



CITY OF BERGEN

THE FUTURE OF SHARED MOBILITY
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The future of (shared) mobility

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Illustration: Gehl architects

5th AVE NYC
1900

Where is
the
car?



FRA TONY SEBAS PRESENTASJON | SD - COPYRIGHT TONY SEBA



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Ford CEO Mark Fields Says Fully Autonomous Cars Could Hit Roads in Four Years



/ TRANSPORTATION

Ina Fried



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NEWS

Uber will buy all the self-driving cars that Tesla can build in 2020



Tesla board member and venture capitalist Steve Jurvetson said Uber would buy all of the company's autonomous vehicles in 2020. Credit: Creative Commons Lic.

Self-driving cars will compel urban redesign

MORE LIKE THIS



Tesla's Elon Musk says driving may someday be illegal



Why your car will be connected to the Internet by 2020



Nissan CEO: We will have an autonomous vehicle next year

on IDG Answers ➔

If I buy a Chromebook and can't get to grips with OS can I convert to windows?



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Shared mobility

- International Transport Forum - OECD
- Simulation – case: Lisbon
- Replacing all trips made by bus and private car with a fleet of shared taxis and minibuses



Shared Mobility
Innovation for Liveable Cities



Corporate Partnership Board
Report

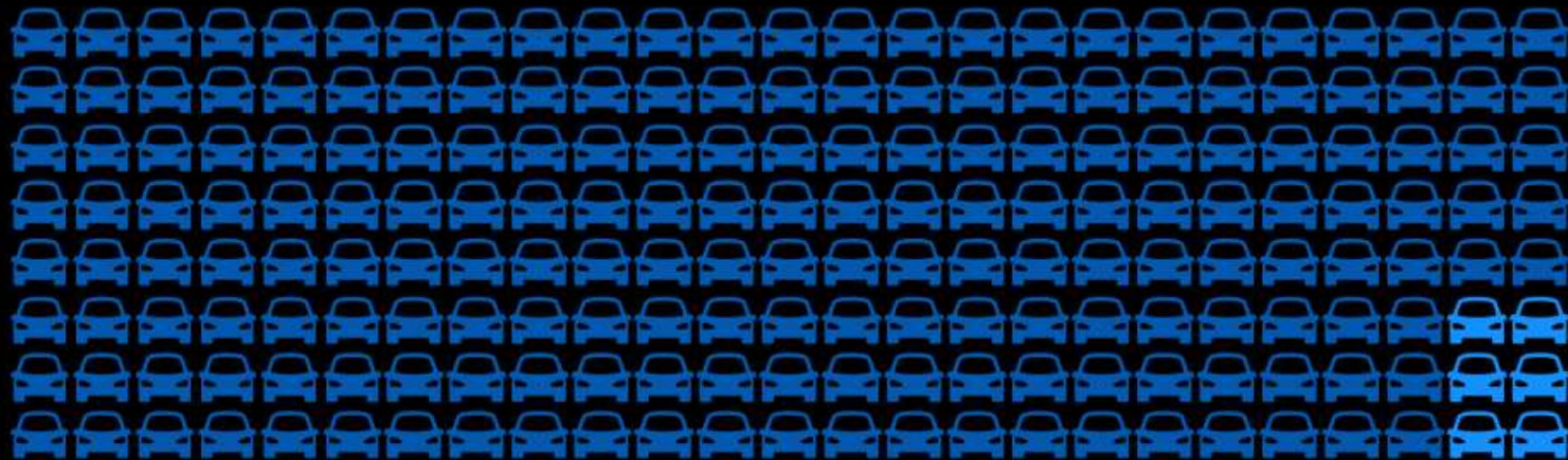


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Scenario: 24 hours



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

3%



+20%

kerb-to-kerb street space

An aerial photograph of a large, paved parking lot filled with hundreds of cars parked in neat rows. The lot is situated in an urban environment, with a large white building and other structures visible in the background. A line of trees runs along the right side of the lot, and a green field is visible in the bottom right corner. The text '-80%' is overlaid in large white font on the left side of the image.

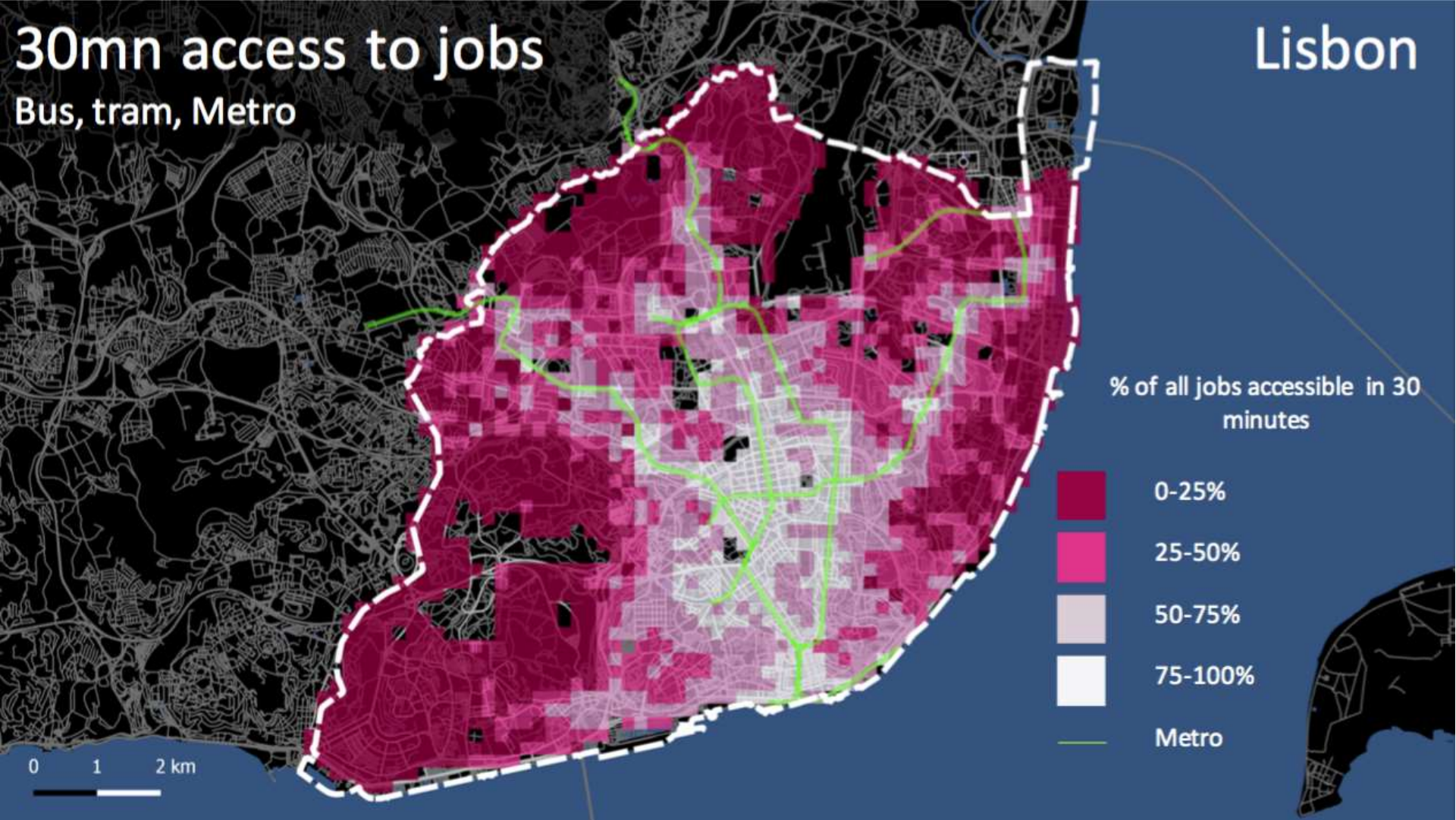
-80%

off-street parking

30mn access to jobs

Bus, tram, Metro

Lisbon

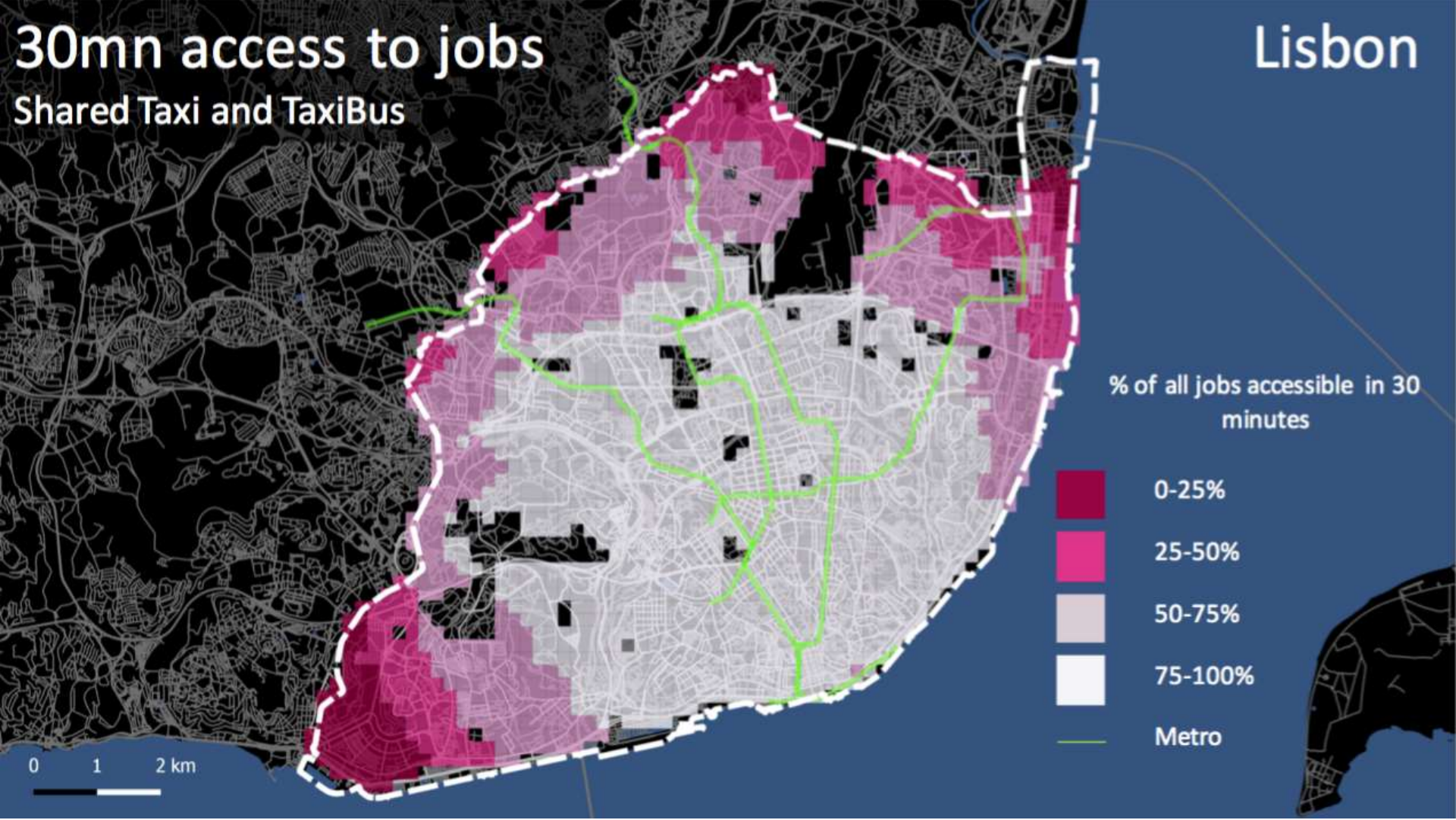


0 1 2 km

30mn access to jobs

Shared Taxi and TaxiBus

Lisbon



































Parking in Bergen by 2040:

- 3% of 131 000 cars = 4000
- 3 largest parking garages: 3500 parking spots
- The rest of parking area for other (better) use

Scenarios from the Gothenburg study (Trivector)

Scenarion för överflyttning					Traffic /mileage	Vehicles
A	 100%	 67%	 33%	 0%	-1% 	-12% 
B	 100%	 0%	 100%	 0%	-6% 	-38% 
C	 100%	 0%	 0%	 100%	+5% 	-33% 
D	 0%	 0%	 100%	 0%	+16% 	-28% 
E	 0%	 0%	 0%	 100%	+39% 	-14% 



Public transport



Cars



Ride sharing



Car sharing



Mileage



Vehicles

Risk number 1 - increased traffic:

- Huge increase in traffic - empty cars circling
- Individual, motorized transport gets "too cheap"



A concept called the Jevons paradox explains what happened: When a thing becomes cheaper, people discover new ways to use it. Self-driving cars reduce the “cost” of driving — in terms of effort, if not dollars —

and as a result, they will induce people to take trips that they would have otherwise foregone.

Over time, people with self-

driving cars could opt to move farther from the central city, worsening sprawl and leading to still more miles driven.



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Remedy:

- Make sure all vehicles are shared
- Make sure all rides are shared
- Make sure that we keep a well-integrated, high-capacity public transit system as the backbone in the transport system
- = MaaS
- How to make this happen?
 - All vehicles must be connected and share data with the city
 - Strong regulations: A fee system must be in place



Risk number 2 - all trips are motorized - active transport (=health) suffer

- How to avoid?
 - Updated transport pyramid
 - Real door-to-door transport must be the exception
 - Fee system that encourages active modes



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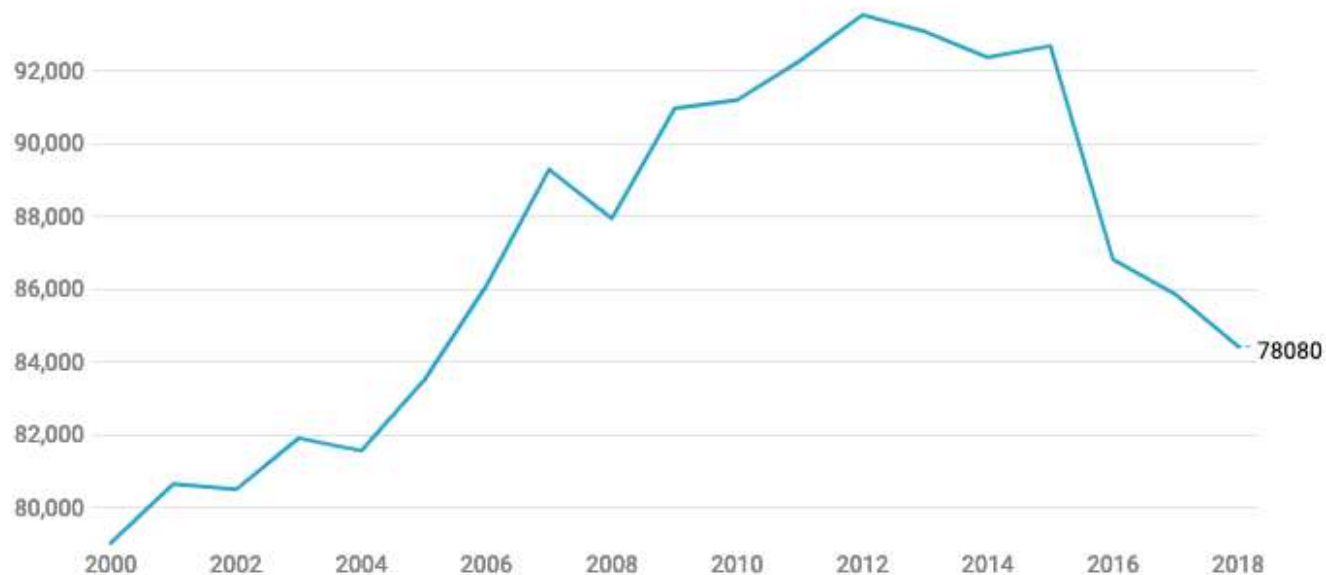


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Trafikkutvikling i Bergen 1999-2018

Trafikkutvikling i bomringen - retning Nygårdstangen/Bergen sentrum (7 Bomstasjoner)



Source: Statens vegvesen • [Get the data](#)



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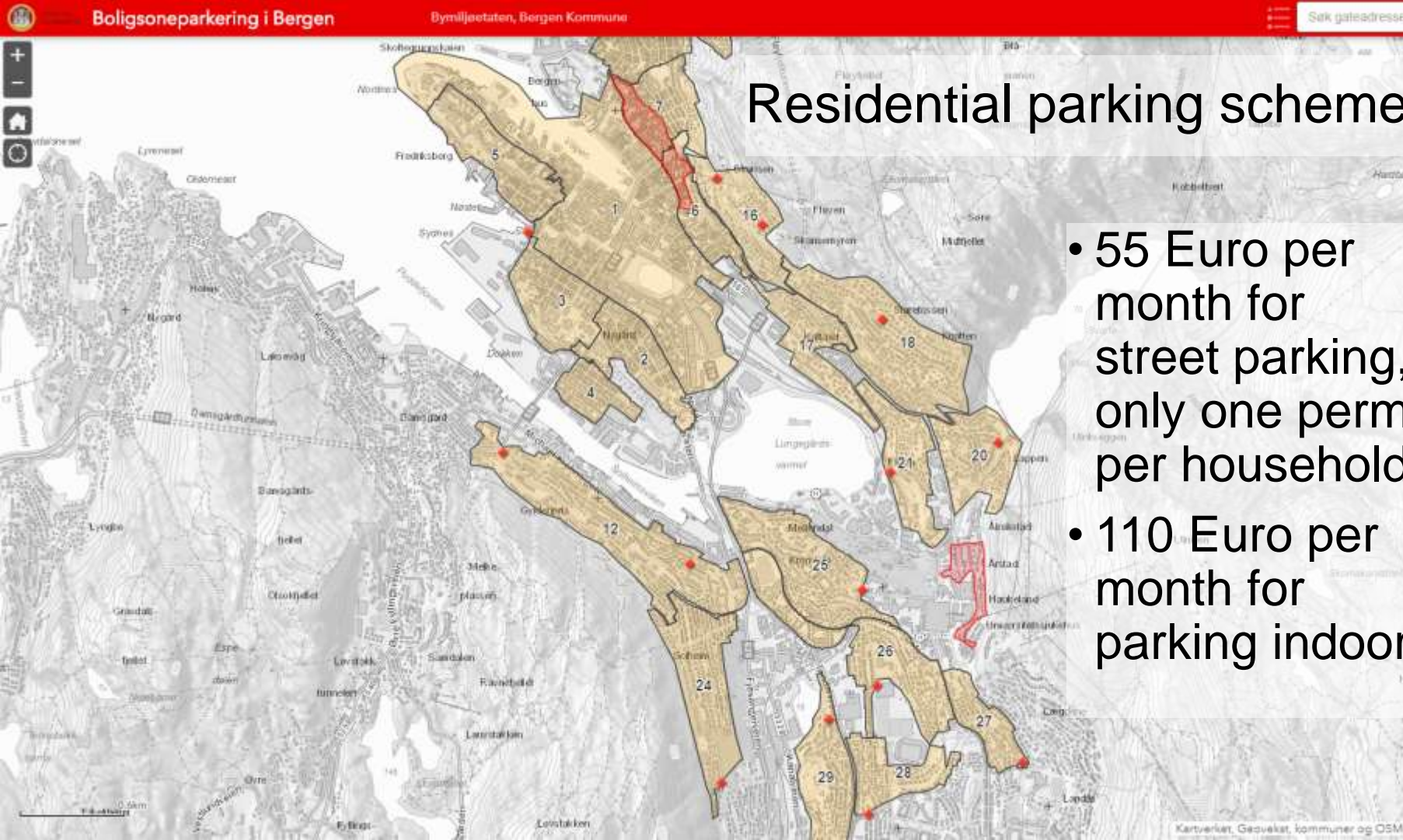
New parking strategy

- The end of street parking in urban areas
 - Only deliveries and HC + car sharing
- Key instrument: Residential parking scheme
 - Funding public off street parking facilities



Residential parking scheme

- 55 Euro per month for street parking, only one permit per household
- 110 Euro per month for parking indoors

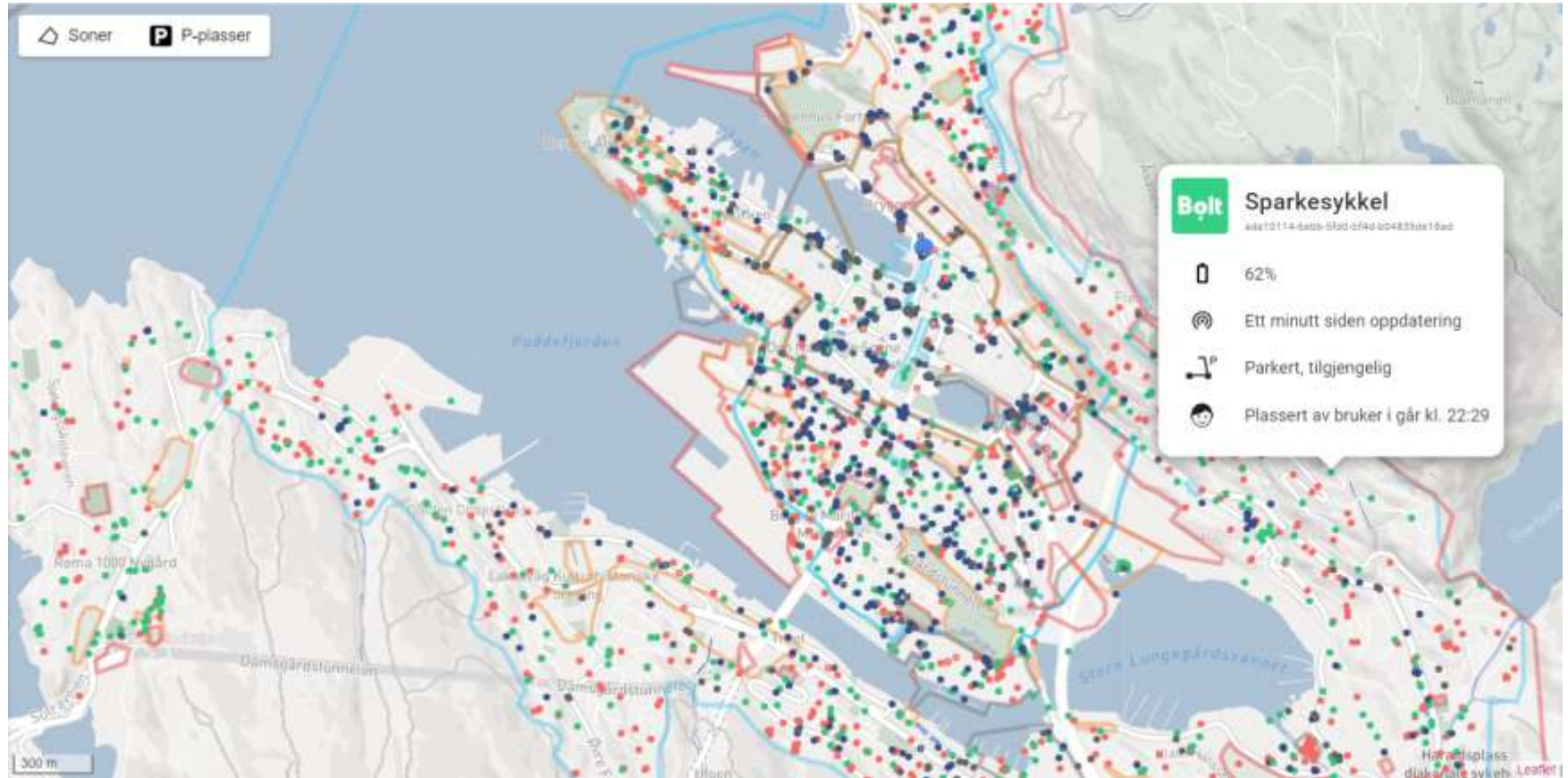


Regulation for the automated vehicles of the future

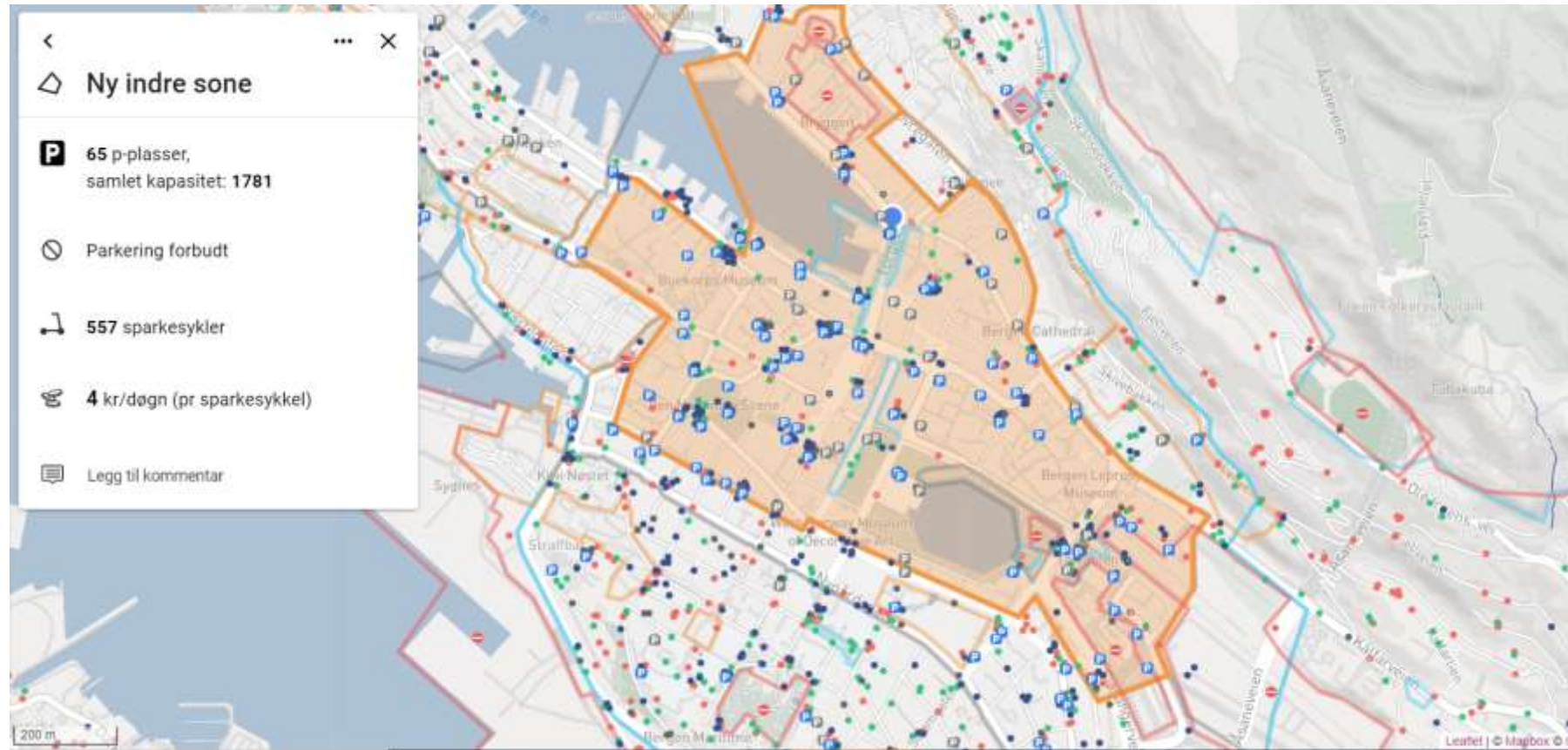


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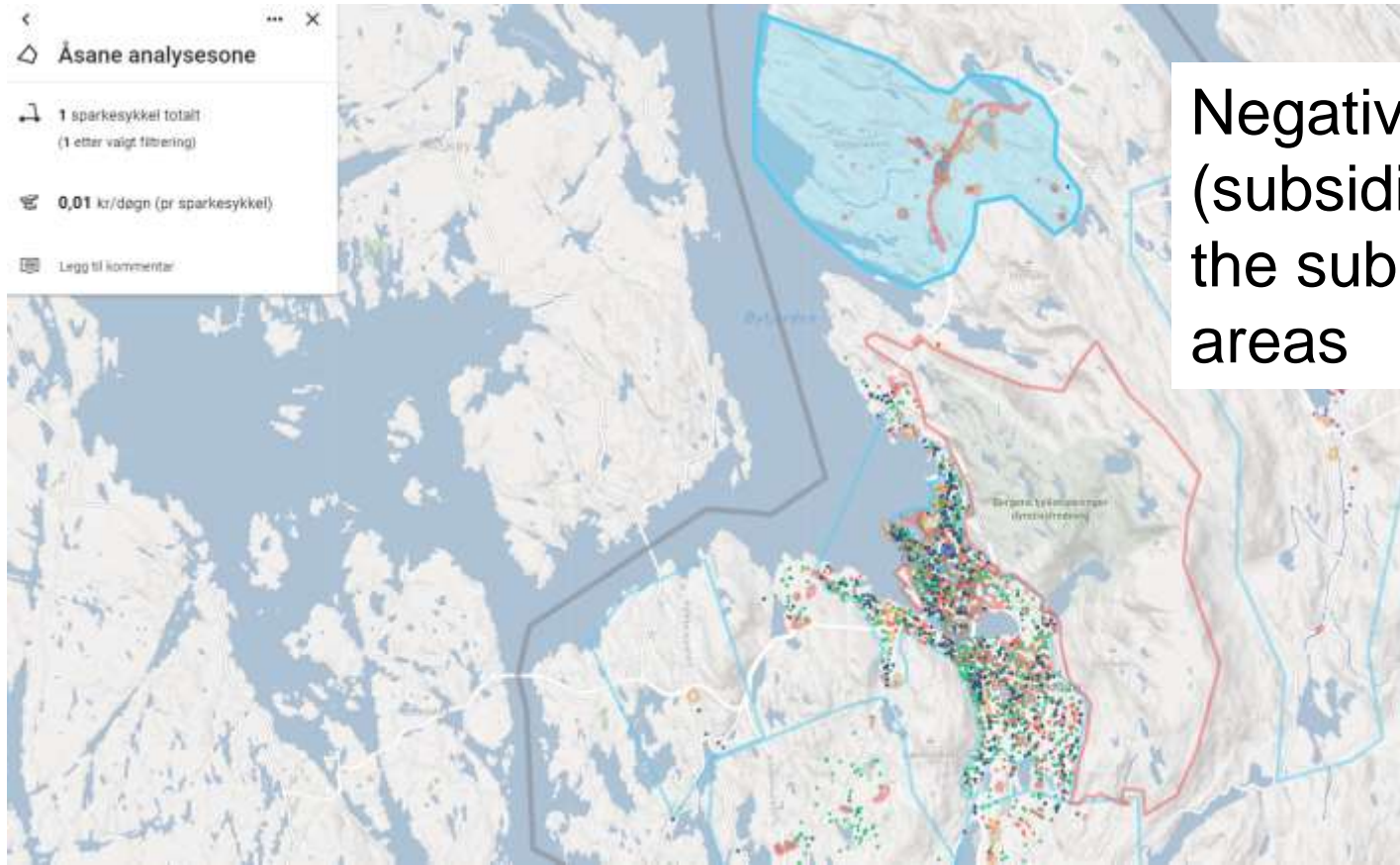
Regulation for the connected vehicles of the future



Regulation for the connected vehicles of the future

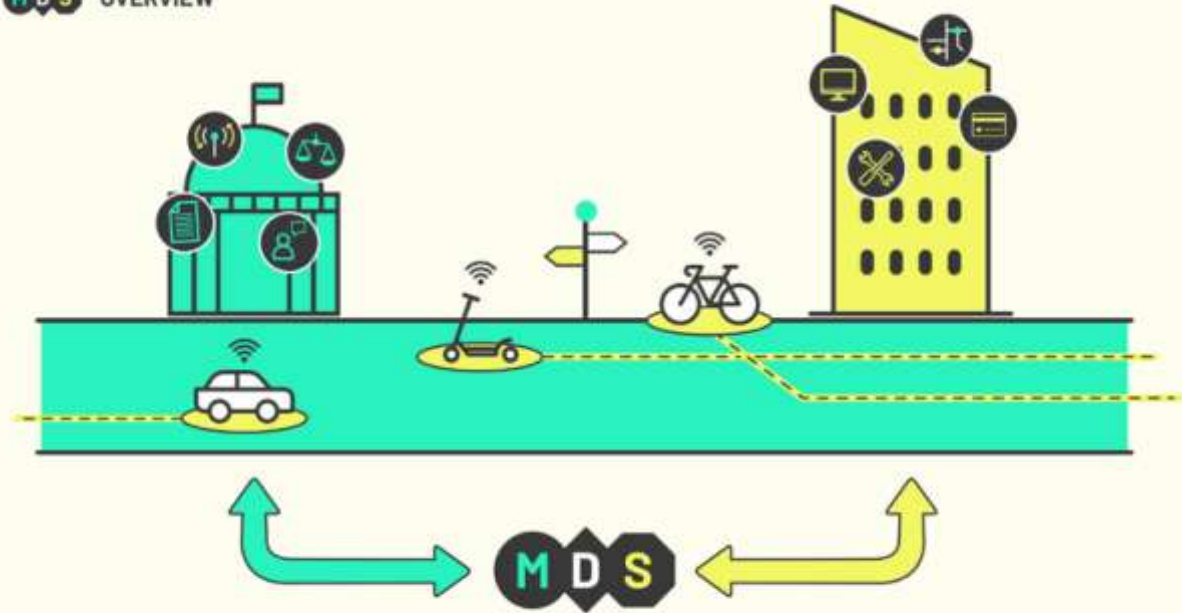


Regulation for the connected vehicles of the future



Open data standards for mobility

MDS OVERVIEW



CITIES

Manages the street and right of way.
Responsible for policy, equity, resident feedback and issues, and MDS Agency.

MDS

The digital infrastructure that lets cities and companies share information and manage devices together.

COMPANIES

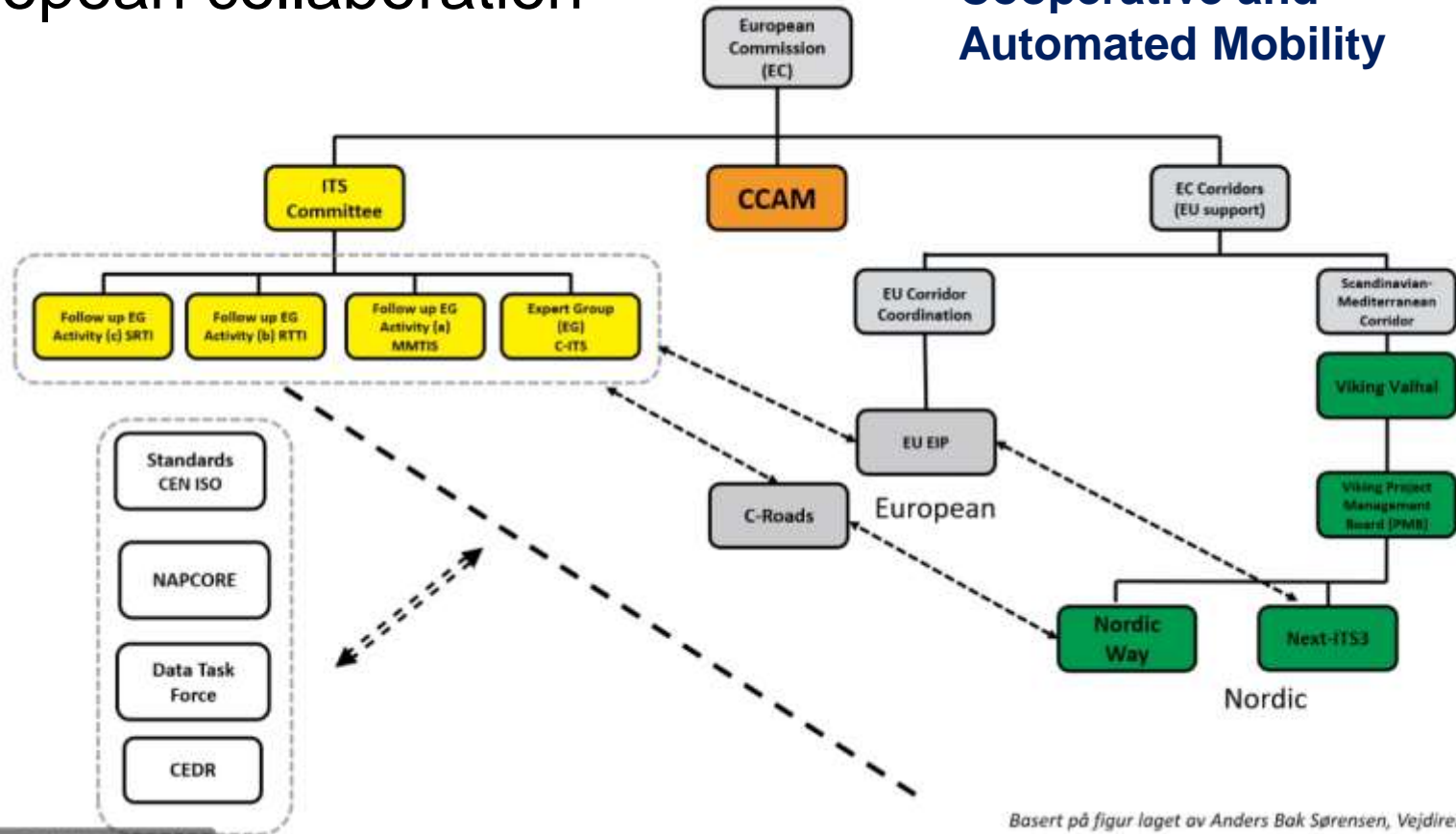
Manages devices. Responsible for maintenance and repairs, billing, remote monitoring, and MDS Provider.



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European collaboration

CCAM – Connected, Cooperative and Automated Mobility



Caution: Bumpy road ahead

- Challenges:
 - Privacy
 - Equity
- Tough choices:
 - Are we ready for a shift away from private car ownership altogether?
 - Are we willing to accept "tough" or "detailed" regulations?



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The end of car ownership?

"Owning a car in 15 years will be a lot like owning a horse today. It will be for those that can afford it and take a special interest in cars."

Tony Seba

