Can new mobility services lead to energy and GHG savings?

Behavior, Energy and Climate Change Conference

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Motivation: A look at California’s GHG inventory

CA GHG Inventory: 2013
(data source: California Air Resources Board)

Transportation Sector GHGs: 2020
(data source: California Air Resources Board)

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Previous efforts have focused on vehicles and fuels

GHG = Activity x modal Share x energy Intensity x carbon intensity of Fuel

VMT Mode Vehicle efficiency (e.g. CAFE) Vehicle electrification Low carbon fuel standard

BEHAVIOR

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Major transformations in the transportation sector

- Connected
- Shared
- Electric
- Automated

- On-demand
- Mobility as a service (not a product)
- Operational efficiency
- Increased multitasking
- Increased accessibility
- Increasing urbanization and EV adoption
- Vehicle-grid integration
- Incentivize time and mode shift

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Evolution of shared mobility services

Carsharing: Private Station-Based

Paradigm shift from vehicles
as a product
to vehicles
as a mobility service

Carsharing: Peer-to-Peer

Carsharings: Private A-to-B

Services: TNCs

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