FUTURE *of* STREETS

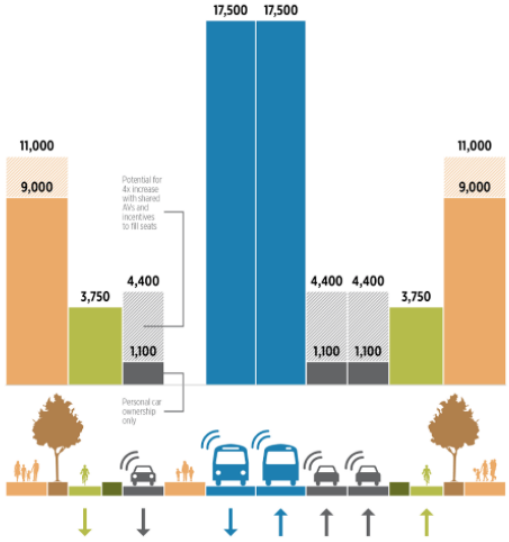
Andres Sevtsuk
Associate Professor of Planning
Director, City Form Lab

Harvard University
Gradute School of Design

City Form Lab
at the Harvard Graduate School of Design | cityform.gsd.harvard.edu

Mobility firms, OEMs, TNCs

Infrastructure and public space design, engineering



Harvard University
Graduate School of Design

Public Sector

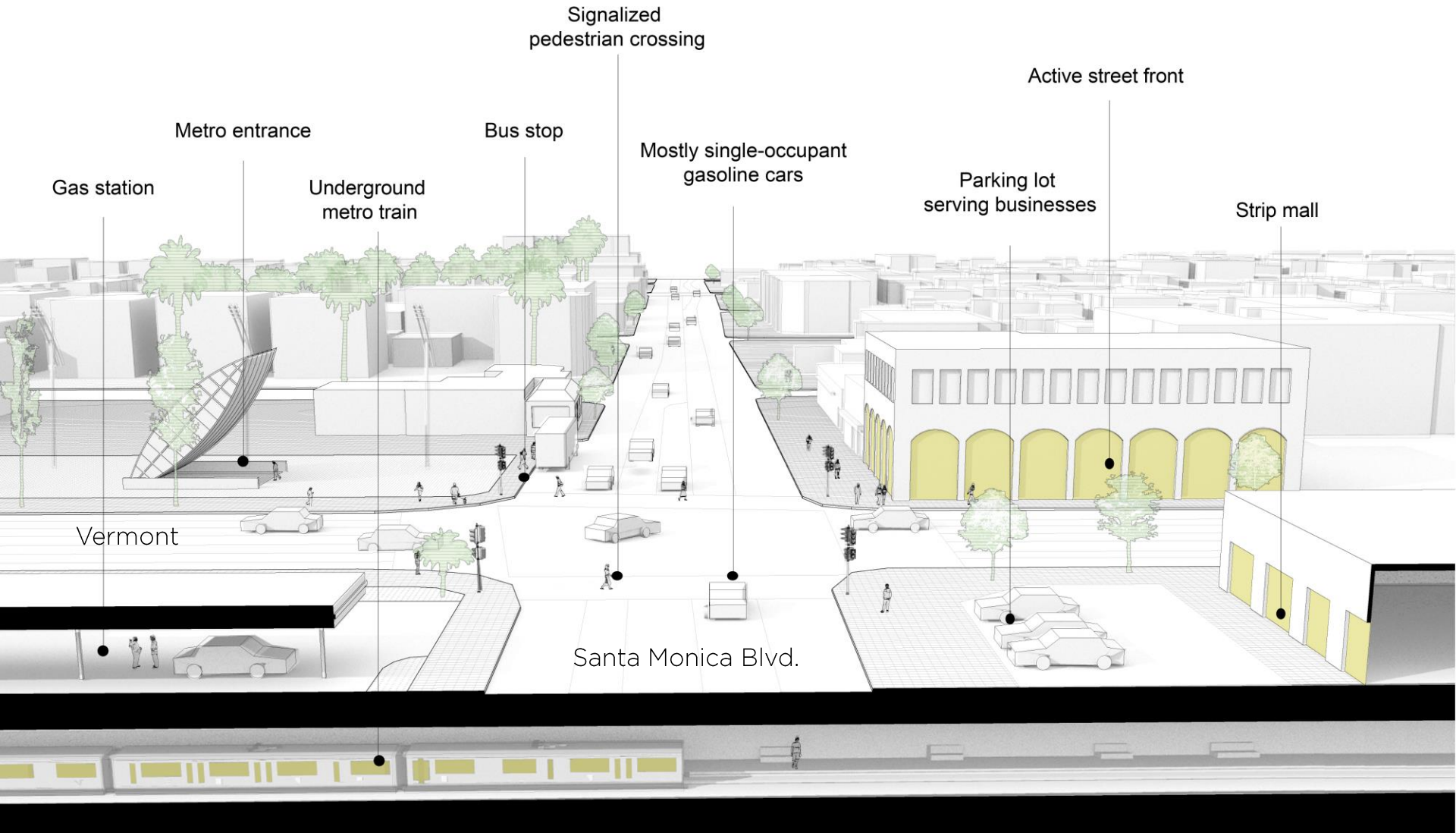
CITY OF Los Angeles

CITY of BOSTON

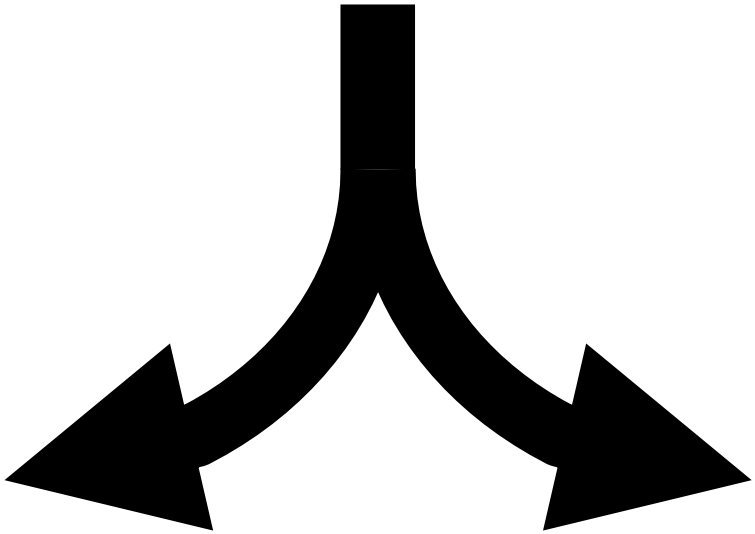

4676 W Historic Rte 66
Los Angeles, California
Google
Street View - Jun 2017
Santa Monica Blvd
and Vermont, LA
ARCO
W Historic Rte 66
Google

Vermont / Santa Monica Metro Station

Los Angeles, CA. Existing condition.



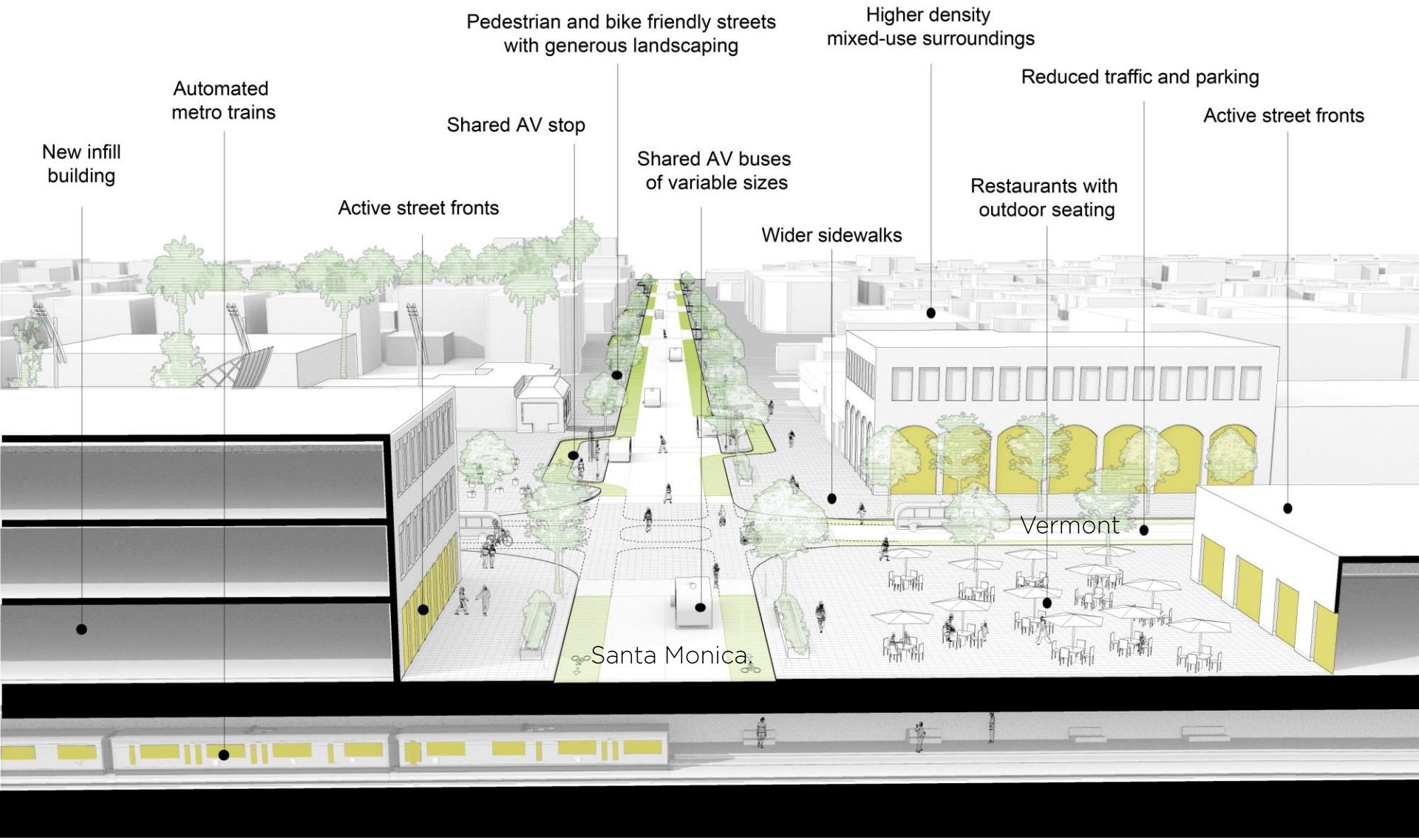
Automated Vehicles



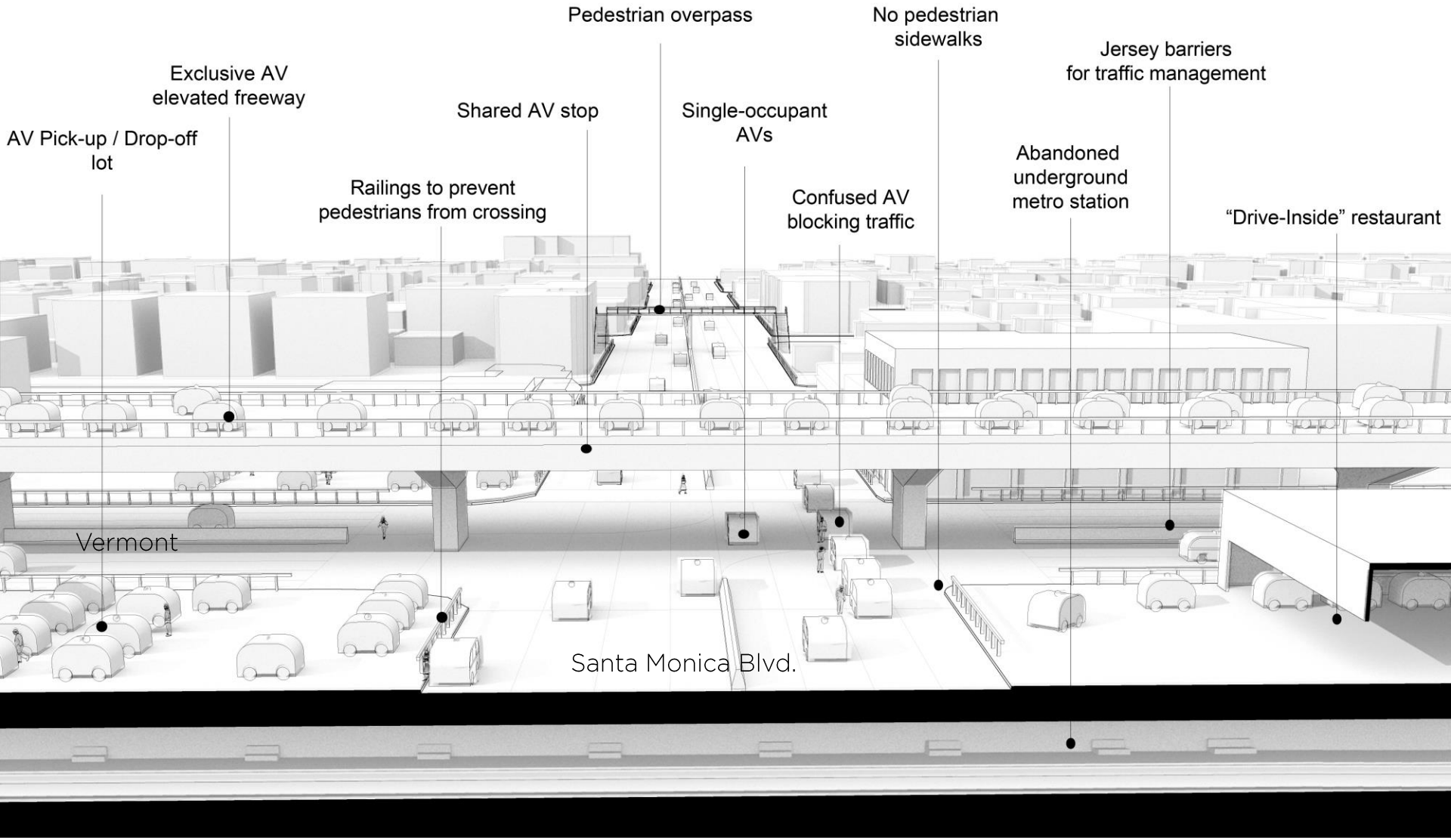
Best-case scenario

Worst-case scenario

Best-case scenario



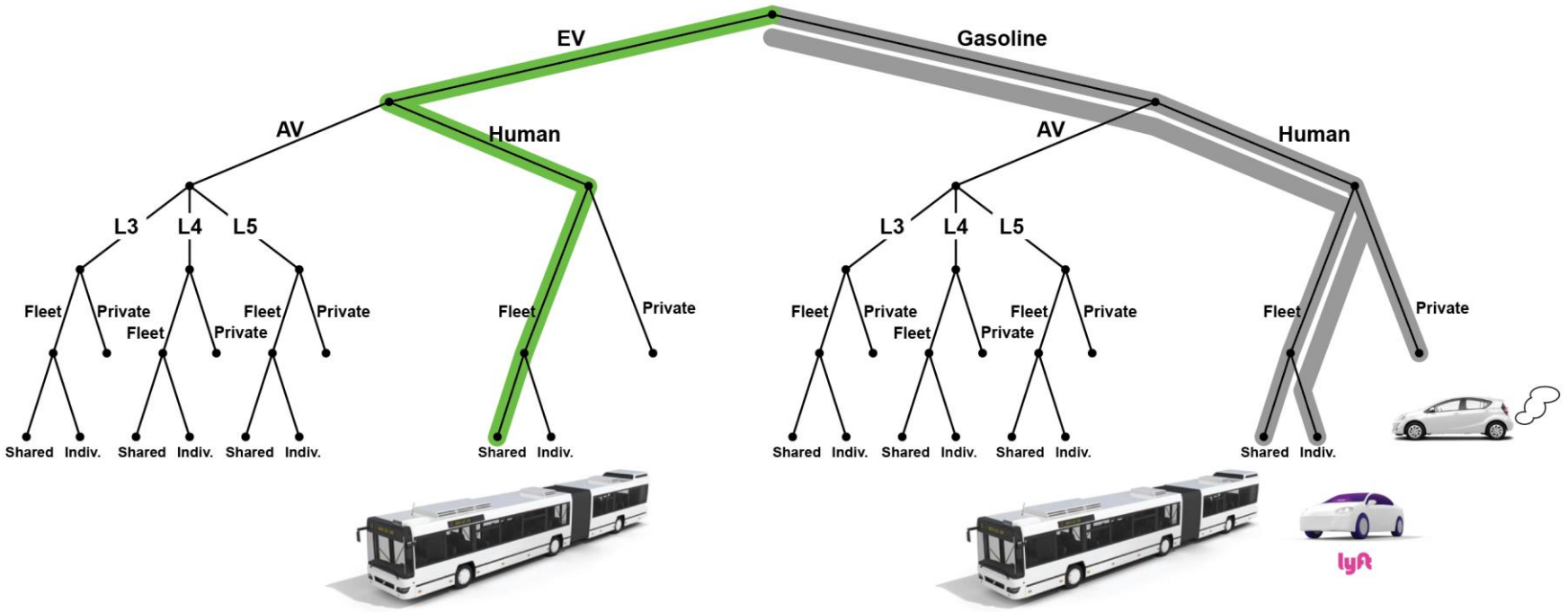
Worst-case scenario



Five levels of uncertainty

Today's mobility

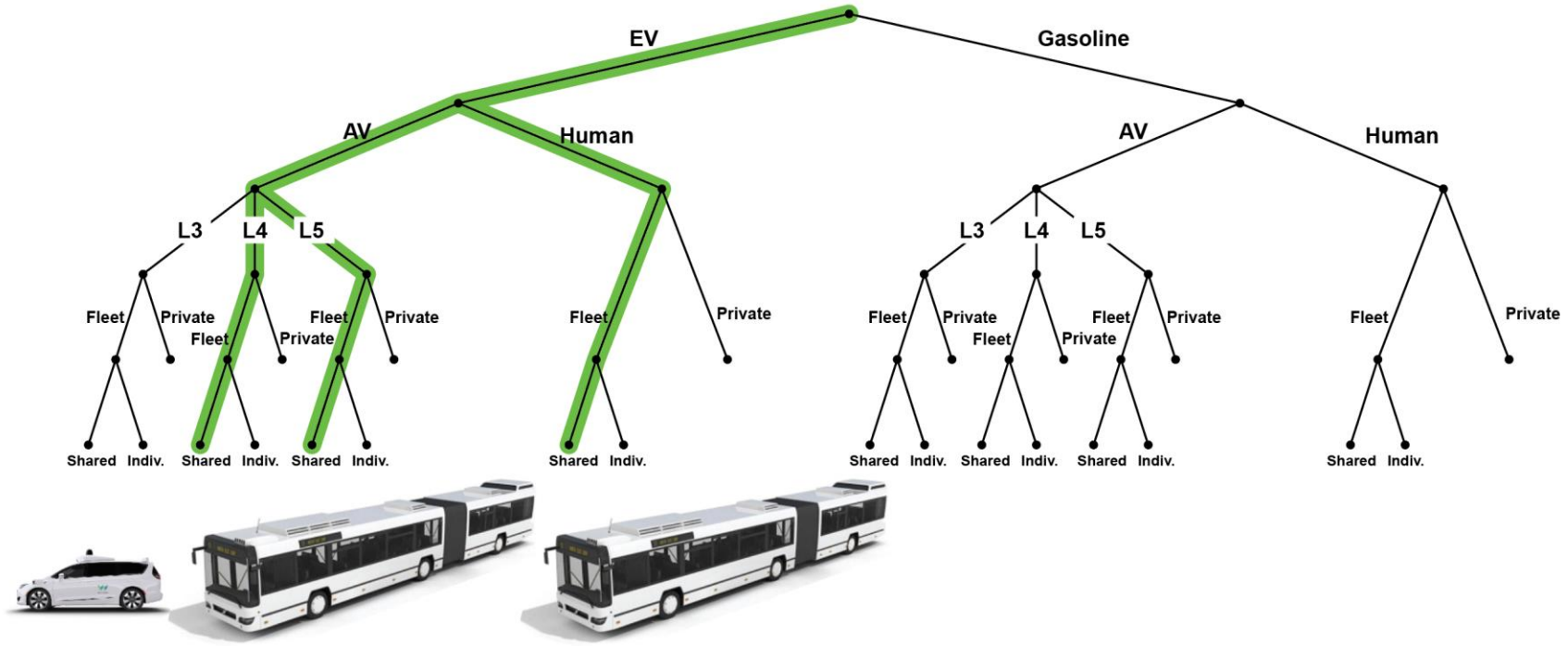
Personal gasoline car, TNC and transit



Five levels of uncertainty

Best-case scenarios

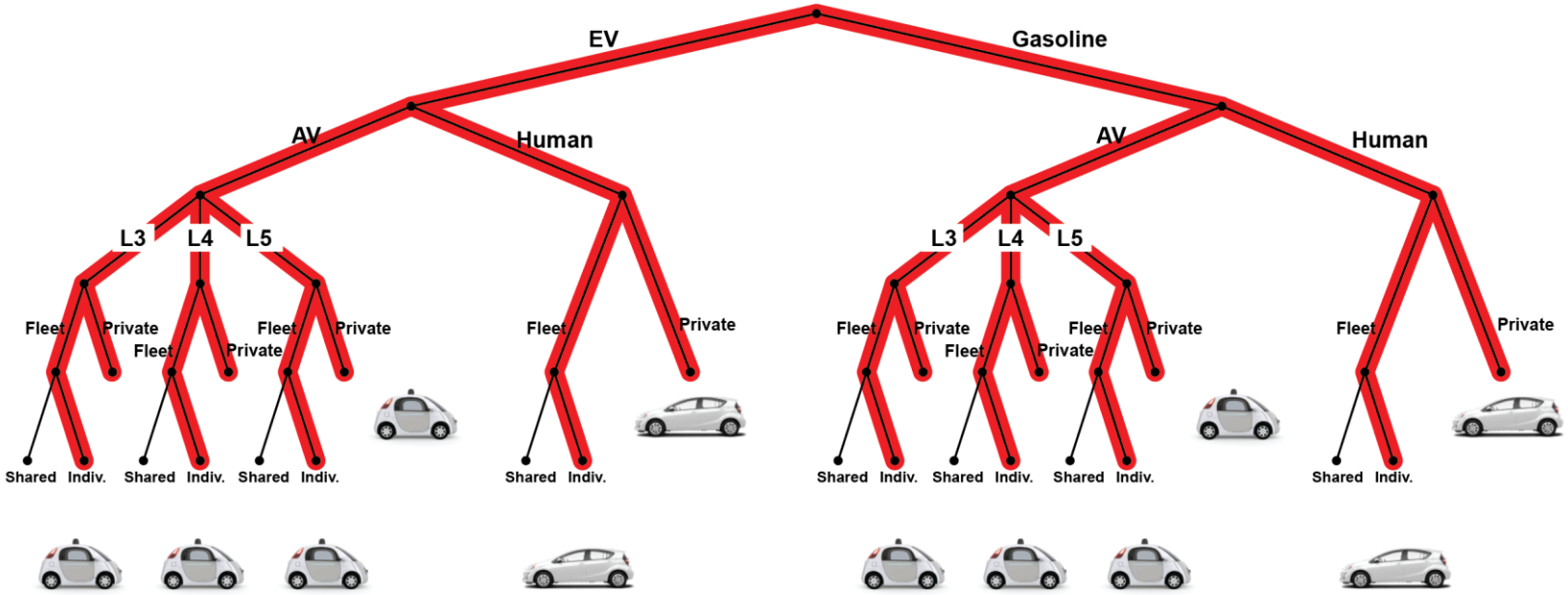
Shared-electric AV or human vans/buses



Five levels of uncertainty

Worst-case scenarios

Single-passenger AV and cars



Seductive images of the future versus reality?

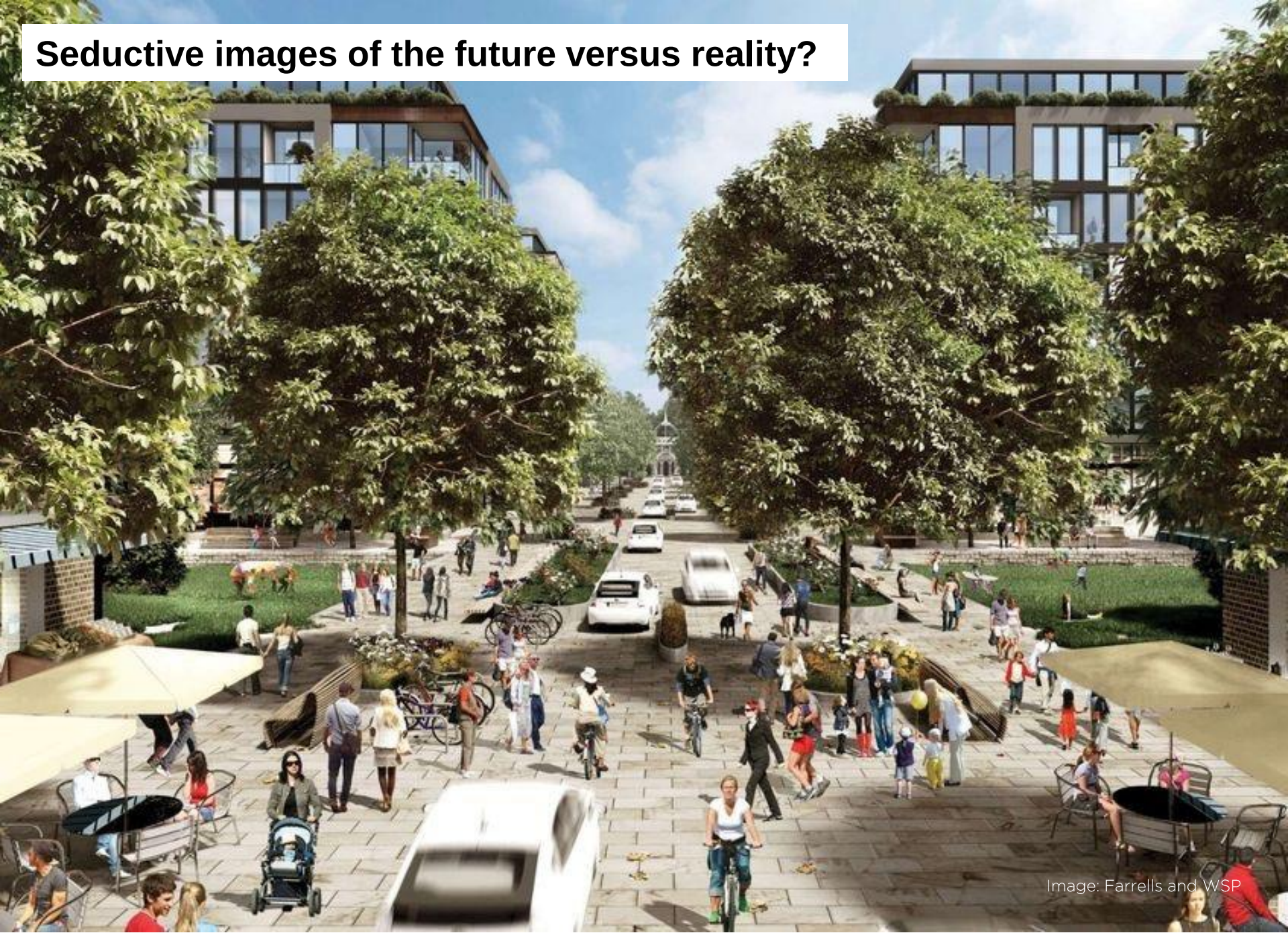
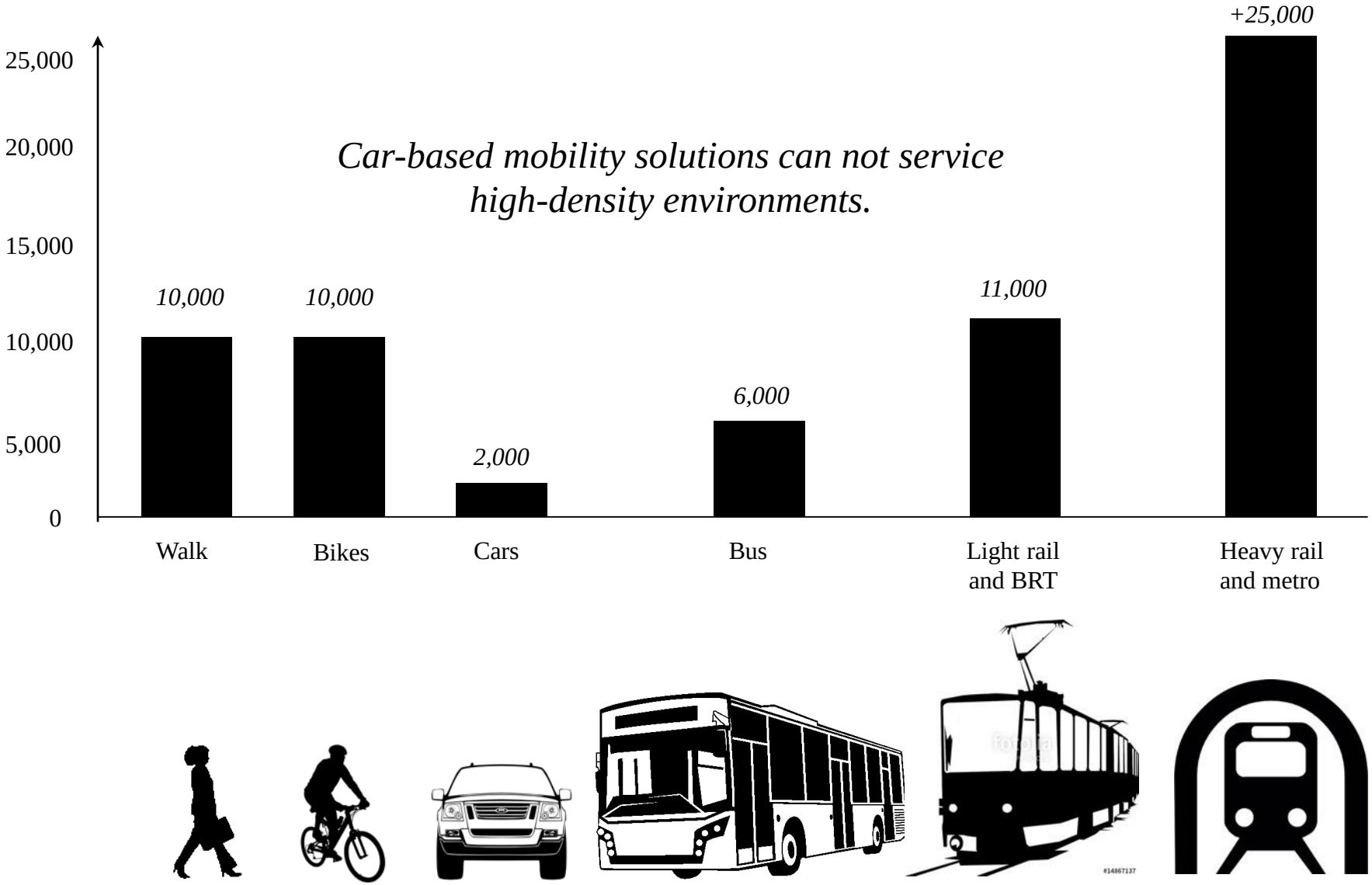


Image: Farrells and WSP

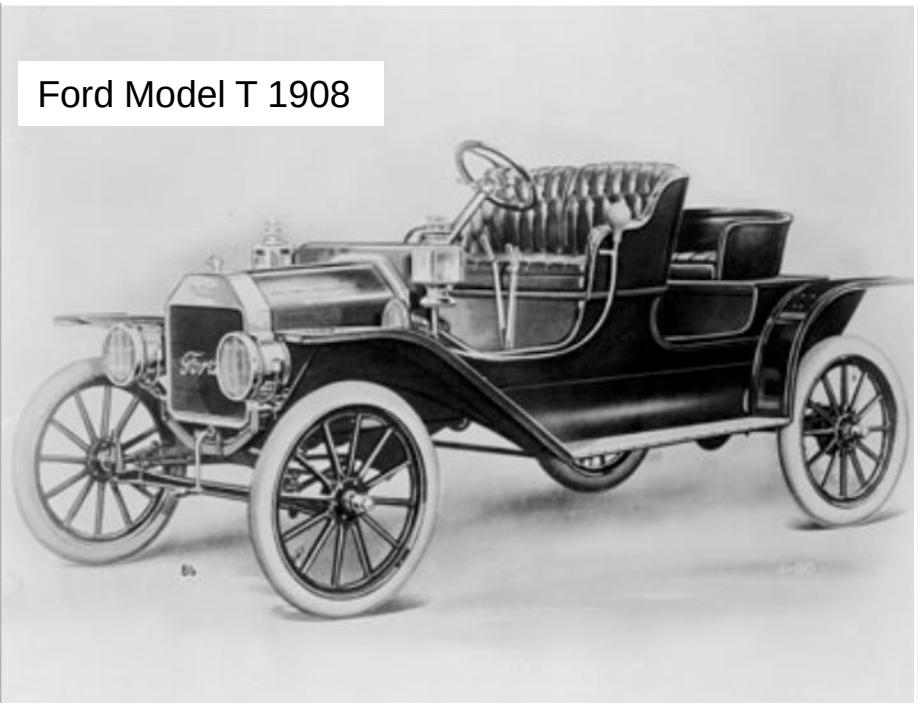
Modal capacity

Maximum people per 9ft lane per hour per direction (w/o uncomfortable congestion)

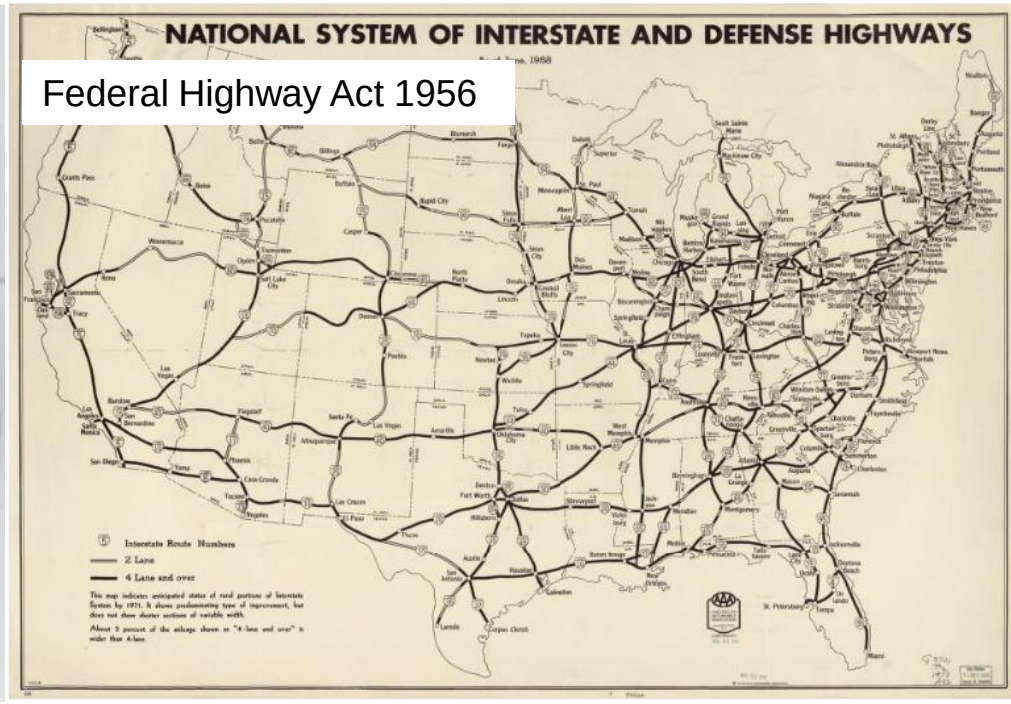


Amara's Law: We tend to overestimate the effect of a technology in the short run and underestimate it in the long run.

Ford Model T 1908

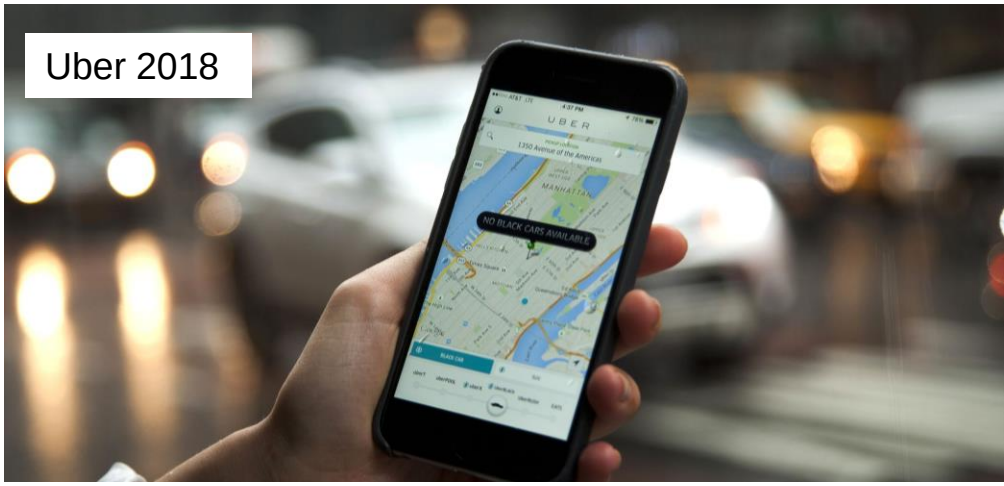


Federal Highway Act 1956



GI Bill 1944

Uber 2018



Five common myths

around AVs and TNCs

Myth 1: With robo-taxis, we will have fewer cars and therefore less traffic on roads?

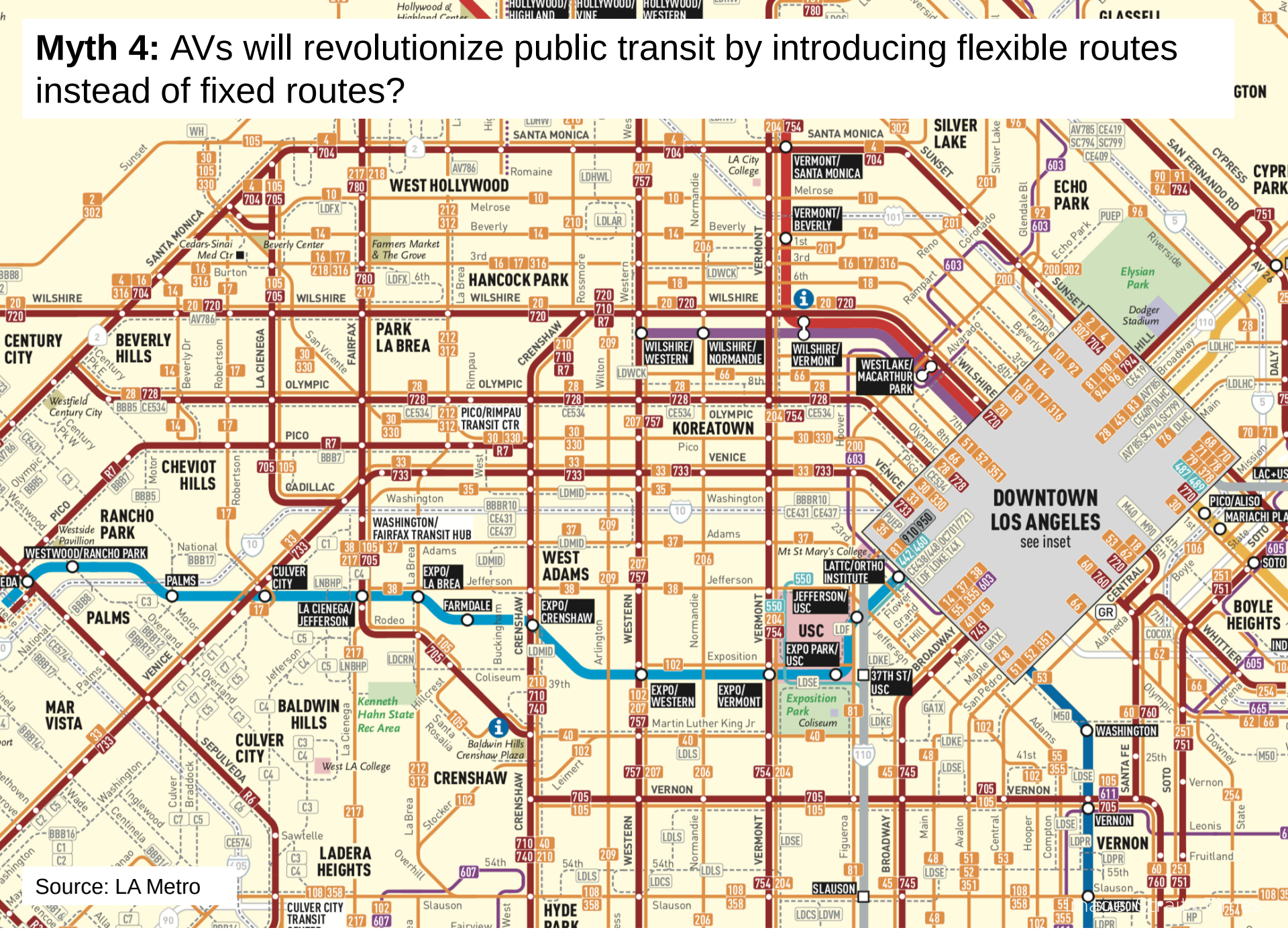
Image: Bosch - Daimler

Myth 2: Because AVs are much safer drivers than humans, streets will be more pedestrian friendly?

Myth 3: Most people will be sharing rides in TNCs and Avs?

Image: Uber

Myth 4: AVs will revolutionize public transit by introducing flexible routes instead of fixed routes?

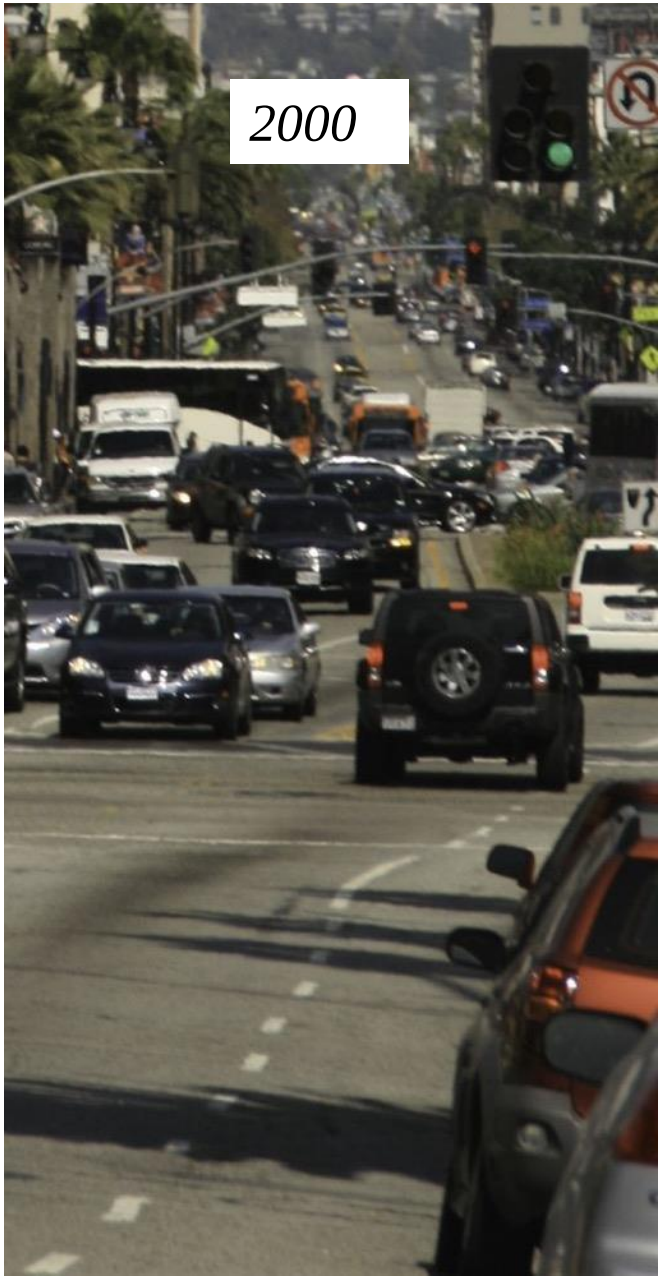


Source: LA Metro

Myth 5: We will need electric car chargers on each curb ?

Image: greencarreports.com

What should cities undertake NOW as safe bets?

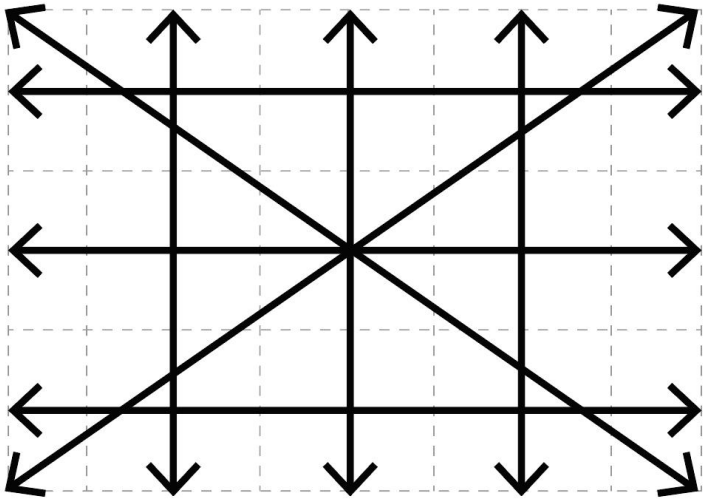


2100?

?

1. Invest AV technology into public transit

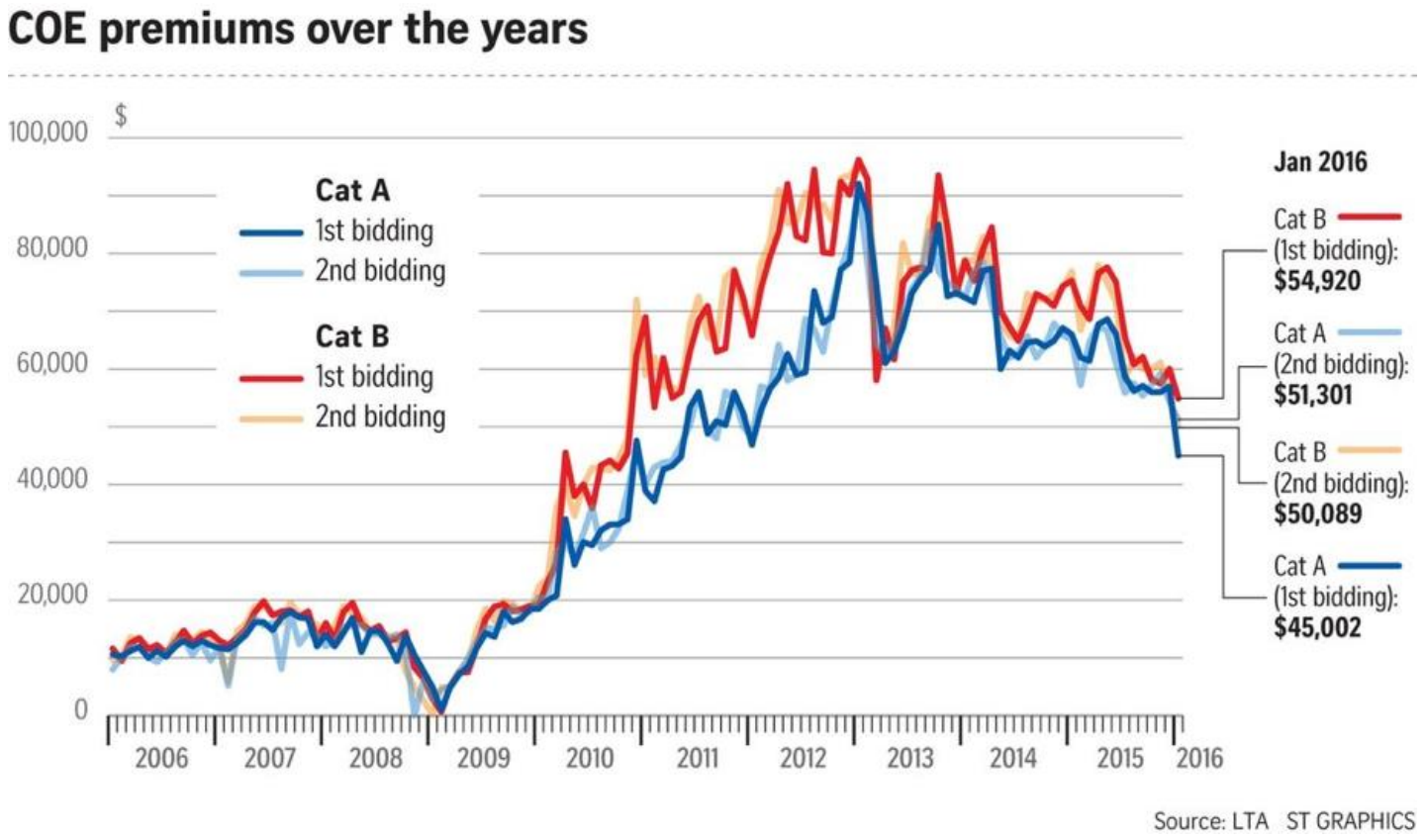
- *Variable capacity vehicles for different urban contexts.*
- *30% more fixed-route lines for the same operational costs.*
- *More frequent and flexible scheduling including night-time service.*
- *New opportunities for private-public partnerships.*
- *Technology ready today.*



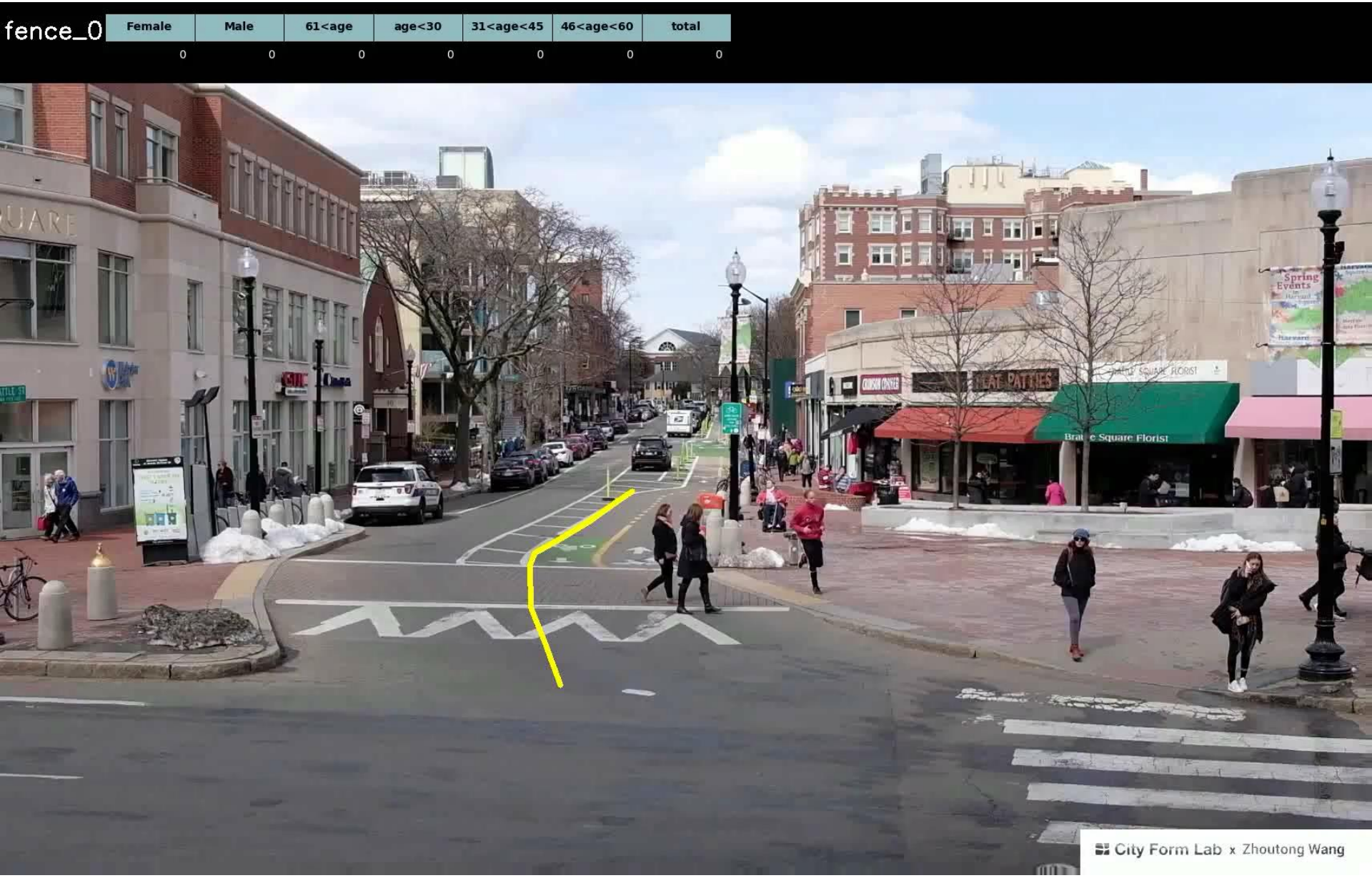
Modular manufacturing

2. Discourage private vehicle ownership and encourage a transition to shared, pooled AVs.

Example: Singapore's Certificate of Entitlement (COE) policy requires each vehicle to have a 10-year COE, which are auctioned to the highest bidder. The number of COEs is kept constant, at a 0% annual increase



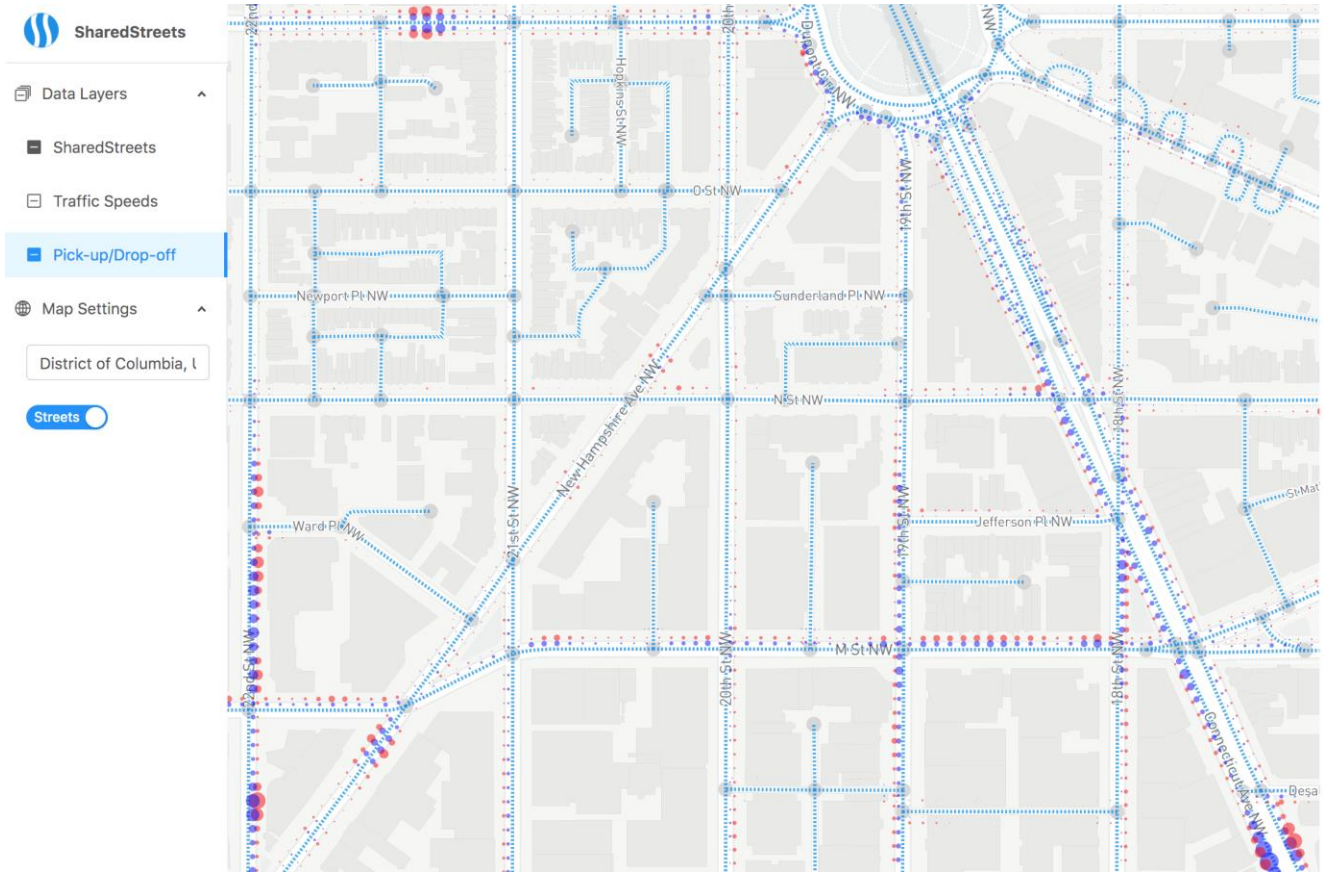
3. Plan streets for people, not vehicles

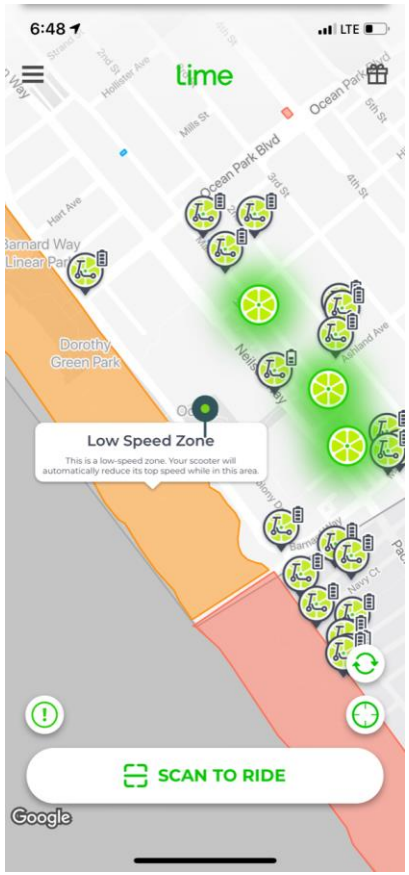


4. Implement electronic systems to manage rideshare providers, dockless bikes and e-scooters that operate in the public right of way.

LA DOT

https://github.com/CityOfLosAngeles/mobility-data-specification



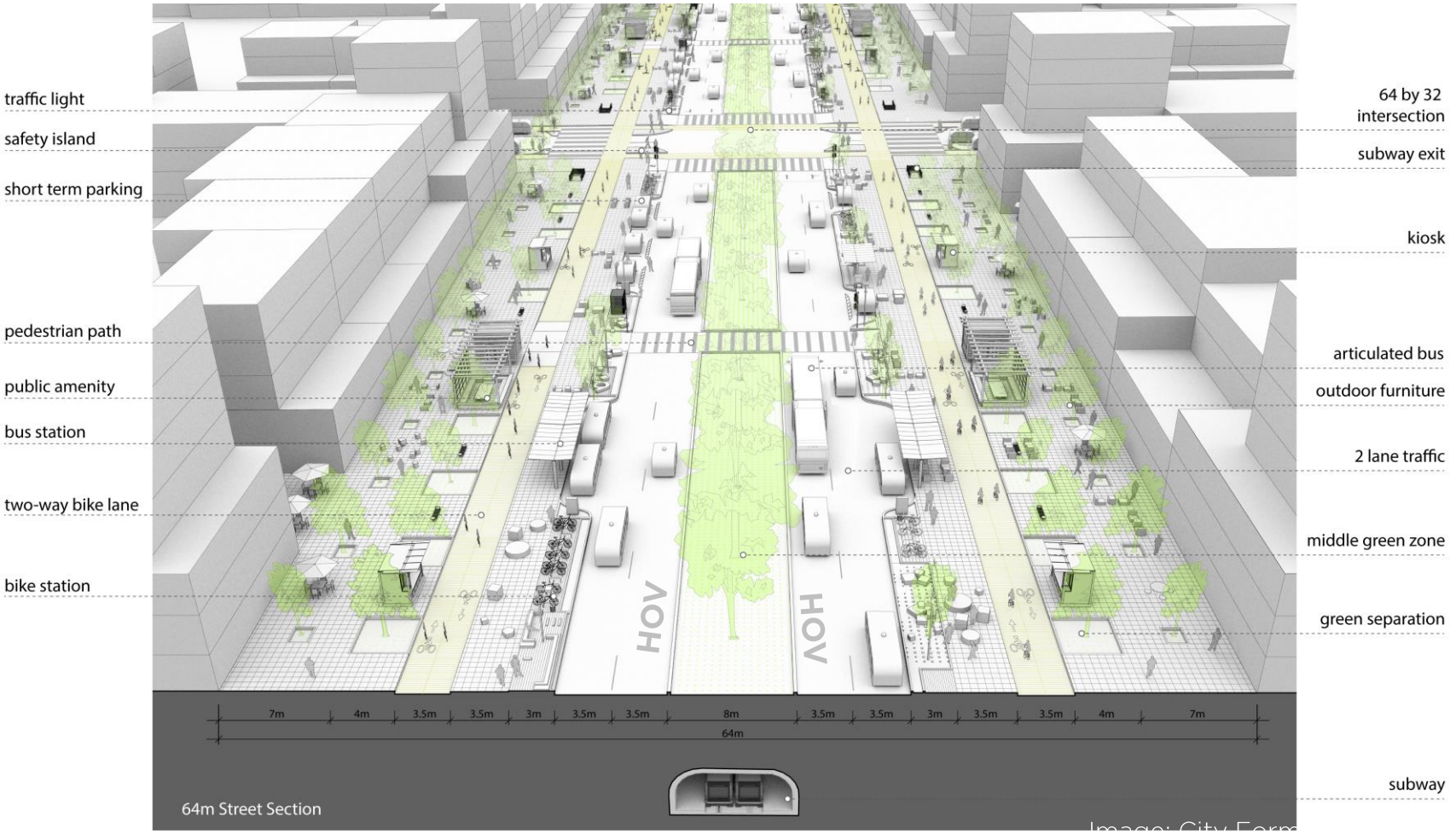


5. Implement

a. Bike lanes for Personal Mobility Devices,

b. High Occupancy Lanes for shared transit

c. Pick-up / drop-off stations for public transit and ride-sharing services.



Thank you!

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