

# ARE CARS DRIVEN MORE OR LESS WHEN THERE IS NO DRIVER?

INNOVATION BY  
FEHR & PEERS



Ronald T. Milam, AICP, PTP  
Director of Evolving the Status Quo  
Fehr & Peers  
[r.milam@fehrandpeers.com](mailto:r.milam@fehrandpeers.com)

# roadmap.

- Why we did this?
- What we did?
- What happened?
- What were the key findings?



# why test?

“Very smart people have very different opinions on the pace of implementation, market acceptance, and impacts of technology in transportation. But, folks are hungry for answers, and in the absence of information speculation is running rampant”

*Steven Polzin, University of South Florida*

# why test?.

VMT IS A KEY METRIC BY WHICH WE  
MEASURE MOBILITY AND IMPACTS



How will technology influence VMT?

# why test? ■

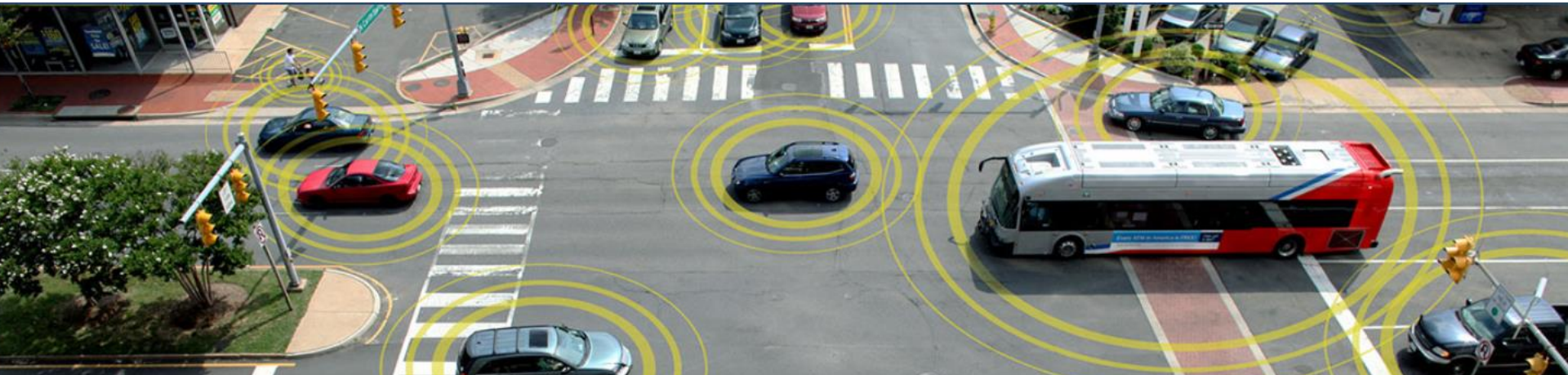


Here are some opinions.



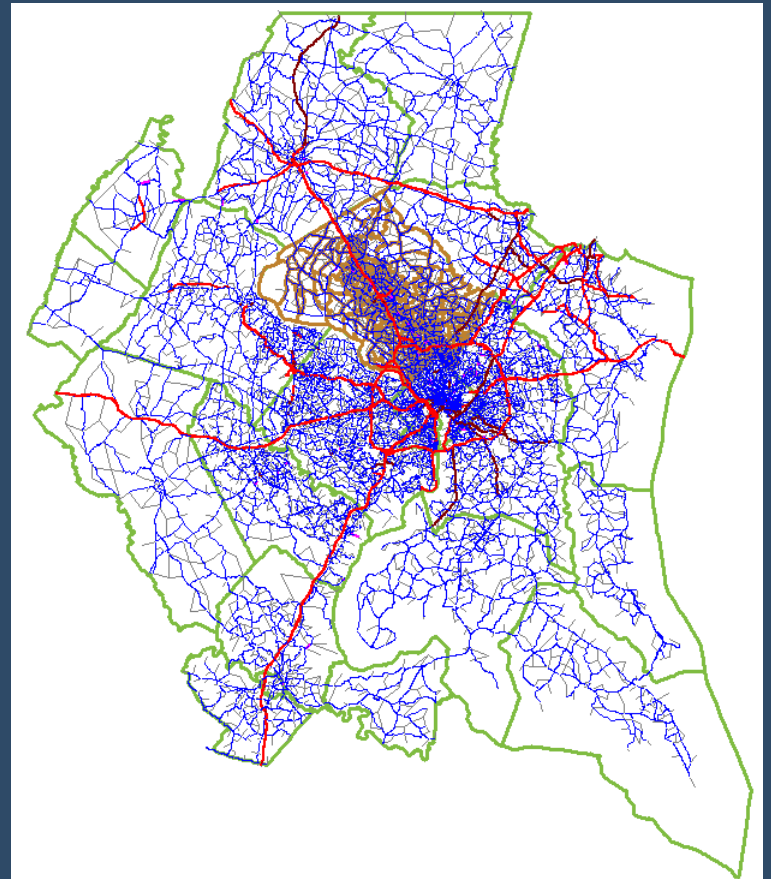
# why test?

Moving beyond opinions. Can we continue to estimate travel behavior with the tools we have when self-driving vehicles are ubiquitous?



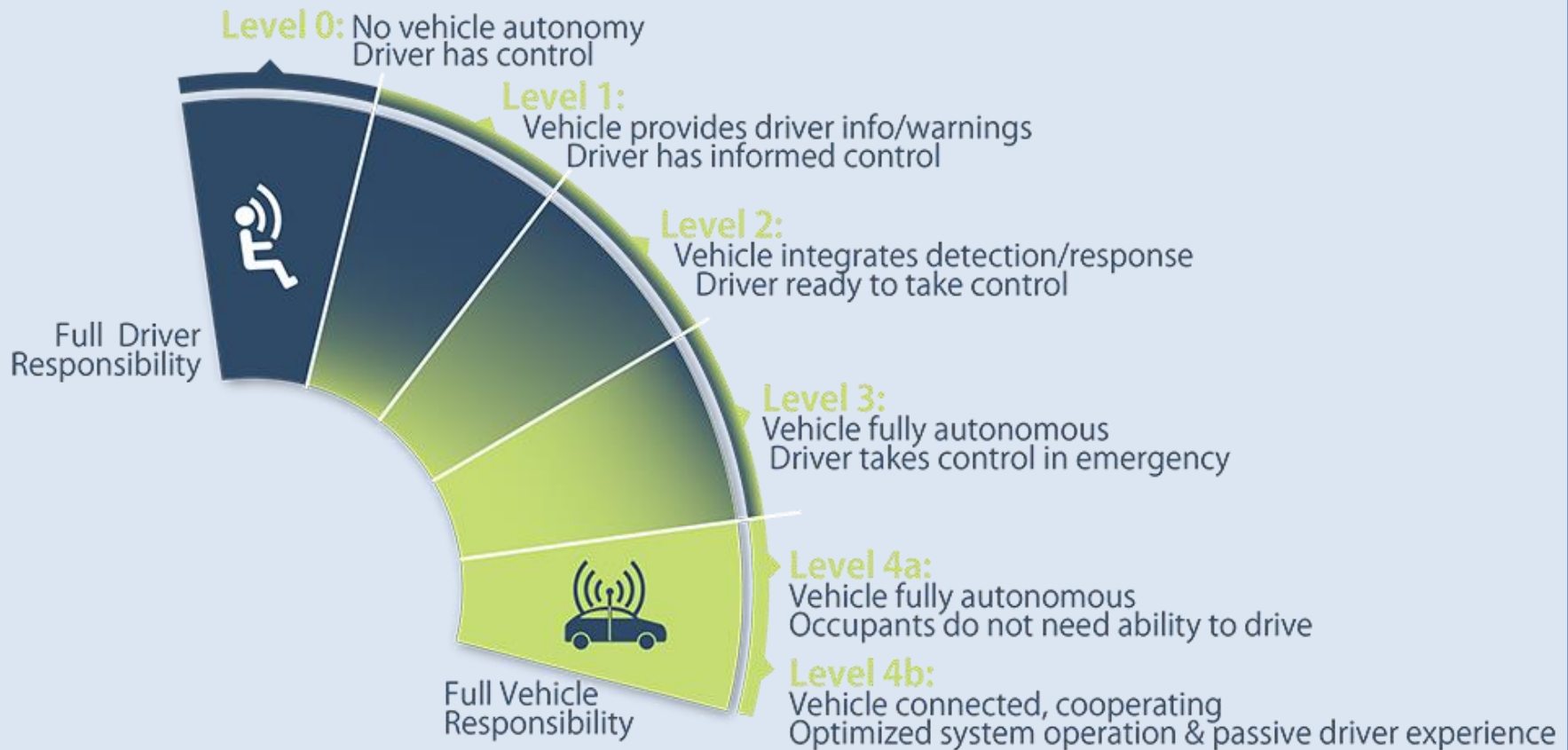
# what was tested?

- Tested 7 regional models
- Tested 8 effects + cumulative effects



# what was tested? ■

- Assumed Level 4, 100% fleet mix





# what specific tests? ■

- Increased household auto availability
- Increased discretionary trip making
- Decreased value of time
- Decreased access time
- Decreased parking costs
- Increased freeway capacity

# why these tests? ■

## Example: Increase Auto Availability



Image Source: BMW Blog

<http://www.bmwblog.com/2011/03/21/bmw-and-sixt-establish-drivenow-joint-venture-for-premium-car-sharing/>

# why these tests? ■

## Example: Increase Freeway Capacity

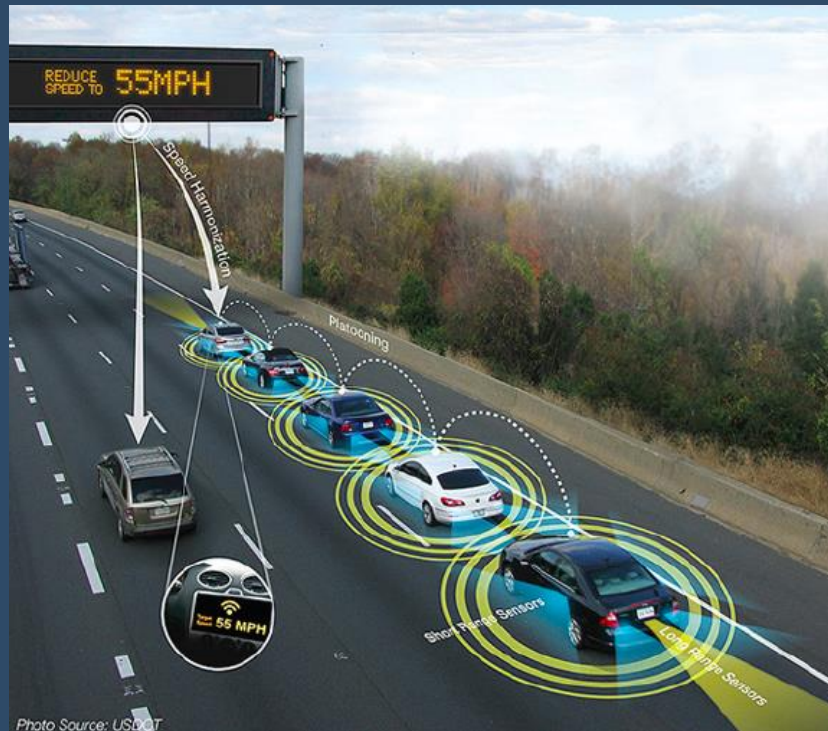


Photo Source: USDOT

Image Source: USDOT

[http://www.its.dot.gov/communications/image\\_gallery/image36.htm/](http://www.its.dot.gov/communications/image_gallery/image36.htm/)

# what happened.

Cumulative effect of privately-owned autonomous vehicles:

- 12-68% **increase** in VMT
- 2-26% **increase** in vehicle trips
- 43% **decrease** to 16% **increase** in transit trips

Model data available at:  
<http://www.fehrandpeers.com/fpthink/>

# what happened.

Cumulative effect of shared autonomous vehicles simultaneously serving multiple trips (50% share):

- 4-43% **increase** in VMT
- 1% **increase** to 7% **decrease** in vehicle trips
- 43% **decrease** to 16% **increase** in transit trips

Model data available at:  
<http://www.fehrandpeers.com/fpthink/>



# what can we infer?

- Increase in vehicle travel is likely to occur.
- Current bus transit service susceptible to largest shift.
- Current models do not account for new trip making made possible by AVs.
- Regulations will matter.

# THANK YOU.

INNOVATION BY  
FEHR & PEERS

