LA BALLONA PROJECT OVERVIEW

Culver CITY

LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

PROJECT GOAL

A SAFE COMMUNITY TO BIKE & WALK TO AND FROM SCHOOL

Create a network of low-speed corridors and safe crossings around and leading to La Ballona Elementary School.

PROJECT STRATEGIES

+ TRAFFIC CALMING

Curb extensions and narrowed traffic lanes slow vehicular speeds around the school.

+ SAFE CROSSINGS

High-visibility crosswalks, curb extensions, and curb ramps shorten crossing distances and improve access.

+ SEPARATED BIKEWAY

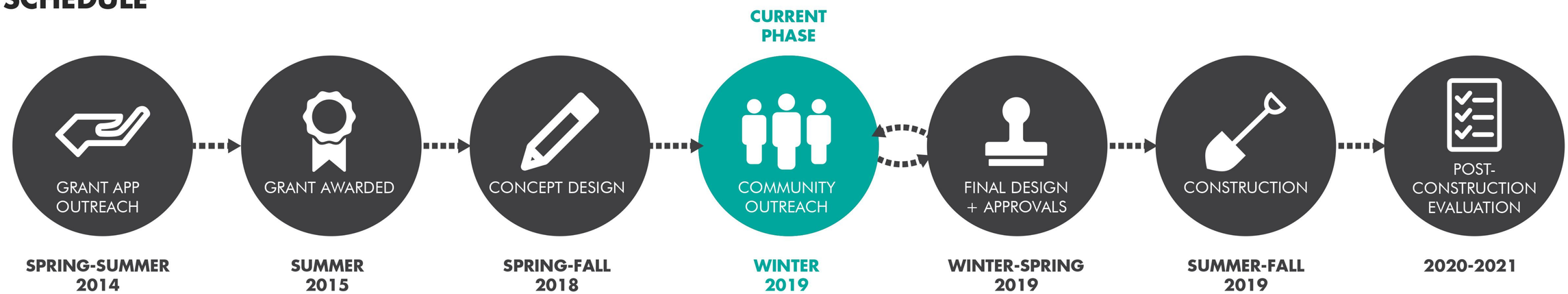
A direct link to connect the Culver Blvd bike path to the school.

+ COMPLETE STREETS

Neighborhood streets that are designed for everyone to improve overall safety, mobility and accessibility.

Walk to School Day, 2017

SCHEDULE



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LA BALLONA
RESUMEN DEL PROYECTO

Culver CITY

LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

OBJETIVO DEL PROYECTO

UNA COMUNIDAD SEGURA PARA ANDAR EN BICICLETA Y CAMINAR HACIA Y DESDE LA ESCUELA

Crear una red de corredores de baja velocidad y cruces seguros alrededor de la Escuela Primaria de La Ballona.

ESTRATEGIAS DEL PROYECTO

+ CALMAR EL TRÁFICO

Extensiones de acera y carriles más angostos disminuyen la velocidad de los autos alrededor de la escuela

+ CRUCES SEGUROS

Cruces de alta visibilidad, extensiones de acera y rampas ayudan a recortar distancias de cruce y mejorar acceso.

+ CICLOVÍA PROTEGIDA

Una conexión directa entre el sendero ciclista de Culver Blvd y la escuela.

+ CALLE COMPLETA

Calles vecinales diseñadas para que todos puedan mejorar la seguridad, movilidad y accesibilidad en general.

Día de Caminata a la Escuela, 2017

CALENDARIO

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PROJECT SUMMARY
RESUMEN DEL PROYECTO

Culver CITY

LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

PROJECT INCLUDES THE FOLLOWING ELEMENTS

+0.32 Miles of Separated Bikeway
Two-way cycle track connects Culver Blvd Bike Path to La Ballona Elementary School along Elenda St

+1 RRFB Crossing at Bentley Ave
New pedestrian crossing at the intersection of Bentley Ave and Washington Pl

+1 All-way Stop
New all-way stop at Marietta Ave and Elenda St

+6 Storm Water Improvements
Green infrastructure incorporated into 6 corner bulb-outs

+19 Intersection Improvements
Includes 42 bulb-outs, 44 high visibility crosswalks, 77 curb ramps, 3 pedestrian refuge islands, 1 raised crosswalk, 1 RRFB, and 2 traffic signal modifications

+28 Pedestrian Scale Luminaires
5 new street lights along the north side of Washington Blvd and 23 new street lights along east and west sides of Elenda Street

+51 New Trees
Includes 47 new trees in the area bounded by Tilden Ave and Girard Ave west to east and Venice Blvd and Matteson Ave north to south, 2 new trees at the northwest corner of Bentley Ave and Washington Pl, and 2 new trees at southwest corner of Elenda St and Washington Blvdcrossings. The bikeway is also intended to reduce cut-through traffic through the neighborhood.

N

LA BALLONA ELEMENTARY SCHOOL
ESCUELA PRIMARIA LA BALLONA

INTERSECTION IMPROVEMENT - FULL INTERSECTION
MEJORAR CRUCES PEATONALES - COMPLETAMENTE

INTERSECTION IMPROVEMENT - PARTIAL INTERSECTION
MEJORAR CRUCES PEATONALES - PARCIALMENTE

SEPARATED BIKEWAY
CICLOVÍA SEPARADA

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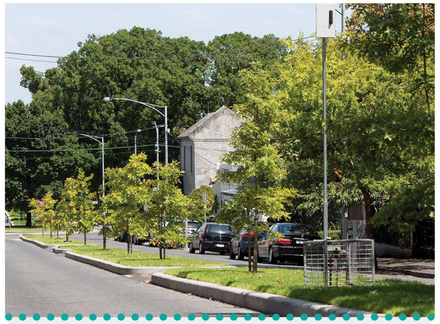
WHAT IS A COMPLETE STREET?

¿QUE ES UNA CALLE COMPLETA?

Culver CITY

LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

A complete street improves safety, mobility, and accessibility along a street for everyone. Below are examples of typical Complete Streets 'tools' in a designer's toolbox.



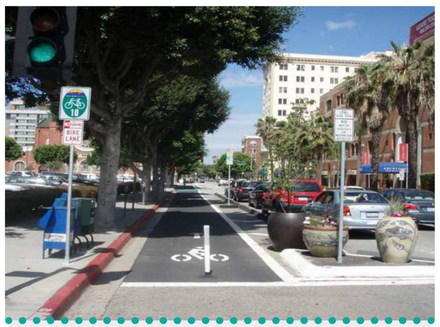
Planted Medians & Street Trees can reduce head-on and turning collisions and provide refuge for pedestrian crossings, all while beautifying the area. Sidewalk plantings can provide shade and a pleasant street experience for people walking, and create a buffer between pedestrians and vehicle traffic.

Curb Extensions & Median Refuge Areas reduce pedestrian crossing distances and improve visibility. Curb Extensions also reduce vehicle speeds by reducing turning radius, which increases the chance of survival for a pedestrian in the event of a collision.

High Visibility Crosswalks include additional paint that can enhance a motorist's awareness of a crosswalk. Near schools, crosswalks are painted yellow for additional visibility. In-roadway lighting can further enhance crosswalk visibility.

Crossing Beacons like the 'Rectangular Rapid Flash Beacon (RRFB)' enhance the visibility of crosswalks marked by just paint. Flashing lights and additional signage alert motorists to the presence of crosswalks and pedestrian traffic. Leading Pedestrian Intervals that give people walking a head start to cross the street are another tool that can increase safety and comfort at intersections.

Traffic Circles have been proven to calm vehicle traffic on neighborhood streets, while still allowing for continuous movement of vehicles and people bicycling. Combined with other features, such as directional signs, they can help create a network of "bicycle boulevards" or "neighborhood-friendly streets".



On-Street Separated Bikeways provide full physical separation between bicyclists and motor vehicles, but are part of the roadway network. On-Street Separated Bikeways are increasingly common across California and provide additional protection beyond bike lanes only marked by paint.

Bike Lanes provide a designated space for bicyclists to ride, helping to define where each mode of traffic can travel easily. Some bike lanes, like the one pictured here, can include an additional buffer between bicyclists and moving vehicles. Bike lanes can be installed along a curb or between parked cars and traffic.

Shared Lane Markings ("Sharrows") help remind motorists that bicyclists are allowed to use the full lane, and remind bicyclists to avoid riding too close to parked cars. These markings are primarily recommended on low-speed streets.

Lane Reconfigurations often convert streets with 4 lanes to 2 lanes with a center turn lane, which increases safety for all road users by separating left-turning vehicles from through traffic, reducing dangerous speeding, and providing extra space for pedestrian refuges, curb extensions, planted medians, and bike lanes.

Protected Intersections reduce turning conflicts between drivers and bicyclists by providing clear paths for each user. Protected Intersections are relatively new to the United States, and have been shown to reduce collisions. A similar, less-intensive version includes 'Bike Boxes'.

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PROPOSED SAFETY IMPROVEMENTS AROUND LA BALLONA ELEMENTARY SCHOOL

TELL US WHAT YOU THINK!

MEJORAMIENTOS PROPUESTOS DE SEGURIDAD ALREDEDOR DE LA ESCUELA PRIMARIA LA BALLONA

¡DÍGANOS QUÉ LE PARECEN!

Culver CITY
LA BALLONA ELEMENTARY
SAFE ROUTES TO SCHOOL

GIRARD AVE. AT VENICE BLVD.

GIRARD Y VENICE

RENDERING OF PROPOSED CHANGES (ABOVE)

MEJORAMIENTOS PROPUESTOS (ARRIBA):

CURB EXTENSIONS MAKE A SHORTER DISTANCE TO CROSS A STREET

HIGH VISIBILITY CROSSWALKS HELP MAKE PEDESTRIANS MORE VISIBLE

NO ON-STREET PARKING WILL BE LOST

EXISTING INTERSECTION

INTERSECCIÓN ACTUAL

PROPOSED SAFETY IMPROVEMENTS AROUND LA BALLONA ELEMENTARY SCHOOL

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LA BALLONA ELEMENTARY
SAFE ROUTES TO SCHOOL

MATTESON AVE. AT COLLEGE AVE.

MATTESON Y COLLEGE

RENDERING OF PROPOSED CHANGES (ABOVE)
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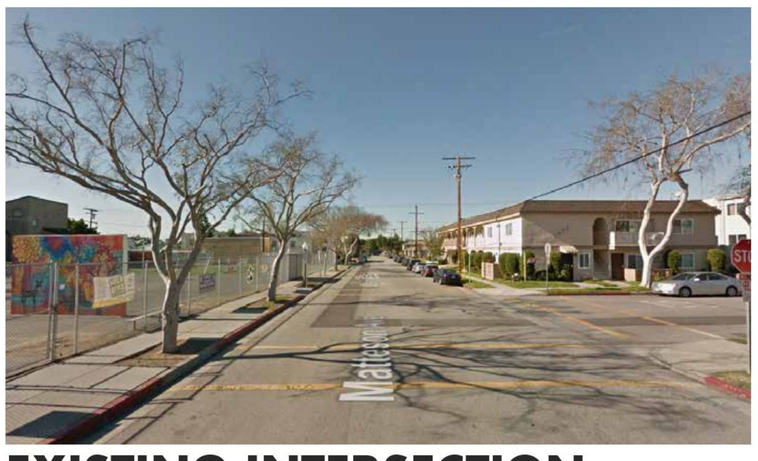

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SAFE ROUTES TO SCHOOL

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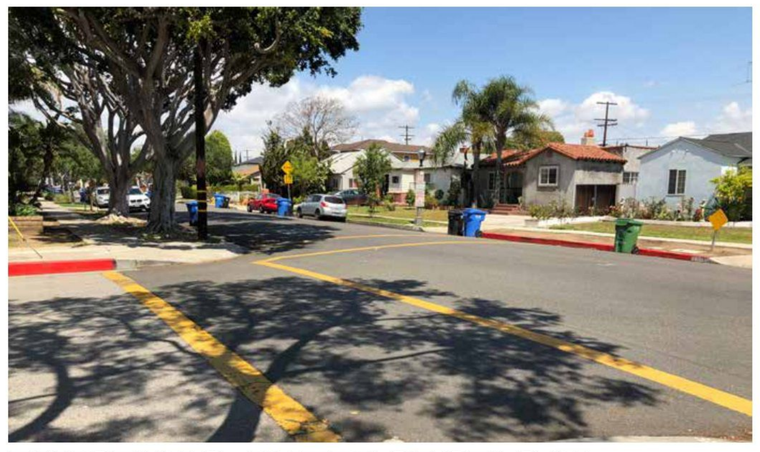

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SAFE ROUTES TO SCHOOL

MATTESON AVE. AT PROSPECT AVE.

MATTESON Y PROSPECT

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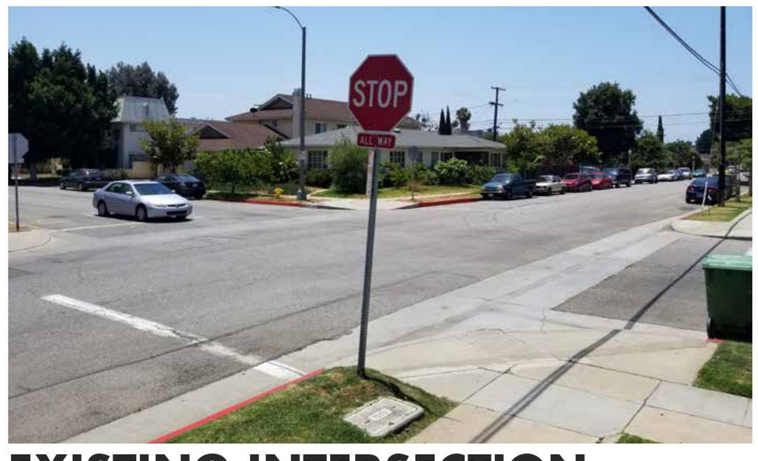

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Culver CITY
LA BALLONA ELEMENTARY
SAFE ROUTES TO SCHOOL

HURON AVE. AT MATTESON AVE.

HURON Y MATTESON

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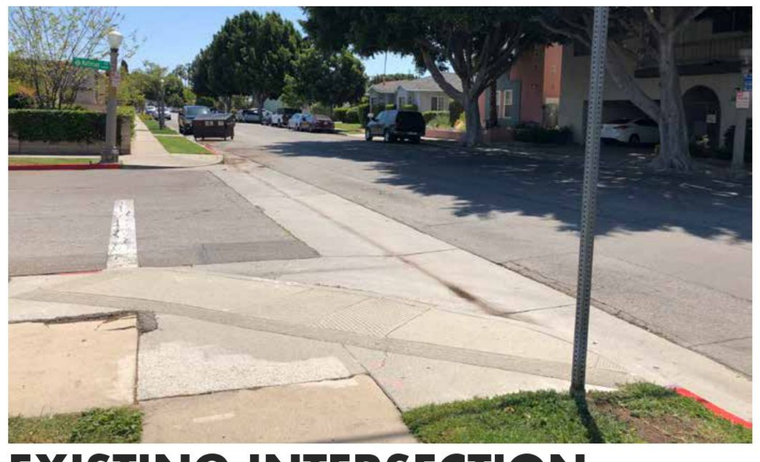

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LA BALLONA ELEMENTARY
SAFE ROUTES TO SCHOOL

TILDEN AVE. AT WASHINGTON BLVD.

TILDEN Y WASHINGTON

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TILDEN AVE. AT WASHINGTON PL.

TILDEN Y WASHINGTON

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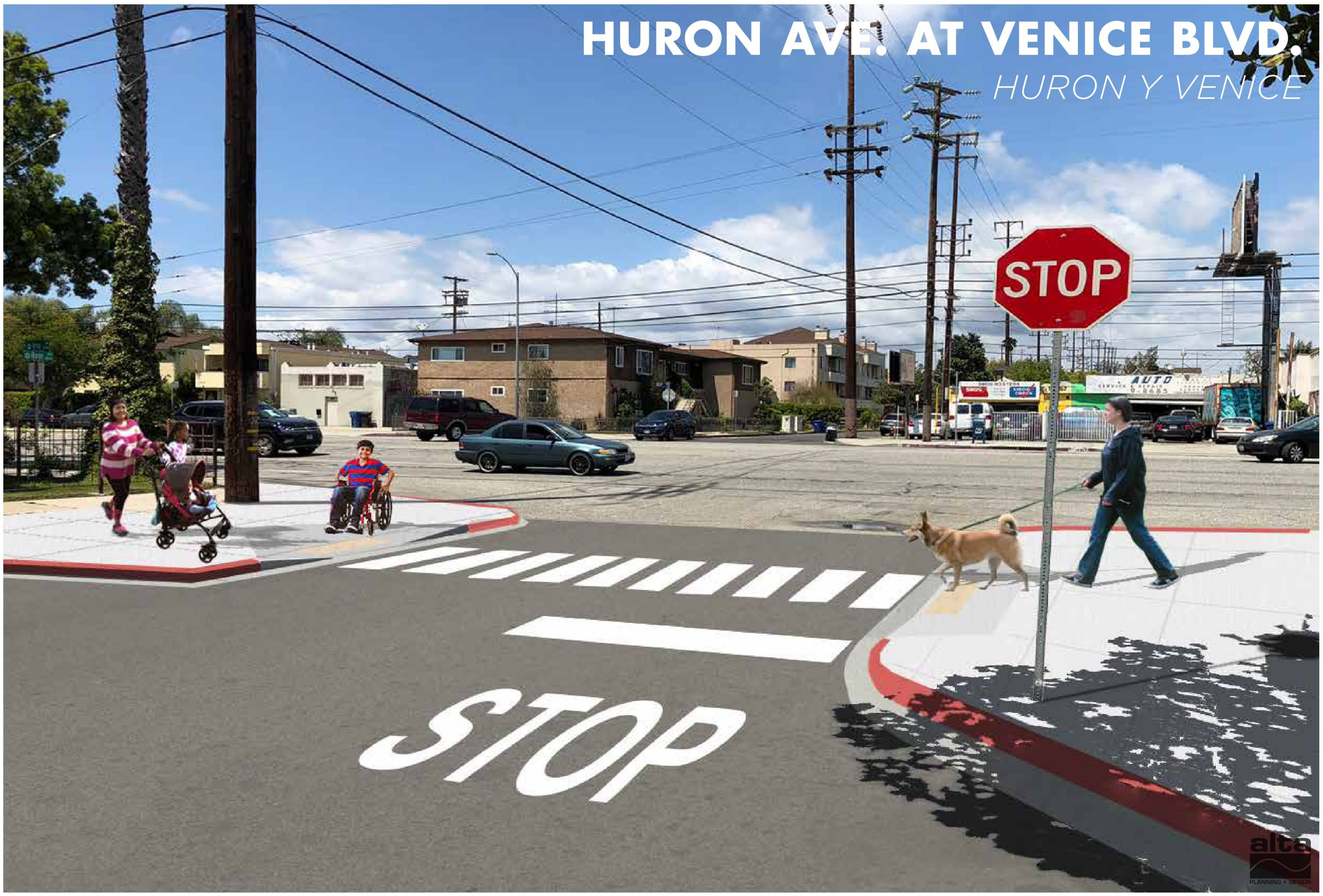
SAFE ROUTES TO SCHOOL



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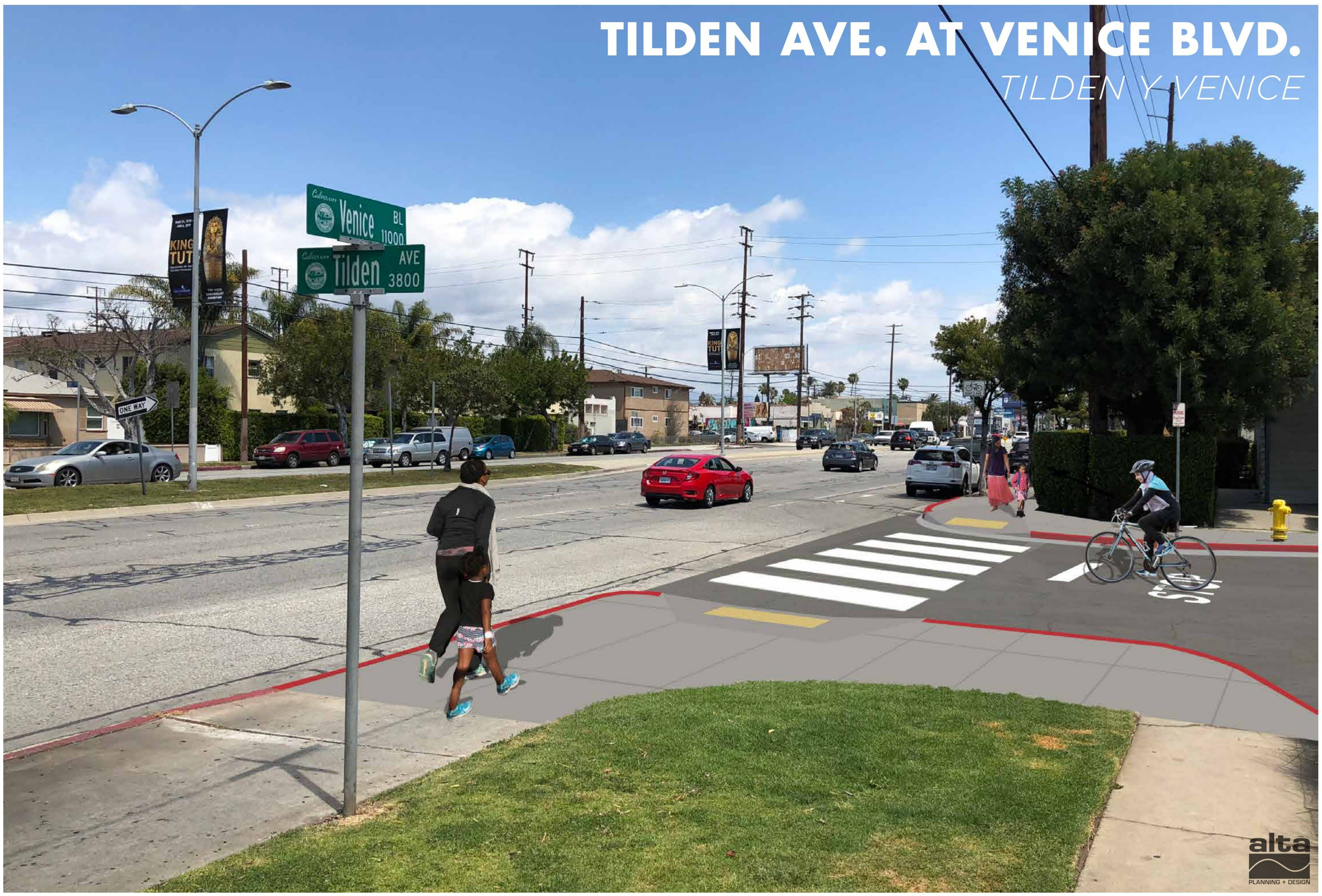
TILDEN AVE. AT VENICE BLVD.

TILDEN Y VENICE



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LA BALLONA ELEMENTARY
SAFE ROUTES TO SCHOOL

HARTER AVE. AT WASHINGTON BLVD.

HARTER Y WASHINGTON

RENDERING OF PROPOSED CHANGES (ABOVE)
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LA BALLONA ELEMENTARY
SAFE ROUTES TO SCHOOL

PROSPECT AVE. AT WASHINGTON BLVD.

PROSPECT Y WASHINGTON

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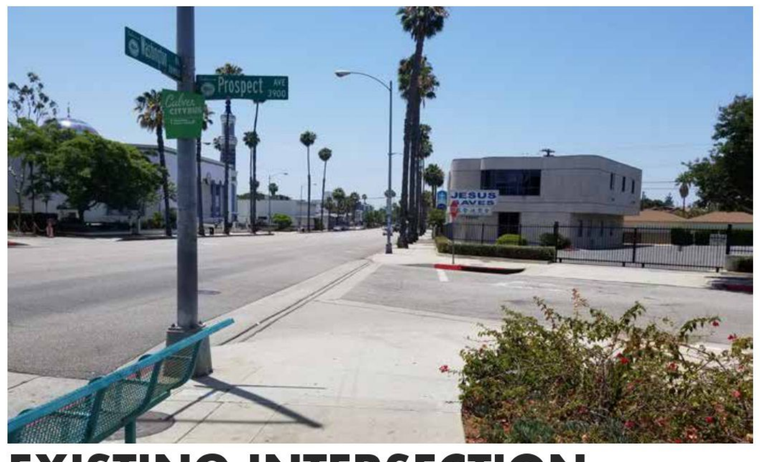

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Culver CITY
LA BALLONA ELEMENTARY
SAFE ROUTES TO SCHOOL

ELENDA ST. CYCLE TRACK - EAST ALIGNMENT

CICLOVIA PARA ELENDA - LADO DEL ESTE

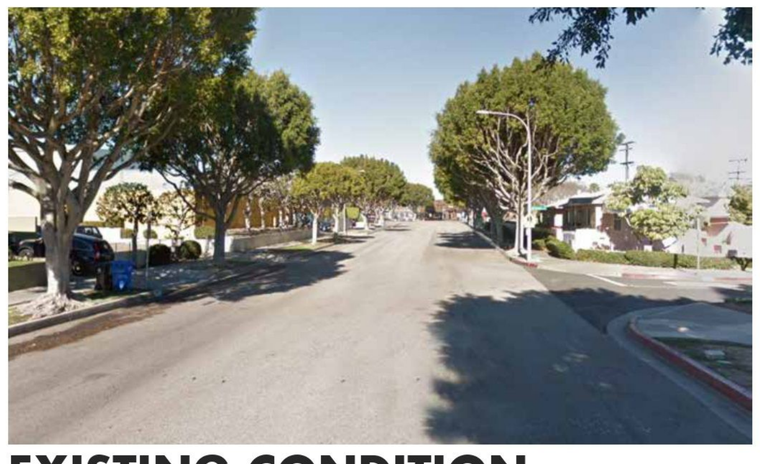
RENDERING OF PROPOSED CHANGES (ABOVE)

MEJORAMIENTOS PROPUESTOS (ARRIBA):

BUFFERED ON-STREET BIKEWAY WILL PROVIDE SAFE, SEPARATED BICYCLE ACCESS TO AND FROM CULVER BLVD TO LA BALLONA ELEMENTARY SCHOOL

INTERSECTION PAVEMENT MARKINGS HELP MAKE BICYCLE CROSSINGS MORE VISIBLE

PARKING ON THE WEST SIDE OF ELENDA STREET WILL NOT BE ALTERED, PARKING ON THE EAST SIDE WILL INCREASE BY A FEW SPACES



EXISTING CONDITION

SITIO ACTUAL

PROPOSED SAFETY IMPROVEMENTS AROUND LA BALLONA ELEMENTARY SCHOOL

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Culver CITY
LA BALLONA ELEMENTARY
SAFE ROUTES TO SCHOOL

BENTLEY AVE. AT WASHINGTON PL.

BENTLEY Y WASHINGTON

RENDERING OF PROPOSED CHANGES (ABOVE)
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Culver CITY
LA BALLONA ELEMENTARY
SAFE ROUTES TO SCHOOL

HURON AVE. AT WASHINGTON BLVD.

HURON Y WASHINGTON

RENDERING OF PROPOSED CHANGES (ABOVE)
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WASHINGTON PL. AT WASHINGTON BLVD.

WASHINGTON Y WASHINGTON

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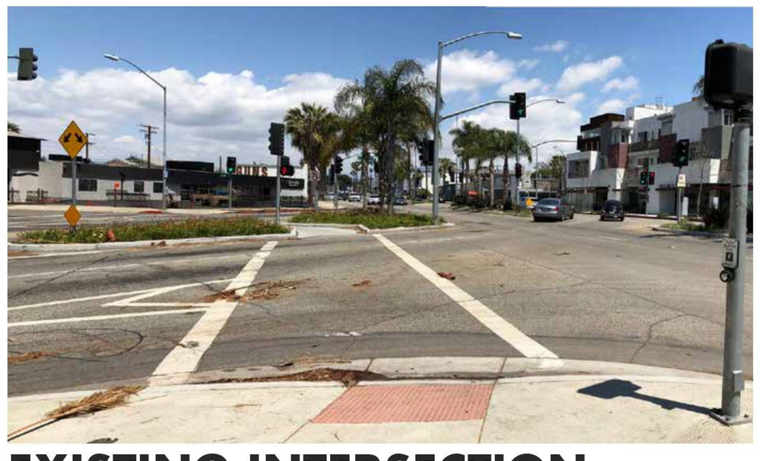

EXISTING INTERSECTION

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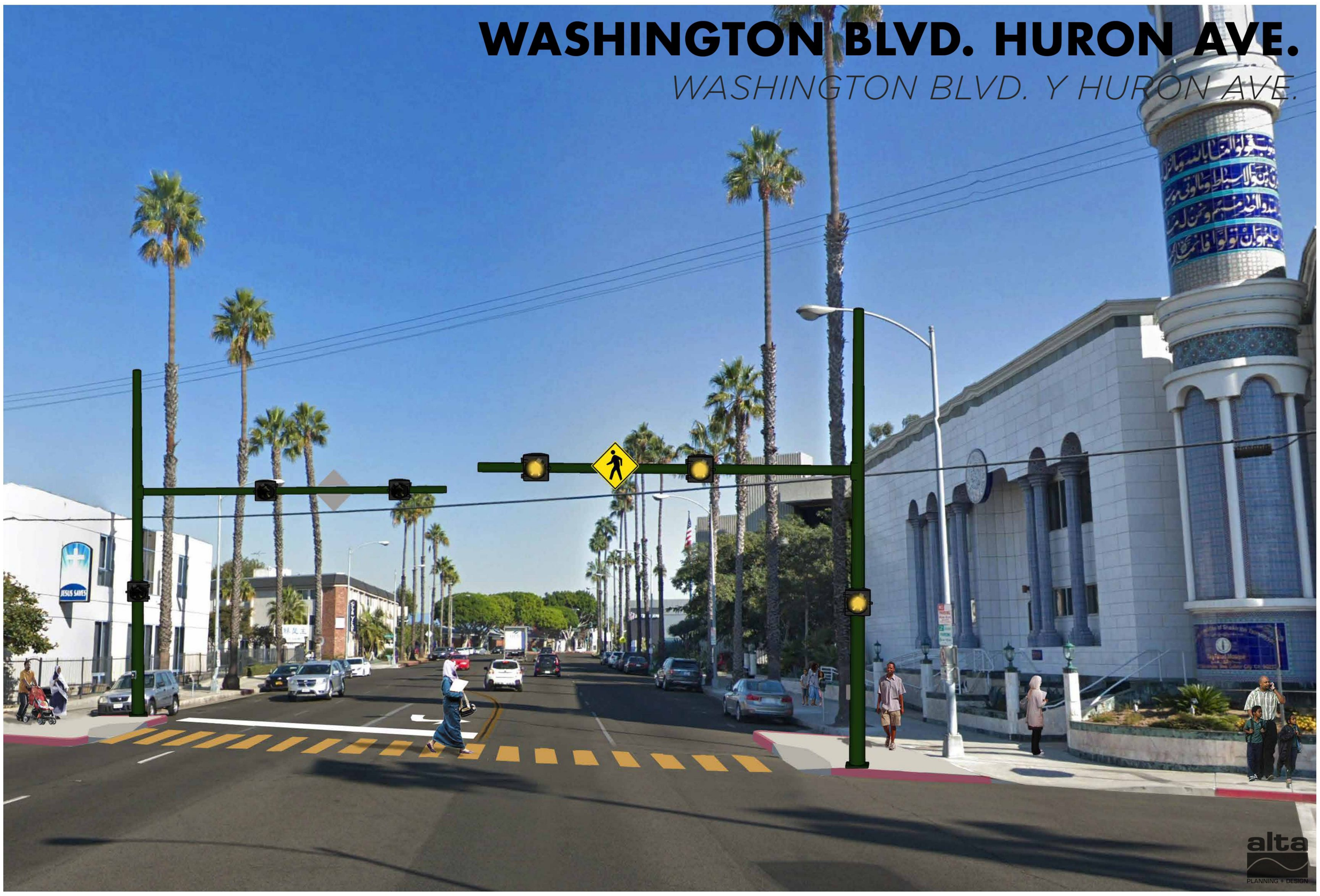
SAFE ROUTES TO SCHOOL

WASHINGTON BLVD. HURON AVE.

WASHINGTON BLVD. Y HURON AVE.



RENDERING OF PROPOSED CHANGES (ABOVE)

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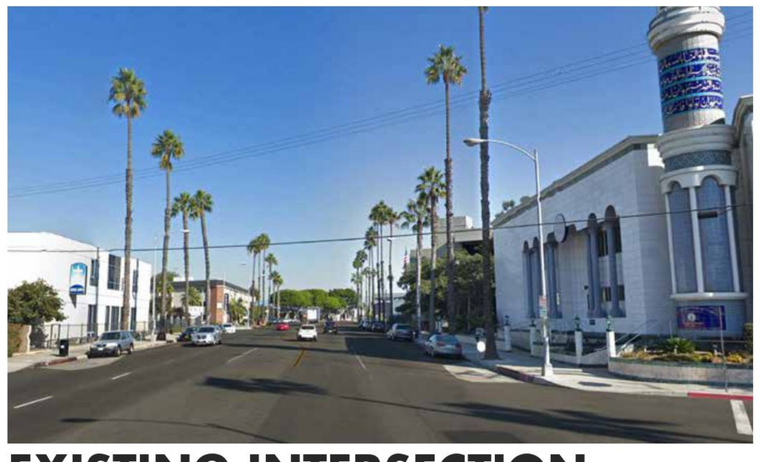
FLASHING PEDESTRIAN SIGNAL INCREASES DRIVER AWARENESS



EXISTING INTERSECTION

INTERSECCIÓN ACTUAL

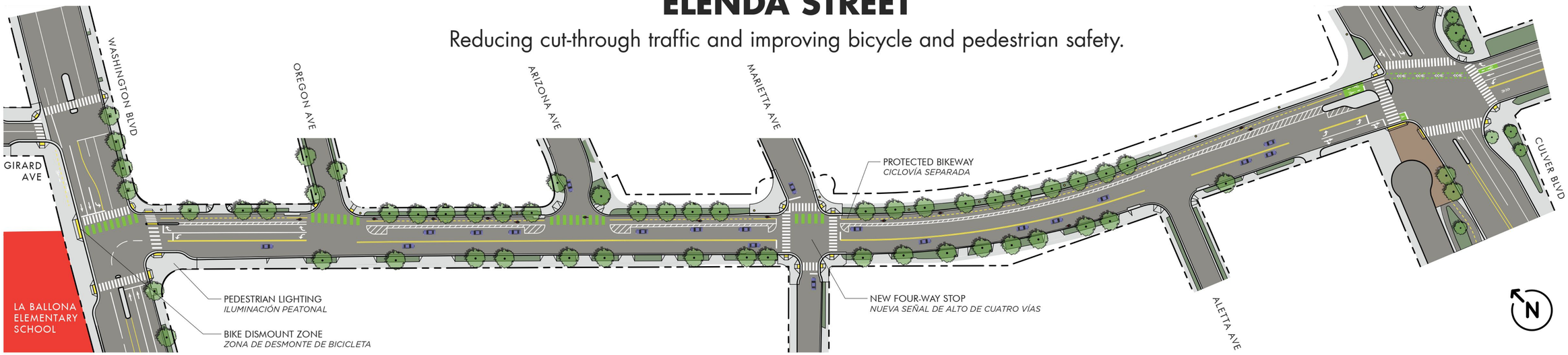
ELENDA SEPARATED BIKEWAY
CICLOVÍA SEPARADA DE ELENDA

Culver CITY

LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

ELENDA STREET

Reducing cut-through traffic and improving bicycle and pedestrian safety.



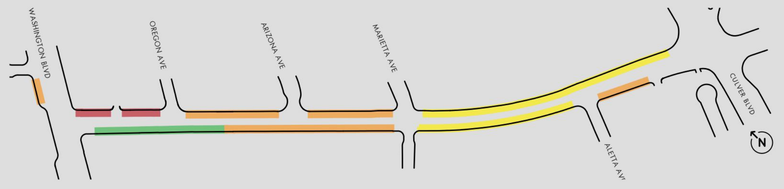
PROJECT OVERVIEW

The separated bikeway along Elenda will provide safe, separated bicycle access from Culver Blvd to La Ballona Elementary School. The alignment on the east side of Elenda was developed to minimize parking impacts and the number of crossings. The bikeway is also intended to reduce cut-through traffic through the neighborhood.

PARKING

PARKING UTILIZATION

- NO PARKING
- 80%-100% UTILIZED
- 60%-79% UTILIZED
- 40%-59% UTILIZED



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SELECTION OF APPROPRIATE LANE WIDTHS

Culver CITY

LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

According to the **Institute of Transportation Engineers (ITE) Traffic Engineering Handbook**:

+ On urban streets 10 feet should be the default width for general purpose lanes at speeds of 45 mph or less (ITE, 2016).

According to the **AASHTO Green Book**, for rural and urban arterials, lane widths may vary from 10 to 12 feet:

+ 12-foot lanes should be used where practical on higher speed roadways. However, under interrupted-flow (roads with signals) conditions operating at low speeds (45 mph or less) narrower lane widths are normally quite adequate and have some advantages.

The **National Cooperative Highway Research Program 330 Effective Utilization of Street Width** on Urban Arterials study found:

+ Narrower lane widths (less than 11 feet) can be used effectively in urban arterial street improvement projects where the additional space can be used to relieve traffic congestion or address specific accident patterns.
+ Where streets cannot be widened, highway agencies should give strong consideration to the use of 10-ft lanes where they are necessary as part of a geometric improvement to improve traffic operations or alleviate specific accident patterns.

National Association of City Transportation Officials (NACTO) states:

+ Lane widths of 10 feet are appropriate in urban areas and have a positive impact on a street's safety without impacting traffic operations.

The **Midwest Research Center** reported:

+ A safety evaluation of lane widths for arterial roadway segments found no indication, except in limited cases, that the use of narrower lanes increases crash frequencies. The lane width effects in the analyses conducted were generally either not statistically significant or indicated that narrower lanes were associated with lower rather than higher crash frequencies. There were limited exceptions to this general finding.

Parking Lane Width:

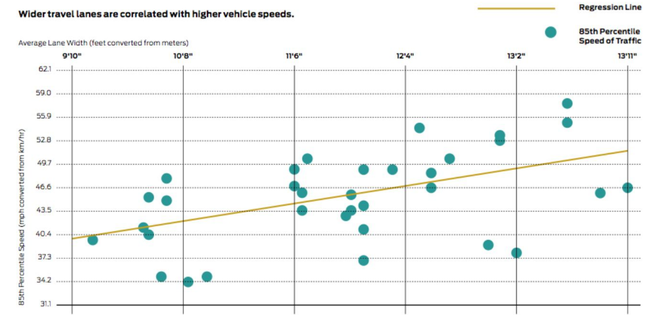
+ Preferred parking lane width on residential streets is 7ft (ITE & CNU, 2010).

Bicycle Lane Width:

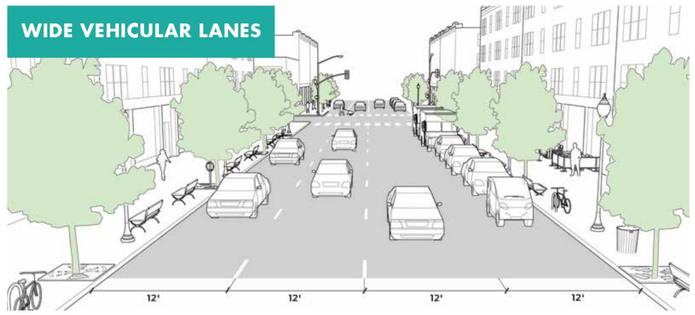
+ The desirable two-way cycle track width is 12 feet. Minimum width in constrained locations is 8 feet (NACTO, 2014).
+ When placed adjacent to a curb or other vertical surface, a bicycle lane width of at least 6 feet in width is desirable (NACTO, 2014).
+ When protected by a parking lane, 3 feet is the desired width for parking buffer to allow passenger loading and to prevent dooring collisions (NACTO, 2014).

"As the width of the lane increased, the speed on the roadway increased... When lane widths are 1 m (3.3 ft) greater, speeds are predicted to be 15 km/h (9.4 mph) faster."

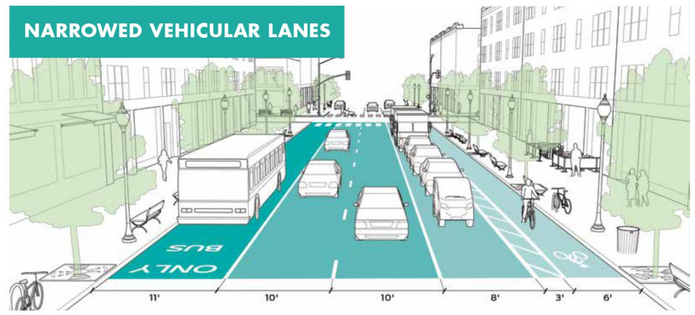
Chart source: Fitzpatrick, Kay, Paul Carlson, Marcus Brewer, and Mark Wooldridge. 2000. "Design Factors That Affect Driver Speed on Suburban Streets." *Transportation Research Record* 1751: 18–25.



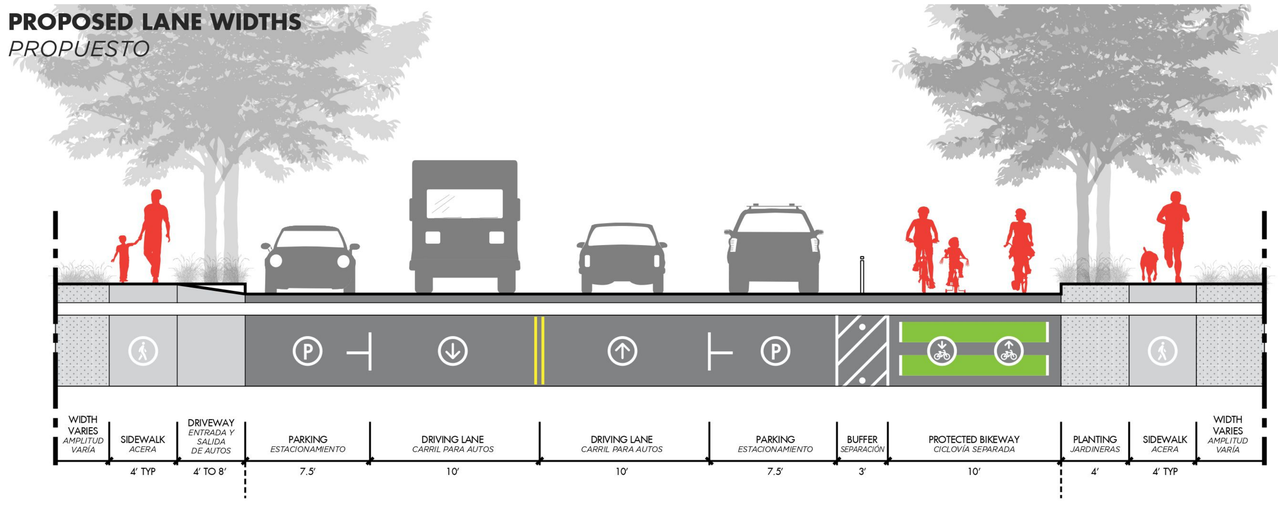
WIDE VEHICULAR LANES



NARROWED VEHICULAR LANES



PROPOSED LANE WIDTHS
PROPUESTO



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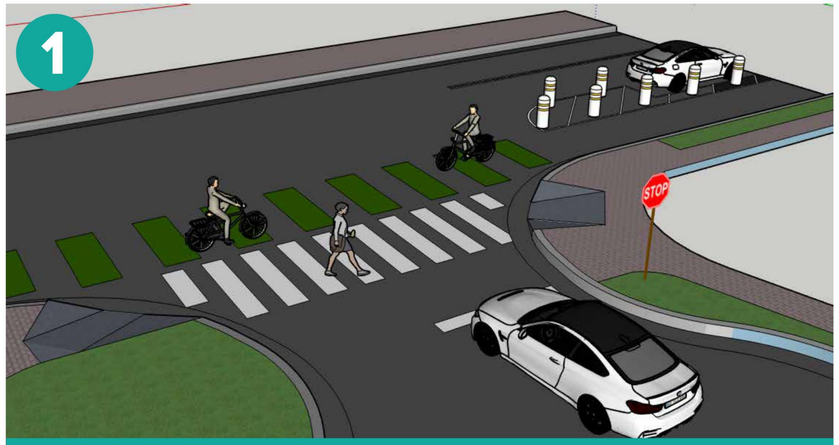
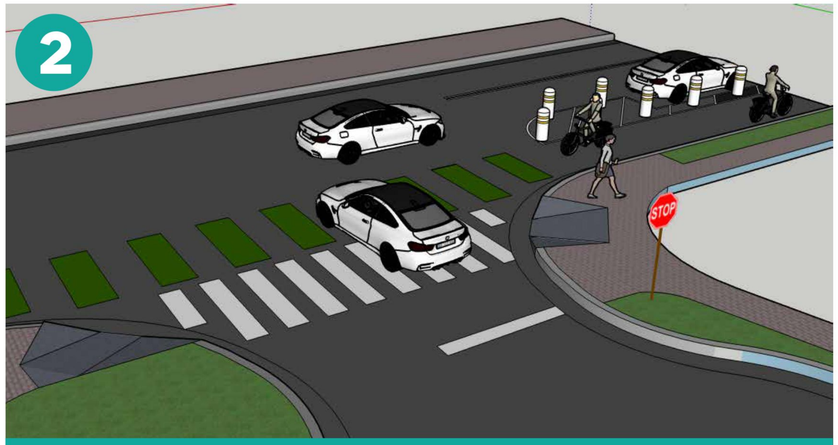
DRIVING ETIQUETTE AT BIKE LANES

Culver CITY

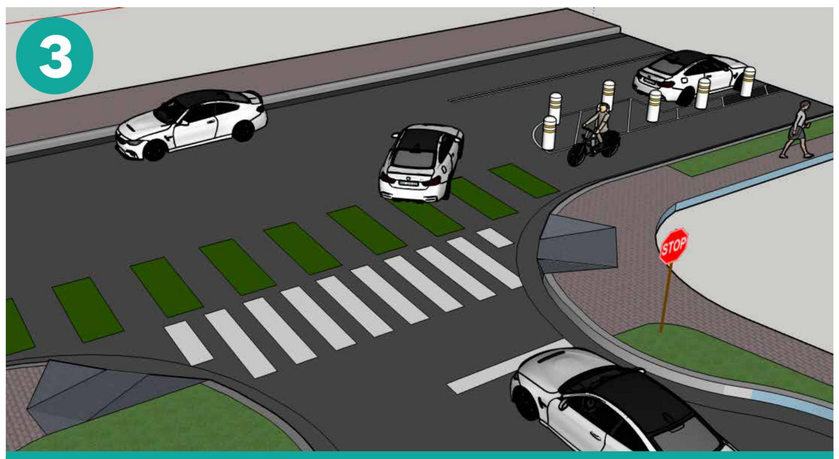
LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL



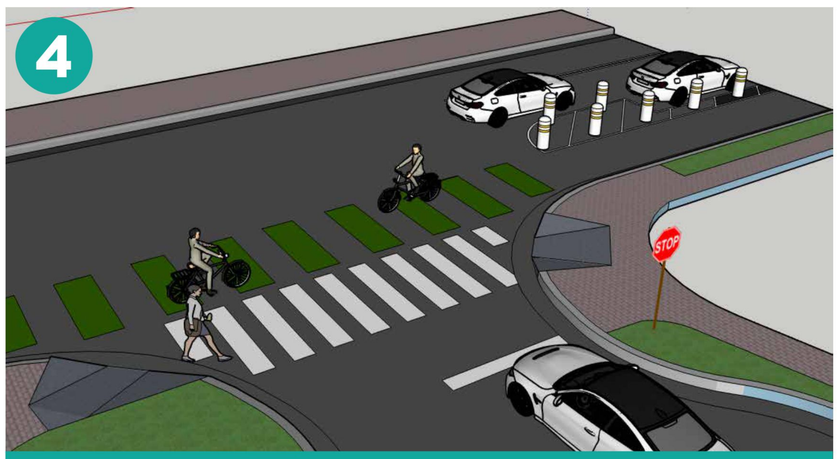
STOP FOR PEDESTRIAN AND BICYCLISTS.



INCH FORWARD INTO THE BIKE LANE (GREEN DASHES) AND LOOK FOR ONCOMING TRAFFIC FOR BETTER SIGHTLINES. IT IS OKAY TO BLOCK THE BIKEWAYS IN THE PROCESS, AND PEDESTRIANS AND BICYCLISTS WILL STOP.



TURN INTO ELENDA ST. ONCE THE STREET IS CLEAR.



PEDESTRIANS AND BICYCLISTS WILL CROSS THE INTERSECTION ONCE THE CAR HAS CLEARED THE INTERSECTION.

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INTERSECTION SIGHT DISTANCE

Culver CITY

LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

Existing condition of parking and parkway landscaping on east side of Elenda St between Oregon Ave and Arizona Ave conflicts with clear sight triangles for vehicles turning left or right onto Elenda St.

Existing condition on east side of Elenda St between Oregon Ave and Washington Blvd does not conflict with clear sight triangle. Parking along that segment of Elenda St is prohibited and parkway landscaping was outside the clear sight triangle.

Existing condition of parking and parkway landscaping on east side of Elenda St between Marietta Ave and Arizona Ave interferes with the clear sight triangles for vehicles turning right or left onto Elenda St.

Existing condition of parking and parkway landscaping between Arizona Ave and Oregon Ave impacts the clear sight triangles for vehicles turning right or left onto Elenda St

Existing condition of parkway landscaping and curvature of Elenda St between Marietta Ave and Culver Blvd interferes with the clear sight triangles for vehicles turning right or left onto Elenda St.

Existing condition of parking and parkway landscaping on east side of Elenda St between Marietta Ave and Arizona Ave interferes with the clear sight triangles for vehicles turning right or left onto Elenda St.

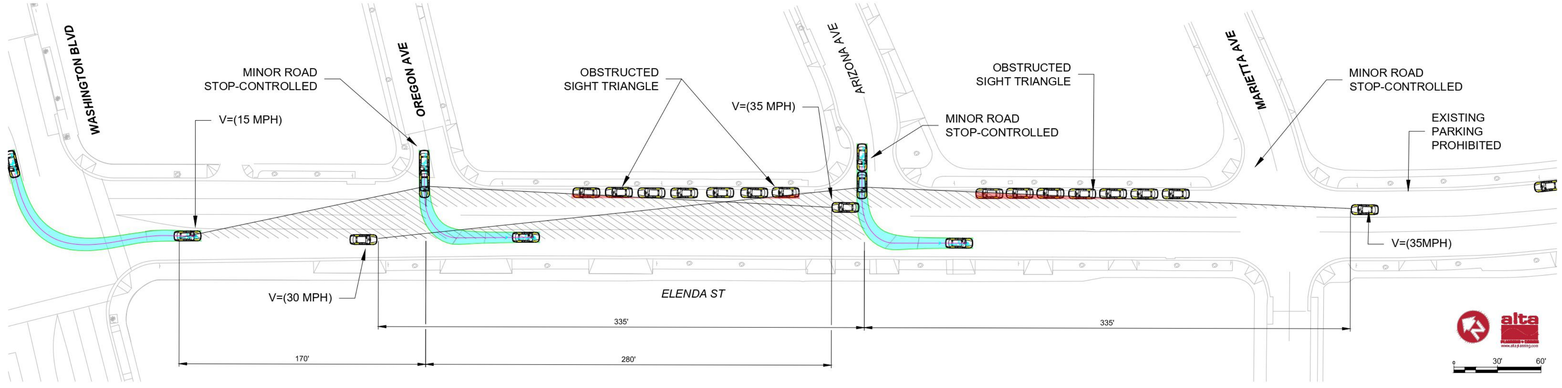
Federal Highway Administration (FHWA) Separated Bike Lane Planning and Design Guide states:

+ Parking should be prohibited at least 20 ft from the edge of a driveway, dependent on vehicle speeds and volumes. Paint alone may not be enough to keep vehicles from parking in prohibited spaces without frequent enforcement efforts. Additional elements such as delineator posts, parking stops, or concrete curb extensions can be included to ensure that this area remains clear.
+ Landscaping and other street-side elements that obscure sight distance should not be included within 15 ft of a driveway edge.

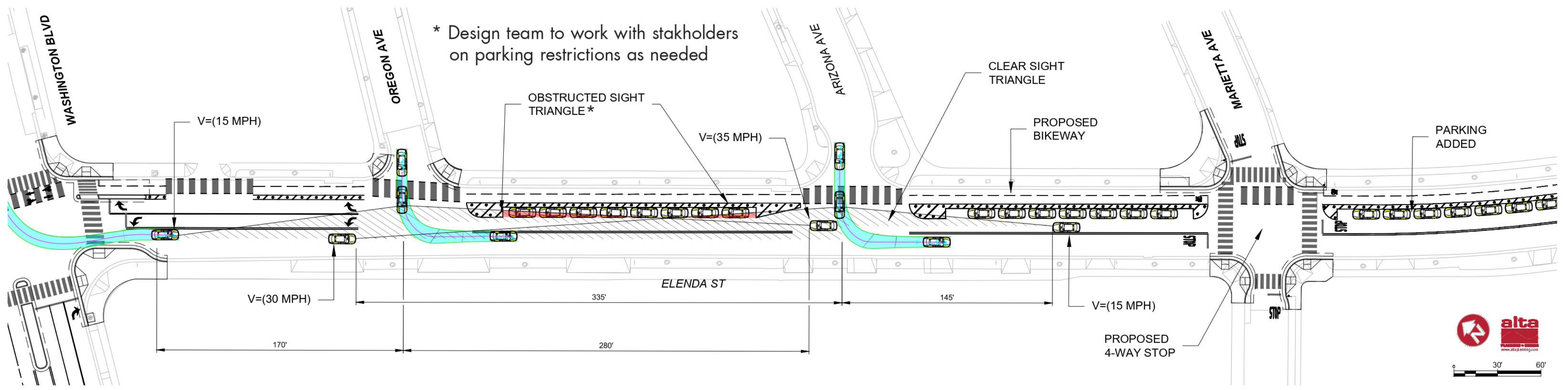
NACTO Bikeway Design Guide (2014) states:

+ Driveways and minor street crossings are a unique challenge to cycle track design. A review of existing facilities and design practice has shown that the following guidance may improve safety at crossings of driveways and minor intersections:
+ If the cycle track is parking protected, parking should be prohibited near the intersection to improve visibility. The desirable no-parking area is 30 feet from each side of the crossing.

EXISTING CONDITIONS



PROPOSED CONDITIONS



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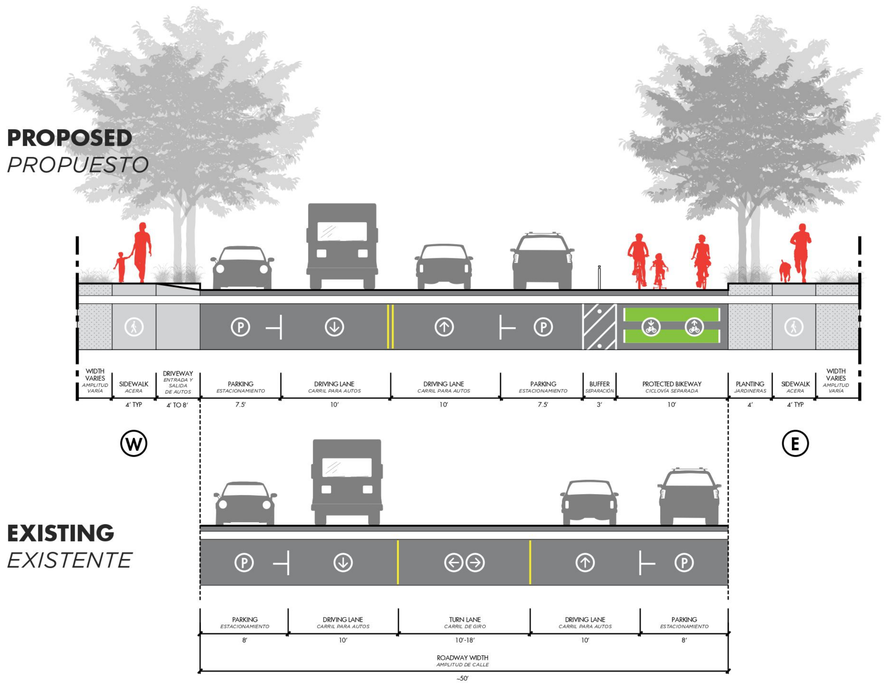
ELENDA SEPARATED BIKEWAY
CICLOVÍA SEPARADA DE ELENDA

Culver CITY

LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

ALIGNMENT



ELENDA BIKEWAY, LOOKING NORTH AT ARIZONA AVE

LIGHTING ELEMENTS INCLUDE THE FOLLOWING:

ELEMENTOS DE ILUMINACIÓN INCLUYE LOS SIGUIENTES:

Oden Street Light
Oden Luz de calle

Oden Luminaire
Oden Luz de calle

Lighting Decorative Base
Luz base decorativa

Oden Street Temperature Chart
Oden tabla de temperatura de la calle

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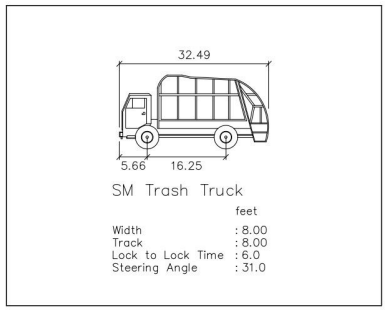
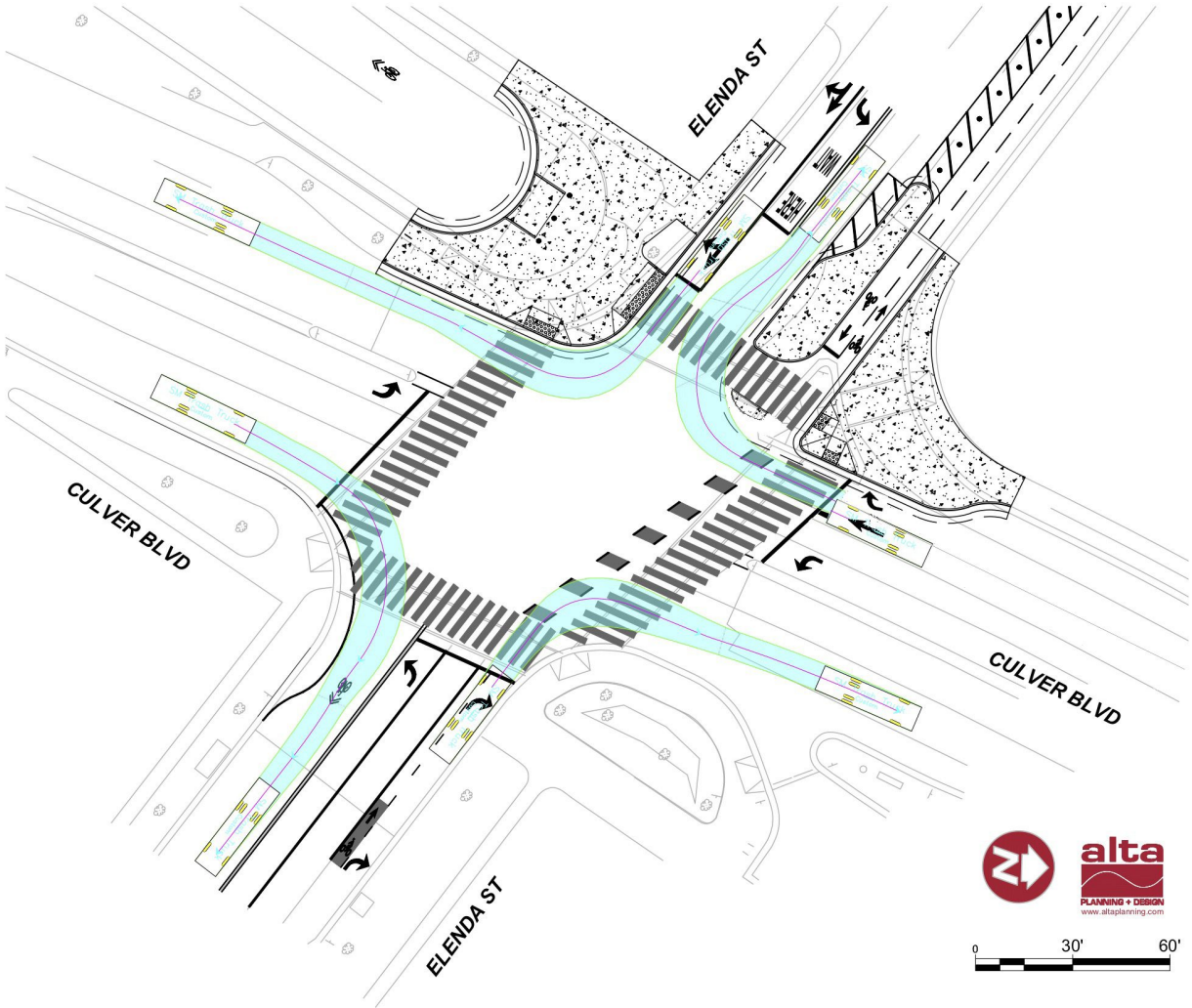
CULVER AT ELENDA
TRUCK ACCOMMODATION

Culver CITY

LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

TURNING EXHIBITS FOR DESIGN VEHICLE





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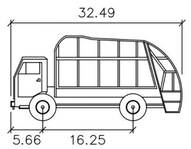
MARIETTA AT ELENDA
TRUCK ACCOMMODATION

Culver CITY

LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

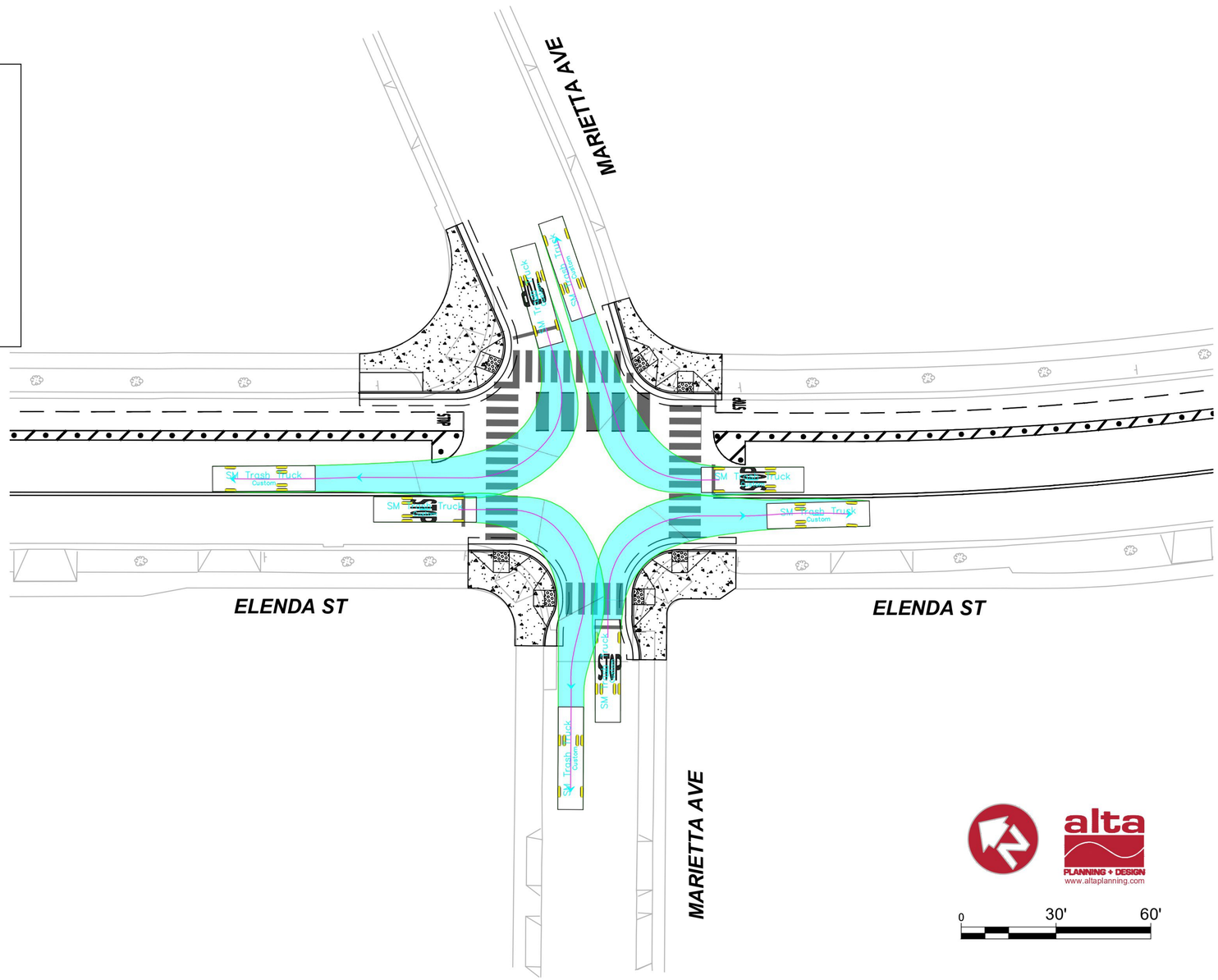
TURNING EXHIBITS FOR DESIGN VEHICLE



SM Trash Truck

feet

Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.0



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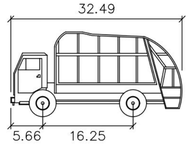
ELENDA AT OREGON / ARIZONA
TRUCK ACCOMMODATION

Culver CITY

LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

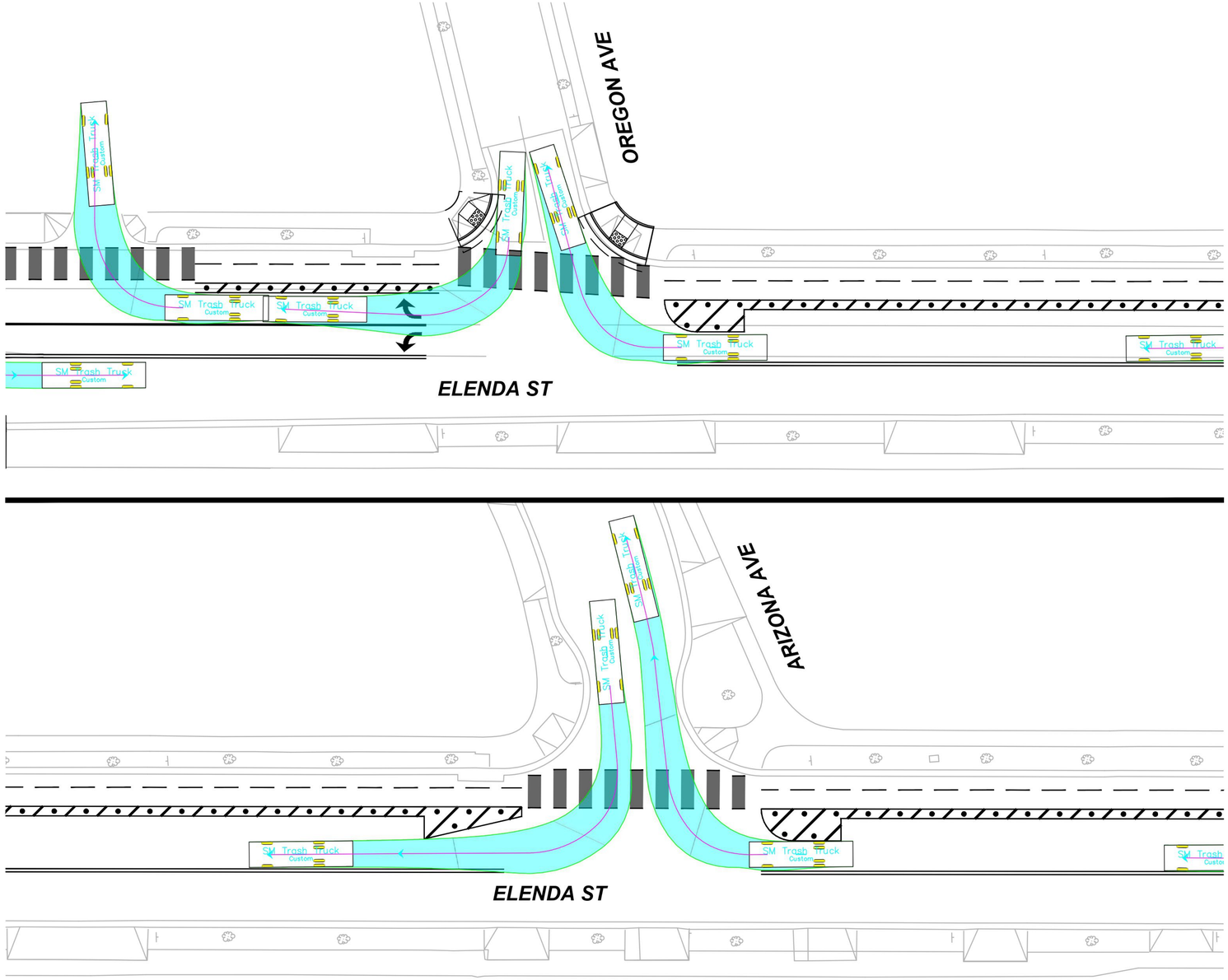
TURNING EXHIBITS FOR DESIGN VEHICLE



SM Trash Truck

feet

Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.0



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0 30' 60'

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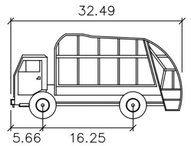
WASHINGTON AT ELENDA
TRUCK ACCOMMODATION

Culver CITY

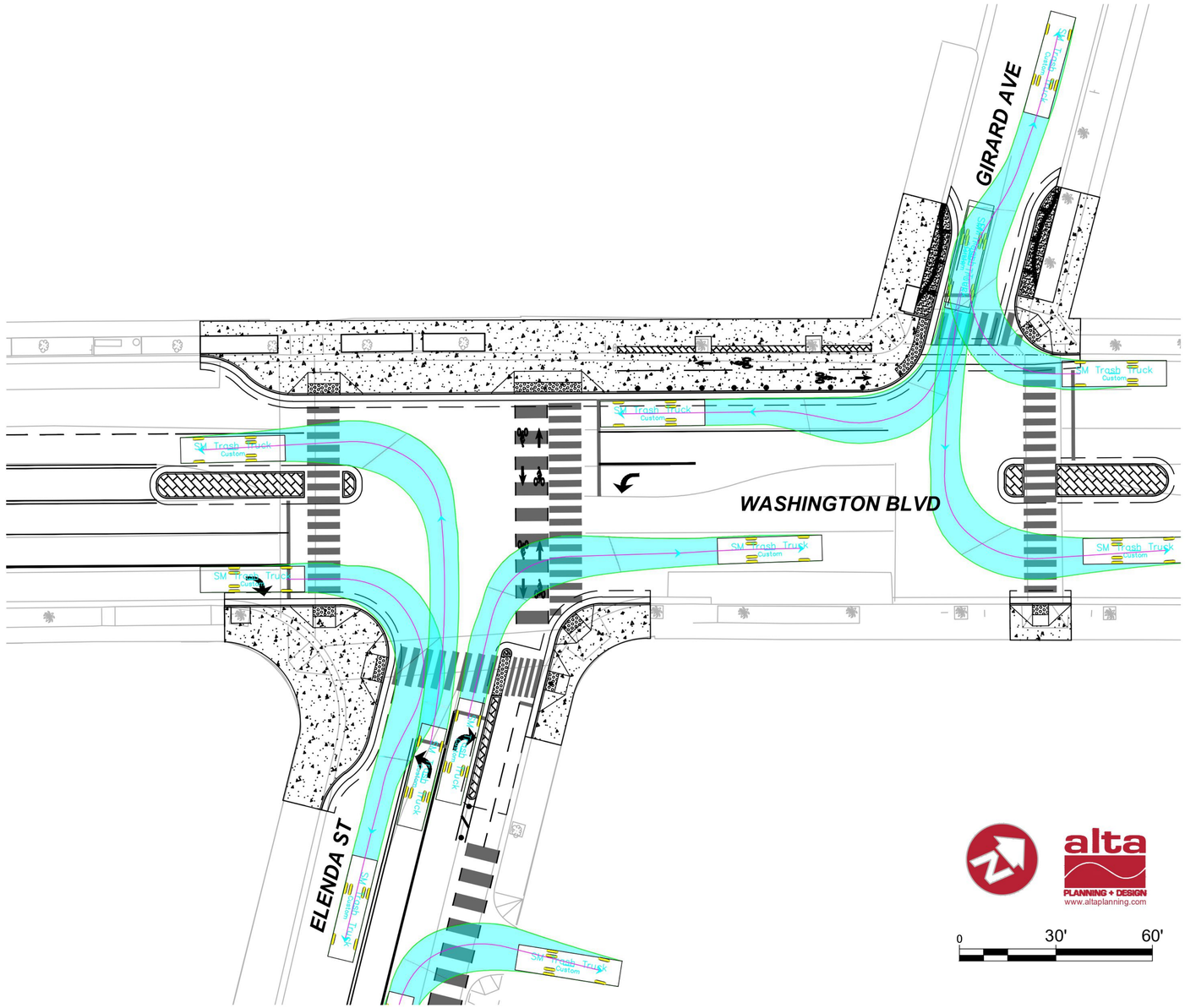
LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

TURNING EXHIBITS FOR DESIGN VEHICLE



SM Trash Truck

	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.0



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0 30' 60'

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SURVEY RESULTS
RESULTADOS DE ENCUESTAS

Culver CITY
LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

EXPERIENCE ELENDA DEMONSTRATION FEEDBACK

+ Weeklong Demonstration of Protect Bicycle Lanes on Elenda Street (September 15-22)
+ 700 Attendees (75% Culver City Residents)
+ Two Separate Surveys Conducted by SCAG GoHuman Team and Culver City, which included In-Person / Online Survey, Hotline Number and Email Correspondence

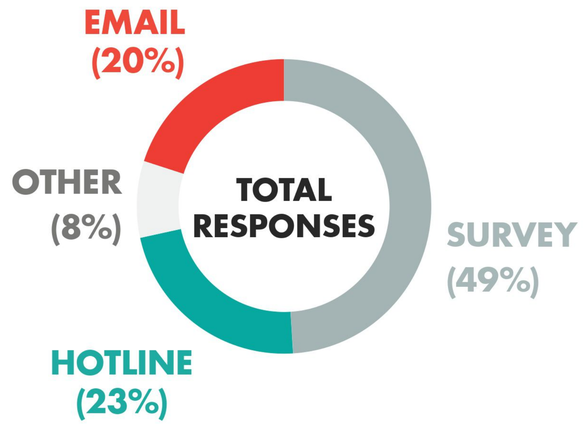
CULVER CITY SURVEY

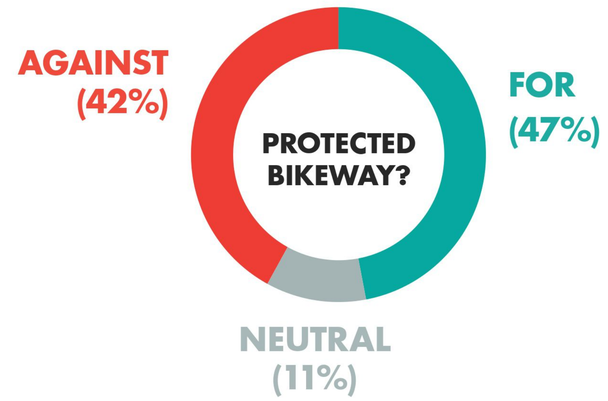
+ Total Reponses: 90 Unique Responses
  + Online / In-Person Survey (48 Total, 49%)
  + Email (20 Total, 20%)
  + Hotline Number (22 Total, 23%)

IMPORTANT CONCERNS
(In Order of Importance)

+ Sightline issues at the intersection of Elenda St. and Oregon/Arizona/Marietta
+ Claustrophobia/traffic due to center turn lane removal
+ Removal of right turn lane into Elenda from Culver Blvd.
+ Not enough bicyclists using Elenda St.
+ Design:
  + Intersection treatment
  + Two-way bicycle lanes
  + Parking protected bicycle lanes

CULVER CITY SURVEY FEEDBACK (2018)



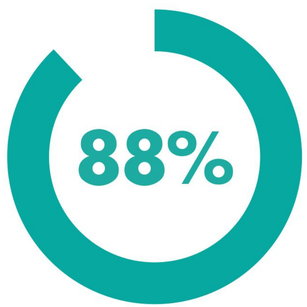


SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG) GOHUMAN SURVEY FEEDBACK (2018)

SUPPORT THE TWO-WAY BICYCLE LANE

SUPPORT HIGH VISIBILITY CROSSWALKS

THINK THE DEMONSTRATION MAKES THE STREET FEEL SAFER AND INVITING



SUPPORT THE PEDESTRIAN BULB OUTS

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LA BALLONA ELEMENTARY SAFE ROUTES TO SCHOOL

JOIN CULVER CITY PUBLIC WORKS TO SHARE YOUR OPINION!

PLEASE GIVE US YOUR FEEDBACK REGARDING THE PROJECT AT

HTTPS://WWW.SURVEYMONKEY.COM/R/5XKJRCM

BY 03/25/2019

Culver CITY