InfraSweden2030

Does transport infrastructure meet the needs of electric vehicles and other forms of new mobility?

31 January 2019

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Med stöd från:
VINNOVA
Energimyndigheten
FORMAS
STRATEGISKA INNOVATIONS-PROGRAM

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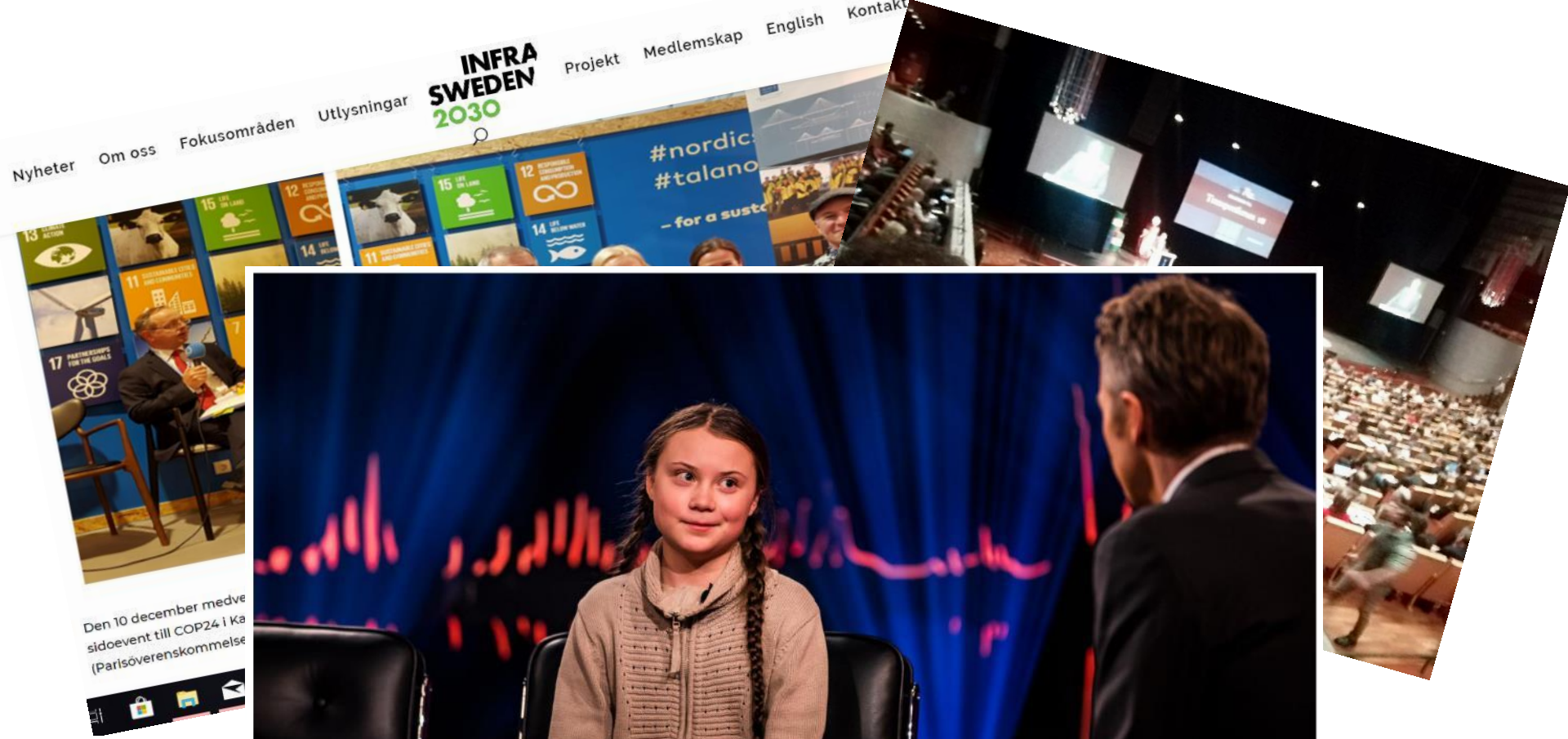
Uppkopplad Transportinfrastruktur

Biografi
- Rådgivare. OsloMet, Energimyndigheten, m.fl.
- IBM. Transportindustriledare
- Transek AB. Delägare, VD och utredare
- SLL Trafikkontoret. Trafikanalytiker
- Stockholms Universitet. Nationalekonomi

Typ av uppdrag
- Kollektivtrafik, höghastighetståg
- Öresundsbron
- Trängselskatt
- Modeller och planeringsverktyg
- ITS

- Climate
- Where are we and where are we going?
  - Electrification
  - Automation
  - Sharing
  - Connected and managed
- Change
- InfraSweden2030 innovation program



Under hösten 2018 klimatstrejkade Greta Thunberg utanför riksdagen varje fredag. Nu medverkar hon i kvällens Skavlan. Bild: PILLAN THELAUS

Where are we and where are we going?

Electrification, Automation, Sharing and Connected (EASC) – the future mobility

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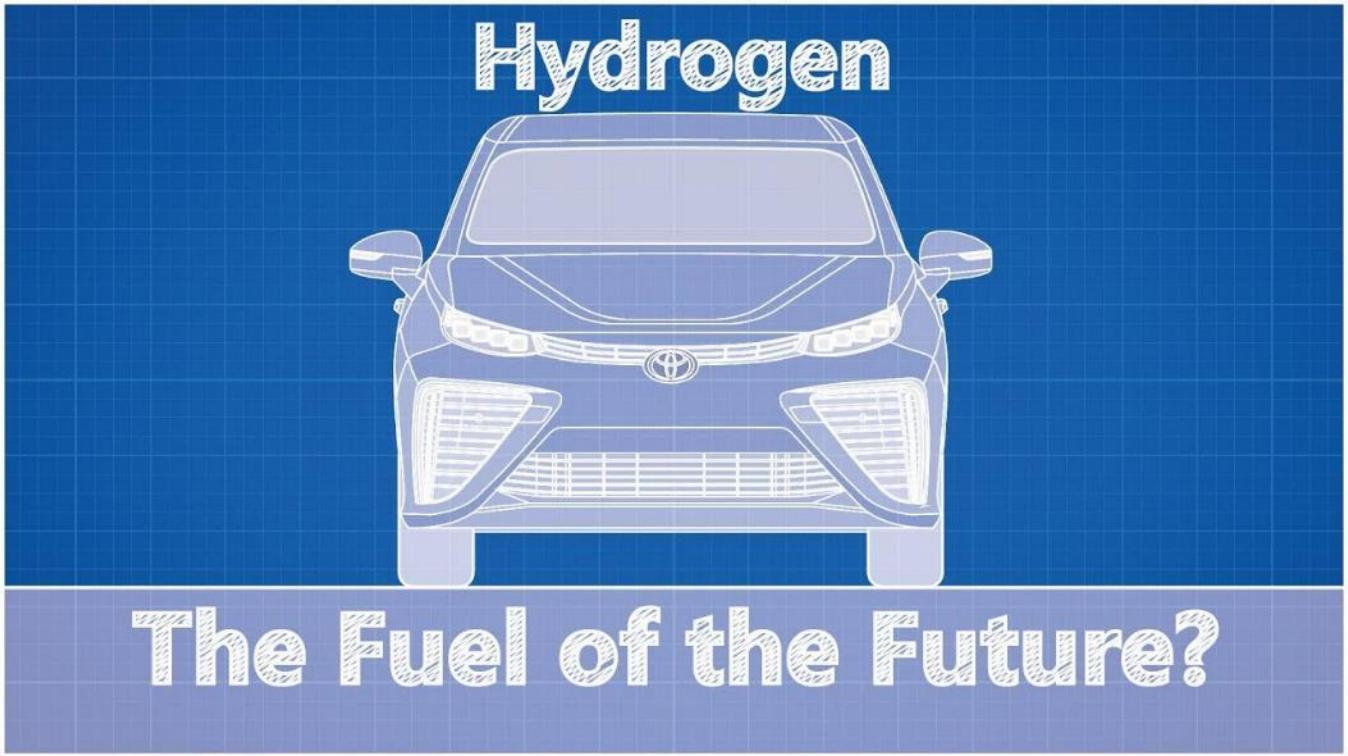

– Vi har ett antal områden i landet där vi har problem med nätkapaciteten, säger

of the Scrooser is one of the sleekest we've seen, and one that should make for an equally smooth ride. The German-built scooter doesn't break any land speed

Electrif

Electrification

- Electric vehicles, the Norwegian story
- Battery production capacity and its environmental impacts
- Light weight constructions
- Electric roads
- National electricity grids capacity
- Hydrogen fuel
- Relevance for infrastructure:
  - Incentives and taxation bases
  - Charging station infrastructure
  - Electric road infrastructure and operation
  - Vehicle access control based on type of fuel and vehicle

San Francisco bans delivery robots in most of the city

Feeling burned by Airbnb and Uber, legislators here are taking a stand: "Not every innovation is all that great for society," says the city supervisor.

By MARK PRIGG FOR DAILYMAIL.COM

PUBLISHED: 17:37 GMT, 8 January 2019 | **UPDATED:**

Share

shares

Self driving cars will never be able to drive in the very worst conditions, th

Waymo has claimed.

MUST READ: Google raises G Suite prices: Basic to $6 a month per user, business to $12 a month

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iving cars will NEVER be able to

conditions, the head of

autonomous vehicle

- Phoenix

driving vans with knives,

rocks, PVC pip

run them off the road

- Nearly two dozen su

began in 2017

- Waymo hasn't gone after th

olice

By

Web

Enter yo

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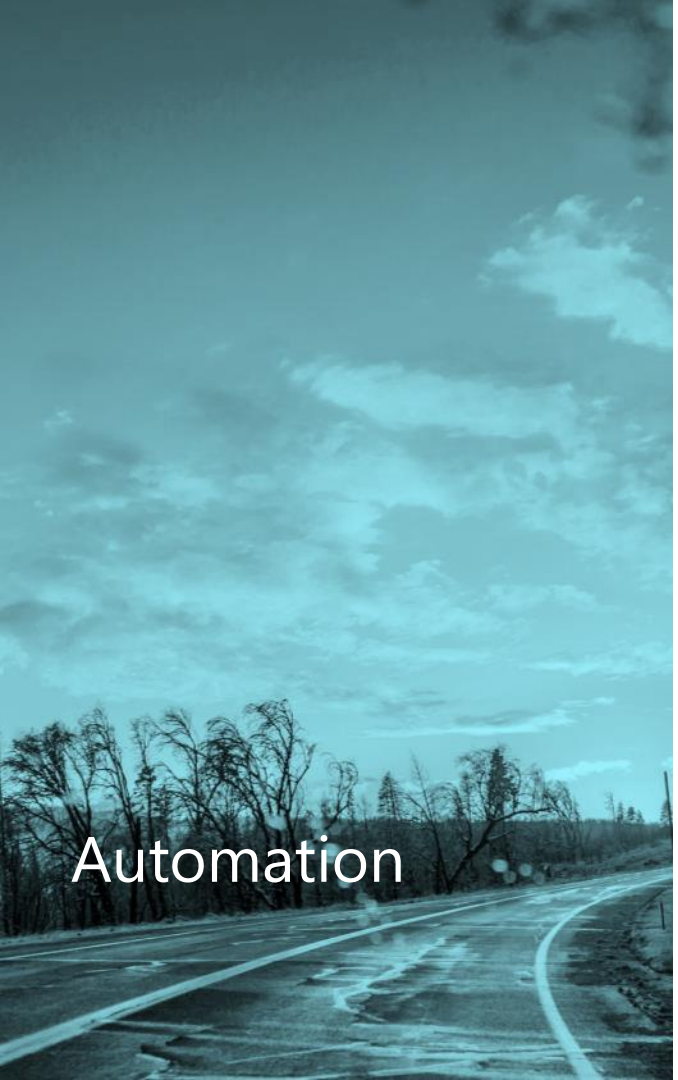
Ad closed



Automation

- Automated equipment, AV fleets and privately owned AV.
- Exclusive, qualified or all public roads?
- All conditions?
- Relevance for infrastructure:
  - Vehicle to infrastructure communication
  - Access to infrastructure based on vehicle capacity, type of “owner” and qualified conditions
  - Ownership; Private fleet operation VS Public road transport system operation

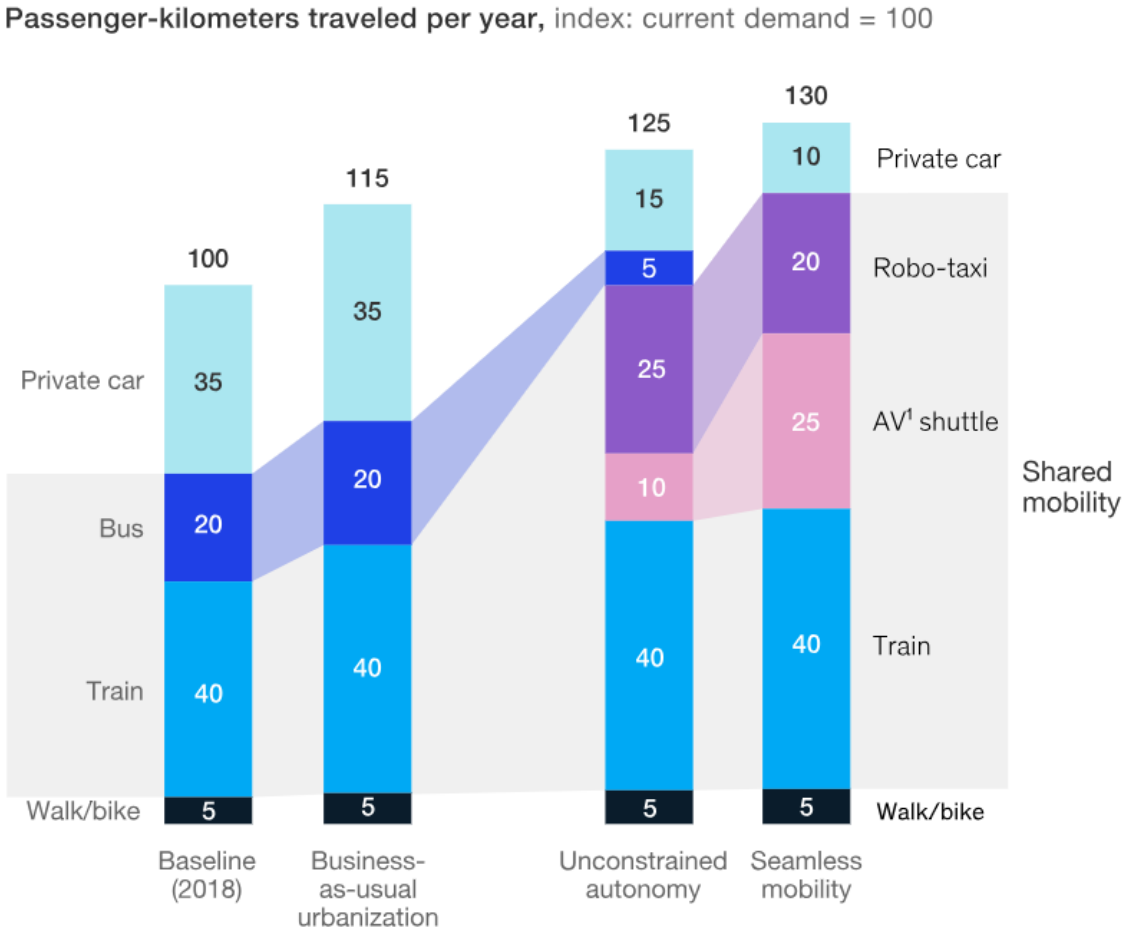
- Car lease and sharing (car, scooter, bike sharing platforms)
- Ride sharing (train, buss, taxi or private car ride sharing platforms)
- Front-end Combined mobility, seamless mobility and Mobility-as-a-Service
- Relevance for infrastructure:
  - Vehicle access control (parking and road infrastructure) depending on type of service
  - Change of mode hubs (road&transit)

A possible dream

"Our analysis suggests that **by 2030, 40 percent of the transportation-revenue pool—the money that residents in dense,** developed cities like New York, Paris, and Tokyo spend on transit—could be served by modes of transport (particularly autonomous shuttles, robo-taxis, and those using logistics approaches) that don't even exist now."

"Seamless mobility may require **new kinds of assets, such as storage and maintenance facilities for shared autonomous fleets, fast-charging infrastructure, and dedicated AV lanes equipped with vehicle-to-infrastructure communications and IT systems**. All of this represents a significant new area of opportunity for infrastructure companies to design, build, and operate in and for new forms of public–private partnerships."

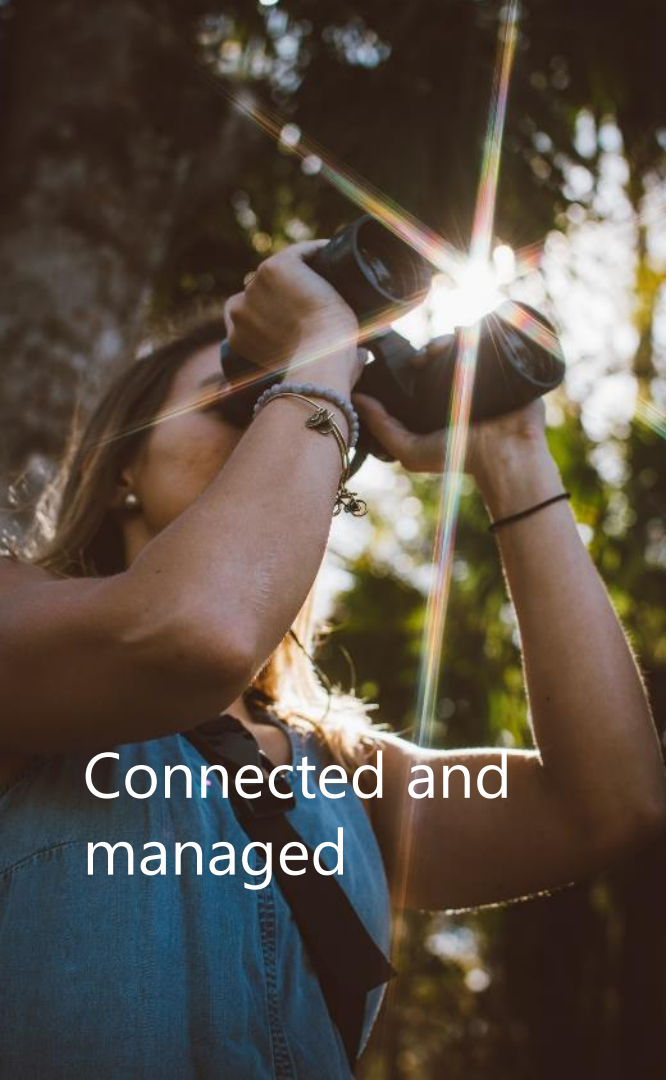
McKinsey&Company



[1]Autonomous vehicle.

McKinsey&Company

OECD



Connected and managed

- Traffic optimization by moving from user- to system optimization
- Back-end system optimization, Urban mobility system / Mobility-as-a- Service Improved asset management and traffic operation performance based on new insight.
- Relevance for infrastructure:
  - New insight for traffic planning and design
  - Manage taxes, incentives and the real time operation (signaling, traffic control center, user information)
  - Light construction and materials
  - Ownership of the digital and organizational platform
  - Security and safety

Hur vill du leva år 2030?

activity based city

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Change and Leadership

- Change in public sector space:
  - Legislation
  - Budget
  - Public support
- Change in user behavior and public support
  - Drop the act of driving, freedom of instant need and driving pleasure?
  - Willing to have all family members to share rides with strangers?
  - Drop car ownership and personalization of vehicle functionality, capacity and design?
- Who will finance, own and operate what?
  - EASC vehicles?
  - Digital traffic optimization platform?
- How to get there
  - Innovation VS Requirement in public tender
  - Leadership?

Summing up

- The way **infrastructure** and how its designed, constructed, operated and synchronized with transportations is **critical** for future climate.
- The consolidated **way forward is still unclear** and change is urgent. Holistic visions, leadership and new way to organize and experiment is needed.
- **InfraSweden2030 will promote innovation of products and services** that will be in demand at national and international level

Om InfraSweden2030

Innovationer för smart, hållbar & konkurrenskraftig transportinfrastruktur

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Vision

År 2030 ska Sverige ha en konkurrenskraftig sektor inom transportinfrastruktur för att få till stånd klimatneutrala transporter som möter samhällets ekonomiska och sociala utmaningar

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Delmål

- utveckla innovationer för transportinfrastruktur
- skapa öppen, dynamisk och attraktiv sektor
- minska miljö- och klimatpåverkan

Innovationsområdet Transportinfrastruktur

- Sveriges utveckling och välstånd är starkt beroende av effektiva transporter och förutsätter en tillförlitlig, säker och hållbar transportinfrastruktur.
- Den snabba teknikutvecklingen inom ICT och material, skapar förutsättningar för en mer effektiv produktion och minskad miljöpåverkan.
- Gränserna mellan den fysiska och digitala välden blir alltmer flytande. Nätverksuppkopplingar skapar möjligheter att utnyttja kraften i data som skapas, av en ny generation maskiner, som kan kommunicera såväl med varandra som med brukarna.
- Sverige har en bra sammansättning av starka företag inom bygg, teknik, telekom, fordonsindustri och IT för att bli en föregångare även globalt.

Fokusområden

- Klimatneutral transportinfrastruktur
- Uppkopplad transportinfrastruktur
- Konstruktionslösningar och byggmetoder
- Ökad produktivitet av infrastruktur
- Tillståndsbedömning, drift & underhåll
- Ökad kompetens och attraktivitet

Våra utlysningar

I. Tillståndsbedömning och underhåll (2016)

II. Ökad produktivitet (2016)

III. Klimatneutral infrastruktur (2017)

IV. Lösningar för en resurseffektiv och hållbar transportinfrastruktur (2017/2018)

V. Lösningar för en hållbar transportinfrastruktur (2018/2019). Stänger 5 februari 2019

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