Health Effects Institute
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New Mobility: Changing Health?

Britta K. Gross
GM, Director Advanced Vehicle Commercialization Policy
GM is committed to a future of:

**ZERO CRASHES**

**Electric**
- Chevrolet Bolt Electric Vehicle (EV)
  - 238 mile range

**Autonomous**
- Cruise Automation
  - 180 Bolt EV/Autonomous Vehicles (AVs) on roads today

**Shared**
- Maven
  - 1,000 Bolt EVs in 7 cities

**Connected**
- OnStar
  - >13 million connected vehicles
Electric Vehicle (EV) Market Growth Requires a Strong Foundation of Enablers

3 Key Barriers: EV Cost, Infrastructure and EV Awareness

**Infrastructure**
- Highway corridor direct current (DC) fast-charging
- Urban DC Fast-Charging Hubs
- Workplace charging
- Multi-unit dwelling charging
- Public charging at key destinations

**Policy**
- Vehicle Incentives – federal and state
- High Occupancy vehicle (HOV) Lane Privileges
- Building Codes
- Preferential EV electricity rates
- Fleet purchase commitments

**Education & Outreach**
- Drive Consumer Demand
- Build Awareness
- Ride & Drives
- Utilities as trusted 3rd parties

"Story-telling"
ELECTRIC VEHICLE (EV) CHARGING INFRASTRUCTURE GROWTH (2015-2019)

SAE Direct Current (DC) Fast-Chargers
July 2015

204 stations

SAE DC Fast-Chargers
April 2019

2,075 stations

https://afdc.energy.gov/stations/#/analyze
INFRASTRUCTURE PROGRESS IN THREE MAJOR AREAS

Electrify America
(operational in 2019)

- Compelling "storytelling"
- Part of a $2Bil investment

State Appendix “D” Funds

- 44 States to invest in EV charging
- $343mil investment

Utility Investment
(filings approved and pending)

- Utility engagement is key
- $1B approved / $1.5B pending

Infrastructure growth will significantly contribute to consumer electric vehicle (EV) awareness
Shared and Autonomous Mobility

Since Maven Electric Vehicle (EV) launch (~ 2 years):

- >125 miles per day
- >2M passengers
- 390,000+ charging events
- 11.6 GWh

Key Insights:

- Commercial services → many miles driven each day
- Lots of new EV awareness
- >95% DC fast charge
- 8:1 EV to station ratio required (given current station availability)
- Need station availability certainty
- Scale of mobility services requires infrastructure up-front

Cruise Automation
180 Bolt EV/AVs on roads today

Maven
1,000 Bolt EVs operating in 7 markets