00	0.46	2.32	0.00	1.16	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	2	2	0	0	3	0	2
Grp Vol (v), veh/h	0	728	598	0	0	624	0	353
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	20.3	22.6	0.0	0.0	10.6	0.0	12.8
Cycle Q Clear Time (g_c), s	0.0	20.3	22.6	0.0	0.0	10.6	0.0	12.8
Lane Grp Cap (c), veh/h	0	1590	720	0	0	2337	0	613
V/C Ratio (X)	0.00	0.46	0.83	0.00	0.00	0.27	0.00	0.58
Avail Cap (c_a), veh/h	0	1590	1058	0	0	2337	0	805
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.91	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.3	53.5	0.0	0.0	23.5	0.0	53.2
Incr Delay (d2), s/veh	0.0	1.0	3.7	0.0	0.0	0.3	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.2	57.2	0.0	0.0	23.7	0.0	54.1
1st-Term Q (Q1), veh/ln	0.0	8.3	10.1	0.0	0.0	4.3	0.0	5.7
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.4	0.0	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.56	1.51	0.00	0.00	1.75	0.00	1.68
%ile Back of Q (95%), veh/ln	0.0	13.2	15.8	0.0	0.0	7.6	0.0	9.8
%ile Storage Ratio (RQ%)	0.00	0.99	1.92	0.00	0.00	0.33	0.00	1.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		T+R				R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	362	0	0	0	443	0	0
Grp Sat Flow (s), veh/h/ln	0	1684	0	0	0	1585	0	1585
Q Serve Time (g_s), s	0.0	20.5	0.0	0.0	0.0	29.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	20.5	0.0	0.0	0.0	29.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.62	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	786	0	0	0	725	0	274
V/C Ratio (X)	0.00	0.46	0.00	0.00	0.00	0.61	0.00	0.00
Avail Cap (c_a), veh/h	0	786	0	0	0	725	0	359
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.91	0.00	0.00
Uniform Delay (d1), s/veh	0.0	25.3	0.0	0.0	0.0	28.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.0	0.0	3.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.3	0.0	0.0	0.0	32.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.2	0.0	0.0	0.0	11.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.56	1.00	0.00	0.00	1.45	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	13.5	0.0	0.0	0.0	17.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.01	0.00	0.00	0.00	2.83	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	42.8
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↖↖	↑↑	↗	↖	↖	↖↖	↖	↗	↘
Traffic Volume (veh/h)	0	716	611	1174	720	2	476	0	1718	4	2	1
Future Volume (veh/h)	0	716	611	1174	720	2	476	0	1718	4	2	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	778	0	1276	783	2	517	0	1867	4	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	1061		2193	2520	1124	383	0	1725	34	22	11
Arrive On Green	0.00	0.21	0.00	0.73	1.00	1.00	0.11	0.00	0.11	0.02	0.02	0.02
Sat Flow, veh/h	1781	5106	1585	5023	3554	1585	3563	0	3170	1781	1176	588
Grp Volume(v), veh/h	0	778	0	1276	783	2	517	0	1867	4	0	3
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1674	1777	1585	1781	0	1585	1781	0	1764
Q Serve(g_s), s	0.0	17.1	0.0	14.3	0.0	0.0	12.9	0.0	12.9	0.3	0.0	0.2
Cycle Q Clear(g_c), s	0.0	17.1	0.0	14.3	0.0	0.0	12.9	0.0	12.9	0.3	0.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	1	1061		2193	2520	1124	383	0	1725	34	0	34
V/C Ratio(X)	0.00	0.73		0.58	0.31	0.00	1.35	0.00	1.08	0.12	0.00	0.09
Avail Cap(c_a), veh/h	193	1864		2193	2520	1124	383	0	1725	163	0	162
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.85	0.00	0.75	0.75	0.75	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	44.4	0.0	11.1	0.0	0.0	53.5	0.0	27.4	57.9	0.0	57.8
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.3	0.2	0.0	173.9	0.0	47.8	1.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	11.4	0.0	6.5	0.2	0.0	23.8	0.0	46.1	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.3	0.0	11.4	0.2	0.0	227.4	0.0	75.1	59.4	0.0	59.0
LnGrp LOS	A	D		B	A	A	F	A	F	E	A	E
Approach Vol, veh/h		778		2061			2384				7	
Approach Delay, s/veh		45.3		7.2			108.2				59.2	
Approach LOS		D		A			F				E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	60.2	32.7		8.1	0.0	92.9		19.0				
Change Period (Y+Rc), s	7.8	* 7.8		* 5.8	5.4	7.8		6.1				
Max Green Setting (Gmax), s	20.2	* 44		* 11	13.0	58.0		12.9				
Max Q Clear Time (g_c+11), s	10.3	19.1		2.3	0.0	2.0		14.9				
Green Ext Time (p_c), s	4.0	5.8		0.0	0.0	6.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	58.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.































HCM 6th Signalized Intersection Summary
2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	 				 			
Traffic Volume (veh/h)	0	716	611	1174	720	2	476	0	1718	4	2	1
Future Volume (veh/h)	0	716	611	1174	720	2	476	0	1718	4	2	1
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	778	0	1276	783	2	517	0	1867	4	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	1	1061		2193	2520	1124	383	0	1725	34	22	11
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.21	0.00	0.73	1.00	1.00	0.11	0.00	0.11	0.02	0.02	0.02
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	45.3	0.0	11.4	0.2	0.0	227.4	0.0	75.1	59.4	0.0	59.0
Ln Grp LOS	A	D		B	A	A	F	A	F	E	A	E
Approach Vol, veh/h		778			2061			2384				7
Approach Delay, s/veh		45.3			7.2			108.2				59.2
Approach LOS		D			A			F				E
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	3.0	9.0	10.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		60.2	32.7	19.0	8.1	0.0	92.9					
Change Period (Y+Rc), s		7.8	* 7.8	6.1	* 5.8	5.4	7.8					
Max Green (Gmax), s		26.2	* 44	12.9	* 11	13.0	58.0					
Max Allow Headway (MAH), s		3.8	5.2	4.0	4.5	0.0	5.2					
Max Q Clear (g_c+I1), s		16.3	19.1	14.9	2.3	0.0	2.0					
Green Ext Time (g_e), s		4.0	5.8	0.0	0.0	0.0	6.7					
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.21	0.00	1.00					
Prob of Max Out (p_x)		0.33	0.03	1.00	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		5023		3563	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			5106	0	1176		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			1585	3170	588		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

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Lanes in Grp	3	0	2	1	1	0	0	0
Grp Vol (v), veh/h	1276	0	517	4	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1674	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	14.3	0.0	12.9	0.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	14.3	0.0	12.9	0.3	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	2193	0	383	34	1	0	0	0
V/C Ratio (X)	0.58	0.00	1.35	0.12	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	2193	0	383	163	193	0	0	0
Upstream Filter (I)	0.75	0.00	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	11.1	0.0	53.5	57.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	173.9	1.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.4	0.0	227.4	59.4	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	3.7	0.0	5.8	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	9.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.73	0.00	1.59	1.80	1.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	6.5	0.0	23.8	0.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.72	0.00	1.25	0.20	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	33.5	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	778	0	0	0	783	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	17.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	17.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1061	0	0	0	2520	0	0
V/C Ratio (X)	0.00	0.73	0.00	0.00	0.00	0.31	0.00	0.00
Avail Cap (c_a), veh/h	0	1864	0	0	0	2520	0	0
Upstream Filter (I)	0.00	0.85	0.00	0.00	0.00	0.75	0.00	0.00
Uniform Delay (d1), s/veh	0.0	44.4	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	45.3	0.0	0.0	0.0	0.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.56	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	11.4	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.50	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		R	R	T+R		R		
Lanes in Grp	0	1	2	1	0	1	0	0
Grp Vol (v), veh/h	0	0	1867	3	0	2	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1764	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	12.9	0.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	12.9	0.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	52.4	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.33	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	329	1725	34	0	1124	0	0
V/C Ratio (X)	0.00	0.00	1.08	0.09	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	579	1725	162	0	1124	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	0.00	0.75	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	27.4	57.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	47.8	1.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	75.1	59.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	23.3	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	11.4	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.33	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	46.1	0.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	2.41	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	35.6	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	58.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑↑		↖↗	↑	↗		↖↗	
Traffic Volume (veh/h)	17	2005	386	89	1427	17	374	6	104	28	7	32
Future Volume (veh/h)	17	2005	386	89	1427	17	374	6	104	28	7	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	2179	420	97	1551	18	407	0	118	30	8	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	531	2829	878	277	1724	20	297	0	518	118	32	132
Arrive On Green	0.40	0.74	0.74	0.16	0.66	0.66	0.08	0.00	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	5106	1585	3456	5203	60	3563	0	3170	1421	379	1585
Grp Volume(v), veh/h	18	2179	420	97	1015	554	407	0	118	38	0	35
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1859	1781	0	1585	1799	0	1585
Q Serve(g_s), s	0.7	31.1	12.9	3.0	29.9	29.9	10.0	0.0	3.9	2.4	0.0	2.5
Cycle Q Clear(g_c), s	0.7	31.1	12.9	3.0	29.9	29.9	10.0	0.0	3.9	2.4	0.0	2.5
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	0.79		1.00
Lane Grp Cap(c), veh/h	531	2829	878	277	1128	616	297	0	518	150	0	132
V/C Ratio(X)	0.03	0.77	0.48	0.35	0.90	0.90	1.37	0.00	0.23	0.25	0.00	0.26
Avail Cap(c_a), veh/h	531	2829	878	288	1242	679	297	0	518	480	0	423
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.34	0.34	0.34	0.91	0.91	0.91	0.96	0.00	0.96	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.7	11.1	8.7	47.6	18.6	18.6	55.0	0.0	43.6	51.5	0.0	51.6
Incr Delay (d2), s/veh	0.0	0.7	0.6	0.7	10.6	17.3	186.2	0.0	0.2	0.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	11.3	5.5	2.3	13.1	15.5	19.7	0.0	2.8	2.0	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	11.9	9.4	48.3	29.2	35.9	241.2	0.0	43.8	52.4	0.0	52.6
LnGrp LOS	C	B	A	D	C	D	F	A	D	D	A	D
Approach Vol, veh/h		2617			1666			525				73
Approach Delay, s/veh		11.5			32.5			196.8				52.5
Approach LOS		B			C			F				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.8	72.6		15.8	41.8	46.6		15.8				
Change Period (Y+Rc), s	6.2	6.1		* 5.8	6.1	* 6.8		5.8				
Max Green Setting (Gmax), s	44.1	44.1		* 32	10.0	* 44		10.0				
Max Q Clear Time (g_c+1), s	33.1	33.1		4.5	2.7	31.9		12.0				
Green Ext Time (p_c), s	0.1	9.8		0.4	0.0	7.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑↑		↖↗	↑	↗		↖↗	
Traffic Volume (veh/h)	17	2005	386	89	1427	17	374	6	104	28	7	32
Future Volume (veh/h)	17	2005	386	89	1427	17	374	6	104	28	7	32
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	2179	420	97	1551	18	407	0	118	30	8	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	531	2829	878	277	1724	20	297	0	518	118	32	132
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.74	0.74	0.16	0.66	0.66	0.08	0.00	0.08	0.08	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	25.7	11.9	9.4	48.3	29.2	35.9	241.2	0.0	43.8	52.4	0.0	52.6
Ln Grp LOS	C	B	A	D	C	D	F	A	D	D	A	D
Approach Vol, veh/h		2617			1666			525			73	
Approach Delay, s/veh		11.5			32.5			196.8			52.5	
Approach LOS		B			C			F			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	6	5					
Case No		2.0	3.0	9.0	12.0	4.0	2.0					
Phs Duration (G+Y+Rc), s		15.8	72.6	15.8	15.8	46.6	41.8					
Change Period (Y+Rc), s		6.2	6.1	5.8	* 5.8	* 6.8	6.1					
Max Green (Gmax), s		10.0	44.1	10.0	* 32	* 44	10.0					
Max Allow Headway (MAH), s		3.8	5.1	3.9	5.4	5.2	3.8					
Max Q Clear (g_c+I1), s		5.0	33.1	12.0	4.5	31.9	2.7					
Green Ext Time (g_e), s		0.1	9.8	0.0	0.4	7.9	0.0					
Prob of Phs Call (p_c)		0.96	1.00	1.00	1.00	1.00	0.45					
Prob of Max Out (p_x)		0.24	0.92	1.00	0.00	0.71	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7		5					
Mvmt Sat Flow, veh/h		3456		3563	1421		1781					
Through Movement Data												
Assigned Mvmt			2	8	4	6						
Mvmt Sat Flow, veh/h			5106	0	379	5203						
Right-Turn Movement Data												
Assigned Mvmt			12	18	14	16						
Mvmt Sat Flow, veh/h			1585	3170	1585	60						
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	0	5	0	0			
Lane Assignment		L (Prot)		L	L+T		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

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Lanes in Grp	2	0	2	1	0	1	0	0
Grp Vol (v), veh/h	97	0	407	38	0	18	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	1799	0	1781	0	0
Q Serve Time (g_s), s	3.0	0.0	10.0	2.4	0.0	0.7	0.0	0.0
Cycle Q Clear Time (g_c), s	3.0	0.0	10.0	2.4	0.0	0.7	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.79	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	277	0	297	150	0	531	0	0
V/C Ratio (X)	0.35	0.00	1.37	0.25	0.00	0.03	0.00	0.00
Avail Cap (c_a), veh/h	288	0	297	480	0	531	0	0
Upstream Filter (I)	0.91	0.00	0.96	1.00	0.00	0.34	0.00	0.00
Uniform Delay (d1), s/veh	47.6	0.0	55.0	51.5	0.0	25.7	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	186.2	0.9	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.3	0.0	241.2	52.4	0.0	25.7	0.0	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	4.5	1.1	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.62	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	2.3	0.0	19.7	2.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.37	0.00	2.32	0.26	0.00	0.15	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	27.5	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	3	0	0	2	0	0	0
Grp Vol (v), veh/h	0	2179	0	0	1015	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	1702	0	0	0
Q Serve Time (g_s), s	0.0	31.1	0.0	0.0	29.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	31.1	0.0	0.0	29.9	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2829	0	0	1128	0	0	0
V/C Ratio (X)	0.00	0.77	0.00	0.00	0.90	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	2829	0	0	1242	0	0	0
Upstream Filter (I)	0.00	0.34	0.00	0.00	0.91	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.1	0.0	0.0	18.6	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	10.6	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.9	0.0	0.0	29.2	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.3	0.0	0.0	6.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	1.7	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.33	1.00	1.00	1.54	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	11.3	0.0	0.0	13.1	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.43	0.00	0.00	0.19	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	16	0	0	0
Lane Assignment		R	R	T+R	T+R			
Lanes in Grp	0	1	2	1	1	0	0	0
Grp Vol (v), veh/h	0	420	118	35	554	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	1859	0	0	0
Q Serve Time (g_s), s	0.0	12.9	3.9	2.5	29.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.9	3.9	2.5	29.9	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.03	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	878	518	132	616	0	0	0
V/C Ratio (X)	0.00	0.48	0.23	0.26	0.90	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	878	518	423	679	0	0	0
Upstream Filter (I)	0.00	0.34	0.96	1.00	0.91	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.7	43.6	51.6	18.6	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.2	1.1	17.3	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.4	43.8	52.6	35.9	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.5	1.5	1.0	7.5	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	3.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.50	1.80	1.80	1.48	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	5.5	2.8	1.9	15.5	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.08	0.16	0.24	0.23	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶↷	↑↑↑	↶	↶↷↑↑↑			↶	↷	↶	↶	↷	↶
Traffic Volume (veh/h)	9	2025	96	192	1421	9	53	4	473	71	27	44
Future Volume (veh/h)	9	2025	96	192	1421	9	53	4	473	71	27	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	2201	104	209	1545	10	58	0	517	77	43	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	2980	925	288	3367	22	273	0	837	220	338	286
Arrive On Green	0.02	0.39	0.39	0.08	0.64	0.64	0.06	0.00	0.06	0.18	0.18	0.18
Sat Flow, veh/h	3456	5106	1585	3456	5234	34	1317	0	3170	884	1870	1585
Grp Volume(v), veh/h	10	2201	104	209	1005	550	58	0	517	77	43	38
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1864	1317	0	1585	884	1870	1585
Q Serve(g_s), s	0.3	44.3	5.0	7.1	17.9	17.9	5.1	0.0	17.5	9.4	2.3	2.4
Cycle Q Clear(g_c), s	0.3	44.3	5.0	7.1	17.9	17.9	7.4	0.0	17.5	9.4	2.3	2.4
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	2980	925	288	2190	1199	273	0	837	220	338	286
V/C Ratio(X)	0.12	0.74	0.11	0.73	0.46	0.46	0.21	0.00	0.62	0.35	0.13	0.13
Avail Cap(c_a), veh/h	288	2980	925	291	2190	1199	441	0	1241	333	577	489
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.99	0.00	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	28.7	16.7	53.7	10.8	10.8	50.8	0.0	44.7	44.1	41.2	41.3
Incr Delay (d2), s/veh	0.1	0.2	0.0	8.7	0.7	1.3	0.4	0.0	0.7	1.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	21.1	2.5	6.2	10.9	12.0	3.2	0.0	12.0	3.8	2.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	28.9	16.8	62.3	11.5	12.1	51.2	0.0	45.4	45.1	41.4	41.5
LnGrp LOS	E	C	B	E	B	B	D	A	D	D	D	D
Approach Vol, veh/h		2315			1764			575			158	
Approach Delay, s/veh		28.4			17.7			46.0			43.2	
Approach LOS		C			B			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	76.1		27.6	9.1	83.3		27.6				
Change Period (Y+Rc), s	6.3	6.1		* 5.9	6.3	6.1		* 5.9				
Max Green Setting (Gmax), s	10.0	54.6		* 37	10.0	54.7		* 37				
Max Q Clear Time (g_c+1/3), s	19.0	46.3		19.5	2.3	19.9		11.4				
Green Ext Time (p_c), s	0.1	7.4		2.2	0.0	14.7		0.7				

Intersection Summary






























HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  							
Traffic Volume (veh/h)	9	2025	96	192	1421	9	53	4	473	71	27	44
Future Volume (veh/h)	9	2025	96	192	1421	9	53	4	473	71	27	44
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	2201	104	209	1545	10	58	0	517	77	43	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	82	2980	925	288	3367	22	273	0	837	220	338	286
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.39	0.39	0.08	0.64	0.64	0.06	0.00	0.06	0.18	0.18	0.18
Unsig. Movement Delay												
Ln Grp Delay, s/veh	57.9	28.9	16.8	62.3	11.5	12.1	51.2	0.0	45.4	45.1	41.4	41.5
Ln Grp LOS	E	C	B	E	B	B	D	A	D	D	D	D
Approach Vol, veh/h		2315			1764			575			158	
Approach Delay, s/veh		28.4			17.7			46.0			43.2	
Approach LOS		C			B			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		16.3	76.1		27.6	9.1	83.3		27.6			
Change Period (Y+Rc), s		6.3	6.1		* 5.9	6.3	6.1		* 5.9			
Max Green (Gmax), s		10.1	54.6		* 37	10.0	54.7		* 37			
Max Allow Headway (MAH), s		3.8	5.2		4.0	3.8	5.2		5.0			
Max Q Clear (g_c+I1), s		9.1	46.3		19.5	2.3	19.9		11.4			
Green Ext Time (g_e), s		0.1	7.4		2.2	0.0	14.7		0.7			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.28	1.00		1.00			
Prob of Max Out (p_x)		1.00	0.94		0.01	0.00	0.21		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1317	3456			884			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		0		5234		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		3170		34		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	1	2	0	0	1
Grp Vol (v), veh/h	209	0	0	58	10	0	0	77
Grp Sat Flow (s), veh/h/ln	1728	0	0	1317	1728	0	0	884
Q Serve Time (g_s), s	7.1	0.0	0.0	5.1	0.3	0.0	0.0	9.4
Cycle Q Clear Time (g_c), s	7.1	0.0	0.0	7.4	0.3	0.0	0.0	9.4
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1317	0	0	0	884
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	21.7	0.0	0.0	0.0	21.7
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	19.4	0.0	0.0	0.0	21.7
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	5.1	0.0	0.0	0.0	9.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	288	0	0	273	82	0	0	220
V/C Ratio (X)	0.73	0.00	0.00	0.21	0.12	0.00	0.00	0.35
Avail Cap (c_a), veh/h	291	0	0	441	288	0	0	333
Upstream Filter (I)	1.00	0.00	0.00	0.99	0.09	0.00	0.00	1.00
Uniform Delay (d1), s/veh	53.7	0.0	0.0	50.8	57.8	0.0	0.0	44.1
Incr Delay (d2), s/veh	8.7	0.0	0.0	0.4	0.1	0.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	62.3	0.0	0.0	51.2	57.9	0.0	0.0	45.1
1st-Term Q (Q1), veh/ln	3.1	0.0	0.0	1.8	0.1	0.0	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	6.2	0.0	0.0	3.2	0.3	0.0	0.0	3.8
%ile Storage Ratio (RQ%)	0.53	0.00	0.00	0.54	0.04	0.00	0.00	0.50
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	3	0	0	0	2	0	1
Grp Vol (v), veh/h	0	2201	0	0	0	1005	0	43
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	44.3	0.0	0.0	0.0	17.9	0.0	2.3
Cycle Q Clear Time (g_c), s	0.0	44.3	0.0	0.0	0.0	17.9	0.0	2.3
Lane Grp Cap (c), veh/h	0	2980	0	0	0	2190	0	338
V/C Ratio (X)	0.00	0.74	0.00	0.00	0.00	0.46	0.00	0.13
Avail Cap (c_a), veh/h	0	2980	0	0	0	2190	0	577
Upstream Filter (I)	0.00	0.09	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.7	0.0	0.0	0.0	10.8	0.0	41.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.7	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.9	0.0	0.0	0.0	11.5	0.0	41.4
1st-Term Q (Q1), veh/ln	0.0	18.9	0.0	0.0	0.0	6.4	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.11	0.00	1.00	0.00	1.64	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	21.1	0.0	0.0	0.0	10.9	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.31	0.00	0.00	0.00	0.67	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	104	0	517	0	550	0	38
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1864	0	1585
Q Serve Time (g_s), s	0.0	5.0	0.0	17.5	0.0	17.9	0.0	2.4
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	17.5	0.0	17.9	0.0	2.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.02	0.00	1.00
Lane Grp Cap (c), veh/h	0	925	0	837	0	1199	0	286
V/C Ratio (X)	0.00	0.11	0.00	0.62	0.00	0.46	0.00	0.13
Avail Cap (c_a), veh/h	0	925	0	1241	0	1199	0	489
Upstream Filter (I)	0.00	0.09	0.00	0.99	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	44.7	0.0	10.8	0.0	41.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	1.3	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.8	0.0	45.4	0.0	12.1	0.0	41.5
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	7.4	0.0	7.0	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.36	0.00	1.60	0.00	1.60	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.5	0.0	12.0	0.0	12.0	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	0.41	0.00	2.03	0.00	0.74	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↕	
Traffic Volume (veh/h)	1	823	161	122	484	0	128	0	153	4	2	10
Future Volume (veh/h)	1	823	161	122	484	0	128	0	153	4	2	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	895	175	133	526	0	139	0	166	4	2	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	2083	407	363	2372	0	228	0	203	14	7	39
Arrive On Green	0.00	0.70	0.70	0.67	0.67	0.00	0.13	0.00	0.13	0.04	0.04	0.04
Sat Flow, veh/h	1781	2964	579	527	3647	0	1781	0	1585	390	195	1073
Grp Volume(v), veh/h	1	536	534	133	526	0	139	0	166	17	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1766	527	1777	0	1781	0	1585	1658	0	0
Q Serve(g_s), s	0.1	15.4	15.4	17.2	6.9	0.0	8.9	0.0	12.2	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.1	15.4	15.4	28.5	6.9	0.0	8.9	0.0	12.2	1.2	0.0	0.0
Prop In Lane	1.00		0.33	1.00		0.00	1.00		1.00	0.24		0.65
Lane Grp Cap(c), veh/h	3	1249	1241	363	2372	0	228	0	203	60	0	0
V/C Ratio(X)	0.29	0.43	0.43	0.37	0.22	0.00	0.61	0.00	0.82	0.28	0.00	0.00
Avail Cap(c_a), veh/h	111	1249	1241	363	2372	0	416	0	370	387	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.8	7.6	7.6	14.6	7.8	0.0	49.5	0.0	51.0	56.3	0.0	0.0
Incr Delay (d2), s/veh	41.9	1.1	1.1	2.3	0.2	0.0	2.6	0.0	7.9	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	9.7	9.7	4.0	4.7	0.0	7.4	0.0	9.1	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.7	8.7	8.7	16.9	8.0	0.0	52.1	0.0	58.9	58.9	0.0	0.0
LnGrp LOS	F	A	A	B	A	A	D	A	E	E	A	A
Approach Vol, veh/h		1071			659			305				17
Approach Delay, s/veh		8.8			9.8			55.8				58.9
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	4.2	85.7		9.3		89.9		20.7				
Change Period (Y+Rc), s	4.0	5.6		* 5		* 5.6		5.4				
Max Green Setting (Gmax), s	5	36.5		* 28		* 48		28.0				
Max Q Clear Time (g_c+1), s	5	30.5		3.2		17.4		14.2				
Green Ext Time (p_c), s	0.0	2.5		0.0		8.6		1.1				

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↗	↖
Traffic Volume (veh/h)	1	823	161	122	484	0	128	0	153	4	2	10
Future Volume (veh/h)	1	823	161	122	484	0	128	0	153	4	2	10
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	895	175	133	526	0	139	0	166	4	2	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	3	2083	407	363	2372	0	228	0	203	14	7	39
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.70	0.70	0.67	0.67	0.00	0.13	0.00	0.13	0.04	0.04	0.04
Unsig. Movement Delay												
Ln Grp Delay, s/veh	101.7	8.7	8.7	16.9	8.0	0.0	52.1	0.0	58.9	58.9	0.0	0.0
Ln Grp LOS	F	A	A	B	A	A	D	A	E	E	A	A
Approach Vol, veh/h		1071			659			305				17
Approach Delay, s/veh		8.8			9.8			55.8				58.9
Approach LOS		A			A			E				E
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4		6					
Case No		2.0	6.3	11.0	12.0		4.0					
Phs Duration (G+Y+Rc), s		4.2	85.7	20.7	9.3		89.9					
Change Period (Y+Rc), s		4.0	5.6	5.4	* 5		* 5.6					
Max Green (Gmax), s		7.5	36.5	28.0	* 28		* 48					
Max Allow Headway (MAH), s		3.8	5.8	4.6	5.5		5.3					
Max Q Clear (g_c+I1), s		2.1	30.5	14.2	3.2		17.4					
Green Ext Time (g_e), s		0.0	2.5	1.1	0.0		8.6					
Prob of Phs Call (p_c)		0.03	1.00	1.00	0.43		1.00					
Prob of Max Out (p_x)		0.01	0.96	0.01	0.00		0.09					
Left-Turn Movement Data												
Assigned Mvmt		1	5	3	7							
Mvmt Sat Flow, veh/h		1781	527	1781	390							
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3647	0	195		2964					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			0	1585	1073		579					
Left Lane Group Data												
Assigned Mvmt		1	5	3	7	0	0	0	0			
Lane Assignment		L (Prot)	L	L+T	L+T+R							

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

Lanes in Grp	1	1	1	1	0	0	0	0
Grp Vol (v), veh/h	1	133	139	17	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	527	1781	1658	0	0	0	0
Q Serve Time (g_s), s	0.1	17.2	8.9	1.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	28.5	8.9	1.2	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	527	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	80.1	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	68.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	17.2	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	1.00	0.24	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	3	363	228	60	0	0	0	0
V/C Ratio (X)	0.29	0.37	0.61	0.28	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	111	363	416	387	0	0	0	0
Upstream Filter (I)	1.00	0.82	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	59.8	14.6	49.5	56.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	41.9	2.3	2.6	2.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	101.7	16.9	52.1	58.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.0	3.9	0.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	1.80	1.80	0.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.1	4.0	7.4	1.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.03	0.62	0.14	0.19	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	1	0	0
Grp Vol (v), veh/h	0	526	0	0	0	536	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	6.9	0.0	0.0	0.0	15.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.9	0.0	0.0	0.0	15.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	2372	0	0	0	1249	0	0
V/C Ratio (X)	0.00	0.22	0.00	0.00	0.00	0.43	0.00	0.00
Avail Cap (c_a), veh/h	0	2372	0	0	0	1249	0	0
Upstream Filter (I)	0.00	0.82	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.8	0.0	0.0	0.0	7.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.0	0.0	0.0	0.0	8.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	5.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	0.00	1.68	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	4.7	0.0	0.0	0.0	9.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.00	0.00	0.80	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment			R			T+R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	166	0	0	534	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1766	0	0
Q Serve Time (g_s), s	0.0	0.0	12.2	0.0	0.0	15.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	12.2	0.0	0.0	15.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.65	0.00	0.33	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	203	0	0	1241	0	0
V/C Ratio (X)	0.00	0.00	0.82	0.00	0.00	0.43	0.00	0.00
Avail Cap (c_a), veh/h	0	0	370	0	0	1241	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	51.0	0.0	0.0	7.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	7.9	0.0	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	58.9	0.0	0.0	8.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	4.9	0.0	0.0	5.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.71	1.00	0.00	1.68	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	9.1	0.0	0.0	9.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.85	0.00	0.00	0.80	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
6: Bristol Pkwy & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	443	355	92	314	262	174	213	90	123	305	67
Future Volume (veh/h)	8	443	355	92	314	262	174	213	90	123	305	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	482	386	100	341	285	189	232	98	134	332	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	1053	470	179	1053	470	220	1271	521	202	1311	285
Arrive On Green	0.30	0.30	0.30	0.49	0.49	0.49	0.12	0.52	0.52	0.02	0.15	0.15
Sat Flow, veh/h	799	3554	1585	638	3554	1585	1781	2459	1007	3456	2903	630
Grp Volume(v), veh/h	9	482	386	100	341	285	189	166	164	134	202	203
Grp Sat Flow(s),veh/h/ln	799	1777	1585	638	1777	1585	1781	1777	1689	1728	1777	1757
Q Serve(g_s), s	1.0	13.3	27.2	17.6	6.9	15.6	12.5	6.0	6.2	4.6	12.0	12.3
Cycle Q Clear(g_c), s	8.0	13.3	27.2	30.8	6.9	15.6	12.5	6.0	6.2	4.6	12.0	12.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		0.36
Lane Grp Cap(c), veh/h	251	1053	470	179	1053	470	220	919	873	202	802	793
V/C Ratio(X)	0.04	0.46	0.82	0.56	0.32	0.61	0.86	0.18	0.19	0.66	0.25	0.26
Avail Cap(c_a), veh/h	290	1226	547	210	1226	547	371	919	873	576	802	793
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	0.86	0.86	0.86	0.86	0.86	0.86
Uniform Delay (d), s/veh	35.2	34.4	39.3	35.3	23.1	25.3	51.5	15.4	15.5	57.7	33.1	33.2
Incr Delay (d2), s/veh	0.1	0.3	7.9	2.7	0.2	1.5	8.6	0.4	0.4	3.2	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	9.5	16.8	4.7	4.9	8.8	9.8	4.5	4.5	3.9	9.6	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	34.7	47.2	38.0	23.3	26.7	60.1	15.8	15.9	60.9	33.8	33.9
LnGrp LOS	D	C	D	D	C	C	E	B	B	E	C	C
Approach Vol, veh/h	877			726			519			539		
Approach Delay, s/veh	40.2			26.7			32.0			40.6		
Approach LOS	D			C			C			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	1.0	67.8	41.2		18.8	60.0	41.2					
Change Period (Y+Rc), s	4.0	5.8	* 5.6		4.0	5.8	* 5.6					
Max Green Setting (Gmax), s	20.0	43.2	* 41		25.0	38.2	* 41					
Max Q Clear Time (g_c+1), s	10.6	8.2	29.2		14.5	14.3	32.8					
Green Ext Time (p_c), s	0.3	2.1	3.8		0.4	2.4	2.7					

Intersection Summary

























HCM 6th Ctrl Delay	35.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	443	355	92	314	262	174	213	90	123	305	67
Future Volume (veh/h)	8	443	355	92	314	262	174	213	90	123	305	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	482	386	100	341	285	189	232	98	134	332	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	251	1053	470	179	1053	470	220	1271	521	202	1311	285
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.30	0.30	0.30	0.49	0.49	0.49	0.12	0.52	0.52	0.02	0.15	0.15
Unsig. Movement Delay												
Ln Grp Delay, s/veh	35.2	34.7	47.2	38.0	23.3	26.7	60.1	15.8	15.9	60.9	33.8	33.9
Ln Grp LOS	D	C	D	D	C	C	E	B	B	E	C	C
Approach Vol, veh/h		877			726			519			539	
Approach Delay, s/veh		40.2			26.7			32.0			40.6	
Approach LOS		D			C			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		11.0	67.8		41.2	18.8	60.0		41.2			
Change Period (Y+Rc), s		4.0	5.8		* 5.6	4.0	5.8		* 5.6			
Max Green (Gmax), s		20.0	43.2		* 41	25.0	38.2		* 41			
Max Allow Headway (MAH), s		3.8	5.3		4.7	3.8	5.3		5.0			
Max Q Clear (g_c+I1), s		6.6	8.2		29.2	14.5	14.3		32.8			
Green Ext Time (g_e), s		0.3	2.1		3.8	0.4	2.4		2.7			
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.26	0.00	0.00		0.48			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			799	1781			638			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2459		3554		2903		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1007		1585		630		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis
 6: Bristol Pkwy & Hannum Ave

07/19/2023

Lanes in Grp	2	0	0	1	1	0	0	1
Grp Vol (v), veh/h	134	0	0	9	189	0	0	100
Grp Sat Flow (s), veh/h/ln	1728	0	0	799	1781	0	0	638
Q Serve Time (g_s), s	4.6	0.0	0.0	1.0	12.5	0.0	0.0	17.6
Cycle Q Clear Time (g_c), s	4.6	0.0	0.0	8.0	12.5	0.0	0.0	30.8
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	799	0	0	0	638
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	35.6	0.0	0.0	0.0	35.6
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	28.6	0.0	0.0	0.0	22.3
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	17.6
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	202	0	0	251	220	0	0	179
V/C Ratio (X)	0.66	0.00	0.00	0.04	0.86	0.00	0.00	0.56
Avail Cap (c_a), veh/h	576	0	0	290	371	0	0	210
Upstream Filter (I)	0.86	0.00	0.00	0.91	0.86	0.00	0.00	1.00
Uniform Delay (d1), s/veh	57.7	0.0	0.0	35.2	51.5	0.0	0.0	35.3
Incr Delay (d2), s/veh	3.2	0.0	0.0	0.1	8.6	0.0	0.0	2.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.9	0.0	0.0	35.2	60.1	0.0	0.0	38.0
1st-Term Q (Q1), veh/ln	2.1	0.0	0.0	0.2	5.6	0.0	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.5	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.62	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	3.9	0.0	0.0	0.4	9.8	0.0	0.0	4.7
%ile Storage Ratio (RQ%)	0.52	0.00	0.00	0.06	1.25	0.00	0.00	0.61
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	166	0	482	0	202	0	341
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	6.0	0.0	13.3	0.0	12.0	0.0	6.9
Cycle Q Clear Time (g_c), s	0.0	6.0	0.0	13.3	0.0	12.0	0.0	6.9
Lane Grp Cap (c), veh/h	0	919	0	1053	0	802	0	1053
V/C Ratio (X)	0.00	0.18	0.00	0.46	0.00	0.25	0.00	0.32
Avail Cap (c_a), veh/h	0	919	0	1226	0	802	0	1226
Upstream Filter (I)	0.00	0.86	0.00	0.91	0.00	0.86	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.4	0.0	34.4	0.0	33.1	0.0	23.1
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.3	0.0	0.6	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.8	0.0	34.7	0.0	33.8	0.0	23.3
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	5.7	0.0	5.7	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.65	0.00	1.63	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.5	0.0	9.5	0.0	9.6	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.29	0.00	0.56	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	164	0	386	0	203	0	285
Grp Sat Flow (s), veh/h/ln	0	1689	0	1585	0	1757	0	1585
Q Serve Time (g_s), s	0.0	6.2	0.0	27.2	0.0	12.3	0.0	15.6
Cycle Q Clear Time (g_c), s	0.0	6.2	0.0	27.2	0.0	12.3	0.0	15.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.60	0.00	1.00	0.00	0.36	0.00	1.00
Lane Grp Cap (c), veh/h	0	873	0	470	0	793	0	470
V/C Ratio (X)	0.00	0.19	0.00	0.82	0.00	0.26	0.00	0.61
Avail Cap (c_a), veh/h	0	873	0	547	0	793	0	547
Upstream Filter (I)	0.00	0.86	0.00	0.91	0.00	0.86	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.5	0.0	39.3	0.0	33.2	0.0	25.3
Incr Delay (d2), s/veh	0.0	0.4	0.0	7.9	0.0	0.7	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.9	0.0	47.2	0.0	33.9	0.0	26.7
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	10.5	0.0	5.8	0.0	4.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.0	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.46	0.00	1.62	0.00	1.73
%ile Back of Q (95%), veh/ln	0.0	4.5	0.0	16.8	0.0	9.7	0.0	8.8
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.51	0.00	0.56	0.00	1.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	35.0
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	665	18	13	249	5	27	0	39	16	4	51
Future Volume (veh/h)	3	665	18	13	249	5	27	0	39	16	4	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	723	20	14	271	5	29	0	42	17	4	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	916	2724	1215	606	2788	1243	123	0	120	119	23	132
Arrive On Green	0.01	0.77	0.77	0.04	1.00	1.00	0.08	0.00	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	758	0	1442	781	272	1585
Grp Volume(v), veh/h	3	723	20	14	271	5	29	0	42	21	0	55
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	758	0	1442	1052	0	1585
Q Serve(g_s), s	0.0	7.2	0.4	0.2	0.0	0.0	2.5	0.0	3.3	1.1	0.0	4.0
Cycle Q Clear(g_c), s	0.0	7.2	0.4	0.2	0.0	0.0	6.9	0.0	3.3	4.4	0.0	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.81		1.00
Lane Grp Cap(c), veh/h	916	2724	1215	606	2788	1243	123	0	120	142	0	132
V/C Ratio(X)	0.00	0.27	0.02	0.02	0.10	0.00	0.24	0.00	0.35	0.15	0.00	0.42
Avail Cap(c_a), veh/h	1069	2724	1215	742	2788	1243	396	0	413	435	0	454
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.1	4.1	3.3	2.9	0.0	0.0	55.7	0.0	51.9	52.7	0.0	52.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.1	0.0	1.0	0.0	1.7	0.5	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	4.1	0.2	0.1	0.0	0.0	1.6	0.0	2.3	1.1	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.1	4.3	3.3	2.9	0.1	0.0	56.7	0.0	53.7	53.2	0.0	54.3
LnGrp LOS	A	A	A	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		746			290			71				76
Approach Delay, s/veh		4.3			0.2			54.9				54.0
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	99.7		15.6	6.8	97.6		15.6				
Change Period (Y+Rc), s	4.0	5.6		5.6	* 4.2	* 5.6		5.6				
Max Green Setting (Gmax), s	59.4			34.4	* 12	* 59		34.4				
Max Q Clear Time (g_c+1), s	2.0			6.4	2.2	9.2		8.9				
Green Ext Time (p_c), s	0.0	2.0		0.2	0.0	6.1		0.3				

Intersection Summary























HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
7: Uplander Way & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	665	18	13	249	5	27	0	39	16	4	51
Future Volume (veh/h)	3	665	18	13	249	5	27	0	39	16	4	51
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	723	20	14	271	5	29	0	42	17	4	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	916	2724	1215	606	2788	1243	123	0	120	119	23	132
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.77	0.77	0.04	1.00	1.00	0.08	0.00	0.08	0.08	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	3.1	4.3	3.3	2.9	0.1	0.0	56.7	0.0	53.7	53.2	0.0	54.3
Ln Grp LOS	A	A	A	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		746			290			71			76	
Approach Delay, s/veh		4.3			0.2			54.9			54.0	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		1.1	3.0		7.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		4.7	99.7		15.6	6.8	97.6		15.6			
Change Period (Y+Rc), s		4.0	5.6		5.6	* 4.2	* 5.6		5.6			
Max Green (Gmax), s		11.0	59.4		34.4	* 12	* 59		34.4			
Max Allow Headway (MAH), s		3.8	5.2		4.4	3.8	5.2		5.5			
Max Q Clear (g_c+I1), s		2.0	2.0		6.4	2.2	9.2		8.9			
Green Ext Time (g_e), s		0.0	2.0		0.2	0.0	6.1		0.3			
Prob of Phs Call (p_c)		0.10	1.00		1.00	0.37	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			781	1781			758			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		272		3554		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1442			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Pr/Pm)			L+TL (Pr/Pm)				L+T			

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	3	0	0	21	14	0	0	29
Grp Sat Flow (s), veh/h/ln	1781	0	0	1052	1781	0	0	758
Q Serve Time (g_s), s	0.0	0.0	0.0	1.1	0.2	0.0	0.0	2.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.4	0.2	0.0	0.0	6.9
Perm LT Sat Flow (s_l), veh/h/ln	1103	0	0	1386	717	0	0	1365
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	92.0	0.0	0.0	10.0	92.0	0.0	0.0	10.0
Perm LT Serve Time (g_u), s	92.0	0.0	0.0	6.7	84.8	0.0	0.0	5.6
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.1	0.1	0.0	0.0	2.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.81	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	916	0	0	142	606	0	0	123
V/C Ratio (X)	0.00	0.00	0.00	0.15	0.02	0.00	0.00	0.24
Avail Cap (c_a), veh/h	1069	0	0	435	742	0	0	396
Upstream Filter (I)	0.77	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	3.1	0.0	0.0	52.7	2.9	0.0	0.0	55.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	3.1	0.0	0.0	53.2	2.9	0.0	0.0	56.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.1	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	1.1	0.1	0.0	0.0	1.6
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	0.43	0.02	0.00	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	271	0	0	0	723	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	7.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	7.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	2788	0	0	0	2724	0	0
V/C Ratio (X)	0.00	0.10	0.00	0.00	0.00	0.27	0.00	0.00
Avail Cap (c_a), veh/h	0	2788	0	0	0	2724	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.77	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	0.0	0.0	4.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.18	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	5	0	55	0	20	0	42
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1442
Q Serve Time (g_s), s	0.0	0.0	0.0	4.0	0.0	0.4	0.0	3.3
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.0	0.0	0.4	0.0	3.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1243	0	132	0	1215	0	120
V/C Ratio (X)	0.00	0.00	0.00	0.42	0.00	0.02	0.00	0.35
Avail Cap (c_a), veh/h	0	1243	0	454	0	1215	0	413
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.77	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.2	0.0	3.3	0.0	51.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.1	0.0	0.0	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	54.3	0.0	3.3	0.0	53.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.6	0.0	0.1	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	3.0	0.0	0.2	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.14	0.00	0.05	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	453	248	152	130	0	103	0	124	5	2	14
Future Volume (veh/h)	0	453	248	152	130	0	103	0	124	5	2	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	492	270	165	141	0	112	0	135	5	2	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	2534	1130	666	2859	1275	206	189	253	56	32	109
Arrive On Green	0.00	1.00	1.00	0.02	0.27	0.00	0.10	0.00	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1396	1870	1585	192	311	1079
Grp Volume(v), veh/h	0	492	270	165	141	0	112	0	135	22	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1396	1870	1585	1582	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.5	3.5	0.0	7.5	0.0	9.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.5	3.5	0.0	9.0	0.0	9.4	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.23		0.68
Lane Grp Cap(c), veh/h	1	2534	1130	666	2859	1275	206	189	253	197	0	0
V/C Ratio(X)	0.00	0.19	0.24	0.25	0.05	0.00	0.54	0.00	0.53	0.11	0.00	0.00
Avail Cap(c_a), veh/h	312	2534	1130	785	2859	1275	544	642	636	564	0	0
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.93	0.93	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	3.1	9.9	0.0	52.3	0.0	46.3	49.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.5	0.2	0.0	0.0	2.2	0.0	1.8	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.1	0.3	1.5	2.0	0.0	6.1	0.0	6.9	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.2	0.5	3.3	9.9	0.0	54.6	0.0	48.1	49.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h	762			306			247			22		
Approach Delay, s/veh	0.3			6.4			51.0			49.4		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	0.0	102.0	18.0		11.0	91.1	18.0					
Change Period (Y+Rc), s	4.0	* 5.5	* 5.8		4.0	* 5.5	* 5.8					
Max Green Setting (Gmax), s	2.0	* 43	* 41		15.0	* 49	* 41					
Max Q Clear Time (g_c+1), s	10.0	5.5	11.4		4.5	2.0	3.4					
Green Ext Time (p_c), s	0.0	0.9	0.8		0.3	4.8	0.1					

Intersection Summary
























HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	453	248	152	130	0	103	0	124	5	2	14
Future Volume (veh/h)	0	453	248	152	130	0	103	0	124	5	2	14
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	492	270	165	141	0	112	0	135	5	2	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	1	2534	1130	666	2859	1275	206	189	253	56	32	109
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	1.00	1.00	0.02	0.27	0.00	0.10	0.00	0.10	0.10	0.10	0.10
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	0.2	0.5	3.3	9.9	0.0	54.6	0.0	48.1	49.4	0.0	0.0
Ln Grp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		762			306			247			22	
Approach Delay, s/veh		0.3			6.4			51.0			49.4	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		0.0	102.0		18.0	11.0	91.1		18.0			
Change Period (Y+Rc), s		4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8			
Max Green (Gmax), s		21.0	* 43		* 41	15.0	* 49		* 41			
Max Allow Headway (MAH), s		0.0	5.2		3.9	3.8	4.8		5.5			
Max Q Clear (g_c+I1), s		0.0	5.5		11.4	4.5	2.0		3.4			
Green Ext Time (g_e), s		0.0	0.9		0.8	0.3	4.8		0.1			
Prob of Phs Call (p_c)		0.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1396	1781			192			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		1870		3554		311			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1079			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			LL (Pr/Pm)				L+T+R			

HCM 6th Signalized Intersection Capacity Analysis

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	0	0	0	112	165	0	0	22
Grp Sat Flow (s), veh/h/ln	1781	0	0	1396	1781	0	0	1582
Q Serve Time (g_s), s	0.0	0.0	0.0	7.5	2.5	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.0	2.5	0.0	0.0	1.4
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1396	704	0	0	1274
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1781	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	12.2	87.6	0.0	0.0	12.2
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	10.7	85.6	0.0	0.0	12.2
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	7.5	0.6	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.23
Lane Grp Cap (c), veh/h	1	0	0	206	666	0	0	197
V/C Ratio (X)	0.00	0.00	0.00	0.54	0.25	0.00	0.00	0.11
Avail Cap (c_a), veh/h	312	0	0	544	785	0	0	564
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.93	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.3	3.1	0.0	0.0	49.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.2	0.2	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	54.6	3.3	0.0	0.0	49.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.3	0.8	0.0	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	6.1	1.5	0.0	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.36	0.20	0.00	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		
Lanes in Grp	0	2	0	1	0	2	0	0
Grp Vol (v), veh/h	0	141	0	0	0	492	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2859	0	189	0	2534	0	0
V/C Ratio (X)	0.00	0.05	0.00	0.00	0.00	0.19	0.00	0.00
Avail Cap (c_a), veh/h	0	2859	0	642	0	2534	0	0
Upstream Filter (I)	0.00	0.93	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.9	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.9	0.0	0.0	0.0	0.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	2.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	135	0	270	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	9.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.68
Lane Grp Cap (c), veh/h	0	1275	0	253	0	1130	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.53	0.00	0.24	0.00	0.00
Avail Cap (c_a), veh/h	0	1275	0	636	0	1130	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	46.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.8	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	48.1	0.0	0.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	6.9	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.52	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

9: Bristol Pkwy & Green Valley Cir

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	156	380	136	75	267	119	138	182	73	322	679	282
Future Volume (veh/h)	156	380	136	75	267	119	138	182	73	322	679	282
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	413	148	82	290	129	150	198	79	350	738	307
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	765	271	197	717	311	389	776	310	653	1493	621
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.61	0.61	0.61	1.00	1.00	1.00
Sat Flow, veh/h	968	2572	912	849	2412	1047	540	1272	507	1102	2447	1017
Grp Volume(v), veh/h	170	284	277	82	212	207	150	0	277	350	536	509
Grp Sat Flow(s),veh/h/ln	968	1777	1706	849	1777	1682	540	0	1779	1102	1777	1687
Q Serve(g_s), s	20.5	16.0	16.3	10.8	11.4	11.8	18.0	0.0	8.6	9.4	0.0	0.0
Cycle Q Clear(g_c), s	32.3	16.0	16.3	27.1	11.4	11.8	18.0	0.0	8.6	18.0	0.0	0.0
Prop In Lane	1.00		0.53	1.00		0.62	1.00		0.29	1.00		0.60
Lane Grp Cap(c), veh/h	252	528	507	197	528	500	389	0	1086	653	1084	1030
V/C Ratio(X)	0.67	0.54	0.55	0.42	0.40	0.41	0.39	0.00	0.26	0.54	0.49	0.49
Avail Cap(c_a), veh/h	267	555	533	210	555	526	389	0	1086	653	1084	1030
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	46.8	35.3	35.4	46.7	33.6	33.8	12.6	0.0	10.8	1.1	0.0	0.0
Incr Delay (d2), s/veh	6.1	0.9	1.0	1.4	0.5	0.5	2.9	0.0	0.6	2.8	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.1	11.4	11.3	4.2	8.7	8.6	4.3	0.0	6.3	0.9	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.9	36.2	36.4	48.1	34.1	34.3	15.5	0.0	11.4	3.9	1.4	1.5
LnGrp LOS	D	D	D	D	C	C	B	A	B	A	A	A
Approach Vol, veh/h		731			501			427			1395	
Approach Delay, s/veh		40.2			36.5			12.8			2.1	
Approach LOS		D			D			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		78.8		41.2		78.8		41.2				
Change Period (Y+Rc), s		* 5.6		* 5.5		* 5.6		* 5.5				
Max Green Setting (Gmax), s		* 71		* 38		* 71		* 38				
Max Q Clear Time (g_c+1), s		20.0		34.3		20.0		29.1				
Green Ext Time (p_c), s		4.1		1.3		12.1		1.9				

Intersection Summary

HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
9: Bristol Pkwy & Green Valley Cir

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	380	136	75	267	119	138	182	73	322	679	282
Future Volume (veh/h)	156	380	136	75	267	119	138	182	73	322	679	282
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	413	148	82	290	129	150	198	79	350	738	307
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	252	765	271	197	717	311	389	776	310	653	1493	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.61	0.61	0.61	1.00	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	52.9	36.2	36.4	48.1	34.1	34.3	15.5	0.0	11.4	3.9	1.4	1.5
Ln Grp LOS	D	D	D	D	C	C	B	A	B	A	A	A
Approach Vol, veh/h		731			501			427			1395	
Approach Delay, s/veh		40.2			36.5			12.8			2.1	
Approach LOS		D			D			B			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			78.8		41.2		78.8		41.2			
Change Period (Y+Rc), s			* 5.6		* 5.5		* 5.6		* 5.5			
Max Green (Gmax), s			* 71		* 38		* 71		* 38			
Max Allow Headway (MAH), s			6.2		5.2		5.1		5.4			
Max Q Clear (g_c+I1), s			20.0		34.3		20.0		29.1			
Green Ext Time (g_e), s			4.1		1.3		12.1		1.9			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		0.47			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			540		968		1102		849			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1272		2572		2447		2412			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			507		912		1017		1047			
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment		L		L		L		L				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	150	0	170	0	350	0	82
Grp Sat Flow (s), veh/h/ln	0	540	0	968	0	1102	0	849
Q Serve Time (g_s), s	0.0	18.0	0.0	20.5	0.0	9.4	0.0	10.8
Cycle Q Clear Time (g_c), s	0.0	18.0	0.0	32.3	0.0	18.0	0.0	27.1
Perm LT Sat Flow (s_l), veh/h/ln	0	540	0	968	0	1102	0	849
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	73.2	0.0	35.7	0.0	73.2	0.0	35.7
Perm LT Serve Time (g_u), s	0.0	73.2	0.0	23.8	0.0	64.6	0.0	19.3
Perm LT Q Serve Time (g_ps), s	0.0	18.0	0.0	20.5	0.0	9.4	0.0	10.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	389	0	252	0	653	0	197
V/C Ratio (X)	0.00	0.39	0.00	0.67	0.00	0.54	0.00	0.42
Avail Cap (c_a), veh/h	0	389	0	267	0	653	0	210
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.89	0.00	0.99
Uniform Delay (d1), s/veh	0.0	12.6	0.0	46.8	0.0	1.1	0.0	46.7
Incr Delay (d2), s/veh	0.0	2.9	0.0	6.1	0.0	2.8	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.5	0.0	52.9	0.0	3.9	0.0	48.1
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	4.9	0.0	0.0	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.4	0.0	0.5	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.71	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.3	0.0	9.1	0.0	0.9	0.0	4.2
%ile Storage Ratio (RQ%)	0.00	0.92	0.00	2.58	0.00	0.20	0.00	1.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	284	0	536	0	212
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	16.0	0.0	0.0	0.0	11.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	16.0	0.0	0.0	0.0	11.4
Lane Grp Cap (c), veh/h	0	0	0	528	0	1084	0	528
V/C Ratio (X)	0.00	0.00	0.00	0.54	0.00	0.49	0.00	0.40
Avail Cap (c_a), veh/h	0	0	0	555	0	1084	0	555
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.89	0.00	0.99
Uniform Delay (d1), s/veh	0.0	0.0	0.0	35.3	0.0	0.0	0.0	33.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.9	0.0	1.4	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	36.2	0.0	1.4	0.0	34.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	6.9	0.0	0.0	0.0	4.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.62	0.00	1.80	0.00	1.73
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	11.4	0.0	0.8	0.0	8.7
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.31	0.00	0.01	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	277	0	277	0	509	0	207
Grp Sat Flow (s), veh/h/ln	0	1779	0	1706	0	1687	0	1682
Q Serve Time (g_s), s	0.0	8.6	0.0	16.3	0.0	0.0	0.0	11.8
Cycle Q Clear Time (g_c), s	0.0	8.6	0.0	16.3	0.0	0.0	0.0	11.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.29	0.00	0.53	0.00	0.60	0.00	0.62
Lane Grp Cap (c), veh/h	0	1086	0	507	0	1030	0	500
V/C Ratio (X)	0.00	0.26	0.00	0.55	0.00	0.49	0.00	0.41
Avail Cap (c_a), veh/h	0	1086	0	533	0	1030	0	526
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.89	0.00	0.99
Uniform Delay (d1), s/veh	0.0	10.8	0.0	35.4	0.0	0.0	0.0	33.8
Incr Delay (d2), s/veh	0.0	0.6	0.0	1.0	0.0	1.5	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.4	0.0	36.4	0.0	1.5	0.0	34.3
1st-Term Q (Q1), veh/ln	0.0	3.3	0.0	6.8	0.0	0.0	0.0	4.9
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.4	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.62	0.00	1.80	0.00	1.74
%ile Back of Q (95%), veh/ln	0.0	6.3	0.0	11.3	0.0	0.8	0.0	8.6
%ile Storage Ratio (RQ%)	0.00	0.29	0.00	0.31	0.00	0.01	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

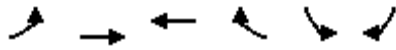
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

10: Green Valley Cir & Buckingham

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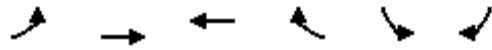


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	110	477	206	103	210	103
Future Volume (veh/h)	110	477	206	103	210	103
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	518	224	112	228	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	838	2738	1791	864	268	238
Arrive On Green	0.25	0.25	0.77	0.77	0.15	0.15
Sat Flow, veh/h	1044	3647	2418	1121	1781	1585
Grp Volume(v), veh/h	120	518	169	167	228	112
Grp Sat Flow(s),veh/h/ln	1044	1777	1777	1669	1781	1585
Q Serve(g_s), s	10.8	13.7	2.9	3.1	15.0	7.8
Cycle Q Clear(g_c), s	13.9	13.7	2.9	3.1	15.0	7.8
Prop In Lane	1.00			0.67	1.00	1.00
Lane Grp Cap(c), veh/h	838	2738	1369	1286	268	238
V/C Ratio(X)	0.14	0.19	0.12	0.13	0.85	0.47
Avail Cap(c_a), veh/h	838	2738	1369	1286	757	674
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	15.4	3.5	3.5	49.7	46.6
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.2	7.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.5	10.3	1.7	1.7	11.6	5.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.7	15.4	3.7	3.7	57.2	48.1
LnGrp LOS	B	B	A	A	E	D
Approach Vol, veh/h		638	336		340	
Approach Delay, s/veh		15.6	3.7		54.2	
Approach LOS		B	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		98.0		22.0		98.0
Change Period (Y+Rc), s		* 5.5		4.0		* 5.5
Max Green Setting (Gmax), s		* 60		51.0		* 60
Max Q Clear Time (g_c+I1), s		5.1		17.0		15.9
Green Ext Time (p_c), s		2.2		1.1		4.6
Intersection Summary						
HCM 6th Ctrl Delay			22.6			
HCM 6th LOS			C			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖	↑↑	↗		↙	↘			
Traffic Volume (veh/h)	110	477	206	103	210	103			
Future Volume (veh/h)	110	477	206	103	210	103			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	120	518	224	112	228	112			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	838	2738	1791	864	268	238			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.25	0.25	0.77	0.77	0.15	0.15			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	16.7	15.4	3.7	3.7	57.2	48.1			
Ln Grp LOS	B	B	A	A	E	D			
Approach Vol, veh/h		638	336		340				
Approach Delay, s/veh		15.6	3.7		54.2				
Approach LOS		B	A		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		9.0		6.0		
Phs Duration (G+Y+Rc), s			98.0		22.0		98.0		
Change Period (Y+Rc), s			* 5.5		4.0		* 5.5		
Max Green (Gmax), s			* 60		51.0		* 60		
Max Allow Headway (MAH), s			5.4		3.9		5.1		
Max Q Clear (g_c+I1), s			5.1		17.0		15.9		
Green Ext Time (g_e), s			2.2		1.1		4.6		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1781		1044		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			2418		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			1121		1585		0		
Left Lane Group Data									
Assigned Mvmt	0	5	0	7	0	1	0	0	
Lane Assignment				L		L			

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	228	0	120	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	0	1044	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	15.0	0.0	10.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	15.0	0.0	13.9	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	1044	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	92.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	89.4	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	10.8	0.0	0.0
Time to First Blk (g_f), s	0.0	92.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	268	0	838	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.85	0.00	0.14	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	757	0	838	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.79	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	49.7	0.0	16.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	7.5	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	57.2	0.0	16.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	6.7	0.0	3.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.61	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	11.6	0.0	5.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.17	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	169	0	0	0	518	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	2.9	0.0	0.0	0.0	13.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.9	0.0	0.0	0.0	13.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	1369	0	0	0	2738	0	0
V/C Ratio (X)	0.00	0.12	0.00	0.00	0.00	0.19	0.00	0.00
Avail Cap (c_a), veh/h	0	1369	0	0	0	2738	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.79	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.5	0.0	0.0	0.0	15.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.7	0.0	0.0	0.0	15.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.0	0.0	6.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.57	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	1.7	0.0	0.0	0.0	10.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.00	0.00	0.16	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	167	0	112	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1669	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	3.1	0.0	7.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.1	0.0	7.8	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.67	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1286	0	238	0	0	0	0
V/C Ratio (X)	0.00	0.13	0.00	0.47	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1286	0	674	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.5	0.0	46.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	1.4	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.7	0.0	48.1	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	3.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	1.7	0.0	5.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.08	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	22.6
HCM 6th LOS	C

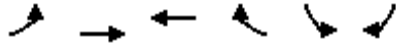
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

11: Centinela Ave & Green Valley Cir

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑	↗	↘↘	↙
Traffic Volume (veh/h)	79	1493	550	247	630	87
Future Volume (veh/h)	79	1493	550	247	630	87
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	1623	598	268	685	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	453	2414	2414	1077	772	354
Arrive On Green	0.68	0.68	0.68	0.68	0.22	0.22
Sat Flow, veh/h	639	3647	3647	1585	3456	1585
Grp Volume(v), veh/h	86	1623	598	268	685	95
Grp Sat Flow(s),veh/h/ln	639	1777	1777	1585	1728	1585
Q Serve(g_s), s	7.2	32.4	7.8	7.8	23.0	5.9
Cycle Q Clear(g_c), s	15.0	32.4	7.8	7.8	23.0	5.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	453	2414	2414	1077	772	354
V/C Ratio(X)	0.19	0.67	0.25	0.25	0.89	0.27
Avail Cap(c_a), veh/h	453	2414	2414	1077	904	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.3	11.4	7.4	7.4	45.1	38.5
Incr Delay (d2), s/veh	0.9	1.5	0.1	0.1	9.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	17.9	5.1	4.6	16.3	4.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.2	12.9	7.5	7.6	54.7	38.9
LnGrp LOS	B	B	A	A	D	D
Approach Vol, veh/h		1709	866		780	
Approach Delay, s/veh		12.8	7.5		52.8	
Approach LOS		B	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		87.6		32.4		87.6
Change Period (Y+Rc), s		6.1		* 5.6		6.1
Max Green Setting (Gmax), s		76.9		* 31		76.9
Max Q Clear Time (g_c+I1), s		34.4		25.0		9.8
Green Ext Time (p_c), s		21.0		1.8		5.9

Intersection Summary

HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

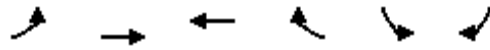
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↶	↷	↷	↶	↷	↶			
Traffic Volume (veh/h)	79	1493	550	247	630	87			
Future Volume (veh/h)	79	1493	550	247	630	87			
Number	5	2	6	16	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	86	1623	598	268	685	95			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	453	2414	2414	1077	772	354			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.68	0.68	0.68	0.68	0.22	0.22			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	11.2	12.9	7.5	7.6	54.7	38.9			
Ln Grp LOS	B	B	A	A	D	D			
Approach Vol, veh/h		1709	866		780				
Approach Delay, s/veh		12.8	7.5		52.8				
Approach LOS		B	A		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s			87.6		32.4		87.6		
Change Period (Y+Rc), s			6.1		* 5.6		6.1		
Max Green (Gmax), s			76.9		* 31		76.9		
Max Allow Headway (MAH), s			5.3		3.8		4.9		
Max Q Clear (g_c+I1), s			34.4		25.0		9.8		
Green Ext Time (g_e), s			21.0		1.8		5.9		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.25		0.45		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			639		3456		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	86	0	685	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	639	0	1728	0	0	0	0
Q Serve Time (g_s), s	0.0	7.2	0.0	23.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	15.0	0.0	23.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	639	0	1728	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	81.5	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	73.7	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	81.5	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	453	0	772	0	0	0	0
V/C Ratio (X)	0.00	0.19	0.00	0.89	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	453	0	904	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.3	0.0	45.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	9.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.2	0.0	54.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	9.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.50	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.0	0.0	16.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.33	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1623	0	0	0	598	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	32.4	0.0	0.0	0.0	7.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	32.4	0.0	0.0	0.0	7.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	2414	0	0	0	2414	0	0
V/C Ratio (X)	0.00	0.67	0.00	0.00	0.00	0.25	0.00	0.00
Avail Cap (c_a), veh/h	0	2414	0	0	0	2414	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.4	0.0	0.0	0.0	7.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.9	0.0	0.0	0.0	7.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	11.7	0.0	0.0	0.0	2.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.47	0.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	17.9	0.0	0.0	0.0	5.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.64	0.00	0.00	0.00	0.21	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	95	0	268	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	5.9	0.0	7.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	5.9	0.0	7.8	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	354	0	1077	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.27	0.00	0.25	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	415	0	1077	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	38.5	0.0	7.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	38.9	0.0	7.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.3	0.0	2.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	4.3	0.0	4.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.09	0.00	0.19	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
12: Hannum Driveway & Hannum Ave

07/19/2023

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑↑	
Traffic Vol, veh/h	705	15	5	242	13	4
Future Vol, veh/h	705	15	5	242	13	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	766	16	5	263	14	4
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	782	0	916	391
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	142	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	832	-	272	608
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	832	-	270	608
Mov Cap-2 Maneuver	-	-	-	-	270	-
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	865	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.2	17.3			
HCM LOS			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	311	-	-	832	-	
HCM Lane V/C Ratio	0.059	-	-	0.007	-	
HCM Control Delay (s)	17.3	-	-	9.4	-	
HCM Lane LOS	C	-	-	A	-	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	14	22	201	368	41
Future Vol, veh/h	26	14	22	201	368	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	15	24	218	400	45

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	580	223	445	0	-	0
Stage 1	423	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	445	780	1112	-	-	-
Stage 1	629	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	435	780	1112	-	-	-
Mov Cap-2 Maneuver	435	-	-	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	855	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1112	-	515	-	-
HCM Lane V/C Ratio	0.022	-	0.084	-	-
HCM Control Delay (s)	8.3	-	12.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

HCM 6th Signalized Intersection Summary

1: Hannum Ave & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖↖	↑↑↑	↖	↖↖	↑↑	↖	↖↖	↑↑	↖↖
Traffic Volume (veh/h)	64	378	97	49	907	748	186	908	348	210	274	84
Future Volume (veh/h)	64	378	97	49	907	748	186	908	348	210	274	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	411	105	53	986	813	202	987	0	228	298	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	1724	425	215	2132	662	792	932		264	389	
Arrive On Green	0.07	0.42	0.42	0.06	0.42	0.42	0.23	0.26	0.00	0.08	0.11	0.00
Sat Flow, veh/h	1781	4085	1008	3456	5106	1585	3456	3554	1585	3456	3647	0
Grp Volume(v), veh/h	70	340	176	53	986	813	202	987	0	228	298	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1689	1728	1702	1585	1728	1777	1585	1728	1777	0
Q Serve(g_s), s	5.3	9.0	9.4	2.0	19.5	58.5	6.7	36.7	0.0	9.1	11.4	0.0
Cycle Q Clear(g_c), s	5.3	9.0	9.4	2.0	19.5	58.5	6.7	36.7	0.0	9.1	11.4	0.0
Prop In Lane	1.00		0.60	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	119	1436	713	215	2132	662	792	932		264	389	
V/C Ratio(X)	0.59	0.24	0.25	0.25	0.46	1.23	0.26	1.06		0.86	0.77	
Avail Cap(c_a), veh/h	129	1436	713	247	2132	662	792	932		264	949	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.5	26.0	26.1	62.5	29.4	40.8	44.2	51.7	0.0	63.9	60.6	0.0
Incr Delay (d2), s/veh	6.0	0.4	0.8	0.5	0.6	113.0	0.2	46.6	0.0	24.2	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	6.8	7.2	1.7	12.3	60.7	5.3	31.1	0.0	8.6	9.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.5	26.4	26.9	63.0	30.0	153.8	44.4	98.2	0.0	88.2	63.8	0.0
LnGrp LOS	E	C	C	E	C	F	D	F		F	E	
Approach Vol, veh/h		586			1852			1189			526	
Approach Delay, s/veh		31.7			85.3			89.1			74.3	
Approach LOS		C			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	65.2	38.4	21.6	15.4	64.6	17.0	43.0				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3				
Max Green Setting (Gmax), s	* 10	* 58	10.0	37.4	* 10	* 58	10.7	36.7				
Max Q Clear Time (g_c+I1), s	4.0	11.4	8.7	13.4	7.3	60.5	11.1	38.7				
Green Ext Time (p_c), s	0.0	3.8	0.1	1.9	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	77.4
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.
























* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	378	97	49	907	748	186	908	348	210	274	84
Future Volume (veh/h)	64	378	97	49	907	748	186	908	348	210	274	84
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	411	105	53	986	813	202	987	0	228	298	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	119	1724	425	215	2132	662	792	932		264	389	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.42	0.42	0.06	0.42	0.42	0.23	0.26	0.00	0.08	0.11	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	69.5	26.4	26.9	63.0	30.0	153.8	44.4	98.2	0.0	88.2	63.8	0.0
Ln Grp LOS	E	C	C	E	C	F	D	F		F	E	
Approach Vol, veh/h		586			1852			1189			526	
Approach Delay, s/veh		31.7			85.3			89.1			74.3	
Approach LOS		C			F			F			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	4.0	4.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.8	65.2	21.6	38.4	15.4	64.6	17.0	43.0			
Change Period (Y+Rc), s		* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3			
Max Green (Gmax), s		* 10	* 58	37.4	10.0	* 10	* 58	10.7	36.7			
Max Allow Headway (MAH), s		3.8	5.3	5.2	3.8	3.8	4.7	3.8	5.2			
Max Q Clear (g_c+I1), s		4.0	11.4	13.4	8.7	7.3	60.5	11.1	38.7			
Green Ext Time (g_e), s		0.0	3.8	1.9	0.1	0.0	0.0	0.0	0.0			
Prob of Phs Call (p_c)		0.87	1.00	1.00	1.00	0.93	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.04	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	1781		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			4085	3647			5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1008	0			1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	53	0	0	202	70	0	228	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1781	0	1728	0
Q Serve Time (g_s), s	2.0	0.0	0.0	6.7	5.3	0.0	9.1	0.0
Cycle Q Clear Time (g_c), s	2.0	0.0	0.0	6.7	5.3	0.0	9.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	215	0	0	792	119	0	264	0
V/C Ratio (X)	0.25	0.00	0.00	0.26	0.59	0.00	0.86	0.00
Avail Cap (c_a), veh/h	247	0	0	792	129	0	264	0
Upstream Filter (I)	0.77	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	62.5	0.0	0.0	44.2	63.5	0.0	63.9	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	6.0	0.0	24.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.0	0.0	0.0	44.4	69.5	0.0	88.2	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	0.0	2.9	2.4	0.0	4.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.2	0.0	0.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	1.74	0.00
%ile Back of Q (95%), veh/ln	1.7	0.0	0.0	5.3	4.7	0.0	8.6	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.00	0.67	1.09	0.00	1.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	2	2	0	0	3	0	2
Grp Vol (v), veh/h	0	340	298	0	0	986	0	987
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	9.0	11.4	0.0	0.0	19.5	0.0	36.7
Cycle Q Clear Time (g_c), s	0.0	9.0	11.4	0.0	0.0	19.5	0.0	36.7
Lane Grp Cap (c), veh/h	0	1436	389	0	0	2132	0	932
V/C Ratio (X)	0.00	0.24	0.77	0.00	0.00	0.46	0.00	1.06
Avail Cap (c_a), veh/h	0	1436	949	0	0	2132	0	932
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.77	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.0	60.6	0.0	0.0	29.4	0.0	51.7
Incr Delay (d2), s/veh	0.0	0.4	3.2	0.0	0.0	0.6	0.0	46.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.4	63.8	0.0	0.0	30.0	0.0	98.2
1st-Term Q (Q1), veh/ln	0.0	3.7	5.2	0.0	0.0	8.1	0.0	16.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.2	0.0	0.0	0.1	0.0	6.0

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.71	0.00	0.00	1.50	0.00	1.40
%ile Back of Q (95%), veh/ln	0.0	6.8	9.1	0.0	0.0	12.3	0.0	31.1
%ile Storage Ratio (RQ%)	0.00	0.51	1.11	0.00	0.00	0.54	0.00	3.47
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.9
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		T+R				R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	176	0	0	0	813	0	0
Grp Sat Flow (s), veh/h/ln	0	1689	0	0	0	1585	0	1585
Q Serve Time (g_s), s	0.0	9.4	0.0	0.0	0.0	58.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.4	0.0	0.0	0.0	58.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.60	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	713	0	0	0	662	0	416
V/C Ratio (X)	0.00	0.25	0.00	0.00	0.00	1.23	0.00	0.00
Avail Cap (c_a), veh/h	0	713	0	0	0	662	0	416
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.77	0.00	0.00
Uniform Delay (d1), s/veh	0.0	26.1	0.0	0.0	0.0	40.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	113.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.9	0.0	0.0	0.0	153.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	0.0	0.0	22.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	20.8	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	0.00	0.00	1.40	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	7.2	0.0	0.0	0.0	60.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	0.00	0.00	9.95	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	37.8	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	77.4
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑	↗	↖	↑	↗↖	↖	↗	
Traffic Volume (veh/h)	1	425	536	3040	1199	0	428	0	1513	0	0	1
Future Volume (veh/h)	1	425	536	3040	1199	0	428	0	1513	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	462	0	3304	1303	0	465	0	1645	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	627		3169	2723	1214	214	0	2190	5	0	5
Arrive On Green	0.00	0.12	0.00	1.00	1.00	0.00	0.06	0.00	0.06	0.00	0.00	0.00
Sat Flow, veh/h	1781	5106	1585	5023	3554	1585	3563	0	3170	1781	0	1585
Grp Volume(v), veh/h	1	462	0	3304	1303	0	465	0	1645	0	0	1
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1674	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.1	13.1	0.0	94.6	0.0	0.0	9.0	0.0	9.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	13.1	0.0	94.6	0.0	0.0	9.0	0.0	9.0	0.0	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	6	627		3169	2723	1214	214	0	2190	5	0	5
V/C Ratio(X)	0.16	0.74		1.04	0.48	0.00	2.18	0.00	0.75	0.00	0.00	0.21
Avail Cap(c_a), veh/h	154	1454		3169	2723	1214	214	0	2190	131	0	116
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.00	0.09	0.09	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	74.5	63.4	0.0	0.0	0.0	0.0	70.5	0.0	14.9	0.0	0.0	74.6
Incr Delay (d2), s/veh	10.6	1.6	0.0	20.4	0.1	0.0	544.1	0.0	1.5	0.0	0.0	20.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	9.6	0.0	7.5	0.0	0.0	32.6	0.0	24.4	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.2	65.1	0.0	20.4	0.1	0.0	614.6	0.0	16.4	0.0	0.0	95.3
LnGrp LOS	F	E		F	A	A	F	A	B	A	A	F
Approach Vol, veh/h		463			4607			2110				1
Approach Delay, s/veh		65.1			14.6			148.2				95.3
Approach LOS		E			B			F				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.4	26.2		6.2	5.9	122.7		15.1				
Change Period (Y+Rc), s	7.8	* 7.8		* 5.8	5.4	7.8		6.1				
Max Green Setting (Gmax), s	43	* 43		* 11	13.0	91.9		9.0				
Max Q Clear Time (g_c+Y), s	70.6	15.1		2.1	2.1	2.0		11.0				
Green Ext Time (p_c), s	0.0	3.3		0.0	0.0	15.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay	57.1
HCM 6th LOS	E

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.
































HCM 6th Signalized Intersection Summary
2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	 				 		 	
Traffic Volume (veh/h)	1	425	536	3040	1199	0	428	0	1513	0	0	1
Future Volume (veh/h)	1	425	536	3040	1199	0	428	0	1513	0	0	1
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	462	0	3304	1303	0	465	0	1645	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	6	627		3169	2723	1214	214	0	2190	5	0	5
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.12	0.00	1.00	1.00	0.00	0.06	0.00	0.06	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	85.2	65.1	0.0	20.4	0.1	0.0	614.6	0.0	16.4	0.0	0.0	95.3
Ln Grp LOS	F	E		F	A	A	F	A	B	A	A	F
Approach Vol, veh/h		463			4607			2110				1
Approach Delay, s/veh		65.1			14.6			148.2				95.3
Approach LOS		E			B			F				F
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	3.0	9.0	10.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		102.4	26.2	15.1	6.2	5.9	122.7					
Change Period (Y+Rc), s		7.8	* 7.8	6.1	* 5.8	5.4	7.8					
Max Green (Gmax), s		61.2	* 43	9.0	* 11	13.0	91.9					
Max Allow Headway (MAH), s		3.8	5.2	4.0	5.6	3.8	5.2					
Max Q Clear (g_c+I1), s		96.6	15.1	11.0	2.1	2.1	2.0					
Green Ext Time (g_e), s		0.0	3.3	0.0	0.0	0.0	15.2					
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.04	0.04	1.00					
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		5023		3563	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			5106	0	0		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			1585	3170	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Lanes in Grp	3	0	2	1	1	0	0	0
Grp Vol (v), veh/h	3304	0	465	0	1	0	0	0
Grp Sat Flow (s), veh/h/ln	1674	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	94.6	0.0	9.0	0.0	0.1	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	94.6	0.0	9.0	0.0	0.1	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	3169	0	214	5	6	0	0	0
V/C Ratio (X)	1.04	0.00	2.18	0.00	0.16	0.00	0.00	0.00
Avail Cap (c_a), veh/h	3169	0	214	131	154	0	0	0
Upstream Filter (I)	0.09	0.00	1.00	0.00	0.94	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	70.5	0.0	74.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	20.4	0.0	544.1	0.0	10.6	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	20.4	0.0	614.6	0.0	85.2	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	6.0	0.0	16.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.25	0.00	1.61	1.00	1.80	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	7.5	0.0	32.6	0.0	0.1	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.82	0.00	1.71	0.00	0.03	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	33.8	0.0	62.8	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	462	0	0	0	1303	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	13.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	627	0	0	0	2723	0	0
V/C Ratio (X)	0.00	0.74	0.00	0.00	0.00	0.48	0.00	0.00
Avail Cap (c_a), veh/h	0	1454	0	0	0	2723	0	0
Upstream Filter (I)	0.00	0.94	0.00	0.00	0.00	0.09	0.00	0.00
Uniform Delay (d1), s/veh	0.0	63.4	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	65.1	0.0	0.0	0.0	0.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.66	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		R	R	T+R		R		
Lanes in Grp	0	1	2	1	0	1	0	0
Grp Vol (v), veh/h	0	0	1645	1	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	9.0	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	9.0	0.1	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	94.6	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	195	2190	5	0	1214	0	0
V/C Ratio (X)	0.00	0.00	0.75	0.21	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	451	2190	116	0	1214	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	14.9	74.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.5	20.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	16.4	95.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	17.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.39	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	24.4	0.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	1.28	0.02	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	57.1
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	1373	550	118	3767	27	445	10	60	5	4	7
Future Volume (veh/h)	17	1373	550	118	3767	27	445	10	60	5	4	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1492	598	128	4095	29	484	0	72	5	4	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	3266	1014	229	2567	18	242	0	426	68	54	105
Arrive On Green	0.42	1.00	1.00	0.07	0.49	0.49	0.07	0.00	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1781	5106	1585	3456	5231	37	3563	0	3170	1020	815	1572
Grp Volume(v), veh/h	18	1492	598	128	2662	1462	484	0	72	9	0	8
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1864	1781	0	1585	1819	0	1587
Q Serve(g_s), s	0.9	0.0	0.0	5.4	73.6	73.6	10.2	0.0	3.0	0.7	0.0	0.7
Cycle Q Clear(g_c), s	0.9	0.0	0.0	5.4	73.6	73.6	10.2	0.0	3.0	0.7	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.56		0.99
Lane Grp Cap(c), veh/h	376	3266	1014	229	1670	914	242	0	426	121	0	106
V/C Ratio(X)	0.05	0.46	0.59	0.56	1.59	1.60	2.00	0.00	0.17	0.07	0.00	0.08
Avail Cap(c_a), veh/h	376	3266	1014	230	1670	914	242	0	426	388	0	339
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	0.62	0.09	0.09	0.09	0.96	0.00	0.96	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	0.0	67.9	38.2	38.2	69.9	0.0	57.5	65.7	0.0	65.7
Incr Delay (d2), s/veh	0.0	0.3	1.6	0.3	267.3	270.1	462.9	0.0	0.2	0.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	0.2	0.8	3.2	131.0	144.3	32.3	0.0	2.2	0.6	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	0.3	1.6	68.2	305.5	308.3	532.8	0.0	57.7	65.9	0.0	66.0
LnGrp LOS	C	A	A	E	F	F	F	A	E	E	A	E
Approach Vol, veh/h		2108			4252			556				17
Approach Delay, s/veh		0.9			299.4			471.3				65.9
Approach LOS		A			F			F				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	102.0		15.8	37.8	80.4		16.0				
Change Period (Y+Rc), s	6.2	6.1		* 5.8	6.1	* 6.8		5.8				
Max Green Setting (Gmax), s	10.0	73.9		* 32	10.0	* 74		10.2				
Max Q Clear Time (g_c+1T), s	10.0	2.0		2.7	2.9	75.6		12.2				
Green Ext Time (p_c), s	0.1	25.4		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	221.8
HCM 6th LOS	F

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑↑	↵	↵↵	↑↑↑		↵↵	↑	↵		↵↵	
Traffic Volume (veh/h)	17	1373	550	118	3767	27	445	10	60	5	4	7
Future Volume (veh/h)	17	1373	550	118	3767	27	445	10	60	5	4	7
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1492	598	128	4095	29	484	0	72	5	4	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	376	3266	1014	229	2567	18	242	0	426	68	54	105
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.42	1.00	1.00	0.07	0.49	0.49	0.07	0.00	0.07	0.07	0.07	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	34.4	0.3	1.6	68.2	305.5	308.3	532.8	0.0	57.7	65.9	0.0	66.0
Ln Grp LOS	C	A	A	E	F	F	F	A	E	E	A	E
Approach Vol, veh/h		2108			4252			556			17	
Approach Delay, s/veh		0.9			299.4			471.3			65.9	
Approach LOS		A			F			F			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	6	5					
Case No		2.0	3.0	9.0	12.0	4.0	2.0					
Phs Duration (G+Y+Rc), s		16.2	102.0	16.0	15.8	80.4	37.8					
Change Period (Y+Rc), s		6.2	6.1	5.8	* 5.8	* 6.8	6.1					
Max Green (Gmax), s		10.0	73.9	10.2	* 32	* 74	10.0					
Max Allow Headway (MAH), s		3.8	4.9	3.8	5.4	5.2	3.8					
Max Q Clear (g_c+I1), s		7.4	2.0	12.2	2.7	75.6	2.9					
Green Ext Time (g_e), s		0.1	25.4	0.0	0.0	0.0	0.0					
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	0.53					
Prob of Max Out (p_x)		1.00	0.11	1.00	0.00	1.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7		5					
Mvmt Sat Flow, veh/h		3456		3563	1020		1781					
Through Movement Data												
Assigned Mvmt			2	8	4	6						
Mvmt Sat Flow, veh/h			5106	0	815	5231						
Right-Turn Movement Data												
Assigned Mvmt			12	18	14	16						
Mvmt Sat Flow, veh/h			1585	3170	1572	37						
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	0	5	0	0			
Lane Assignment		L (Prot)		L	L+T		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
 3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023

Lanes in Grp	2	0	2	1	0	1	0	0
Grp Vol (v), veh/h	128	0	484	9	0	18	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	1819	0	1781	0	0
Q Serve Time (g_s), s	5.4	0.0	10.2	0.7	0.0	0.9	0.0	0.0
Cycle Q Clear Time (g_c), s	5.4	0.0	10.2	0.7	0.0	0.9	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.56	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	229	0	242	121	0	376	0	0
V/C Ratio (X)	0.56	0.00	2.00	0.07	0.00	0.05	0.00	0.00
Avail Cap (c_a), veh/h	230	0	242	388	0	376	0	0
Upstream Filter (I)	0.09	0.00	0.96	1.00	0.00	0.62	0.00	0.00
Uniform Delay (d1), s/veh	67.9	0.0	69.9	65.7	0.0	34.4	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	462.9	0.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	68.2	0.0	532.8	65.9	0.0	34.4	0.0	0.0
1st-Term Q (Q1), veh/ln	2.4	0.0	4.7	0.3	0.0	0.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	15.6	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.32	0.00	1.60	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	3.2	0.0	32.3	0.6	0.0	0.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.50	0.00	3.82	0.08	0.00	0.18	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	60.4	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	3	0	0	2	0	0	0
Grp Vol (v), veh/h	0	1492	0	0	2662	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	1702	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	73.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	73.6	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	3266	0	0	1670	0	0	0
V/C Ratio (X)	0.00	0.46	0.00	0.00	1.59	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	3266	0	0	1670	0	0	0
Upstream Filter (I)	0.00	0.62	0.00	0.00	0.09	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	38.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	267.3	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	0.0	305.5	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	62.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	1.42	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	0.0	131.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	1.93	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	247.8	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	16	0	0	0
Lane Assignment		R	R	T+R	T+R			
Lanes in Grp	0	1	2	1	1	0	0	0
Grp Vol (v), veh/h	0	598	72	8	1462	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1587	1864	0	0	0
Q Serve Time (g_s), s	0.0	0.0	3.0	0.7	73.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	3.0	0.7	73.6	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.99	0.02	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1014	426	106	914	0	0	0
V/C Ratio (X)	0.00	0.59	0.17	0.08	1.60	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1014	426	339	914	0	0	0
Upstream Filter (I)	0.00	0.62	0.96	1.00	0.09	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	57.5	65.7	38.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	0.2	0.3	270.1	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	1.6	57.7	66.0	308.3	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.2	0.3	32.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	68.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.80	1.80	1.42	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.8	2.2	0.5	144.3	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.16	0.13	0.07	2.13	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	137.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	221.8
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑		↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	56	1230	57	273	3571	66	168	39	225	15	5	29
Future Volume (veh/h)	56	1230	57	273	3571	66	168	39	225	15	5	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	1337	62	297	3882	72	183	0	273	16	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	3195	992	342	3424	63	259	0	800	218	0	486
Arrive On Green	0.12	1.00	1.00	0.10	0.66	0.66	0.15	0.00	0.15	0.15	0.00	0.15
Sat Flow, veh/h	3456	5106	1585	3456	5162	95	1373	0	3170	1106	0	3170
Grp Volume(v), veh/h	61	1337	62	297	2552	1402	183	0	273	16	0	35
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1853	1373	0	1585	1106	0	1585
Q Serve(g_s), s	2.4	0.0	0.0	12.7	99.5	99.5	19.5	0.0	10.6	1.9	0.0	1.4
Cycle Q Clear(g_c), s	2.4	0.0	0.0	12.7	99.5	99.5	19.5	0.0	10.6	1.9	0.0	1.4
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	3195	992	342	2258	1229	259	0	800	218	0	486
V/C Ratio(X)	0.29	0.42	0.06	0.87	1.13	1.14	0.71	0.00	0.34	0.07	0.00	0.07
Avail Cap(c_a), veh/h	230	3195	992	366	2258	1229	388	0	1098	322	0	784
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	0.98	0.00	0.98	1.00	0.00	1.00
Uniform Delay (d), s/veh	62.8	0.0	0.0	66.6	25.3	25.3	62.0	0.0	45.9	54.6	0.0	54.4
Incr Delay (d2), s/veh	0.5	0.3	0.1	18.6	64.9	73.5	3.5	0.0	0.2	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.9	0.2	0.0	10.7	78.0	88.7	11.4	0.0	7.6	1.0	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	0.3	0.1	85.2	90.1	98.8	65.5	0.0	46.1	54.7	0.0	54.4
LnGrp LOS	E	A	A	F	F	F	E	A	D	D	A	D
Approach Vol, veh/h		1460			4251			456				51
Approach Delay, s/veh		2.9			92.6			53.9				54.5
Approach LOS		A			F			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.1	100.0		28.9	15.5	105.6		28.9				
Change Period (Y+Rc), s	6.3	6.1		* 5.9	6.3	6.1		* 5.9				
Max Green Setting (Gmax), s	15.9	78.7		* 37	10.0	84.6		* 37				
Max Q Clear Time (g_c+M), s	11.7	2.0		21.5	4.4	101.5		3.9				
Green Ext Time (p_c), s	0.1	15.3		1.5	0.1	0.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	68.4
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	1230	57	273	3571	66	168	39	225	15	5	29
Future Volume (veh/h)	56	1230	57	273	3571	66	168	39	225	15	5	29
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	1337	62	297	3882	72	183	0	273	16	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	212	3195	992	342	3424	63	259	0	800	218	0	486
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	1.00	1.00	0.10	0.66	0.66	0.15	0.00	0.15	0.15	0.00	0.15
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.3	0.3	0.1	85.2	90.1	98.8	65.5	0.0	46.1	54.7	0.0	54.4
Ln Grp LOS	E	A	A	F	F	F	E	A	D	D	A	D
Approach Vol, veh/h		1460			4251			456			51	
Approach Delay, s/veh		2.9			92.6			53.9			54.5	
Approach LOS		A			F			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		21.1	100.0		28.9	15.5	105.6		28.9			
Change Period (Y+Rc), s		6.3	6.1		* 5.9	6.3	6.1		* 5.9			
Max Green (Gmax), s		15.9	78.7		* 37	10.0	84.6		* 37			
Max Allow Headway (MAH), s		3.8	5.2		4.0	3.8	5.2		4.2			
Max Q Clear (g_c+I1), s		14.7	2.0		21.5	4.4	101.5		3.9			
Green Ext Time (g_e), s		0.1	15.3		1.5	0.1	0.0		0.2			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.92	1.00		1.00			
Prob of Max Out (p_x)		1.00	0.01		0.00	0.08	1.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1373	3456			1106			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		0		5162		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		3170		95		3170			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

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Lanes in Grp	2	0	0	1	2	0	0	1
Grp Vol (v), veh/h	297	0	0	183	61	0	0	16
Grp Sat Flow (s), veh/h/ln	1728	0	0	1373	1728	0	0	1106
Q Serve Time (g_s), s	12.7	0.0	0.0	19.5	2.4	0.0	0.0	1.9
Cycle Q Clear Time (g_c), s	12.7	0.0	0.0	19.5	2.4	0.0	0.0	1.9
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1373	0	0	0	1106
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	23.0	0.0	0.0	0.0	23.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	23.0	0.0	0.0	0.0	23.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	19.5	0.0	0.0	0.0	1.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	342	0	0	259	212	0	0	218
V/C Ratio (X)	0.87	0.00	0.00	0.71	0.29	0.00	0.00	0.07
Avail Cap (c_a), veh/h	366	0	0	388	230	0	0	322
Upstream Filter (I)	1.00	0.00	0.00	0.98	0.74	0.00	0.00	1.00
Uniform Delay (d1), s/veh	66.6	0.0	0.0	62.0	62.8	0.0	0.0	54.6
Incr Delay (d2), s/veh	18.6	0.0	0.0	3.5	0.5	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	85.2	0.0	0.0	65.5	63.3	0.0	0.0	54.7
1st-Term Q (Q1), veh/ln	5.6	0.0	0.0	6.8	1.0	0.0	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.9	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.64	0.00	0.00	1.61	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	10.7	0.0	0.0	11.4	1.9	0.0	0.0	1.0
%ile Storage Ratio (RQ%)	0.92	0.00	0.00	1.93	0.31	0.00	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1337	0	0	0	2552	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	99.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	99.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	3195	0	0	0	2258	0	0
V/C Ratio (X)	0.00	0.42	0.00	0.00	0.00	1.13	0.00	0.00
Avail Cap (c_a), veh/h	0	3195	0	0	0	2258	0	0
Upstream Filter (I)	0.00	0.74	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	25.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	64.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	0.0	0.0	90.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	37.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	20.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.35	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	0.0	0.0	78.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	4.83	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	73.5	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	62	0	273	0	1402	0	35
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1853	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	10.6	0.0	99.5	0.0	1.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.6	0.0	99.5	0.0	1.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	14.8	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.05	0.00	1.00
Lane Grp Cap (c), veh/h	0	992	0	800	0	1229	0	486
V/C Ratio (X)	0.00	0.06	0.00	0.34	0.00	1.14	0.00	0.07
Avail Cap (c_a), veh/h	0	992	0	1098	0	1229	0	784
Upstream Filter (I)	0.00	0.74	0.00	0.98	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	45.9	0.0	25.3	0.0	54.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	73.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	46.1	0.0	98.8	0.0	54.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.2	0.0	40.7	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	25.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.79	0.00	1.35	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	7.6	0.0	88.7	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	1.29	0.00	5.49	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	43.2	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	68.4
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	369	51	49	761	9	322	7	37	0	0	0
Future Volume (veh/h)	2	369	51	49	761	9	322	7	37	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	401	55	53	827	10	350	8	40	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	2153	293	658	2331	28	389	9	354	0	2	0
Arrive On Green	0.00	0.69	0.69	0.65	0.65	0.65	0.22	0.22	0.22	0.00	0.00	0.00
Sat Flow, veh/h	1781	3142	428	935	3596	43	1743	40	1585	0	1870	0
Grp Volume(v), veh/h	2	226	230	53	409	428	358	0	40	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1793	935	1777	1863	1783	0	1585	0	1870	0
Q Serve(g_s), s	0.1	5.5	5.6	2.6	12.6	12.6	23.4	0.0	2.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	5.5	5.6	3.7	12.6	12.6	23.4	0.0	2.4	0.0	0.0	0.0
Prop In Lane	1.00		0.24	1.00		0.02	0.98		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	7	1218	1229	658	1152	1207	398	0	354	0	2	0
V/C Ratio(X)	0.30	0.19	0.19	0.08	0.35	0.35	0.90	0.00	0.11	0.00	0.00	0.00
Avail Cap(c_a), veh/h	113	1218	1229	658	1152	1207	484	0	431	0	436	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.51	0.51	0.51	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	59.6	6.8	6.8	8.3	9.6	9.6	45.3	0.0	37.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.0	0.3	0.3	0.1	0.4	0.4	17.4	0.0	0.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	3.7	3.8	1.0	7.4	7.7	18.0	0.0	1.7	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.6	7.1	7.2	8.4	10.1	10.1	62.7	0.0	37.3	0.0	0.0	0.0
LnGrp LOS	F	A	A	A	B	B	E	A	D	A	A	A
Approach Vol, veh/h		458			890			398				0
Approach Delay, s/veh		7.5			10.0			60.1				0.0
Approach LOS		A			A			E				
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	4.5	83.4		0.0		87.8		32.2				
Change Period (Y+Rc), s	4.0	5.6		* 5		* 5.6		5.4				
Max Green Setting (Gmax), s	31.8			* 28		* 44		32.6				
Max Q Clear Time (g_c+1/2), s	14.6			0.0		7.6		25.4				
Green Ext Time (p_c), s	0.0	5.3		0.0		3.0		1.3				

Intersection Summary

HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↗	↖
Traffic Volume (veh/h)	2	369	51	49	761	9	322	7	37	0	0	0
Future Volume (veh/h)	2	369	51	49	761	9	322	7	37	0	0	0
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	401	55	53	827	10	350	8	40	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	7	2153	293	658	2331	28	389	9	354	0	2	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.69	0.69	0.65	0.65	0.65	0.22	0.22	0.22	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	82.6	7.1	7.2	8.4	10.1	10.1	62.7	0.0	37.3	0.0	0.0	0.0
Ln Grp LOS	F	A	A	A	B	B	E	A	D	A	A	A
Approach Vol, veh/h		458			890			398			0	
Approach Delay, s/veh		7.5			10.0			60.1			0.0	
Approach LOS		A			A			E				
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4		6					
Case No		2.0	6.3	11.0	12.0		4.0					
Phs Duration (G+Y+Rc), s		4.5	83.4	32.2	0.0		87.8					
Change Period (Y+Rc), s		4.0	5.6	5.4	* 5		* 5.6					
Max Green (Gmax), s		7.6	31.8	32.6	* 28		* 44					
Max Allow Headway (MAH), s		3.8	5.2	5.2	0.0		5.3					
Max Q Clear (g_c+I1), s		2.1	14.6	25.4	0.0		7.6					
Green Ext Time (g_e), s		0.0	5.3	1.3	0.0		3.0					
Prob of Phs Call (p_c)		0.06	1.00	1.00	0.00		1.00					
Prob of Max Out (p_x)		0.01	0.20	0.54	0.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5	3	7							
Mvmt Sat Flow, veh/h		1781	935	1743	0							
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3596	40	1870		3142					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			43	1585	0		428					
Left Lane Group Data												
Assigned Mvmt		1	5	3	7	0	0	0	0			
Lane Assignment		L (Prot)	L	L+T								

HCM 6th Signalized Intersection Capacity Analysis
 5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

Lanes in Grp	1	1	1	0	0	0	0	0
Grp Vol (v), veh/h	2	53	358	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	935	1783	0	0	0	0	0
Q Serve Time (g_s), s	0.1	2.6	23.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	3.7	23.4	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	935	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	77.8	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	76.7	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.98	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	7	658	398	0	0	0	0	0
V/C Ratio (X)	0.30	0.08	0.90	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	113	658	484	0	0	0	0	0
Upstream Filter (I)	1.00	0.51	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	59.6	8.3	45.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.0	0.1	17.4	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	82.6	8.4	62.7	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.1	0.5	10.3	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	1.47	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.2	1.0	18.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.04	0.15	0.34	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T		T		T		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	409	0	0	0	226	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	12.6	0.0	0.0	0.0	5.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.6	0.0	0.0	0.0	5.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	1152	0	2	0	1218	0	0
V/C Ratio (X)	0.00	0.35	0.00	0.00	0.00	0.19	0.00	0.00
Avail Cap (c_a), veh/h	0	1152	0	436	0	1218	0	0
Upstream Filter (I)	0.00	0.51	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.6	0.0	0.0	0.0	6.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.1	0.0	0.0	0.0	7.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	0.0	0.0	2.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.53	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	7.4	0.0	0.0	0.0	3.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.22	0.00	0.00	0.00	0.31	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	428	40	0	0	230	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	1585	0	0	1793	0	0
Q Serve Time (g_s), s	0.0	12.6	2.4	0.0	0.0	5.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.6	2.4	0.0	0.0	5.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.02	1.00	0.00	0.00	0.24	0.00	0.00
Lane Grp Cap (c), veh/h	0	1207	354	0	0	1229	0	0
V/C Ratio (X)	0.00	0.35	0.11	0.00	0.00	0.19	0.00	0.00
Avail Cap (c_a), veh/h	0	1207	431	0	0	1229	0	0
Upstream Filter (I)	0.00	0.51	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.6	37.2	0.0	0.0	6.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.1	37.3	0.0	0.0	7.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.9	0.9	0.0	0.0	2.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.52	1.80	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	7.7	1.7	0.0	0.0	3.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.23	0.16	0.00	0.00	0.32	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

6: Bristol Pkwy & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	223	134	48	486	81	503	450	105	311	234	31
Future Volume (veh/h)	7	223	134	48	486	81	503	450	105	311	234	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	242	146	52	528	88	547	489	114	338	254	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	665	297	187	665	297	578	1625	377	405	1136	150
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.11	0.19	0.19	0.12	0.36	0.36
Sat Flow, veh/h	807	3554	1585	996	3554	1585	1781	2864	664	3456	3155	418
Grp Volume(v), veh/h	8	242	146	52	528	88	547	302	301	338	142	146
Grp Sat Flow(s),veh/h/ln	807	1777	1585	996	1777	1585	1781	1777	1751	1728	1777	1795
Q Serve(g_s), s	1.1	7.1	9.9	5.8	17.0	5.7	36.6	17.6	17.8	11.5	6.7	6.8
Cycle Q Clear(g_c), s	18.2	7.1	9.9	12.9	17.0	5.7	36.6	17.6	17.8	11.5	6.7	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		0.23
Lane Grp Cap(c), veh/h	97	665	297	187	665	297	578	1008	993	405	640	646
V/C Ratio(X)	0.08	0.36	0.49	0.28	0.79	0.30	0.95	0.30	0.30	0.83	0.22	0.23
Avail Cap(c_a), veh/h	163	959	428	270	959	428	594	1008	993	547	640	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	0.98	0.98	0.98	0.09	0.09	0.09	0.73	0.73	0.73
Uniform Delay (d), s/veh	55.2	42.5	43.7	48.2	46.6	42.0	52.5	28.3	28.3	51.8	26.7	26.7
Incr Delay (d2), s/veh	0.4	0.3	1.3	0.8	2.9	0.5	3.7	0.1	0.1	6.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	5.7	7.2	2.7	12.3	4.1	20.2	9.8	9.8	8.5	5.3	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	42.9	44.9	49.0	49.5	42.5	56.3	28.3	28.4	57.8	27.3	27.3
LnGrp LOS	E	D	D	D	D	D	E	C	C	E	C	C
Approach Vol, veh/h		396			668			1150			626	
Approach Delay, s/veh		43.9			48.5			41.6			43.8	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.1	73.9		28.1	42.9	49.0		28.1				
Change Period (Y+Rc), s	4.0	5.8		* 5.6	4.0	5.8		* 5.6				
Max Green Setting (Gmax), s	19.0	53.2		* 32	40.0	32.2		* 32				
Max Q Clear Time (g_c+M), s	19.8			20.2	38.6	8.8		19.0				
Green Ext Time (p_c), s	0.6	4.1		1.6	0.3	1.6		3.4				

Intersection Summary
























HCM 6th Ctrl Delay	44.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	223	134	48	486	81	503	450	105	311	234	31
Future Volume (veh/h)	7	223	134	48	486	81	503	450	105	311	234	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	242	146	52	528	88	547	489	114	338	254	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	97	665	297	187	665	297	578	1625	377	405	1136	150
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.11	0.19	0.19	0.12	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.6	42.9	44.9	49.0	49.5	42.5	56.3	28.3	28.4	57.8	27.3	27.3
Ln Grp LOS	E	D	D	D	D	D	E	C	C	E	C	C
Approach Vol, veh/h		396			668			1150			626	
Approach Delay, s/veh		43.9			48.5			41.6			43.8	
Approach LOS		D			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		18.1	73.9		28.1	42.9	49.0		28.1			
Change Period (Y+Rc), s		4.0	5.8		* 5.6	4.0	5.8		* 5.6			
Max Green (Gmax), s		19.0	53.2		* 32	40.0	32.2		* 32			
Max Allow Headway (MAH), s		3.8	5.3		4.8	3.8	5.3		5.1			
Max Q Clear (g_c+I1), s		13.5	19.8		20.2	38.6	8.8		19.0			
Green Ext Time (g_e), s		0.6	4.1		1.6	0.3	1.6		3.4			
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.34	0.00		0.06	1.00	0.00		0.16			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			807	1781			996			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2864		3554		3155		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			664		1585		418		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

Lanes in Grp	2	0	0	1	1	0	0	1
Grp Vol (v), veh/h	338	0	0	8	547	0	0	52
Grp Sat Flow (s), veh/h/ln	1728	0	0	807	1781	0	0	996
Q Serve Time (g_s), s	11.5	0.0	0.0	1.1	36.6	0.0	0.0	5.8
Cycle Q Clear Time (g_c), s	11.5	0.0	0.0	18.2	36.6	0.0	0.0	12.9
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	807	0	0	0	996
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	22.5	0.0	0.0	0.0	22.5
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	5.4	0.0	0.0	0.0	15.3
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	5.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	405	0	0	97	578	0	0	187
V/C Ratio (X)	0.83	0.00	0.00	0.08	0.95	0.00	0.00	0.28
Avail Cap (c_a), veh/h	547	0	0	163	594	0	0	270
Upstream Filter (I)	0.73	0.00	0.00	0.99	0.09	0.00	0.00	0.98
Uniform Delay (d1), s/veh	51.8	0.0	0.0	55.2	52.5	0.0	0.0	48.2
Incr Delay (d2), s/veh	6.0	0.0	0.0	0.4	3.7	0.0	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	57.8	0.0	0.0	55.6	56.3	0.0	0.0	49.0
1st-Term Q (Q1), veh/ln	5.0	0.0	0.0	0.2	17.5	0.0	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.0	0.0	0.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.61	0.00	0.00	1.80	1.12	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	8.5	0.0	0.0	0.4	20.2	0.0	0.0	2.7
%ile Storage Ratio (RQ%)	1.14	0.00	0.00	0.07	2.57	0.00	0.00	0.35
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	302	0	242	0	142	0	528
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	17.6	0.0	7.1	0.0	6.7	0.0	17.0
Cycle Q Clear Time (g_c), s	0.0	17.6	0.0	7.1	0.0	6.7	0.0	17.0
Lane Grp Cap (c), veh/h	0	1008	0	665	0	640	0	665
V/C Ratio (X)	0.00	0.30	0.00	0.36	0.00	0.22	0.00	0.79
Avail Cap (c_a), veh/h	0	1008	0	959	0	640	0	959
Upstream Filter (I)	0.00	0.09	0.00	0.99	0.00	0.73	0.00	0.98
Uniform Delay (d1), s/veh	0.0	28.3	0.0	42.5	0.0	26.7	0.0	46.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	0.6	0.0	2.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.3	0.0	42.9	0.0	27.3	0.0	49.5
1st-Term Q (Q1), veh/ln	0.0	8.4	0.0	3.1	0.0	2.8	0.0	7.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.17	0.00	1.80	0.00	1.80	0.00	1.58
%ile Back of Q (95%), veh/ln	0.0	9.8	0.0	5.7	0.0	5.3	0.0	12.3
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.17	0.00	0.31	0.00	0.55
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	301	0	146	0	146	0	88
Grp Sat Flow (s), veh/h/ln	0	1751	0	1585	0	1795	0	1585
Q Serve Time (g_s), s	0.0	17.8	0.0	9.9	0.0	6.8	0.0	5.7
Cycle Q Clear Time (g_c), s	0.0	17.8	0.0	9.9	0.0	6.8	0.0	5.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.38	0.00	1.00	0.00	0.23	0.00	1.00
Lane Grp Cap (c), veh/h	0	993	0	297	0	646	0	297
V/C Ratio (X)	0.00	0.30	0.00	0.49	0.00	0.23	0.00	0.30
Avail Cap (c_a), veh/h	0	993	0	428	0	646	0	428
Upstream Filter (I)	0.00	0.09	0.00	0.99	0.00	0.73	0.00	0.98
Uniform Delay (d1), s/veh	0.0	28.3	0.0	43.7	0.0	26.7	0.0	42.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.3	0.0	0.6	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.4	0.0	44.9	0.0	27.3	0.0	42.5
1st-Term Q (Q1), veh/ln	0.0	8.3	0.0	3.9	0.0	2.9	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.17	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	9.8	0.0	7.2	0.0	5.5	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.22	0.00	0.32	0.00	0.49
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	44.1
HCM 6th LOS	D

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	206	34	41	636	27	6	0	6	2	0	5
Future Volume (veh/h)	37	206	34	41	636	27	6	0	6	2	0	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	224	37	45	691	29	7	0	7	2	0	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	681	2640	1178	952	2655	1184	169	0	120	171	0	132
Arrive On Green	0.04	0.74	0.74	0.09	1.00	1.00	0.08	0.00	0.08	0.08	0.00	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1313	0	1442	1333	0	1585
Grp Volume(v), veh/h	40	224	37	45	691	29	7	0	7	2	0	5
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1313	0	1442	1333	0	1585
Q Serve(g_s), s	0.6	2.1	0.7	0.6	0.0	0.0	0.6	0.0	0.5	0.2	0.0	0.3
Cycle Q Clear(g_c), s	0.6	2.1	0.7	0.6	0.0	0.0	1.2	0.0	0.5	0.7	0.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	681	2640	1178	952	2655	1184	169	0	120	171	0	132
V/C Ratio(X)	0.06	0.08	0.03	0.05	0.26	0.02	0.04	0.00	0.06	0.01	0.00	0.04
Avail Cap(c_a), veh/h	812	2640	1178	1077	2655	1184	393	0	349	394	0	383
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	2.8	4.2	4.1	2.6	0.0	0.0	51.3	0.0	50.7	51.0	0.0	50.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	1.3	0.4	0.3	0.2	0.0	0.4	0.0	0.4	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.8	4.3	4.1	2.7	0.2	0.0	51.4	0.0	50.9	51.0	0.0	50.7
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h	301			765			14			7		
Approach Delay, s/veh	4.1			0.4			51.1			50.8		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	9.2	95.2	15.6		9.6	94.8	15.6					
Change Period (Y+Rc), s	4.0	5.6	5.6		* 4.2	* 5.6	5.6					
Max Green Setting (Gmax), s	14.0	61.8	29.0		* 14	* 62	29.0					
Max Q Clear Time (g_c+1), s	12.6	2.0	2.7		2.6	4.1	3.2					
Green Ext Time (p_c), s	0.0	5.8	0.0		0.0	1.7	0.0					

Intersection Summary

HCM 6th Ctrl Delay	2.4
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
7: Uplander Way & Hannum Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	206	34	41	636	27	6	0	6	2	0	5
Future Volume (veh/h)	37	206	34	41	636	27	6	0	6	2	0	5
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	224	37	45	691	29	7	0	7	2	0	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	681	2640	1178	952	2655	1184	169	0	120	171	0	132
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.74	0.74	0.09	1.00	1.00	0.08	0.00	0.08	0.08	0.00	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	2.8	4.3	4.1	2.7	0.2	0.0	51.4	0.0	50.9	51.0	0.0	50.7
Ln Grp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h		301			765			14			7	
Approach Delay, s/veh		4.1			0.4			51.1			50.8	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		1.1	3.0		7.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		9.2	95.2		15.6	9.6	94.8		15.6			
Change Period (Y+Rc), s		4.0	5.6		5.6	* 4.2	* 5.6		5.6			
Max Green (Gmax), s		14.0	61.8		29.0	* 14	* 62		29.0			
Max Allow Headway (MAH), s		3.8	5.2		4.4	3.8	5.1		5.4			
Max Q Clear (g_c+I1), s		2.6	2.0		2.7	2.6	4.1		3.2			
Green Ext Time (g_e), s		0.0	5.8		0.0	0.0	1.7		0.0			
Prob of Phs Call (p_c)		0.74	1.00		1.00	0.78	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1333	1781			1313			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		0		3554		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1442			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Pr/Pm)			L+TL (Pr/Pm)			L+T				

HCM 6th Signalized Intersection Capacity Analysis
 7: Uplander Way & Hannum Ave

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Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	40	0	0	2	45	0	0	7
Grp Sat Flow (s), veh/h/ln	1781	0	0	1333	1781	0	0	1313
Q Serve Time (g_s), s	0.6	0.0	0.0	0.2	0.6	0.0	0.0	0.6
Cycle Q Clear Time (g_c), s	0.6	0.0	0.0	0.7	0.6	0.0	0.0	1.2
Perm LT Sat Flow (s_l), veh/h/ln	732	0	0	1431	1118	0	0	1434
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	89.2	0.0	0.0	10.0	89.2	0.0	0.0	10.0
Perm LT Serve Time (g_u), s	89.2	0.0	0.0	9.5	87.1	0.0	0.0	9.3
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.6
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	681	0	0	171	952	0	0	169
V/C Ratio (X)	0.06	0.00	0.00	0.01	0.05	0.00	0.00	0.04
Avail Cap (c_a), veh/h	812	0	0	394	1077	0	0	393
Upstream Filter (I)	0.82	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	2.8	0.0	0.0	51.0	2.6	0.0	0.0	51.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	2.8	0.0	0.0	51.0	2.7	0.0	0.0	51.4
1st-Term Q (Q1), veh/ln	0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.3	0.0	0.0	0.1	0.3	0.0	0.0	0.4
%ile Storage Ratio (RQ%)	0.16	0.00	0.00	0.04	0.06	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T			T				
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	691	0	0	0	224	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	2655	0	0	0	2640	0	0
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.08	0.00	0.00
Avail Cap (c_a), veh/h	0	2655	0	0	0	2640	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.82	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	4.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 7: Uplander Way & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	0.0	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	29	0	5	0	37	0	7
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1442
Q Serve Time (g_s), s	0.0	0.0	0.0	0.3	0.0	0.7	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.3	0.0	0.7	0.0	0.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1184	0	132	0	1178	0	120
V/C Ratio (X)	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.06
Avail Cap (c_a), veh/h	0	1184	0	383	0	1178	0	349
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.82	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	50.6	0.0	4.1	0.0	50.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	50.7	0.0	4.1	0.0	50.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.3	0.0	0.4	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.10	0.00	0.11	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	2.4
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	104	86	70	303	7	437	10	238	0	0	0
Future Volume (veh/h)	1	104	86	70	303	7	437	10	238	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	113	93	76	329	8	475	11	259	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	1866	832	768	1850	825	583	549	551	0	549	0
Arrive On Green	0.12	1.00	1.00	0.05	0.52	0.52	0.29	0.29	0.29	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	0	1870	0
Grp Volume(v), veh/h	1	113	93	76	329	8	475	11	259	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	0	1870	0
Q Serve(g_s), s	0.1	0.0	0.0	2.3	5.9	0.3	30.8	0.5	15.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	2.3	5.9	0.3	30.8	0.5	15.3	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	104	1866	832	768	1850	825	583	549	551	0	549	0
V/C Ratio(X)	0.01	0.06	0.11	0.10	0.18	0.01	0.81	0.02	0.47	0.00	0.00	0.00
Avail Cap(c_a), veh/h	275	1866	832	806	1850	825	850	829	788	0	829	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	49.9	0.0	0.0	11.4	15.2	13.9	40.8	30.1	30.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3	0.0	0.2	0.0	4.0	0.0	0.6	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.1	1.6	4.4	0.2	20.2	0.4	9.9	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	0.1	0.3	11.4	15.4	13.9	44.8	30.1	31.2	0.0	0.0	0.0
LnGrp LOS	D	A	A	B	B	B	D	C	C	A	A	A
Approach Vol, veh/h		207			413			745				0
Approach Delay, s/veh		0.4			14.6			39.9				0.0
Approach LOS		A			B			D				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.0	68.0		41.0	10.4	68.5		41.0				
Change Period (Y+Rc), s	4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8				
Max Green Setting (Gmax), s	10.5	* 33		* 53	9.0	* 43		* 53				
Max Q Clear Time (g_c+1), s	10.5	7.9		32.8	4.3	2.0		0.0				
Green Ext Time (p_c), s	0.0	2.2		2.4	0.1	1.0		0.0				

Intersection Summary























HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	104	86	70	303	7	437	10	238	0	0	0
Future Volume (veh/h)	1	104	86	70	303	7	437	10	238	0	0	0
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	113	93	76	329	8	475	11	259	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	104	1866	832	768	1850	825	583	549	551	0	549	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	1.00	1.00	0.05	0.52	0.52	0.29	0.29	0.29	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	50.0	0.1	0.3	11.4	15.4	13.9	44.8	30.1	31.2	0.0	0.0	0.0
Ln Grp LOS	D	A	A	B	B	B	D	C	C	A	A	A
Approach Vol, veh/h		207			413			745			0	
Approach Delay, s/veh		0.4			14.6			39.9			0.0	
Approach LOS		A			B			D				
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		11.0	68.0		41.0	10.4	68.5		41.0			
Change Period (Y+Rc), s		4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8			
Max Green (Gmax), s		18.5	* 33		* 53	9.0	* 43		* 53			
Max Allow Headway (MAH), s		3.8	5.2		3.8	3.8	4.7		0.0			
Max Q Clear (g_c+I1), s		2.1	7.9		32.8	4.3	2.0		0.0			
Green Ext Time (g_e), s		0.0	2.2		2.4	0.1	1.0		0.0			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.92	1.00		0.00			
Prob of Max Out (p_x)		0.00	0.00		0.01	0.34	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1781	1781			0			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		1870		3554		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		0			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			LL (Pr/Pm)							

HCM 6th Signalized Intersection Capacity Analysis

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	0
Grp Vol (v), veh/h	1	0	0	475	76	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.1	0.0	0.0	30.8	2.3	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	0.0	0.0	30.8	2.3	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	1176	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	35.2	62.5	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	35.2	62.5	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	30.8	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	104	0	0	583	768	0	0	0
V/C Ratio (X)	0.01	0.00	0.00	0.81	0.10	0.00	0.00	0.00
Avail Cap (c_a), veh/h	275	0	0	850	806	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.77	0.00	0.00	0.00
Uniform Delay (d1), s/veh	49.9	0.0	0.0	40.8	11.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.0	0.0	0.0	44.8	11.4	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	13.4	0.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.44	1.80	0.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.1	0.0	0.0	20.2	1.6	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	4.45	0.22	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	329	0	11	0	113	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	5.9	0.0	0.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.9	0.0	0.5	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1850	0	549	0	1866	0	549
V/C Ratio (X)	0.00	0.18	0.00	0.02	0.00	0.06	0.00	0.00
Avail Cap (c_a), veh/h	0	1850	0	829	0	1866	0	829
Upstream Filter (I)	0.00	0.77	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	15.2	0.0	30.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.4	0.0	30.1	0.0	0.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	0.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	4.4	0.0	0.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	8	0	259	0	93	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.3	0.0	15.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	15.3	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	825	0	551	0	832	0	0
V/C Ratio (X)	0.00	0.01	0.00	0.47	0.00	0.11	0.00	0.00
Avail Cap (c_a), veh/h	0	825	0	788	0	832	0	0
Upstream Filter (I)	0.00	0.77	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.9	0.0	30.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.9	0.0	31.2	0.0	0.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	5.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.67	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	9.9	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	2.19	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

9: Bristol Pkwy & Green Valley Cir

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	306	185	47	57	749	549	413	717	55	130	161	104
Future Volume (veh/h)	306	185	47	57	749	549	413	717	55	130	161	104
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	333	201	51	62	814	597	449	779	60	141	175	113
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	1376	341	564	964	690	485	720	55	60	889	544
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.42	0.42	0.42	0.70	0.70	0.70
Sat Flow, veh/h	381	2822	699	1128	1978	1415	1091	1715	132	655	2117	1296
Grp Volume(v), veh/h	333	125	127	62	729	682	449	0	839	141	145	143
Grp Sat Flow(s),veh/h/ln	381	1777	1744	1128	1777	1616	1091	0	1847	655	1777	1637
Q Serve(g_s), s	13.6	4.6	4.8	3.9	42.8	44.9	46.7	0.0	50.4	0.0	3.4	3.7
Cycle Q Clear(g_c), s	58.5	4.6	4.8	8.7	42.8	44.9	50.4	0.0	50.4	50.4	3.4	3.7
Prop In Lane	1.00		0.40	1.00		0.88	1.00		0.07	1.00		0.79
Lane Grp Cap(c), veh/h	103	866	850	564	866	788	485	0	776	60	746	688
V/C Ratio(X)	3.23	0.14	0.15	0.11	0.84	0.87	0.93	0.00	1.08	2.35	0.19	0.21
Avail Cap(c_a), veh/h	103	866	850	564	866	788	485	0	776	60	746	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	1.00	0.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	57.2	16.9	17.0	19.4	26.7	27.3	37.9	0.0	34.8	43.1	10.9	10.9
Incr Delay (d2), s/veh	1026.9	0.1	0.1	0.1	6.5	8.6	26.0	0.0	56.7	654.5	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh	18.6	3.5	3.5	1.9	25.7	25.2	23.6	0.0	46.4	22.7	2.5	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1084.0	17.0	17.1	19.5	33.2	35.9	63.9	0.0	91.5	697.6	11.5	11.6
LnGrp LOS	F	B	B	B	C	D	E	A	F	F	B	B
Approach Vol, veh/h		585			1473			1288			429	
Approach Delay, s/veh		624.4			33.9			81.9			237.0	
Approach LOS		F			C			F			F	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.0		64.0		56.0		64.0				
Change Period (Y+Rc), s		* 5.6		* 5.5		* 5.6		* 5.5				
Max Green Setting (Gmax), s		* 50		* 59		* 50		* 59				
Max Q Clear Time (g_c+I1), s		52.4		60.5		52.4		46.9				
Green Ext Time (p_c), s		0.0		0.0		0.0		7.5				

Intersection Summary

HCM 6th Ctrl Delay	164.9
HCM 6th LOS	F





















Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	306	185	47	57	749	549	413	717	55	130	161	104
Future Volume (veh/h)	306	185	47	57	749	549	413	717	55	130	161	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	333	201	51	62	814	597	449	779	60	141	175	113
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	103	1376	341	564	964	690	485	720	55	60	889	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.42	0.42	0.42	0.70	0.70	0.70
Unsig. Movement Delay												
Ln Grp Delay, s/veh	1084.0	17.0	17.1	19.5	33.2	35.9	63.9	0.0	91.5	697.6	11.5	11.6
Ln Grp LOS	F	B	B	B	C	D	E	A	F	F	B	B
Approach Vol, veh/h		585			1473			1288			429	
Approach Delay, s/veh		624.4			33.9			81.9			237.0	
Approach LOS		F			C			F			F	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			56.0		64.0		56.0		64.0			
Change Period (Y+Rc), s			* 5.6		* 5.5		* 5.6		* 5.5			
Max Green (Gmax), s			* 50		* 59		* 50		* 59			
Max Allow Headway (MAH), s			5.0		8.4		5.8		5.3			
Max Q Clear (g_c+I1), s			52.4		60.5		52.4		46.9			
Green Ext Time (g_e), s			0.0		0.0		0.0		7.5			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		0.74			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1091		381		655		1128			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1715		2822		2117		1978			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			132		699		1296		1415			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

07/19/2023

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	449	0	333	0	141	0	62
Grp Sat Flow (s), veh/h/ln	0	1091	0	381	0	655	0	1128
Q Serve Time (g_s), s	0.0	46.7	0.0	13.6	0.0	0.0	0.0	3.9
Cycle Q Clear Time (g_c), s	0.0	50.4	0.0	58.5	0.0	50.4	0.0	8.7
Perm LT Sat Flow (s_l), veh/h/ln	0	1091	0	381	0	655	0	1128
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	50.4	0.0	58.5	0.0	50.4	0.0	58.5
Perm LT Serve Time (g_u), s	0.0	46.7	0.0	13.6	0.0	0.0	0.0	53.7
Perm LT Q Serve Time (g_ps), s	0.0	46.7	0.0	13.6	0.0	0.0	0.0	3.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	485	0	103	0	60	0	564
V/C Ratio (X)	0.00	0.93	0.00	3.23	0.00	2.35	0.00	0.11
Avail Cap (c_a), veh/h	0	485	0	103	0	60	0	564
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.97	0.00	0.85
Uniform Delay (d1), s/veh	0.0	37.9	0.0	57.2	0.0	43.1	0.0	19.4
Incr Delay (d2), s/veh	0.0	26.0	0.0	1026.9	0.0	654.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	63.9	0.0	1084.0	0.0	697.6	0.0	19.5
1st-Term Q (Q1), veh/ln	0.0	13.3	0.0	3.1	0.0	1.7	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	3.5	0.0	29.4	0.0	10.9	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.40	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	23.6	0.0	58.6	0.0	22.7	0.0	1.9
%ile Storage Ratio (RQ%)	0.00	4.98	0.00	16.55	0.00	5.02	0.00	0.47
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	57.5	0.0	20.3	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.8	0.0	0.6	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	125	0	145	0	729
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	4.6	0.0	3.4	0.0	42.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.6	0.0	3.4	0.0	42.8
Lane Grp Cap (c), veh/h	0	0	0	866	0	746	0	866
V/C Ratio (X)	0.00	0.00	0.00	0.14	0.00	0.19	0.00	0.84
Avail Cap (c_a), veh/h	0	0	0	866	0	746	0	866
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.97	0.00	0.85
Uniform Delay (d1), s/veh	0.0	0.0	0.0	16.9	0.0	10.9	0.0	26.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.6	0.0	6.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	17.0	0.0	11.5	0.0	33.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.9	0.0	1.3	0.0	17.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.6

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	1.35
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	3.5	0.0	2.5	0.0	25.7
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.09	0.00	0.04	0.00	0.39
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	839	0	127	0	143	0	682
Grp Sat Flow (s), veh/h/ln	0	1847	0	1744	0	1637	0	1616
Q Serve Time (g_s), s	0.0	50.4	0.0	4.8	0.0	3.7	0.0	44.9
Cycle Q Clear Time (g_c), s	0.0	50.4	0.0	4.8	0.0	3.7	0.0	44.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	0.00	0.40	0.00	0.79	0.00	0.88
Lane Grp Cap (c), veh/h	0	776	0	850	0	688	0	788
V/C Ratio (X)	0.00	1.08	0.00	0.15	0.00	0.21	0.00	0.87
Avail Cap (c_a), veh/h	0	776	0	850	0	688	0	788
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.97	0.00	0.85
Uniform Delay (d1), s/veh	0.0	34.8	0.0	17.0	0.0	10.9	0.0	27.3
Incr Delay (d2), s/veh	0.0	56.7	0.0	0.1	0.0	0.7	0.0	8.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	91.5	0.0	17.1	0.0	11.6	0.0	35.9
1st-Term Q (Q1), veh/ln	0.0	22.0	0.0	1.9	0.0	1.3	0.0	16.7
2nd-Term Q (Q2), veh/ln	0.0	12.2	0.0	0.0	0.0	0.1	0.0	1.9
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.36	0.00	1.80	0.00	1.80	0.00	1.35
%ile Back of Q (95%), veh/ln	0.0	46.4	0.0	3.5	0.0	2.5	0.0	25.2
%ile Storage Ratio (RQ%)	0.00	2.14	0.00	0.10	0.00	0.04	0.00	0.38
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	15.9	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	164.9
HCM 6th LOS	F

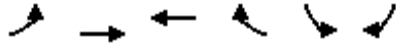
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

10: Green Valley Cir & Buckingham

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	71	163	873	453	65	69
Future Volume (veh/h)	71	163	873	453	65	69
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	177	949	492	71	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	326	2976	1910	970	148	132
Arrive On Green	1.00	1.00	0.84	0.84	0.08	0.08
Sat Flow, veh/h	370	3647	2374	1158	1781	1585
Grp Volume(v), veh/h	77	177	735	706	71	75
Grp Sat Flow(s),veh/h/ln	370	1777	1777	1662	1781	1585
Q Serve(g_s), s	4.8	0.0	13.8	14.4	4.6	5.5
Cycle Q Clear(g_c), s	19.2	0.0	13.8	14.4	4.6	5.5
Prop In Lane	1.00			0.70	1.00	1.00
Lane Grp Cap(c), veh/h	326	2976	1488	1392	148	132
V/C Ratio(X)	0.24	0.06	0.49	0.51	0.48	0.57
Avail Cap(c_a), veh/h	326	2976	1488	1392	460	409
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.26	0.26	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	1.4	0.0	2.7	2.8	52.5	52.9
Incr Delay (d2), s/veh	0.1	0.0	1.2	1.3	2.4	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	6.6	6.5	3.9	4.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.5	0.0	3.9	4.1	54.9	56.7
LnGrp LOS	A	A	A	A	D	E
Approach Vol, veh/h		254	1441		146	
Approach Delay, s/veh		0.4	4.0		55.8	
Approach LOS		A	A		E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		106.0		14.0		106.0
Change Period (Y+Rc), s		* 5.5		4.0		* 5.5
Max Green Setting (Gmax), s		* 80		31.0		* 80
Max Q Clear Time (g_c+I1), s		16.4		7.5		21.2
Green Ext Time (p_c), s		17.0		0.4		3.2

Intersection Summary

HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

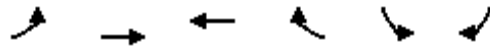
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↶	↷	↷		↶	↷			
Traffic Volume (veh/h)	71	163	873	453	65	69			
Future Volume (veh/h)	71	163	873	453	65	69			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	77	177	949	492	71	75			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	326	2976	1910	970	148	132			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	1.00	1.00	0.84	0.84	0.08	0.08			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	1.5	0.0	3.9	4.1	54.9	56.7			
Ln Grp LOS	A	A	A	A	D	E			
Approach Vol, veh/h		254	1441		146				
Approach Delay, s/veh		0.4	4.0		55.8				
Approach LOS		A	A		E				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		9.0		6.0		
Phs Duration (G+Y+Rc), s			106.0		14.0		106.0		
Change Period (Y+Rc), s			* 5.5		4.0		* 5.5		
Max Green (Gmax), s			* 80		31.0		* 80		
Max Allow Headway (MAH), s			5.4		3.9		7.0		
Max Q Clear (g_c+I1), s			16.4		7.5		21.2		
Green Ext Time (g_e), s			17.0		0.4		3.2		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.06		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1781		370		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			2374		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			1158		1585		0		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment					L		L		

HCM 6th Signalized Intersection Capacity Analysis
 10: Green Valley Cir & Buckingham

07/19/2023

Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	71	0	77	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	0	370	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	4.6	0.0	4.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.6	0.0	19.2	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	370	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	100.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	86.1	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0
Time to First Blk (g_f), s	0.0	100.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	148	0	326	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.48	0.00	0.24	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	460	0	326	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.26	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.5	0.0	1.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	54.9	0.0	1.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.0	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	3.9	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	735	0	0	0	177	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	13.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1488	0	0	0	2976	0	0
V/C Ratio (X)	0.00	0.49	0.00	0.00	0.00	0.06	0.00	0.00
Avail Cap (c_a), veh/h	0	1488	0	0	0	2976	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.26	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	706	0	75	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1662	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	14.4	0.0	5.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.4	0.0	5.5	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.70	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1392	0	132	0	0	0	0
V/C Ratio (X)	0.00	0.51	0.00	0.57	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1392	0	409	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.8	0.0	52.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	3.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.1	0.0	56.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	2.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	6.5	0.0	4.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.06	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

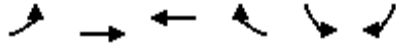
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

11: Centinela Ave & Green Valley Cir

07/19/2023

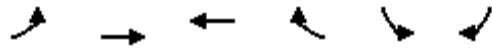


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↖	↖	↖	↖
Traffic Volume (veh/h)	44	468	1979	1138	244	52
Future Volume (veh/h)	44	468	1979	1138	244	52
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	509	2151	1237	265	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	83	2763	2763	1232	432	198
Arrive On Green	0.78	0.78	0.78	0.78	0.13	0.13
Sat Flow, veh/h	53	3647	3647	1585	3456	1585
Grp Volume(v), veh/h	48	509	2151	1237	265	57
Grp Sat Flow(s),veh/h/ln	53	1777	1777	1585	1728	1585
Q Serve(g_s), s	52.4	4.5	40.9	93.3	8.7	3.9
Cycle Q Clear(g_c), s	93.3	4.5	40.9	93.3	8.7	3.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	83	2763	2763	1232	432	198
V/C Ratio(X)	0.58	0.18	0.78	1.00	0.61	0.29
Avail Cap(c_a), veh/h	83	2763	2763	1232	760	349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	3.5	7.5	13.3	49.8	47.7
Incr Delay (d2), s/veh	25.9	0.1	1.5	26.5	1.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.7	2.5	18.9	44.1	6.9	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	73.2	3.6	9.0	39.9	51.2	48.4
LnGrp LOS	E	A	A	F	D	D
Approach Vol, veh/h		557	3388		322	
Approach Delay, s/veh		9.6	20.3		50.7	
Approach LOS		A	C		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		99.4		20.6		99.4
Change Period (Y+Rc), s		6.1		* 5.6		6.1
Max Green Setting (Gmax), s		81.9		* 26		81.9
Max Q Clear Time (g_c+I1), s		95.3		10.7		95.3
Green Ext Time (p_c), s		0.0		1.0		0.0
Intersection Summary						
HCM 6th Ctrl Delay			21.2			
HCM 6th LOS			C			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↙	↑↑	↑↑	↘	↙↘	↘			
Traffic Volume (veh/h)	44	468	1979	1138	244	52			
Future Volume (veh/h)	44	468	1979	1138	244	52			
Number	5	2	6	16	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	48	509	2151	1237	265	57			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	83	2763	2763	1232	432	198			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.78	0.78	0.78	0.78	0.13	0.13			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	73.2	3.6	9.0	39.9	51.2	48.4			
Ln Grp LOS	E	A	A	F	D	D			
Approach Vol, veh/h		557	3388		322				
Approach Delay, s/veh		9.6	20.3		50.7				
Approach LOS		A	C		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s			99.4		20.6		99.4		
Change Period (Y+Rc), s			6.1		* 5.6		6.1		
Max Green (Gmax), s			81.9		* 26		81.9		
Max Allow Headway (MAH), s			7.6		3.9		4.7		
Max Q Clear (g_c+I1), s			95.3		10.7		95.3		
Green Ext Time (g_e), s			0.0		1.0		0.0		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			1.00		0.00		1.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			53		3456		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis
 11: Centinela Ave & Green Valley Cir

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Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	48	0	265	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	53	0	1728	0	0	0	0
Q Serve Time (g_s), s	0.0	52.4	0.0	8.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	93.3	0.0	8.7	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	53	0	1728	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	93.3	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	52.4	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	52.4	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	93.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	83	0	432	0	0	0	0
V/C Ratio (X)	0.00	0.58	0.00	0.61	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	83	0	760	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	47.3	0.0	49.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	25.9	0.0	1.4	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	73.2	0.0	51.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	3.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	3.7	0.0	6.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.14	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	509	0	0	0	2151	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	4.5	0.0	0.0	0.0	40.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.5	0.0	0.0	0.0	40.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	2763	0	0	0	2763	0	0
V/C Ratio (X)	0.00	0.18	0.00	0.00	0.00	0.78	0.00	0.00
Avail Cap (c_a), veh/h	0	2763	0	0	0	2763	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.5	0.0	0.0	0.0	7.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.6	0.0	0.0	0.0	9.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	0.0	0.0	12.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.6	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 11: Centinela Ave & Green Valley Cir

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.46	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.5	0.0	0.0	0.0	18.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.00	0.00	0.79	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	57	0	1237	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.9	0.0	93.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.9	0.0	93.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	198	0	1232	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.29	0.00	1.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	349	0	1232	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	47.7	0.0	13.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	26.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	48.4	0.0	39.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.6	0.0	25.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.28	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	2.9	0.0	44.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.06	0.00	1.84	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

























Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

1: Hannum Ave & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	879	227	249	648	478	116	374	320	311	636	85
Future Volume (veh/h)	143	879	227	249	648	478	116	374	320	311	636	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	955	247	271	704	520	126	407	0	338	691	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	1733	447	326	2158	670	245	657		397	814	
Arrive On Green	0.10	0.43	0.43	0.09	0.42	0.42	0.07	0.18	0.00	0.11	0.23	0.00
Sat Flow, veh/h	1781	4044	1043	3456	5106	1585	3456	3554	1585	3456	3647	0
Grp Volume(v), veh/h	155	804	398	271	704	520	126	407	0	338	691	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1683	1728	1702	1585	1728	1777	1585	1728	1777	0
Q Serve(g_s), s	12.0	24.7	24.8	10.8	12.9	39.5	4.9	14.8	0.0	13.4	26.1	0.0
Cycle Q Clear(g_c), s	12.0	24.7	24.8	10.8	12.9	39.5	4.9	14.8	0.0	13.4	26.1	0.0
Prop In Lane	1.00		0.62	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	179	1459	721	326	2158	670	245	657		397	814	
V/C Ratio(X)	0.87	0.55	0.55	0.83	0.33	0.78	0.51	0.62		0.85	0.85	
Avail Cap(c_a), veh/h	202	1459	721	442	2158	670	289	805		536	1058	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.1	29.9	29.9	62.3	27.1	34.7	62.7	52.5	0.0	60.8	51.7	0.0
Incr Delay (d2), s/veh	28.3	1.5	3.0	8.3	0.3	7.5	1.7	1.0	0.0	9.6	5.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.2	15.8	16.1	8.6	8.9	22.7	4.0	11.0	0.0	10.6	17.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.4	31.4	33.0	70.6	27.4	42.2	64.4	53.5	0.0	70.4	56.9	0.0
LnGrp LOS	F	C	C	E	C	D	E	D		E	E	
Approach Vol, veh/h		1357			1495			533			1029	
Approach Delay, s/veh		38.6			40.4			56.1			61.3	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.3	66.1	16.2	38.4	20.1	65.3	22.4	32.2				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3				
Max Green Setting (Gmax), s	* 18	* 44	11.7	41.7	* 16	* 46	21.7	31.7				
Max Q Clear Time (g_c+I1), s	12.8	26.8	6.9	28.1	14.0	41.5	15.4	16.8				
Green Ext Time (p_c), s	0.4	7.8	0.1	4.0	0.1	2.6	0.7	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			46.6									
HCM 6th LOS			D									
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	879	227	249	648	478	116	374	320	311	636	85
Future Volume (veh/h)	143	879	227	249	648	478	116	374	320	311	636	85
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	955	247	271	704	520	126	407	0	338	691	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	179	1733	447	326	2158	670	245	657		397	814	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.43	0.43	0.09	0.42	0.42	0.07	0.18	0.00	0.11	0.23	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	90.4	31.4	33.0	70.6	27.4	42.2	64.4	53.5	0.0	70.4	56.9	0.0
Ln Grp LOS	F	C	C	E	C	D	E	D		E	E	
Approach Vol, veh/h		1357			1495			533			1029	
Approach Delay, s/veh		38.6			40.4			56.1			61.3	
Approach LOS		D			D			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	4.0	4.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		19.3	66.1	38.4	16.2	20.1	65.3	22.4	32.2			
Change Period (Y+Rc), s		* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3			
Max Green (Gmax), s		* 18	* 44	41.7	11.7	* 16	* 46	21.7	31.7			
Max Allow Headway (MAH), s		3.8	5.3	5.2	3.8	3.8	4.7	3.8	5.2			
Max Q Clear (g_c+I1), s		12.8	26.8	28.1	6.9	14.0	41.5	15.4	16.8			
Green Ext Time (g_e), s		0.4	7.8	4.0	0.1	0.1	2.6	0.7	2.3			
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.39	0.00	0.20	0.36	1.00	1.00	0.21	0.04			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	1781		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			4044	3647			5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1043	0			1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	271	0	0	126	155	0	338	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1781	0	1728	0
Q Serve Time (g_s), s	10.8	0.0	0.0	4.9	12.0	0.0	13.4	0.0
Cycle Q Clear Time (g_c), s	10.8	0.0	0.0	4.9	12.0	0.0	13.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	326	0	0	245	179	0	397	0
V/C Ratio (X)	0.83	0.00	0.00	0.51	0.87	0.00	0.85	0.00
Avail Cap (c_a), veh/h	442	0	0	289	202	0	536	0
Upstream Filter (I)	0.86	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	62.3	0.0	0.0	62.7	62.1	0.0	60.8	0.0
Incr Delay (d2), s/veh	8.3	0.0	0.0	1.7	28.3	0.0	9.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	70.6	0.0	0.0	64.4	90.4	0.0	70.4	0.0
1st-Term Q (Q1), veh/ln	4.8	0.0	0.0	2.2	5.5	0.0	5.9	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.0	0.1	1.4	0.0	0.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.67	0.00	0.00	1.80	1.63	0.00	1.65	0.00
%ile Back of Q (95%), veh/ln	8.6	0.0	0.0	4.0	11.2	0.0	10.6	0.0
%ile Storage Ratio (RQ%)	0.99	0.00	0.00	0.51	2.57	0.00	1.35	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	2	2	0	0	3	0	2
Grp Vol (v), veh/h	0	804	691	0	0	704	0	407
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	24.7	26.1	0.0	0.0	12.9	0.0	14.8
Cycle Q Clear Time (g_c), s	0.0	24.7	26.1	0.0	0.0	12.9	0.0	14.8
Lane Grp Cap (c), veh/h	0	1459	814	0	0	2158	0	657
V/C Ratio (X)	0.00	0.55	0.85	0.00	0.00	0.33	0.00	0.62
Avail Cap (c_a), veh/h	0	1459	1058	0	0	2158	0	805
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.86	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.9	51.7	0.0	0.0	27.1	0.0	52.5
Incr Delay (d2), s/veh	0.0	1.5	5.3	0.0	0.0	0.3	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.4	56.9	0.0	0.0	27.4	0.0	53.5
1st-Term Q (Q1), veh/ln	0.0	10.2	11.6	0.0	0.0	5.3	0.0	6.6
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.6	0.0	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.51	1.47	0.00	0.00	1.65	0.00	1.63
%ile Back of Q (95%), veh/ln	0.0	15.8	17.9	0.0	0.0	8.9	0.0	11.0
%ile Storage Ratio (RQ%)	0.00	1.18	2.18	0.00	0.00	0.39	0.00	1.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		T+R				R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	398	0	0	0	520	0	0
Grp Sat Flow (s), veh/h/ln	0	1683	0	0	0	1585	0	1585
Q Serve Time (g_s), s	0.0	24.8	0.0	0.0	0.0	39.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	24.8	0.0	0.0	0.0	39.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.62	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	721	0	0	0	670	0	293
V/C Ratio (X)	0.00	0.55	0.00	0.00	0.00	0.78	0.00	0.00
Avail Cap (c_a), veh/h	0	721	0	0	0	670	0	359
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.86	0.00	0.00
Uniform Delay (d1), s/veh	0.0	29.9	0.0	0.0	0.0	34.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.0	0.0	0.0	0.0	7.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.0	0.0	0.0	0.0	42.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	10.1	0.0	0.0	0.0	15.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.0	0.0	1.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.50	1.00	0.00	0.00	1.37	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	16.1	0.0	0.0	0.0	22.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.20	0.00	0.00	0.00	3.72	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	46.6
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑	↗	↖	↑	↗↗	↖	↗	
Traffic Volume (veh/h)	0	817	684	1342	833	2	546	0	1966	5	2	1
Future Volume (veh/h)	0	817	684	1342	833	2	546	0	1966	5	2	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	888	0	1459	905	2	593	0	2137	5	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	1190		2054	2512	1120	383	0	1637	38	25	13
Arrive On Green	0.00	0.23	0.00	0.68	1.00	1.00	0.11	0.00	0.11	0.02	0.02	0.02
Sat Flow, veh/h	1781	5106	1585	5023	3554	1585	3563	0	3170	1781	1176	588
Grp Volume(v), veh/h	0	888	0	1459	905	2	593	0	2137	5	0	3
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1674	1777	1585	1781	0	1585	1781	0	1764
Q Serve(g_s), s	0.0	19.4	0.0	21.5	0.0	0.0	12.9	0.0	12.9	0.3	0.0	0.2
Cycle Q Clear(g_c), s	0.0	19.4	0.0	21.5	0.0	0.0	12.9	0.0	12.9	0.3	0.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	1	1190		2054	2512	1120	383	0	1637	38	0	38
V/C Ratio(X)	0.00	0.75		0.71	0.36	0.00	1.55	0.00	1.31	0.13	0.00	0.08
Avail Cap(c_a), veh/h	193	1864		2054	2512	1120	383	0	1637	163	0	162
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.78	0.00	0.62	0.62	0.62	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	42.7	0.0	14.7	0.0	0.0	53.5	0.0	29.0	57.6	0.0	57.6
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.7	0.2	0.0	259.4	0.0	142.0	1.5	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	12.4	0.0	8.6	0.2	0.0	31.0	0.0	74.9	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	43.5	0.0	15.4	0.2	0.0	312.9	0.0	171.0	59.1	0.0	58.4
LnGrp LOS	A	D		B	A	A	F	A	F	E	A	E
Approach Vol, veh/h		888			2366			2730				8
Approach Delay, s/veh		43.5			9.6			201.8				58.9
Approach LOS		D			A			F				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	56.9	35.8		8.4	0.0	92.6		19.0				
Change Period (Y+Rc), s	7.8	* 7.8		* 5.8	5.4	7.8		6.1				
Max Green Setting (Gmax), s	20.2	* 44		* 11	13.0	58.0		12.9				
Max Q Clear Time (g_c+Q), s	23.5	21.4		2.3	0.0	2.0		14.9				
Green Ext Time (p_c), s	1.7	6.6		0.0	0.0	8.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay	102.3
HCM 6th LOS	F

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
2: Marina Fwy/Private Dwy & Slauson Ave































07/19/2023

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	 				 			
Traffic Volume (veh/h)	0	817	684	1342	833	2	546	0	1966	5	2	1
Future Volume (veh/h)	0	817	684	1342	833	2	546	0	1966	5	2	1
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	888	0	1459	905	2	593	0	2137	5	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	1	1190		2054	2512	1120	383	0	1637	38	25	13
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.23	0.00	0.68	1.00	1.00	0.11	0.00	0.11	0.02	0.02	0.02
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	43.5	0.0	15.4	0.2	0.0	312.9	0.0	171.0	59.1	0.0	58.4
Ln Grp LOS	A	D		B	A	A	F	A	F	E	A	E
Approach Vol, veh/h		888			2366			2730				8
Approach Delay, s/veh		43.5			9.6			201.8				58.9
Approach LOS		D			A			F				E
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	3.0	9.0	10.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		56.9	35.8	19.0	8.4	0.0	92.6					
Change Period (Y+Rc), s		7.8	* 7.8	6.1	* 5.8	5.4	7.8					
Max Green (Gmax), s		26.2	* 44	12.9	* 11	13.0	58.0					
Max Allow Headway (MAH), s		3.8	5.2	4.0	4.4	0.0	5.2					
Max Q Clear (g_c+I1), s		23.5	21.4	14.9	2.3	0.0	2.0					
Green Ext Time (g_e), s		1.7	6.6	0.0	0.0	0.0	8.2					
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.23	0.00	1.00					
Prob of Max Out (p_x)		1.00	0.08	1.00	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		5023		3563	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			5106	0	1176		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			1585	3170	588		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

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Lanes in Grp	3	0	2	1	1	0	0	0
Grp Vol (v), veh/h	1459	0	593	5	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1674	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	21.5	0.0	12.9	0.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	21.5	0.0	12.9	0.3	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	2054	0	383	38	1	0	0	0
V/C Ratio (X)	0.71	0.00	1.55	0.13	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	2054	0	383	163	193	0	0	0
Upstream Filter (I)	0.62	0.00	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	14.7	0.0	53.5	57.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	259.4	1.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	15.4	0.0	312.9	59.1	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	5.4	0.0	5.8	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	13.8	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.55	0.00	1.59	1.80	1.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	8.6	0.0	31.0	0.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.95	0.00	1.62	0.25	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	52.5	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	888	0	0	0	905	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	19.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	19.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1190	0	0	0	2512	0	0
V/C Ratio (X)	0.00	0.75	0.00	0.00	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	1864	0	0	0	2512	0	0
Upstream Filter (I)	0.00	0.78	0.00	0.00	0.00	0.62	0.00	0.00
Uniform Delay (d1), s/veh	0.0	42.7	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	43.5	0.0	0.0	0.0	0.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.51	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	12.4	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		R	R	T+R		R		
Lanes in Grp	0	1	2	1	0	1	0	0
Grp Vol (v), veh/h	0	0	2137	3	0	2	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1764	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	12.9	0.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	12.9	0.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	49.1	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.33	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	369	1637	38	0	1120	0	0
V/C Ratio (X)	0.00	0.00	1.31	0.08	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	579	1637	162	0	1120	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	0.00	0.62	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	29.0	57.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	142.0	0.9	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	171.0	58.4	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	22.4	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	32.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.37	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	74.9	0.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	3.92	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	125.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	102.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2340	394	103	1669	20	397	7	113	33	9	38
Future Volume (veh/h)	20	2340	394	103	1669	20	397	7	113	33	9	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	2543	428	112	1814	22	432	0	128	36	10	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	478	2823	876	281	1878	23	297	0	522	117	33	132
Arrive On Green	0.27	0.55	0.55	0.16	0.72	0.72	0.08	0.00	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	5106	1585	3456	5200	63	3563	0	3170	1409	391	1585
Grp Volume(v), veh/h	22	2543	428	112	1187	649	432	0	128	46	0	41
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1859	1781	0	1585	1800	0	1585
Q Serve(g_s), s	1.1	53.2	19.8	3.5	38.5	38.5	10.0	0.0	4.2	2.9	0.0	2.9
Cycle Q Clear(g_c), s	1.1	53.2	19.8	3.5	38.5	38.5	10.0	0.0	4.2	2.9	0.0	2.9
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	0.78		1.00
Lane Grp Cap(c), veh/h	478	2823	876	281	1229	671	297	0	522	150	0	132
V/C Ratio(X)	0.05	0.90	0.49	0.40	0.97	0.97	1.46	0.00	0.25	0.31	0.00	0.31
Avail Cap(c_a), veh/h	478	2823	876	288	1242	679	297	0	522	480	0	423
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.86	0.86	0.86	0.96	0.00	0.96	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	23.9	16.4	47.6	16.0	16.0	55.0	0.0	43.6	51.7	0.0	51.8
Incr Delay (d2), s/veh	0.0	0.5	0.2	0.8	17.0	25.0	222.0	0.0	0.2	1.1	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	22.7	8.4	2.7	14.5	17.4	22.0	0.0	3.0	2.4	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.5	24.4	16.6	48.4	32.9	41.0	277.0	0.0	43.9	52.9	0.0	53.1
LnGrp LOS	C	C	B	D	C	D	F	A	D	D	A	D
Approach Vol, veh/h		2993			1948			560				87
Approach Delay, s/veh		23.4			36.5			223.7				53.0
Approach LOS		C			D			F				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0	72.4		15.8	38.3	50.1		15.8				
Change Period (Y+Rc), s	6.2	6.1		* 5.8	6.1	* 6.8		5.8				
Max Green Setting (Gmax), s	44.1	44.1		* 32	10.0	* 44		10.0				
Max Q Clear Time (g_c+1), s	10.5	55.2		4.9	3.1	40.5		12.0				
Green Ext Time (p_c), s	0.1	0.0		0.4	0.0	2.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	48.5
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑↑	↵	↵↵	↑↑↑		↵↵	↵	↵		↵↵	
Traffic Volume (veh/h)	20	2340	394	103	1669	20	397	7	113	33	9	38
Future Volume (veh/h)	20	2340	394	103	1669	20	397	7	113	33	9	38
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	2543	428	112	1814	22	432	0	128	36	10	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	478	2823	876	281	1878	23	297	0	522	117	33	132
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.27	0.55	0.55	0.16	0.72	0.72	0.08	0.00	0.08	0.08	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	32.5	24.4	16.6	48.4	32.9	41.0	277.0	0.0	43.9	52.9	0.0	53.1
Ln Grp LOS	C	C	B	D	C	D	F	A	D	D	A	D
Approach Vol, veh/h		2993			1948			560			87	
Approach Delay, s/veh		23.4			36.5			223.7			53.0	
Approach LOS		C			D			F			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	6	5					
Case No		2.0	3.0	9.0	12.0	4.0	2.0					
Phs Duration (G+Y+Rc), s		16.0	72.4	15.8	15.8	50.1	38.3					
Change Period (Y+Rc), s		6.2	6.1	5.8	* 5.8	* 6.8	6.1					
Max Green (Gmax), s		10.0	44.1	10.0	* 32	* 44	10.0					
Max Allow Headway (MAH), s		3.8	5.1	3.9	5.4	5.2	3.8					
Max Q Clear (g_c+I1), s		5.5	55.2	12.0	4.9	40.5	3.1					
Green Ext Time (g_e), s		0.1	0.0	0.0	0.4	2.8	0.0					
Prob of Phs Call (p_c)		0.98	1.00	1.00	1.00	1.00	0.52					
Prob of Max Out (p_x)		0.45	1.00	1.00	0.00	1.00	0.01					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7		5					
Mvmt Sat Flow, veh/h		3456		3563	1409		1781					
Through Movement Data												
Assigned Mvmt			2	8	4	6						
Mvmt Sat Flow, veh/h			5106	0	391	5200						
Right-Turn Movement Data												
Assigned Mvmt			12	18	14	16						
Mvmt Sat Flow, veh/h			1585	3170	1585	63						
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	0	5	0	0			
Lane Assignment		L (Prot)		L	L+T		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
 3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

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Lanes in Grp	2	0	2	1	0	1	0	0
Grp Vol (v), veh/h	112	0	432	46	0	22	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	1800	0	1781	0	0
Q Serve Time (g_s), s	3.5	0.0	10.0	2.9	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	3.5	0.0	10.0	2.9	0.0	1.1	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.78	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	281	0	297	150	0	478	0	0
V/C Ratio (X)	0.40	0.00	1.46	0.31	0.00	0.05	0.00	0.00
Avail Cap (c_a), veh/h	288	0	297	480	0	478	0	0
Upstream Filter (I)	0.86	0.00	0.96	1.00	0.00	0.09	0.00	0.00
Uniform Delay (d1), s/veh	47.6	0.0	55.0	51.7	0.0	32.5	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	222.0	1.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.4	0.0	277.0	52.9	0.0	32.5	0.0	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	4.5	1.3	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	9.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.61	1.80	0.00	1.71	0.00	0.00
%ile Back of Q (95%), veh/ln	2.7	0.0	22.0	2.4	0.0	0.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.43	0.00	2.60	0.31	0.00	0.21	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	33.8	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	3	0	0	2	0	0	0
Grp Vol (v), veh/h	0	2543	0	0	1187	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	1702	0	0	0
Q Serve Time (g_s), s	0.0	53.2	0.0	0.0	38.5	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	53.2	0.0	0.0	38.5	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2823	0	0	1229	0	0	0
V/C Ratio (X)	0.00	0.90	0.00	0.00	0.97	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	2823	0	0	1242	0	0	0
Upstream Filter (I)	0.00	0.09	0.00	0.00	0.86	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	23.9	0.0	0.0	16.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	17.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.4	0.0	0.0	32.9	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	20.3	0.0	0.0	6.8	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	2.9	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.11	1.00	1.00	1.49	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	22.7	0.0	0.0	14.5	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.86	0.00	0.00	0.21	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	16	0	0	0
Lane Assignment		R	R	T+R	T+R			
Lanes in Grp	0	1	2	1	1	0	0	0
Grp Vol (v), veh/h	0	428	128	41	649	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	1859	0	0	0
Q Serve Time (g_s), s	0.0	19.8	4.2	2.9	38.5	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	19.8	4.2	2.9	38.5	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.03	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	876	522	132	671	0	0	0
V/C Ratio (X)	0.00	0.49	0.25	0.31	0.97	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	876	522	423	679	0	0	0
Upstream Filter (I)	0.00	0.09	0.96	1.00	0.86	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.4	43.6	51.8	16.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	1.3	25.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.6	43.9	53.1	41.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.1	1.7	1.2	7.5	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.18	1.80	1.80	1.44	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	8.4	3.0	2.2	17.4	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.64	0.18	0.28	0.26	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	48.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔↑↑	↑↑↑		↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	11	2358	108	203	1661	11	60	5	541	83	32	51
Future Volume (veh/h)	11	2358	108	203	1661	11	60	5	541	83	32	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	2563	117	221	1805	12	65	0	591	90	50	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	2865	889	288	3229	21	296	0	908	228	380	322
Arrive On Green	0.01	0.19	0.19	0.08	0.62	0.62	0.07	0.00	0.07	0.20	0.20	0.20
Sat Flow, veh/h	3456	5106	1585	3456	5233	35	1301	0	3170	826	1870	1585
Grp Volume(v), veh/h	12	2563	117	221	1174	643	65	0	591	90	50	45
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1864	1301	0	1585	826	1870	1585
Q Serve(g_s), s	0.4	58.8	7.4	7.5	24.2	24.2	5.7	0.0	19.9	11.7	2.6	2.8
Cycle Q Clear(g_c), s	0.4	58.8	7.4	7.5	24.2	24.2	8.4	0.0	19.9	11.7	2.6	2.8
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	95	2865	889	288	2100	1150	296	0	908	228	380	322
V/C Ratio(X)	0.13	0.89	0.13	0.77	0.56	0.56	0.22	0.00	0.65	0.40	0.13	0.14
Avail Cap(c_a), veh/h	288	2865	889	291	2100	1150	433	0	1241	315	577	489
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.98	0.00	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.0	45.4	24.5	53.9	13.4	13.4	49.8	0.0	44.1	42.8	39.2	39.2
Incr Delay (d2), s/veh	0.1	0.5	0.0	11.6	1.1	2.0	0.4	0.0	0.8	1.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	29.5	3.8	6.7	14.1	15.6	3.6	0.0	13.3	4.4	2.2	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	45.9	24.5	65.5	14.5	15.4	50.1	0.0	44.9	43.9	39.3	39.4
LnGrp LOS	E	D	C	E	B	B	D	A	D	D	D	D
Approach Vol, veh/h		2692			2038			656			185	
Approach Delay, s/veh		45.0			20.3			45.4			41.6	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	73.4		30.3	9.6	80.1		30.3				
Change Period (Y+Rc), s	6.3	6.1		* 5.9	6.3	6.1		* 5.9				
Max Green Setting (Gmax), s	10.0	54.6		* 37	10.0	54.7		* 37				
Max Q Clear Time (g_c+1/5), s	19.5	60.8		21.9	2.4	26.2		13.7				
Green Ext Time (p_c), s	0.0	0.0		2.5	0.0	16.4		0.9				

Intersection Summary

HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑		↖	↖	↖	↖	↖	↖
Traffic Volume (veh/h)	11	2358	108	203	1661	11	60	5	541	83	32	51
Future Volume (veh/h)	11	2358	108	203	1661	11	60	5	541	83	32	51
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	2563	117	221	1805	12	65	0	591	90	50	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	95	2865	889	288	3229	21	296	0	908	228	380	322
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.19	0.19	0.08	0.62	0.62	0.07	0.00	0.07	0.20	0.20	0.20
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.1	45.9	24.5	65.5	14.5	15.4	50.1	0.0	44.9	43.9	39.3	39.4
Ln Grp LOS	E	D	C	E	B	B	D	A	D	D	D	D
Approach Vol, veh/h		2692			2038			656			185	
Approach Delay, s/veh		45.0			20.3			45.4			41.6	
Approach LOS		D			C			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		16.3	73.4		30.3	9.6	80.1		30.3			
Change Period (Y+Rc), s		6.3	6.1		* 5.9	6.3	6.1		* 5.9			
Max Green (Gmax), s		10.1	54.6		* 37	10.0	54.7		* 37			
Max Allow Headway (MAH), s		3.8	5.2		4.0	3.8	5.2		5.1			
Max Q Clear (g_c+I1), s		9.5	60.8		21.9	2.4	26.2		13.7			
Green Ext Time (g_e), s		0.0	0.0		2.5	0.0	16.4		0.9			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.33	1.00		1.00			
Prob of Max Out (p_x)		1.00	1.00		0.02	0.00	0.44		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1301	3456			826			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		0		5233		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		3170		35		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	1	2	0	0	1
Grp Vol (v), veh/h	221	0	0	65	12	0	0	90
Grp Sat Flow (s), veh/h/ln	1728	0	0	1301	1728	0	0	826
Q Serve Time (g_s), s	7.5	0.0	0.0	5.7	0.4	0.0	0.0	11.7
Cycle Q Clear Time (g_c), s	7.5	0.0	0.0	8.4	0.4	0.0	0.0	11.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1301	0	0	0	826
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	24.4	0.0	0.0	0.0	24.4
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	21.7	0.0	0.0	0.0	24.4
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	5.7	0.0	0.0	0.0	11.7
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	288	0	0	296	95	0	0	228
V/C Ratio (X)	0.77	0.00	0.00	0.22	0.13	0.00	0.00	0.40
Avail Cap (c_a), veh/h	291	0	0	433	288	0	0	315
Upstream Filter (I)	1.00	0.00	0.00	0.98	0.09	0.00	0.00	1.00
Uniform Delay (d1), s/veh	53.9	0.0	0.0	49.8	58.0	0.0	0.0	42.8
Incr Delay (d2), s/veh	11.6	0.0	0.0	0.4	0.1	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	65.5	0.0	0.0	50.1	58.1	0.0	0.0	43.9
1st-Term Q (Q1), veh/ln	3.3	0.0	0.0	2.0	0.2	0.0	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	6.7	0.0	0.0	3.6	0.3	0.0	0.0	4.4
%ile Storage Ratio (RQ%)	0.58	0.00	0.00	0.61	0.05	0.00	0.00	0.58
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	3	0	0	0	2	0	1
Grp Vol (v), veh/h	0	2563	0	0	0	1174	0	50
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	58.8	0.0	0.0	0.0	24.2	0.0	2.6
Cycle Q Clear Time (g_c), s	0.0	58.8	0.0	0.0	0.0	24.2	0.0	2.6
Lane Grp Cap (c), veh/h	0	2865	0	0	0	2100	0	380
V/C Ratio (X)	0.00	0.89	0.00	0.00	0.00	0.56	0.00	0.13
Avail Cap (c_a), veh/h	0	2865	0	0	0	2100	0	577
Upstream Filter (I)	0.00	0.09	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	45.4	0.0	0.0	0.0	13.4	0.0	39.2
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	1.1	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	45.9	0.0	0.0	0.0	14.5	0.0	39.3
1st-Term Q (Q1), veh/ln	0.0	26.8	0.0	0.0	0.0	8.9	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.09	0.00	1.00	0.00	1.54	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	29.5	0.0	0.0	0.0	14.1	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	0.44	0.00	0.00	0.00	0.88	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	117	0	591	0	643	0	45
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1864	0	1585
Q Serve Time (g_s), s	0.0	7.4	0.0	19.9	0.0	24.2	0.0	2.8
Cycle Q Clear Time (g_c), s	0.0	7.4	0.0	19.9	0.0	24.2	0.0	2.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.02	0.00	1.00
Lane Grp Cap (c), veh/h	0	889	0	908	0	1150	0	322
V/C Ratio (X)	0.00	0.13	0.00	0.65	0.00	0.56	0.00	0.14
Avail Cap (c_a), veh/h	0	889	0	1241	0	1150	0	489
Upstream Filter (I)	0.00	0.09	0.00	0.98	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.5	0.0	44.1	0.0	13.4	0.0	39.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	2.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.5	0.0	44.9	0.0	15.4	0.0	39.4
1st-Term Q (Q1), veh/ln	0.0	3.0	0.0	8.5	0.0	9.7	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.29	0.00	1.55	0.00	1.51	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	3.8	0.0	13.3	0.0	15.6	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.62	0.00	2.26	0.00	0.97	0.00	0.26
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	940	189	143	555	0	150	0	179	5	2	12
Future Volume (veh/h)	1	940	189	143	555	0	150	0	179	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	1022	205	155	603	0	163	0	195	5	2	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	2005	401	291	2289	0	261	0	233	17	7	44
Arrive On Green	0.00	0.68	0.68	0.64	0.64	0.00	0.15	0.00	0.15	0.04	0.04	0.04
Sat Flow, veh/h	1781	2950	590	454	3647	0	1781	0	1585	414	166	1076
Grp Volume(v), veh/h	1	615	612	155	603	0	163	0	195	20	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1764	454	1777	0	1781	0	1585	1656	0	0
Q Serve(g_s), s	0.1	20.3	20.5	30.5	8.7	0.0	10.3	0.0	14.4	1.4	0.0	0.0
Cycle Q Clear(g_c), s	0.1	20.3	20.5	46.7	8.7	0.0	10.3	0.0	14.4	1.4	0.0	0.0
Prop In Lane	1.00		0.33	1.00		0.00	1.00		1.00	0.25		0.65
Lane Grp Cap(c), veh/h	3	1207	1199	291	2289	0	261	0	233	67	0	0
V/C Ratio(X)	0.29	0.51	0.51	0.53	0.26	0.00	0.62	0.00	0.84	0.30	0.00	0.00
Avail Cap(c_a), veh/h	111	1207	1199	291	2289	0	416	0	370	386	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.8	9.4	9.4	22.0	9.1	0.0	48.1	0.0	49.8	55.9	0.0	0.0
Incr Delay (d2), s/veh	41.9	1.5	1.6	5.6	0.2	0.0	2.4	0.0	9.2	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	12.4	12.4	6.5	6.0	0.0	8.3	0.0	10.4	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.7	11.0	11.0	27.6	9.4	0.0	50.5	0.0	59.1	58.3	0.0	0.0
LnGrp LOS	F	B	B	C	A	A	D	A	E	E	A	A
Approach Vol, veh/h		1228			758			358				20
Approach Delay, s/veh		11.1			13.1			55.2				58.3
Approach LOS		B			B			E				E
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	4.2	82.9		9.9		87.1		23.0				
Change Period (Y+Rc), s	4.0	5.6		* 5		* 5.6		5.4				
Max Green Setting (Gmax), s	5	36.5		* 28		* 48		28.0				
Max Q Clear Time (g_c+1/2), s	5	48.7		3.4		22.5		16.4				
Green Ext Time (p_c), s	0.0	0.0		0.1		9.8		1.2				

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↗	↖
Traffic Volume (veh/h)	1	940	189	143	555	0	150	0	179	5	2	12
Future Volume (veh/h)	1	940	189	143	555	0	150	0	179	5	2	12
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	1022	205	155	603	0	163	0	195	5	2	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	3	2005	401	291	2289	0	261	0	233	17	7	44
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.68	0.68	0.64	0.64	0.00	0.15	0.00	0.15	0.04	0.04	0.04
Unsig. Movement Delay												
Ln Grp Delay, s/veh	101.7	11.0	11.0	27.6	9.4	0.0	50.5	0.0	59.1	58.3	0.0	0.0
Ln Grp LOS	F	B	B	C	A	A	D	A	E	E	A	A
Approach Vol, veh/h		1228			758			358			20	
Approach Delay, s/veh		11.1			13.1			55.2			58.3	
Approach LOS		B			B			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4		6					
Case No		2.0	6.3	11.0	12.0		4.0					
Phs Duration (G+Y+Rc), s		4.2	82.9	23.0	9.9		87.1					
Change Period (Y+Rc), s		4.0	5.6	5.4	* 5		* 5.6					
Max Green (Gmax), s		7.5	36.5	28.0	* 28		* 48					
Max Allow Headway (MAH), s		3.8	6.0	4.6	5.5		5.3					
Max Q Clear (g_c+I1), s		2.1	48.7	16.4	3.4		22.5					
Green Ext Time (g_e), s		0.0	0.0	1.2	0.1		9.8					
Prob of Phs Call (p_c)		0.03	1.00	1.00	0.49		1.00					
Prob of Max Out (p_x)		0.01	1.00	0.05	0.00		0.22					
Left-Turn Movement Data												
Assigned Mvmt		1	5	3	7							
Mvmt Sat Flow, veh/h		1781	454	1781	414							
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3647	0	166		2950					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			0	1585	1076		590					
Left Lane Group Data												
Assigned Mvmt		1	5	3	7	0	0	0	0			
Lane Assignment		L (Prot)	L	L+T	L+T+R							

HCM 6th Signalized Intersection Capacity Analysis
5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

Lanes in Grp	1	1	1	1	0	0	0	0
Grp Vol (v), veh/h	1	155	163	20	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	454	1781	1656	0	0	0	0
Q Serve Time (g_s), s	0.1	30.5	10.3	1.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	46.7	10.3	1.4	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	454	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	77.3	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	61.1	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	30.5	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	1.00	0.25	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	3	291	261	67	0	0	0	0
V/C Ratio (X)	0.29	0.53	0.62	0.30	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	111	291	416	386	0	0	0	0
Upstream Filter (I)	1.00	0.82	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	59.8	22.0	48.1	55.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	41.9	5.6	2.4	2.4	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	101.7	27.6	50.5	58.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	4.6	0.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.78	1.75	1.80	0.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.1	6.5	8.3	1.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.03	0.99	0.16	0.22	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	1	0	0
Grp Vol (v), veh/h	0	603	0	0	0	615	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	8.7	0.0	0.0	0.0	20.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.7	0.0	0.0	0.0	20.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	2289	0	0	0	1207	0	0
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.51	0.00	0.00
Avail Cap (c_a), veh/h	0	2289	0	0	0	1207	0	0
Upstream Filter (I)	0.00	0.82	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.1	0.0	0.0	0.0	9.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.4	0.0	0.0	0.0	11.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.3	0.0	0.0	0.0	7.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.5	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	0.00	1.59	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	6.0	0.0	0.0	0.0	12.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.00	0.00	1.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment			R			T+R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	195	0	0	612	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1764	0	0
Q Serve Time (g_s), s	0.0	0.0	14.4	0.0	0.0	20.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	14.4	0.0	0.0	20.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.65	0.00	0.33	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	233	0	0	1199	0	0
V/C Ratio (X)	0.00	0.00	0.84	0.00	0.00	0.51	0.00	0.00
Avail Cap (c_a), veh/h	0	0	370	0	0	1199	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	49.8	0.0	0.0	9.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	9.2	0.0	0.0	1.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	59.1	0.0	0.0	11.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	5.7	0.0	0.0	7.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.6	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.65	1.00	0.00	1.59	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	10.4	0.0	0.0	12.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.98	0.00	0.00	1.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

6: Bristol Pkwy & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	511	400	104	362	267	197	240	102	106	337	78
Future Volume (veh/h)	10	511	400	104	362	267	197	240	102	106	337	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	555	435	113	393	290	214	261	111	115	366	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	1199	535	182	1199	535	248	1166	483	202	1134	260
Arrive On Green	0.34	0.34	0.34	0.56	0.56	0.56	0.05	0.16	0.16	0.02	0.13	0.13
Sat Flow, veh/h	758	3554	1585	569	3554	1585	1781	2451	1014	3456	2870	659
Grp Volume(v), veh/h	11	555	435	113	393	290	214	187	185	115	225	226
Grp Sat Flow(s),veh/h/ln	758	1777	1585	569	1777	1585	1781	1777	1688	1728	1777	1752
Q Serve(g_s), s	1.3	14.7	30.1	22.9	7.1	13.8	14.3	11.0	11.5	4.0	13.8	14.1
Cycle Q Clear(g_c), s	8.4	14.7	30.1	37.6	7.1	13.8	14.3	11.0	11.5	4.0	13.8	14.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		0.38
Lane Grp Cap(c), veh/h	271	1199	535	182	1199	535	248	846	803	202	702	692
V/C Ratio(X)	0.04	0.46	0.81	0.62	0.33	0.54	0.86	0.22	0.23	0.57	0.32	0.33
Avail Cap(c_a), veh/h	277	1226	547	186	1226	547	371	846	803	576	702	692
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	0.33	0.33	0.33	0.33	0.33	0.33
Upstream Filter(I)	0.86	0.86	0.86	0.99	0.99	0.99	0.84	0.84	0.84	0.83	0.83	0.83
Uniform Delay (d), s/veh	31.7	31.2	36.3	32.6	18.9	20.4	56.1	31.2	31.3	57.4	37.6	37.7
Incr Delay (d2), s/veh	0.1	0.2	7.8	5.9	0.2	1.0	11.0	0.5	0.6	2.1	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	10.2	18.1	5.6	4.9	7.7	11.8	8.9	8.8	3.3	10.7	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	31.5	44.2	38.5	19.1	21.4	67.1	31.7	31.9	59.5	38.6	38.7
LnGrp LOS	C	C	D	D	B	C	E	C	C	E	D	D
Approach Vol, veh/h		1001			796			586			566	
Approach Delay, s/veh		37.0			22.7			44.7			42.9	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.0	62.9		46.1	20.7	53.2		46.1				
Change Period (Y+Rc), s	4.0	5.8		* 5.6	4.0	5.8		* 5.6				
Max Green Setting (Gmax), s	20.0	43.2		* 41	25.0	38.2		* 41				
Max Q Clear Time (g_c+10), s	10.0	13.5		32.1	16.3	16.1		39.6				
Green Ext Time (p_c), s	0.3	2.4		3.8	0.4	2.7		0.9				

Intersection Summary
























HCM 6th Ctrl Delay	35.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	511	400	104	362	267	197	240	102	106	337	78
Future Volume (veh/h)	10	511	400	104	362	267	197	240	102	106	337	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	555	435	113	393	290	214	261	111	115	366	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	271	1199	535	182	1199	535	248	1166	483	202	1134	260
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	0.33	0.33	0.33	0.33	0.33	0.33
Prop Arrive On Green	0.34	0.34	0.34	0.56	0.56	0.56	0.05	0.16	0.16	0.02	0.13	0.13
Unsig. Movement Delay												
Ln Grp Delay, s/veh	31.8	31.5	44.2	38.5	19.1	21.4	67.1	31.7	31.9	59.5	38.6	38.7
Ln Grp LOS	C	C	D	D	B	C	E	C	C	E	D	D
Approach Vol, veh/h		1001			796			586			566	
Approach Delay, s/veh		37.0			22.7			44.7			42.9	
Approach LOS		D			C			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		11.0	62.9		46.1	20.7	53.2		46.1			
Change Period (Y+Rc), s		4.0	5.8		* 5.6	4.0	5.8		* 5.6			
Max Green (Gmax), s		20.0	43.2		* 41	25.0	38.2		* 41			
Max Allow Headway (MAH), s		3.8	5.3		4.7	3.8	5.3		5.1			
Max Q Clear (g_c+I1), s		6.0	13.5		32.1	16.3	16.1		39.6			
Green Ext Time (g_e), s		0.3	2.4		3.8	0.4	2.7		0.9			
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.50	0.03	0.01		1.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			758	1781			569			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2451		3554		2870		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1014		1585		659		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

Lanes in Grp	2	0	0	1	1	0	0	1
Grp Vol (v), veh/h	115	0	0	11	214	0	0	113
Grp Sat Flow (s), veh/h/ln	1728	0	0	758	1781	0	0	569
Q Serve Time (g_s), s	4.0	0.0	0.0	1.3	14.3	0.0	0.0	22.9
Cycle Q Clear Time (g_c), s	4.0	0.0	0.0	8.4	14.3	0.0	0.0	37.6
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	758	0	0	0	569
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	40.5	0.0	0.0	0.0	40.5
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	33.4	0.0	0.0	0.0	25.8
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	22.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	202	0	0	271	248	0	0	182
V/C Ratio (X)	0.57	0.00	0.00	0.04	0.86	0.00	0.00	0.62
Avail Cap (c_a), veh/h	576	0	0	277	371	0	0	186
Upstream Filter (I)	0.83	0.00	0.00	0.86	0.84	0.00	0.00	0.99
Uniform Delay (d1), s/veh	57.4	0.0	0.0	31.7	56.1	0.0	0.0	32.6
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.1	11.0	0.0	0.0	5.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.5	0.0	0.0	31.8	67.1	0.0	0.0	38.5
1st-Term Q (Q1), veh/ln	1.8	0.0	0.0	0.2	6.9	0.0	0.0	2.8
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.8	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.54	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	3.3	0.0	0.0	0.4	11.8	0.0	0.0	5.6
%ile Storage Ratio (RQ%)	0.44	0.00	0.00	0.07	1.50	0.00	0.00	0.73
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	187	0	555	0	225	0	393
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	11.0	0.0	14.7	0.0	13.8	0.0	7.1
Cycle Q Clear Time (g_c), s	0.0	11.0	0.0	14.7	0.0	13.8	0.0	7.1
Lane Grp Cap (c), veh/h	0	846	0	1199	0	702	0	1199
V/C Ratio (X)	0.00	0.22	0.00	0.46	0.00	0.32	0.00	0.33
Avail Cap (c_a), veh/h	0	846	0	1226	0	702	0	1226
Upstream Filter (I)	0.00	0.84	0.00	0.86	0.00	0.83	0.00	0.99
Uniform Delay (d1), s/veh	0.0	31.2	0.0	31.2	0.0	37.6	0.0	18.9
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.2	0.0	1.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.7	0.0	31.5	0.0	38.6	0.0	19.1
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	6.3	0.0	6.6	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.65	0.00	1.60	0.00	1.57	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	8.9	0.0	10.2	0.0	10.7	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.31	0.00	0.62	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	185	0	435	0	226	0	290
Grp Sat Flow (s), veh/h/ln	0	1688	0	1585	0	1752	0	1585
Q Serve Time (g_s), s	0.0	11.5	0.0	30.1	0.0	14.1	0.0	13.8
Cycle Q Clear Time (g_c), s	0.0	11.5	0.0	30.1	0.0	14.1	0.0	13.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.60	0.00	1.00	0.00	0.38	0.00	1.00
Lane Grp Cap (c), veh/h	0	803	0	535	0	692	0	535
V/C Ratio (X)	0.00	0.23	0.00	0.81	0.00	0.33	0.00	0.54
Avail Cap (c_a), veh/h	0	803	0	547	0	692	0	547
Upstream Filter (I)	0.00	0.84	0.00	0.86	0.00	0.83	0.00	0.99
Uniform Delay (d1), s/veh	0.0	31.3	0.0	36.3	0.0	37.7	0.0	20.4
Incr Delay (d2), s/veh	0.0	0.6	0.0	7.8	0.0	1.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.9	0.0	44.2	0.0	38.7	0.0	21.4
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	11.5	0.0	6.6	0.0	4.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.2	0.0	0.2	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.65	0.00	1.43	0.00	1.57	0.00	1.78
%ile Back of Q (95%), veh/ln	0.0	8.8	0.0	18.1	0.0	10.7	0.0	7.7
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.55	0.00	0.63	0.00	0.91
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	35.8
HCM 6th LOS	D

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	730	21	13	289	6	32	0	41	18	5	60
Future Volume (veh/h)	4	730	21	13	289	6	32	0	41	18	5	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	793	23	14	314	7	35	0	45	20	5	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	881	2714	1210	565	2771	1236	121	0	125	119	24	137
Arrive On Green	0.01	0.76	0.76	0.04	1.00	1.00	0.09	0.00	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	704	0	1442	759	280	1585
Grp Volume(v), veh/h	4	793	23	14	314	7	35	0	45	25	0	65
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	704	0	1442	1038	0	1585
Q Serve(g_s), s	0.1	8.1	0.4	0.2	0.0	0.0	3.1	0.0	3.5	1.3	0.0	4.7
Cycle Q Clear(g_c), s	0.1	8.1	0.4	0.2	0.0	0.0	8.0	0.0	3.5	4.9	0.0	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.80		1.00
Lane Grp Cap(c), veh/h	881	2714	1210	565	2771	1236	121	0	125	144	0	137
V/C Ratio(X)	0.00	0.29	0.02	0.02	0.11	0.01	0.29	0.00	0.36	0.17	0.00	0.48
Avail Cap(c_a), veh/h	1032	2714	1210	701	2771	1236	387	0	413	432	0	454
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.2	4.3	3.4	3.0	0.0	0.0	56.1	0.0	51.7	52.8	0.0	52.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.1	0.0	1.3	0.0	1.8	0.6	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	4.7	0.2	0.1	0.1	0.0	2.0	0.0	2.4	1.3	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.2	4.5	3.4	3.0	0.1	0.0	57.4	0.0	53.5	53.3	0.0	54.8
LnGrp LOS	A	A	A	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		820			335			80				90
Approach Delay, s/veh		4.5			0.2			55.2				54.4
Approach LOS		A			A			E				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	99.2		16.0	6.8	97.2		16.0				
Change Period (Y+Rc), s	4.0	5.6		5.6	* 4.2	* 5.6		5.6				
Max Green Setting (Gmax), s	59.4			34.4	* 12	* 59		34.4				
Max Q Clear Time (g_c+1), s	2.0			6.9	2.2	10.1		10.0				
Green Ext Time (p_c), s	0.0	2.3		0.3	0.0	6.9		0.4				

Intersection Summary























HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
7: Uplander Way & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	730	21	13	289	6	32	0	41	18	5	60
Future Volume (veh/h)	4	730	21	13	289	6	32	0	41	18	5	60
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	793	23	14	314	7	35	0	45	20	5	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	881	2714	1210	565	2771	1236	121	0	125	119	24	137
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.76	0.76	0.04	1.00	1.00	0.09	0.00	0.09	0.09	0.09	0.09
Unsig. Movement Delay												
Ln Grp Delay, s/veh	3.2	4.5	3.4	3.0	0.1	0.0	57.4	0.0	53.5	53.3	0.0	54.8
Ln Grp LOS	A	A	A	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		820			335			80			90	
Approach Delay, s/veh		4.5			0.2			55.2			54.4	
Approach LOS		A			A			E			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		1.1	3.0		7.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		4.9	99.2		16.0	6.8	97.2		16.0			
Change Period (Y+Rc), s		4.0	5.6		5.6	* 4.2	* 5.6		5.6			
Max Green (Gmax), s		11.0	59.4		34.4	* 12	* 59		34.4			
Max Allow Headway (MAH), s		3.8	5.2		4.4	3.8	5.2		5.5			
Max Q Clear (g_c+I1), s		2.1	2.0		6.9	2.2	10.1		10.0			
Green Ext Time (g_e), s		0.0	2.3		0.3	0.0	6.9		0.4			
Prob of Phs Call (p_c)		0.12	1.00		1.00	0.37	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			759	1781			704			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		280		3554		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1442			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Pr/Pm)			L+TL (Pr/Pm)			L+T				

HCM 6th Signalized Intersection Capacity Analysis
 7: Uplander Way & Hannum Ave

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	4	0	0	25	14	0	0	35
Grp Sat Flow (s), veh/h/ln	1781	0	0	1038	1781	0	0	704
Q Serve Time (g_s), s	0.1	0.0	0.0	1.3	0.2	0.0	0.0	3.1
Cycle Q Clear Time (g_c), s	0.1	0.0	0.0	4.9	0.2	0.0	0.0	8.0
Perm LT Sat Flow (s_l), veh/h/ln	1059	0	0	1383	670	0	0	1352
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	91.6	0.0	0.0	10.4	91.6	0.0	0.0	10.4
Perm LT Serve Time (g_u), s	91.6	0.0	0.0	6.8	83.5	0.0	0.0	5.5
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.3	0.2	0.0	0.0	3.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.80	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	881	0	0	144	565	0	0	121
V/C Ratio (X)	0.00	0.00	0.00	0.17	0.02	0.00	0.00	0.29
Avail Cap (c_a), veh/h	1032	0	0	432	701	0	0	387
Upstream Filter (I)	0.79	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	3.2	0.0	0.0	52.8	3.0	0.0	0.0	56.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	3.2	0.0	0.0	53.3	3.0	0.0	0.0	57.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.7	0.1	0.0	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	1.3	0.1	0.0	0.0	2.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.00	0.52	0.02	0.00	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	314	0	0	0	793	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	2771	0	0	0	2714	0	0
V/C Ratio (X)	0.00	0.11	0.00	0.00	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	2771	0	0	0	2714	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.79	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	0.0	0.0	4.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	0.0	4.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.21	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	7	0	65	0	23	0	45
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1442
Q Serve Time (g_s), s	0.0	0.0	0.0	4.7	0.0	0.4	0.0	3.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.7	0.0	0.4	0.0	3.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1236	0	137	0	1210	0	125
V/C Ratio (X)	0.00	0.01	0.00	0.48	0.00	0.02	0.00	0.36
Avail Cap (c_a), veh/h	0	1236	0	454	0	1210	0	413
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.79	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.2	0.0	3.4	0.0	51.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.5	0.0	0.0	0.0	1.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	54.8	0.0	3.4	0.0	53.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.9	0.0	0.1	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	3.5	0.0	0.2	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.36	0.00	0.06	0.00	0.17
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	528	256	157	149	0	95	0	133	6	2	16
Future Volume (veh/h)	0	528	256	157	149	0	95	0	133	6	2	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	574	278	171	162	0	103	0	145	7	2	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	2513	1121	621	2838	1266	215	200	262	65	31	109
Arrive On Green	0.00	1.00	1.00	0.02	0.26	0.00	0.11	0.00	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1393	1870	1585	255	285	1019
Grp Volume(v), veh/h	0	574	278	171	162	0	103	0	145	26	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1393	1870	1585	1558	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.7	4.1	0.0	6.4	0.0	10.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.7	4.1	0.0	8.0	0.0	10.1	1.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.27		0.65
Lane Grp Cap(c), veh/h	1	2513	1121	621	2838	1266	215	200	262	205	0	0
V/C Ratio(X)	0.00	0.23	0.25	0.28	0.06	0.00	0.48	0.00	0.55	0.13	0.00	0.00
Avail Cap(c_a), veh/h	312	2513	1121	741	2838	1266	544	642	636	557	0	0
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.92	0.92	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	3.3	10.4	0.0	51.3	0.0	46.0	48.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.5	0.2	0.0	0.0	1.7	0.0	1.8	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.1	0.3	1.6	2.5	0.0	5.5	0.0	7.4	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.2	0.5	3.5	10.4	0.0	52.9	0.0	47.8	48.9	0.0	0.0
LnGrp LOS	A	A	A	A	B	A	D	A	D	D	A	A
Approach Vol, veh/h	852			333			248			26		
Approach Delay, s/veh	0.3			6.9			49.9			48.9		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	0.0	101.3	18.7		11.0	90.4	18.7					
Change Period (Y+Rc), s	4.0	* 5.5	* 5.8		4.0	* 5.5	* 5.8					
Max Green Setting (Gmax), s	2.0	* 43	* 41		15.0	* 49	* 41					
Max Q Clear Time (g_c+1), s	10.0	6.1	12.1		4.7	2.0	3.7					
Green Ext Time (p_c), s	0.0	1.1	0.8		0.3	5.7	0.1					

Intersection Summary

HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗	↙	↑	↗		↕	
Traffic Volume (veh/h)	0	528	256	157	149	0	95	0	133	6	2	16
Future Volume (veh/h)	0	528	256	157	149	0	95	0	133	6	2	16
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	574	278	171	162	0	103	0	145	7	2	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	1	2513	1121	621	2838	1266	215	200	262	65	31	109
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	1.00	1.00	0.02	0.26	0.00	0.11	0.00	0.11	0.11	0.11	0.11
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	0.2	0.5	3.5	10.4	0.0	52.9	0.0	47.8	48.9	0.0	0.0
Ln Grp LOS	A	A	A	A	B	A	D	A	D	D	A	A
Approach Vol, veh/h		852			333			248				26
Approach Delay, s/veh		0.3			6.9			49.9				48.9
Approach LOS		A			A			D				D
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		0.0	101.3		18.7	11.0	90.4		18.7			
Change Period (Y+Rc), s		4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8			
Max Green (Gmax), s		21.0	* 43		* 41	15.0	* 49		* 41			
Max Allow Headway (MAH), s		0.0	5.2		3.9	3.8	4.9		5.6			
Max Q Clear (g_c+I1), s		0.0	6.1		12.1	4.7	2.0		3.7			
Green Ext Time (g_e), s		0.0	1.1		0.8	0.3	5.7		0.1			
Prob of Phs Call (p_c)		0.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1393	1781			255			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		1870		3554		285			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1019			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			LL (Pr/Pm)				L+T+R			

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

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Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	0	0	0	103	171	0	0	26
Grp Sat Flow (s), veh/h/ln	1781	0	0	1393	1781	0	0	1558
Q Serve Time (g_s), s	0.0	0.0	0.0	6.4	2.7	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.0	2.7	0.0	0.0	1.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1393	647	0	0	1263
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1781	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	12.9	86.9	0.0	0.0	12.9
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	11.2	84.9	0.0	0.0	12.9
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	6.4	0.8	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.27
Lane Grp Cap (c), veh/h	1	0	0	215	621	0	0	205
V/C Ratio (X)	0.00	0.00	0.00	0.48	0.28	0.00	0.00	0.13
Avail Cap (c_a), veh/h	312	0	0	544	741	0	0	557
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.92	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	51.3	3.3	0.0	0.0	48.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.7	0.2	0.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	52.9	3.5	0.0	0.0	48.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.0	0.9	0.0	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	5.5	1.6	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.22	0.22	0.00	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		
Lanes in Grp	0	2	0	1	0	2	0	0
Grp Vol (v), veh/h	0	162	0	0	0	574	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2838	0	200	0	2513	0	0
V/C Ratio (X)	0.00	0.06	0.00	0.00	0.00	0.23	0.00	0.00
Avail Cap (c_a), veh/h	0	2838	0	642	0	2513	0	0
Upstream Filter (I)	0.00	0.92	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.4	0.0	0.0	0.0	0.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	2.5	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	145	0	278	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	10.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.1	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.65
Lane Grp Cap (c), veh/h	0	1266	0	262	0	1121	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.55	0.00	0.25	0.00	0.00
Avail Cap (c_a), veh/h	0	1266	0	636	0	1121	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	46.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.8	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	47.8	0.0	0.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	7.4	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.63	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

9: Bristol Pkwy & Green Valley Cir

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖		↖	↖↗	
Traffic Volume (veh/h)	171	429	158	82	297	135	158	204	77	372	782	305
Future Volume (veh/h)	171	429	158	82	297	135	158	204	77	372	782	305
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	466	172	89	323	147	172	222	84	404	850	332
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	796	292	184	747	333	342	769	291	609	1487	579
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.60	0.60	0.60	1.00	1.00	1.00
Sat Flow, veh/h	923	2546	933	790	2390	1066	474	1293	489	1073	2499	973
Grp Volume(v), veh/h	186	324	314	89	238	232	172	0	306	404	604	578
Grp Sat Flow(s),veh/h/ln	923	1777	1702	790	1777	1679	474	0	1782	1073	1777	1695
Q Serve(g_s), s	24.1	18.4	18.6	12.8	12.8	13.2	27.7	0.0	10.1	17.3	0.0	0.0
Cycle Q Clear(g_c), s	37.3	18.4	18.6	31.5	12.8	13.2	27.7	0.0	10.1	27.4	0.0	0.0
Prop In Lane	1.00		0.55	1.00		0.63	1.00		0.27	1.00		0.57
Lane Grp Cap(c), veh/h	247	555	532	184	555	525	342	0	1060	609	1057	1009
V/C Ratio(X)	0.75	0.58	0.59	0.48	0.43	0.44	0.50	0.00	0.29	0.66	0.57	0.57
Avail Cap(c_a), veh/h	247	555	532	184	555	525	342	0	1060	609	1057	1009
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	47.8	34.7	34.8	48.0	32.8	32.9	15.4	0.0	11.9	1.9	0.0	0.0
Incr Delay (d2), s/veh	12.3	1.6	1.7	1.9	0.5	0.6	5.2	0.0	0.7	4.9	2.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.5	12.9	12.6	4.7	9.4	9.3	6.0	0.0	7.4	1.5	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.1	36.3	36.5	50.0	33.3	33.5	20.6	0.0	12.6	6.9	2.0	2.1
LnGrp LOS	E	D	D	D	C	C	C	A	B	A	A	A
Approach Vol, veh/h		824			559			478			1586	
Approach Delay, s/veh		41.7			36.0			15.5			3.2	
Approach LOS		D			D			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		77.0		43.0		77.0		43.0				
Change Period (Y+Rc), s		* 5.6		* 5.5		* 5.6		* 5.5				
Max Green Setting (Gmax), s		* 71		* 38		* 71		* 38				
Max Q Clear Time (g_c+I1), s		29.7		39.3		29.4		33.5				
Green Ext Time (p_c), s		5.2		0.0		14.5		1.3				

Intersection Summary

HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	429	158	82	297	135	158	204	77	372	782	305
Future Volume (veh/h)	171	429	158	82	297	135	158	204	77	372	782	305
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	466	172	89	323	147	172	222	84	404	850	332
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	247	796	292	184	747	333	342	769	291	609	1487	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.60	0.60	0.60	1.00	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	60.1	36.3	36.5	50.0	33.3	33.5	20.6	0.0	12.6	6.9	2.0	2.1
Ln Grp LOS	E	D	D	D	C	C	C	A	B	A	A	A
Approach Vol, veh/h		824			559			478			1586	
Approach Delay, s/veh		41.7			36.0			15.5			3.2	
Approach LOS		D			D			B			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			77.0		43.0		77.0		43.0			
Change Period (Y+Rc), s			* 5.6		* 5.5		* 5.6		* 5.5			
Max Green (Gmax), s			* 71		* 38		* 71		* 38			
Max Allow Headway (MAH), s			6.6		5.3		5.1		5.4			
Max Q Clear (g_c+I1), s			29.7		39.3		29.4		33.5			
Green Ext Time (g_e), s			5.2		0.0		14.5		1.3			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		1.00			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			474		923		1073		790			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1293		2546		2499		2390			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			489		933		973		1066			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	172	0	186	0	404	0	89
Grp Sat Flow (s), veh/h/ln	0	474	0	923	0	1073	0	790
Q Serve Time (g_s), s	0.0	27.7	0.0	24.1	0.0	17.3	0.0	12.8
Cycle Q Clear Time (g_c), s	0.0	27.7	0.0	37.3	0.0	27.4	0.0	31.5
Perm LT Sat Flow (s_l), veh/h/ln	0	474	0	923	0	1073	0	790
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	71.4	0.0	37.5	0.0	71.4	0.0	37.5
Perm LT Serve Time (g_u), s	0.0	71.4	0.0	24.3	0.0	61.3	0.0	18.9
Perm LT Q Serve Time (g_ps), s	0.0	27.7	0.0	24.1	0.0	17.3	0.0	12.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	342	0	247	0	609	0	184
V/C Ratio (X)	0.00	0.50	0.00	0.75	0.00	0.66	0.00	0.48
Avail Cap (c_a), veh/h	0	342	0	247	0	609	0	184
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.87	0.00	0.99
Uniform Delay (d1), s/veh	0.0	15.4	0.0	47.8	0.0	1.9	0.0	48.0
Incr Delay (d2), s/veh	0.0	5.2	0.0	12.3	0.0	4.9	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.6	0.0	60.1	0.0	6.9	0.0	50.0
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	5.5	0.0	0.0	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.8	0.0	0.8	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.65	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	6.0	0.0	10.5	0.0	1.5	0.0	4.7
%ile Storage Ratio (RQ%)	0.00	1.28	0.00	2.96	0.00	0.33	0.00	1.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	324	0	604	0	238
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	18.4	0.0	0.0	0.0	12.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	18.4	0.0	0.0	0.0	12.8
Lane Grp Cap (c), veh/h	0	0	0	555	0	1057	0	555
V/C Ratio (X)	0.00	0.00	0.00	0.58	0.00	0.57	0.00	0.43
Avail Cap (c_a), veh/h	0	0	0	555	0	1057	0	555
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.87	0.00	0.99
Uniform Delay (d1), s/veh	0.0	0.0	0.0	34.7	0.0	0.0	0.0	32.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.6	0.0	2.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	36.3	0.0	2.0	0.0	33.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.9	0.0	0.0	0.0	5.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.6	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.57	0.00	1.80	0.00	1.69
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	12.9	0.0	1.0	0.0	9.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.35	0.00	0.02	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	306	0	314	0	578	0	232
Grp Sat Flow (s), veh/h/ln	0	1782	0	1702	0	1695	0	1679
Q Serve Time (g_s), s	0.0	10.1	0.0	18.6	0.0	0.0	0.0	13.2
Cycle Q Clear Time (g_c), s	0.0	10.1	0.0	18.6	0.0	0.0	0.0	13.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.27	0.00	0.55	0.00	0.57	0.00	0.63
Lane Grp Cap (c), veh/h	0	1060	0	532	0	1009	0	525
V/C Ratio (X)	0.00	0.29	0.00	0.59	0.00	0.57	0.00	0.44
Avail Cap (c_a), veh/h	0	1060	0	532	0	1009	0	525
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.87	0.00	0.99
Uniform Delay (d1), s/veh	0.0	11.9	0.0	34.8	0.0	0.0	0.0	32.9
Incr Delay (d2), s/veh	0.0	0.7	0.0	1.7	0.0	2.1	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.6	0.0	36.5	0.0	2.1	0.0	33.5
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	7.7	0.0	0.0	0.0	5.4
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.3	0.0	0.6	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.58	0.00	1.80	0.00	1.70
%ile Back of Q (95%), veh/ln	0.0	7.4	0.0	12.6	0.0	1.0	0.0	9.3
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.34	0.00	0.02	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

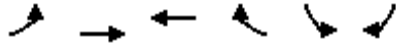
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

10: Green Valley Cir & Buckingham

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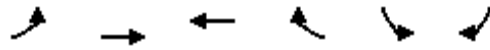


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↗		↖	↗
Traffic Volume (veh/h)	106	551	233	111	237	103
Future Volume (veh/h)	106	551	233	111	237	103
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	599	253	121	258	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	789	2677	1776	824	298	265
Arrive On Green	0.25	0.25	0.75	0.75	0.17	0.17
Sat Flow, veh/h	1009	3647	2451	1093	1781	1585
Grp Volume(v), veh/h	115	599	189	185	258	112
Grp Sat Flow(s),veh/h/ln	1009	1777	1777	1674	1781	1585
Q Serve(g_s), s	10.8	16.1	3.5	3.7	16.9	7.6
Cycle Q Clear(g_c), s	14.5	16.1	3.5	3.7	16.9	7.6
Prop In Lane	1.00			0.65	1.00	1.00
Lane Grp Cap(c), veh/h	789	2677	1339	1261	298	265
V/C Ratio(X)	0.15	0.22	0.14	0.15	0.87	0.42
Avail Cap(c_a), veh/h	789	2677	1339	1261	757	674
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.0	17.2	4.1	4.1	48.6	44.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.2	7.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	11.5	2.2	2.1	12.8	5.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.1	17.2	4.3	4.3	56.1	45.8
LnGrp LOS	B	B	A	A	E	D
Approach Vol, veh/h		714	374		370	
Approach Delay, s/veh		17.3	4.3		53.0	
Approach LOS		B	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		95.9		24.1		95.9
Change Period (Y+Rc), s		* 5.5		4.0		* 5.5
Max Green Setting (Gmax), s		* 60		51.0		* 60
Max Q Clear Time (g_c+I1), s		5.7		18.9		18.1
Green Ext Time (p_c), s		2.5		1.2		5.4
Intersection Summary						
HCM 6th Ctrl Delay			23.0			
HCM 6th LOS			C			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↶	↷	↷		↶	↷			
Traffic Volume (veh/h)	106	551	233	111	237	103			
Future Volume (veh/h)	106	551	233	111	237	103			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	115	599	253	121	258	112			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	789	2677	1776	824	298	265			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.25	0.25	0.75	0.75	0.17	0.17			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	18.1	17.2	4.3	4.3	56.1	45.8			
Ln Grp LOS	B	B	A	A	E	D			
Approach Vol, veh/h		714	374		370				
Approach Delay, s/veh		17.3	4.3		53.0				
Approach LOS		B	A		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		9.0		6.0		
Phs Duration (G+Y+Rc), s			95.9		24.1		95.9		
Change Period (Y+Rc), s			* 5.5		4.0		* 5.5		
Max Green (Gmax), s			* 60		51.0		* 60		
Max Allow Headway (MAH), s			5.4		3.9		5.2		
Max Q Clear (g_c+I1), s			5.7		18.9		18.1		
Green Ext Time (g_e), s			2.5		1.2		5.4		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1781		1009		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			2451		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			1093		1585		0		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment					L		L		

HCM 6th Signalized Intersection Capacity Analysis
 10: Green Valley Cir & Buckingham

07/19/2023

Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	258	0	115	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	0	1009	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	16.9	0.0	10.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	16.9	0.0	14.5	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	1009	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	90.4	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	86.7	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	10.8	0.0	0.0
Time to First Blk (g_f), s	0.0	90.4	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	298	0	789	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.87	0.00	0.15	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	757	0	789	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.73	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	48.6	0.0	18.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	7.5	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	56.1	0.0	18.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.5	0.0	2.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.58	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	12.8	0.0	5.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.19	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	189	0	0	0	599	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.5	0.0	0.0	0.0	16.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	0.0	0.0	16.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	1339	0	0	0	2677	0	0
V/C Ratio (X)	0.00	0.14	0.00	0.00	0.00	0.22	0.00	0.00
Avail Cap (c_a), veh/h	0	1339	0	0	0	2677	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.73	0.00	0.00
Uniform Delay (d1), s/veh	0.0	4.1	0.0	0.0	0.0	17.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.3	0.0	0.0	0.0	17.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.0	0.0	7.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.51	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.2	0.0	0.0	0.0	11.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.00	0.00	0.18	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	185	0	112	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1674	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	3.7	0.0	7.6	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.7	0.0	7.6	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.65	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1261	0	265	0	0	0	0
V/C Ratio (X)	0.00	0.15	0.00	0.42	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1261	0	674	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	4.1	0.0	44.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	1.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.3	0.0	45.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	3.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.1	0.0	5.5	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.08	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

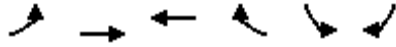
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

11: Centinela Ave & Green Valley Cir

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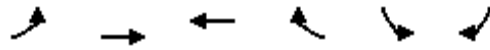


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	93	1752	645	271	721	102
Future Volume (veh/h)	93	1752	645	271	721	102
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	1904	701	295	784	111
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	383	2329	2329	1039	854	392
Arrive On Green	0.66	0.66	0.66	0.66	0.25	0.25
Sat Flow, veh/h	565	3647	3647	1585	3456	1585
Grp Volume(v), veh/h	101	1904	701	295	784	111
Grp Sat Flow(s),veh/h/ln	565	1777	1777	1585	1728	1585
Q Serve(g_s), s	11.2	47.7	10.2	9.5	26.5	6.8
Cycle Q Clear(g_c), s	21.4	47.7	10.2	9.5	26.5	6.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	383	2329	2329	1039	854	392
V/C Ratio(X)	0.26	0.82	0.30	0.28	0.92	0.28
Avail Cap(c_a), veh/h	383	2329	2329	1039	904	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	15.3	8.9	8.8	44.0	36.6
Incr Delay (d2), s/veh	1.7	3.3	0.1	0.1	13.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	25.8	6.8	5.7	18.8	4.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.1	18.7	8.9	8.9	57.7	37.0
LnGrp LOS	B	B	A	A	E	D
Approach Vol, veh/h		2005	996		895	
Approach Delay, s/veh		18.5	8.9		55.1	
Approach LOS		B	A		E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		84.8		35.2		84.8
Change Period (Y+Rc), s		6.1		* 5.6		6.1
Max Green Setting (Gmax), s		76.9		* 31		76.9
Max Q Clear Time (g_c+I1), s		49.7		28.5		12.2
Green Ext Time (p_c), s		19.7		1.1		7.2
Intersection Summary						
HCM 6th Ctrl Delay			24.5			
HCM 6th LOS			C			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖	↗↗	↗↗	↖	↖↖	↖			
Traffic Volume (veh/h)	93	1752	645	271	721	102			
Future Volume (veh/h)	93	1752	645	271	721	102			
Number	5	2	6	16	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	101	1904	701	295	784	111			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	383	2329	2329	1039	854	392			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.66	0.66	0.66	0.66	0.25	0.25			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	15.1	18.7	8.9	8.9	57.7	37.0			
Ln Grp LOS	B	B	A	A	E	D			
Approach Vol, veh/h		2005	996		895				
Approach Delay, s/veh		18.5	8.9		55.1				
Approach LOS		B	A		E				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s			84.8		35.2		84.8		
Change Period (Y+Rc), s			6.1		* 5.6		6.1		
Max Green (Gmax), s			76.9		* 31		76.9		
Max Allow Headway (MAH), s			5.3		3.8		4.9		
Max Q Clear (g_c+I1), s			49.7		28.5		12.2		
Green Ext Time (g_e), s			19.7		1.1		7.2		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.61		1.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			565		3456		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	101	0	784	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	565	0	1728	0	0	0	0
Q Serve Time (g_s), s	0.0	11.2	0.0	26.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	21.4	0.0	26.5	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	565	0	1728	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	78.7	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	68.5	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	11.2	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	78.7	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	383	0	854	0	0	0	0
V/C Ratio (X)	0.00	0.26	0.00	0.92	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	383	0	904	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.5	0.0	44.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	13.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.1	0.0	57.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	11.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	1.6	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.46	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.9	0.0	18.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.38	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1904	0	0	0	701	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	47.7	0.0	0.0	0.0	10.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	47.7	0.0	0.0	0.0	10.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	2329	0	0	0	2329	0	0
V/C Ratio (X)	0.00	0.82	0.00	0.00	0.00	0.30	0.00	0.00
Avail Cap (c_a), veh/h	0	2329	0	0	0	2329	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	15.3	0.0	0.0	0.0	8.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.3	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.7	0.0	0.0	0.0	8.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	17.6	0.0	0.0	0.0	3.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.38	0.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	25.8	0.0	0.0	0.0	6.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.93	0.00	0.00	0.00	0.28	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	111	0	295	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	6.8	0.0	9.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.8	0.0	9.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	392	0	1039	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.28	0.00	0.28	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	415	0	1039	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	36.6	0.0	8.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	37.0	0.0	8.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.7	0.0	3.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	4.8	0.0	5.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.10	0.00	0.24	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

1: Hannum Ave & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖↖	↑↑↑	↖	↖↖	↑↑	↖	↖↖	↑↑	↖↖
Traffic Volume (veh/h)	64	381	95	47	916	748	190	909	348	210	271	84
Future Volume (veh/h)	64	381	95	47	916	748	190	909	348	210	271	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	414	103	51	996	813	207	988	0	228	295	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	1736	418	213	2132	662	795	932		264	386	
Arrive On Green	0.07	0.42	0.42	0.06	0.42	0.42	0.23	0.26	0.00	0.08	0.11	0.00
Sat Flow, veh/h	1781	4108	988	3456	5106	1585	3456	3554	1585	3456	3647	0
Grp Volume(v), veh/h	70	341	176	51	996	813	207	988	0	228	295	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1692	1728	1702	1585	1728	1777	1585	1728	1777	0
Q Serve(g_s), s	5.3	9.0	9.4	2.0	19.8	58.5	6.9	36.7	0.0	9.1	11.3	0.0
Cycle Q Clear(g_c), s	5.3	9.0	9.4	2.0	19.8	58.5	6.9	36.7	0.0	9.1	11.3	0.0
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	119	1439	715	213	2132	662	795	932		264	386	
V/C Ratio(X)	0.59	0.24	0.25	0.24	0.47	1.23	0.26	1.06		0.86	0.76	
Avail Cap(c_a), veh/h	129	1439	715	247	2132	662	795	932		264	949	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.5	25.9	26.0	62.6	29.5	40.8	44.1	51.7	0.0	63.9	60.7	0.0
Incr Delay (d2), s/veh	6.0	0.4	0.8	0.4	0.6	113.0	0.2	46.9	0.0	24.2	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	6.8	7.2	1.6	12.4	60.7	5.4	31.2	0.0	8.6	9.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.5	26.3	26.9	63.0	30.1	153.8	44.3	98.6	0.0	88.2	63.8	0.0
LnGrp LOS	E	C	C	E	C	F	D	F		F	E	
Approach Vol, veh/h		587			1860			1195			523	
Approach Delay, s/veh		31.6			85.1			89.2			74.5	
Approach LOS		C			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	65.3	38.5	21.5	15.4	64.6	17.0	43.0				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3				
Max Green Setting (Gmax), s	* 10	* 58	10.0	37.4	* 10	* 58	10.7	36.7				
Max Q Clear Time (g_c+I1), s	4.0	11.4	8.9	13.3	7.3	60.5	11.1	38.7				
Green Ext Time (p_c), s	0.0	3.8	0.1	1.9	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	77.4
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.
























* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	381	95	47	916	748	190	909	348	210	271	84
Future Volume (veh/h)	64	381	95	47	916	748	190	909	348	210	271	84
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	414	103	51	996	813	207	988	0	228	295	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	119	1736	418	213	2132	662	795	932		264	386	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.42	0.42	0.06	0.42	0.42	0.23	0.26	0.00	0.08	0.11	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	69.5	26.3	26.9	63.0	30.1	153.8	44.3	98.6	0.0	88.2	63.8	0.0
Ln Grp LOS	E	C	C	E	C	F	D	F		F	E	
Approach Vol, veh/h		587			1860			1195			523	
Approach Delay, s/veh		31.6			85.1			89.2			74.5	
Approach LOS		C			F			F			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	4.0	4.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.7	65.3	21.5	38.5	15.4	64.6	17.0	43.0			
Change Period (Y+Rc), s		* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3			
Max Green (Gmax), s		* 10	* 58	37.4	10.0	* 10	* 58	10.7	36.7			
Max Allow Headway (MAH), s		3.8	5.3	5.2	3.8	3.8	4.7	3.8	5.2			
Max Q Clear (g_c+I1), s		4.0	11.4	13.3	8.9	7.3	60.5	11.1	38.7			
Green Ext Time (g_e), s		0.0	3.8	1.9	0.1	0.0	0.0	0.0	0.0			
Prob of Phs Call (p_c)		0.86	1.00	1.00	1.00	0.93	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.04	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	1781		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			4108	3647			5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			988	0			1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	51	0	0	207	70	0	228	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1781	0	1728	0
Q Serve Time (g_s), s	2.0	0.0	0.0	6.9	5.3	0.0	9.1	0.0
Cycle Q Clear Time (g_c), s	2.0	0.0	0.0	6.9	5.3	0.0	9.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	213	0	0	795	119	0	264	0
V/C Ratio (X)	0.24	0.00	0.00	0.26	0.59	0.00	0.86	0.00
Avail Cap (c_a), veh/h	247	0	0	795	129	0	264	0
Upstream Filter (I)	0.77	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	62.6	0.0	0.0	44.1	63.5	0.0	63.9	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.2	6.0	0.0	24.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.0	0.0	0.0	44.3	69.5	0.0	88.2	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	0.0	3.0	2.4	0.0	4.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.2	0.0	0.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	1.74	0.00
%ile Back of Q (95%), veh/ln	1.6	0.0	0.0	5.4	4.7	0.0	8.6	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.00	0.69	1.09	0.00	1.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	2	2	0	0	3	0	2
Grp Vol (v), veh/h	0	341	295	0	0	996	0	988
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	9.0	11.3	0.0	0.0	19.8	0.0	36.7
Cycle Q Clear Time (g_c), s	0.0	9.0	11.3	0.0	0.0	19.8	0.0	36.7
Lane Grp Cap (c), veh/h	0	1439	386	0	0	2132	0	932
V/C Ratio (X)	0.00	0.24	0.76	0.00	0.00	0.47	0.00	1.06
Avail Cap (c_a), veh/h	0	1439	949	0	0	2132	0	932
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.77	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.9	60.7	0.0	0.0	29.5	0.0	51.7
Incr Delay (d2), s/veh	0.0	0.4	3.2	0.0	0.0	0.6	0.0	46.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.3	63.8	0.0	0.0	30.1	0.0	98.6
1st-Term Q (Q1), veh/ln	0.0	3.7	5.1	0.0	0.0	8.2	0.0	16.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.2	0.0	0.0	0.1	0.0	6.1

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.71	0.00	0.00	1.50	0.00	1.40
%ile Back of Q (95%), veh/ln	0.0	6.8	9.1	0.0	0.0	12.4	0.0	31.2
%ile Storage Ratio (RQ%)	0.00	0.51	1.10	0.00	0.00	0.54	0.00	3.48
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.1
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		T+R				R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	176	0	0	0	813	0	0
Grp Sat Flow (s), veh/h/ln	0	1692	0	0	0	1585	0	1585
Q Serve Time (g_s), s	0.0	9.4	0.0	0.0	0.0	58.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.4	0.0	0.0	0.0	58.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.58	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	715	0	0	0	662	0	416
V/C Ratio (X)	0.00	0.25	0.00	0.00	0.00	1.23	0.00	0.00
Avail Cap (c_a), veh/h	0	715	0	0	0	662	0	416
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.77	0.00	0.00
Uniform Delay (d1), s/veh	0.0	26.0	0.0	0.0	0.0	40.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	113.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.9	0.0	0.0	0.0	153.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	0.0	0.0	22.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	20.8	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	0.00	0.00	1.40	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	7.2	0.0	0.0	0.0	60.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	0.00	0.00	9.95	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	37.8	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	77.4
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑	↗	↖	↑	↗↖	↖	↗	
Traffic Volume (veh/h)	1	428	536	3063	1208	0	426	0	1505	0	0	1
Future Volume (veh/h)	1	428	536	3063	1208	0	426	0	1505	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	465	0	3329	1313	0	463	0	1636	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	631		3165	2723	1214	214	0	2188	5	0	5
Arrive On Green	0.00	0.12	0.00	1.00	1.00	0.00	0.06	0.00	0.06	0.00	0.00	0.00
Sat Flow, veh/h	1781	5106	1585	5023	3554	1585	3563	0	3170	1781	0	1585
Grp Volume(v), veh/h	1	465	0	3329	1313	0	463	0	1636	0	0	1
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1674	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.1	13.2	0.0	0.0	0.0	0.0	9.0	0.0	9.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	13.2	0.0	0.0	0.0	0.0	9.0	0.0	9.0	0.0	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	6	631		3165	2723	1214	214	0	2188	5	0	5
V/C Ratio(X)	0.16	0.74		1.05	0.48	0.00	2.17	0.00	0.75	0.00	0.00	0.21
Avail Cap(c_a), veh/h	154	1454		3165	2723	1214	214	0	2188	131	0	116
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.00	0.09	0.09	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	74.5	63.4	0.0	0.0	0.0	0.0	70.5	0.0	14.9	0.0	0.0	74.6
Incr Delay (d2), s/veh	10.6	1.6	0.0	24.3	0.1	0.0	539.9	0.0	1.5	0.0	0.0	20.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	9.7	0.0	8.8	0.0	0.0	32.4	0.0	24.2	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.2	65.0	0.0	24.3	0.1	0.0	610.4	0.0	16.3	0.0	0.0	95.3
LnGrp LOS	F	E		F	A	A	F	A	B	A	A	F
Approach Vol, veh/h		466		4642			2099					1
Approach Delay, s/veh		65.0		17.4			147.4					95.3
Approach LOS		E		B			F					F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	62.3	26.3		6.2	5.9	122.7		15.1				
Change Period (Y+Rc), s	7.8	* 7.8		* 5.8	5.4	7.8		6.1				
Max Green Setting (Gmax), s	41.2	* 43		* 11	13.0	91.9		9.0				
Max Q Clear Time (g_c+1), s	12.0	15.2		2.1	2.1	2.0		11.0				
Green Ext Time (p_c), s	40.9	3.4		0.0	0.0	15.4		0.0				

Intersection Summary

HCM 6th Ctrl Delay	58.3
HCM 6th LOS	E

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
2: Marina Fwy/Private Dwy & Slauson Ave
































07/19/2023

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	 				 		 	
Traffic Volume (veh/h)	1	428	536	3063	1208	0	426	0	1505	0	0	1
Future Volume (veh/h)	1	428	536	3063	1208	0	426	0	1505	0	0	1
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	465	0	3329	1313	0	463	0	1636	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	6	631		3165	2723	1214	214	0	2188	5	0	5
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.12	0.00	1.00	1.00	0.00	0.06	0.00	0.06	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	85.2	65.0	0.0	24.3	0.1	0.0	610.4	0.0	16.3	0.0	0.0	95.3
Ln Grp LOS	F	E		F	A	A	F	A	B	A	A	F
Approach Vol, veh/h		466			4642			2099				1
Approach Delay, s/veh		65.0			17.4			147.4				95.3
Approach LOS		E			B			F				F
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	3.0	9.0	10.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		102.3	26.3	15.1	6.2	5.9	122.7					
Change Period (Y+Rc), s		7.8	* 7.8	6.1	* 5.8	5.4	7.8					
Max Green (Gmax), s		61.2	* 43	9.0	* 11	13.0	91.9					
Max Allow Headway (MAH), s		3.8	5.2	4.0	5.6	3.8	5.2					
Max Q Clear (g_c+I1), s		2.0	15.2	11.0	2.1	2.1	2.0					
Green Ext Time (g_e), s		40.9	3.4	0.0	0.0	0.0	15.4					
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.04	0.04	1.00					
Prob of Max Out (p_x)		0.48	0.00	1.00	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		5023		3563	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			5106	0	0		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			1585	3170	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

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Lanes in Grp	3	0	2	1	1	0	0	0
Grp Vol (v), veh/h	3329	0	463	0	1	0	0	0
Grp Sat Flow (s), veh/h/ln	1674	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	9.0	0.0	0.1	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	9.0	0.0	0.1	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	3165	0	214	5	6	0	0	0
V/C Ratio (X)	1.05	0.00	2.17	0.00	0.16	0.00	0.00	0.00
Avail Cap (c_a), veh/h	3165	0	214	131	154	0	0	0
Upstream Filter (I)	0.09	0.00	1.00	0.00	0.94	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	70.5	0.0	74.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	24.3	0.0	539.9	0.0	10.6	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.3	0.0	610.4	0.0	85.2	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	7.1	0.0	16.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.24	0.00	1.61	1.00	1.80	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	8.8	0.0	32.4	0.0	0.1	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.97	0.00	1.70	0.00	0.03	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	40.9	0.0	62.3	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	465	0	0	0	1313	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	13.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	631	0	0	0	2723	0	0
V/C Ratio (X)	0.00	0.74	0.00	0.00	0.00	0.48	0.00	0.00
Avail Cap (c_a), veh/h	0	1454	0	0	0	2723	0	0
Upstream Filter (I)	0.00	0.94	0.00	0.00	0.00	0.09	0.00	0.00
Uniform Delay (d1), s/veh	0.0	63.4	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	65.0	0.0	0.0	0.0	0.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.66	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		R	R	T+R		R		
Lanes in Grp	0	1	2	1	0	1	0	0
Grp Vol (v), veh/h	0	0	1636	1	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	9.0	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	9.0	0.1	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	94.5	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	196	2188	5	0	1214	0	0
V/C Ratio (X)	0.00	0.00	0.75	0.21	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	451	2188	116	0	1214	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	14.9	74.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.5	20.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	16.3	95.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	16.9	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.39	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	24.2	0.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	1.27	0.02	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	58.3
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑↑		↖↗	↑	↗		↖↗	
Traffic Volume (veh/h)	17	1373	545	118	3767	27	476	10	60	5	4	7
Future Volume (veh/h)	17	1373	545	118	3767	27	476	10	60	5	4	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1492	592	128	4095	29	517	0	72	5	4	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	3266	1014	229	2567	18	242	0	426	68	54	105
Arrive On Green	0.42	1.00	1.00	0.07	0.49	0.49	0.07	0.00	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1781	5106	1585	3456	5231	37	3563	0	3170	1020	815	1572
Grp Volume(v), veh/h	18	1492	592	128	2662	1462	517	0	72	9	0	8
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1864	1781	0	1585	1819	0	1587
Q Serve(g_s), s	0.9	0.0	0.0	5.4	73.6	73.6	10.2	0.0	3.0	0.7	0.0	0.7
Cycle Q Clear(g_c), s	0.9	0.0	0.0	5.4	73.6	73.6	10.2	0.0	3.0	0.7	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.56		0.99
Lane Grp Cap(c), veh/h	376	3266	1014	229	1670	914	242	0	426	121	0	106
V/C Ratio(X)	0.05	0.46	0.58	0.56	1.59	1.60	2.13	0.00	0.17	0.07	0.00	0.08
Avail Cap(c_a), veh/h	376	3266	1014	230	1670	914	242	0	426	388	0	339
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	0.09	0.09	0.09	0.96	0.00	0.96	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	0.0	67.9	38.2	38.2	69.9	0.0	57.5	65.7	0.0	65.7
Incr Delay (d2), s/veh	0.0	0.3	1.6	0.3	267.3	270.1	523.4	0.0	0.2	0.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	0.2	0.8	3.2	131.0	144.3	35.4	0.0	2.2	0.6	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	0.3	1.6	68.2	305.5	308.3	593.3	0.0	57.7	65.9	0.0	66.0
LnGrp LOS	C	A	A	E	F	F	F	A	E	E	A	E
Approach Vol, veh/h		2102			4252			589				17
Approach Delay, s/veh		0.9			299.4			527.9				65.9
Approach LOS		A			F			F				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	102.0		15.8	37.8	80.4		16.0				
Change Period (Y+Rc), s	6.2	6.1		* 5.8	6.1	* 6.8		5.8				
Max Green Setting (Gmax), s	10.0	73.9		* 32	10.0	* 74		10.2				
Max Q Clear Time (g_c+1T), s	10.0	2.0		2.7	2.9	75.6		12.2				
Green Ext Time (p_c), s	0.1	25.3		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	228.0
HCM 6th LOS	F

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↑↑↑	↷	↶↷	↑↑↑		↶↷	↑	↷		↶↷	
Traffic Volume (veh/h)	17	1373	545	118	3767	27	476	10	60	5	4	7
Future Volume (veh/h)	17	1373	545	118	3767	27	476	10	60	5	4	7
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1492	592	128	4095	29	517	0	72	5	4	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	376	3266	1014	229	2567	18	242	0	426	68	54	105
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.42	1.00	1.00	0.07	0.49	0.49	0.07	0.00	0.07	0.07	0.07	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	34.4	0.3	1.6	68.2	305.5	308.3	593.3	0.0	57.7	65.9	0.0	66.0
Ln Grp LOS	C	A	A	E	F	F	F	A	E	E	A	E
Approach Vol, veh/h		2102			4252			589			17	
Approach Delay, s/veh		0.9			299.4			527.9			65.9	
Approach LOS		A			F			F			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	6	5					
Case No		2.0	3.0	9.0	12.0	4.0	2.0					
Phs Duration (G+Y+Rc), s		16.2	102.0	16.0	15.8	80.4	37.8					
Change Period (Y+Rc), s		6.2	6.1	5.8	* 5.8	* 6.8	6.1					
Max Green (Gmax), s		10.0	73.9	10.2	* 32	* 74	10.0					
Max Allow Headway (MAH), s		3.8	4.9	3.8	5.4	5.2	3.8					
Max Q Clear (g_c+I1), s		7.4	2.0	12.2	2.7	75.6	2.9					
Green Ext Time (g_e), s		0.1	25.3	0.0	0.0	0.0	0.0					
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	0.53					
Prob of Max Out (p_x)		1.00	0.10	1.00	0.00	1.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7		5					
Mvmt Sat Flow, veh/h		3456		3563	1020		1781					
Through Movement Data												
Assigned Mvmt			2	8	4	6						
Mvmt Sat Flow, veh/h			5106	0	815	5231						
Right-Turn Movement Data												
Assigned Mvmt			12	18	14	16						
Mvmt Sat Flow, veh/h			1585	3170	1572	37						
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	0	5	0	0			
Lane Assignment		L (Prot)		L	L+T		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
 3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

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Lanes in Grp	2	0	2	1	0	1	0	0
Grp Vol (v), veh/h	128	0	517	9	0	18	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	1819	0	1781	0	0
Q Serve Time (g_s), s	5.4	0.0	10.2	0.7	0.0	0.9	0.0	0.0
Cycle Q Clear Time (g_c), s	5.4	0.0	10.2	0.7	0.0	0.9	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.56	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	229	0	242	121	0	376	0	0
V/C Ratio (X)	0.56	0.00	2.13	0.07	0.00	0.05	0.00	0.00
Avail Cap (c_a), veh/h	230	0	242	388	0	376	0	0
Upstream Filter (I)	0.09	0.00	0.96	1.00	0.00	0.63	0.00	0.00
Uniform Delay (d1), s/veh	67.9	0.0	69.9	65.7	0.0	34.4	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	523.4	0.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	68.2	0.0	593.3	65.9	0.0	34.4	0.0	0.0
1st-Term Q (Q1), veh/ln	2.4	0.0	4.7	0.3	0.0	0.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	17.6	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.32	0.00	1.59	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	3.2	0.0	35.4	0.6	0.0	0.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.50	0.00	4.19	0.08	0.00	0.18	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	68.7	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	3	0	0	2	0	0	0
Grp Vol (v), veh/h	0	1492	0	0	2662	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	1702	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	73.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	73.6	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	3266	0	0	1670	0	0	0
V/C Ratio (X)	0.00	0.46	0.00	0.00	1.59	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	3266	0	0	1670	0	0	0
Upstream Filter (I)	0.00	0.63	0.00	0.00	0.09	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	38.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	267.3	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	0.0	305.5	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	62.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	1.42	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	0.0	131.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	1.93	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	247.8	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	16	0	0	0
Lane Assignment		R	R	T+R	T+R			
Lanes in Grp	0	1	2	1	1	0	0	0
Grp Vol (v), veh/h	0	592	72	8	1462	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1587	1864	0	0	0
Q Serve Time (g_s), s	0.0	0.0	3.0	0.7	73.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	3.0	0.7	73.6	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.99	0.02	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1014	426	106	914	0	0	0
V/C Ratio (X)	0.00	0.58	0.17	0.08	1.60	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1014	426	339	914	0	0	0
Upstream Filter (I)	0.00	0.63	0.96	1.00	0.09	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	57.5	65.7	38.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	0.2	0.3	270.1	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	1.6	57.7	66.0	308.3	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.2	0.3	32.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	68.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.80	1.80	1.42	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.8	2.2	0.5	144.3	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.13	0.07	2.13	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	137.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	228.0
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑		↖	↖	↗	↖	↖	↗
Traffic Volume (veh/h)	56	1230	57	275	3571	66	168	39	240	15	5	29
Future Volume (veh/h)	56	1230	57	275	3571	66	168	39	240	15	5	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	1337	62	299	3882	72	183	0	289	16	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	3190	990	344	3422	63	259	0	803	216	0	487
Arrive On Green	0.12	1.00	1.00	0.10	0.66	0.66	0.15	0.00	0.15	0.15	0.00	0.15
Sat Flow, veh/h	3456	5106	1585	3456	5162	95	1373	0	3170	1090	0	3170
Grp Volume(v), veh/h	61	1337	62	299	2552	1402	183	0	289	16	0	35
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1853	1373	0	1585	1090	0	1585
Q Serve(g_s), s	2.4	0.0	0.0	12.8	99.4	99.4	19.5	0.0	11.2	1.9	0.0	1.4
Cycle Q Clear(g_c), s	2.4	0.0	0.0	12.8	99.4	99.4	19.5	0.0	11.2	1.9	0.0	1.4
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	3190	990	344	2256	1228	259	0	803	216	0	487
V/C Ratio(X)	0.29	0.42	0.06	0.87	1.13	1.14	0.71	0.00	0.36	0.07	0.00	0.07
Avail Cap(c_a), veh/h	230	3190	990	366	2256	1228	388	0	1099	318	0	784
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	0.98	0.00	0.98	1.00	0.00	1.00
Uniform Delay (d), s/veh	62.8	0.0	0.0	66.6	25.3	25.3	62.0	0.0	46.0	54.5	0.0	54.3
Incr Delay (d2), s/veh	0.5	0.3	0.1	18.8	65.1	73.8	3.4	0.0	0.3	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9	0.2	0.0	10.8	78.1	88.7	11.4	0.0	8.0	1.0	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	0.3	0.1	85.4	90.4	99.1	65.4	0.0	46.3	54.7	0.0	54.4
LnGrp LOS	E	A	A	F	F	F	E	A	D	D	A	D
Approach Vol, veh/h		1460			4253			472				51
Approach Delay, s/veh		2.9			92.9			53.7				54.5
Approach LOS		A			F			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.2	99.8		29.0	15.5	105.5		29.0				
Change Period (Y+Rc), s	6.3	6.1		* 5.9	6.3	6.1		* 5.9				
Max Green Setting (Gmax), s	15.9	78.7		* 37	10.0	84.6		* 37				
Max Q Clear Time (g_c+M), s	14.8	2.0		21.5	4.4	101.4		3.9				
Green Ext Time (p_c), s	0.1	15.3		1.5	0.1	0.0		0.2				

Intersection Summary
































HCM 6th Ctrl Delay	68.6
HCM 6th LOS	E

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  					 		
Traffic Volume (veh/h)	56	1230	57	275	3571	66	168	39	240	15	5	29
Future Volume (veh/h)	56	1230	57	275	3571	66	168	39	240	15	5	29
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	1337	62	299	3882	72	183	0	289	16	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	212	3190	990	344	3422	63	259	0	803	216	0	487
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	1.00	1.00	0.10	0.66	0.66	0.15	0.00	0.15	0.15	0.00	0.15
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.3	0.3	0.1	85.4	90.4	99.1	65.4	0.0	46.3	54.7	0.0	54.4
Ln Grp LOS	E	A	A	F	F	F	E	A	D	D	A	D
Approach Vol, veh/h		1460			4253			472			51	
Approach Delay, s/veh		2.9			92.9			53.7			54.5	
Approach LOS		A			F			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		21.2	99.8		29.0	15.5	105.5		29.0			
Change Period (Y+Rc), s		6.3	6.1		* 5.9	6.3	6.1		* 5.9			
Max Green (Gmax), s		15.9	78.7		* 37	10.0	84.6		* 37			
Max Allow Headway (MAH), s		3.8	5.2		4.0	3.8	5.2		4.2			
Max Q Clear (g_c+I1), s		14.8	2.0		21.5	4.4	101.4		3.9			
Green Ext Time (g_e), s		0.1	15.3		1.5	0.1	0.0		0.2			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.92	1.00		1.00			
Prob of Max Out (p_x)		1.00	0.01		0.00	0.08	1.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1373	3456			1090			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		0		5162		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		3170		95		3170			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	1	2	0	0	1
Grp Vol (v), veh/h	299	0	0	183	61	0	0	16
Grp Sat Flow (s), veh/h/ln	1728	0	0	1373	1728	0	0	1090
Q Serve Time (g_s), s	12.8	0.0	0.0	19.5	2.4	0.0	0.0	1.9
Cycle Q Clear Time (g_c), s	12.8	0.0	0.0	19.5	2.4	0.0	0.0	1.9
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1373	0	0	0	1090
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	23.1	0.0	0.0	0.0	23.1
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	23.1	0.0	0.0	0.0	23.1
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	19.5	0.0	0.0	0.0	1.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	344	0	0	259	212	0	0	216
V/C Ratio (X)	0.87	0.00	0.00	0.71	0.29	0.00	0.00	0.07
Avail Cap (c_a), veh/h	366	0	0	388	230	0	0	318
Upstream Filter (I)	1.00	0.00	0.00	0.98	0.74	0.00	0.00	1.00
Uniform Delay (d1), s/veh	66.6	0.0	0.0	62.0	62.8	0.0	0.0	54.5
Incr Delay (d2), s/veh	18.8	0.0	0.0	3.4	0.5	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	85.4	0.0	0.0	65.4	63.3	0.0	0.0	54.7
1st-Term Q (Q1), veh/ln	5.7	0.0	0.0	6.8	1.0	0.0	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.9	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.64	0.00	0.00	1.61	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	10.8	0.0	0.0	11.4	1.9	0.0	0.0	1.0
%ile Storage Ratio (RQ%)	0.93	0.00	0.00	1.93	0.31	0.00	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T			T				
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1337	0	0	0	2552	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	99.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	99.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	3190	0	0	0	2256	0	0
V/C Ratio (X)	0.00	0.42	0.00	0.00	0.00	1.13	0.00	0.00
Avail Cap (c_a), veh/h	0	3190	0	0	0	2256	0	0
Upstream Filter (I)	0.00	0.74	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	25.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	65.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	0.0	0.0	90.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	37.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	20.4	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.35	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	0.0	0.0	78.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	4.84	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	73.9	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	62	0	289	0	1402	0	35
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1853	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	11.2	0.0	99.4	0.0	1.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	11.2	0.0	99.4	0.0	1.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	14.9	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.05	0.00	1.00
Lane Grp Cap (c), veh/h	0	990	0	803	0	1228	0	487
V/C Ratio (X)	0.00	0.06	0.00	0.36	0.00	1.14	0.00	0.07
Avail Cap (c_a), veh/h	0	990	0	1099	0	1228	0	784
Upstream Filter (I)	0.00	0.74	0.00	0.98	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	46.0	0.0	25.3	0.0	54.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	73.8	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	46.3	0.0	99.1	0.0	54.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.5	0.0	40.7	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	25.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.76	0.00	1.35	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	8.0	0.0	88.7	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	1.35	0.00	5.50	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	43.4	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	68.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	362	51	49	767	9	322	7	37	0	0	0
Future Volume (veh/h)	2	362	51	49	767	9	322	7	37	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	393	55	53	834	10	350	8	40	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	2147	298	663	2331	28	389	9	354	0	2	0
Arrive On Green	0.00	0.69	0.69	0.65	0.65	0.65	0.22	0.22	0.22	0.00	0.00	0.00
Sat Flow, veh/h	1781	3133	435	942	3596	43	1743	40	1585	0	1870	0
Grp Volume(v), veh/h	2	222	226	53	412	432	358	0	40	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1792	942	1777	1863	1783	0	1585	0	1870	0
Q Serve(g_s), s	0.1	5.4	5.5	2.6	12.7	12.7	23.4	0.0	2.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	5.4	5.5	3.6	12.7	12.7	23.4	0.0	2.4	0.0	0.0	0.0
Prop In Lane	1.00		0.24	1.00		0.02	0.98		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	7	1218	1228	663	1152	1207	398	0	354	0	2	0
V/C Ratio(X)	0.30	0.18	0.18	0.08	0.36	0.36	0.90	0.00	0.11	0.00	0.00	0.00
Avail Cap(c_a), veh/h	113	1218	1228	663	1152	1207	484	0	431	0	436	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.52	0.52	0.52	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	59.6	6.8	6.8	8.2	9.7	9.7	45.3	0.0	37.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.0	0.3	0.3	0.1	0.5	0.4	17.4	0.0	0.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	3.7	3.7	1.0	7.5	7.8	18.0	0.0	1.7	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.6	7.1	7.1	8.4	10.1	10.1	62.7	0.0	37.3	0.0	0.0	0.0
LnGrp LOS	F	A	A	A	B	B	E	A	D	A	A	A
Approach Vol, veh/h		450			897			398				0
Approach Delay, s/veh		7.5			10.0			60.1				0.0
Approach LOS		A			B			E				
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	4.5	83.4		0.0		87.8		32.2				
Change Period (Y+Rc), s	4.0	5.6		* 5		* 5.6		5.4				
Max Green Setting (Gmax), s	31.8			* 28		* 44		32.6				
Max Q Clear Time (g_c+1), s	14.7			0.0		7.5		25.4				
Green Ext Time (p_c), s	0.0	5.3		0.0		2.9		1.3				

Intersection Summary

HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C





















Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	362	51	49	767	9	322	7	37	0	0	0
Future Volume (veh/h)	2	362	51	49	767	9	322	7	37	0	0	0
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	393	55	53	834	10	350	8	40	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	7	2147	298	663	2331	28	389	9	354	0	2	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.69	0.69	0.65	0.65	0.65	0.22	0.22	0.22	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	82.6	7.1	7.1	8.4	10.1	10.1	62.7	0.0	37.3	0.0	0.0	0.0
Ln Grp LOS	F	A	A	A	B	B	E	A	D	A	A	A
Approach Vol, veh/h		450			897			398			0	
Approach Delay, s/veh		7.5			10.0			60.1			0.0	
Approach LOS		A			B			E				
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4		6					
Case No		2.0	6.3	11.0	12.0		4.0					
Phs Duration (G+Y+Rc), s		4.5	83.4	32.2	0.0		87.8					
Change Period (Y+Rc), s		4.0	5.6	5.4	* 5		* 5.6					
Max Green (Gmax), s		7.6	31.8	32.6	* 28		* 44					
Max Allow Headway (MAH), s		3.8	5.2	5.2	0.0		5.3					
Max Q Clear (g_c+I1), s		2.1	14.7	25.4	0.0		7.5					
Green Ext Time (g_e), s		0.0	5.3	1.3	0.0		2.9					
Prob of Phs Call (p_c)		0.06	1.00	1.00	0.00		1.00					
Prob of Max Out (p_x)		0.01	0.21	0.54	0.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5	3	7							
Mvmt Sat Flow, veh/h		1781	942	1743	0							
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3596	40	1870		3133					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			43	1585	0		435					
Left Lane Group Data												
Assigned Mvmt		1	5	3	7	0	0	0	0			
Lane Assignment		L (Prot)	L	L+T								

HCM 6th Signalized Intersection Capacity Analysis
 5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

Lanes in Grp	1	1	1	0	0	0	0	0
Grp Vol (v), veh/h	2	53	358	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	942	1783	0	0	0	0	0
Q Serve Time (g_s), s	0.1	2.6	23.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	3.6	23.4	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	942	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	77.8	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	76.8	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.98	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	7	663	398	0	0	0	0	0
V/C Ratio (X)	0.30	0.08	0.90	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	113	663	484	0	0	0	0	0
Upstream Filter (I)	1.00	0.52	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	59.6	8.2	45.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.0	0.1	17.4	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	82.6	8.4	62.7	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.1	0.5	10.3	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	1.47	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.2	1.0	18.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.04	0.15	0.34	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T		T		T		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	412	0	0	0	222	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	12.7	0.0	0.0	0.0	5.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.7	0.0	0.0	0.0	5.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	1152	0	2	0	1218	0	0
V/C Ratio (X)	0.00	0.36	0.00	0.00	0.00	0.18	0.00	0.00
Avail Cap (c_a), veh/h	0	1152	0	436	0	1218	0	0
Upstream Filter (I)	0.00	0.52	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.7	0.0	0.0	0.0	6.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.1	0.0	0.0	0.0	7.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	0.0	0.0	1.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.53	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	7.5	0.0	0.0	0.0	3.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.00	0.00	0.30	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	432	40	0	0	226	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	1585	0	0	1792	0	0
Q Serve Time (g_s), s	0.0	12.7	2.4	0.0	0.0	5.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.7	2.4	0.0	0.0	5.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.02	1.00	0.00	0.00	0.24	0.00	0.00
Lane Grp Cap (c), veh/h	0	1207	354	0	0	1228	0	0
V/C Ratio (X)	0.00	0.36	0.11	0.00	0.00	0.18	0.00	0.00
Avail Cap (c_a), veh/h	0	1207	431	0	0	1228	0	0
Upstream Filter (I)	0.00	0.52	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.7	37.2	0.0	0.0	6.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.1	37.3	0.0	0.0	7.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.0	0.9	0.0	0.0	2.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.52	1.80	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	7.8	1.7	0.0	0.0	3.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.24	0.16	0.00	0.00	0.31	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 6: Bristol Pkwy & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	216	134	49	492	112	503	450	102	306	234	31
Future Volume (veh/h)	7	216	134	49	492	112	503	450	102	306	234	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	235	146	53	535	122	547	489	111	333	254	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	675	301	193	675	301	578	1630	368	401	1127	149
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.11	0.19	0.19	0.12	0.36	0.36
Sat Flow, veh/h	777	3554	1585	1002	3554	1585	1781	2880	650	3456	3155	418
Grp Volume(v), veh/h	8	235	146	53	535	122	547	301	299	333	142	146
Grp Sat Flow(s),veh/h/ln	777	1777	1585	1002	1777	1585	1781	1777	1753	1728	1777	1795
Q Serve(g_s), s	1.2	6.9	9.9	5.8	17.2	8.1	36.6	17.5	17.7	11.3	6.7	6.8
Cycle Q Clear(g_c), s	18.4	6.9	9.9	12.7	17.2	8.1	36.6	17.5	17.7	11.3	6.7	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.37	1.00		0.23
Lane Grp Cap(c), veh/h	96	675	301	193	675	301	578	1005	992	401	635	641
V/C Ratio(X)	0.08	0.35	0.49	0.27	0.79	0.41	0.95	0.30	0.30	0.83	0.22	0.23
Avail Cap(c_a), veh/h	158	959	428	273	959	428	594	1005	992	547	635	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	0.97	0.97	0.97	0.09	0.09	0.09	0.74	0.74	0.74
Uniform Delay (d), s/veh	55.1	42.2	43.4	47.7	46.4	42.7	52.5	28.3	28.4	51.9	26.9	27.0
Incr Delay (d2), s/veh	0.4	0.3	1.2	0.7	2.9	0.9	3.7	0.1	0.1	5.9	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	5.5	7.2	2.7	12.4	5.9	20.2	9.8	9.7	8.4	5.3	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	42.5	44.6	48.4	49.3	43.5	56.3	28.4	28.4	57.8	27.5	27.6
LnGrp LOS	E	D	D	D	D	D	E	C	C	E	C	C
Approach Vol, veh/h		389			710			1147			621	
Approach Delay, s/veh		43.5			48.2			41.7			43.8	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	73.7		28.4	42.9	48.7		28.4				
Change Period (Y+Rc), s	4.0	5.8		* 5.6	4.0	5.8		* 5.6				
Max Green Setting (Gmax), s	19.0	53.2		* 32	40.0	32.2		* 32				
Max Q Clear Time (g_c+M), s	19.7			20.4	38.6	8.8		19.2				
Green Ext Time (p_c), s	0.6	4.1		1.6	0.3	1.6		3.6				

Intersection Summary

























HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	216	134	49	492	112	503	450	102	306	234	31
Future Volume (veh/h)	7	216	134	49	492	112	503	450	102	306	234	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	235	146	53	535	122	547	489	111	333	254	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	96	675	301	193	675	301	578	1630	368	401	1127	149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.11	0.19	0.19	0.12	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.5	42.5	44.6	48.4	49.3	43.5	56.3	28.4	28.4	57.8	27.5	27.6
Ln Grp LOS	E	D	D	D	D	D	E	C	C	E	C	C
Approach Vol, veh/h		389			710			1147			621	
Approach Delay, s/veh		43.5			48.2			41.7			43.8	
Approach LOS		D			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		17.9	73.7		28.4	42.9	48.7		28.4			
Change Period (Y+Rc), s		4.0	5.8		* 5.6	4.0	5.8		* 5.6			
Max Green (Gmax), s		19.0	53.2		* 32	40.0	32.2		* 32			
Max Allow Headway (MAH), s		3.8	5.3		4.8	3.8	5.3		5.0			
Max Q Clear (g_c+I1), s		13.3	19.7		20.4	38.6	8.8		19.2			
Green Ext Time (g_e), s		0.6	4.1		1.6	0.3	1.6		3.6			
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.30	0.00		0.06	1.00	0.00		0.18			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			777	1781			1002			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2880		3554		3155		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			650		1585		418		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

Lanes in Grp	2	0	0	1	1	0	0	1
Grp Vol (v), veh/h	333	0	0	8	547	0	0	53
Grp Sat Flow (s), veh/h/ln	1728	0	0	777	1781	0	0	1002
Q Serve Time (g_s), s	11.3	0.0	0.0	1.2	36.6	0.0	0.0	5.8
Cycle Q Clear Time (g_c), s	11.3	0.0	0.0	18.4	36.6	0.0	0.0	12.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	777	0	0	0	1002
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	22.8	0.0	0.0	0.0	22.8
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	5.6	0.0	0.0	0.0	15.9
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.2	0.0	0.0	0.0	5.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	401	0	0	96	578	0	0	193
V/C Ratio (X)	0.83	0.00	0.00	0.08	0.95	0.00	0.00	0.27
Avail Cap (c_a), veh/h	547	0	0	158	594	0	0	273
Upstream Filter (I)	0.74	0.00	0.00	0.99	0.09	0.00	0.00	0.97
Uniform Delay (d1), s/veh	51.9	0.0	0.0	55.1	52.5	0.0	0.0	47.7
Incr Delay (d2), s/veh	5.9	0.0	0.0	0.4	3.7	0.0	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	57.8	0.0	0.0	55.5	56.3	0.0	0.0	48.4
1st-Term Q (Q1), veh/ln	4.9	0.0	0.0	0.2	17.5	0.0	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.0	0.0	0.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.62	0.00	0.00	1.80	1.12	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	8.4	0.0	0.0	0.4	20.2	0.0	0.0	2.7
%ile Storage Ratio (RQ%)	1.13	0.00	0.00	0.07	2.57	0.00	0.00	0.35
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	301	0	235	0	142	0	535
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	17.5	0.0	6.9	0.0	6.7	0.0	17.2
Cycle Q Clear Time (g_c), s	0.0	17.5	0.0	6.9	0.0	6.7	0.0	17.2
Lane Grp Cap (c), veh/h	0	1005	0	675	0	635	0	675
V/C Ratio (X)	0.00	0.30	0.00	0.35	0.00	0.22	0.00	0.79
Avail Cap (c_a), veh/h	0	1005	0	959	0	635	0	959
Upstream Filter (I)	0.00	0.09	0.00	0.99	0.00	0.74	0.00	0.97
Uniform Delay (d1), s/veh	0.0	28.3	0.0	42.2	0.0	26.9	0.0	46.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	0.6	0.0	2.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.4	0.0	42.5	0.0	27.5	0.0	49.3
1st-Term Q (Q1), veh/ln	0.0	8.3	0.0	3.0	0.0	2.9	0.0	7.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.17	0.00	1.80	0.00	1.80	0.00	1.58
%ile Back of Q (95%), veh/ln	0.0	9.8	0.0	5.5	0.0	5.3	0.0	12.4
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.17	0.00	0.31	0.00	0.55
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	299	0	146	0	146	0	122
Grp Sat Flow (s), veh/h/ln	0	1753	0	1585	0	1795	0	1585
Q Serve Time (g_s), s	0.0	17.7	0.0	9.9	0.0	6.8	0.0	8.1
Cycle Q Clear Time (g_c), s	0.0	17.7	0.0	9.9	0.0	6.8	0.0	8.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.37	0.00	1.00	0.00	0.23	0.00	1.00
Lane Grp Cap (c), veh/h	0	992	0	301	0	641	0	301
V/C Ratio (X)	0.00	0.30	0.00	0.49	0.00	0.23	0.00	0.41
Avail Cap (c_a), veh/h	0	992	0	428	0	641	0	428
Upstream Filter (I)	0.00	0.09	0.00	0.99	0.00	0.74	0.00	0.97
Uniform Delay (d1), s/veh	0.0	28.4	0.0	43.4	0.0	27.0	0.0	42.7
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.2	0.0	0.6	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.4	0.0	44.6	0.0	27.6	0.0	43.5
1st-Term Q (Q1), veh/ln	0.0	8.3	0.0	3.9	0.0	3.0	0.0	3.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.17	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	9.7	0.0	7.2	0.0	5.5	0.0	5.9
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.22	0.00	0.32	0.00	0.69
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	189	34	45	673	27	6	0	7	2	0	5
Future Volume (veh/h)	37	189	34	45	673	27	6	0	7	2	0	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	205	37	49	732	29	7	0	8	2	0	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	659	2635	1175	969	2655	1184	169	0	120	170	0	132
Arrive On Green	0.04	0.74	0.74	0.09	1.00	1.00	0.08	0.00	0.08	0.08	0.00	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1302	0	1442	1321	0	1585
Grp Volume(v), veh/h	40	205	37	49	732	29	7	0	8	2	0	5
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1302	0	1442	1321	0	1585
Q Serve(g_s), s	0.6	1.9	0.7	0.7	0.0	0.0	0.6	0.0	0.6	0.2	0.0	0.3
Cycle Q Clear(g_c), s	0.6	1.9	0.7	0.7	0.0	0.0	1.3	0.0	0.6	0.8	0.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	659	2635	1175	969	2655	1184	169	0	120	170	0	132
V/C Ratio(X)	0.06	0.08	0.03	0.05	0.28	0.02	0.04	0.00	0.07	0.01	0.00	0.04
Avail Cap(c_a), veh/h	790	2635	1175	1091	2655	1184	392	0	349	393	0	383
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	2.9	4.3	4.1	2.6	0.0	0.0	51.4	0.0	50.7	51.1	0.0	50.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.2	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	1.2	0.4	0.4	0.2	0.0	0.4	0.0	0.4	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.9	4.3	4.1	2.7	0.3	0.0	51.5	0.0	50.9	51.1	0.0	50.7
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h		282			810			15				7
Approach Delay, s/veh		4.1			0.4			51.2				50.8
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	95.2		15.6	9.8	94.6		15.6				
Change Period (Y+Rc), s	4.0	5.6		5.6	* 4.2	* 5.6		5.6				
Max Green Setting (Gmax), s	14.0	61.8		29.0	* 14	* 62		29.0				
Max Q Clear Time (g_c+1), s	12.6	2.0		2.8	2.7	3.9		3.3				
Green Ext Time (p_c), s	0.0	6.3		0.0	0.1	1.6		0.0				

Intersection Summary























HCM 6th Ctrl Delay	2.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
7: Uplander Way & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	189	34	45	673	27	6	0	7	2	0	5
Future Volume (veh/h)	37	189	34	45	673	27	6	0	7	2	0	5
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	205	37	49	732	29	7	0	8	2	0	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	659	2635	1175	969	2655	1184	169	0	120	170	0	132
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.74	0.74	0.09	1.00	1.00	0.08	0.00	0.08	0.08	0.00	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	2.9	4.3	4.1	2.7	0.3	0.0	51.5	0.0	50.9	51.1	0.0	50.7
Ln Grp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h		282			810			15			7	
Approach Delay, s/veh		4.1			0.4			51.2			50.8	
Approach LOS		A			A			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		1.1	3.0		7.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		9.2	95.2		15.6	9.8	94.6		15.6			
Change Period (Y+Rc), s		4.0	5.6		5.6	* 4.2	* 5.6		5.6			
Max Green (Gmax), s		14.0	61.8		29.0	* 14	* 62		29.0			
Max Allow Headway (MAH), s		3.8	5.2		4.4	3.8	5.1		5.4			
Max Q Clear (g_c+I1), s		2.6	2.0		2.8	2.7	3.9		3.3			
Green Ext Time (g_e), s		0.0	6.3		0.0	0.1	1.6		0.0			
Prob of Phs Call (p_c)		0.74	1.00		1.00	0.80	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1321	1781			1302			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		0		3554		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1442			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Pr/Pm)			L+TL (Pr/Pm)			L+T				

HCM 6th Signalized Intersection Capacity Analysis
 7: Uplander Way & Hannum Ave

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	40	0	0	2	49	0	0	7
Grp Sat Flow (s), veh/h/ln	1781	0	0	1321	1781	0	0	1302
Q Serve Time (g_s), s	0.6	0.0	0.0	0.2	0.7	0.0	0.0	0.6
Cycle Q Clear Time (g_c), s	0.6	0.0	0.0	0.8	0.7	0.0	0.0	1.3
Perm LT Sat Flow (s_l), veh/h/ln	705	0	0	1430	1138	0	0	1434
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	89.0	0.0	0.0	10.0	89.0	0.0	0.0	10.0
Perm LT Serve Time (g_u), s	89.0	0.0	0.0	9.4	87.1	0.0	0.0	9.2
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.6
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	659	0	0	170	969	0	0	169
V/C Ratio (X)	0.06	0.00	0.00	0.01	0.05	0.00	0.00	0.04
Avail Cap (c_a), veh/h	790	0	0	393	1091	0	0	392
Upstream Filter (I)	0.83	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	2.9	0.0	0.0	51.1	2.6	0.0	0.0	51.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	2.9	0.0	0.0	51.1	2.7	0.0	0.0	51.5
1st-Term Q (Q1), veh/ln	0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.3	0.0	0.0	0.1	0.4	0.0	0.0	0.4
%ile Storage Ratio (RQ%)	0.16	0.00	0.00	0.04	0.06	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	732	0	0	0	205	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	2655	0	0	0	2635	0	0
V/C Ratio (X)	0.00	0.28	0.00	0.00	0.00	0.08	0.00	0.00
Avail Cap (c_a), veh/h	0	2655	0	0	0	2635	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.83	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	0.0	0.0	4.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

7: Uplander Way & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	0.0	0.0	1.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	29	0	5	0	37	0	8
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1442
Q Serve Time (g_s), s	0.0	0.0	0.0	0.3	0.0	0.7	0.0	0.6
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.3	0.0	0.7	0.0	0.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1184	0	132	0	1175	0	120
V/C Ratio (X)	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.07
Avail Cap (c_a), veh/h	0	1184	0	383	0	1175	0	349
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.83	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	50.6	0.0	4.1	0.0	50.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	50.7	0.0	4.1	0.0	50.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.3	0.0	0.4	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.10	0.00	0.11	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	2.3
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘		↕	
Traffic Volume (veh/h)	1	106	96	74	302	7	465	10	251	0	0	0
Future Volume (veh/h)	1	106	96	74	302	7	465	10	251	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	115	104	80	328	8	505	11	273	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	1804	805	742	1789	798	613	581	578	0	581	0
Arrive On Green	0.12	1.00	1.00	0.05	0.50	0.50	0.31	0.31	0.31	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	0	1870	0
Grp Volume(v), veh/h	1	115	104	80	328	8	505	11	273	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	0	1870	0
Q Serve(g_s), s	0.1	0.0	0.0	2.5	6.1	0.3	32.7	0.5	15.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	2.5	6.1	0.3	32.7	0.5	15.9	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	104	1804	805	742	1789	798	613	581	578	0	581	0
V/C Ratio(X)	0.01	0.06	0.13	0.11	0.18	0.01	0.82	0.02	0.47	0.00	0.00	0.00
Avail Cap(c_a), veh/h	275	1804	805	779	1789	798	850	829	789	0	829	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	49.9	0.0	0.0	12.3	16.3	14.9	39.8	28.7	29.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3	0.0	0.2	0.0	4.7	0.0	0.6	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.1	1.8	4.5	0.2	21.3	0.4	10.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	0.1	0.3	12.3	16.5	14.9	44.5	28.7	29.8	0.0	0.0	0.0
LnGrp LOS	D	A	A	B	B	B	D	C	C	A	A	A
Approach Vol, veh/h		220			416			789				0
Approach Delay, s/veh		0.4			15.6			39.2				0.0
Approach LOS		A			B			D				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.0	65.9		43.1	10.5	66.4		43.1				
Change Period (Y+Rc), s	4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8				
Max Green Setting (Gmax), s	10.5	* 33		* 53	9.0	* 43		* 53				
Max Q Clear Time (g_c+1/2), s	10.5	8.1		34.7	4.5	2.0		0.0				
Green Ext Time (p_c), s	0.0	2.2		2.5	0.1	1.1		0.0				

Intersection Summary























HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	106	96	74	302	7	465	10	251	0	0	0
Future Volume (veh/h)	1	106	96	74	302	7	465	10	251	0	0	0
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	115	104	80	328	8	505	11	273	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	104	1804	805	742	1789	798	613	581	578	0	581	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	1.00	1.00	0.05	0.50	0.50	0.31	0.31	0.31	0.00	0.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	50.0	0.1	0.3	12.3	16.5	14.9	44.5	28.7	29.8	0.0	0.0	0.0
Ln Grp LOS	D	A	A	B	B	B	D	C	C	A	A	A
Approach Vol, veh/h		220			416			789			0	
Approach Delay, s/veh		0.4			15.6			39.2			0.0	
Approach LOS		A			B			D				
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		11.0	65.9		43.1	10.5	66.4		43.1			
Change Period (Y+Rc), s		4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8			
Max Green (Gmax), s		18.5	* 33		* 53	9.0	* 43		* 53			
Max Allow Headway (MAH), s		3.8	5.2		3.8	3.8	4.7		0.0			
Max Q Clear (g_c+I1), s		2.1	8.1		34.7	4.5	2.0		0.0			
Green Ext Time (g_e), s		0.0	2.2		2.5	0.1	1.1		0.0			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.93	1.00		0.00			
Prob of Max Out (p_x)		0.00	0.00		0.02	0.45	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1781	1781			0			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		1870		3554		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		0			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			LL (Pr/Pm)							

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	0
Grp Vol (v), veh/h	1	0	0	505	80	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.1	0.0	0.0	32.7	2.5	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	0.0	0.0	32.7	2.5	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	1162	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	37.3	60.4	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	37.3	60.4	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	32.7	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.3
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	104	0	0	613	742	0	0	0
V/C Ratio (X)	0.01	0.00	0.00	0.82	0.11	0.00	0.00	0.00
Avail Cap (c_a), veh/h	275	0	0	850	779	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.77	0.00	0.00	0.00
Uniform Delay (d1), s/veh	49.9	0.0	0.0	39.8	12.3	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.0	0.0	0.0	44.5	12.3	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	14.2	1.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.42	1.80	0.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.1	0.0	0.0	21.3	1.8	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	4.71	0.24	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	328	0	11	0	115	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	6.1	0.0	0.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.1	0.0	0.5	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1789	0	581	0	1804	0	581
V/C Ratio (X)	0.00	0.18	0.00	0.02	0.00	0.06	0.00	0.00
Avail Cap (c_a), veh/h	0	1789	0	829	0	1804	0	829
Upstream Filter (I)	0.00	0.77	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.3	0.0	28.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.5	0.0	28.7	0.0	0.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	4.5	0.0	0.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	8	0	273	0	104	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.3	0.0	15.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	15.9	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	798	0	578	0	805	0	0
V/C Ratio (X)	0.00	0.01	0.00	0.47	0.00	0.13	0.00	0.00
Avail Cap (c_a), veh/h	0	798	0	789	0	805	0	0
Upstream Filter (I)	0.00	0.77	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.9	0.0	29.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.9	0.0	29.8	0.0	0.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	6.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.66	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.2	0.0	10.2	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	2.25	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

9: Bristol Pkwy & Green Valley Cir

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	304	189	47	66	762	549	413	717	58	130	166	104
Future Volume (veh/h)	304	189	47	66	762	549	413	717	58	130	166	104
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	330	205	51	72	828	597	449	779	63	141	180	113
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	1382	336	562	972	683	483	717	58	60	899	536
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.42	0.42	0.42	0.70	0.70	0.70
Sat Flow, veh/h	376	2834	689	1124	1994	1401	1086	1707	138	653	2141	1277
Grp Volume(v), veh/h	330	127	129	72	735	690	449	0	842	141	148	145
Grp Sat Flow(s),veh/h/ln	376	1777	1746	1124	1777	1618	1086	0	1846	653	1777	1641
Q Serve(g_s), s	12.8	4.7	4.9	4.5	43.4	45.7	46.7	0.0	50.4	0.0	3.5	3.7
Cycle Q Clear(g_c), s	58.5	4.7	4.9	9.5	43.4	45.7	50.4	0.0	50.4	50.4	3.5	3.7
Prop In Lane	1.00		0.39	1.00		0.87	1.00		0.07	1.00		0.78
Lane Grp Cap(c), veh/h	100	866	851	562	866	789	483	0	775	60	746	689
V/C Ratio(X)	3.29	0.15	0.15	0.13	0.85	0.87	0.93	0.00	1.09	2.35	0.20	0.21
Avail Cap(c_a), veh/h	100	866	851	562	866	789	483	0	775	60	746	689
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	1.00	0.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	57.4	17.0	17.0	19.6	26.9	27.5	38.0	0.0	34.8	43.1	10.9	10.9
Incr Delay (d2), s/veh	1057.7	0.1	0.1	0.1	6.9	9.3	26.9	0.0	58.3	654.5	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh	58.5	3.5	3.6	2.2	26.1	25.7	23.7	0.0	46.9	22.7	2.6	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1115.2	17.0	17.1	19.7	33.8	36.8	64.9	0.0	93.1	697.6	11.5	11.6
LnGrp LOS	F	B	B	B	C	D	E	A	F	F	B	B
Approach Vol, veh/h		586			1497			1291			434	
Approach Delay, s/veh		635.4			34.5			83.3			234.4	
Approach LOS		F			C			F			F	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.0		64.0		56.0		64.0				
Change Period (Y+Rc), s		* 5.6		* 5.5		* 5.6		* 5.5				
Max Green Setting (Gmax), s		* 50		* 59		* 50		* 59				
Max Q Clear Time (g_c+I1), s		52.4		60.5		52.4		47.7				
Green Ext Time (p_c), s		0.0		0.0		0.0		7.2				

Intersection Summary

HCM 6th Ctrl Delay	166.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
9: Bristol Pkwy & Green Valley Cir

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	304	189	47	66	762	549	413	717	58	130	166	104
Future Volume (veh/h)	304	189	47	66	762	549	413	717	58	130	166	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	330	205	51	72	828	597	449	779	63	141	180	113
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	100	1382	336	562	972	683	483	717	58	60	899	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.42	0.42	0.42	0.70	0.70	0.70
Unsig. Movement Delay												
Ln Grp Delay, s/veh	1115.2	17.0	17.1	19.7	33.8	36.8	64.9	0.0	93.1	697.6	11.5	11.6
Ln Grp LOS	F	B	B	B	C	D	E	A	F	F	B	B
Approach Vol, veh/h		586			1497			1291			434	
Approach Delay, s/veh		635.4			34.5			83.3			234.4	
Approach LOS		F			C			F			F	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			56.0		64.0		56.0		64.0			
Change Period (Y+Rc), s			* 5.6		* 5.5		* 5.6		* 5.5			
Max Green (Gmax), s			* 50		* 59		* 50		* 59			
Max Allow Headway (MAH), s			5.0		8.5		5.8		5.3			
Max Q Clear (g_c+I1), s			52.4		60.5		52.4		47.7			
Green Ext Time (g_e), s			0.0		0.0		0.0		7.2			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		0.78			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1086		376		653		1124			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1707		2834		2141		1994			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			138		689		1277		1401			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	449	0	330	0	141	0	72
Grp Sat Flow (s), veh/h/ln	0	1086	0	376	0	653	0	1124
Q Serve Time (g_s), s	0.0	46.7	0.0	12.8	0.0	0.0	0.0	4.5
Cycle Q Clear Time (g_c), s	0.0	50.4	0.0	58.5	0.0	50.4	0.0	9.5
Perm LT Sat Flow (s_l), veh/h/ln	0	1086	0	376	0	653	0	1124
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	50.4	0.0	58.5	0.0	50.4	0.0	58.5
Perm LT Serve Time (g_u), s	0.0	46.7	0.0	12.8	0.0	0.0	0.0	53.6
Perm LT Q Serve Time (g_ps), s	0.0	46.7	0.0	12.8	0.0	0.0	0.0	4.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	483	0	100	0	60	0	562
V/C Ratio (X)	0.00	0.93	0.00	3.29	0.00	2.35	0.00	0.13
Avail Cap (c_a), veh/h	0	483	0	100	0	60	0	562
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.97	0.00	0.85
Uniform Delay (d1), s/veh	0.0	38.0	0.0	57.4	0.0	43.1	0.0	19.6
Incr Delay (d2), s/veh	0.0	26.9	0.0	1057.7	0.0	654.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	64.9	0.0	1115.2	0.0	697.6	0.0	19.7
1st-Term Q (Q1), veh/ln	0.0	13.4	0.0	3.0	0.0	1.7	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	3.6	0.0	29.4	0.0	10.9	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.40	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	23.7	0.0	58.5	0.0	22.7	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	5.03	0.00	16.50	0.00	5.02	0.00	0.55
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	57.5	0.0	20.3	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.8	0.0	0.6	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	127	0	148	0	735
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	4.7	0.0	3.5	0.0	43.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.7	0.0	3.5	0.0	43.4
Lane Grp Cap (c), veh/h	0	0	0	866	0	746	0	866
V/C Ratio (X)	0.00	0.00	0.00	0.15	0.00	0.20	0.00	0.85
Avail Cap (c_a), veh/h	0	0	0	866	0	746	0	866
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.97	0.00	0.85
Uniform Delay (d1), s/veh	0.0	0.0	0.0	17.0	0.0	10.9	0.0	26.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.6	0.0	6.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	17.0	0.0	11.5	0.0	33.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.9	0.0	1.3	0.0	17.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.7

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	1.34
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	3.5	0.0	2.6	0.0	26.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.10	0.00	0.04	0.00	0.40
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	842	0	129	0	145	0	690
Grp Sat Flow (s), veh/h/ln	0	1846	0	1746	0	1641	0	1618
Q Serve Time (g_s), s	0.0	50.4	0.0	4.9	0.0	3.7	0.0	45.7
Cycle Q Clear Time (g_c), s	0.0	50.4	0.0	4.9	0.0	3.7	0.0	45.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	0.00	0.39	0.00	0.78	0.00	0.87
Lane Grp Cap (c), veh/h	0	775	0	851	0	689	0	789
V/C Ratio (X)	0.00	1.09	0.00	0.15	0.00	0.21	0.00	0.87
Avail Cap (c_a), veh/h	0	775	0	851	0	689	0	789
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.97	0.00	0.85
Uniform Delay (d1), s/veh	0.0	34.8	0.0	17.0	0.0	10.9	0.0	27.5
Incr Delay (d2), s/veh	0.0	58.3	0.0	0.1	0.0	0.7	0.0	9.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	93.1	0.0	17.1	0.0	11.6	0.0	36.8
1st-Term Q (Q1), veh/ln	0.0	22.0	0.0	2.0	0.0	1.3	0.0	17.1
2nd-Term Q (Q2), veh/ln	0.0	12.6	0.0	0.0	0.0	0.1	0.0	2.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.36	0.00	1.80	0.00	1.80	0.00	1.35
%ile Back of Q (95%), veh/ln	0.0	46.9	0.0	3.6	0.0	2.5	0.0	25.7
%ile Storage Ratio (RQ%)	0.00	2.17	0.00	0.10	0.00	0.04	0.00	0.39
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	166.3
HCM 6th LOS	F

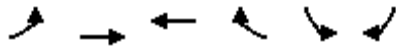
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

10: Green Valley Cir & Buckingham

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑		↖	↗
Traffic Volume (veh/h)	78	163	873	448	69	91
Future Volume (veh/h)	78	163	873	448	69	91
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	177	949	487	75	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	327	2976	1917	964	148	132
Arrive On Green	1.00	1.00	0.84	0.84	0.08	0.08
Sat Flow, veh/h	372	3647	2382	1151	1781	1585
Grp Volume(v), veh/h	85	177	733	703	75	99
Grp Sat Flow(s),veh/h/ln	372	1777	1777	1663	1781	1585
Q Serve(g_s), s	5.4	0.0	13.7	14.3	4.8	7.3
Cycle Q Clear(g_c), s	19.7	0.0	13.7	14.3	4.8	7.3
Prop In Lane	1.00			0.69	1.00	1.00
Lane Grp Cap(c), veh/h	327	2976	1488	1393	148	132
V/C Ratio(X)	0.26	0.06	0.49	0.50	0.51	0.75
Avail Cap(c_a), veh/h	327	2976	1488	1393	460	409
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.28	0.28	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	1.4	0.0	2.7	2.7	52.6	53.8
Incr Delay (d2), s/veh	0.1	0.0	1.2	1.3	2.6	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	6.5	6.4	4.1	5.8	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.5	0.0	3.9	4.1	55.3	62.0
LnGrp LOS	A	A	A	A	E	E
Approach Vol, veh/h		262	1436		174	
Approach Delay, s/veh		0.5	4.0		59.1	
Approach LOS		A	A		E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		106.0		14.0		106.0
Change Period (Y+Rc), s		* 5.5		4.0		* 5.5
Max Green Setting (Gmax), s		* 80		31.0		* 80
Max Q Clear Time (g_c+I1), s		16.3		9.3		21.7
Green Ext Time (p_c), s		16.8		0.5		3.4

Intersection Summary

HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A

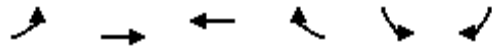
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↶	↷	↶		↶	↷			
Traffic Volume (veh/h)	78	163	873	448	69	91			
Future Volume (veh/h)	78	163	873	448	69	91			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	85	177	949	487	75	99			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	327	2976	1917	964	148	132			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	1.00	1.00	0.84	0.84	0.08	0.08			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	1.5	0.0	3.9	4.1	55.3	62.0			
Ln Grp LOS	A	A	A	A	E	E			
Approach Vol, veh/h		262	1436		174				
Approach Delay, s/veh		0.5	4.0		59.1				
Approach LOS		A	A		E				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		9.0		6.0		
Phs Duration (G+Y+Rc), s			106.0		14.0		106.0		
Change Period (Y+Rc), s			* 5.5		4.0		* 5.5		
Max Green (Gmax), s			* 80		31.0		* 80		
Max Allow Headway (MAH), s			5.4		3.9		7.1		
Max Q Clear (g_c+I1), s			16.3		9.3		21.7		
Green Ext Time (g_e), s			16.8		0.5		3.4		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.06		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1781		372		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			2382		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			1151		1585		0		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment					L		L		

HCM 6th Signalized Intersection Capacity Analysis
 10: Green Valley Cir & Buckingham

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Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	75	0	85	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	0	372	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	4.8	0.0	5.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.8	0.0	19.7	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	372	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	100.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	86.2	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0
Time to First Blk (g_f), s	0.0	100.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	148	0	327	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.51	0.00	0.26	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	460	0	327	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.28	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	52.6	0.0	1.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.6	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	55.3	0.0	1.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.2	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	4.1	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	733	0	0	0	177	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	13.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1488	0	0	0	2976	0	0
V/C Ratio (X)	0.00	0.49	0.00	0.00	0.00	0.06	0.00	0.00
Avail Cap (c_a), veh/h	0	1488	0	0	0	2976	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.28	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

10: Green Valley Cir & Buckingham

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment	T+R		R					
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	703	0	99	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1663	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	14.3	0.0	7.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.3	0.0	7.3	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.69	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1393	0	132	0	0	0	0
V/C Ratio (X)	0.00	0.50	0.00	0.75	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1393	0	409	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.7	0.0	53.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	8.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.1	0.0	62.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	2.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	6.4	0.0	5.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.09	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A

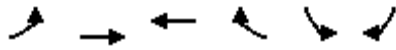
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

11: Centinela Ave & Green Valley Cir

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	44	468	1979	1133	248	52
Future Volume (veh/h)	44	468	1979	1133	248	52
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	509	2151	1232	270	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	83	2763	2763	1232	432	198
Arrive On Green	0.78	0.78	0.78	0.78	0.13	0.13
Sat Flow, veh/h	54	3647	3647	1585	3456	1585
Grp Volume(v), veh/h	48	509	2151	1232	270	57
Grp Sat Flow(s),veh/h/ln	54	1777	1777	1585	1728	1585
Q Serve(g_s), s	52.4	4.5	40.9	93.2	8.9	3.9
Cycle Q Clear(g_c), s	93.3	4.5	40.9	93.2	8.9	3.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	83	2763	2763	1232	432	198
V/C Ratio(X)	0.58	0.18	0.78	1.00	0.63	0.29
Avail Cap(c_a), veh/h	83	2763	2763	1232	760	349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	3.5	7.5	13.3	49.8	47.7
Incr Delay (d2), s/veh	25.8	0.1	1.5	25.6	1.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.7	2.5	18.9	43.5	7.1	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	73.0	3.6	9.0	38.9	51.3	48.4
LnGrp LOS	E	A	A	D	D	D
Approach Vol, veh/h		557	3383		327	
Approach Delay, s/veh		9.6	19.9		50.8	
Approach LOS		A	B		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		99.4		20.6		99.4
Change Period (Y+Rc), s		6.1		* 5.6		6.1
Max Green Setting (Gmax), s		81.9		* 26		81.9
Max Q Clear Time (g_c+I1), s		95.3		10.9		95.2
Green Ext Time (p_c), s		0.0		1.0		0.0
Intersection Summary						
HCM 6th Ctrl Delay			20.9			
HCM 6th LOS			C			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

07/19/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↙	↑↑	↑↑	↘	↙↘	↘			
Traffic Volume (veh/h)	44	468	1979	1133	248	52			
Future Volume (veh/h)	44	468	1979	1133	248	52			
Number	5	2	6	16	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	48	509	2151	1232	270	57			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	83	2763	2763	1232	432	198			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.78	0.78	0.78	0.78	0.13	0.13			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	73.0	3.6	9.0	38.9	51.3	48.4			
Ln Grp LOS	E	A	A	D	D	D			
Approach Vol, veh/h		557	3383		327				
Approach Delay, s/veh		9.6	19.9		50.8				
Approach LOS		A	B		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s			99.4		20.6		99.4		
Change Period (Y+Rc), s			6.1		* 5.6		6.1		
Max Green (Gmax), s			81.9		* 26		81.9		
Max Allow Headway (MAH), s			7.6		3.9		4.8		
Max Q Clear (g_c+I1), s			95.3		10.9		95.2		
Green Ext Time (g_e), s			0.0		1.0		0.0		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			1.00		0.00		1.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			54		3456		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis
 11: Centinela Ave & Green Valley Cir

07/19/2023

Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	48	0	270	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	54	0	1728	0	0	0	0
Q Serve Time (g_s), s	0.0	52.4	0.0	8.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	93.3	0.0	8.9	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	54	0	1728	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	93.3	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	52.4	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	52.4	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	93.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	83	0	432	0	0	0	0
V/C Ratio (X)	0.00	0.58	0.00	0.63	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	83	0	760	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	47.2	0.0	49.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	25.8	0.0	1.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	73.0	0.0	51.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	3.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	3.7	0.0	7.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.14	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	509	0	0	0	2151	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	4.5	0.0	0.0	0.0	40.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.5	0.0	0.0	0.0	40.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	2763	0	0	0	2763	0	0
V/C Ratio (X)	0.00	0.18	0.00	0.00	0.00	0.78	0.00	0.00
Avail Cap (c_a), veh/h	0	2763	0	0	0	2763	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.5	0.0	0.0	0.0	7.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.6	0.0	0.0	0.0	9.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	0.0	0.0	12.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.6	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.46	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.5	0.0	0.0	0.0	18.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.00	0.00	0.79	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	57	0	1232	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.9	0.0	93.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.9	0.0	93.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	198	0	1232	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.29	0.00	1.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	349	0	1232	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	47.7	0.0	13.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	25.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	48.4	0.0	38.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.6	0.0	25.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.28	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	2.9	0.0	43.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.06	0.00	1.81	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
12: Hannum Driveway & Hannum Ave

07/19/2023

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	200	5	2	775	12	4
Future Vol, veh/h	200	5	2	775	12	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	217	5	2	842	13	4

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	222	0	645
Stage 1	-	-	-	-	220
Stage 2	-	-	-	-	425
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1344	-	405
Stage 1	-	-	-	-	795
Stage 2	-	-	-	-	627
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1344	-	405
Mov Cap-2 Maneuver	-	-	-	-	405
Stage 1	-	-	-	-	795
Stage 2	-	-	-	-	626

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	471	-	-	1344	-
HCM Lane V/C Ratio	0.037	-	-	0.002	-
HCM Control Delay (s)	12.9	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	48	26	8	687	157	14
Future Vol, veh/h	48	26	8	687	157	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	28	9	747	171	15

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	571	93	186	0	0
Stage 1	179	-	-	-	-
Stage 2	392	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	451	946	1386	-	-
Stage 1	834	-	-	-	-
Stage 2	652	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	448	946	1386	-	-
Mov Cap-2 Maneuver	448	-	-	-	-
Stage 1	829	-	-	-	-
Stage 2	652	-	-	-	-
























Approach	EB	NB	SB
HCM Control Delay, s	12.7	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1386	-	550	-	-
HCM Lane V/C Ratio	0.006	-	0.146	-	-
HCM Control Delay (s)	7.6	-	12.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

HCM 6th Signalized Intersection Summary

1: Hannum Ave & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	886	230	249	653	478	116	373	319	311	637	85
Future Volume (veh/h)	143	886	230	249	653	478	116	373	319	311	637	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	963	250	271	710	520	126	405	0	338	692	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	1731	448	326	2157	670	245	658		397	815	
Arrive On Green	0.10	0.43	0.43	0.09	0.42	0.42	0.07	0.19	0.00	0.11	0.23	0.00
Sat Flow, veh/h	1781	4040	1046	3456	5106	1585	3456	3554	1585	3456	3647	0
Grp Volume(v), veh/h	155	811	402	271	710	520	126	405	0	338	692	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1682	1728	1702	1585	1728	1777	1585	1728	1777	0
Q Serve(g_s), s	12.0	25.0	25.1	10.8	13.1	39.5	4.9	14.7	0.0	13.4	26.1	0.0
Cycle Q Clear(g_c), s	12.0	25.0	25.1	10.8	13.1	39.5	4.9	14.7	0.0	13.4	26.1	0.0
Prop In Lane	1.00		0.62	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	179	1458	721	326	2157	670	245	658		397	815	
V/C Ratio(X)	0.87	0.56	0.56	0.83	0.33	0.78	0.51	0.62		0.85	0.85	
Avail Cap(c_a), veh/h	202	1458	721	442	2157	670	289	805		536	1058	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.1	30.0	30.1	62.3	27.1	34.8	62.7	52.4	0.0	60.8	51.6	0.0
Incr Delay (d2), s/veh	28.3	1.5	3.1	8.3	0.4	7.5	1.7	1.0	0.0	9.6	5.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.2	16.0	16.2	8.6	9.0	22.7	4.0	10.9	0.0	10.6	18.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.4	31.6	33.2	70.6	27.5	42.2	64.4	53.4	0.0	70.4	56.9	0.0
LnGrp LOS	F	C	C	E	C	D	E	D		E	E	
Approach Vol, veh/h		1368			1501			531			1030	
Approach Delay, s/veh		38.7			40.4			56.0			61.3	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.3	66.1	16.2	38.4	20.1	65.2	22.4	32.2				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3				
Max Green Setting (Gmax), s	* 18	* 44	11.7	41.7	* 16	* 46	21.7	31.7				
Max Q Clear Time (g_c+I1), s	12.8	27.1	6.9	28.1	14.0	41.5	15.4	16.7				
Green Ext Time (p_c), s	0.4	7.8	0.1	4.0	0.1	2.6	0.7	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			46.6									
HCM 6th LOS			D									
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	886	230	249	653	478	116	373	319	311	637	85
Future Volume (veh/h)	143	886	230	249	653	478	116	373	319	311	637	85
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	963	250	271	710	520	126	405	0	338	692	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	179	1731	448	326	2157	670	245	658		397	815	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.43	0.43	0.09	0.42	0.42	0.07	0.19	0.00	0.11	0.23	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	90.4	31.6	33.2	70.6	27.5	42.2	64.4	53.4	0.0	70.4	56.9	0.0
Ln Grp LOS	F	C	C	E	C	D	E	D		E	E	
Approach Vol, veh/h		1368			1501			531			1030	
Approach Delay, s/veh		38.7			40.4			56.0			61.3	
Approach LOS		D			D			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	4.0	4.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		19.3	66.1	38.4	16.2	20.1	65.2	22.4	32.2			
Change Period (Y+Rc), s		* 6.1	* 6.1	6.3	6.3	* 6.1	* 6.1	6.3	6.3			
Max Green (Gmax), s		* 18	* 44	41.7	11.7	* 16	* 46	21.7	31.7			
Max Allow Headway (MAH), s		3.8	5.3	5.2	3.8	3.8	4.7	3.8	5.2			
Max Q Clear (g_c+I1), s		12.8	27.1	28.1	6.9	14.0	41.5	15.4	16.7			
Green Ext Time (g_e), s		0.4	7.8	4.0	0.1	0.1	2.6	0.7	2.3			
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.39	0.00	0.20	0.36	1.00	1.00	0.21	0.04			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	1781		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			4040	3647			5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1046	0			1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	271	0	0	126	155	0	338	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1781	0	1728	0
Q Serve Time (g_s), s	10.8	0.0	0.0	4.9	12.0	0.0	13.4	0.0
Cycle Q Clear Time (g_c), s	10.8	0.0	0.0	4.9	12.0	0.0	13.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	326	0	0	245	179	0	397	0
V/C Ratio (X)	0.83	0.00	0.00	0.51	0.87	0.00	0.85	0.00
Avail Cap (c_a), veh/h	442	0	0	289	202	0	536	0
Upstream Filter (I)	0.86	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	62.3	0.0	0.0	62.7	62.1	0.0	60.8	0.0
Incr Delay (d2), s/veh	8.3	0.0	0.0	1.7	28.3	0.0	9.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	70.6	0.0	0.0	64.4	90.4	0.0	70.4	0.0
1st-Term Q (Q1), veh/ln	4.8	0.0	0.0	2.2	5.5	0.0	5.9	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.0	0.1	1.4	0.0	0.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.67	0.00	0.00	1.80	1.63	0.00	1.65	0.00
%ile Back of Q (95%), veh/ln	8.6	0.0	0.0	4.0	11.2	0.0	10.6	0.0
%ile Storage Ratio (RQ%)	0.99	0.00	0.00	0.51	2.57	0.00	1.35	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	2	2	0	0	3	0	2
Grp Vol (v), veh/h	0	811	692	0	0	710	0	405
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	25.0	26.1	0.0	0.0	13.1	0.0	14.7
Cycle Q Clear Time (g_c), s	0.0	25.0	26.1	0.0	0.0	13.1	0.0	14.7
Lane Grp Cap (c), veh/h	0	1458	815	0	0	2157	0	658
V/C Ratio (X)	0.00	0.56	0.85	0.00	0.00	0.33	0.00	0.62
Avail Cap (c_a), veh/h	0	1458	1058	0	0	2157	0	805
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.86	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.0	51.6	0.0	0.0	27.1	0.0	52.4
Incr Delay (d2), s/veh	0.0	1.5	5.3	0.0	0.0	0.4	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.6	56.9	0.0	0.0	27.5	0.0	53.4
1st-Term Q (Q1), veh/ln	0.0	10.3	11.6	0.0	0.0	5.4	0.0	6.6
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.6	0.0	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

1: Hannum Ave & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.50	1.47	0.00	0.00	1.65	0.00	1.64
%ile Back of Q (95%), veh/ln	0.0	16.0	18.0	0.0	0.0	9.0	0.0	10.9
%ile Storage Ratio (RQ%)	0.00	1.19	2.19	0.00	0.00	0.39	0.00	1.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		T+R				R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	402	0	0	0	520	0	0
Grp Sat Flow (s), veh/h/ln	0	1682	0	0	0	1585	0	1585
Q Serve Time (g_s), s	0.0	25.1	0.0	0.0	0.0	39.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	25.1	0.0	0.0	0.0	39.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.62	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	721	0	0	0	670	0	294
V/C Ratio (X)	0.00	0.56	0.00	0.00	0.00	0.78	0.00	0.00
Avail Cap (c_a), veh/h	0	721	0	0	0	670	0	359
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.86	0.00	0.00
Uniform Delay (d1), s/veh	0.0	30.1	0.0	0.0	0.0	34.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.1	0.0	0.0	0.0	7.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.2	0.0	0.0	0.0	42.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	10.2	0.0	0.0	0.0	15.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.0	0.0	1.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.50	1.00	0.00	0.00	1.37	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	16.2	0.0	0.0	0.0	22.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.21	0.00	0.00	0.00	3.72	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	46.6
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑	↗	↖	↑	↗↘	↖	↘	
Traffic Volume (veh/h)	0	824	683	1342	838	2	546	0	1986	5	2	1
Future Volume (veh/h)	0	824	683	1342	838	2	546	0	1986	5	2	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	896	0	1459	911	2	593	0	2159	5	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	1199		2045	2512	1120	383	0	1631	38	25	13
Arrive On Green	0.00	0.23	0.00	0.68	1.00	1.00	0.11	0.00	0.11	0.02	0.02	0.02
Sat Flow, veh/h	1781	5106	1585	5023	3554	1585	3563	0	3170	1781	1176	588
Grp Volume(v), veh/h	0	896	0	1459	911	2	593	0	2159	5	0	3
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1674	1777	1585	1781	0	1585	1781	0	1764
Q Serve(g_s), s	0.0	19.5	0.0	21.7	0.0	0.0	12.9	0.0	12.9	0.3	0.0	0.2
Cycle Q Clear(g_c), s	0.0	19.5	0.0	21.7	0.0	0.0	12.9	0.0	12.9	0.3	0.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	1	1199		2045	2512	1120	383	0	1631	38	0	38
V/C Ratio(X)	0.00	0.75		0.71	0.36	0.00	1.55	0.00	1.32	0.13	0.00	0.08
Avail Cap(c_a), veh/h	193	1864		2045	2512	1120	383	0	1631	163	0	162
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.77	0.00	0.62	0.62	0.62	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	42.6	0.0	14.9	0.0	0.0	53.5	0.0	29.1	57.6	0.0	57.6
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.7	0.3	0.0	259.4	0.0	149.9	1.5	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	12.4	0.0	8.7	0.2	0.0	31.0	0.0	77.3	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	43.3	0.0	15.6	0.3	0.0	312.9	0.0	179.0	59.1	0.0	58.4
LnGrp LOS	A	D		B	A	A	F	A	F	E	A	E
Approach Vol, veh/h		896		2372			2752					8
Approach Delay, s/veh		43.3		9.7			207.9					58.9
Approach LOS		D		A			F					E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	56.7	36.0		8.4	0.0	92.6		19.0				
Change Period (Y+Rc), s	7.8	* 7.8		* 5.8	5.4	7.8		6.1				
Max Green Setting (Gmax), s	20.2	* 44		* 11	13.0	58.0		12.9				
Max Q Clear Time (g_c+Q), s	20.2	21.5		2.3	0.0	2.0		14.9				
Green Ext Time (p_c), s	1.6	6.6		0.0	0.0	8.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	105.2
HCM 6th LOS	F

Notes
































- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- User approved changes to right turn type.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	 				 		 	
Traffic Volume (veh/h)	0	824	683	1342	838	2	546	0	1986	5	2	1
Future Volume (veh/h)	0	824	683	1342	838	2	546	0	1986	5	2	1
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	896	0	1459	911	2	593	0	2159	5	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	1	1199		2045	2512	1120	383	0	1631	38	25	13
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.23	0.00	0.68	1.00	1.00	0.11	0.00	0.11	0.02	0.02	0.02
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	43.3	0.0	15.6	0.3	0.0	312.9	0.0	179.0	59.1	0.0	58.4
Ln Grp LOS	A	D		B	A	A	F	A	F	E	A	E
Approach Vol, veh/h		896			2372			2752			8	
Approach Delay, s/veh		43.3			9.7			207.9			58.9	
Approach LOS		D			A			F			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	3.0	9.0	10.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		56.7	36.0	19.0	8.4	0.0	92.6					
Change Period (Y+Rc), s		7.8	* 7.8	6.1	* 5.8	5.4	7.8					
Max Green (Gmax), s		26.2	* 44	12.9	* 11	13.0	58.0					
Max Allow Headway (MAH), s		3.8	5.2	4.0	4.4	0.0	5.2					
Max Q Clear (g_c+I1), s		23.7	21.5	14.9	2.3	0.0	2.0					
Green Ext Time (g_e), s		1.6	6.6	0.0	0.0	0.0	8.3					
Prob of Phs Call (p_c)		1.00	1.00	1.00	0.23	0.00	1.00					
Prob of Max Out (p_x)		1.00	0.09	1.00	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		5023		3563	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			5106	0	1176		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			1585	3170	588		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

Lanes in Grp	3	0	2	1	1	0	0	0
Grp Vol (v), veh/h	1459	0	593	5	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1674	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	21.7	0.0	12.9	0.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	21.7	0.0	12.9	0.3	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	2045	0	383	38	1	0	0	0
V/C Ratio (X)	0.71	0.00	1.55	0.13	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	2045	0	383	163	193	0	0	0
Upstream Filter (I)	0.62	0.00	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	14.9	0.0	53.5	57.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	259.4	1.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	15.6	0.0	312.9	59.1	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	5.5	0.0	5.8	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	13.8	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.54	0.00	1.59	1.80	1.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	8.7	0.0	31.0	0.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.96	0.00	1.62	0.25	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	52.5	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	896	0	0	0	911	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	19.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	19.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1199	0	0	0	2512	0	0
V/C Ratio (X)	0.00	0.75	0.00	0.00	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	1864	0	0	0	2512	0	0
Upstream Filter (I)	0.00	0.77	0.00	0.00	0.00	0.62	0.00	0.00
Uniform Delay (d1), s/veh	0.0	42.6	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	43.3	0.0	0.0	0.0	0.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2: Marina Fwy/Private Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.50	1.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	12.4	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		R	R	T+R		R		
Lanes in Grp	0	1	2	1	0	1	0	0
Grp Vol (v), veh/h	0	0	2159	3	0	2	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1764	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	12.9	0.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	12.9	0.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	48.9	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.33	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	372	1631	38	0	1120	0	0
V/C Ratio (X)	0.00	0.00	1.32	0.08	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	579	1631	162	0	1120	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	0.00	0.62	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	29.1	57.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	149.9	0.9	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	179.0	58.4	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	22.3	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.37	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	77.3	0.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	4.05	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	131.9	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	105.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2340	421	103	1669	20	402	7	113	33	9	38
Future Volume (veh/h)	20	2340	421	103	1669	20	402	7	113	33	9	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	2543	458	112	1814	22	437	0	128	36	10	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	478	2823	876	281	1878	23	297	0	522	117	33	132
Arrive On Green	0.27	0.55	0.55	0.16	0.72	0.72	0.08	0.00	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	5106	1585	3456	5200	63	3563	0	3170	1409	391	1585
Grp Volume(v), veh/h	22	2543	458	112	1187	649	437	0	128	46	0	41
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1859	1781	0	1585	1800	0	1585
Q Serve(g_s), s	1.1	53.2	21.8	3.5	38.5	38.5	10.0	0.0	4.2	2.9	0.0	2.9
Cycle Q Clear(g_c), s	1.1	53.2	21.8	3.5	38.5	38.5	10.0	0.0	4.2	2.9	0.0	2.9
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	0.78		1.00
Lane Grp Cap(c), veh/h	478	2823	876	281	1229	671	297	0	522	150	0	132
V/C Ratio(X)	0.05	0.90	0.52	0.40	0.97	0.97	1.47	0.00	0.25	0.31	0.00	0.31
Avail Cap(c_a), veh/h	478	2823	876	288	1242	679	297	0	522	480	0	423
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.86	0.86	0.86	0.96	0.00	0.96	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	23.9	16.9	47.6	16.0	16.0	55.0	0.0	43.6	51.7	0.0	51.8
Incr Delay (d2), s/veh	0.0	0.5	0.2	0.8	17.0	25.0	229.2	0.0	0.2	1.1	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	22.7	9.2	2.7	14.5	17.4	22.5	0.0	3.0	2.4	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.5	24.4	17.1	48.4	32.9	41.0	284.2	0.0	43.9	52.9	0.0	53.1
LnGrp LOS	C	C	B	D	C	D	F	A	D	D	A	D
Approach Vol, veh/h		3023			1948			565				87
Approach Delay, s/veh		23.4			36.5			229.8				53.0
Approach LOS		C			D			F				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0	72.4		15.8	38.3	50.1		15.8				
Change Period (Y+Rc), s	6.2	6.1		* 5.8	6.1	* 6.8		5.8				
Max Green Setting (Gmax), s	44.1	44.1		* 32	10.0	* 44		10.0				
Max Q Clear Time (g_c+1), s	10.5	55.2		4.9	3.1	40.5		12.0				
Green Ext Time (p_c), s	0.1	0.0		0.4	0.0	2.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.

HCM 6th Signalized Intersection Capacity Analysis

3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑↑	↵	↵↵	↑↑↑		↵↵	↵	↵		↵↵	
Traffic Volume (veh/h)	20	2340	421	103	1669	20	402	7	113	33	9	38
Future Volume (veh/h)	20	2340	421	103	1669	20	402	7	113	33	9	38
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	2543	458	112	1814	22	437	0	128	36	10	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	478	2823	876	281	1878	23	297	0	522	117	33	132
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.27	0.55	0.55	0.16	0.72	0.72	0.08	0.00	0.08	0.08	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	32.5	24.4	17.1	48.4	32.9	41.0	284.2	0.0	43.9	52.9	0.0	53.1
Ln Grp LOS	C	C	B	D	C	D	F	A	D	D	A	D
Approach Vol, veh/h		3023			1948			565			87	
Approach Delay, s/veh		23.4			36.5			229.8			53.0	
Approach LOS		C			D			F			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	6	5					
Case No		2.0	3.0	9.0	12.0	4.0	2.0					
Phs Duration (G+Y+Rc), s		16.0	72.4	15.8	15.8	50.1	38.3					
Change Period (Y+Rc), s		6.2	6.1	5.8	* 5.8	* 6.8	6.1					
Max Green (Gmax), s		10.0	44.1	10.0	* 32	* 44	10.0					
Max Allow Headway (MAH), s		3.8	5.1	3.9	5.4	5.2	3.8					
Max Q Clear (g_c+I1), s		5.5	55.2	12.0	4.9	40.5	3.1					
Green Ext Time (g_e), s		0.1	0.0	0.0	0.4	2.8	0.0					
Prob of Phs Call (p_c)		0.98	1.00	1.00	1.00	1.00	0.52					
Prob of Max Out (p_x)		0.45	1.00	1.00	0.00	1.00	0.01					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7		5					
Mvmt Sat Flow, veh/h		3456		3563	1409		1781					
Through Movement Data												
Assigned Mvmt			2	8	4	6						
Mvmt Sat Flow, veh/h			5106	0	391	5200						
Right-Turn Movement Data												
Assigned Mvmt			12	18	14	16						
Mvmt Sat Flow, veh/h			1585	3170	1585	63						
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	0	5	0	0			
Lane Assignment		L (Prot)		L	L+T		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
 3: Bristol Pkwy/Cemetery Dwy & Slauson Ave

07/19/2023

Lanes in Grp	2	0	2	1	0	1	0	0
Grp Vol (v), veh/h	112	0	437	46	0	22	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	1800	0	1781	0	0
Q Serve Time (g_s), s	3.5	0.0	10.0	2.9	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	3.5	0.0	10.0	2.9	0.0	1.1	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.78	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	281	0	297	150	0	478	0	0
V/C Ratio (X)	0.40	0.00	1.47	0.31	0.00	0.05	0.00	0.00
Avail Cap (c_a), veh/h	288	0	297	480	0	478	0	0
Upstream Filter (I)	0.86	0.00	0.96	1.00	0.00	0.09	0.00	0.00
Uniform Delay (d1), s/veh	47.6	0.0	55.0	51.7	0.0	32.5	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	229.2	1.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.4	0.0	284.2	52.9	0.0	32.5	0.0	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	4.5	1.3	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.61	1.80	0.00	1.71	0.00	0.00
%ile Back of Q (95%), veh/ln	2.7	0.0	22.5	2.4	0.0	0.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.43	0.00	2.65	0.31	0.00	0.21	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	35.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	3	0	0	2	0	0	0
Grp Vol (v), veh/h	0	2543	0	0	1187	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	1702	0	0	0
Q Serve Time (g_s), s	0.0	53.2	0.0	0.0	38.5	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	53.2	0.0	0.0	38.5	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2823	0	0	1229	0	0	0
V/C Ratio (X)	0.00	0.90	0.00	0.00	0.97	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	2823	0	0	1242	0	0	0
Upstream Filter (I)	0.00	0.09	0.00	0.00	0.86	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	23.9	0.0	0.0	16.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	17.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.4	0.0	0.0	32.9	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	20.3	0.0	0.0	6.8	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	2.9	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 3: Bristol Pkwy/Cemetary Dwy & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.11	1.00	1.00	1.49	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	22.7	0.0	0.0	14.5	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.86	0.00	0.00	0.21	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	16	0	0	0
Lane Assignment		R	R	T+R	T+R			
Lanes in Grp	0	1	2	1	1	0	0	0
Grp Vol (v), veh/h	0	458	128	41	649	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	1585	1859	0	0	0
Q Serve Time (g_s), s	0.0	21.8	4.2	2.9	38.5	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	21.8	4.2	2.9	38.5	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	1585.1	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	1.00	0.03	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	876	522	132	671	0	0	0
V/C Ratio (X)	0.00	0.52	0.25	0.31	0.97	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	876	522	423	679	0	0	0
Upstream Filter (I)	0.00	0.09	0.96	1.00	0.86	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.9	43.6	51.8	16.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	1.3	25.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.1	43.9	53.1	41.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.7	1.7	1.2	7.5	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.18	1.80	1.80	1.44	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	9.2	3.0	2.2	17.4	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.79	0.18	0.28	0.26	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑		↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	11	2358	108	217	1661	11	60	5	548	83	32	51
Future Volume (veh/h)	11	2358	108	217	1661	11	60	5	548	83	32	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	2563	117	236	1805	12	65	0	599	90	50	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	2851	885	290	3217	21	299	0	917	228	384	325
Arrive On Green	0.01	0.18	0.18	0.08	0.61	0.61	0.07	0.00	0.07	0.21	0.21	0.21
Sat Flow, veh/h	3456	5106	1585	3456	5233	35	1301	0	3170	820	1870	1585
Grp Volume(v), veh/h	12	2563	117	236	1174	643	65	0	599	90	50	45
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1864	1301	0	1585	820	1870	1585
Q Serve(g_s), s	0.4	58.9	7.4	8.1	24.3	24.3	5.7	0.0	20.2	11.8	2.6	2.8
Cycle Q Clear(g_c), s	0.4	58.9	7.4	8.1	24.3	24.3	8.3	0.0	20.2	11.8	2.6	2.8
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	95	2851	885	290	2092	1146	299	0	917	228	384	325
V/C Ratio(X)	0.13	0.90	0.13	0.81	0.56	0.56	0.22	0.00	0.65	0.39	0.13	0.14
Avail Cap(c_a), veh/h	288	2851	885	291	2092	1146	433	0	1243	313	577	489
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.98	0.00	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.0	45.6	24.6	54.1	13.6	13.6	49.6	0.0	44.0	42.6	38.9	39.0
Incr Delay (d2), s/veh	0.1	0.5	0.0	16.1	1.1	2.0	0.4	0.0	0.8	1.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	29.6	3.8	7.5	14.2	15.7	3.6	0.0	13.5	4.4	2.2	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	46.1	24.7	70.2	14.7	15.6	49.9	0.0	44.8	43.7	39.1	39.2
LnGrp LOS	E	D	C	E	B	B	D	A	D	D	D	D
Approach Vol, veh/h		2692			2053			664			185	
Approach Delay, s/veh		45.3			21.3			45.3			41.3	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	66.4	73.1		30.5	9.6	79.9		30.5				
Change Period (Y+Rc), s	6.3	6.1		* 5.9	6.3	6.1		* 5.9				
Max Green Setting (Gmax), s	10.0	54.6		* 37	10.0	54.7		* 37				
Max Q Clear Time (g_c+T), s	10.0	60.9		22.2	2.4	26.3		13.8				
Green Ext Time (p_c), s	0.0	0.0		2.5	0.0	16.4		0.9				

Intersection Summary






























HCM 6th Ctrl Delay	36.4
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  							
Traffic Volume (veh/h)	11	2358	108	217	1661	11	60	5	548	83	32	51
Future Volume (veh/h)	11	2358	108	217	1661	11	60	5	548	83	32	51
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	2563	117	236	1805	12	65	0	599	90	50	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	95	2851	885	290	3217	21	299	0	917	228	384	325
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.18	0.18	0.08	0.61	0.61	0.07	0.00	0.07	0.21	0.21	0.21
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.1	46.1	24.7	70.2	14.7	15.6	49.9	0.0	44.8	43.7	39.1	39.2
Ln Grp LOS	E	D	C	E	B	B	D	A	D	D	D	D
Approach Vol, veh/h		2692			2053			664			185	
Approach Delay, s/veh		45.3			21.3			45.3			41.3	
Approach LOS		D			C			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		16.4	73.1		30.5	9.6	79.9		30.5			
Change Period (Y+Rc), s		6.3	6.1		* 5.9	6.3	6.1		* 5.9			
Max Green (Gmax), s		10.1	54.6		* 37	10.0	54.7		* 37			
Max Allow Headway (MAH), s		3.8	5.2		4.0	3.8	5.2		5.1			
Max Q Clear (g_c+I1), s		10.1	60.9		22.2	2.4	26.3		13.8			
Green Ext Time (g_e), s		0.0	0.0		2.5	0.0	16.4		0.9			
Prob of Phs Call (p_c)		1.00	1.00		1.00	0.33	1.00		1.00			
Prob of Max Out (p_x)		1.00	1.00		0.03	0.00	0.44		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			1301	3456			820			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		0		5233		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		3170		35		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

Lanes in Grp	2	0	0	1	2	0	0	1
Grp Vol (v), veh/h	236	0	0	65	12	0	0	90
Grp Sat Flow (s), veh/h/ln	1728	0	0	1301	1728	0	0	820
Q Serve Time (g_s), s	8.1	0.0	0.0	5.7	0.4	0.0	0.0	11.8
Cycle Q Clear Time (g_c), s	8.1	0.0	0.0	8.3	0.4	0.0	0.0	11.8
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1301	0	0	0	820
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	24.6	0.0	0.0	0.0	24.6
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	22.0	0.0	0.0	0.0	24.6
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	5.7	0.0	0.0	0.0	11.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	290	0	0	299	95	0	0	228
V/C Ratio (X)	0.81	0.00	0.00	0.22	0.13	0.00	0.00	0.39
Avail Cap (c_a), veh/h	291	0	0	433	288	0	0	313
Upstream Filter (I)	1.00	0.00	0.00	0.98	0.09	0.00	0.00	1.00
Uniform Delay (d1), s/veh	54.1	0.0	0.0	49.6	58.0	0.0	0.0	42.6
Incr Delay (d2), s/veh	16.1	0.0	0.0	0.4	0.1	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	70.2	0.0	0.0	49.9	58.1	0.0	0.0	43.7
1st-Term Q (Q1), veh/ln	3.5	0.0	0.0	2.0	0.2	0.0	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	7.5	0.0	0.0	3.6	0.3	0.0	0.0	4.4
%ile Storage Ratio (RQ%)	0.64	0.00	0.00	0.61	0.05	0.00	0.00	0.58
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	3	0	0	0	2	0	1
Grp Vol (v), veh/h	0	2563	0	0	0	1174	0	50
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	58.9	0.0	0.0	0.0	24.3	0.0	2.6
Cycle Q Clear Time (g_c), s	0.0	58.9	0.0	0.0	0.0	24.3	0.0	2.6
Lane Grp Cap (c), veh/h	0	2851	0	0	0	2092	0	384
V/C Ratio (X)	0.00	0.90	0.00	0.00	0.00	0.56	0.00	0.13
Avail Cap (c_a), veh/h	0	2851	0	0	0	2092	0	577
Upstream Filter (I)	0.00	0.09	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	45.6	0.0	0.0	0.0	13.6	0.0	38.9
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	1.1	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	46.1	0.0	0.0	0.0	14.7	0.0	39.1
1st-Term Q (Q1), veh/ln	0.0	26.9	0.0	0.0	0.0	8.9	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Buckingham Pkwy/Buckingham & Slauson Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.09	0.00	1.00	0.00	1.54	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	29.6	0.0	0.0	0.0	14.2	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	0.44	0.00	0.00	0.00	0.88	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	117	0	599	0	643	0	45
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1864	0	1585
Q Serve Time (g_s), s	0.0	7.4	0.0	20.2	0.0	24.3	0.0	2.8
Cycle Q Clear Time (g_c), s	0.0	7.4	0.0	20.2	0.0	24.3	0.0	2.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	10.1	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.02	0.00	1.00
Lane Grp Cap (c), veh/h	0	885	0	917	0	1146	0	325
V/C Ratio (X)	0.00	0.13	0.00	0.65	0.00	0.56	0.00	0.14
Avail Cap (c_a), veh/h	0	885	0	1243	0	1146	0	489
Upstream Filter (I)	0.00	0.09	0.00	0.98	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.6	0.0	44.0	0.0	13.6	0.0	39.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	2.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.7	0.0	44.8	0.0	15.6	0.0	39.2
1st-Term Q (Q1), veh/ln	0.0	3.0	0.0	8.6	0.0	9.8	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.29	0.00	1.55	0.00	1.51	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	3.8	0.0	13.5	0.0	15.7	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.62	0.00	2.28	0.00	0.97	0.00	0.26
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	36.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↕	
Traffic Volume (veh/h)	1	946	189	143	553	0	150	0	179	5	2	12
Future Volume (veh/h)	1	946	189	143	553	0	150	0	179	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	1028	205	155	601	0	163	0	195	5	2	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	2007	399	289	2289	0	261	0	233	17	7	44
Arrive On Green	0.00	0.68	0.68	0.64	0.64	0.00	0.15	0.00	0.15	0.04	0.04	0.04
Sat Flow, veh/h	1781	2954	588	452	3647	0	1781	0	1585	414	166	1076
Grp Volume(v), veh/h	1	617	616	155	601	0	163	0	195	20	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	452	1777	0	1781	0	1585	1656	0	0
Q Serve(g_s), s	0.1	20.5	20.6	30.9	8.7	0.0	10.3	0.0	14.4	1.4	0.0	0.0
Cycle Q Clear(g_c), s	0.1	20.5	20.6	47.2	8.7	0.0	10.3	0.0	14.4	1.4	0.0	0.0
Prop In Lane	1.00		0.33	1.00		0.00	1.00		1.00	0.25		0.65
Lane Grp Cap(c), veh/h	3	1207	1199	289	2289	0	261	0	233	67	0	0
V/C Ratio(X)	0.29	0.51	0.51	0.54	0.26	0.00	0.62	0.00	0.84	0.30	0.00	0.00
Avail Cap(c_a), veh/h	111	1207	1199	289	2289	0	416	0	370	386	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.83	0.83	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.8	9.4	9.5	22.1	9.1	0.0	48.1	0.0	49.8	55.9	0.0	0.0
Incr Delay (d2), s/veh	41.9	1.5	1.6	5.8	0.2	0.0	2.4	0.0	9.2	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	12.5	12.5	6.5	6.0	0.0	8.3	0.0	10.4	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.7	11.0	11.0	27.9	9.4	0.0	50.5	0.0	59.1	58.3	0.0	0.0
LnGrp LOS	F	B	B	C	A	A	D	A	E	E	A	A
Approach Vol, veh/h		1234			756			358				20
Approach Delay, s/veh		11.1			13.2			55.2				58.3
Approach LOS		B			B			E				E
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	4.2	82.9		9.9		87.1		23.0				
Change Period (Y+Rc), s	4.0	5.6		* 5		* 5.6		5.4				
Max Green Setting (Gmax), s	5	36.5		* 28		* 48		28.0				
Max Q Clear Time (g_c+1), s	5	49.2		3.4		22.6		16.4				
Green Ext Time (p_c), s	0.0	0.0		0.1		9.9		1.2				

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↕	
Traffic Volume (veh/h)	1	946	189	143	553	0	150	0	179	5	2	12
Future Volume (veh/h)	1	946	189	143	553	0	150	0	179	5	2	12
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	1028	205	155	601	0	163	0	195	5	2	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	3	2007	399	289	2289	0	261	0	233	17	7	44
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.68	0.68	0.64	0.64	0.00	0.15	0.00	0.15	0.04	0.04	0.04
Unsig. Movement Delay												
Ln Grp Delay, s/veh	101.7	11.0	11.0	27.9	9.4	0.0	50.5	0.0	59.1	58.3	0.0	0.0
Ln Grp LOS	F	B	B	C	A	A	D	A	E	E	A	A
Approach Vol, veh/h		1234			756			358			20	
Approach Delay, s/veh		11.1			13.2			55.2			58.3	
Approach LOS		B			B			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4		6					
Case No		2.0	6.3	11.0	12.0		4.0					
Phs Duration (G+Y+Rc), s		4.2	82.9	23.0	9.9		87.1					
Change Period (Y+Rc), s		4.0	5.6	5.4	* 5		* 5.6					
Max Green (Gmax), s		7.5	36.5	28.0	* 28		* 48					
Max Allow Headway (MAH), s		3.8	6.0	4.6	5.5		5.3					
Max Q Clear (g_c+I1), s		2.1	49.2	16.4	3.4		22.6					
Green Ext Time (g_e), s		0.0	0.0	1.2	0.1		9.9					
Prob of Phs Call (p_c)		0.03	1.00	1.00	0.49		1.00					
Prob of Max Out (p_x)		0.01	1.00	0.05	0.00		0.23					
Left-Turn Movement Data												
Assigned Mvmt		1	5	3	7							
Mvmt Sat Flow, veh/h		1781	452	1781	414							
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3647	0	166		2954					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			0	1585	1076		588					
Left Lane Group Data												
Assigned Mvmt		1	5	3	7	0	0	0	0			
Lane Assignment		L (Prot)	L	L+T	L+T+R							

HCM 6th Signalized Intersection Capacity Analysis
5: Fox Hills Dr/Driveway & Hannum Ave

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Lanes in Grp	1	1	1	1	0	0	0	0
Grp Vol (v), veh/h	1	155	163	20	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	452	1781	1656	0	0	0	0
Q Serve Time (g_s), s	0.1	30.9	10.3	1.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.1	47.2	10.3	1.4	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	452	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	77.3	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	60.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	30.9	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	1.00	0.25	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	3	289	261	67	0	0	0	0
V/C Ratio (X)	0.29	0.54	0.62	0.30	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	111	289	416	386	0	0	0	0
Upstream Filter (I)	1.00	0.83	1.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	59.8	22.1	48.1	55.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	41.9	5.8	2.4	2.4	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	101.7	27.9	50.5	58.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	4.6	0.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.78	1.75	1.80	0.00	0.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.1	6.5	8.3	1.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.03	1.00	0.16	0.22	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	1	0	0
Grp Vol (v), veh/h	0	601	0	0	0	617	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	8.7	0.0	0.0	0.0	20.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.7	0.0	0.0	0.0	20.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	2289	0	0	0	1207	0	0
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.51	0.00	0.00
Avail Cap (c_a), veh/h	0	2289	0	0	0	1207	0	0
Upstream Filter (I)	0.00	0.83	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.1	0.0	0.0	0.0	9.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.4	0.0	0.0	0.0	11.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	0.0	0.0	7.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.5	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

5: Fox Hills Dr/Driveway & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	1.00	1.00	0.00	1.58	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	6.0	0.0	0.0	0.0	12.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.00	0.00	1.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment			R			T+R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	195	0	0	616	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1765	0	0
Q Serve Time (g_s), s	0.0	0.0	14.4	0.0	0.0	20.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	14.4	0.0	0.0	20.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.65	0.00	0.33	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	233	0	0	1199	0	0
V/C Ratio (X)	0.00	0.00	0.84	0.00	0.00	0.51	0.00	0.00
Avail Cap (c_a), veh/h	0	0	370	0	0	1199	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	49.8	0.0	0.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	9.2	0.0	0.0	1.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	59.1	0.0	0.0	11.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	5.7	0.0	0.0	7.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.6	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.65	1.00	0.00	1.58	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	10.4	0.0	0.0	12.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.98	0.00	0.00	1.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

6: Bristol Pkwy & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	517	400	103	360	272	197	240	104	133	337	78
Future Volume (veh/h)	10	517	400	103	360	272	197	240	104	133	337	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	562	435	112	391	296	214	261	113	145	366	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	1202	536	181	1202	536	248	1151	485	211	1131	260
Arrive On Green	0.34	0.34	0.34	0.56	0.56	0.56	0.05	0.16	0.16	0.02	0.13	0.13
Sat Flow, veh/h	755	3554	1585	565	3554	1585	1781	2436	1026	3456	2870	659
Grp Volume(v), veh/h	11	562	435	112	391	296	214	188	186	145	225	226
Grp Sat Flow(s),veh/h/ln	755	1777	1585	565	1777	1585	1781	1777	1686	1728	1777	1752
Q Serve(g_s), s	1.3	14.9	30.0	22.9	7.0	14.2	14.3	11.1	11.6	5.0	13.8	14.1
Cycle Q Clear(g_c), s	8.3	14.9	30.0	37.8	7.0	14.2	14.3	11.1	11.6	5.0	13.8	14.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.61	1.00		0.38
Lane Grp Cap(c), veh/h	271	1202	536	181	1202	536	248	839	796	211	701	691
V/C Ratio(X)	0.04	0.47	0.81	0.62	0.33	0.55	0.86	0.22	0.23	0.69	0.32	0.33
Avail Cap(c_a), veh/h	276	1226	547	185	1226	547	371	839	796	576	701	691
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	0.33	0.33	0.33	0.33	0.33	0.33
Upstream Filter(I)	0.86	0.86	0.86	0.99	0.99	0.99	0.83	0.83	0.83	0.80	0.80	0.80
Uniform Delay (d), s/veh	31.6	31.2	36.2	32.7	18.8	20.4	56.1	31.4	31.6	57.6	37.6	37.7
Incr Delay (d2), s/veh	0.1	0.2	7.7	5.9	0.2	1.1	10.9	0.5	0.6	3.1	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	10.3	18.1	5.5	4.8	7.9	11.7	8.9	8.8	4.2	10.6	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	31.5	44.0	38.6	19.0	21.5	67.0	31.9	32.2	60.8	38.6	38.7
LnGrp LOS	C	C	D	D	B	C	E	C	C	E	D	D
Approach Vol, veh/h		1008			799			588			596	
Approach Delay, s/veh		36.9			22.7			44.8			44.0	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.3	62.5		46.2	20.7	53.1		46.2				
Change Period (Y+Rc), s	4.0	5.8		* 5.6	4.0	5.8		* 5.6				
Max Green Setting (Gmax), s	20.0	43.2		* 41	25.0	38.2		* 41				
Max Q Clear Time (g_c+1), s	0.0	13.6		32.0	16.3	16.1		39.8				
Green Ext Time (p_c), s	0.3	2.4		3.8	0.4	2.7		0.8				

Intersection Summary
























HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
6: Bristol Pkwy & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	517	400	103	360	272	197	240	104	133	337	78
Future Volume (veh/h)	10	517	400	103	360	272	197	240	104	133	337	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	562	435	112	391	296	214	261	113	145	366	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	271	1202	536	181	1202	536	248	1151	485	211	1131	260
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	0.33	0.33	0.33	0.33	0.33	0.33
Prop Arrive On Green	0.34	0.34	0.34	0.56	0.56	0.56	0.05	0.16	0.16	0.02	0.13	0.13
Unsig. Movement Delay												
Ln Grp Delay, s/veh	31.7	31.5	44.0	38.6	19.0	21.5	67.0	31.9	32.2	60.8	38.6	38.7
Ln Grp LOS	C	C	D	D	B	C	E	C	C	E	D	D
Approach Vol, veh/h		1008			799			588			596	
Approach Delay, s/veh		36.9			22.7			44.8			44.0	
Approach LOS		D			C			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		5.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		11.3	62.5		46.2	20.7	53.1		46.2			
Change Period (Y+Rc), s		4.0	5.8		* 5.6	4.0	5.8		* 5.6			
Max Green (Gmax), s		20.0	43.2		* 41	25.0	38.2		* 41			
Max Allow Headway (MAH), s		3.8	5.3		4.7	3.8	5.3		5.1			
Max Q Clear (g_c+I1), s		7.0	13.6		32.0	16.3	16.1		39.8			
Green Ext Time (g_e), s		0.3	2.4		3.8	0.4	2.7		0.8			
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.50	0.03	0.01		1.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		3456			755	1781			565			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2436		3554		2870		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1026		1585		659		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

Lanes in Grp	2	0	0	1	1	0	0	1
Grp Vol (v), veh/h	145	0	0	11	214	0	0	112
Grp Sat Flow (s), veh/h/ln	1728	0	0	755	1781	0	0	565
Q Serve Time (g_s), s	5.0	0.0	0.0	1.3	14.3	0.0	0.0	22.9
Cycle Q Clear Time (g_c), s	5.0	0.0	0.0	8.3	14.3	0.0	0.0	37.8
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	755	0	0	0	565
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	40.6	0.0	0.0	0.0	40.6
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	33.5	0.0	0.0	0.0	25.7
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	22.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	211	0	0	271	248	0	0	181
V/C Ratio (X)	0.69	0.00	0.00	0.04	0.86	0.00	0.00	0.62
Avail Cap (c_a), veh/h	576	0	0	276	371	0	0	185
Upstream Filter (I)	0.80	0.00	0.00	0.86	0.83	0.00	0.00	0.99
Uniform Delay (d1), s/veh	57.6	0.0	0.0	31.6	56.1	0.0	0.0	32.7
Incr Delay (d2), s/veh	3.1	0.0	0.0	0.1	10.9	0.0	0.0	5.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.8	0.0	0.0	31.7	67.0	0.0	0.0	38.6
1st-Term Q (Q1), veh/ln	2.2	0.0	0.0	0.2	6.9	0.0	0.0	2.8
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.7	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.54	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	4.2	0.0	0.0	0.4	11.7	0.0	0.0	5.5
%ile Storage Ratio (RQ%)	0.56	0.00	0.00	0.07	1.49	0.00	0.00	0.72
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	188	0	562	0	225	0	391
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	11.1	0.0	14.9	0.0	13.8	0.0	7.0
Cycle Q Clear Time (g_c), s	0.0	11.1	0.0	14.9	0.0	13.8	0.0	7.0
Lane Grp Cap (c), veh/h	0	839	0	1202	0	701	0	1202
V/C Ratio (X)	0.00	0.22	0.00	0.47	0.00	0.32	0.00	0.33
Avail Cap (c_a), veh/h	0	839	0	1226	0	701	0	1226
Upstream Filter (I)	0.00	0.83	0.00	0.86	0.00	0.80	0.00	0.99
Uniform Delay (d1), s/veh	0.0	31.4	0.0	31.2	0.0	37.6	0.0	18.8
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.2	0.0	1.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.9	0.0	31.5	0.0	38.6	0.0	19.0
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	6.4	0.0	6.6	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Bristol Pkwy & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.64	0.00	1.60	0.00	1.56	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	8.9	0.0	10.3	0.0	10.6	0.0	4.8
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.31	0.00	0.62	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	186	0	435	0	226	0	296
Grp Sat Flow (s), veh/h/ln	0	1686	0	1585	0	1752	0	1585
Q Serve Time (g_s), s	0.0	11.6	0.0	30.0	0.0	14.1	0.0	14.2
Cycle Q Clear Time (g_c), s	0.0	11.6	0.0	30.0	0.0	14.1	0.0	14.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.61	0.00	1.00	0.00	0.38	0.00	1.00
Lane Grp Cap (c), veh/h	0	796	0	536	0	691	0	536
V/C Ratio (X)	0.00	0.23	0.00	0.81	0.00	0.33	0.00	0.55
Avail Cap (c_a), veh/h	0	796	0	547	0	691	0	547
Upstream Filter (I)	0.00	0.83	0.00	0.86	0.00	0.80	0.00	0.99
Uniform Delay (d1), s/veh	0.0	31.6	0.0	36.2	0.0	37.7	0.0	20.4
Incr Delay (d2), s/veh	0.0	0.6	0.0	7.7	0.0	1.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.2	0.0	44.0	0.0	38.7	0.0	21.5
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	11.5	0.0	6.6	0.0	4.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.2	0.0	0.2	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.64	0.00	1.43	0.00	1.56	0.00	1.78
%ile Back of Q (95%), veh/ln	0.0	8.8	0.0	18.1	0.0	10.6	0.0	7.9
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.54	0.00	0.62	0.00	0.93
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

7: Uplander Way & Hannum Ave

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	766	21	15	290	6	32	0	45	18	5	60
Future Volume (veh/h)	4	766	21	15	290	6	32	0	45	18	5	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	833	23	16	315	7	35	0	49	20	5	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	875	2695	1202	544	2761	1231	121	0	129	120	24	141
Arrive On Green	0.01	0.76	0.76	0.05	1.00	1.00	0.09	0.00	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	684	0	1442	736	271	1585
Grp Volume(v), veh/h	4	833	23	16	315	7	35	0	49	25	0	65
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	684	0	1442	1007	0	1585
Q Serve(g_s), s	0.1	8.9	0.4	0.2	0.0	0.0	3.1	0.0	3.8	1.3	0.0	4.7
Cycle Q Clear(g_c), s	0.1	8.9	0.4	0.2	0.0	0.0	8.3	0.0	3.8	5.2	0.0	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.80		1.00
Lane Grp Cap(c), veh/h	875	2695	1202	544	2761	1231	121	0	129	144	0	141
V/C Ratio(X)	0.00	0.31	0.02	0.03	0.11	0.01	0.29	0.00	0.38	0.17	0.00	0.46
Avail Cap(c_a), veh/h	1025	2695	1202	677	2761	1231	384	0	413	427	0	454
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.3	4.6	3.6	3.1	0.0	0.0	56.1	0.0	51.5	52.6	0.0	51.9
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.1	0.0	1.3	0.0	1.8	0.6	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	5.2	0.2	0.1	0.1	0.0	1.9	0.0	2.6	1.3	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.3	4.8	3.6	3.1	0.1	0.0	57.4	0.0	53.4	53.2	0.0	54.2
LnGrp LOS	A	A	A	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		860			338			84				90
Approach Delay, s/veh		4.8			0.2			55.0				53.9
Approach LOS		A			A			E				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	98.8		16.3	7.1	96.6		16.3				
Change Period (Y+Rc), s	4.0	5.6		5.6	* 4.2	* 5.6		5.6				
Max Green Setting (Gmax), s	59.4			34.4	* 12	* 59		34.4				
Max Q Clear Time (g_c+1), s	2.0			7.2	2.2	10.9		10.3				
Green Ext Time (p_c), s	0.0	2.3		0.3	0.0	7.3		0.4				

Intersection Summary























HCM 6th Ctrl Delay	10.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
7: Uplander Way & Hannum Ave

07/19/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	766	21	15	290	6	32	0	45	18	5	60
Future Volume (veh/h)	4	766	21	15	290	6	32	0	45	18	5	60
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	833	23	16	315	7	35	0	49	20	5	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	875	2695	1202	544	2761	1231	121	0	129	120	24	141
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.76	0.76	0.05	1.00	1.00	0.09	0.00	0.09	0.09	0.09	0.09
Unsig. Movement Delay												
Ln Grp Delay, s/veh	3.3	4.8	3.6	3.1	0.1	0.0	57.4	0.0	53.4	53.2	0.0	54.2
Ln Grp LOS	A	A	A	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		860			338			84			90	
Approach Delay, s/veh		4.8			0.2			55.0			53.9	
Approach LOS		A			A			E			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		1.1	3.0		7.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		4.9	98.8		16.3	7.1	96.6		16.3			
Change Period (Y+Rc), s		4.0	5.6		5.6	* 4.2	* 5.6		5.6			
Max Green (Gmax), s		11.0	59.4		34.4	* 12	* 59		34.4			
Max Allow Headway (MAH), s		3.8	5.2		4.4	3.8	5.2		5.5			
Max Q Clear (g_c+I1), s		2.1	2.0		7.2	2.2	10.9		10.3			
Green Ext Time (g_e), s		0.0	2.3		0.3	0.0	7.3		0.4			
Prob of Phs Call (p_c)		0.12	1.00		1.00	0.41	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			736	1781			684			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		271		3554		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1442			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Pr/Pm)			L+TL (Pr/Pm)			L+T				

HCM 6th Signalized Intersection Capacity Analysis
 7: Uplander Way & Hannum Ave

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	4	0	0	25	16	0	0	35
Grp Sat Flow (s), veh/h/ln	1781	0	0	1007	1781	0	0	684
Q Serve Time (g_s), s	0.1	0.0	0.0	1.3	0.2	0.0	0.0	3.1
Cycle Q Clear Time (g_c), s	0.1	0.0	0.0	5.2	0.2	0.0	0.0	8.3
Perm LT Sat Flow (s_l), veh/h/ln	1058	0	0	1378	645	0	0	1352
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	91.0	0.0	0.0	10.7	91.0	0.0	0.0	10.7
Perm LT Serve Time (g_u), s	91.0	0.0	0.0	6.9	82.1	0.0	0.0	5.5
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.3	0.2	0.0	0.0	3.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.80	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	875	0	0	144	544	0	0	121
V/C Ratio (X)	0.00	0.00	0.00	0.17	0.03	0.00	0.00	0.29
Avail Cap (c_a), veh/h	1025	0	0	427	677	0	0	384
Upstream Filter (I)	0.78	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	3.3	0.0	0.0	52.6	3.1	0.0	0.0	56.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	3.3	0.0	0.0	53.2	3.1	0.0	0.0	57.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.7	0.1	0.0	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	1.3	0.1	0.0	0.0	1.9
%ile Storage Ratio (RQ%)	0.02	0.00	0.00	0.52	0.02	0.00	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	315	0	0	0	833	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	8.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	8.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	2761	0	0	0	2695	0	0
V/C Ratio (X)	0.00	0.11	0.00	0.00	0.00	0.31	0.00	0.00
Avail Cap (c_a), veh/h	0	2761	0	0	0	2695	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.78	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	0.0	0.0	4.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 7: Uplander Way & Hannum Ave

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.1	0.0	0.0	0.0	5.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.23	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	7	0	65	0	23	0	49
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1442
Q Serve Time (g_s), s	0.0	0.0	0.0	4.7	0.0	0.4	0.0	3.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.7	0.0	0.4	0.0	3.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1231	0	141	0	1202	0	129
V/C Ratio (X)	0.00	0.01	0.00	0.46	0.00	0.02	0.00	0.38
Avail Cap (c_a), veh/h	0	1231	0	454	0	1202	0	413
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.78	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	51.9	0.0	3.6	0.0	51.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.3	0.0	0.0	0.0	1.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	54.2	0.0	3.6	0.0	53.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.9	0.0	0.1	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	3.5	0.0	0.2	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.35	0.00	0.06	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	10.0
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	528	281	168	151	0	116	0	140	6	2	16
Future Volume (veh/h)	0	528	281	168	151	0	116	0	140	6	2	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	574	305	183	164	0	126	0	152	7	2	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	2496	1113	607	2821	1258	221	209	270	67	31	114
Arrive On Green	0.00	1.00	1.00	0.02	0.26	0.00	0.11	0.00	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1393	1870	1585	259	280	1016
Grp Volume(v), veh/h	0	574	305	183	164	0	126	0	152	26	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1393	1870	1585	1554	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.0	4.2	0.0	8.4	0.0	10.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.0	4.2	0.0	10.1	0.0	10.6	1.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.27		0.65
Lane Grp Cap(c), veh/h	1	2496	1113	607	2821	1258	221	209	270	212	0	0
V/C Ratio(X)	0.00	0.23	0.27	0.30	0.06	0.00	0.57	0.00	0.56	0.12	0.00	0.00
Avail Cap(c_a), veh/h	312	2496	1113	726	2821	1258	544	642	636	557	0	0
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.91	0.91	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	3.5	10.7	0.0	51.6	0.0	45.7	48.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.6	0.3	0.0	0.0	2.3	0.0	1.8	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.1	0.3	1.8	2.6	0.0	6.9	0.0	7.7	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.2	0.6	3.7	10.7	0.0	53.9	0.0	47.6	48.3	0.0	0.0
LnGrp LOS	A	A	A	A	B	A	D	A	D	D	A	A
Approach Vol, veh/h	879			347			278			26		
Approach Delay, s/veh	0.4			7.0			50.4			48.3		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	100.8		19.2		11.0	89.8	19.2					
Change Period (Y+Rc), s	4.0	* 5.5	* 5.8		4.0	* 5.5	* 5.8					
Max Green Setting (Gmax), s	21.0	* 43	* 41		15.0	* 49	* 41					
Max Q Clear Time (g_c+1), s	10.0	6.2	12.6		5.0	2.0	3.7					
Green Ext Time (p_c), s	0.0	1.1	0.9		0.3	5.8	0.1					

Intersection Summary

HCM 6th Ctrl Delay	11.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗	↙	↑	↗		↕	
Traffic Volume (veh/h)	0	528	281	168	151	0	116	0	140	6	2	16
Future Volume (veh/h)	0	528	281	168	151	0	116	0	140	6	2	16
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	574	305	183	164	0	126	0	152	7	2	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	1	2496	1113	607	2821	1258	221	209	270	67	31	114
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	1.00	1.00	0.02	0.26	0.00	0.11	0.00	0.11	0.11	0.11	0.11
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	0.2	0.6	3.7	10.7	0.0	53.9	0.0	47.6	48.3	0.0	0.0
Ln Grp LOS	A	A	A	A	B	A	D	A	D	D	A	A
Approach Vol, veh/h		879			347			278				26
Approach Delay, s/veh		0.4			7.0			50.4				48.3
Approach LOS		A			A			D				D
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	3.0		5.0	1.1	3.0		8.0			
Phs Duration (G+Y+Rc), s		0.0	100.8		19.2	11.0	89.8		19.2			
Change Period (Y+Rc), s		4.0	* 5.5		* 5.8	4.0	* 5.5		* 5.8			
Max Green (Gmax), s		21.0	* 43		* 41	15.0	* 49		* 41			
Max Allow Headway (MAH), s		0.0	5.2		3.9	3.8	4.8		5.6			
Max Q Clear (g_c+I1), s		0.0	6.2		12.6	5.0	2.0		3.7			
Green Ext Time (g_e), s		0.0	1.1		0.9	0.3	5.8		0.1			
Prob of Phs Call (p_c)		0.00	1.00		1.00	1.00	1.00		1.00			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.01	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1393	1781			259			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		1870		3554		280			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1016			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			LL (Pr/Pm)				L+T+R			

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	0	0	0	126	183	0	0	26
Grp Sat Flow (s), veh/h/ln	1781	0	0	1393	1781	0	0	1554
Q Serve Time (g_s), s	0.0	0.0	0.0	8.4	3.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.1	3.0	0.0	0.0	1.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1393	631	0	0	1255
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1781	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	13.4	86.3	0.0	0.0	13.4
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	11.7	84.3	0.0	0.0	13.4
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	8.4	0.9	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.27
Lane Grp Cap (c), veh/h	1	0	0	221	607	0	0	212
V/C Ratio (X)	0.00	0.00	0.00	0.57	0.30	0.00	0.00	0.12
Avail Cap (c_a), veh/h	312	0	0	544	726	0	0	557
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.91	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	51.6	3.5	0.0	0.0	48.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.3	0.3	0.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	53.9	3.7	0.0	0.0	48.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.7	1.0	0.0	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.80	1.80	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	6.9	1.8	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.52	0.24	0.00	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		
Lanes in Grp	0	2	0	1	0	2	0	0
Grp Vol (v), veh/h	0	164	0	0	0	574	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2821	0	209	0	2496	0	0
V/C Ratio (X)	0.00	0.06	0.00	0.00	0.00	0.23	0.00	0.00
Avail Cap (c_a), veh/h	0	2821	0	642	0	2496	0	0
Upstream Filter (I)	0.00	0.91	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.7	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.7	0.0	0.0	0.0	0.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 8: Buckingham Pkwy/Driveway & Hannum Ave/Buckingham Pkwy

07/19/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	2.6	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	152	0	305	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	10.6	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.6	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.65
Lane Grp Cap (c), veh/h	0	1258	0	270	0	1113	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.56	0.00	0.27	0.00	0.00
Avail Cap (c_a), veh/h	0	1258	0	636	0	1113	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	45.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.8	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	47.6	0.0	0.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.79	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	7.7	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.70	0.00	0.09	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.8
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

9: Bristol Pkwy & Green Valley Cir

07/19/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	172	440	158	87	304	135	158	209	84	372	785	304
Future Volume (veh/h)	172	440	158	87	304	135	158	209	84	372	785	304
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	478	172	95	330	147	172	227	91	404	853	330
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	802	287	180	752	329	342	755	303	598	1491	575
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.60	0.60	0.60	1.00	1.00	1.00
Sat Flow, veh/h	917	2565	917	782	2407	1051	474	1270	509	1062	2506	967
Grp Volume(v), veh/h	187	330	320	95	242	235	172	0	318	404	604	579
Grp Sat Flow(s),veh/h/ln	917	1777	1705	782	1777	1681	474	0	1779	1062	1777	1696
Q Serve(g_s), s	24.1	18.8	19.1	14.0	13.0	13.4	27.7	0.0	10.6	18.8	0.0	0.0
Cycle Q Clear(g_c), s	37.5	18.8	19.1	33.1	13.0	13.4	27.7	0.0	10.6	29.4	0.0	0.0
Prop In Lane	1.00		0.54	1.00		0.63	1.00		0.29	1.00		0.57
Lane Grp Cap(c), veh/h	244	555	533	180	555	525	342	0	1058	598	1057	1009
V/C Ratio(X)	0.77	0.59	0.60	0.53	0.44	0.45	0.50	0.00	0.30	0.68	0.57	0.57
Avail Cap(c_a), veh/h	244	555	533	180	555	525	342	0	1058	598	1057	1009
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	48.1	34.8	34.9	48.9	32.8	33.0	15.5	0.0	12.0	2.2	0.0	0.0
Incr Delay (d2), s/veh	13.5	1.7	1.9	2.8	0.5	0.6	5.2	0.0	0.7	5.3	2.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.7	13.1	12.8	5.2	9.6	9.4	6.1	0.0	7.7	1.7	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	36.5	36.8	51.7	33.4	33.6	20.7	0.0	12.7	7.4	2.0	2.1
LnGrp LOS	E	D	D	D	C	C	C	A	B	A	A	A
Approach Vol, veh/h		837			572			490			1587	
Approach Delay, s/veh		42.2			36.5			15.5			3.4	
Approach LOS		D			D			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		77.0		43.0		77.0		43.0				
Change Period (Y+Rc), s		* 5.6		* 5.5		* 5.6		* 5.5				
Max Green Setting (Gmax), s		* 71		* 38		* 71		* 38				
Max Q Clear Time (g_c+I1), s		29.7		39.5		31.4		35.1				
Green Ext Time (p_c), s		5.3		0.0		14.4		0.9				

Intersection Summary

HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

07/19/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	440	158	87	304	135	158	209	84	372	785	304
Future Volume (veh/h)	172	440	158	87	304	135	158	209	84	372	785	304
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	478	172	95	330	147	172	227	91	404	853	330
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	244	802	287	180	752	329	342	755	303	598	1491	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.60	0.60	0.60	1.00	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.7	36.5	36.8	51.7	33.4	33.6	20.7	0.0	12.7	7.4	2.0	2.1
Ln Grp LOS	E	D	D	D	C	C	C	A	B	A	A	A
Approach Vol, veh/h		837			572			490			1587	
Approach Delay, s/veh		42.2			36.5			15.5			3.4	
Approach LOS		D			D			B			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			77.0		43.0		77.0		43.0			
Change Period (Y+Rc), s			* 5.6		* 5.5		* 5.6		* 5.5			
Max Green (Gmax), s			* 71		* 38		* 71		* 38			
Max Allow Headway (MAH), s			6.5		5.3		5.2		5.4			
Max Q Clear (g_c+I1), s			29.7		39.5		31.4		35.1			
Green Ext Time (g_e), s			5.3		0.0		14.4		0.9			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		1.00			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			474		917		1062		782			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1270		2565		2506		2407			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			509		917		967		1051			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

07/19/2023

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	172	0	187	0	404	0	95
Grp Sat Flow (s), veh/h/ln	0	474	0	917	0	1062	0	782
Q Serve Time (g_s), s	0.0	27.7	0.0	24.1	0.0	18.8	0.0	14.0
Cycle Q Clear Time (g_c), s	0.0	27.7	0.0	37.5	0.0	29.4	0.0	33.1
Perm LT Sat Flow (s_l), veh/h/ln	0	474	0	917	0	1062	0	782
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	71.4	0.0	37.5	0.0	71.4	0.0	37.5
Perm LT Serve Time (g_u), s	0.0	71.4	0.0	24.1	0.0	60.8	0.0	18.4
Perm LT Q Serve Time (g_ps), s	0.0	27.7	0.0	24.1	0.0	18.8	0.0	14.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	342	0	244	0	598	0	180
V/C Ratio (X)	0.00	0.50	0.00	0.77	0.00	0.68	0.00	0.53
Avail Cap (c_a), veh/h	0	342	0	244	0	598	0	180
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.87	0.00	0.99
Uniform Delay (d1), s/veh	0.0	15.5	0.0	48.1	0.0	2.2	0.0	48.9
Incr Delay (d2), s/veh	0.0	5.2	0.0	13.5	0.0	5.3	0.0	2.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.7	0.0	61.7	0.0	7.4	0.0	51.7
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	5.6	0.0	0.1	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.9	0.0	0.9	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.64	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	6.1	0.0	10.7	0.0	1.7	0.0	5.2
%ile Storage Ratio (RQ%)	0.00	1.28	0.00	3.02	0.00	0.38	0.00	1.32
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	330	0	604	0	242
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	18.8	0.0	0.0	0.0	13.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	18.8	0.0	0.0	0.0	13.0
Lane Grp Cap (c), veh/h	0	0	0	555	0	1057	0	555
V/C Ratio (X)	0.00	0.00	0.00	0.59	0.00	0.57	0.00	0.44
Avail Cap (c_a), veh/h	0	0	0	555	0	1057	0	555
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.87	0.00	0.99
Uniform Delay (d1), s/veh	0.0	0.0	0.0	34.8	0.0	0.0	0.0	32.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.7	0.0	2.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	36.5	0.0	2.0	0.0	33.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	8.1	0.0	0.0	0.0	5.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.6	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

9: Bristol Pkwy & Green Valley Cir

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.57	0.00	1.80	0.00	1.68
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	13.1	0.0	1.0	0.0	9.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.36	0.00	0.02	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	318	0	320	0	579	0	235
Grp Sat Flow (s), veh/h/ln	0	1779	0	1705	0	1696	0	1681
Q Serve Time (g_s), s	0.0	10.6	0.0	19.1	0.0	0.0	0.0	13.4
Cycle Q Clear Time (g_c), s	0.0	10.6	0.0	19.1	0.0	0.0	0.0	13.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.29	0.00	0.54	0.00	0.57	0.00	0.63
Lane Grp Cap (c), veh/h	0	1058	0	533	0	1009	0	525
V/C Ratio (X)	0.00	0.30	0.00	0.60	0.00	0.57	0.00	0.45
Avail Cap (c_a), veh/h	0	1058	0	533	0	1009	0	525
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.87	0.00	0.99
Uniform Delay (d1), s/veh	0.0	12.0	0.0	34.9	0.0	0.0	0.0	33.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	1.9	0.0	2.1	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.7	0.0	36.8	0.0	2.1	0.0	33.6
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	7.9	0.0	0.0	0.0	5.5
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.3	0.0	0.6	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.79	0.00	1.57	0.00	1.80	0.00	1.69
%ile Back of Q (95%), veh/ln	0.0	7.7	0.0	12.8	0.0	1.0	0.0	9.4
%ile Storage Ratio (RQ%)	0.00	0.36	0.00	0.35	0.00	0.02	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

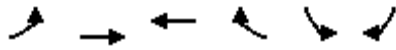
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

10: Green Valley Cir & Buckingham

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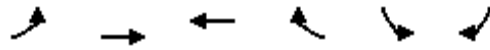


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	125	551	233	116	235	115
Future Volume (veh/h)	125	551	233	116	235	115
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	599	253	126	255	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	787	2682	1754	847	296	263
Arrive On Green	0.25	0.25	0.75	0.75	0.17	0.17
Sat Flow, veh/h	1004	3647	2417	1122	1781	1585
Grp Volume(v), veh/h	136	599	192	187	255	125
Grp Sat Flow(s),veh/h/ln	1004	1777	1777	1668	1781	1585
Q Serve(g_s), s	13.0	16.1	3.6	3.7	16.7	8.6
Cycle Q Clear(g_c), s	16.7	16.1	3.6	3.7	16.7	8.6
Prop In Lane	1.00			0.67	1.00	1.00
Lane Grp Cap(c), veh/h	787	2682	1341	1259	296	263
V/C Ratio(X)	0.17	0.22	0.14	0.15	0.86	0.48
Avail Cap(c_a), veh/h	787	2682	1341	1259	757	674
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	17.1	4.0	4.1	48.7	45.3
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.2	7.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	11.5	2.2	2.2	12.7	6.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.9	17.1	4.3	4.3	56.1	46.6
LnGrp LOS	B	B	A	A	E	D
Approach Vol, veh/h		735	379		380	
Approach Delay, s/veh		17.4	4.3		53.0	
Approach LOS		B	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		96.1		23.9		96.1
Change Period (Y+Rc), s		* 5.5		4.0		* 5.5
Max Green Setting (Gmax), s		* 60		51.0		* 60
Max Q Clear Time (g_c+I1), s		5.7		18.7		18.7
Green Ext Time (p_c), s		2.6		1.2		5.5
Intersection Summary						
HCM 6th Ctrl Delay			23.1			
HCM 6th LOS			C			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↶	↶↶	↶↶		↶	↶			
Traffic Volume (veh/h)	125	551	233	116	235	115			
Future Volume (veh/h)	125	551	233	116	235	115			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	136	599	253	126	255	125			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	787	2682	1754	847	296	263			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.25	0.25	0.75	0.75	0.17	0.17			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	18.9	17.1	4.3	4.3	56.1	46.6			
Ln Grp LOS	B	B	A	A	E	D			
Approach Vol, veh/h		735	379		380				
Approach Delay, s/veh		17.4	4.3		53.0				
Approach LOS		B	A		D				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		9.0		6.0		
Phs Duration (G+Y+Rc), s			96.1		23.9		96.1		
Change Period (Y+Rc), s			* 5.5		4.0		* 5.5		
Max Green (Gmax), s			* 60		51.0		* 60		
Max Allow Headway (MAH), s			5.4		3.9		5.2		
Max Q Clear (g_c+I1), s			5.7		18.7		18.7		
Green Ext Time (g_e), s			2.6		1.2		5.5		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1781		1004		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			2417		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			1122		1585		0		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment					L		L		

HCM 6th Signalized Intersection Capacity Analysis
 10: Green Valley Cir & Buckingham

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Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	255	0	136	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	0	1004	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	16.7	0.0	13.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	16.7	0.0	16.7	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	1004	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	90.6	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	86.9	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0
Time to First Blk (g_f), s	0.0	90.6	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	296	0	787	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.86	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	757	0	787	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.72	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	48.7	0.0	18.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	7.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	56.1	0.0	18.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.4	0.0	3.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.58	0.00	1.74	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	12.7	0.0	6.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.19	0.00	0.09	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	192	0	0	0	599	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.6	0.0	0.0	0.0	16.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	0.0	0.0	16.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	1341	0	0	0	2682	0	0
V/C Ratio (X)	0.00	0.14	0.00	0.00	0.00	0.22	0.00	0.00
Avail Cap (c_a), veh/h	0	1341	0	0	0	2682	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.72	0.00	0.00
Uniform Delay (d1), s/veh	0.0	4.0	0.0	0.0	0.0	17.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.3	0.0	0.0	0.0	17.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.0	0.0	7.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 10: Green Valley Cir & Buckingham

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.50	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.2	0.0	0.0	0.0	11.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.00	0.00	0.18	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	187	0	125	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1668	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	3.7	0.0	8.6	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.7	0.0	8.6	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.67	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1259	0	263	0	0	0	0
V/C Ratio (X)	0.00	0.15	0.00	0.48	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1259	0	674	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	4.1	0.0	45.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	1.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.3	0.0	46.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	3.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.2	0.0	6.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.09	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

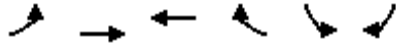
Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

11: Centinela Ave & Green Valley Cir

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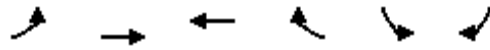


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	93	1752	645	276	719	102
Future Volume (veh/h)	93	1752	645	276	719	102
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	1904	701	300	782	111
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	382	2331	2331	1040	852	391
Arrive On Green	0.66	0.66	0.66	0.66	0.25	0.25
Sat Flow, veh/h	563	3647	3647	1585	3456	1585
Grp Volume(v), veh/h	101	1904	701	300	782	111
Grp Sat Flow(s),veh/h/ln	563	1777	1777	1585	1728	1585
Q Serve(g_s), s	11.2	47.7	10.1	9.6	26.4	6.8
Cycle Q Clear(g_c), s	21.4	47.7	10.1	9.6	26.4	6.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	382	2331	2331	1040	852	391
V/C Ratio(X)	0.26	0.82	0.30	0.29	0.92	0.28
Avail Cap(c_a), veh/h	382	2331	2331	1040	904	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	15.3	8.8	8.8	44.0	36.6
Incr Delay (d2), s/veh	1.7	3.3	0.1	0.2	13.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	25.7	6.8	5.8	18.7	4.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.1	18.6	8.9	8.9	57.6	37.0
LnGrp LOS	B	B	A	A	E	D
Approach Vol, veh/h		2005	1001		893	
Approach Delay, s/veh		18.4	8.9		55.0	
Approach LOS		B	A		E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		84.8		35.2		84.8
Change Period (Y+Rc), s		6.1		* 5.6		6.1
Max Green Setting (Gmax), s		76.9		* 31		76.9
Max Q Clear Time (g_c+I1), s		49.7		28.4		12.1
Green Ext Time (p_c), s		19.7		1.1		7.2
Intersection Summary						
HCM 6th Ctrl Delay			24.4			
HCM 6th LOS			C			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Capacity Analysis

11: Centinela Ave & Green Valley Cir

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖	↗↗	↗↗	↖	↖↖	↖			
Traffic Volume (veh/h)	93	1752	645	276	719	102			
Future Volume (veh/h)	93	1752	645	276	719	102			
Number	5	2	6	16	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	101	1904	701	300	782	111			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	382	2331	2331	1040	852	391			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.66	0.66	0.66	0.66	0.25	0.25			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	15.1	18.6	8.9	8.9	57.6	37.0			
Ln Grp LOS	B	B	A	A	E	D			
Approach Vol, veh/h		2005	1001		893				
Approach Delay, s/veh		18.4	8.9		55.0				
Approach LOS		B	A		E				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s			84.8		35.2		84.8		
Change Period (Y+Rc), s			6.1		* 5.6		6.1		
Max Green (Gmax), s			76.9		* 31		76.9		
Max Allow Headway (MAH), s			5.3		3.8		4.9		
Max Q Clear (g_c+I1), s			49.7		28.4		12.1		
Green Ext Time (g_e), s			19.7		1.1		7.2		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.61		1.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			563		3456		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis
 11: Centinela Ave & Green Valley Cir

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Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	101	0	782	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	563	0	1728	0	0	0	0
Q Serve Time (g_s), s	0.0	11.2	0.0	26.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	21.4	0.0	26.4	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	563	0	1728	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	78.7	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	68.6	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	11.2	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	78.7	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	382	0	852	0	0	0	0
V/C Ratio (X)	0.00	0.26	0.00	0.92	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	382	0	904	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.4	0.0	44.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	13.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.1	0.0	57.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	11.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	1.6	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.46	0.00	1.00	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	2.8	0.0	18.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.38	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1904	0	0	0	701	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	47.7	0.0	0.0	0.0	10.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	47.7	0.0	0.0	0.0	10.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	2331	0	0	0	2331	0	0
V/C Ratio (X)	0.00	0.82	0.00	0.00	0.00	0.30	0.00	0.00
Avail Cap (c_a), veh/h	0	2331	0	0	0	2331	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	15.3	0.0	0.0	0.0	8.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.3	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.6	0.0	0.0	0.0	8.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	17.6	0.0	0.0	0.0	3.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 11: Centinela Ave & Green Valley Cir

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.38	0.00	1.00	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	25.7	0.0	0.0	0.0	6.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.93	0.00	0.00	0.00	0.28	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	111	0	300	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	6.8	0.0	9.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.8	0.0	9.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	391	0	1040	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.28	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	415	0	1040	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	36.6	0.0	8.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	37.0	0.0	8.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.7	0.0	3.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.80	0.00	1.80	0.00	0.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	4.9	0.0	5.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.10	0.00	0.24	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
12: Hannum Driveway & Hannum Ave

07/19/2023

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑↑	
Traffic Vol, veh/h	813	15	5	279	13	4
Future Vol, veh/h	813	15	5	279	13	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	884	16	5	303	14	4

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	900	0	1054
Stage 1	-	-	-	-	892
Stage 2	-	-	-	-	162
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	751	-	221
Stage 1	-	-	-	-	361
Stage 2	-	-	-	-	850
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	751	-	219
Mov Cap-2 Maneuver	-	-	-	-	219
Stage 1	-	-	-	-	361
Stage 2	-	-	-	-	844

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	20.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	255	-	-	751	-
HCM Lane V/C Ratio	0.072	-	-	0.007	-
HCM Control Delay (s)	20.2	-	-	9.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	14	22	230	416	41
Future Vol, veh/h	26	14	22	230	416	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	15	24	250	452	45

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	648	249	497	0	-	0
Stage 1	475	-	-	-	-	-
Stage 2	173	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	403	751	1063	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	840	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	394	751	1063	-	-	-
Mov Cap-2 Maneuver	394	-	-	-	-	-
Stage 1	578	-	-	-	-	-
Stage 2	840	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1063	-	473	-	-
HCM Lane V/C Ratio	0.022	-	0.092	-	-
HCM Control Delay (s)	8.5	-	13.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-