AVS, TRANSIT & EQUITY
A DC REGION CASE STUDY

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This project was completed in partnership with the Union of Concerned Scientists.
AVS + TRANSIT
How do they interact?

- Compete
- Complement
- Contribute
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Compete
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Complement

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Contribute

Image source:
CASE STUDY
AV Impacts on Transportation Equity in the DC Metropolitan Region

Report
Where Are Self-Driving Cars Taking Us?

TRB Paper
Examining the Equity Impacts of Autonomous Vehicles: A Travel Demand Model Approach
KEY QUESTIONS

• How will AVs impact travel in the region?

• Are outcomes different in underserved communities – both today and under different AV futures?

• Do AVs mitigate, maintain, or exacerbate existing differences?
APPROACH

DC regional travel demand model

Adjust auto mode to mimic AVs

Adjust transit & vehicle occupancy to develop different AV scenarios

Assess regional, equity areas, and affluent area outcomes for key performance measures
AVs could reduce travel times regionwide and reduce disparities – particularly when AVs are shared.
Equity Emphasis Areas have better accessibility due to central locations; advantage increases with AVs.
AVs could increase vehicle miles traveled, increasing collision exposure, as well as exposure to noise and air pollution.
RECOMMENDATIONS

- Encourage pooling
- Expand transit
- Electrify AVs

Policy resource

Union of Concerned Scientists, Maximizing the Benefits of Self-Driving Vehicles (2017)
THANK YOU!

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