Automation, Mobility on Demand, and Electrification

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SAFE – Securing America’s Future Energy

Business and military leadership….

… using technology to improve national and economic security

“Accelerate the safe deployment of autonomous vehicles and maximize the benefits of the technology to society.”
Will AVs be EVs?
Platform of choice for AV permitted companies in California (2018)

- Electric Vehicle (EV): 54%
- Hybrid (HEV): 33%
- Internal Combustion Engine (ICE): 13%

Source: SAFE analysis of disengagement reports, company websites, and media reports.
Note: Chart only includes the 30 company where powertrain type was verifiable.
... for economic, social, and engineering reasons...

THE VIRTUOUS CYCLE

Facilitates rapid development

Reduces range & battery concerns

Ensures smaller fleet

降低了成本

Accelerates Adoption

Increases Utilization

Reduces components

Lowers cost to build and operate

Lowers cost to serve

Source: Rocky Mountain Institute
Shared EVs represent massive GHG opportunity…

**300 Billion Tons**

Additional annual savings for full electrification OR rightsizing at current tech

Rightsizing = Electrification

Total GHG reductions from today if all low occupancy trips were rightsized AND electrified

Source: Own analysis; NHTS data; FASTSIM
... but co-optimization w/ charging is both challenge and opportunity

Policy Levers

› Rate structures allowing for reasonable and predictable fleet charging cost

› Congestion and TNC fees structured to encourage sharing and electrification

Kornhauser et al. (2016)

- Sharing can significantly reduce the number of vehicles needed

Bauer et al. (2018)

- For shared fleets, it can be more effective to invest in charging infrastructure than larger batteries

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Securing America’s Future Energy
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