Will Driverless Vehicles Create a Better Future?

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When will Automated Vehicles become commonplace?

Fully Automated Vehicle (L4/5) uptake predictions based on high disruption scenarios, indicates possible percentage of new car sales 2016 to 2050.

**Revolutionary**
- Technology breakthroughs
- Regulatory resolutions
- Shared model, at much lower cost than ownership
- Rapid adoption

**Evolutionary**
- Slower technology development and rollout
- Owned AV model with cost premium
- Slower adoption
What can we learn from the past?

Diffusion of new technologies in the US car industry (in percent of car output). (Source: Jutila and Jutila, 1986.)

Source: Dr. Steven Shladover, California PATH (2017)
How quickly can change occur?

- **Information technology**
  - Product life cycles of **months**
  - Low-capital cost products and developments
  - Customer does beta testing for speed and cost saving

- **Motor vehicle technology**
  - Product life cycles of **years**
  - High capital cost products and developments
  - Safety-criticality requires extensive testing before release

- **Roadway infrastructure technology**
  - Product life cycles of **decades**
  - Very high capital cost products and developments
  - Safety-critical, and long time to plan and construct

Source: Dr. Steven Shladover, California PATH (2017)
What does the larger vision look like?

A safer, more efficient, and more enjoyable experience

- Safer: Towards zero road accidents
- Greener: Reduce air pollution and emissions
- Efficient: More predictable and productive travel

Source: Qualcomm 2017
A unique opportunity, but not without risks

New travel choices
  Reduced car ownership
Repurposed parking
  Space for Housing
Safer streets
  Improved user experience
Higher efficiency transit
  Lower operating costs

Increased VMT
  Empty vehicle circulation
Urban sprawl
  Higher congestion
Cyber attack
  Privacy concerns
Decline in transit use
  Inequity
A research partnership

- Future of Mobility Research Program
- To identify and address common interests of the MPOs related to changing travel, policy, and planning shaped by Emerging Technology

Task 1
MPO’s and Future Mobility: Roles and Opportunities

Task 2
Modeling Assumptions for Emerging Technologies in Long-Range Planning

Task 3
On/Off-Model Analysis of CV/AV
Other tools to shape the future