



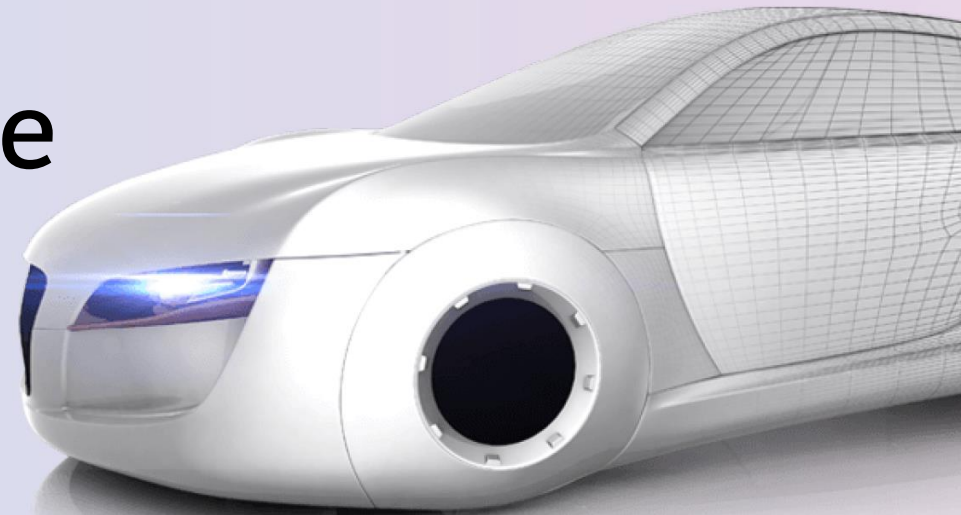
DUBAI WORLD CONGRESS
FOR SELF-DRIVING TRANSPORT

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Self-driving technology is ready now, but how do people and communities prepare?

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Overview

- Technology and Society
- Public Attitudes
 - Michigan case studies
- Implications

Technology and Society

- Technologies created by societies to solve problems
- BUT technologies also change how people live
- Often a preoccupation with creating new technologies with far less attention to context and implications
- Autonomous vehicles are on the road, but most people and cities are not prepared
- AVs offer a wide range of urban outcomes, but these will depend on the decisions we make about their design and implementation

New technology develops faster than we can understand and assess its implications, and plan for its best uses



Public Attitudes

Public Attitudes

- Acceptance of AVs depends on the willingness of the public to adopt new technology AND the form that it is available
- In 2017-18 we asked over 960 people in the US state of Michigan about their attitudes and expectations
- In 2019 we surveyed over 3300 people



chaos
terrible
ridiculous

do not trust
don't like them

waste of money
junk

scary robots

impractical

crazy

boring
confusion

crashing

**Cool
amazing
pizza delivery**

**self-parking interesting
good thing innovation
future environment
comfortable
freedom**

don't know

never heard of them

nothing comes to mind

haven't thought about it

I have no idea

Public Attitudes

- Safety the main concern expressed in the survey
- Concerns about AVs declined with education
- Younger and more educated males see AVs most positively
- With age, concerns more likely to be cited than benefits
- Autonomous and Self Driving produce different reactions
 - 49% are concerned about the safety of self-driving vehicles
 - 19% are concerned about the safety of autonomous vehicles

University Case Study

- April 2019 survey of faculty, staff and students at Michigan State University (n = 3373)
- 51% agree they have some familiarity with AVs
- 40% held positive perceptions, 37% neutral and 23% negative
- Concerns as a passenger in an AV
 - Safety 29%
 - Lack of driver controls 27%
 - Conflicts with other road users 28%
 - No concerns 10%

University Case Study

- Safety sharing road with an AV
 - 31% would feel safe as a pedestrian
 - 18% would feel safe as a cyclist
 - 34% would feel safe driving a vehicle
- Source: Kassens-Noor E., Qu T., Kotval-K. Z., and M. Wilson (2019). *Spartans Sociomobility Centennial Survey*. East Lansing, MI: Michigan State University.

Implications

- Challenge of estimating public reaction, which depends on
 - Comfort with driverless modes
 - Cost of AVs vs other options
 - Business model of ownership vs shared use
 - Government regulations
 - Form of built environment
 - Range of vehicles

Implications

- Public knowledge and experience of AVs is limited
- Vehicles not commonly seen, and few people have been a passenger in one, so attitudes shaped my media reporting
- Currently there are many different scenarios, but outcomes depend on the social context for AV introduction

Autonomous Futures

Remaking Urban Space

- Decisions about transportation can create major changes in how and where people live
- Transportation a shared responsibility between private vehicles and public infrastructure
- Changes in transportation often require the remaking of cities to accommodate new modes



An aerial view of Hastings Street looking north from Mack and St. Antoine in 1959. Detroit Historical Society



Looking north
along the Chrysler
Freeway in 1961
from Hastings
Street. Detroit
Historical Society

disrupt 



Artwork by Jonas DeRo

Dreams and Nightmares

- Planners' dreams..
 - More efficient and sustainable transportation
 - Ride sharing, fewer trips (New ownership models)
 - Repurposed parking areas
 - Smaller housing footprint without garages
 - Opportunity to increase density
 - Rationale to revisit discussions about how we live

Dreams and Nightmares

- Planners' nightmares...
 - More trips and distance travelled
 - Zero passenger trips
 - Extended sprawl due to easier mobility
 - Challenge to public transit
 - Marginalization of some groups
 - Security and privacy (TBs of data per vehicle per day)
 - Missed opportunities



**TOUGH
DECISIONS
AHEAD**

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