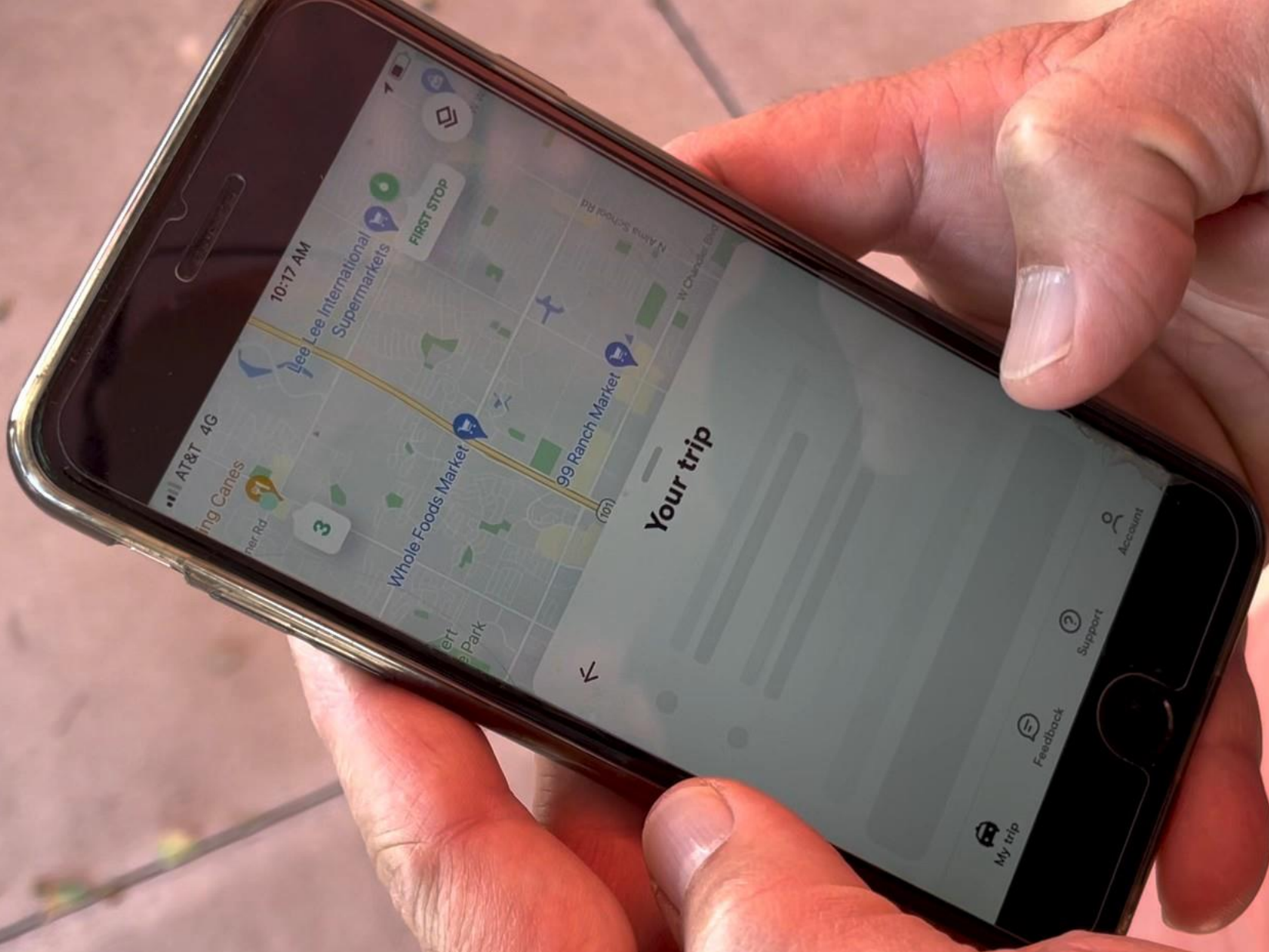




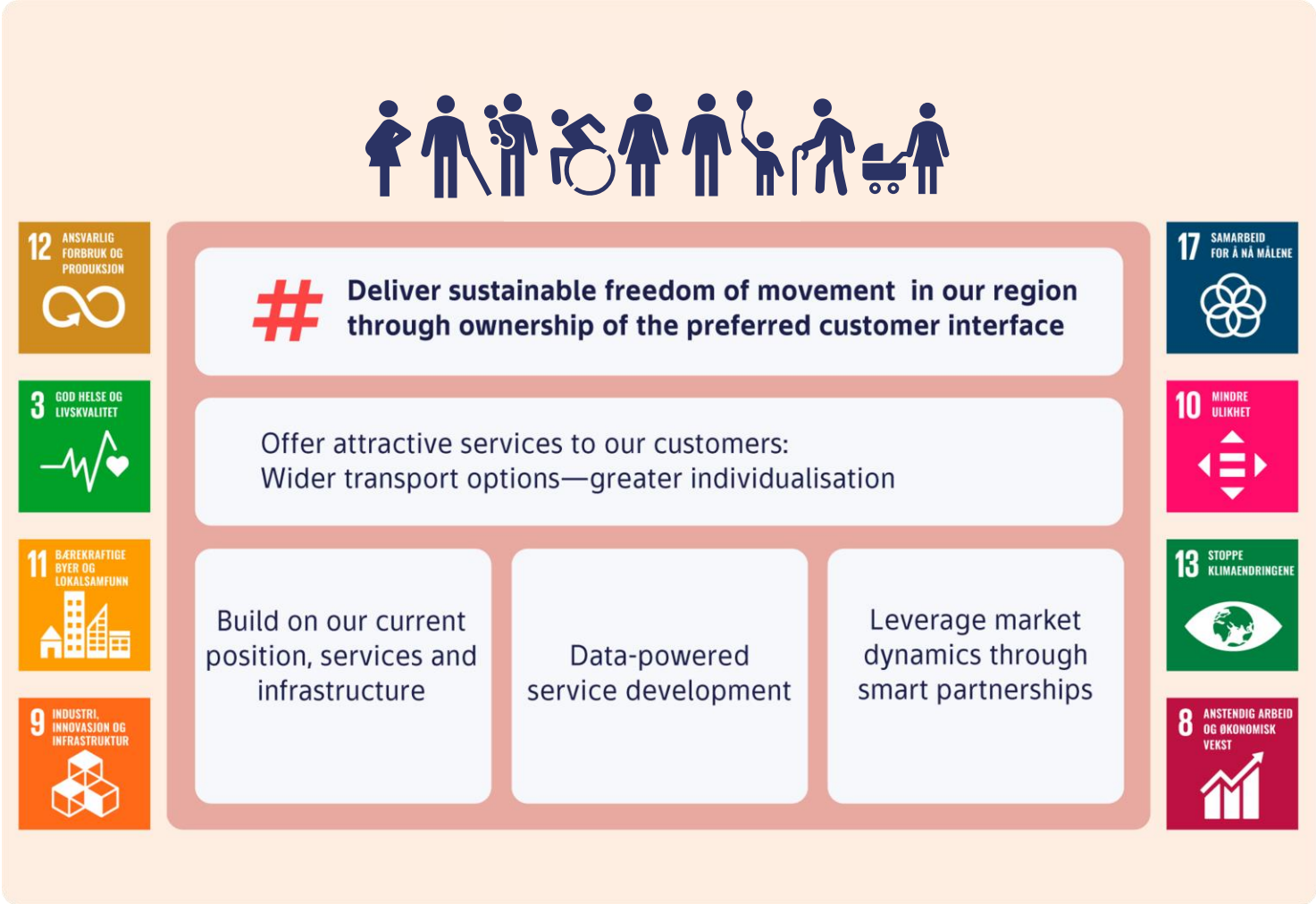




In Ruter we believe that **shared autonomous vehicles** will be a significant part of future public transport



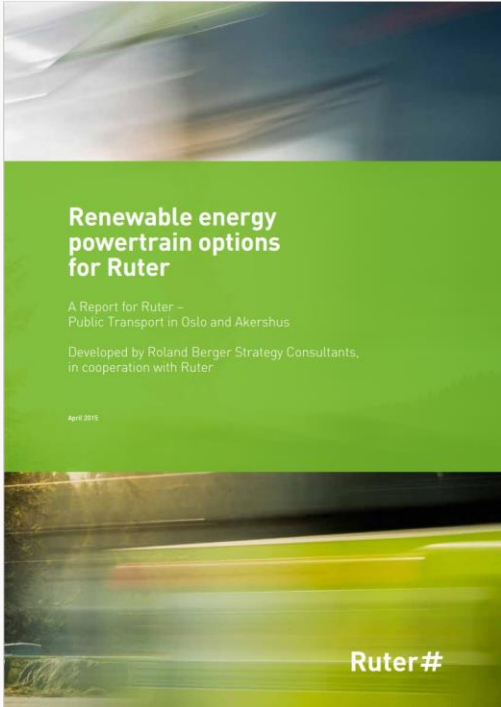
# Our vision: Deliver sustainable freedom of movement





# We wanted to lead the change, rather than wait for market maturity

## 2015: Renewable energy public transport in 2020



## 2018: Zero-emission public transport by 2028



**Private cars are designed to be too attractive**



# Ruter has purchased and tested AV technology since 2018

## Akershusstranda



**22 000 +**  
Passengers in  
5 months

**9 000**  
Km driven



## Ormøya & Malmøya



**6 717**  
Passengers in  
10 months

**23 000**  
Km driven



## Kongens gate



**1 560**  
Passengers in  
4 months

**2 600**  
Km driven

**3X**  
Traffic light  
crossings

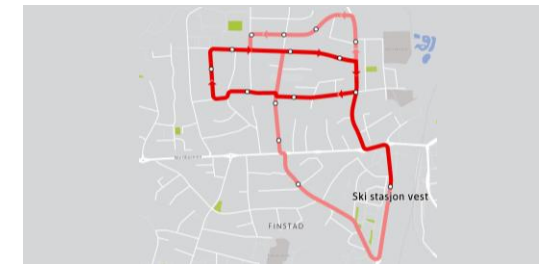
**V2X**  
Communication



## Ski



- **Increased speed** **9 000 +**  
Km driven
- **Winter conditions**
- *On-demand functionality*
- *Unmanned operations*





# The Grorud pilot concept



15 – 30 Vehicles for 3-5 persons



On demand and shared automated vehicles



Speed up to 80 km/h



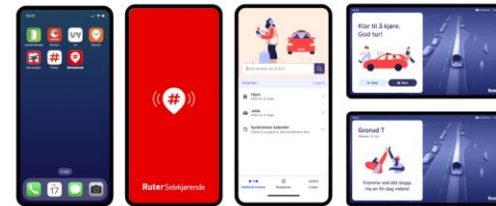
SAE Level 4 in mixed traffic



Ordered via smartphone app



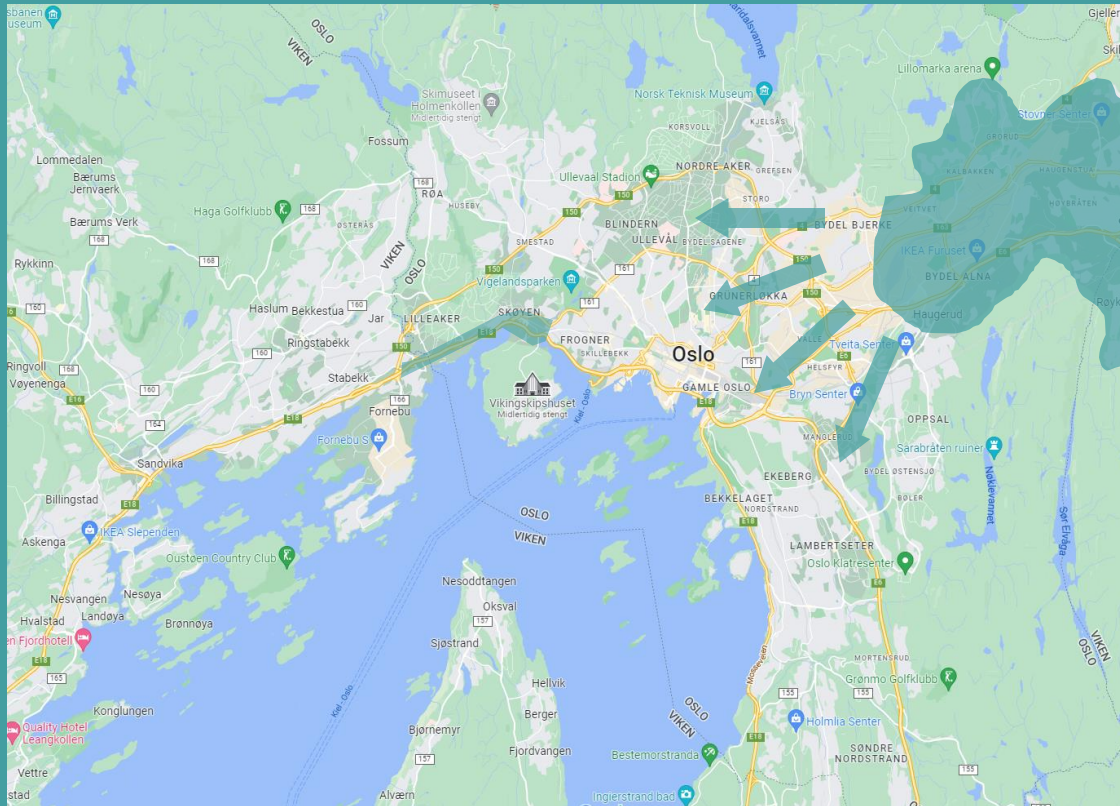
Predefined and delimited area with virtual stops





# Transforming the transportation system – our roadmap

Gradual scaleup in close cooperation with local authorities, road authorities and public transport authorities



**Steady state**

+ 30 000 SAVs in regions

**2030 Scaling operations**

~ 20 000 SAVs in region

**2025 Business viability**

20 – 500 SAVs in municipality

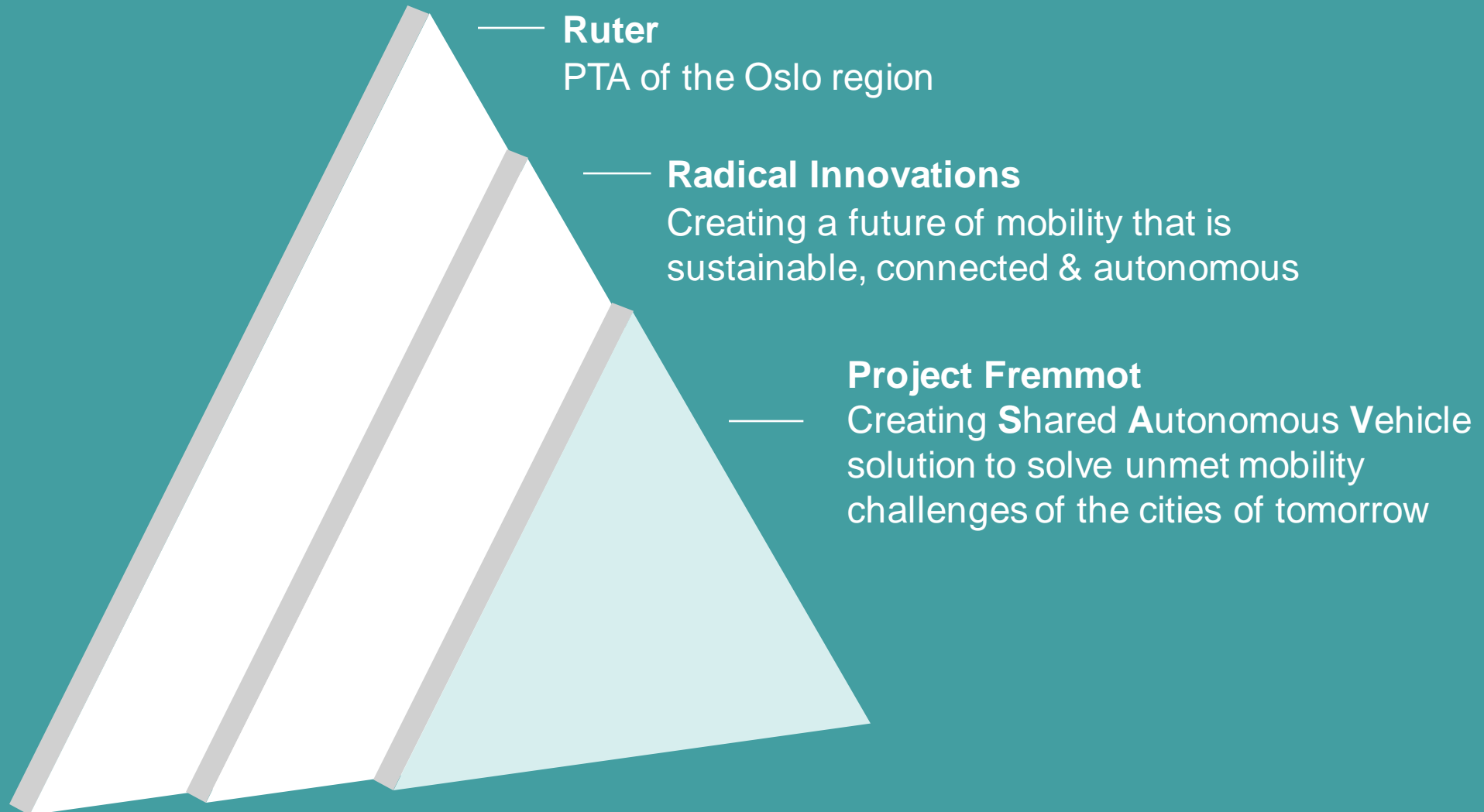
**2023 Technology implementation**

15 – 20 SAVs in local areas

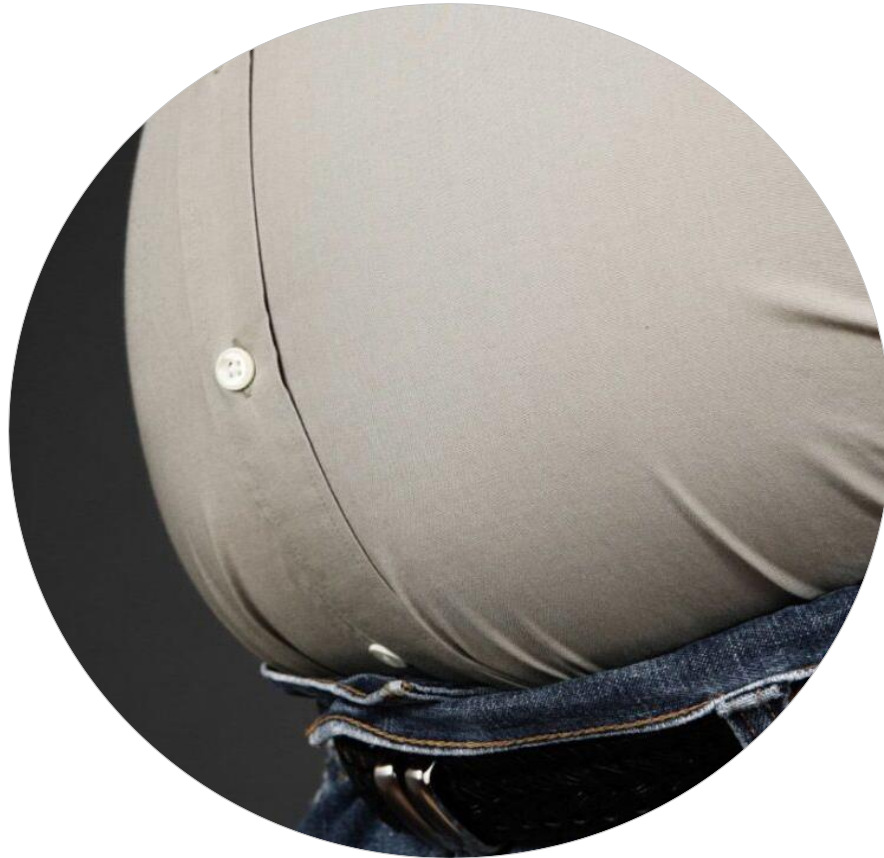
FREMMOT



# Context: Where Project Fremmot comes from



# Systemic changes is needed





.... to optimize our existing resources



**5.3B Euros =**  
**17,3 km new road**



**1.5B Euros =**  
**0 km new road**  
**Sustainable freedom of**  
**mobility**



## Our scope

Create a **competitive alternative** to the private vehicle journey complementing **existing public transport infrastructure**.

Reduce congestion and emission, and increase **freedom of movement**



# Unifying public transportation in Europe



Shared need for new solutions across countries in Europe

PTs have no attractive service that can be a real alternative to the private car.

Unifying European effort decreases risk and total investment need

And develop sustainable business models

# Fundamental differences

## Fixed routes and mass transport



- Fixed routes, the innovation is about increased efficiency and optimizing **existing** operational efforts.

## Shared autonomous vehicles



- SAV is mostly about creating a new and more user-friendly service offering that can make more people less dependent on cars

Shared rides





**Fulfill our public service obligations.**



## The Shared Autonomous service will be...



**On demand 24/7**

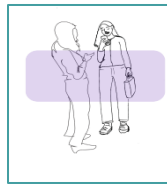
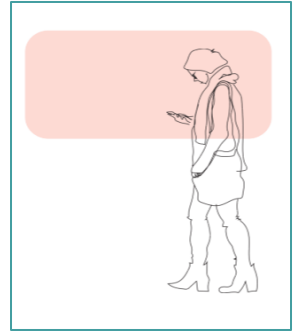
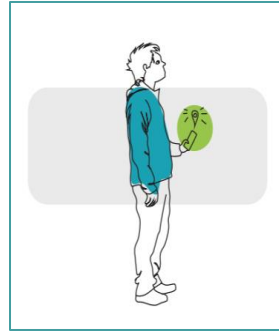
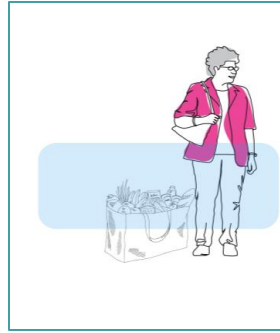
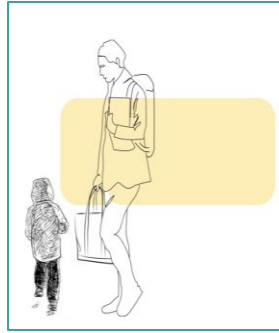


**Point-to-Point**

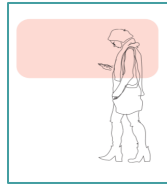


**Integrated with public transport**

# What the service will do



Laura and Michelle going to Yoga before work.



Sara 16 years is going home alone late on a Friday.



Jim is picking up his child after work.



# The Shared autonomous vehicle

Capabilities and features

**4-8 passengers**

L4 vehicle currently operating in several US cities

Able to operate fully autonomous in a **geofenced HD mapped area**

Accessibility adjusted

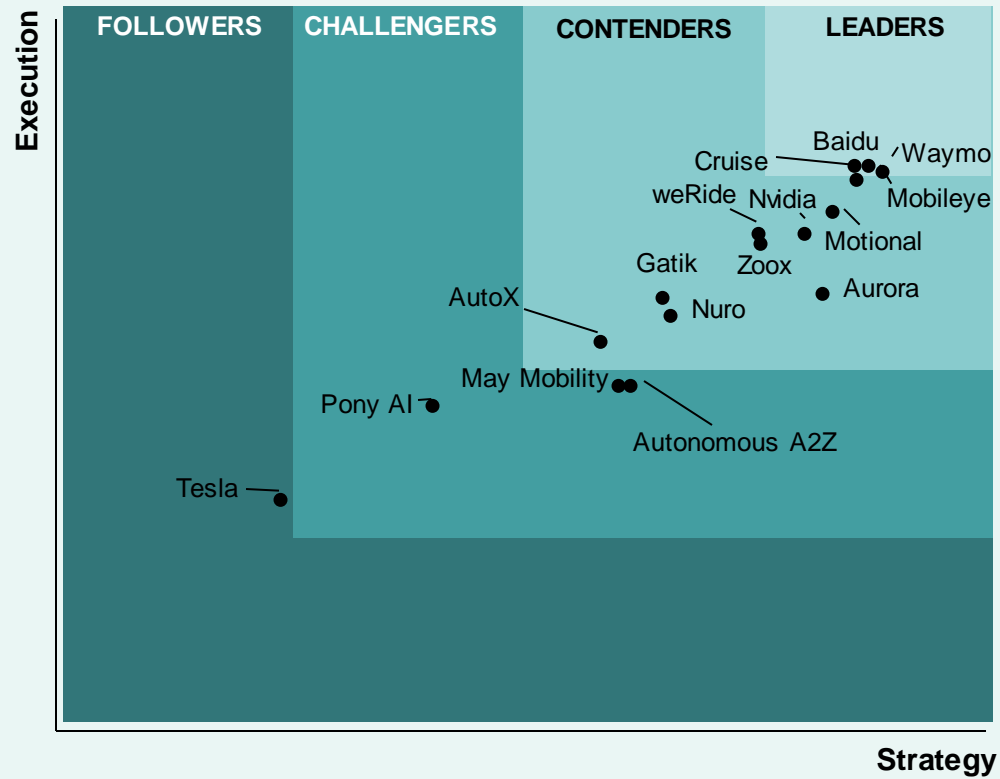
**Statistically safer** than a human driver

Operational availability 16h a day



# Guidehouse Insights Leaderboard

## Automated Driving Systems



CRUISE



WAYMO



mobileye™



ZOOX

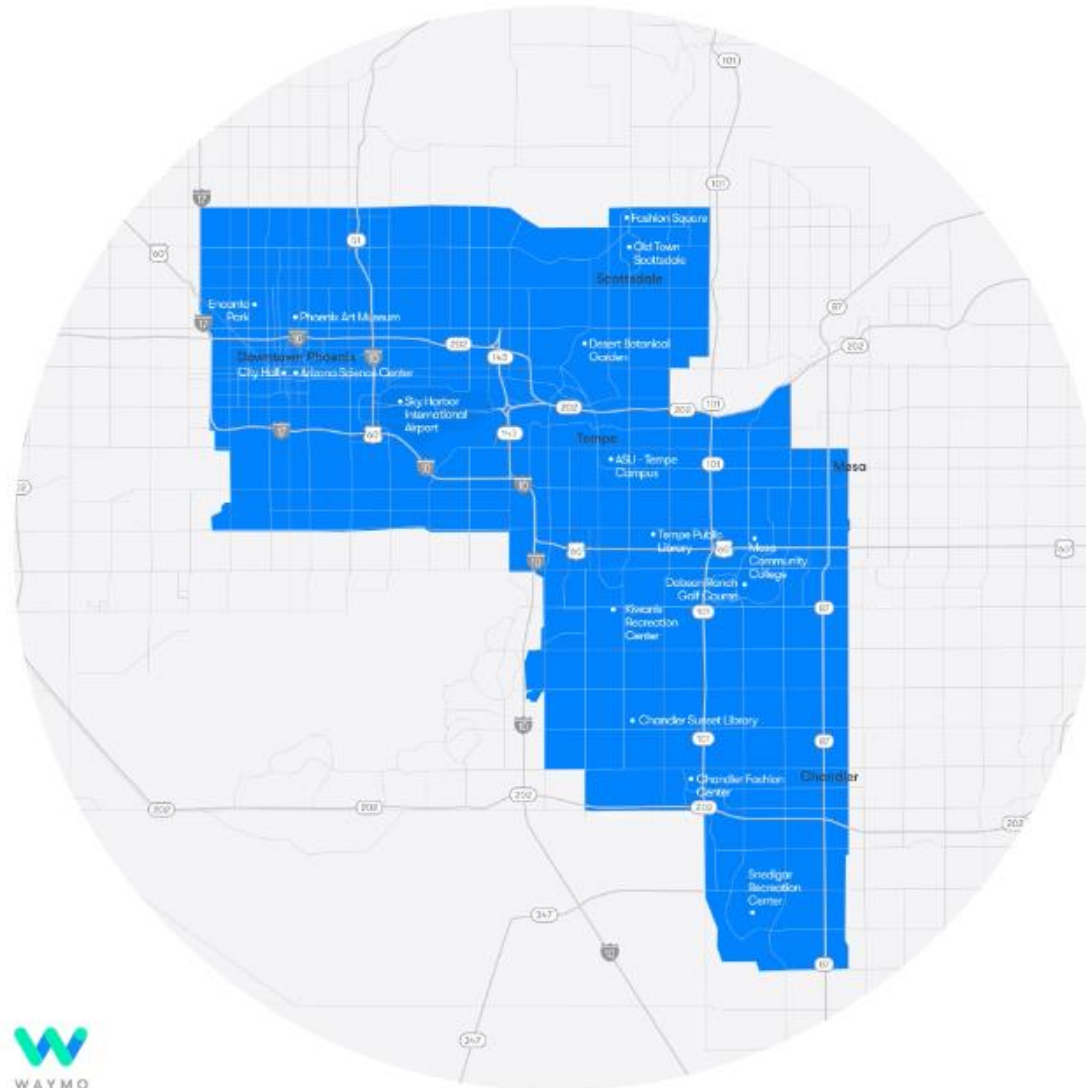


oxa



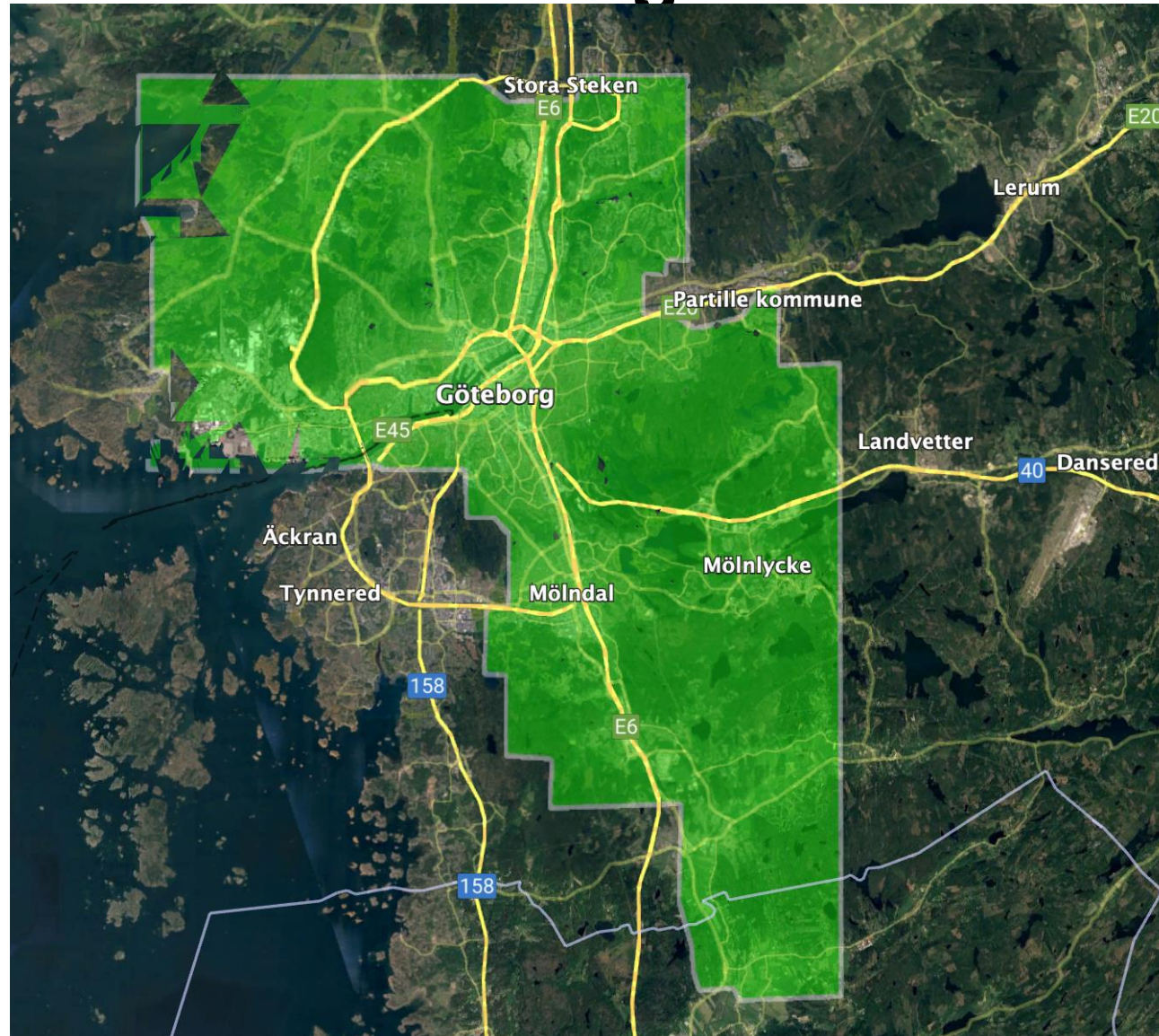
# Waymo commercial Service in Phoenix

- 180 square miles
- Largest AV service area in the world
- 24/7 commercial robot-taxi operation
- Approx 300-500 vehicles
- 10 000 trips per week.





# How it would look in Göteborg



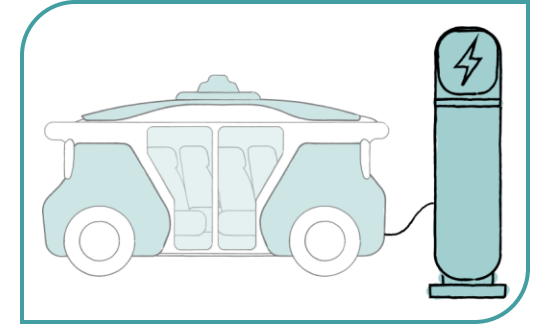
Scheduling depo  
inbound logistics



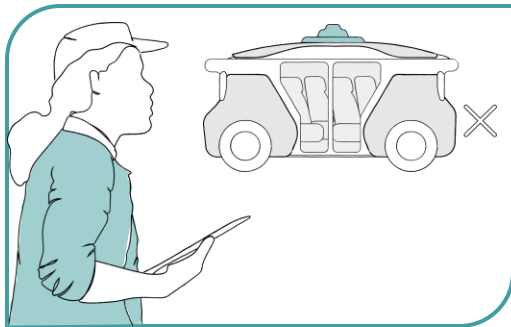
Cleaning, repair and  
maintenance



Charging



## Local value creation




Supervisor check



Customer support



On-road assistance

A group of diverse people, including men and women of various ages and ethnicities, are seated around a wooden table outdoors at night. They are engaged in conversation and eating. The scene is illuminated by warm, glowing string lights hanging above them, creating a cozy and intimate atmosphere. The background is dark, suggesting a nighttime setting.

Fremmot | available for you 24/7



# Thank you!

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