URBAN CHANGE ?

URBAN CHANGE ?
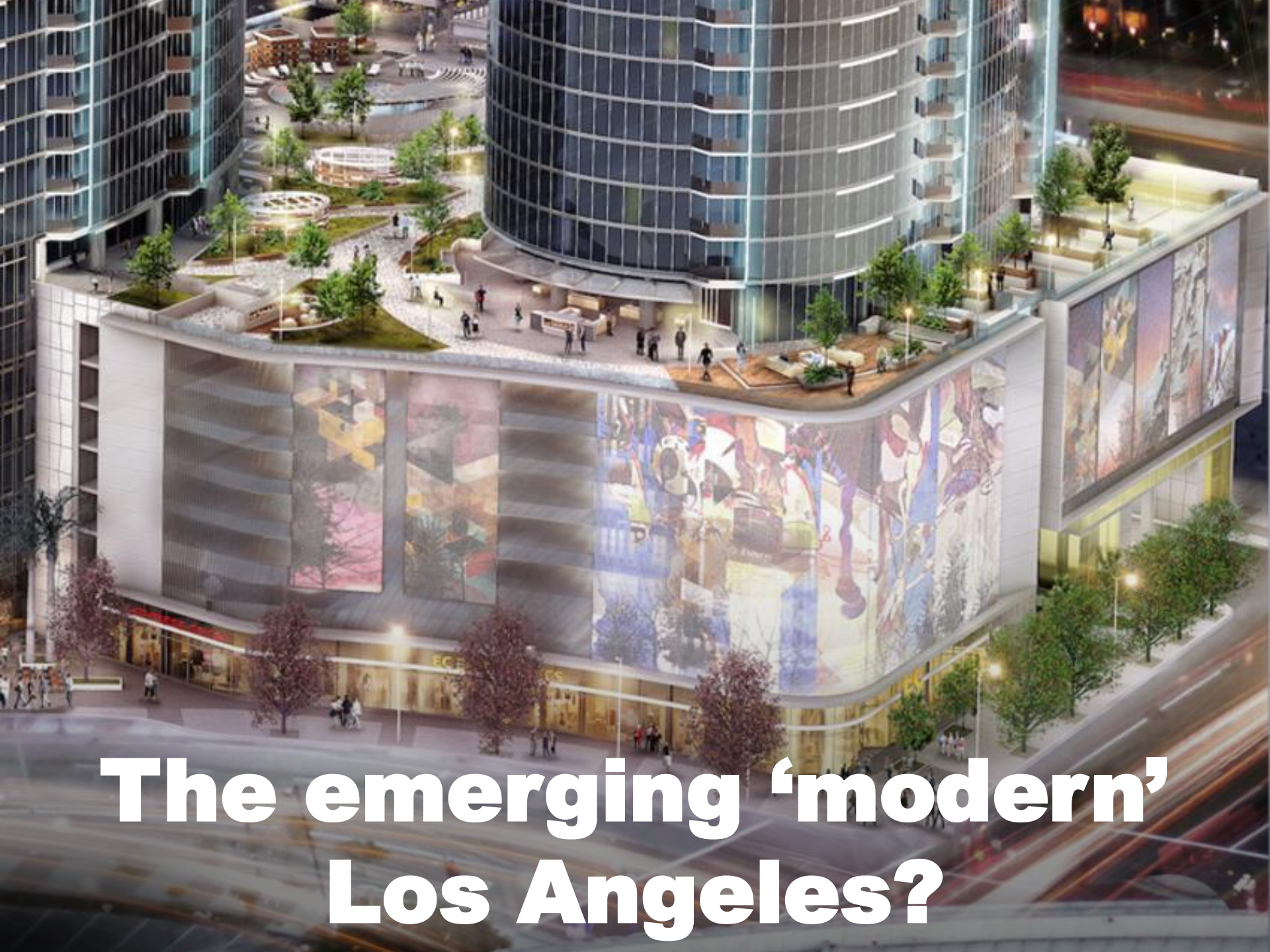
Just Say NO To Over Development

Typical '5 over 2' development
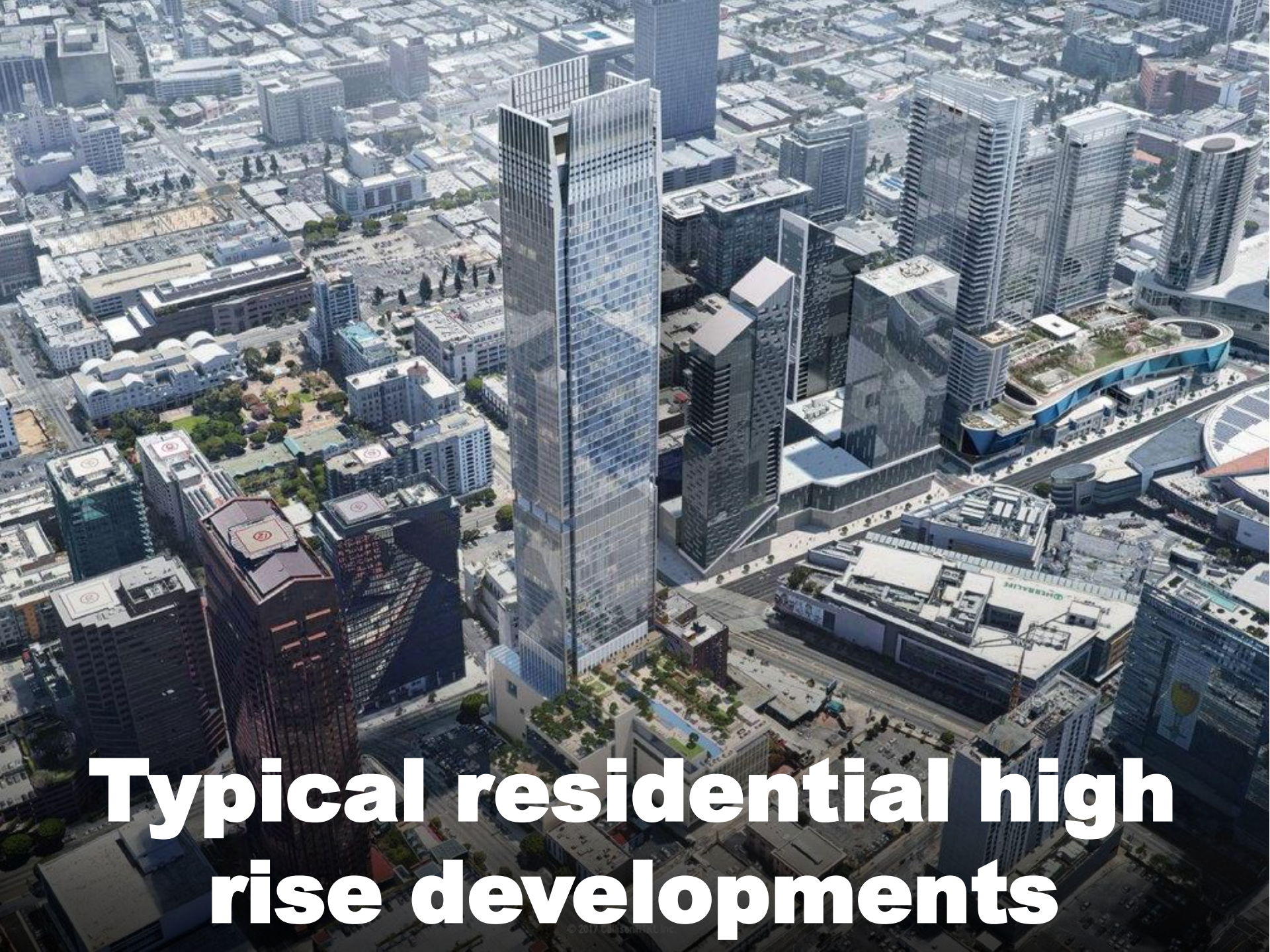
Typical residential high rise developments

The emerging 'modern' Los Angeles?

Single Detached | Duplex | Triplex | Multiplex/ Big House | Side Attached | Stacked Rowhouse | Small Apartment | Low-rise Apartment | Mid-rise Apartment | Apartment over Commercial | High-rise Apartment
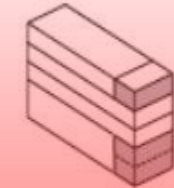
What most people like

What gets (mostly) built in L.A.

What is a city?
What if we could build a city people would actually like?
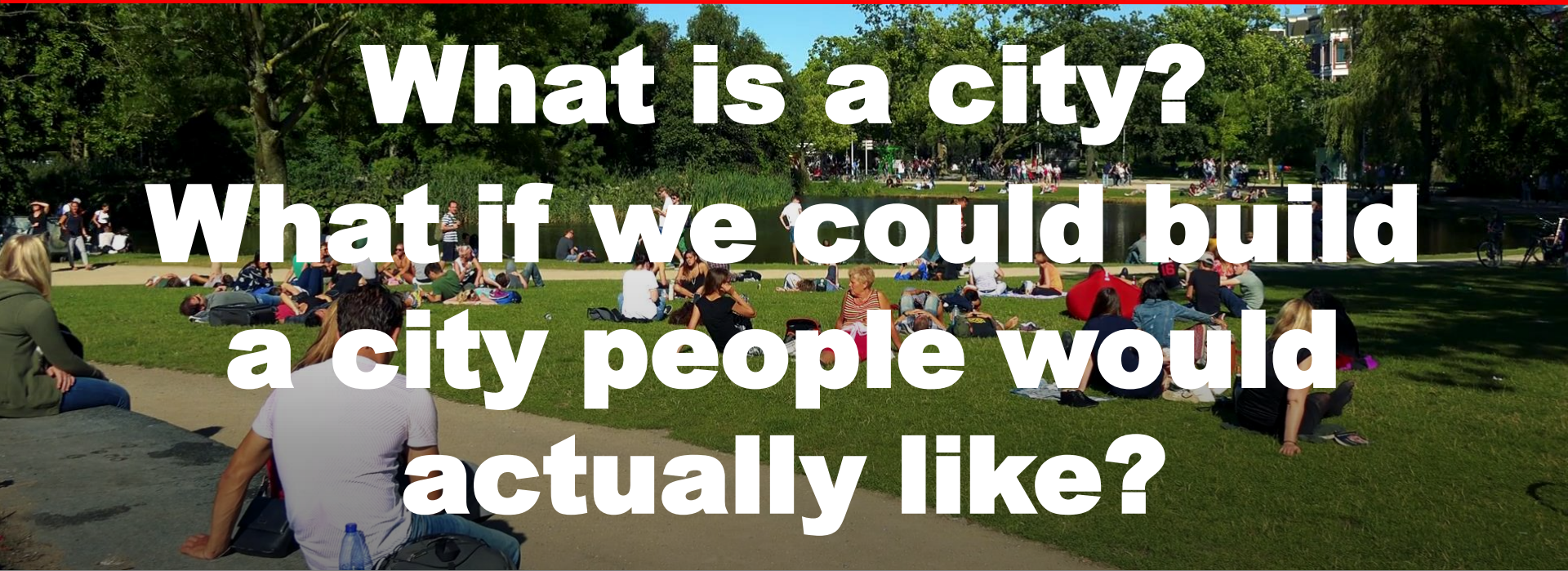
Collegetowns - TODAY

Older US cities - TODAY

Netherlands - TODAY

Belgium - TODAY

Czech - TODAY

Vienna - TODAY

Oslo - TODAY

Amsterdam – TODAY

Oslo - TODAY

Copenhagen - TODAY

Copenhagen - TODAY

Oslo - TODAY

Vienna - TODAY

Andrew Winning/Reuters

Spain Wants to Ban Cars in Dozens of Cities, and the Public's on Board

FEARGUS O'SULLIVAN   NOV 30, 2018

Pontevedra - TODAY

Pontevedra - TODAY

Tokyo - TODAY

N.Y.C. - TODAY

N.Y.C. – TODAY

Santa Monica - TODAY

Hollywood – 50s to mid 70s – Vienna

Hollywood – **NOW** – Vienna

Change Velocity

The challenge: it is many things that need changing...

- Different Zoning Models
- Different Mobility Options
- Different Building Types
- Different Street Design
- More Transit
- More Open Spaces
- Invite more/different people to build
- Create walkable neighborhoods
- Reinvent/reregulate parking
- Recapture land from excessively wide roads
- Change urban fabric
- Etc.

And it won't really work well until you have done it ALL...

And we will need to help people learn how to live with a different city!

Change Velocity
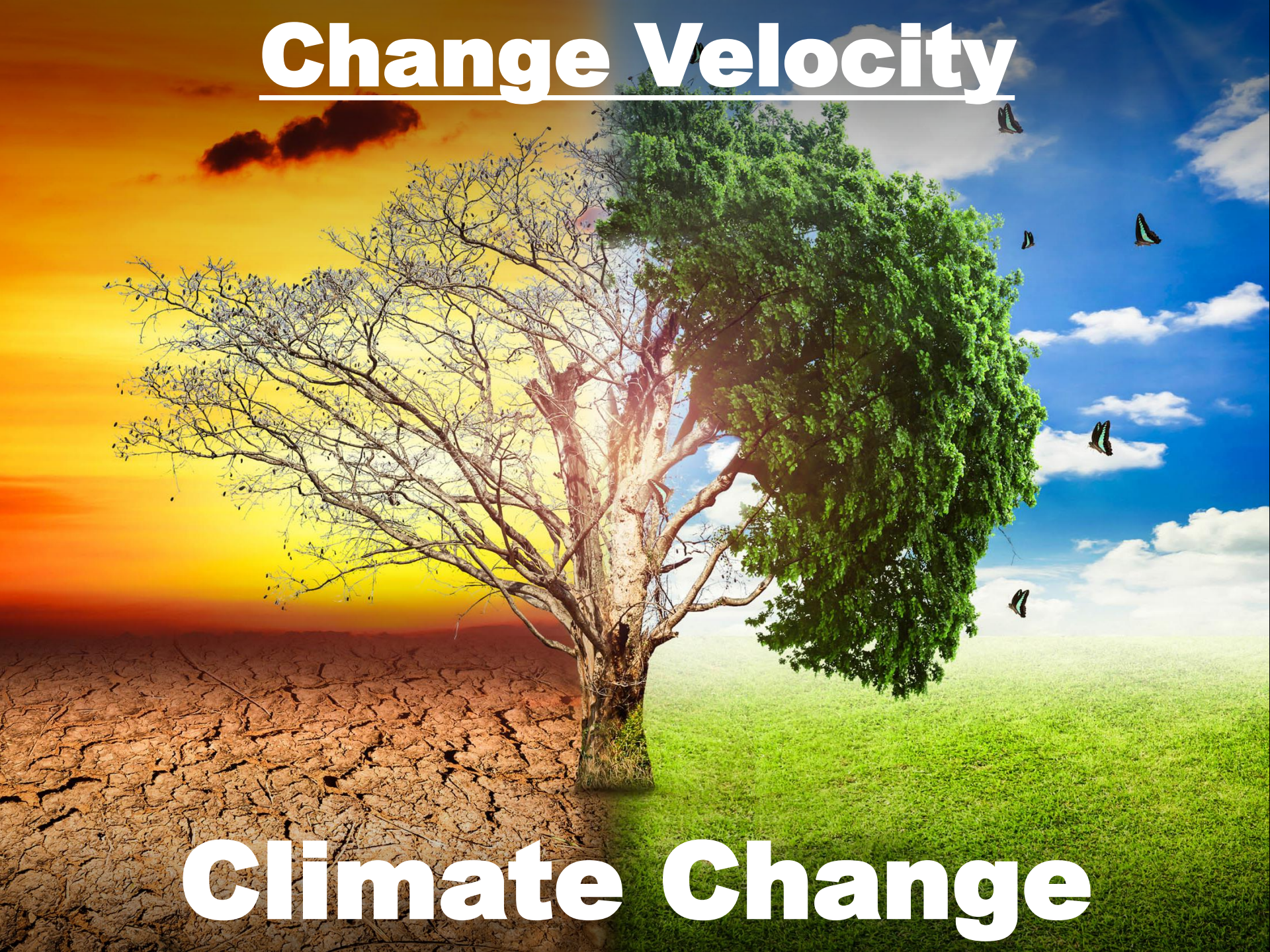
Climate Change

Extinction Rebellion

<u>Extinction Rebellion</u>

Around the year 2030, we will be in a position where we set off an irreversible chain reaction beyond human control, that will most likely lead to the end of our civilisation as we know it. That is unless in that time, permanent and unp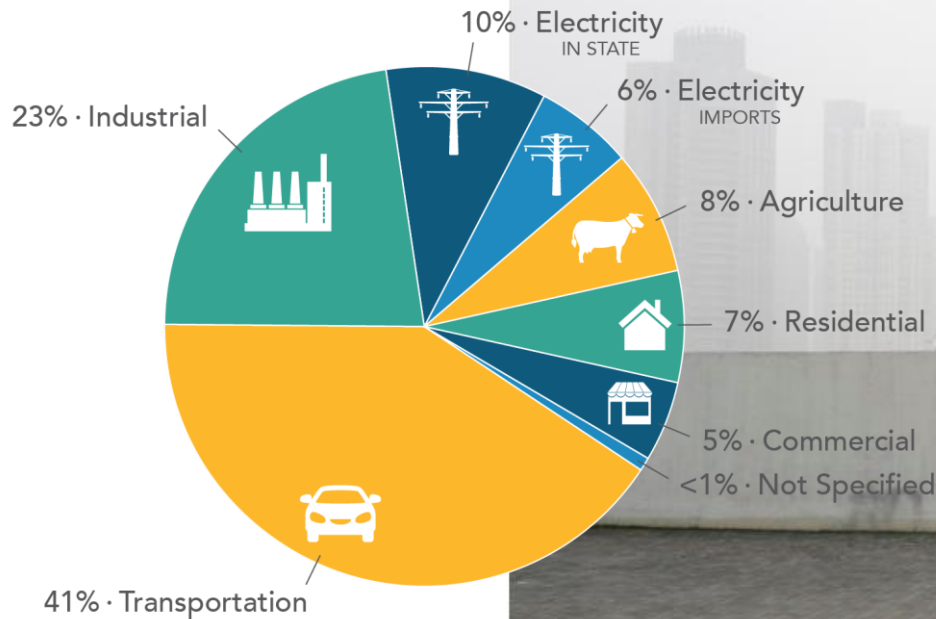recedented changes in all aspects of society have taken place, including a reduction of CO_2 emissions by at least 50%.

Sometimes we just simply have to find a way. The moment we decide to fulfil something, we can do anything. And I'm sure that the moment we start behaving as if we were in an emergency, we can avoid climate and ecological catastrophe. Humans are very adaptable: we can still fix this. But the opportunity to do so will not last for long. We must start today. We have no more .

You don't listen to the science because you are only interested in solutions that will enable you to carry on like before. Like now. And those answers don't exist any more. Because you did not act in time.

Greta Thunberg (16) in a speech to the MPs at the Houses of Parliament in the UK

10% · Electricity IN STATE

6% · Electricity IMPORTS

23% · Industrial

8% · Agriculture

7% · Residential

5% · Commercial

<1% · Not Specified

41% · Transportation

429.4 MMTCO$_2$e
2016 TOTAL CA EMISSIONS

A man on an electric bike rides through heavy smog in Shanghai, China. // Aly Song/Reuters

PERSPECTIVE

To Avoid Climate Disaster, Urban Transportation Must Change, Now

Cities have a key role to play in confronting climate change, and it starts with shared mobility—and taking back the streets from the private car.

Transport-Related Energy Consumption (Gigajoules per capita per year) vs. Urban Density (Inhabitants per hectare)

Cities labeled: Hamburg, Stockholm, Frankfurt, Zurich, Brussels, Paris, London, Munich, West Berlin, Copenhagen, Amersterdam, Vienna, Tokyo, Singapore, Moscow, Hong Kong
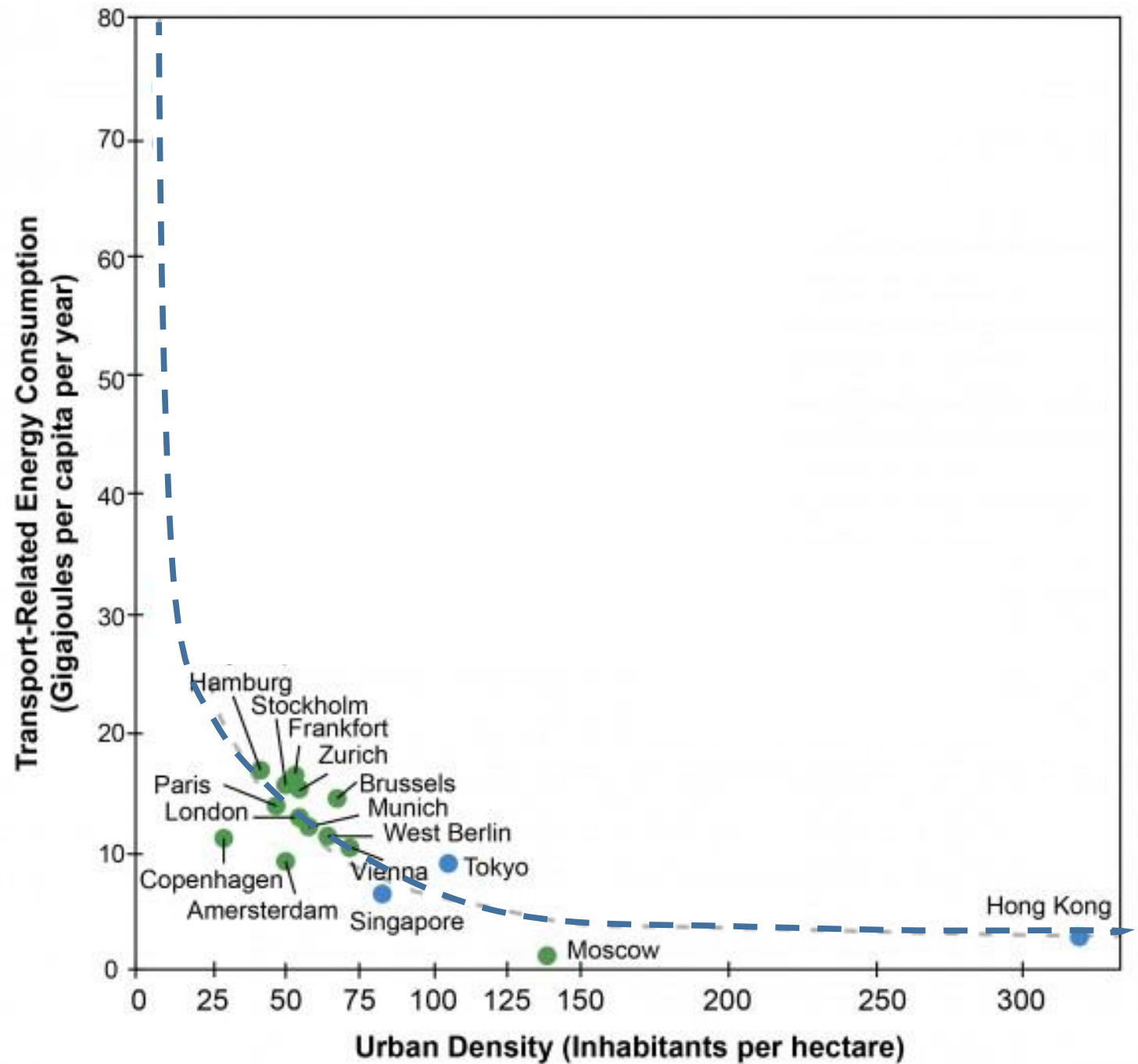
USA
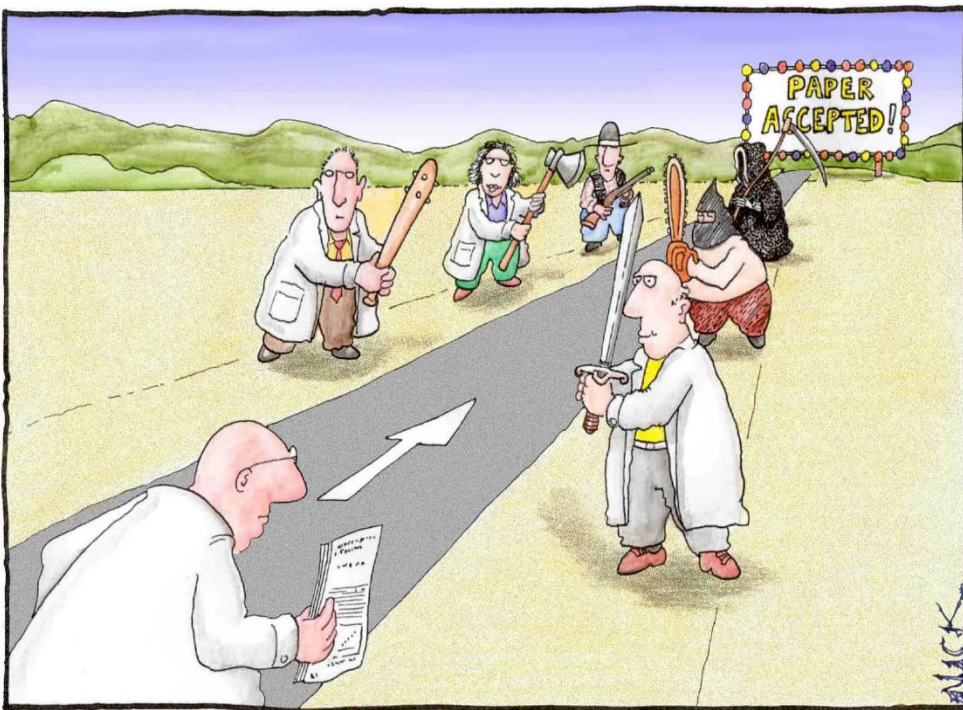
Most scientists regarded the new streamlined peer-review process as 'quite an improvement.'

Linear thinking Change Cities - Incrementally

EUROPE

Leap-frogging Make Cities Better - FAST

RAPID URBAN PROTOTYING

BEFORE

AFTER

PROTOTYPE THE CHANGE YOU
WANT TO SEE IN THE WORLD

UP

urbanproto.org

ECODISTRICT

-

Works
alte
and
no

ECODISTRICT

IBA
(Internationale Bau Ausstellung = International Building Exhibit)

3 Imperatives:

- Equity
- Resilience
- Climate Protection

Works well in cities where alterations to buildings and urban typology are not a primary focus.

Essentially an Eco-District, plus

- Experiments in Zoning
- Experiments in Planning Process
- Modifications and Inventions to Urban Form
- New Building Typologies

IBA - 1901
Internationale Bau Ausstellung Darmstadt
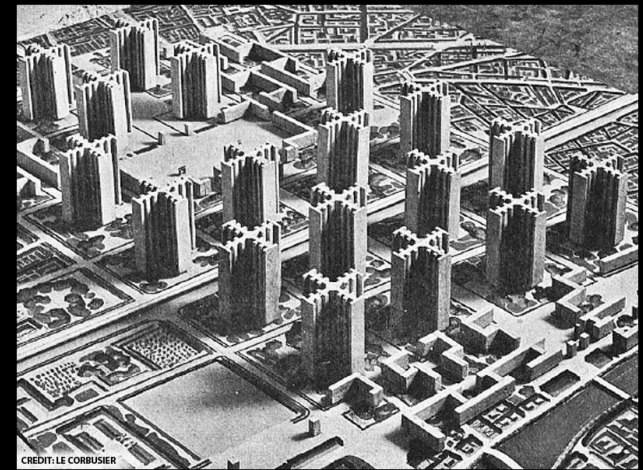To create a livable city in the face of industrialization

USA

EUROPE

5000 years of urbanization

World War I and the beginning of industrialization

CREDIT: LE CORBUSIER

Euclid vs. Ambler Realty - 1926

CIAM >> Towers in a park
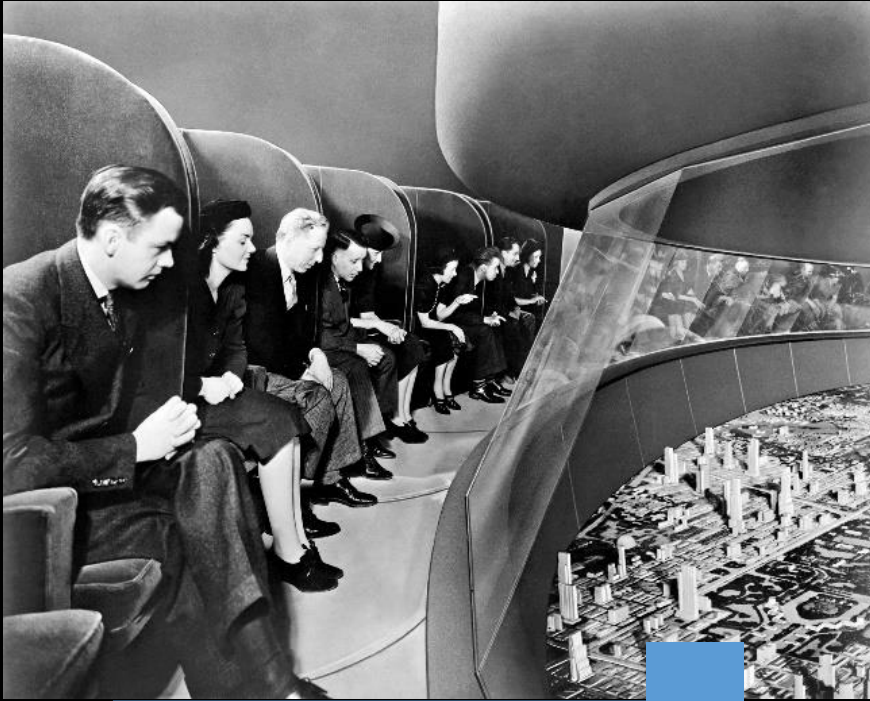A new way of building cities

IBA - 1927

Internationale Bau Ausstellung Stuttgart
One of the most important testimonies of the new way of building...

USA   EUROPE

1939 World's Fair >> Suburbia!

INTERBAU

INTERNATIONALE BAUAUSSTELLUNG BERLIN 1957

VOM 6. JULI–29. SEPTEMBER GEÖFFNE

IBA – 1948 to 1957
Internationale Bau Ausstellung Berlin
A model for the city of tomorrow…

IBA – 1948 to 1957

Internationale Bau Ausstellung Berlin

A model for the city of tomorrow…

USA EUROPE

1960s Europe - Evidence is piling up that the post war development model is destroying older cities, leads to pollution and congestion

1964 World's Fair in NY

Jane Jacobs vs. Robert Moses late 50s to 60s
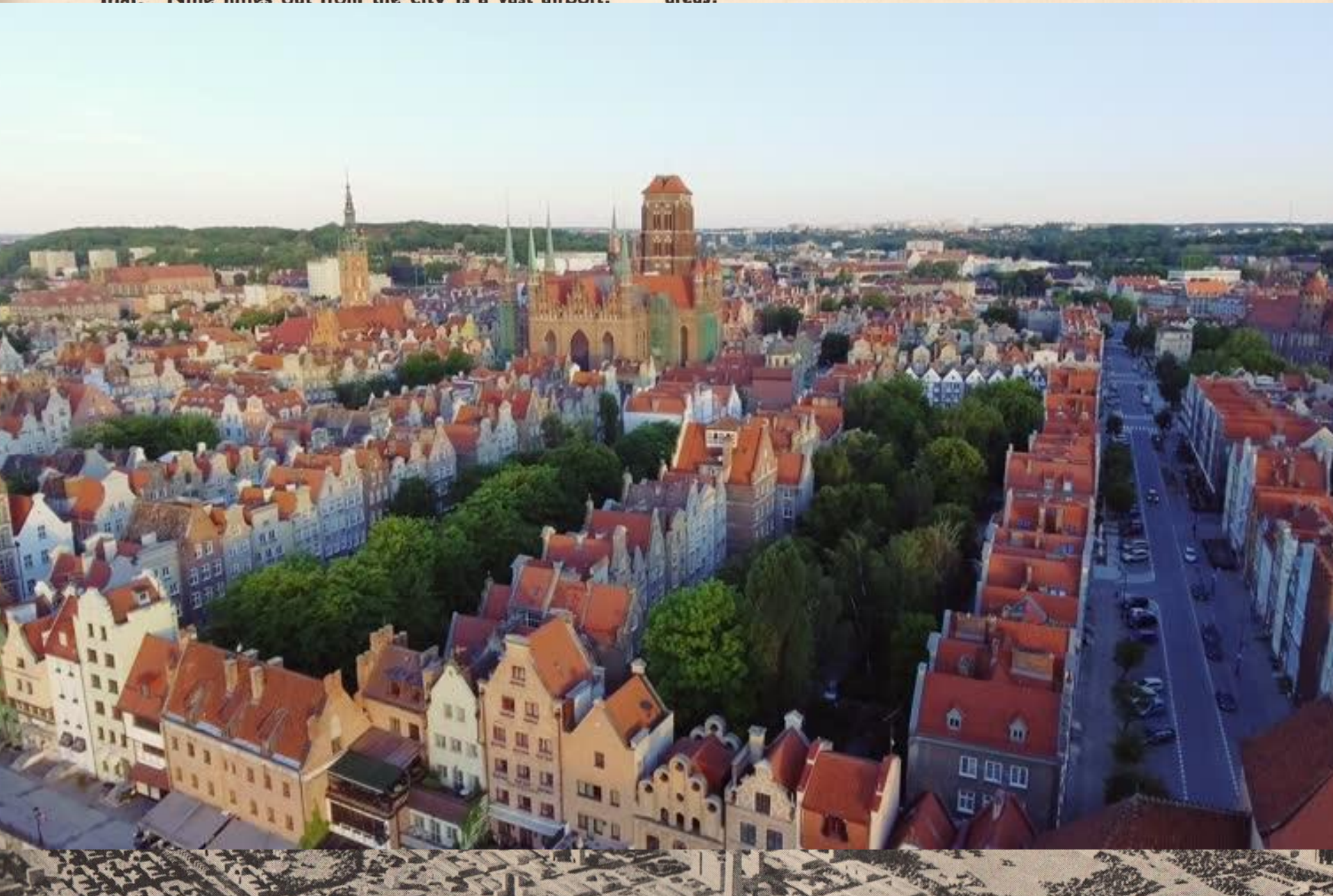
Club of Rome 1972 – 'The limits to growth'

Oil Crisis 1973

IBA Berlin 1974- 1987

into three units, residential, commercial and industrial. Nine miles out from the city is a vast airport. outmoded business sections and undesirable slum areas.

USA

EUROPE

1960s Europe - Evidence is piling up that the post war development model is destroying older cities, leads to pollution and congestion

1964 World's Fair in NY

Jane Jacobs vs. Robert Moses late 50s to 60s

Club of Rome 1972 – 'The limits to growth'

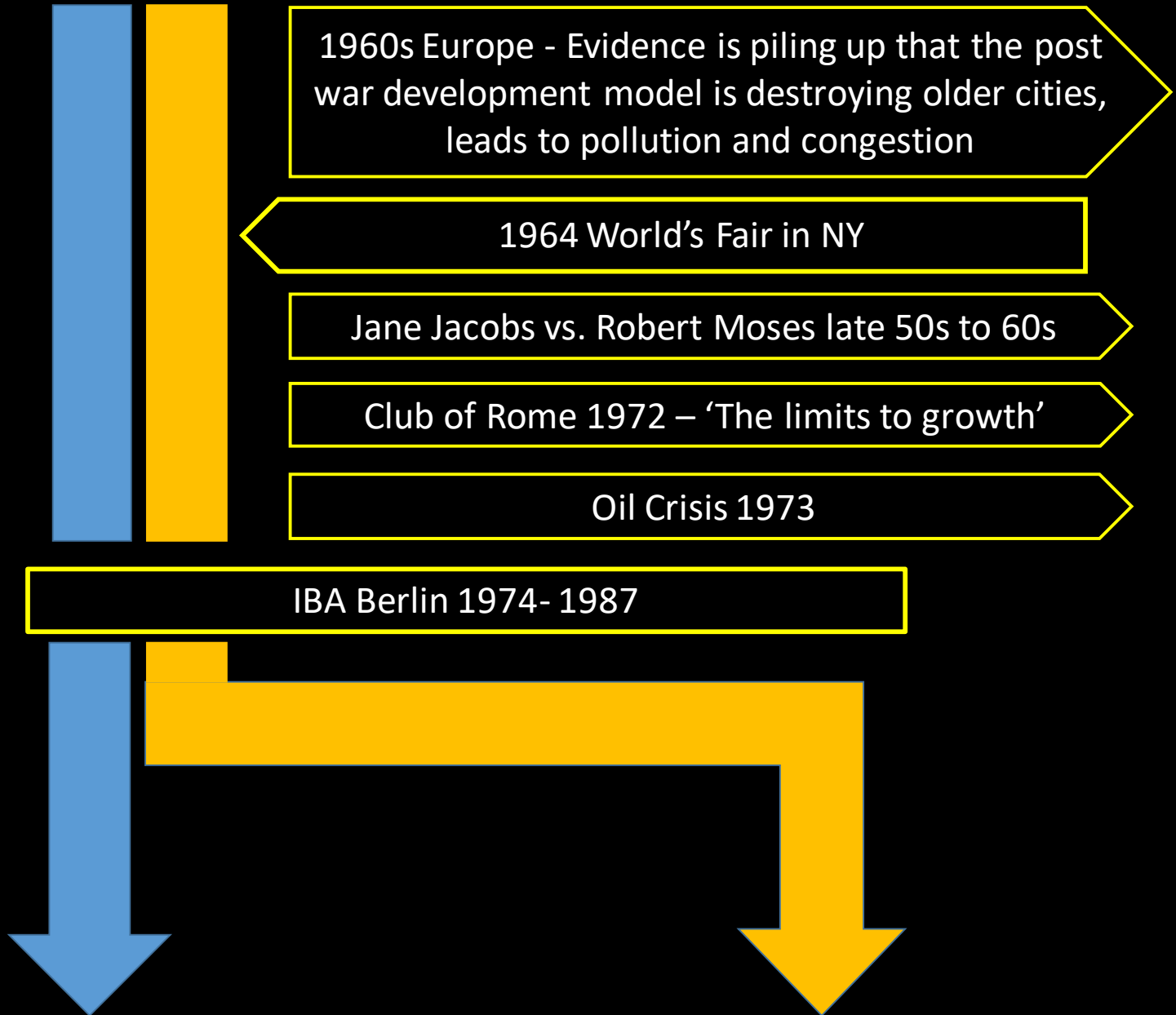Oil Crisis 1973

IBA Berlin 1974- 1987

IBA – 1979 to 1987

Internationale Bau Ausstellung Berlin

The rediscovery and recovery of the traditional city...

- Specifically created to correct post war urban planning. Designers realized that replacing small-scale city fabric with forests of apartment towers was killing Europe's cities.
- The most significant urban design and architecture event in the last century
- 120 plus projects...

Open Building Urban Typology
Rural Areas
Buildings surrounded by space
Usually individual project, regardless how big
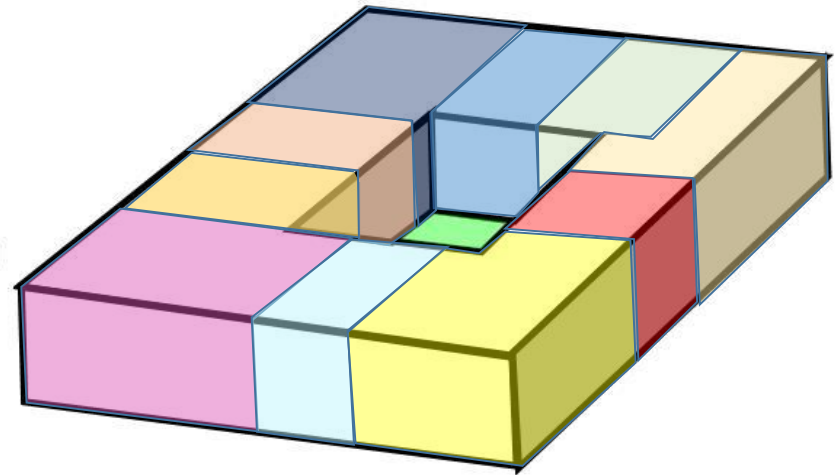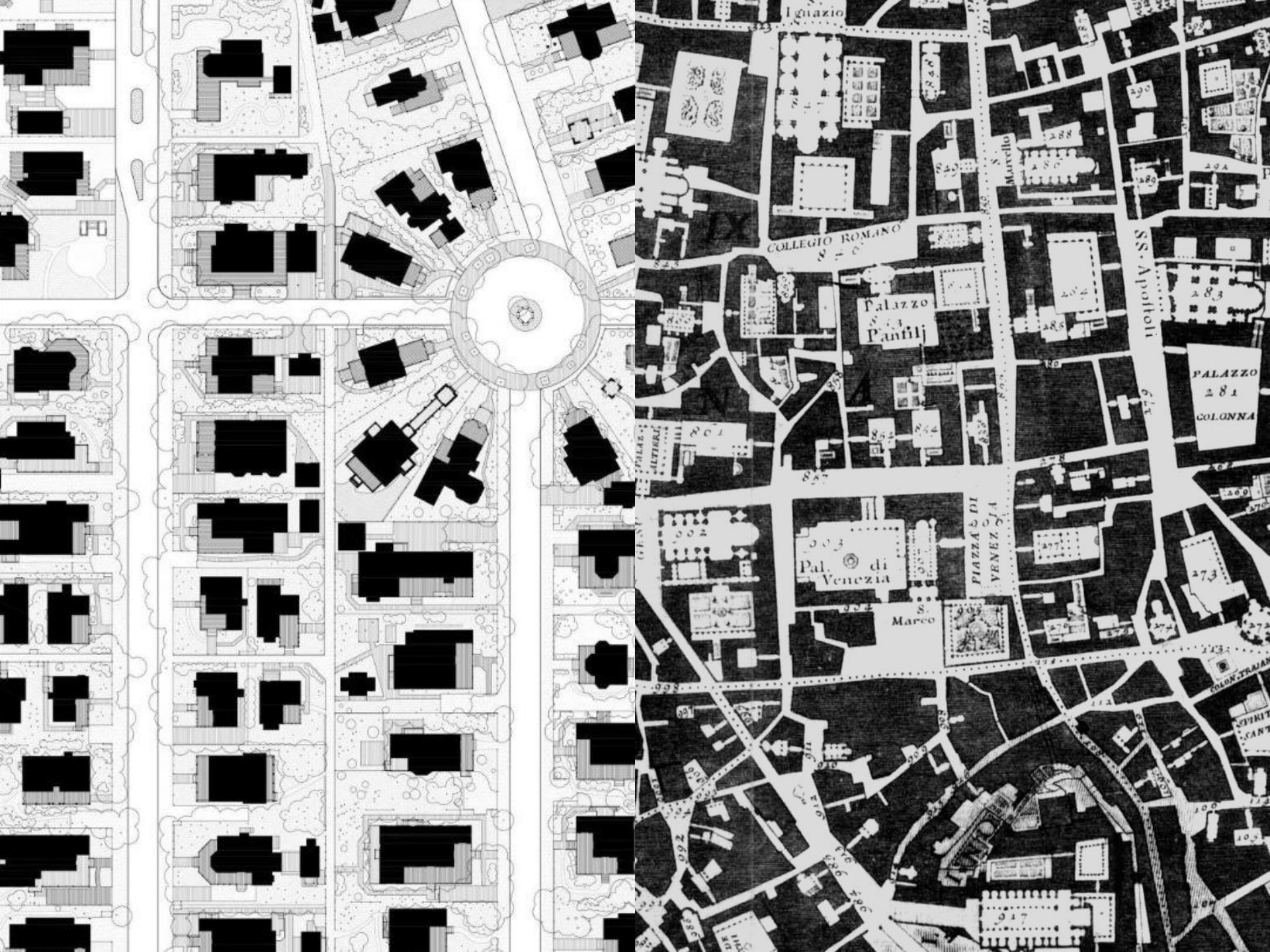'Suburban Space'
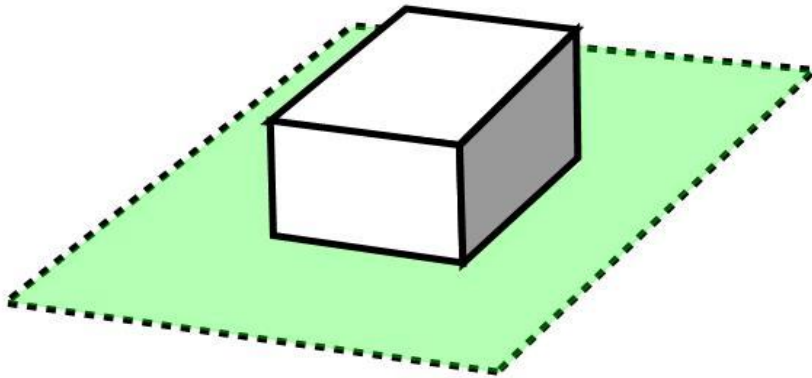
Closed Building Urban Typology
Towns and Villages
Space surrounded by buildings
Executed over multiple projects/properties
'Urban Space'

VS.

NYC
~10,000 people / km2

Paris
~21,500 people / km2

THE WORLD'S POPULATION, CONCENTRATED

If the world's 6.9 billion people lived in one city, how large
would that city be if it were as dense as...

PARIS
127,930 square miles
331,336 square kilometers

SAN FRANCISCO
397,975 square miles
1,030,751 square kilometers

NEW YORK
250,404 square miles
648,544 square kilometers

LONDON
553,745 square miles
1,434,193 square kilometers

SINGAPORE
379,069 square miles
981,789 square kilometers

HOUSTON
1,769,085 square miles
4,581,910 square kilometers

PER
SQUARE
MILE
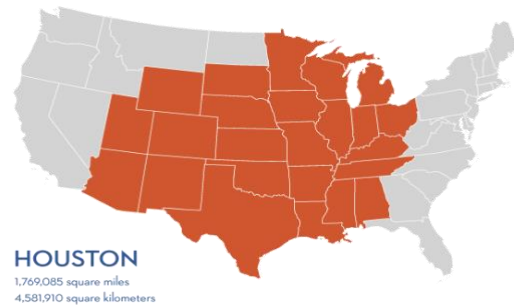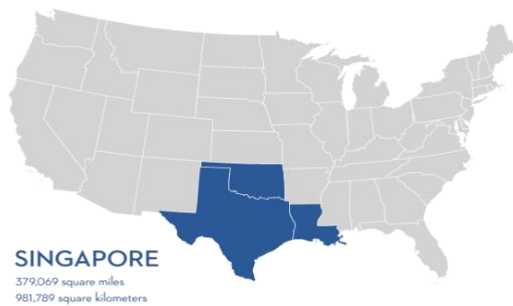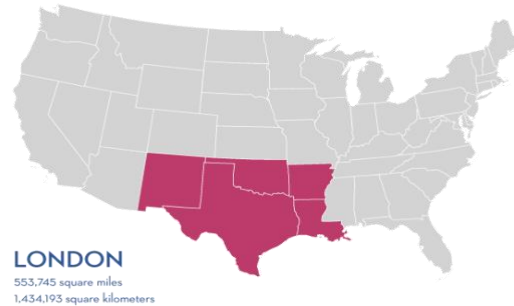
RURAL VILLAGE SUBURB CITY METRO

SUITED FOR AUTOMOBILES

GAP!

SUITED FOR TRANSIT

OVERALL DENSITY OF OUR BUILT ENVIRONMENT

IBA – 1979 to 1987
Internationale Bau Ausstellung Berlin
The rediscovery and recovery of the traditional city...

IBA – 1979 to 1987
Internationale Bau Ausstellung Berlin
The rediscovery and recovery of the traditional city...

USA

EUROPE

ROAD
ENDS
200 FT

NO
PARKING
ANY
TIME

IBA– 1989 to 1999
Internationale Bau Ausstellung Emscher Park

IBA– 1989 to 1999

Internationale Bau Ausstellung Emscher Park

...fundamentally change the conceptual structure of the central Ruhrgebiet region, in response to its industrial decline.
17 cities, numerous initiatives and project partners jointly implemented 117 projects with the objective of future-proofing a traditional industrial region.

IBA – 2000 to 2010
Internationale Bau Ausstellung Fürst-Pückler-Land
Re-interprete and renew the landscape in a rural East German mining region...

IBA – 2002 to 2010

Internationale Bau Ausstellung Urban Change
Entire state of Saxony – 19 cities; model projects for urban development through demographic change, social cohesion and economic transformation.

IBA – 2006 to 2013
Internationale Bau Ausstellung Hamburg
How to combine growth and sustainability? What does a climate-friendly future for metropolises look like?...

BRNO

BRATISLAVA

MALMOE

MUNICH

LJUBLJANA

ZAGREB

STOCKHOLM
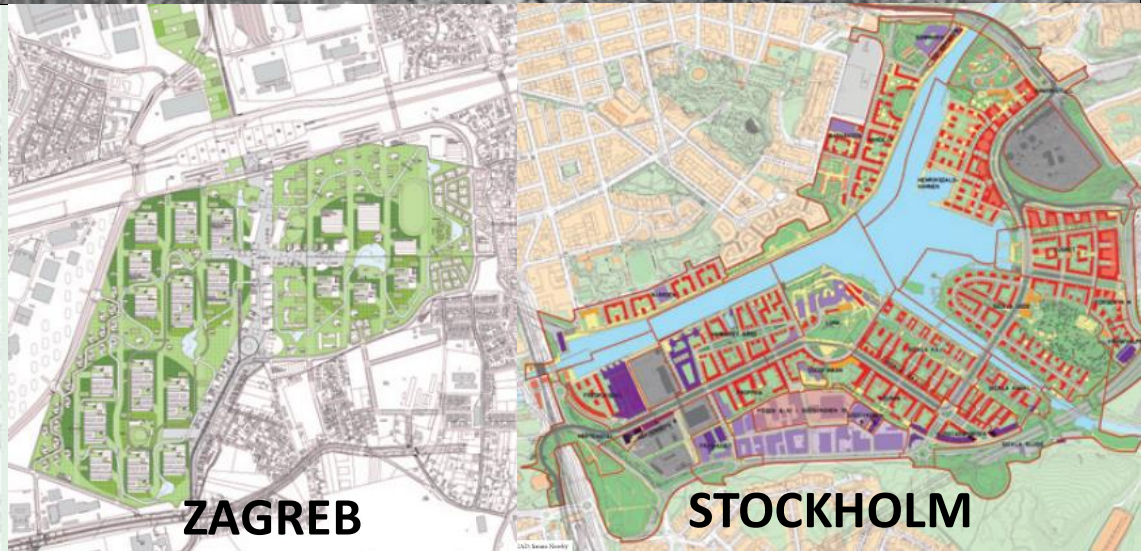
Castres is one of 222 cities included in a €5 billion plan to revitalize urban cores throughout France. // Claudio Giovanni Colombo/Shutterstock

France Plans an Extreme Makeover for Struggling Small Cities

FEARGUS O'SULLIVAN   MAY 2, 2018

Action Coeur de Ville aims to undo the damage of urban sprawl in more than 200 city centers across the country.

IBA – 2010 to 2020
Internationale Bau Ausstellung Basel
Growing together across borders...

IBA – 2013 to 2020

Internationale Bau Ausstellung Parkstad

...eight municipalities with a shared history and identity based on their mining past. To bolster urban renewal, tap new business sectors – e.g. in the healthcare industry, nursing and logistics – and promote the energy transition.

IBA – 2012 to 2022 Internationale Bau Ausstellung Heidelberg

How does the European city have to change to meet the requirements of tomorrow's knowledge society?

IBA – 2016 to 2022
Internationale Bau Ausstellung Vienna
…to find new ways to offer affordable and high quality living space in a liveable city.
- New social neighbourhoods
- New social qualities
- New social responsibility

The city that solved homelessness
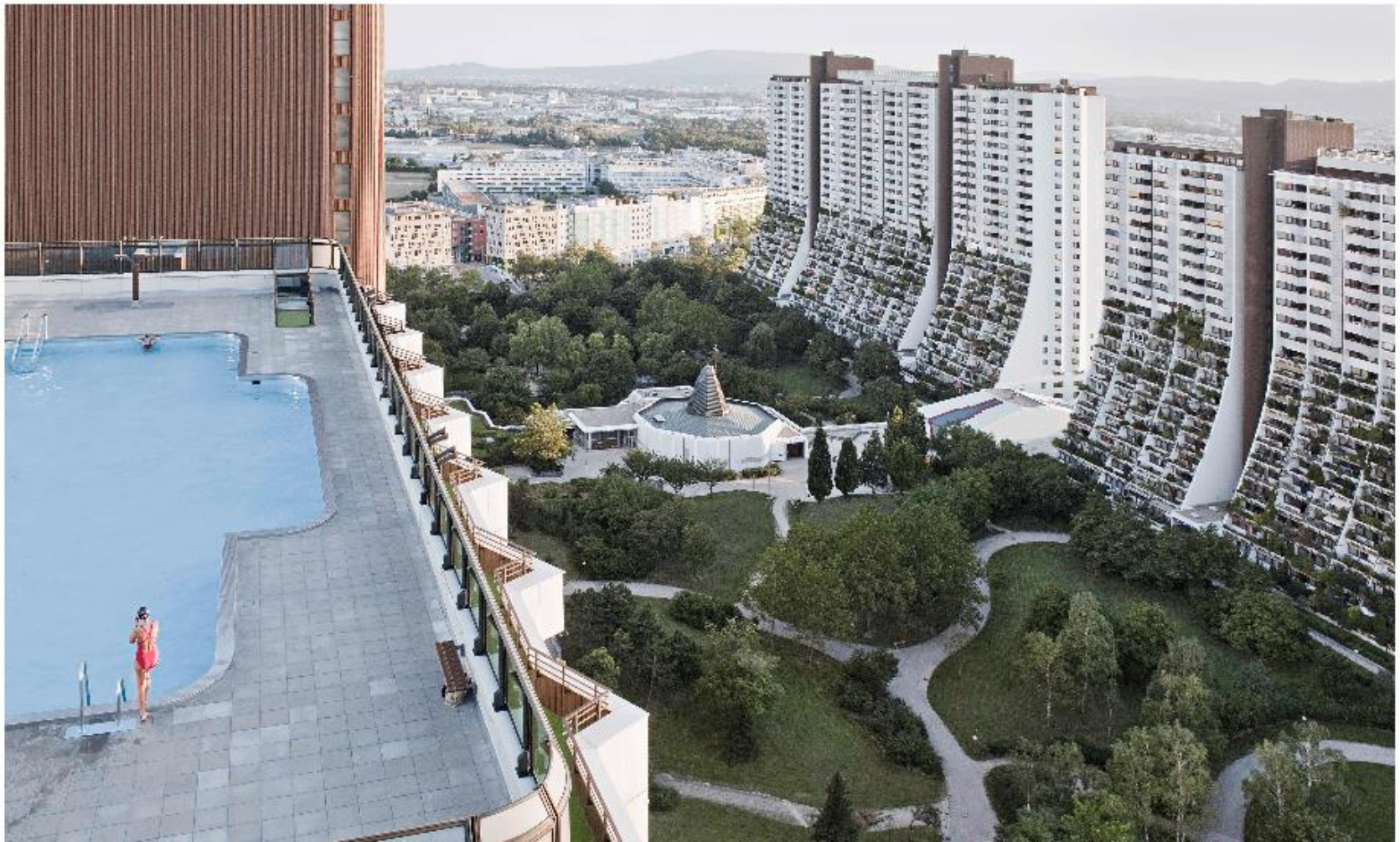
by Joe Copeland / June 27, 2017

IBA – 2016 to 2022

Internationale Bau Ausstellung Vienna

...to find new ways to offer affordable and high quality living space in a liveable city.

IBA – 2016 to 2022

Internationale Bau Ausstellung Vienna

...to find new ways to offer affordable and high quality living space in a liveable city.

IBA – 2016 to 2022

Internationale Bau Ausstellung Vienna

...to find new ways to offer affordable and high quality living space in a liveable city.

IBA – 2012 to 2023

Internationale Bau Ausstellung Thüringen

...broaden the focus to the interdependencies of urban and rural areas.

IBA – 2017 to 2027
Internationale Bau Ausstellung Stuttgart

Exactly 100 years after avant-garde architects from throughout Europe presented their radical "exemplary residential program for modern metropolitan man" at Stuttgart's Weissenhofsiedlung, the IBA 2027 will aim to find new answers to the questions of how we live, work and house in today's digital, globalised world.

PROCESS (lasts typically 8-12 years)

Phase 1 – **Initiation**; identifies the core issues addressed during the IBA. Establish IBA legal structure. Appoint board of trustees.

Phase 2 – **Framework**; create the aspirational outlines of intellectual / design pursuit for IBA projects.

Phase 3 – **Property Identification**; catalogue individual properties that will participate in the IBA projects.
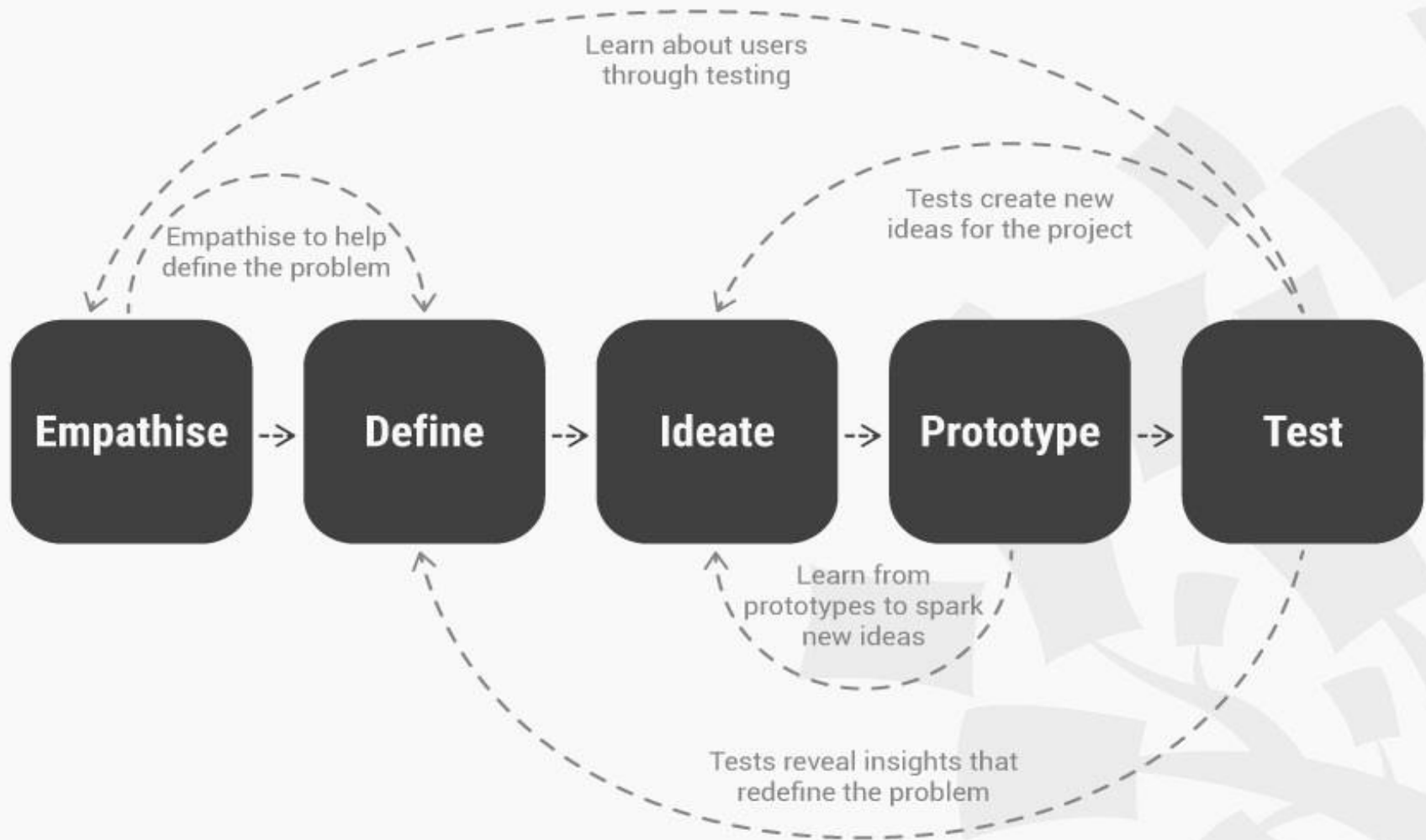
Phase 4 – **New Urban Design**; through international competitions for ideas, obtain urban design proposals for individual urban zones identified to be subject of the IBAs. That winner will then be paired with local planning expertise to create a new specific plan, only for the duration and purpose of the IBA.

Phase 5 – **Individual Property Assignments**; public properties are made available for development at conditions "too good to refuse"; under the conditions that the developer will build the winning competition projects.

Phase 6 – **Design Competitions and Construction**; hold open international architectural design competitions, and chose a winner. That winner will then be paired with a local architect of record, and the project is being built by the private development community.

Phase 7 – **The Final Year**; a series of events analyze and celebrate the accomplishments of the IBA; what worked, what failed, what lessons can be learned and what general rules can be extrapolated.

DESIGN THINKING: A NON-LINEAR PROCESS

Learn about users through testing

Empathise to help define the problem

Tests create new ideas for the project

Empathise -> **Define** -> **Ideate** -> **Prototype** -> **Test**

Learn from prototypes to spark new ideas

Tests reveal insights that redefine the problem

Design solutions, inspired by successful examples, from as many different places as possible.

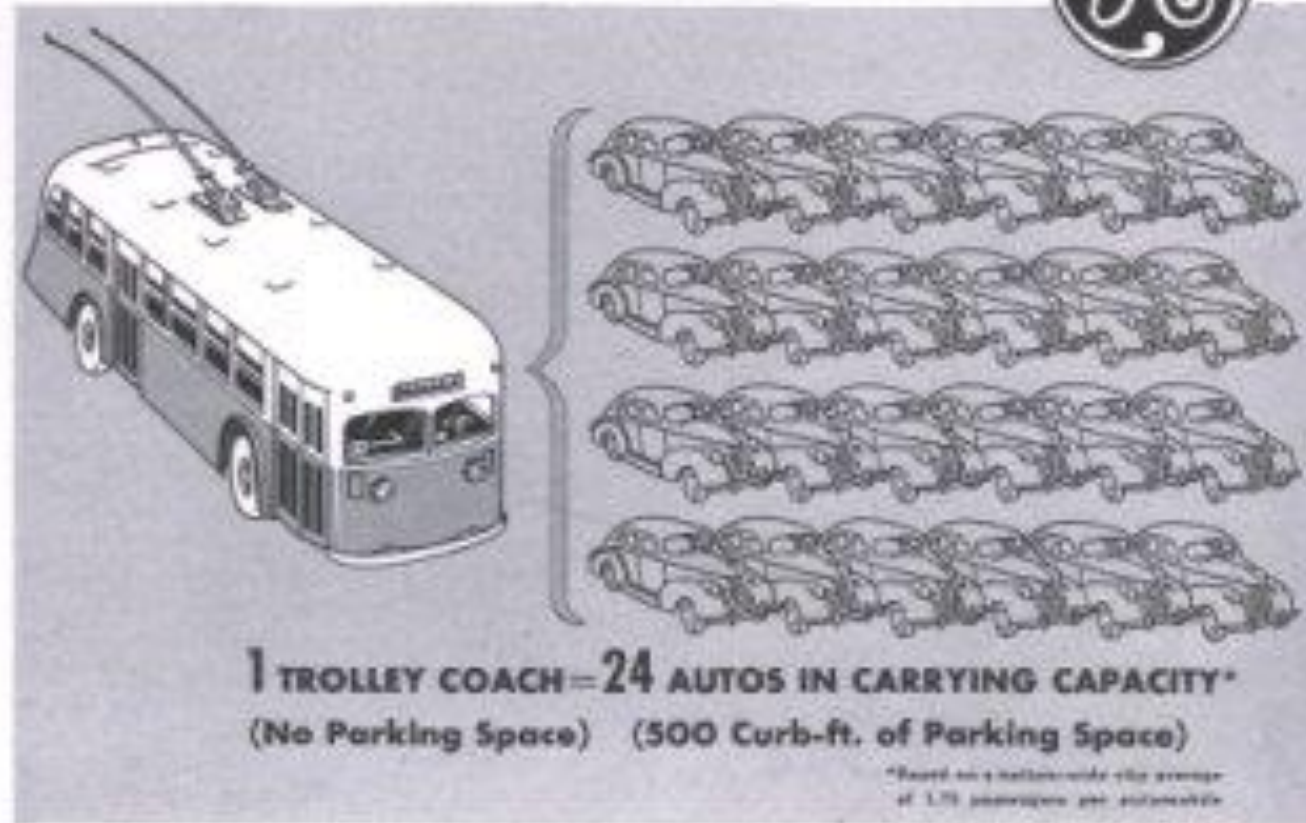# Inspire citizens to celebrate change, towards a better future, for all.

https://ecodistricts.org/

www.open-iba.de/en

https://www.iba-wien.at/en/

https://iba.heidelberg.de/english/

https://www.iba27.de/

The LA County Parking Crater:

18.6 Million Parking Spots Use 200 Square Miles of Space

Culver City – 5.14 mi2
200 mi2 = Culver City x

40
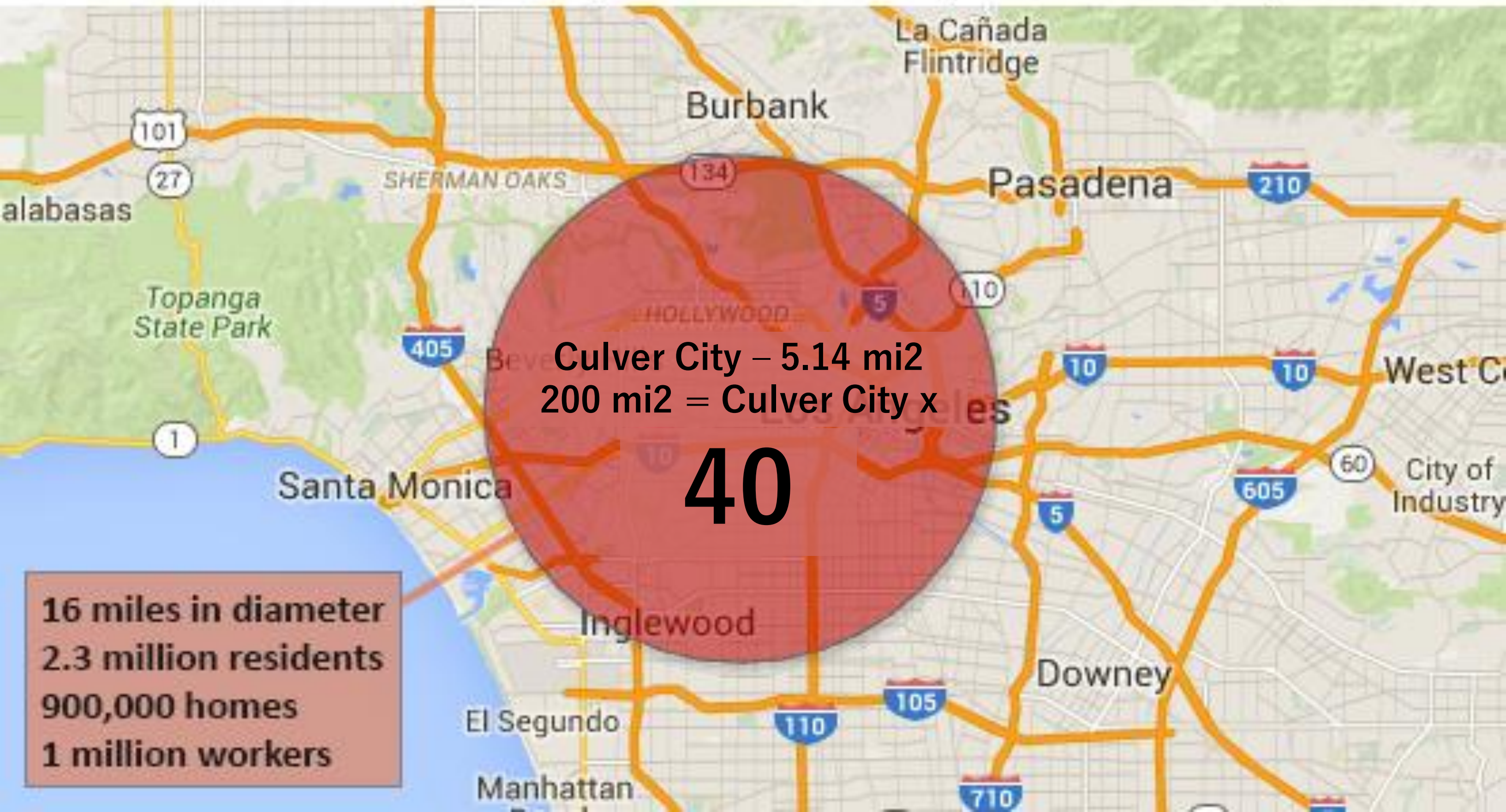
16 miles in diameter
2.3 million residents
900,000 homes
1 million workers

URBAN PARKING

GGLO DESIGN

1st Generation → 2nd Generation → 3rd Generation

HIGH CAPACITY MECHANICAL CAR STORAGE

GGLO DESIGN

1st Generation Technology

STACKERS – N.Y.C.

GGLO DESIGN

1st Generation Technology

- Since 1980s

- 'Dependent Access' - Cars are parked by attendants.

- In general, users do not interact with the equipment.

- Stored cars are in each others way. Operators have to individually remove obstructing vehicles in order to retrieve your automobile.

- Heavy equipment, with no logistic intelligence.
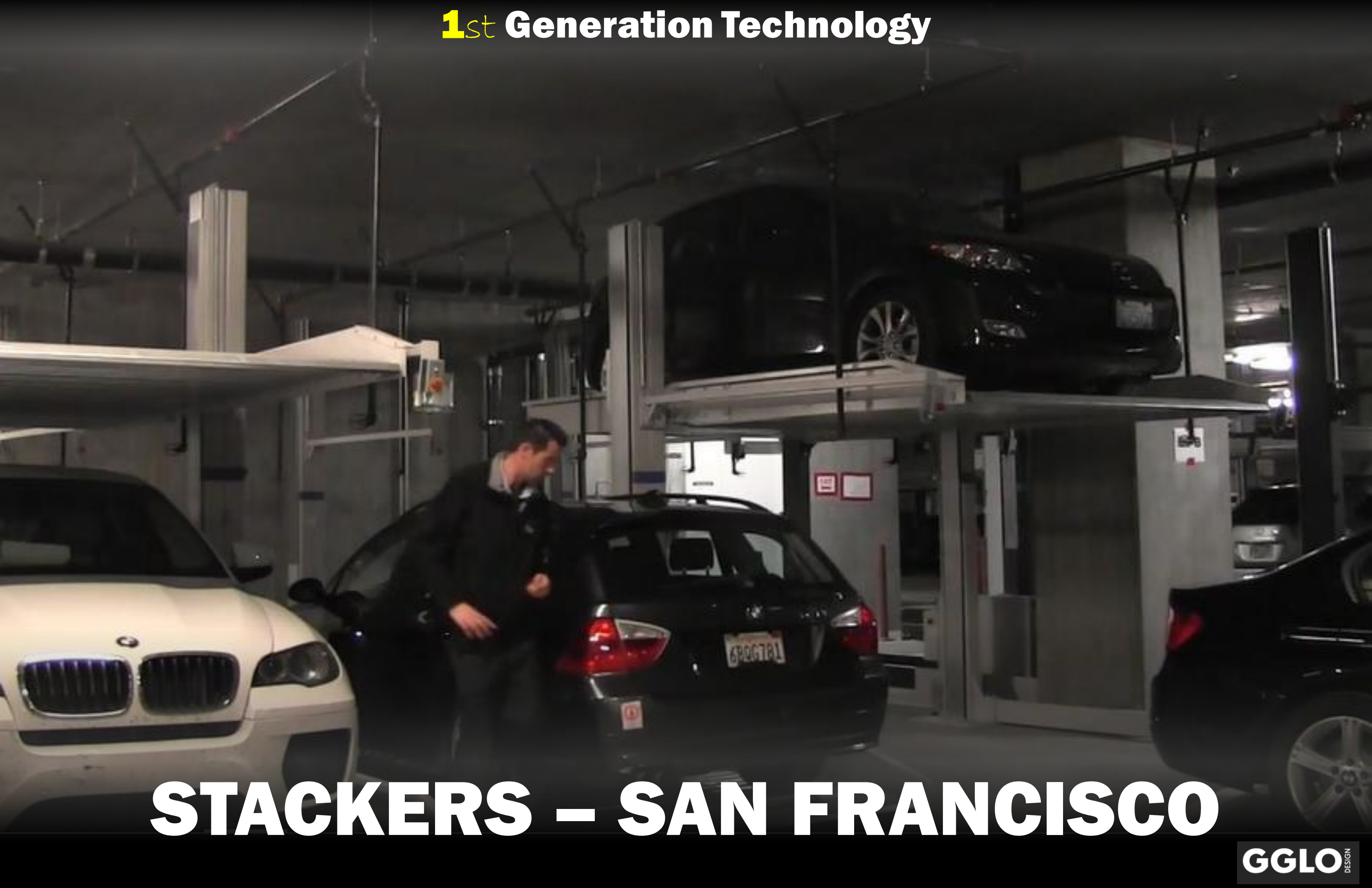
- No user driven app interaction.

STACKERS – N.Y.C.

GGLO DESIGN

STACKERS – GERMANY

GGLO DESIGN

STACKERS – SAN FRANCISCO

GGLO DESIGN

PUZZLES | RACK & RAIL

GGLO DESIGN

2nd Generation Equipment

- Since 2000s

- 'Independent Access' - Users, in general, interact with the equipment.

  - Puzzle lifts for residential applications.

  - High Bay storage facilities (single elevator, or rack and rail) for commercial applications.

- Vehicles can be independently removed, without needing to move other cars out of the way.

- Equipment heavy. Difficult to dismantle or expand.

- System can have logistic intelligence.

- Limited user interaction with apps.

PUZZLES | RACK & RAIL

GGLO DESIGN

INDEPENDENT ACCESS (PUZZLE)

GGLO DESIGN

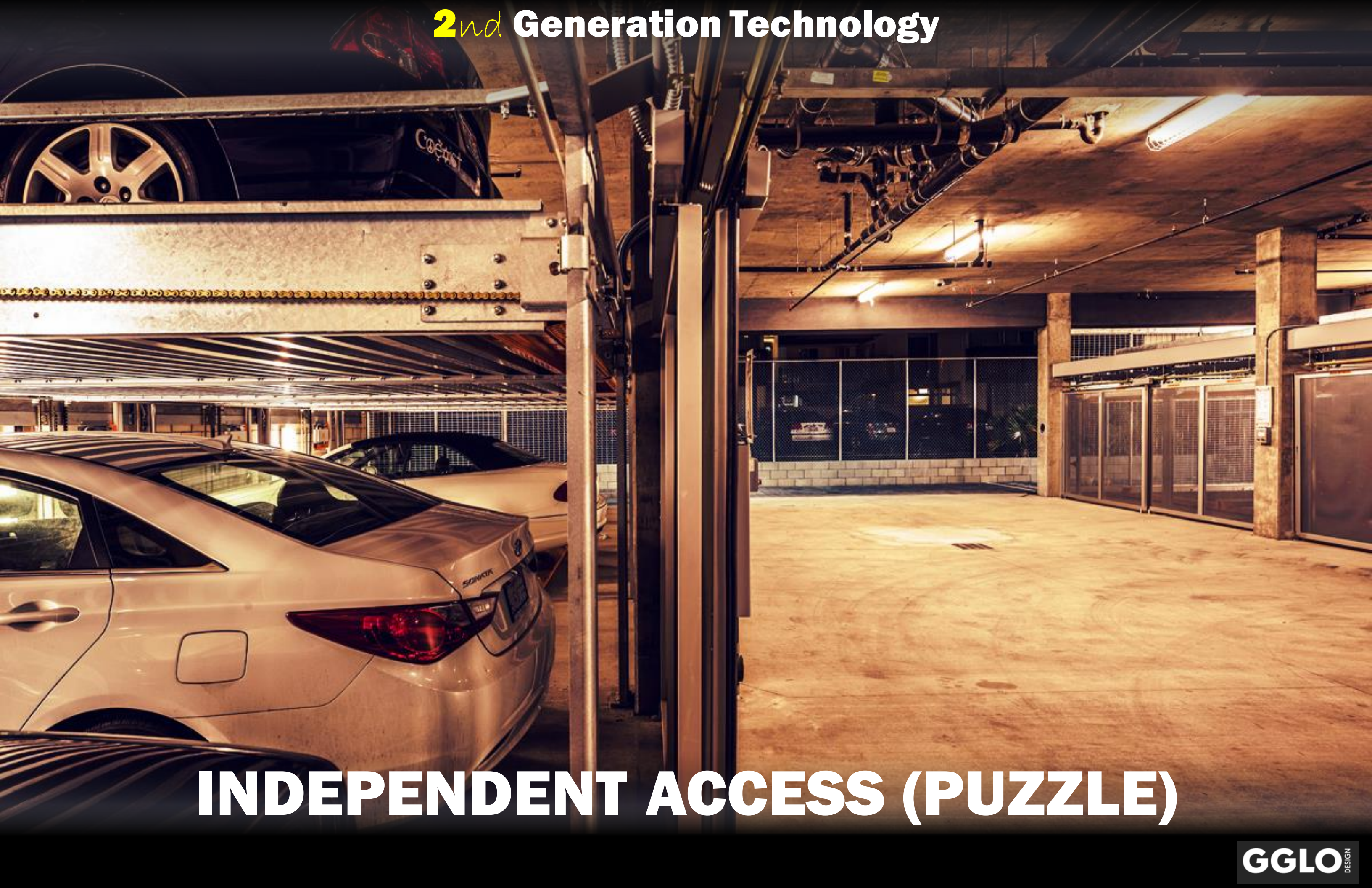# INDEPENDENT ACCESS (PUZZLE)

GGLO DESIGN

2nd Generation Technology

INDEPENDENT ACCESS (PUZZLE)

GGLO DESIGN

2nd Generation Technology

HIGH BAY CAR STORAGE - SINGLE ELEVATOR

GGLO DESIGN

2nd Generation Technology

HIGH BAY CAR STORAGE - SINGLE ELEVATOR

GGLO DESIGN

HIGH BAY CAR STORAGE - SINGLE ELEVATOR

GGLO DESIGN

HIGH BAY CAR STORAGE - SINGLE ELEVATOR

GGLO DESIGN

HIGH BAY CAR STORAGE - SINGLE ELEVATOR

GGLO DESIGN

HIGH BAY CAR STORAGE – RACK & RAIL

ARCANA:)
BOOKS ON THE ARTS
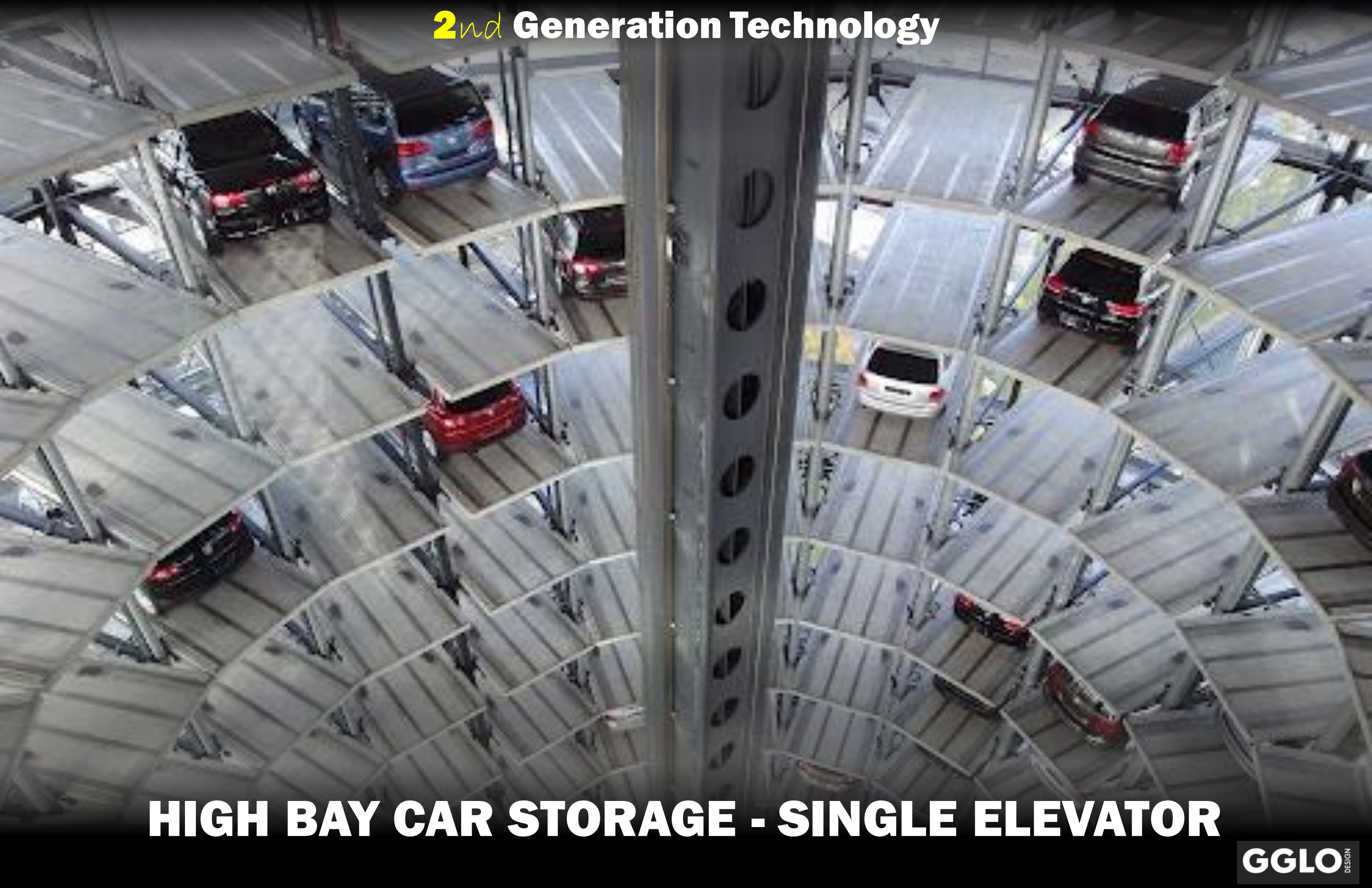
GGLO DESIGN

HIGH BAY CAR STORAGE – RACK & RAIL

GGLO DESIGN

2nd Generation Technology

24'-10"
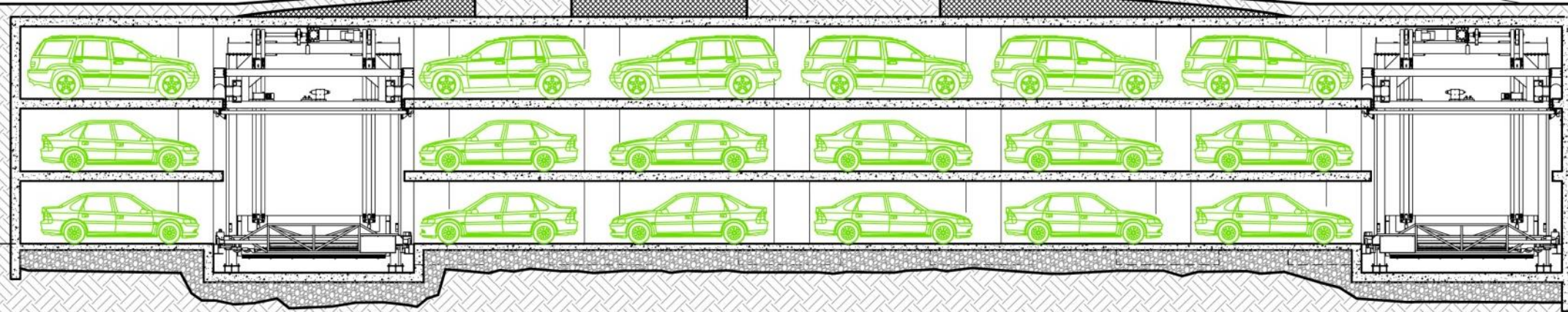
42'-4"

COMPARE CONVENTIONAL vs. ROBOTIC

GGLO DESIGN
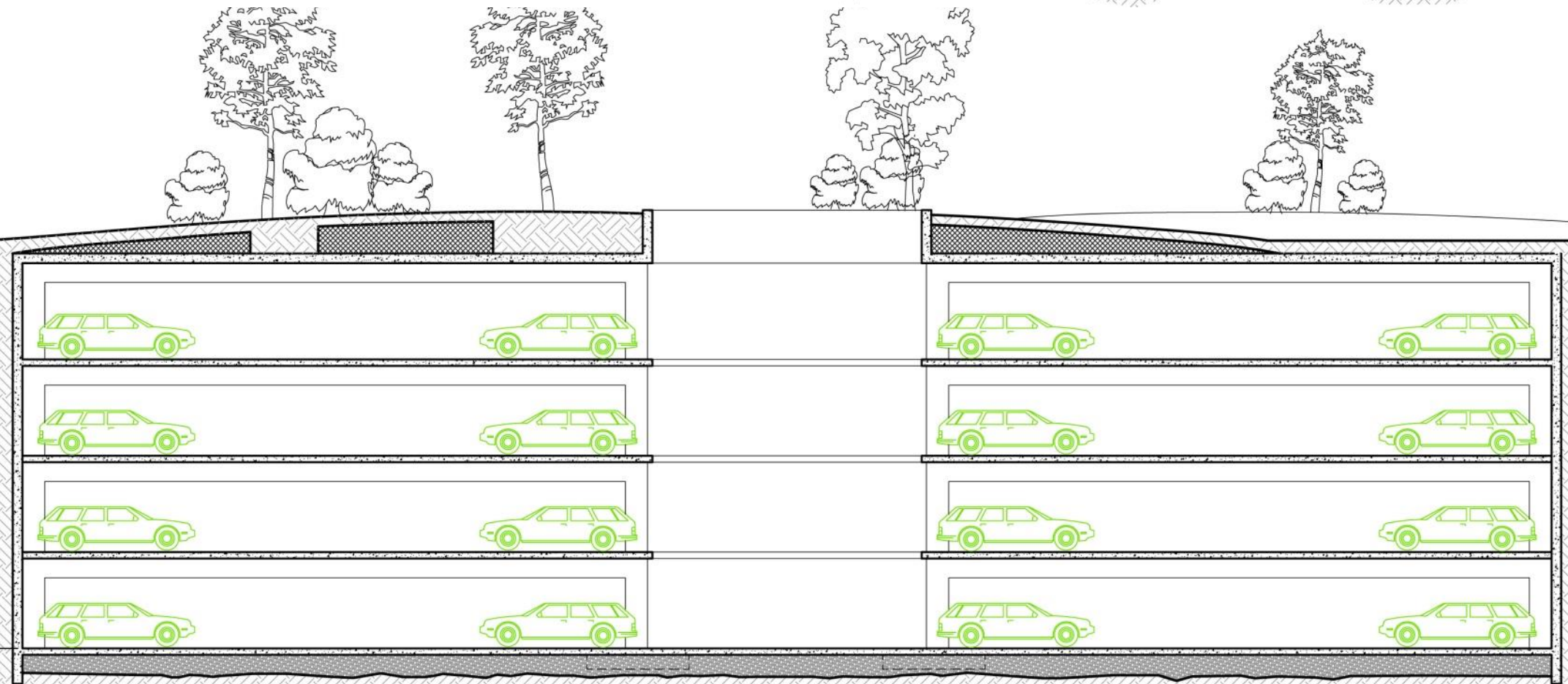
Automatic Parking - Pricing

Parking System	AUTOMATIC VALET – 2 UG	AUTOMATIC VALET – 3 UG	RACK & RAIL - 3 UG	CONVENTIONAL
Number of spaces (rounded)	1,100	1,100	1,100	1,100
Structure square footage	244,412	260,154	310,762	533,662
Core & Shell Price per Square Foot	$ 146.88	$ 123.00	$ 124.85	$ 111.68
Core & Shell, incl. Landscape allowance TOTAL	$ 35,900,000	$ 32,500,000	$ 38,800,000	$ 59,600,000
PER SPACE	$ 32,636	$ 29,545	$ 35,272	$ 54,182
Parking Equipment Hard/Software TOTAL	$ 16,500,000	$ 16,500,000	$ 12,650,500	
PER SPACE	$ 15,000	$ 15,000	$ 11,500	
Core & Shell + Parking Equipment TOTAL	$ 52,400,000	$ 49,000,000	$ 51,450,000	$ 59,600,000
PER SPACE	$ 47,636	$ 44,545	$ 46,773	$ 54,182
COST DELTA TO CONVENTIONAL	-$ 7,200,000	-$ 10,600,000	-$ 8,150,000	$ 0

Notes:

Core and shell price per stall allows for:
- excavation, shoring and dewatering.
- park landscaping
- café pavilion, bike storage
- access ramp

Parking Equipment Hard/Software price per stall allows for:
- High throughput, up to 400 cars per hour
- Average storage & retrieval time of 2-3 minutes per car
- High tech parking control system - I phone apps, etc

Finance Options:

- Traditional Construction/Project Finance will be on balance sheet
- 30 Year leaseback with zero cash requirement to UCSB (off balance sheet)
- design-build services offered by autoParx & team
- Full finance services offered by autoParx & team

Mayer Architects
A JOINT VENTURE BETWEEN FIRMS

DMA
ARCHITECTURE

UCSB Lot 3 Parking
The Library Site

COMPARE CONVENTIONAL vs. ROBOTIC

GGLO DESIGN

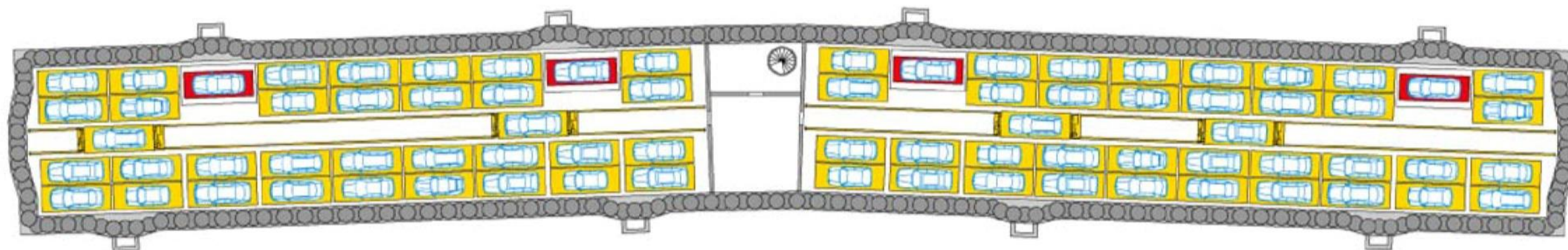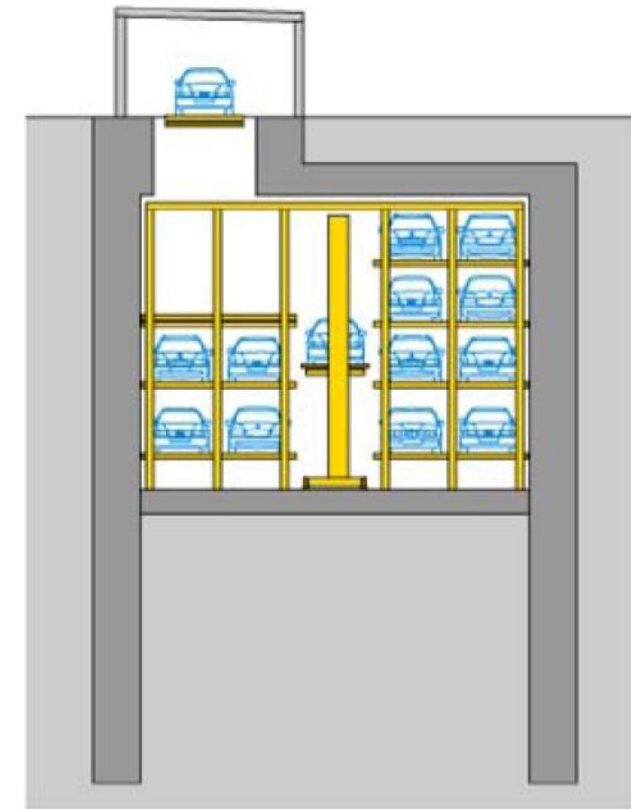CAR STORAGE IN R.O.W. – MUNICH

CAR STORAGE IN R.O.W. – MUNICH

CAR STORAGE IN R.O.W. – MUNICH

München

Anwohnergarage Donnersbergerstraße

WÖHR Multiparker 740

284 Stellplätze

GGLO DESIGN

CAR STORAGE IN R.O.W. – COPENHAGEN

CAR STORAGE IN R.O.W. – COPENHAGEN

CAR STORAGE IN R.O.W. – COPENHAGEN

AUTONOMOUS PARKING ROBOT

GGLO DESIGN

- Since early 21st century

- Independent, flexible access

- Users, in general, do not interact with the equipment, but with an automatic valet.

- Equipment light; automatic guided vehicles move cars around obstacles and each other.

- System can easily be expanded or dismantled.

- System can have logistic intelligence.

- User interaction with apps.

AUTONOMOUS PARKING ROBOT

GGLO
DESIGN

AUTONOMOUS PARKING ROBOT

The user experience is simple and direct: PARK and WALKAWAY

GGLO DESIGN

GGLO
DESIGN

The logistic sophistication
happens BEHIND THE SCENES
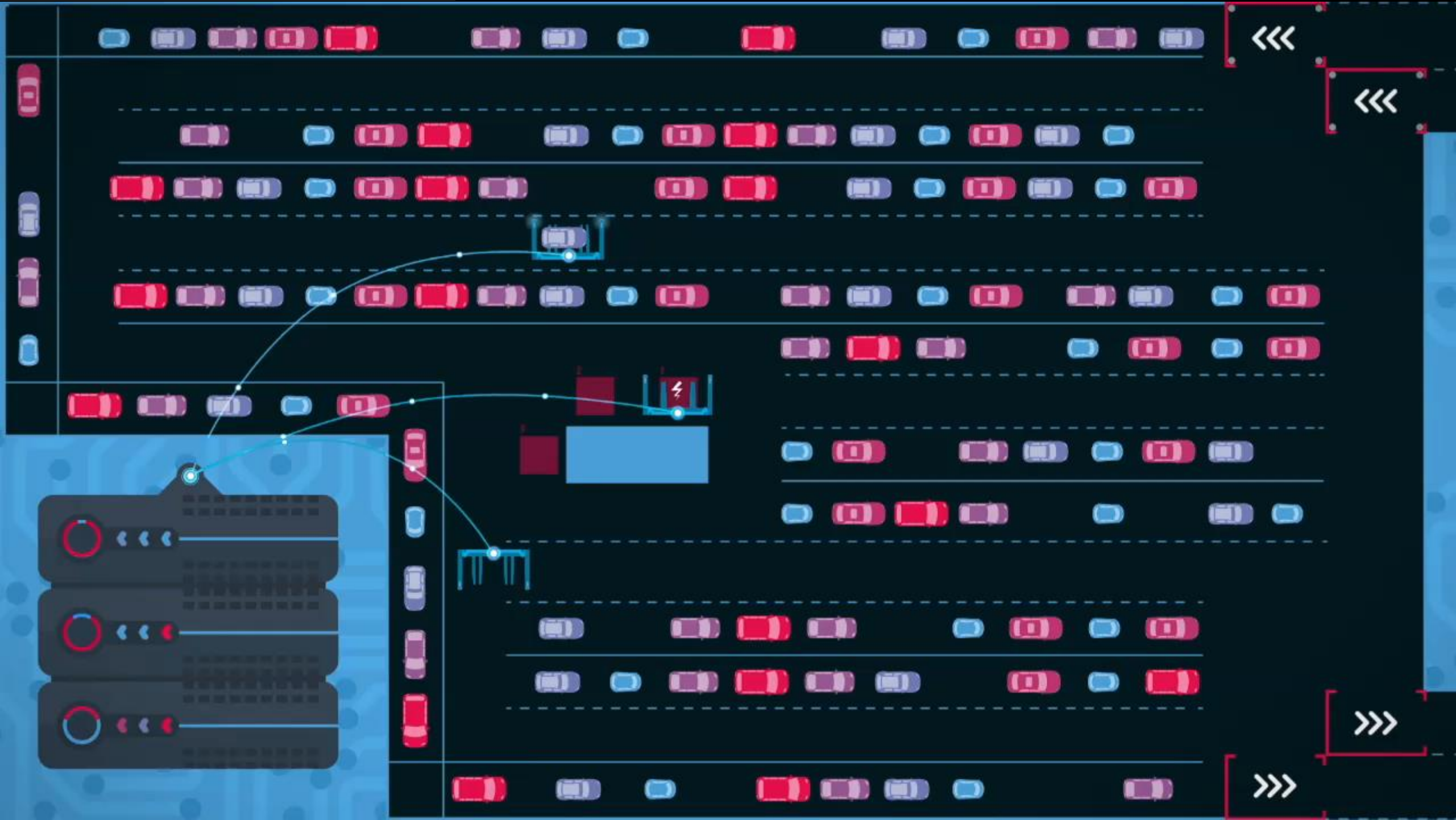
ADAPTABLE GARAGE - in 2035
ADAPTABLE GARAGE CONVERSION

RESIDENTIAL UNITS

2035 SCENARIO
PARKING GARAGE

RESTAURANTS/ RETAIL

THE GARAGE CAN BE EASILY CONVERTED TO RESIDENTIAL AND OFFICE USE, EITHER IN PART

GGLO DESIGN

RETAIL

OFFICE

RESIDENTIAL

GARAGE

DOLCE & GABBANA

DOLCE & GABBANA

GGLO DESIGN
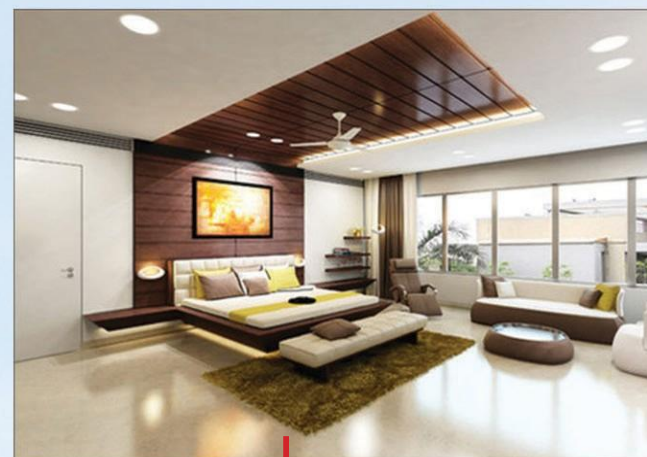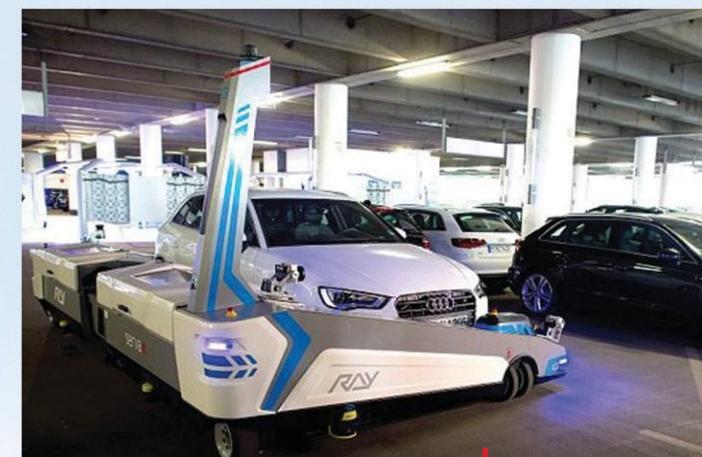
ADAPTABLE GARAGE – in 2020
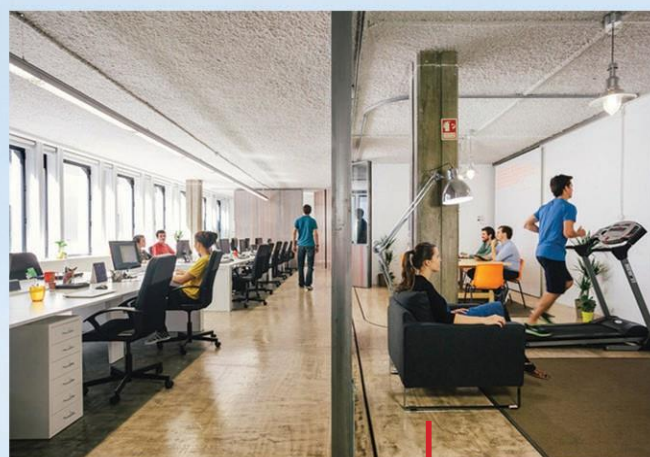## 100% PARKING TYPICAL PARKING LEVEL PLAN

ROBOT PATH OF TRAVEL

ROBOT PATH OF TRAVEL

ELEVATOR CORE

ELEVATOR CORE

ELEVATOR CORE

ROBOT PATH OF TRAVEL

ATH OF TRAVEL

GGLO DESIGN
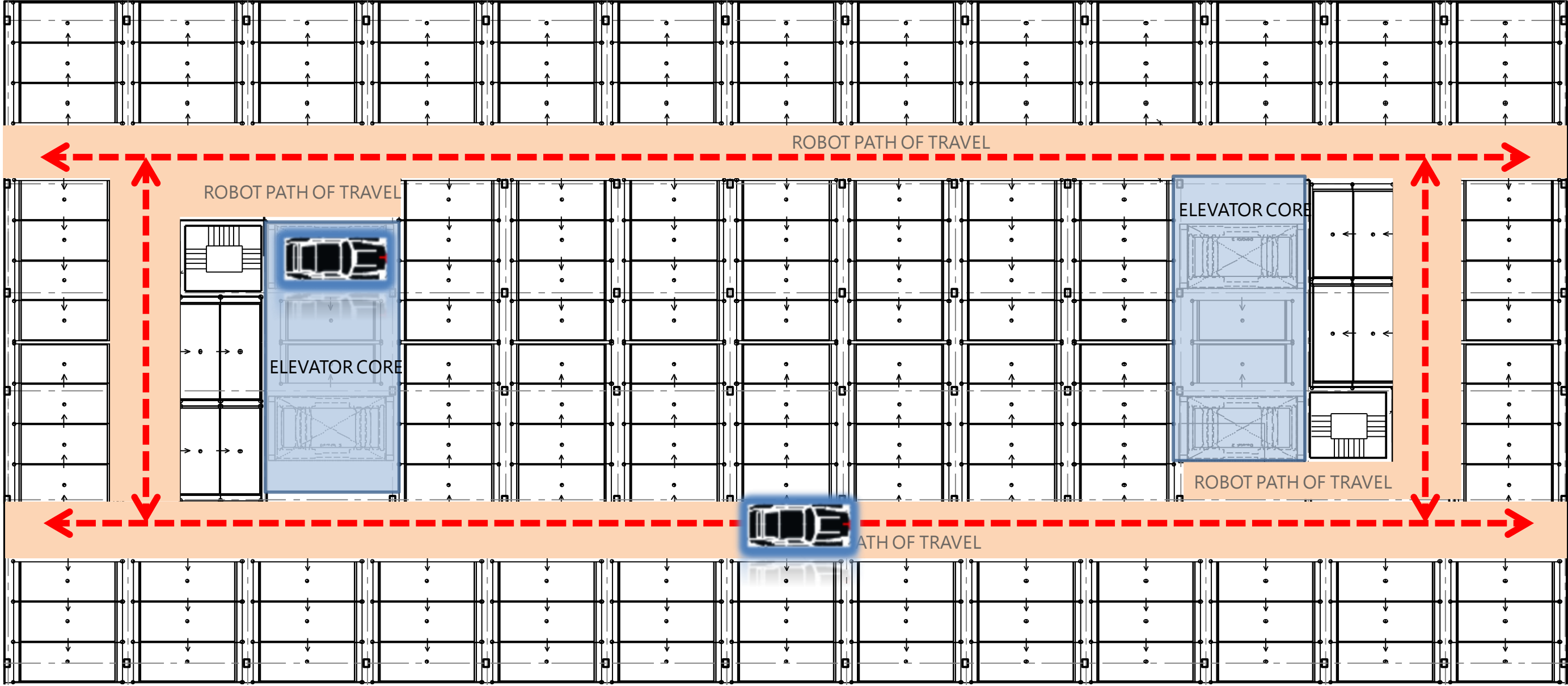
ADAPTABLE GARAGE - in 2035
PARKING LEVEL PLAN CONVERSION

ROBOT PATH OF TRAVEL

ELEVATOR CORE

TENANT STORAGE

10'-8"

| 2 BR APARTMENT | 1 BR + DEN APARTMENT | 1 BR + DEN APARTMENT | 1 BR + DEN APARTMENT | 1 BR + DEN APARTMENT | 1 BR + DEN APARTMENT | 1 BR + DEN APARTMENT | 2 BR APARTMENT |

RESIDENTIAL
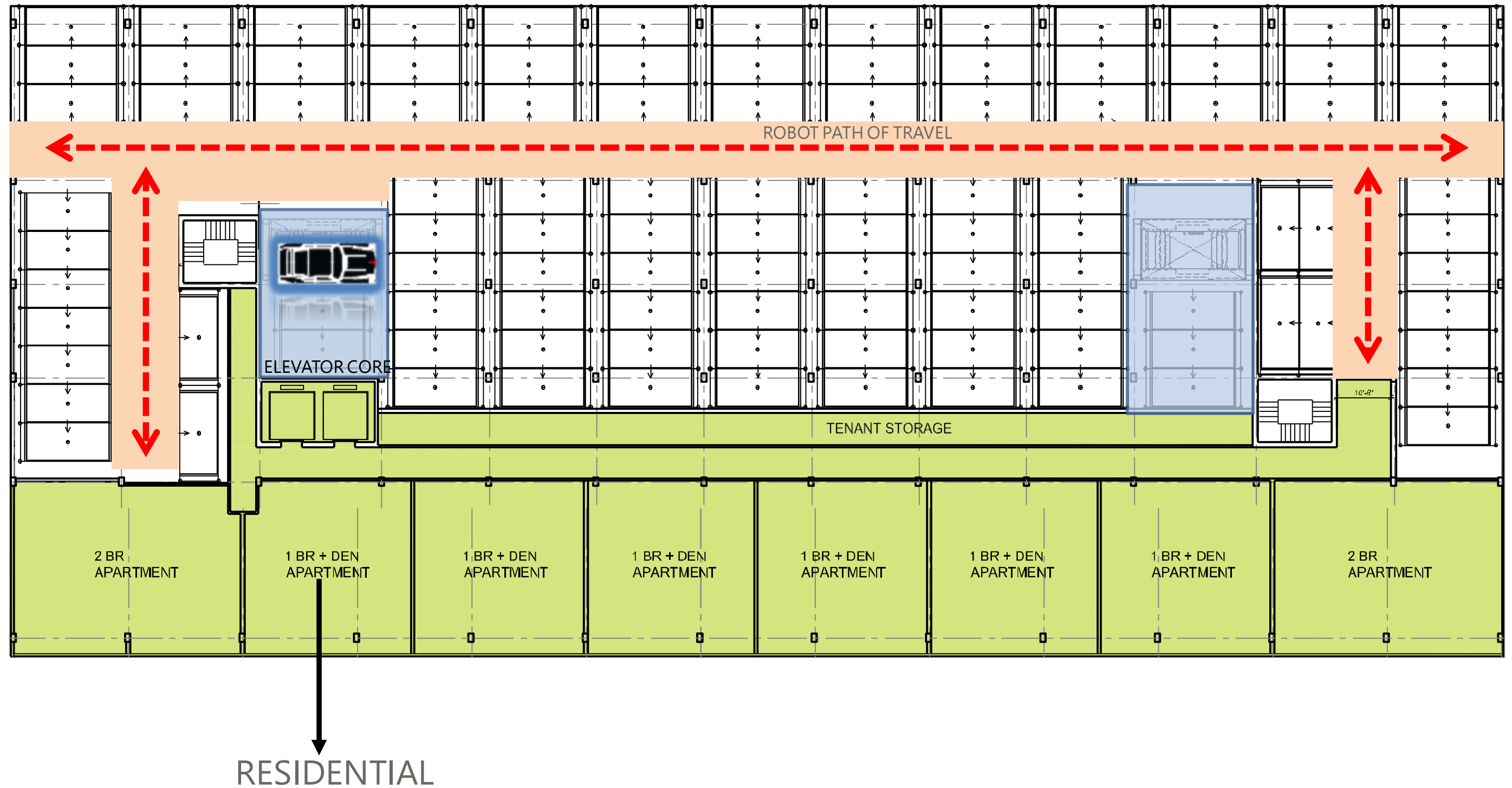
PARKING REQUIREMENTS ARE REDUCED , EXCESS PARKING AREAS CAB BE CONVERTED TO OTHER USES.

GGLO DESIGN

Build flexible parking capacity

Disassociate parking from the individual buildings

Partially utilize common areas and R.O.W. for smart automated solutions

Also park private bicycles and 'little vehicles'

WHAT DOES THIS MEAN IN MULTIMODAL CITIES?

Clearing away space for cars could create room for more bike parking, which is at a premium in central Amsterdam // Kevin Coombs/Reuters

A Modest Proposal to Eliminate 11,000 Urban Parking Spots

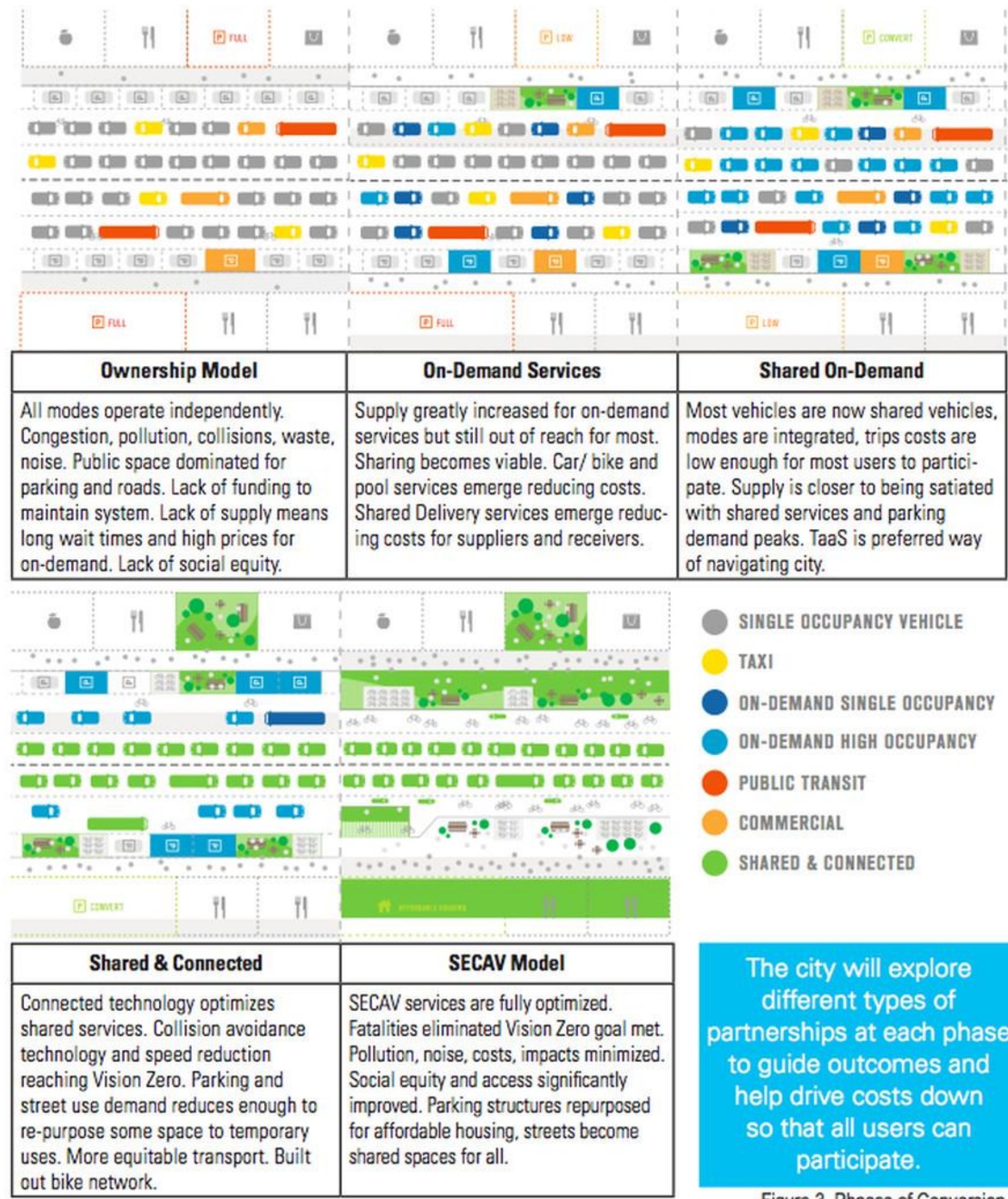FEARGUS O'SULLIVAN   MAR 29, 2019

Amsterdam plans to systematically strip its center of parking spaces in the coming years, making way for bike lanes, sidewalks, and more trees.

Ownership Model	On-Demand Services	Shared On-Demand
All modes operate independently. Congestion, pollution, collisions, waste, noise. Public space dominated for parking and roads. Lack of funding to maintain system. Lack of supply means long wait times and high prices for on-demand. Lack of social equity.	Supply greatly increased for on-demand services but still out of reach for most. Sharing becomes viable. Car/ bike and pool services emerge reducing costs. Shared Delivery services emerge reducing costs for suppliers and receivers.	Most vehicles are now shared vehicles, modes are integrated, trips costs are low enough for most users to participate. Supply is closer to being satiated with shared services and parking demand peaks. TaaS is preferred way of navigating city.

Legend:

- ⬤ SINGLE OCCUPANCY VEHICLE
- ⬤ TAXI
- ⬤ ON-DEMAND SINGLE OCCUPANCY
- ⬤ ON-DEMAND HIGH OCCUPANCY
- ⬤ PUBLIC TRANSIT
- ⬤ COMMERCIAL
- ⬤ SHARED & CONNECTED

Shared & Connected	SECAV Model
Connected technology optimizes shared services. Collision avoidance technology and speed reduction reaching Vision Zero. Parking and street use demand reduces enough to re-purpose some space to temporary uses. More equitable transport. Built out bike network.	SECAV services are fully optimized. Fatalities eliminated Vision Zero goal met. Pollution, noise, costs, impacts minimized. Social equity and access significantly improved. Parking structures repurposed for affordable housing, streets become shared spaces for all.

Concept: Shifting from Owner to Experience Plan

The city will explore different types of partnerships at each phase to guide outcomes and help drive costs down so that all users can participate.

Figure 3. Phases of Conversion to SECAV Model

GGLO DESIGN

PARKING DISTRICT

7 'INTERCEPT' GARAGES ON THE OUTSKIRTS >> 750 CARS EACH

1 LARGE PARK AND RIDE STRUCTURE NEAR TRANSIT

APPROX. 10,000 CARS TOTAL
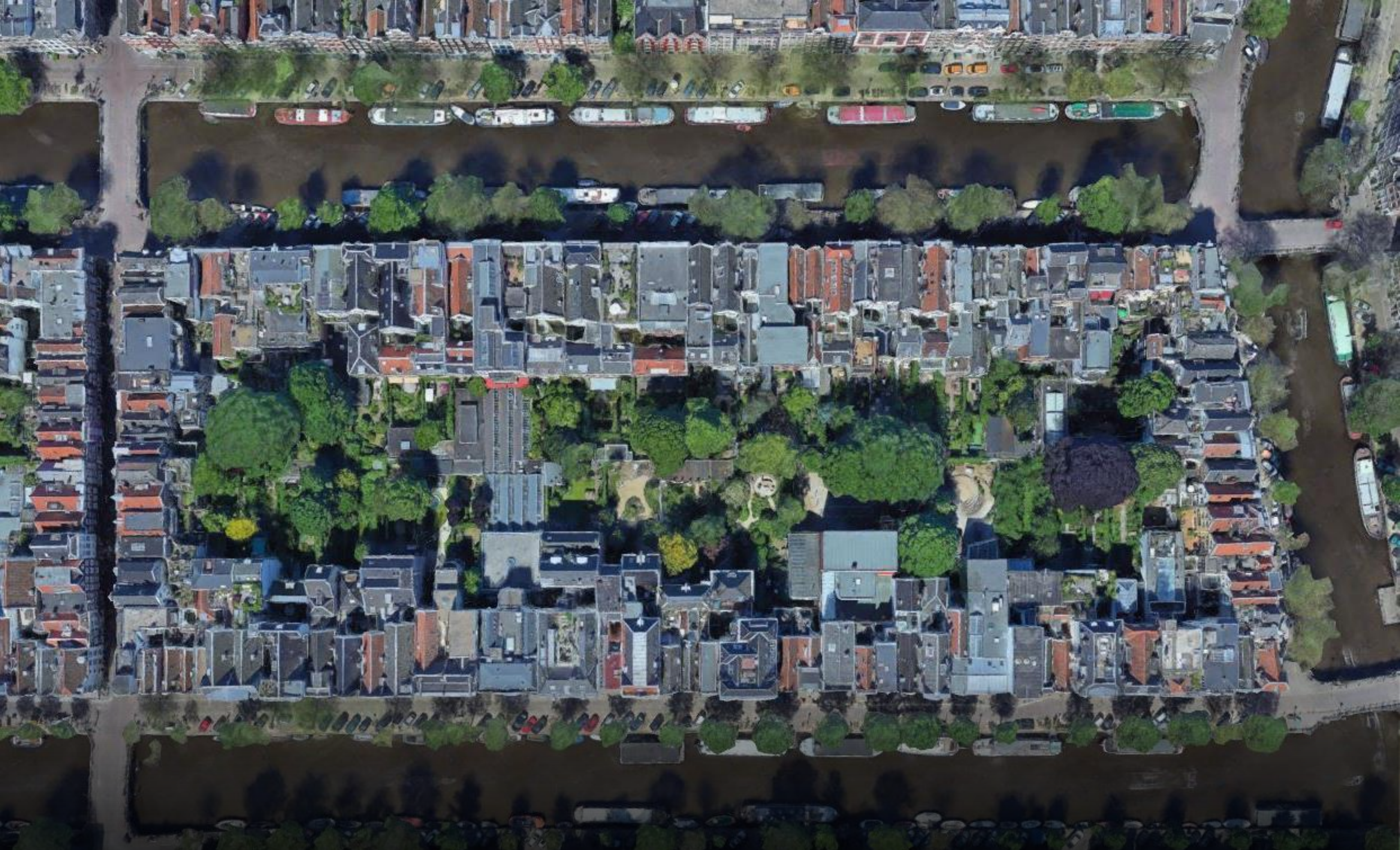
50,000 APARTMENTS FOR 6 STORY BUILDINGS

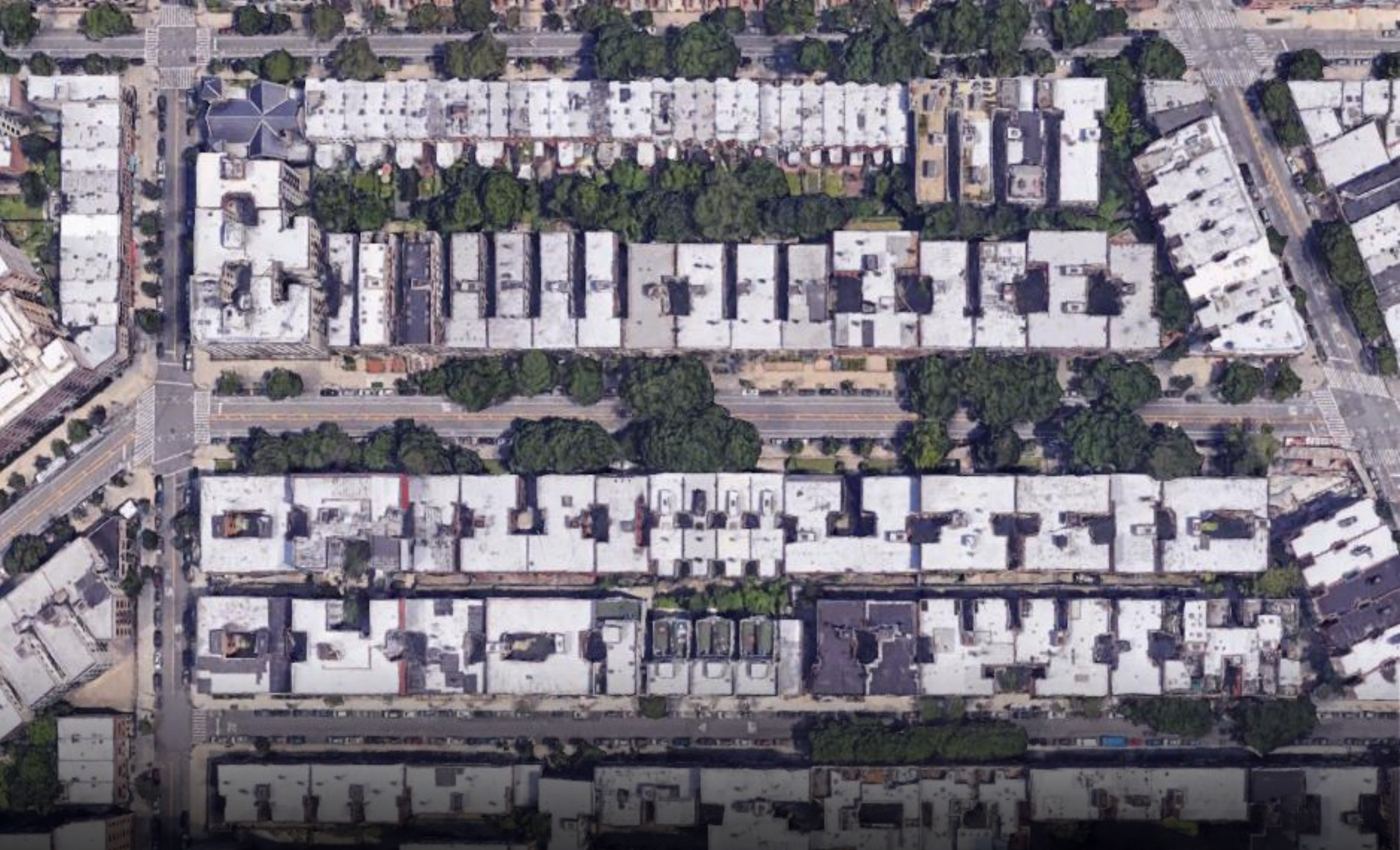100,000 PEOPLE (WHO DON'T NEED TO DRIVE)

AND A LARGE PARK

PARKING DISTRICT

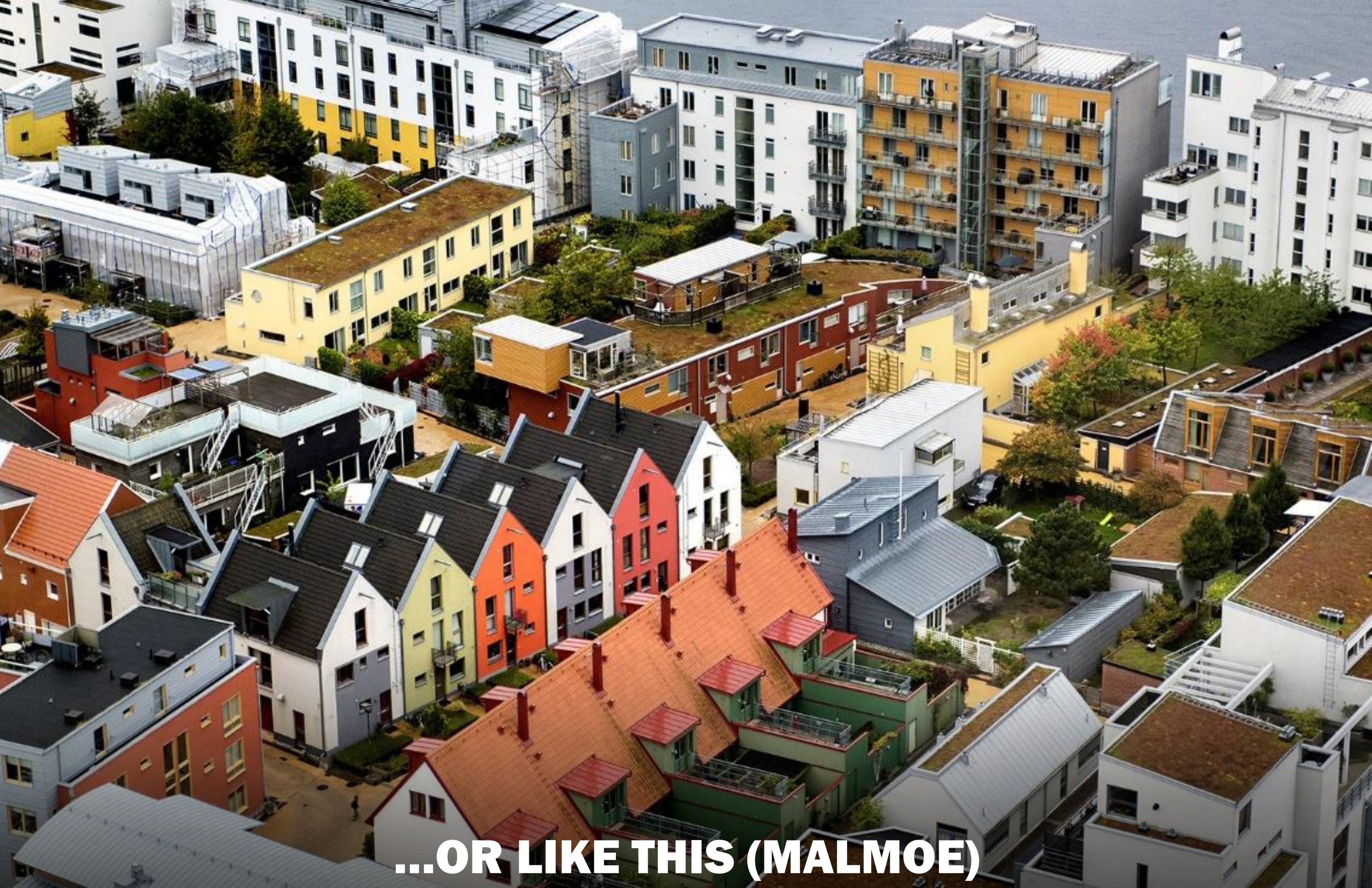THERE IS A LARGE PARK NEAR THE CENTER

THE BLOCKS COULD LOOK LIKE THIS (AMSTERDAM)

THE BLOCKS COULD LOOK LIKE THIS (BROOKLYN)

THE BUILDINGS COULD LOOK LIKE THIS (COPENHAGEN)

...OR LIKE THIS (MALMOE)

...OR LIKE THIS (OSLO)

...OR LIKE THIS (LONDON)

...OR LIKE THIS (PARIS)

MULTIFAMILY HOUSING WITHOUT PARKING (MALMOE)

U.S. VERSION... (BROOKLYN)

U.S. VERSION... (QUEENS - NYC)

GGLO
DESIGN

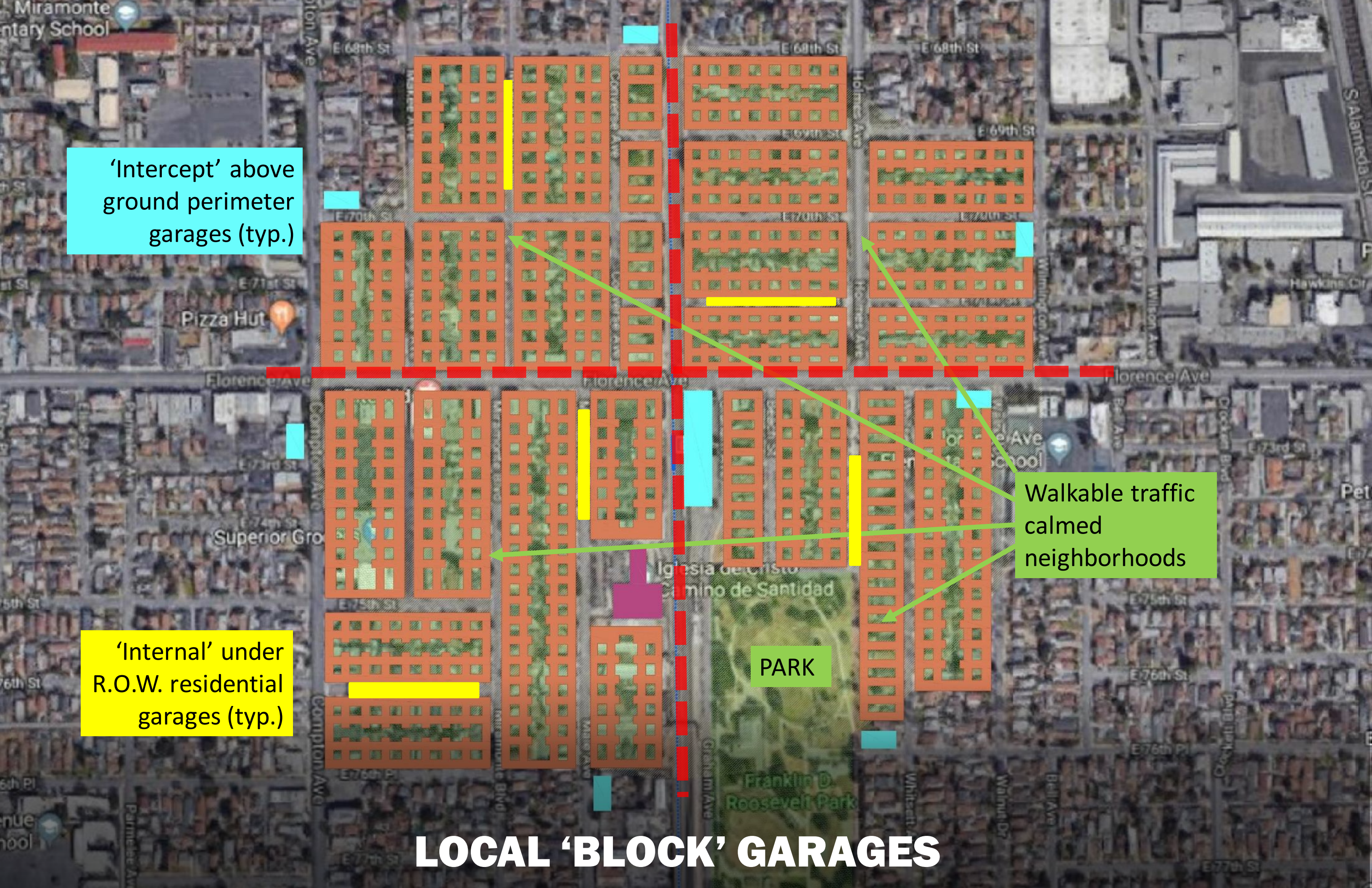**U.S. VERSION... (MID-CITY L.A.)**

GGLO

LOCAL URBAN PEDESTRIAN SCALE (LOS ANGELES)

LOCAL URBAN PEDESTRIAN SCALE (LOS ANGELES)

WE COULD BUILD A REAL DOWNTOWN AGAIN (GROVE)

'Intercept' above ground perimeter garages (typ.)

Walkable traffic calmed neighborhoods

'Internal' under R.O.W. residential garages (typ.)

PARK

LOCAL 'BLOCK' GARAGES