



EUROPEAN CITIES AND REGIONS NETWORKING
FOR INNOVATIVE TRANSPORT SOLUTIONS

Some preliminary views from European cities and regions on AVs (automated vehicles)

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Why a paper on AVs?

- **Concern about optimism bias**
- **Only the potential benefits are highlighted – rarely the potential disbenefits**
- **Creating expectations that automated vehicles will be widely deployed in near future (5-10 years?) and will always work perfectly**
- **AV developments are mainly technology and vehicle driven – few public authorities are engaging**
- **Aims of paper:**
 - Raise awareness and promote reflection about AVs among local and regional authorities
 - Communicate views of cities and regions to policy makers & other AV players
 - Challenge AV sector to develop products and services suited to urban policy context

Does automation really mean automation?

Volvo plans autonomous cars by 2021, USA CEO says

By Thomas Lee, San Francisco Chroni



IEEE SPECTRUM

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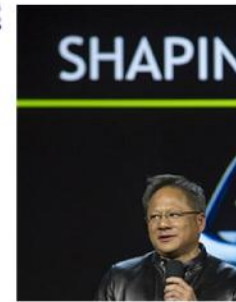
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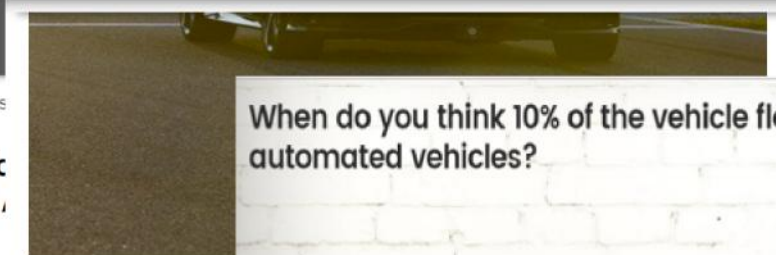
CES 2017: Nvic Field a Level 4, Years

By Philip E. Ross
Posted 5 Jan 2017 | 14:30 GMT



Veilig | <https://www.dezeen.com/2014/12/19/audi-engineer-thomas-muller-interview-concept-rs->

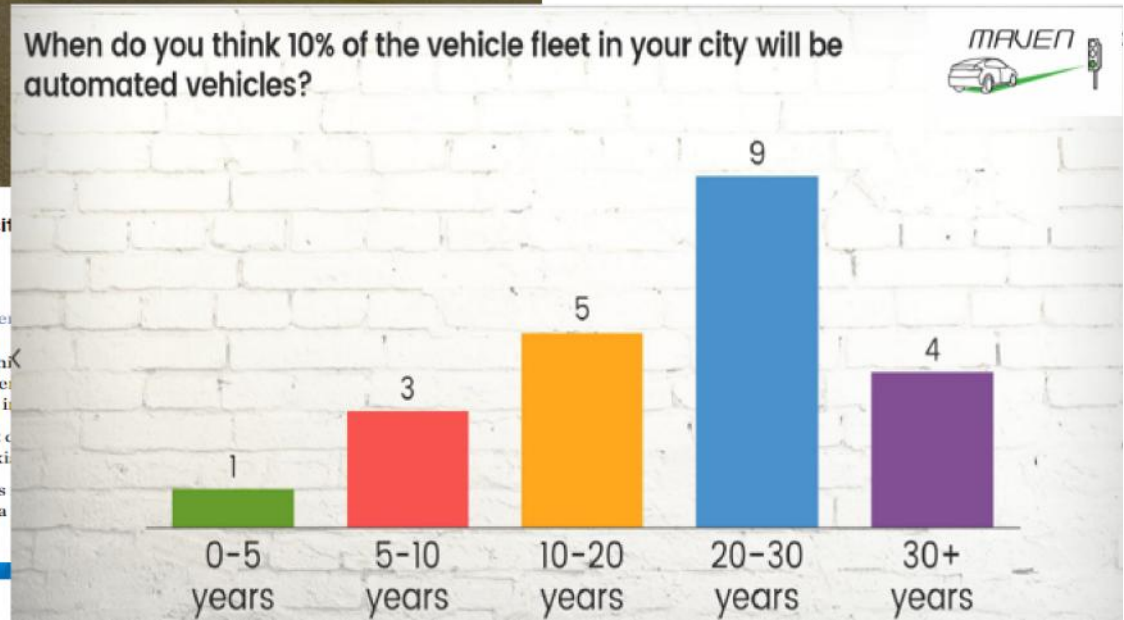
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Driverless cars in cit engineer

Anna Winston | 19 Decem

News: autonomous vehiK to Audi's Thomas Müller: driverless sports car (+ i Despite the hype about c before they could co-exi "People driving old cars autonomous would be a systems.



Some possible implications of AVs

➤ Travel behaviour

- Worst case: projected increase in kms travelled
- Best case: removal of private cars in favour of shared mobility + public transport, combined with walking & cycling
- Prerequisites for best case
 - Massive modal shift: not easy given attachment to car for independent mobility
 - Level 5 automation (not realistic in medium-term)
 - Redundancy of fleet vehicles during off-peak: unrealistic given fleet manager drive for economic efficiency

Some possible implications of AVs

➤ Spatial

- Some off and on-street parking could become redundant - but newly created road space must be put to other functional uses
- Urban sprawl and longer commuting trips

➤ Social

- Enhance accessibility to persons with limited transport access by reducing cost of service provision
- Risk of increased social division and inequality if market-driven approach

➤ Road safety

- Reduction of driver distraction
- Technology infallibility?
- Interaction with non-automated road users, especially VRU
- Ethical issues
- Road signs interpreted in context

Some possible implications of AVs

➤ Traffic efficiency

- Richer data for traffic and asset management
- Road space management - “More pain than gain” in short-medium term due to co-existence and higher safety margins

➤ Infrastructure

- Investments depend on AV implementation path: autonomous, CAV or systems-approach
- Where significant investments required, new business models must be found

Partial automation – is it really safe and what are the benefits in urban areas?

Autopilot | Self Driving

www.volvocars.com/au/about/innovations/intellisafe/autopilot

IntellISafe

Sit back and relax

How will you use the extra time you'll have? Relax with a newspaper? Meet those kids? What's more, you won't even have to think about driving.

A study into driverless cars has called for a driver to switch from automatic control in order to ensure maximum safety.

A team from the University of Southampton has measured 'control transition times' for participants to take control of a car.

The researchers believe their findings will help determine the lead time needed to take control of a vehicle. The average time needed for a person to successfully take control of a vehicle is 1.9 seconds.

Engineers Professor Neville Stanton and A... conditions, drivers needed between 1.9 and... Such a large range reflects a variety of driv...

The authors observed 26 men and women in a simulated driving at 70mph, with and without the system.

They recorded response times as the driver took control of the system.

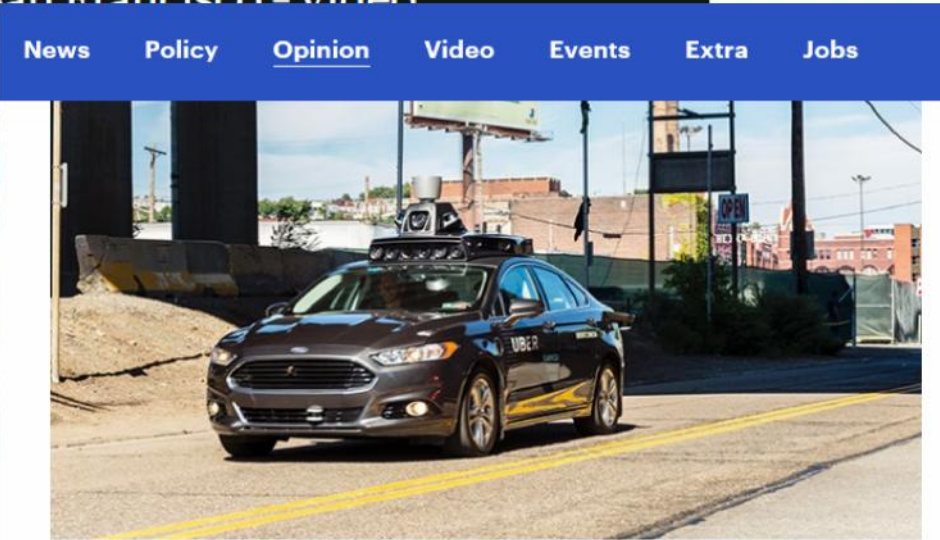
Uber self-driving car drives through red light in San Francisco - video

News Policy Opinion Video Events Extra Jobs

and this computer-controlled car carries on driving

0:13 / 0:31

One of Uber's computer-controlled cars drove through a red light in San Francisco as a pedestrian Wednesday by Charles R... has blamed the traffic violation on the car. Uber blames humans for the crash.



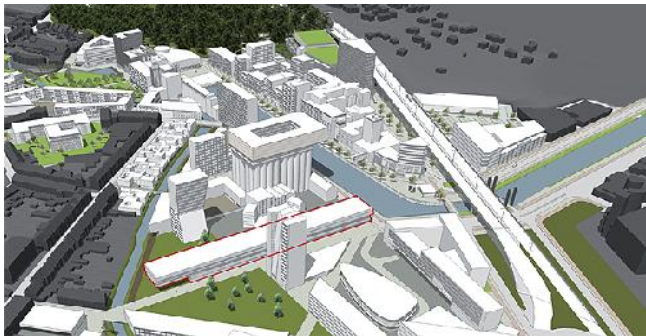
© Getty

The first generation of partially "self-driving" cars is being touted nationally as the answer to America's growing traffic fatality rate. But the reality is there is nothing safe about partial automation, and in the resplendent glow of what could be, these unproven technologies are being allowed on city streets, using real people as stand-ins for crash-test dummies.

The current generation of partial automation is not part of a drive to safety; it's a drive to get to market first with little-tested technologies.

Automated vehicles – aspects transport authorities need to explore

Urban planning & development



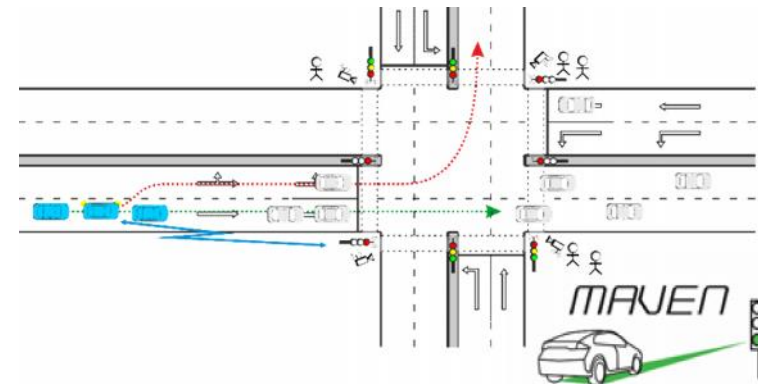
AV services rather than tech. VRU safety



Tackling predicted growth in trips/km driven



Traffic management implications



Preliminary recommendations

- **City and regional authorities should build and implement AV policies to guide their introduction in the most effective manner**
- **A structured dialogue between the public sector and AV industry needs to be established**
- **Research on the potential impacts of AV on urban and regional transport is needed (travel behaviour, VRU interaction/safety, infrastructure implications, new transportation services, etc)**
- **EU and national policy on AV should give greater consideration to sustainable urban mobility policy**

What views, questions or concerns do you have regarding the (changing) role and responsibilities of a traffic manager?



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