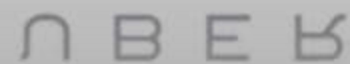
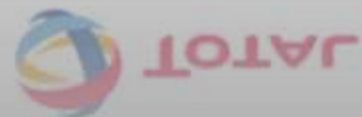
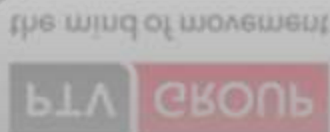


SHARED AUTONOMOUS CARS WILL TRANSFORM CITY TRANSPORT AND TRAFFIC OPERATIONS:

CURRENT CPB PARTNERS



SHARED AUTONOMOUS VEHICLES?



The background is a grayscale aerial photograph of a city, showing a dense network of streets and building footprints. A solid red horizontal band is superimposed across the middle of the image, serving as a backdrop for the text.

real city

The background is a grayscale aerial map of a city grid. Overlaid on the map are ten red location pins. Each pin contains a white circular icon with a stylized human figure. The pins are distributed across the map: five in the upper half and five in the lower half. A solid red horizontal band spans the width of the image, passing behind the central text.

real* trips

The background is a grayscale map of a city street grid. Overlaid on the map are ten red location pins, each containing a white silhouette of a person. The pins are distributed across the map: five in the upper half and five in the lower half. A solid red horizontal band spans the width of the image, positioned behind the central text.

real* routes

SHARED AUTONOMOUS VEHICLES?



TaxiBot
ride-sharing



AutoVot
car-sharing



Public Transport
High-Capacity

WHAT WE WANTED TO TEST

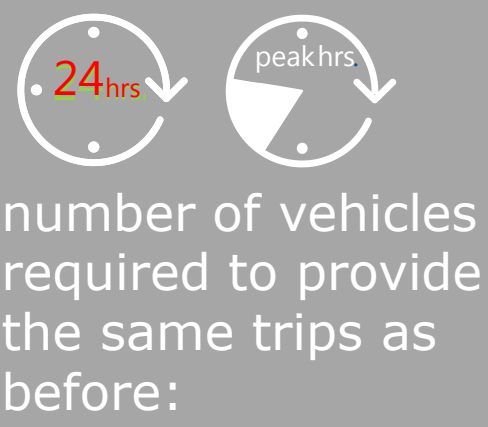
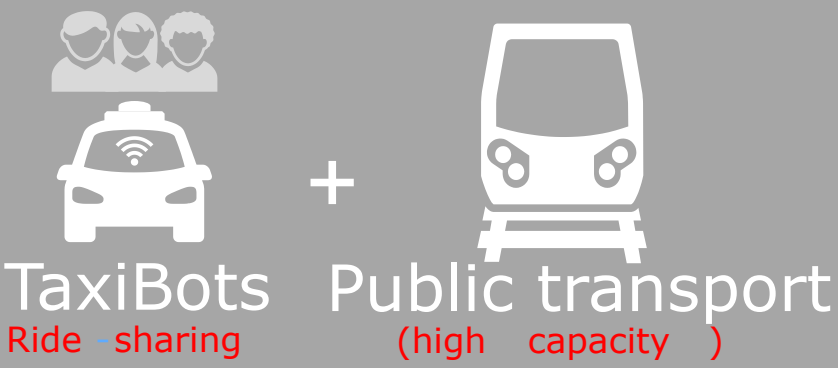
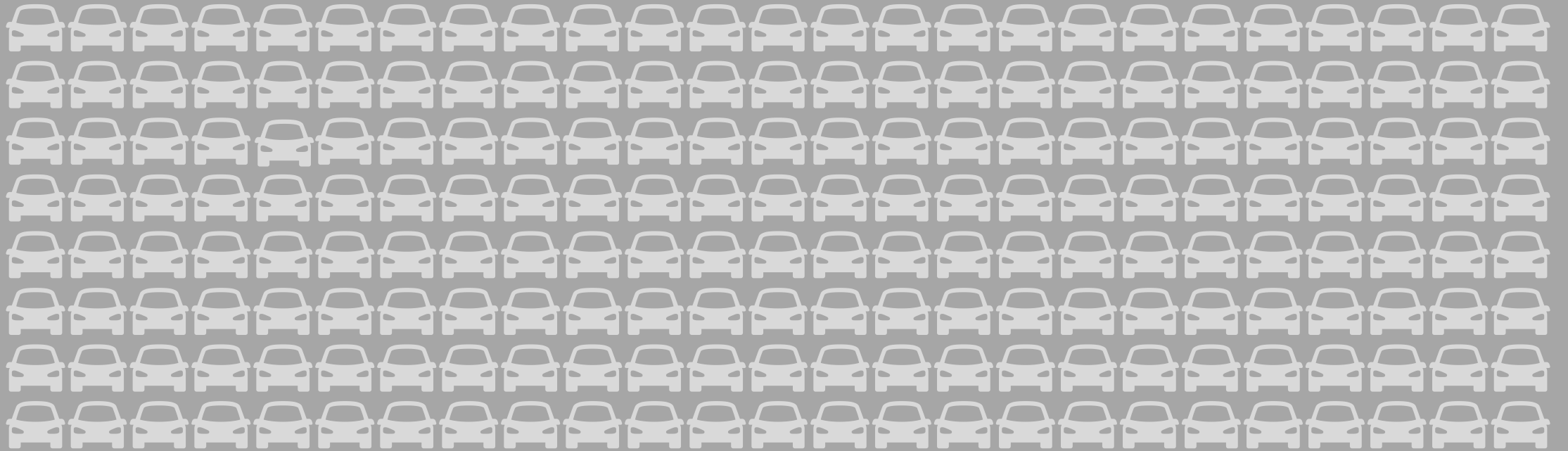


5
minutes

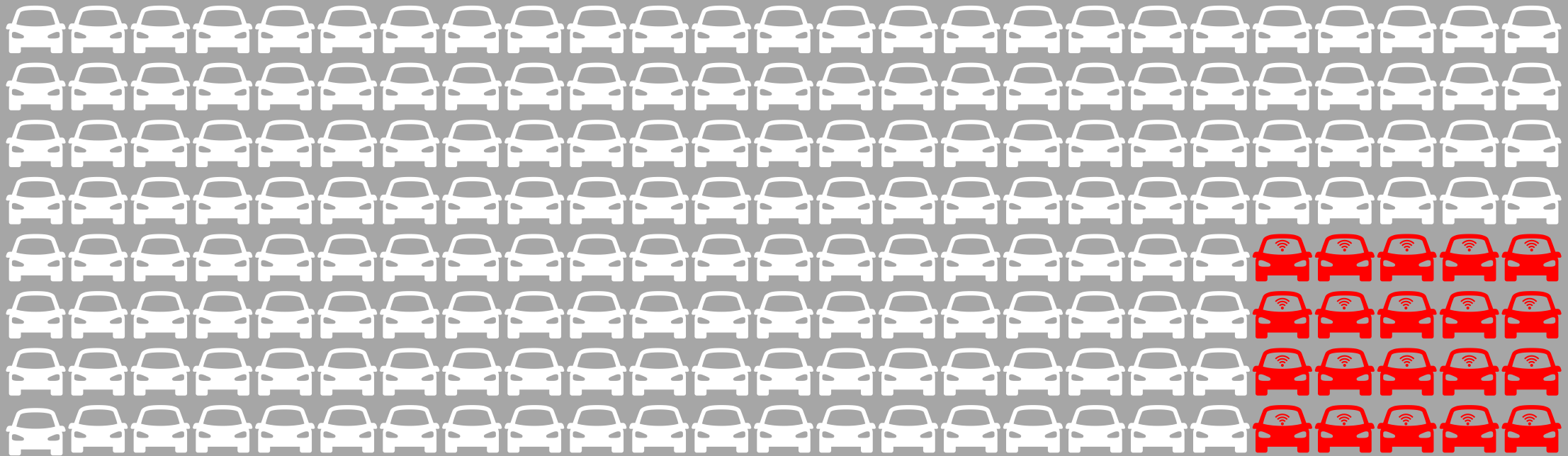
all day **vs.** peak hours

maximum delay
from base case trips

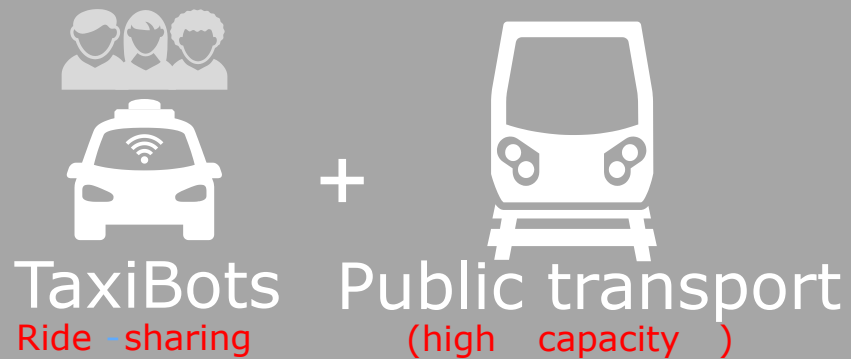
WHAT WE WANTED TO TEST



THE IMPACT ON VEHICLE NUMBERS



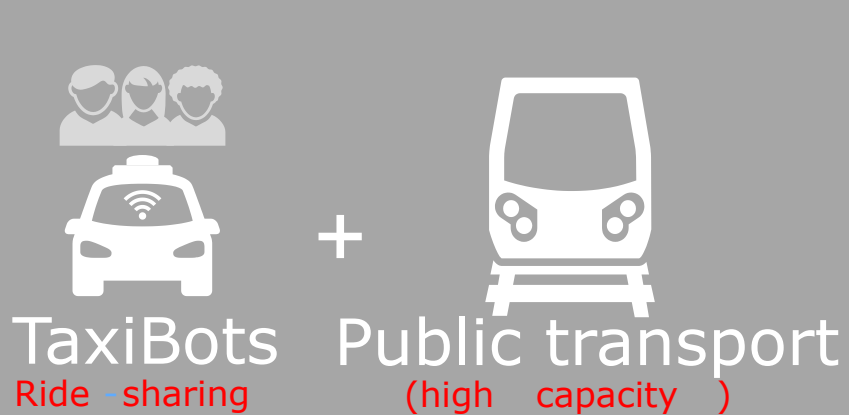
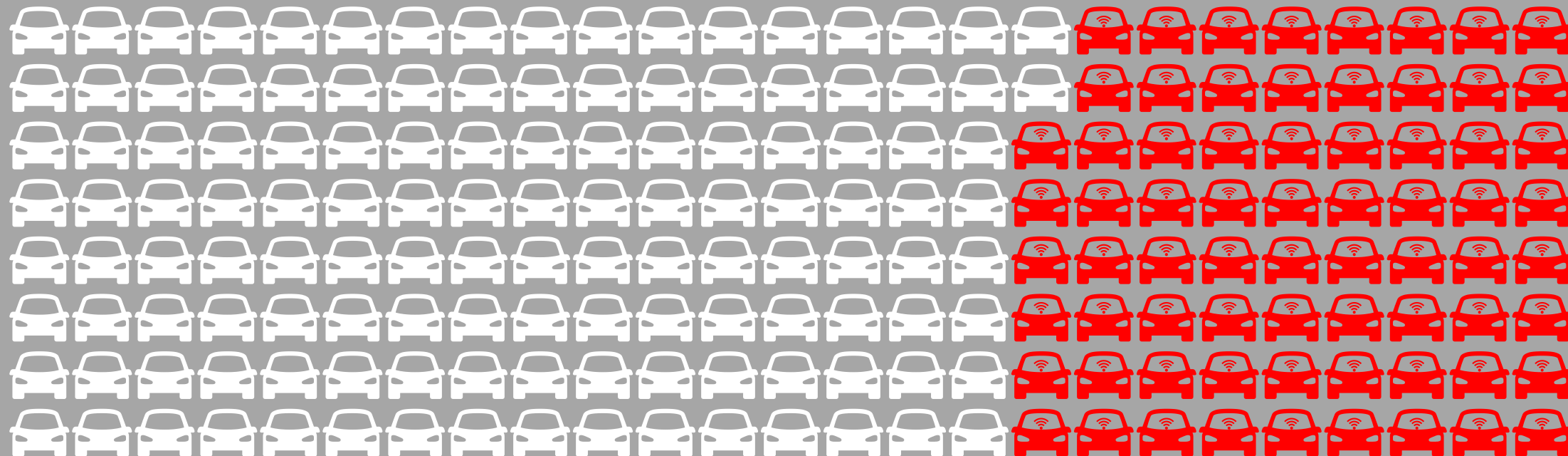
Scenario: 24 hours



number of vehicles
required to provide
the same trips as
before:

10%

THE IMPACT ON VEHICLE NUMBERS



number of vehicles
required to provide
the same trips as
before:

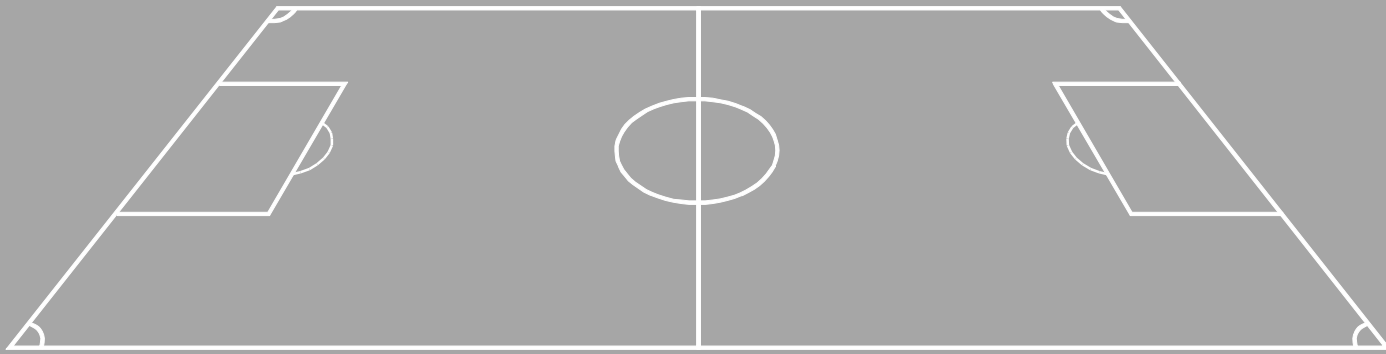
35%





- 80%
Off Street Parking

WHAT IT MEANS FOR LAND USE



x **210**

In our modelled city a shared self-driving fleet would potentially remove the need for **all on-street parking** freeing an area equivalent to **210 football fields**



+20%

Kerb to Kerb space



PUBLIC PARKLET



A space for the community to enjoy

Please don't use this space as your driveway, pet's toilet, concert hall, or permanent residence. Use at your own risk.

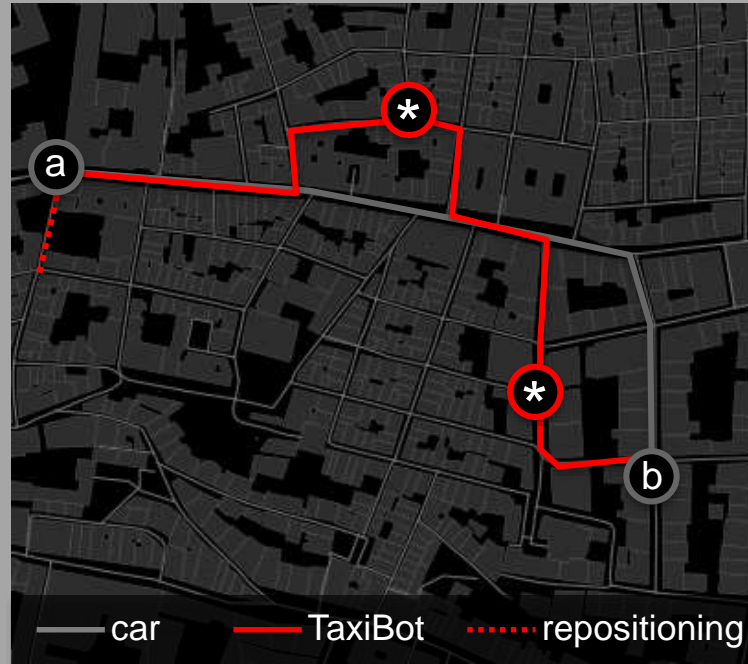
PLACITA para todos

Un pequeño parque público para que disfrute la comunidad.

NOT ALL IS GOOD NEWS

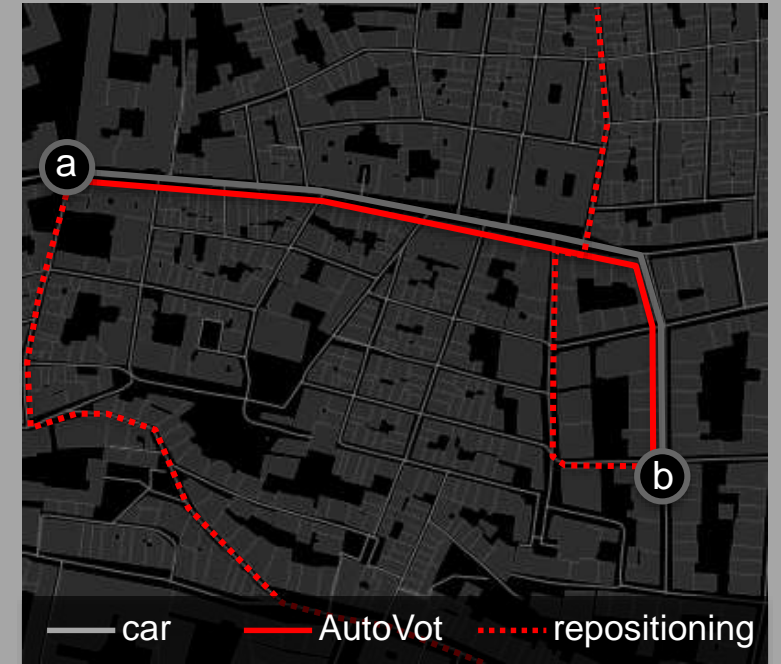
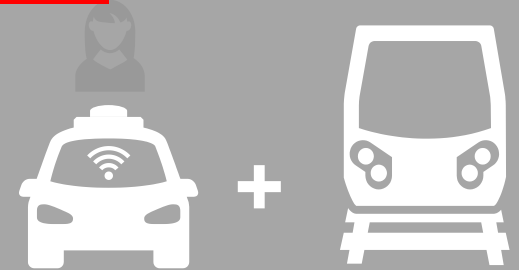
+30% to +90%
kilometres travelled

IMPACT ON KM TRAVELED



6%- 25 %

more kilometres travelled due to bus replacement, pick-ups, drop-offs and re-positioning



44% -103%

more kilometres travelled due to replacement, re-positioning

TaxiBots and AutoVots will travel more than today's cars

CAN WE DO BETTER ?– SHARED ON DEMAND BUS

On Demand

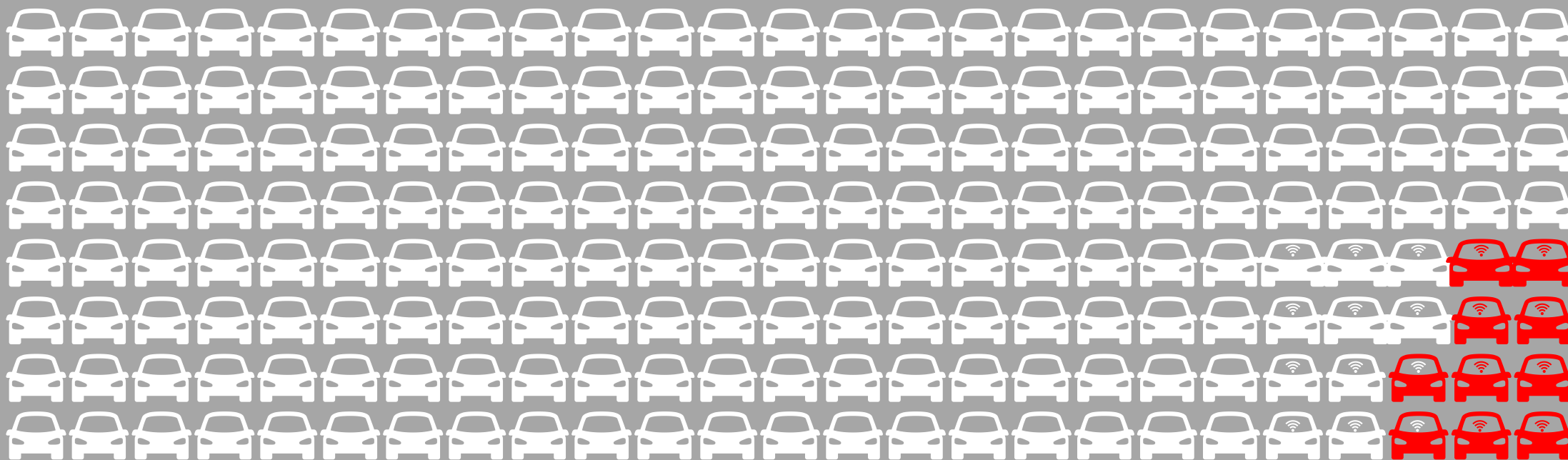
8-16 Person Capacity

30 min advance Booking

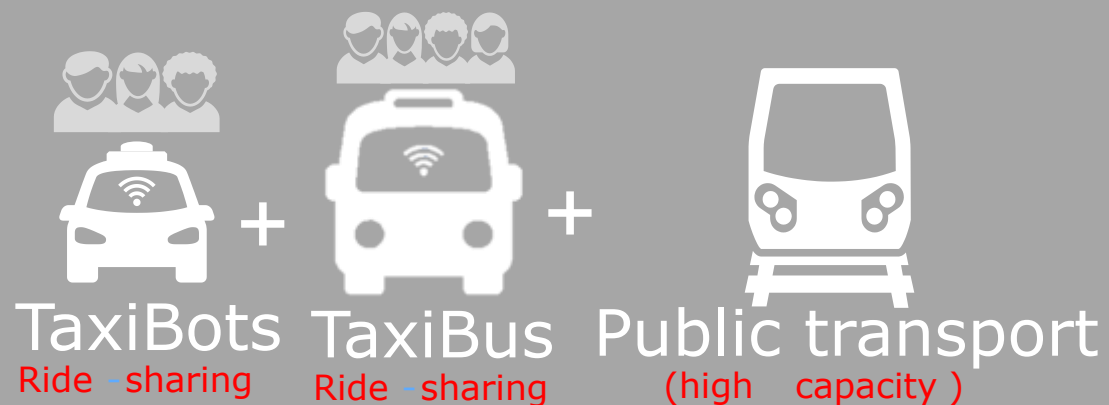
< 300 m to “pop-up” stop

10 min tolerance for boarding time





Scenario: 24 hours



number of vehicles
required to provide
the same trips as
before:

5%

BETTER USE OF CAPACITY

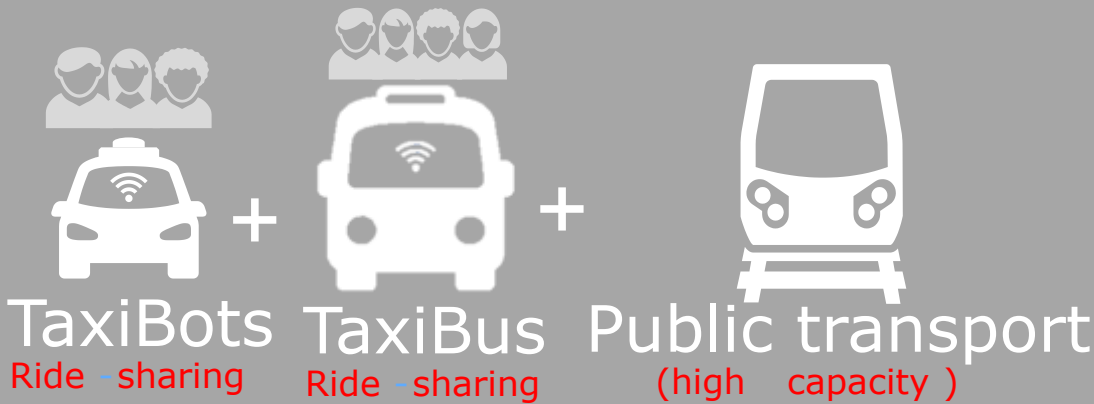


+ 230%

8-16 person bus capacity vs 80 person bus capacity

WHAT WE COULD ACHIEVE

-22% & **-27%**
kilometres travelled CO₂ emissions



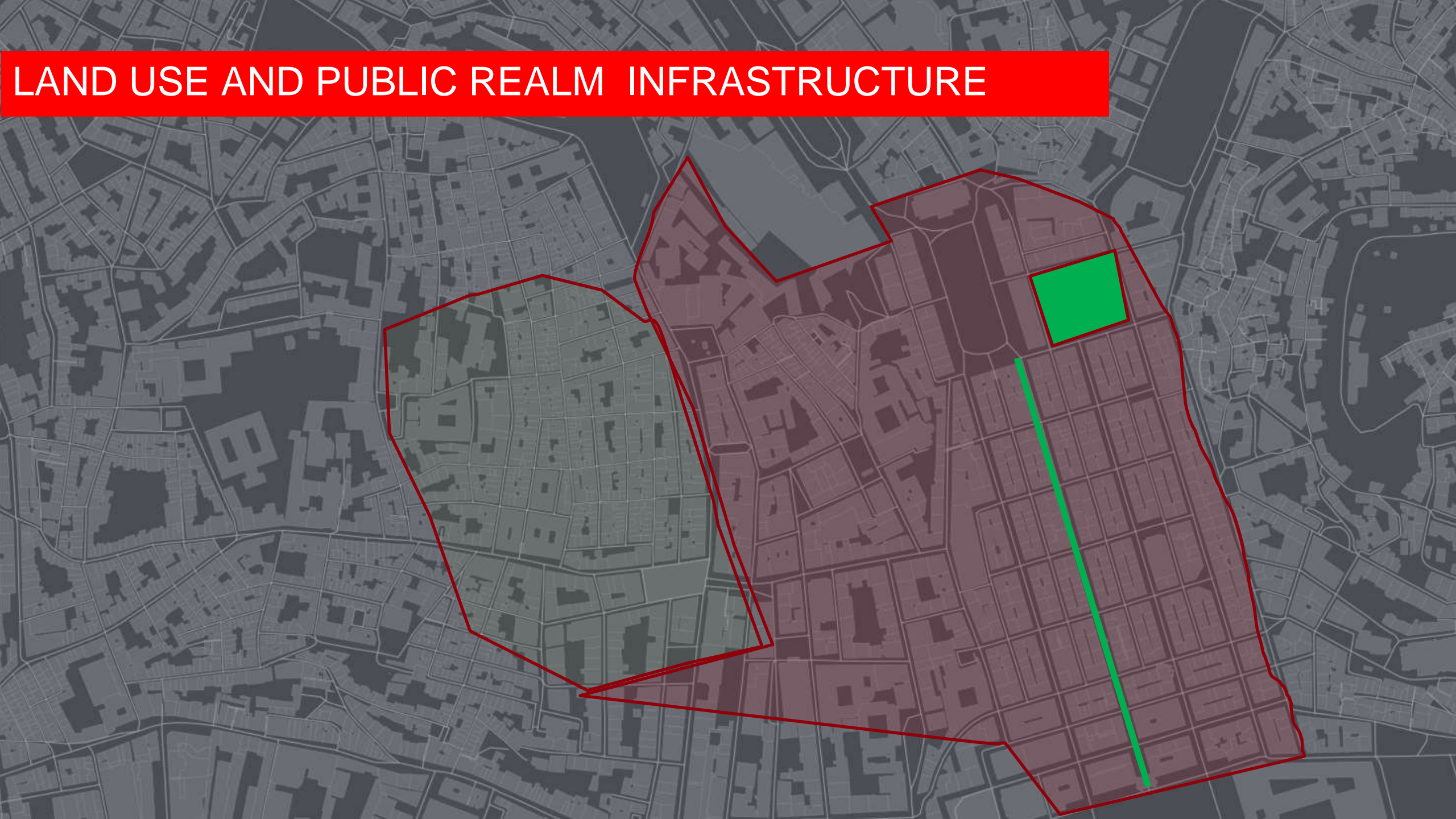
An aerial photograph of a city grid, showing streets and building footprints. A horizontal red band is superimposed across the middle of the image.

Tomorrow's city

ACCESSIBILITY



LAND USE AND PUBLIC REALM INFRASTRUCTURE



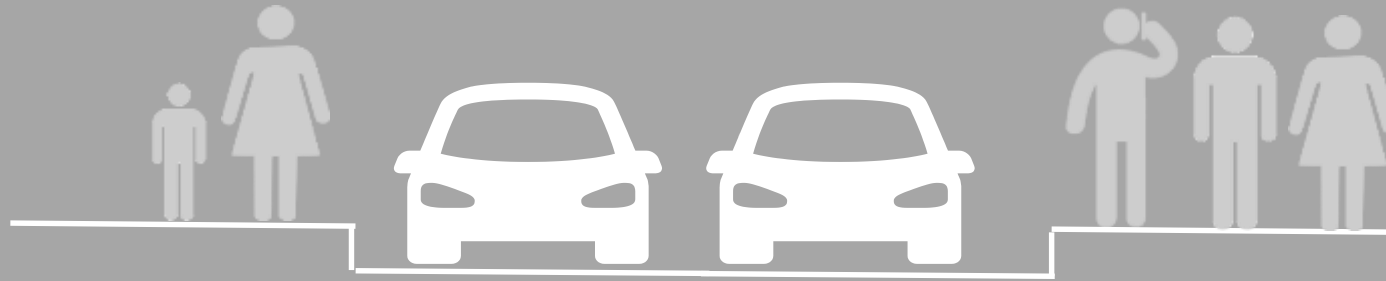
PUBLIC REALM INFRASTRUCTURE



VEHICLES AN EXTENSION OF THE CITY?



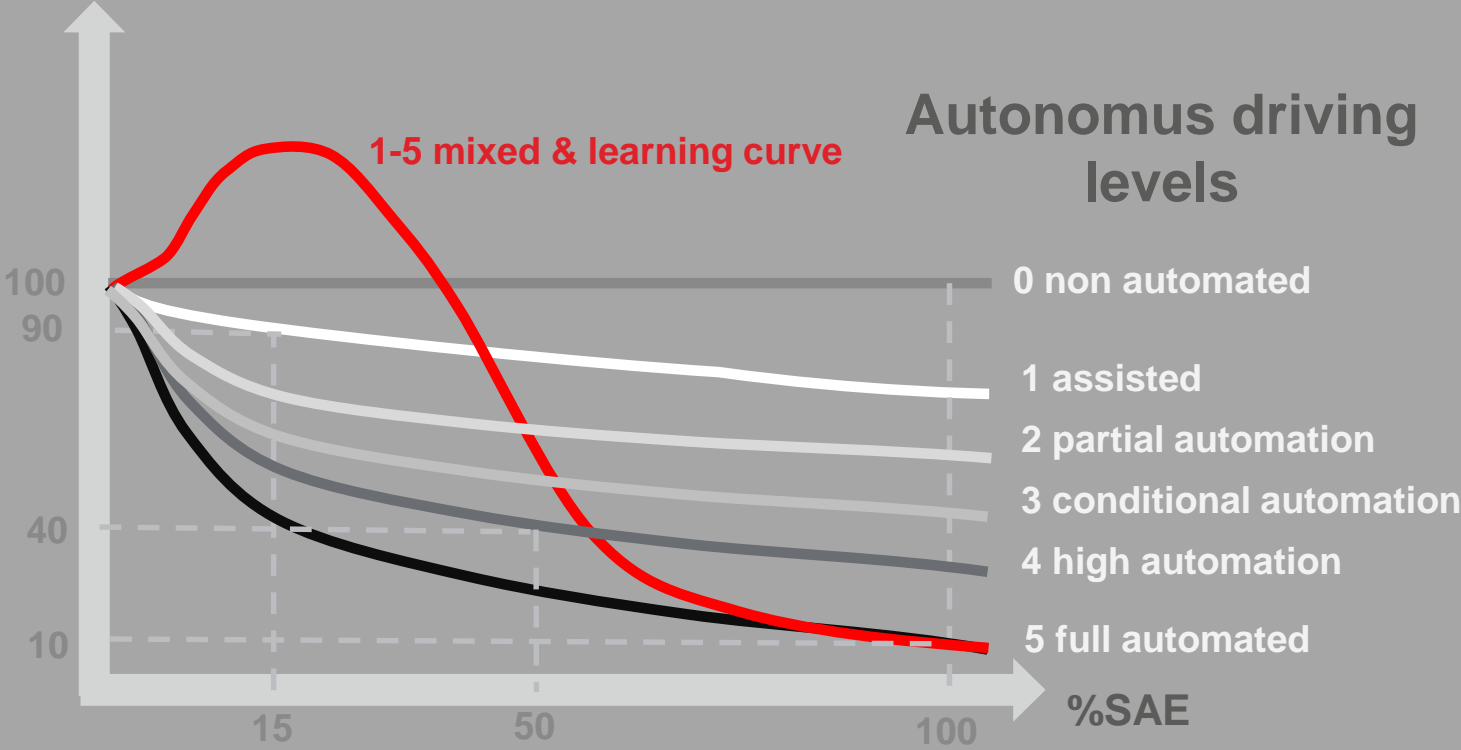
THE ROAD OF TOMMOROW?



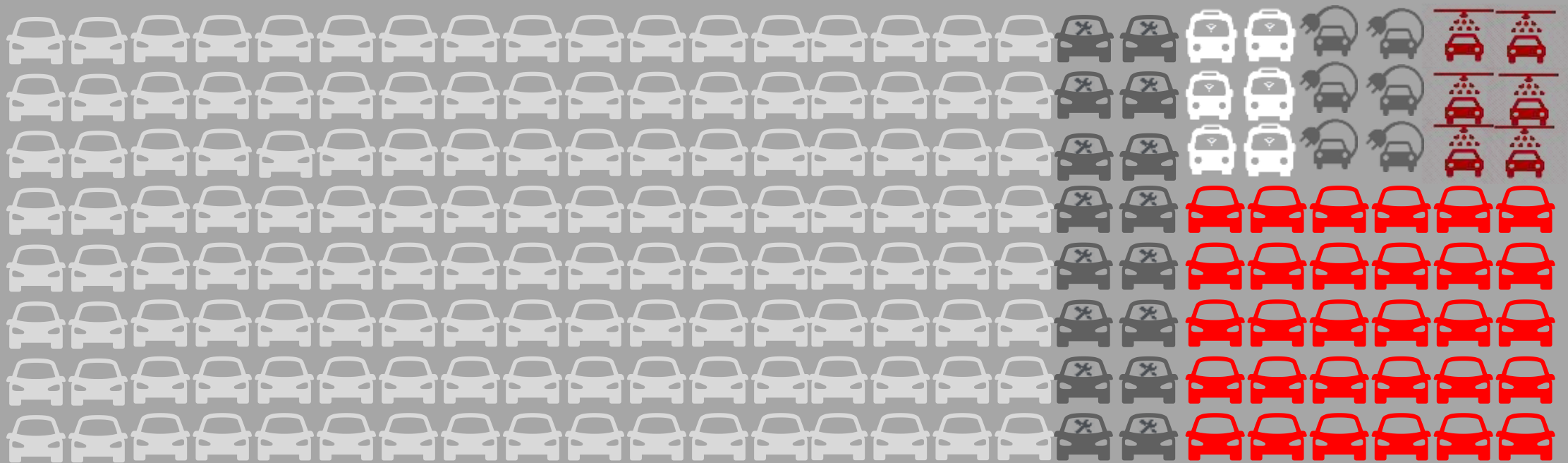
SAFETY

Collisions

Autonomus driving levels



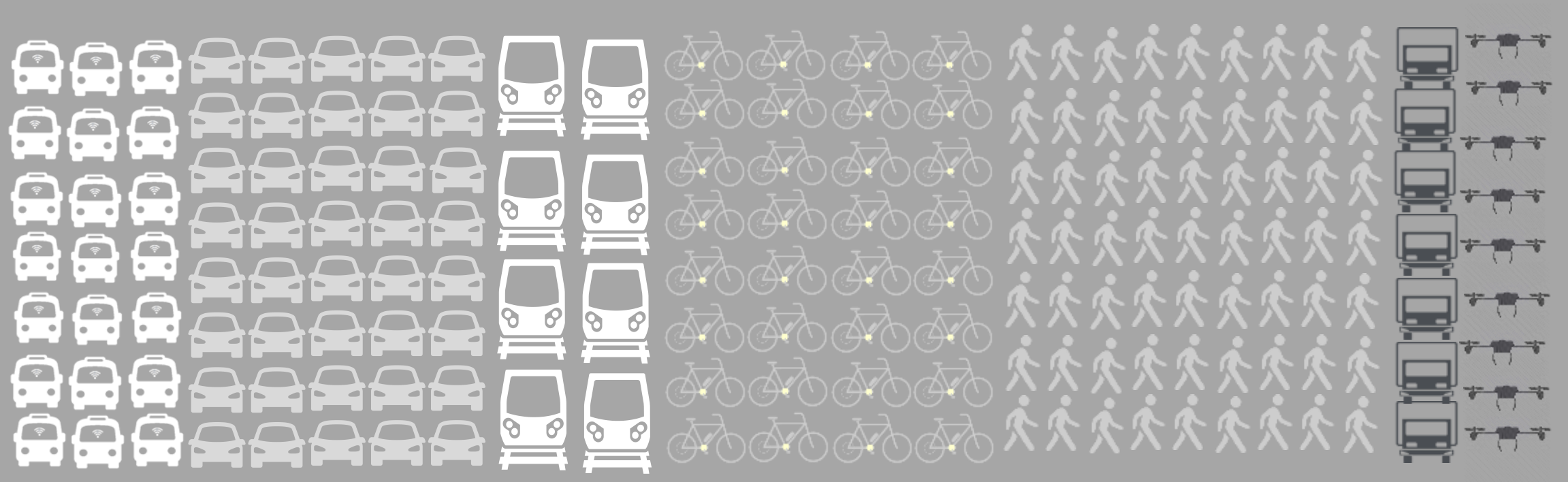
OPERATIONAL ISSUES



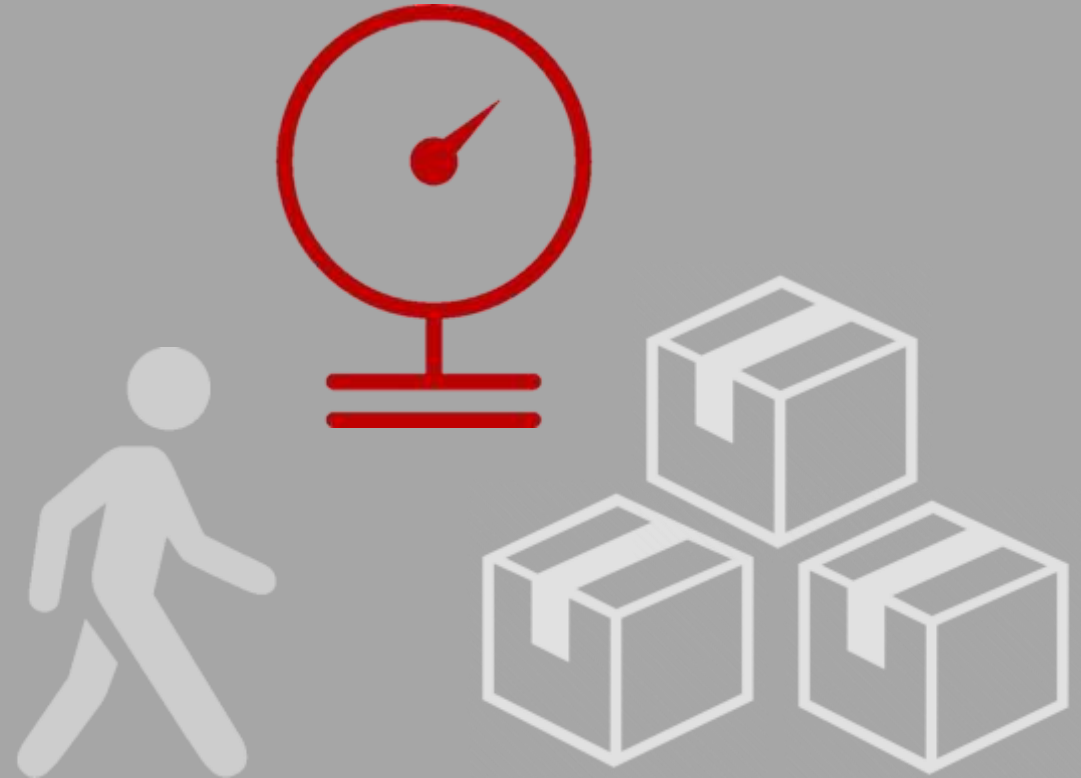
MODE INTERCHANGE



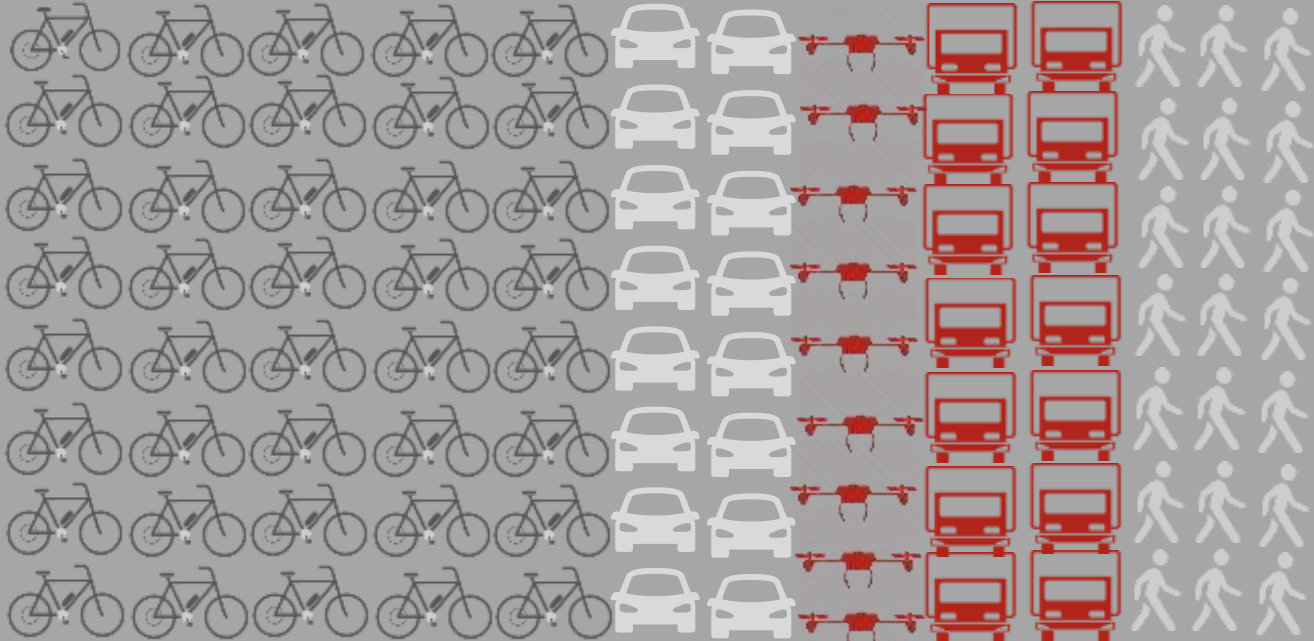
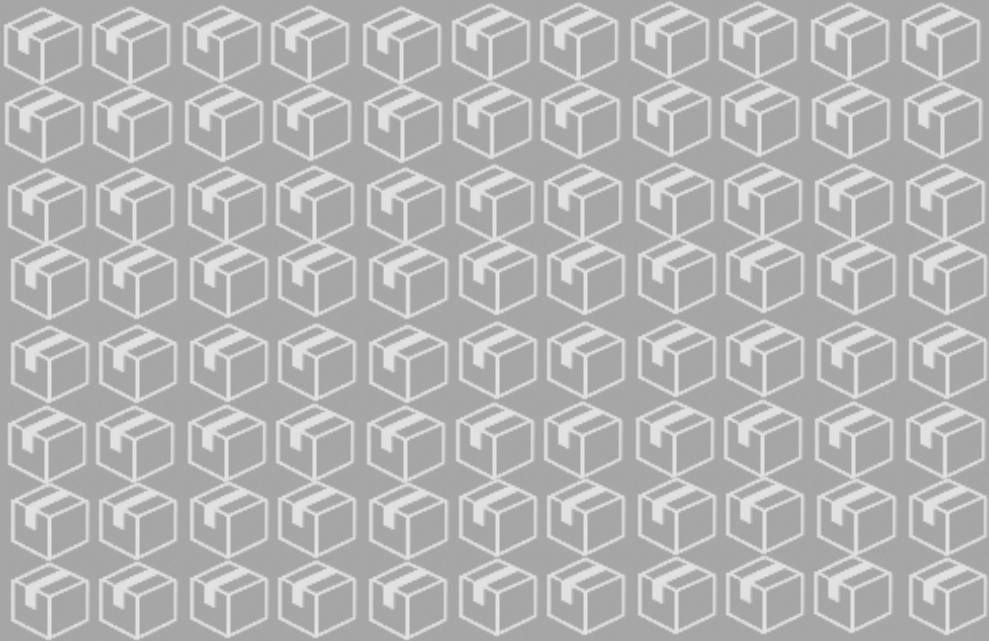
FUTURE MODE SPLIT



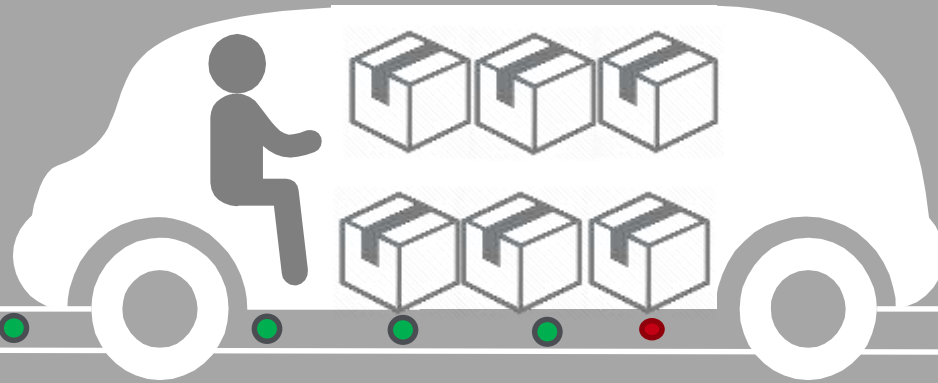
URBAN LOGISTICS

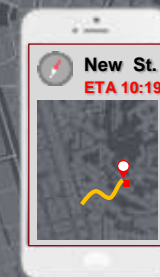
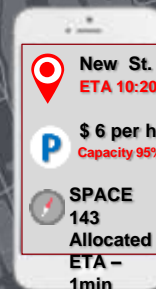
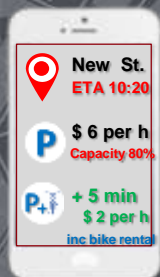


HOW DO WE DELIVER THE CARGO

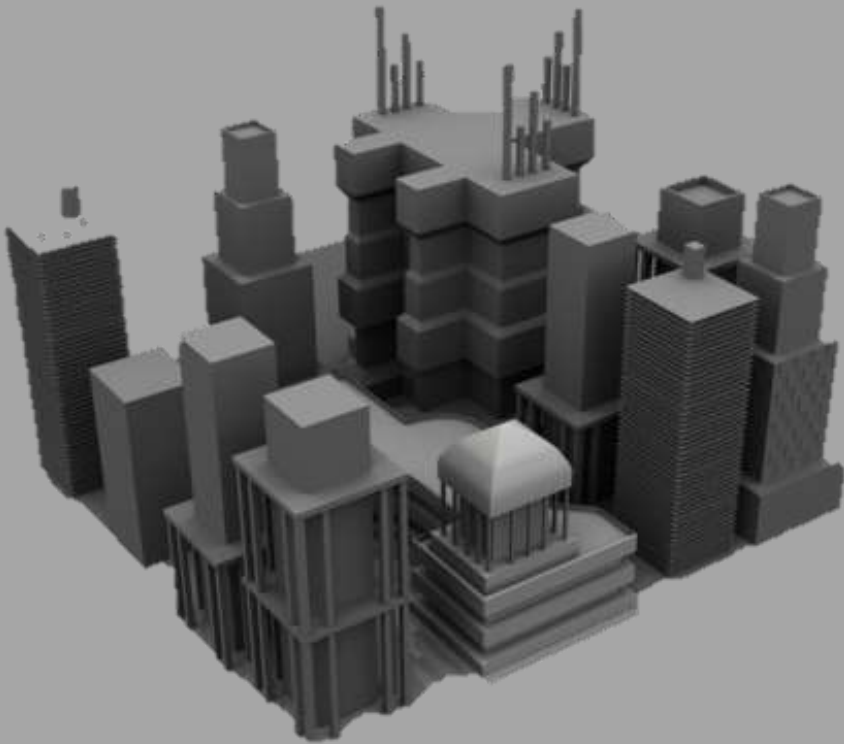


OPERATIONAL SOLUTIONS





A BASE FOR STRATEGIC ASSESSMENT



PTV CITYSIM

PTV VISUM

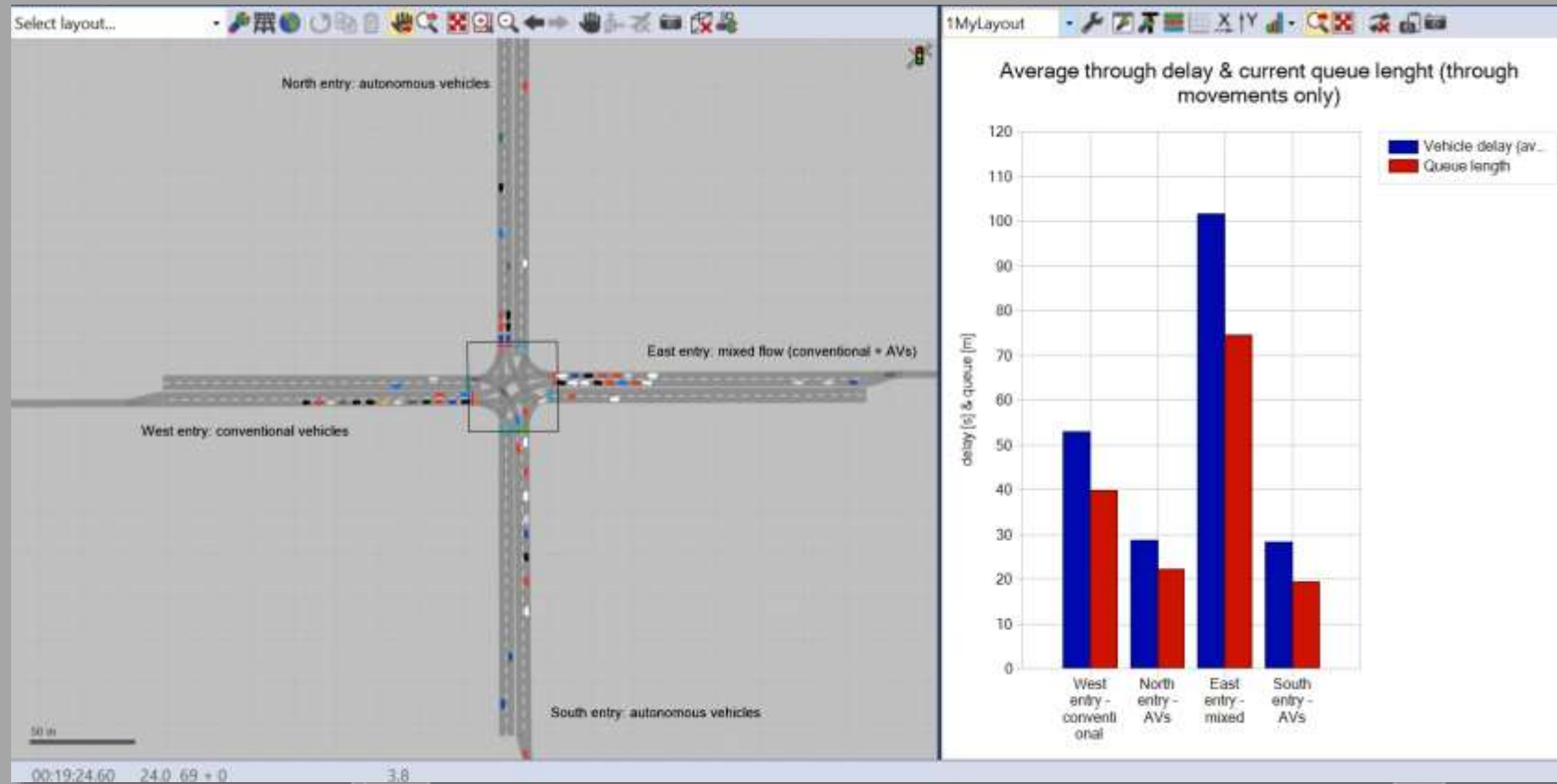
PTV VISSIM

Strategic
What if

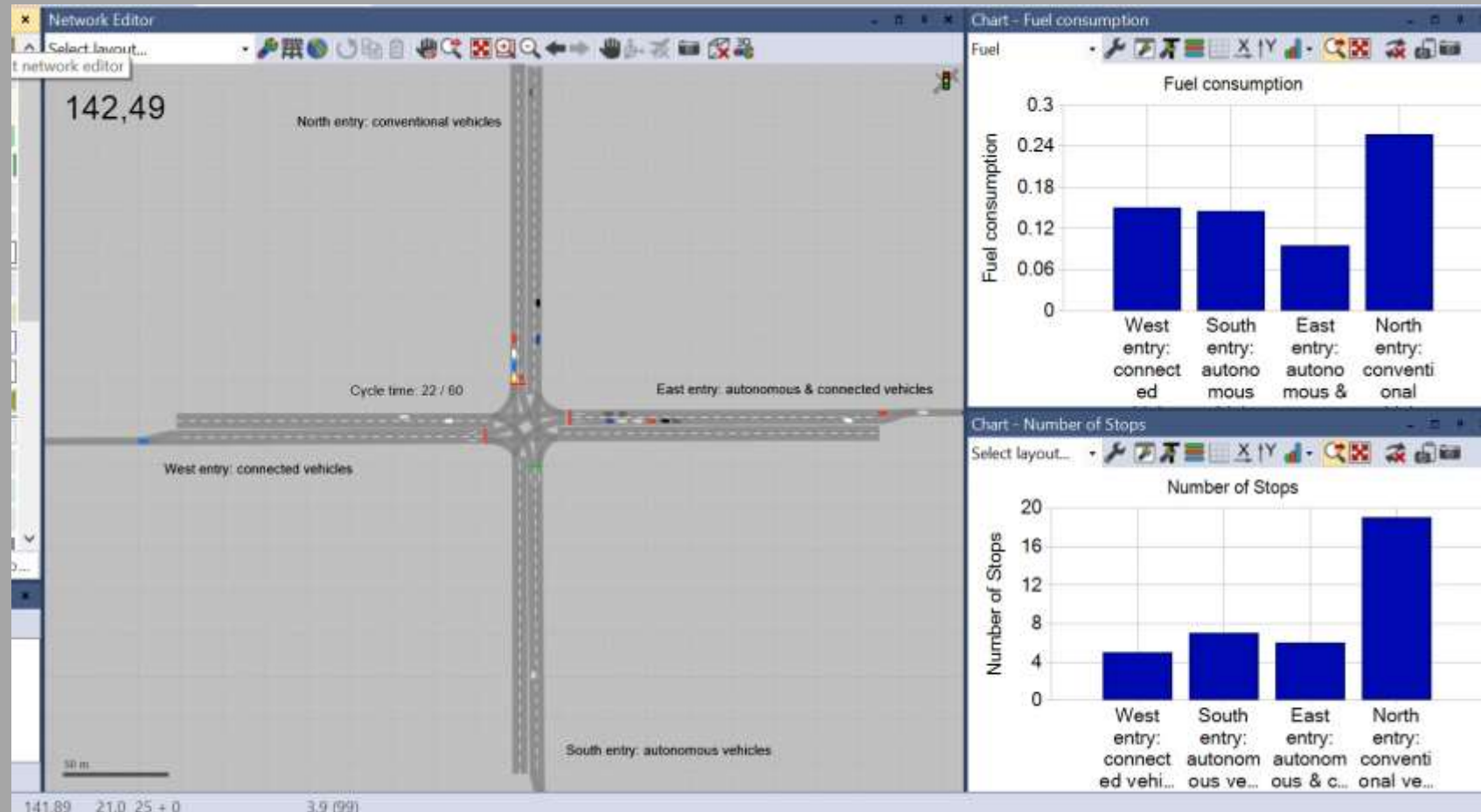
Planning

Simulation

EXAMPLE 1: CAV AT SIMPLE URBAN INTERSECTION



EXAMPLE: C2X OPTIMUM SIGNALS





the mind of movement

www.vision-traffic.ptvgroup.com