Anticipating Travel Demand Impacts of Automated Vehicles
Charlie Howard • April 2017

• Don’t Panic, but be diligent
• Be skeptical of forecasts using current models
• Key short term action: pay close attention to demo projects, industry progress, and behavioral research.
• Incorporate learning on real behavior into future planning work

Some points from a national conference on how to address automation in plans

Scenario Testing

• Can’t predict actual values, but we can define reasonable bounds
• Model “levers” we can pull today:
  - Capacity impacts
  - Travel time perception
  - Parking costs
  - Per-mile pricing
Scenario Concepts

1. "AVs increase network capacity."
   - 30% capacity increase on freeways, major arterials

2. "Important trips are in AVs."
   - 30% capacity increase on freeways, major arterials
   - Travel time is perceived at 65% of actual travel time for high value of time household trips ($>$24/hour)

3. "Everyone who owns a car owns an AV."
   - 30% capacity increase on freeways, major arterials
   - Travel time is perceived at 65% of actual travel time for all trips
   - 50% parking cost reduction

4. "All autos are automated, with all costs of auto use passed onto the user."
   - Cost per mile is $1.65

% Change in VMT and Speed (vs. Base)

- Daily VMT
- Avg. Freeway Speed

VMT per person increase

Increase in Average VMT/Person
(Scenario 3 vs. Base)
An Uncertain Future

If we vary the input assumptions to the model based on plausible outcomes resulting from automated vehicles, strikingly different transportation futures will emerge.

Next Steps

Current model is insufficient!
- Understanding current influences of real-time information and other technology on demand
- Shared-ride/taxi mode
- Stated preference survey
- Automated vehicle mode choice in model

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Thank you.