



Electric Vehicles in the DC Metro Region

Washington Advanced Energy Stakeholder Series:
Energy, Mobility and Transportation

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About Atlas Public Policy

- DC-based policy tech firm started in 2015
- **Mission:** equip businesses and policymakers to make strategic, informed decisions through the greater use of technology that interprets publicly available information

Atlas Key Focus Areas

- **Access:** Collect and disseminate publicly available information for free.
- **Interpret:** Develop open-source apps to spur insights and conduct analyses.
- **Empower:** Strengthen policymakers, businesses, and non-profits' ability to meet emerging challenges and identify and seize opportunities.

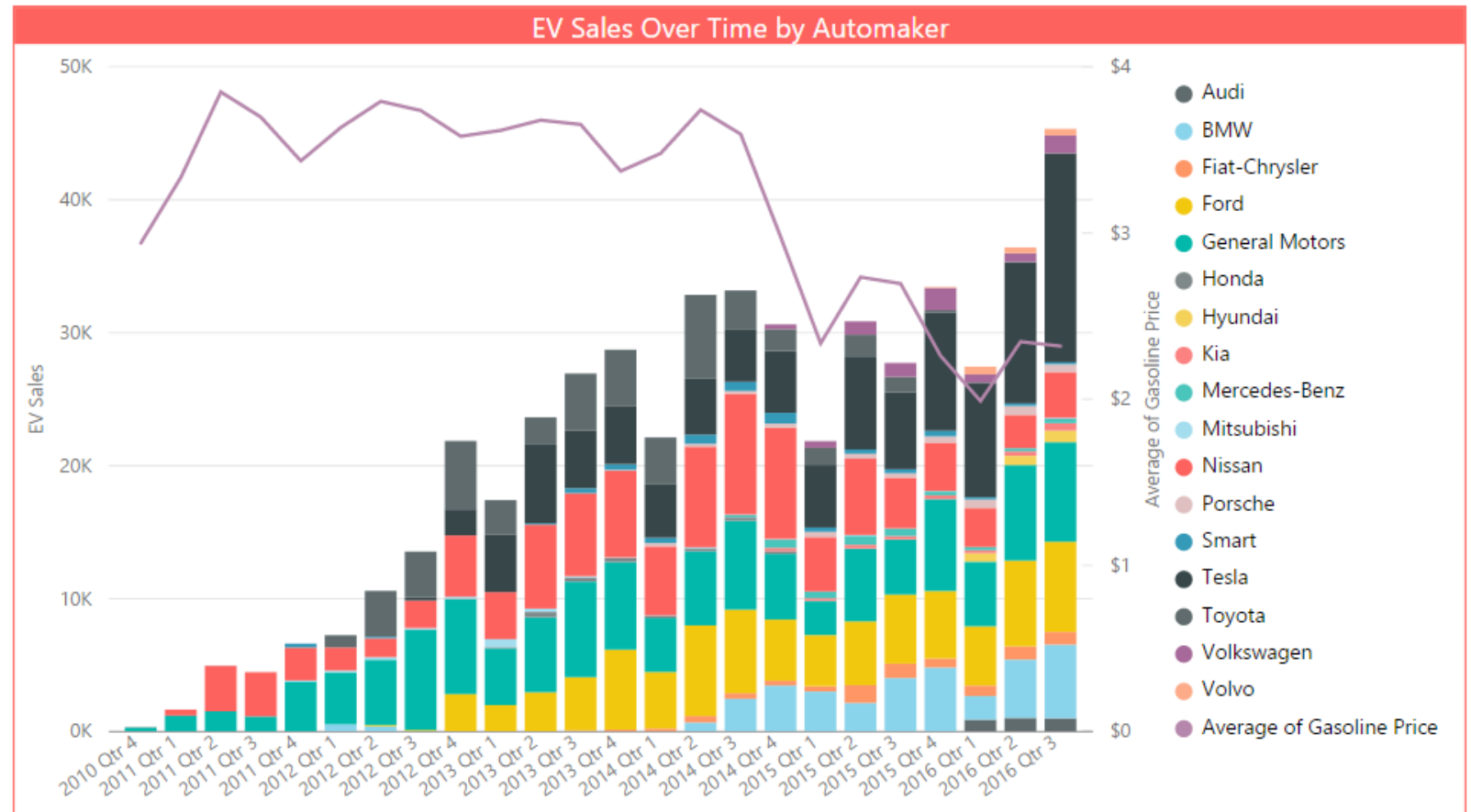
Cities Take the Lead with Electric Vehicles

- Many factors affect electric vehicle viability in a regional market
 - States have taken various approaches to advancing EVs
 - States serve as experimental laboratories to identify what's working
- State and local policy, available technology, and market conditions are constantly evolving
 - *Defining “what’s working?” requires analysis of local and time-based data to identify trends and glean insights*



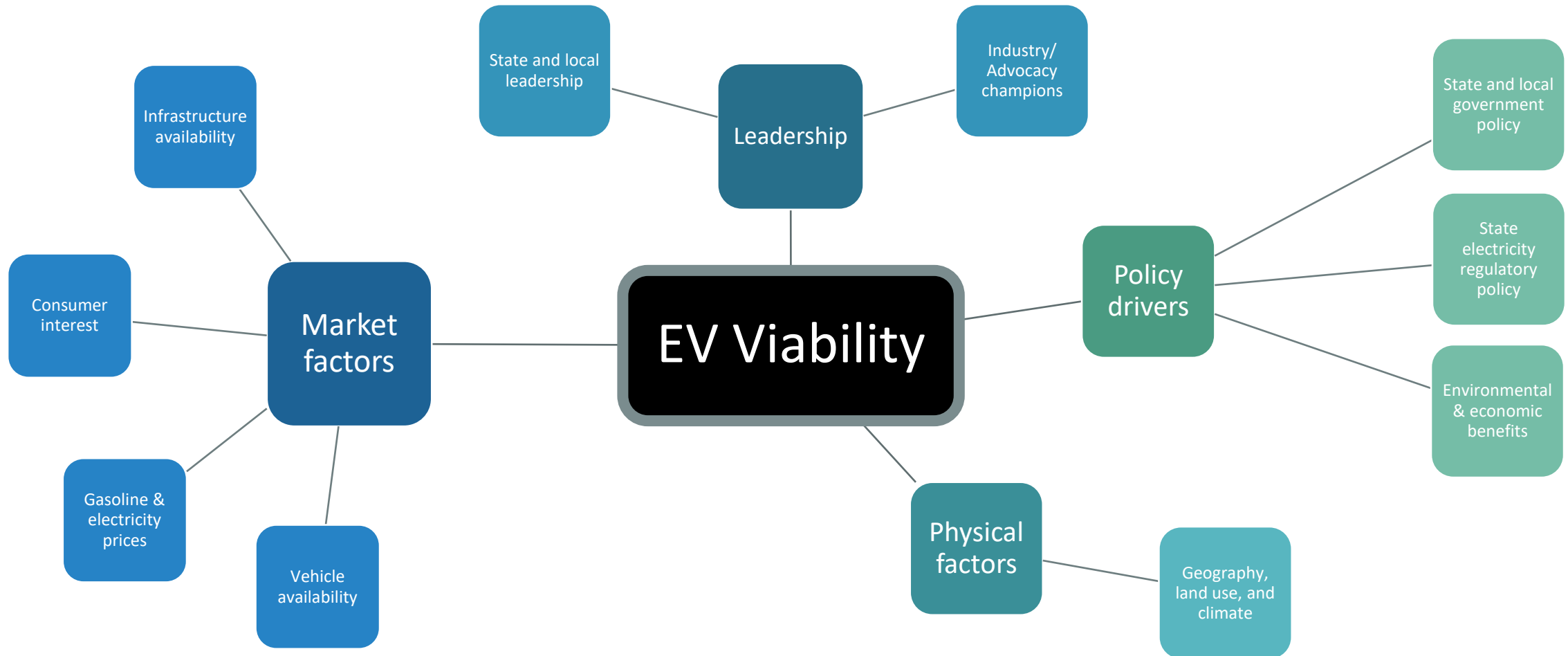
Must Identify & Evaluate Factors Driving EV Market

- Must drill down from national level and understand regional markets
- State and local policies and activities are greatest drivers of EV adoption
 - All leading markets have supportive policies and programs
- Many additional factors create EV adoption opportunities and barriers
 - Supportive policies do not guarantee success
 - Intrastate market success can vary greatly



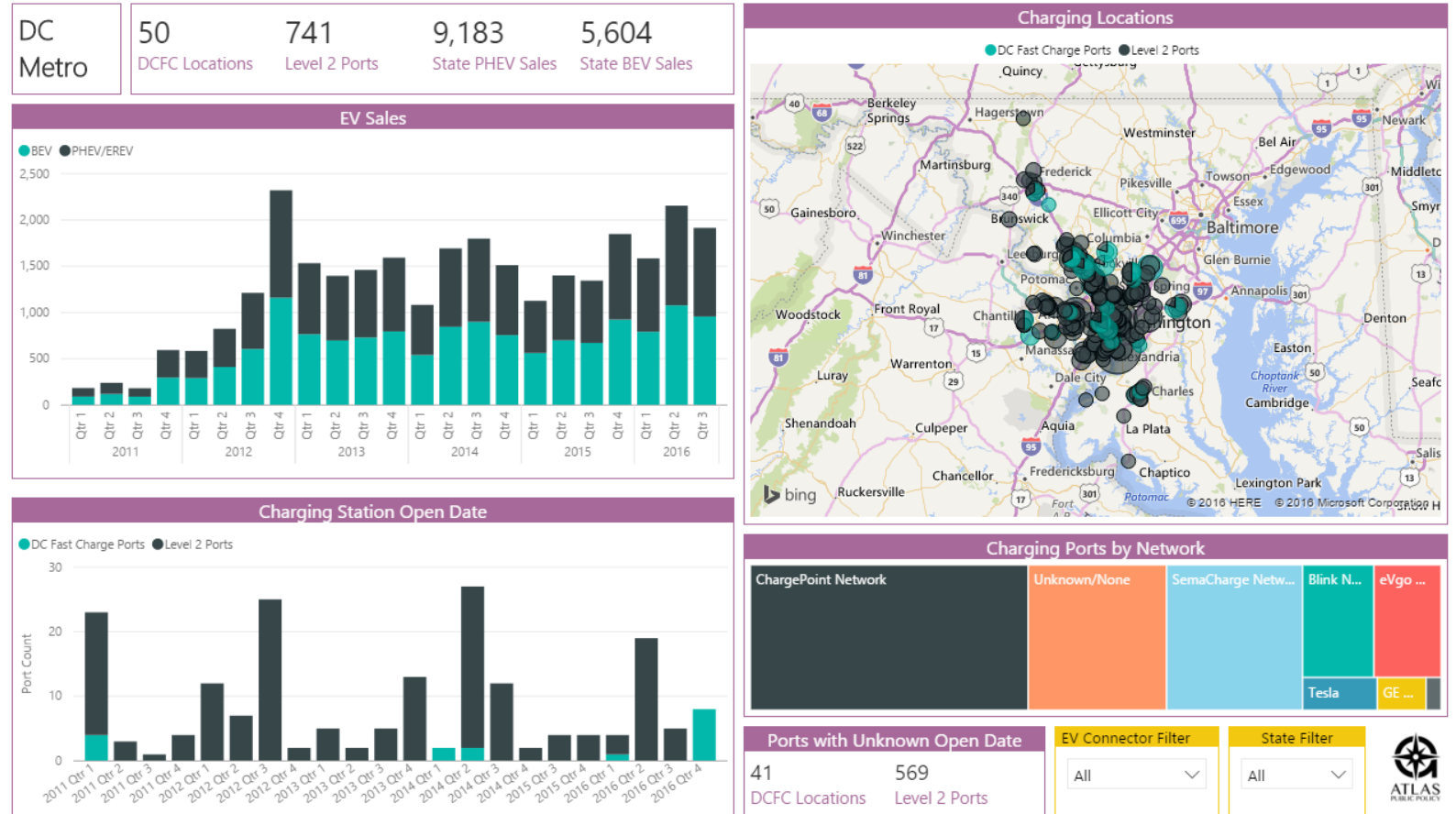
Source: Analysis of data from hybridcars.com & [U.S. Energy Information Administration](http://www.eia.doe.gov)

Regional Factors Drive EV Market Success



EVs in the DMV

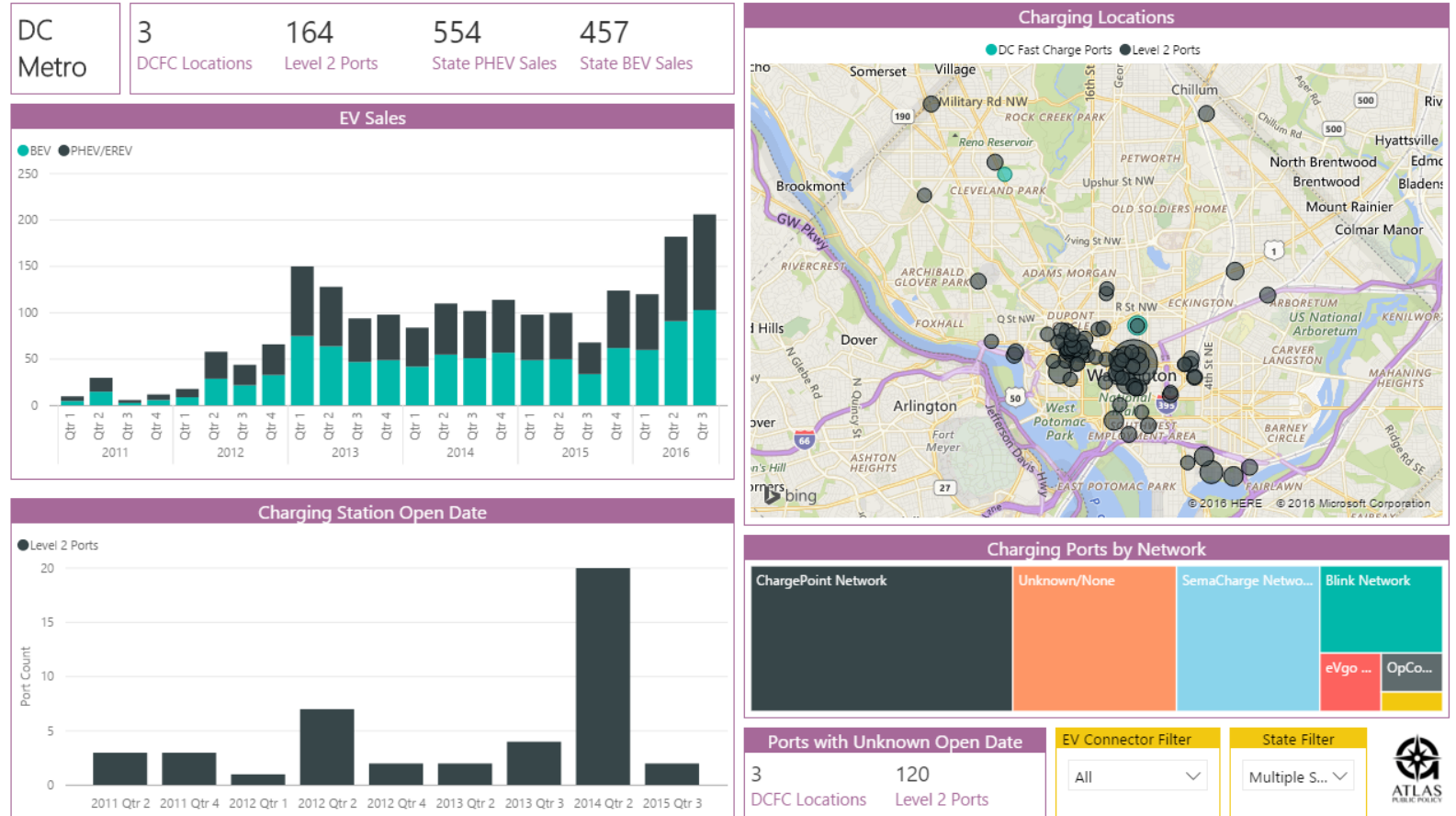
- ~15k EVs in DC, MD, and VA as of August 2016
- DC metro region charging network
 - Level 2 dominated by ChargePoint
 - DC fast charging dominated by EVgo
- Lack of data on open dates can hurt charging infrastructure planning



Source: <http://atlaspolicy.com/PowerBI/MetroDC>

EVs in the DMV: Drilling Down to DC

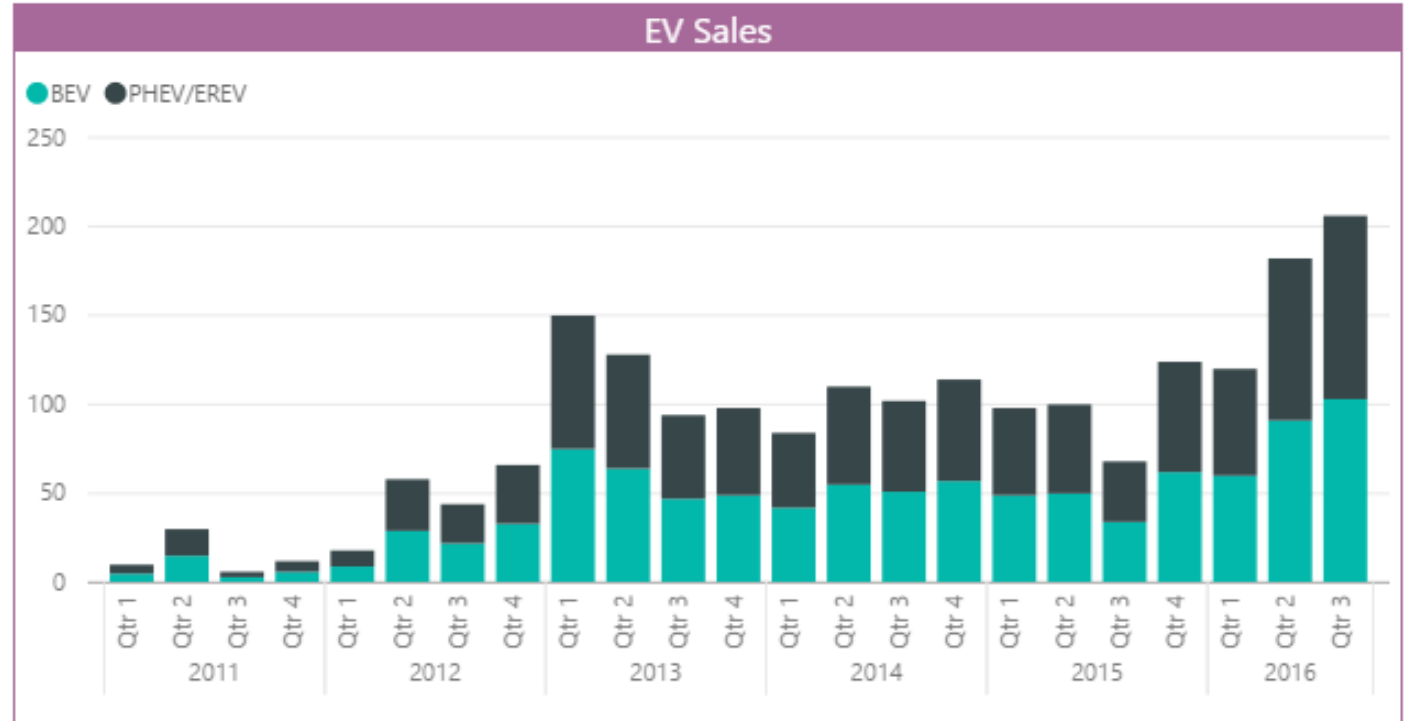
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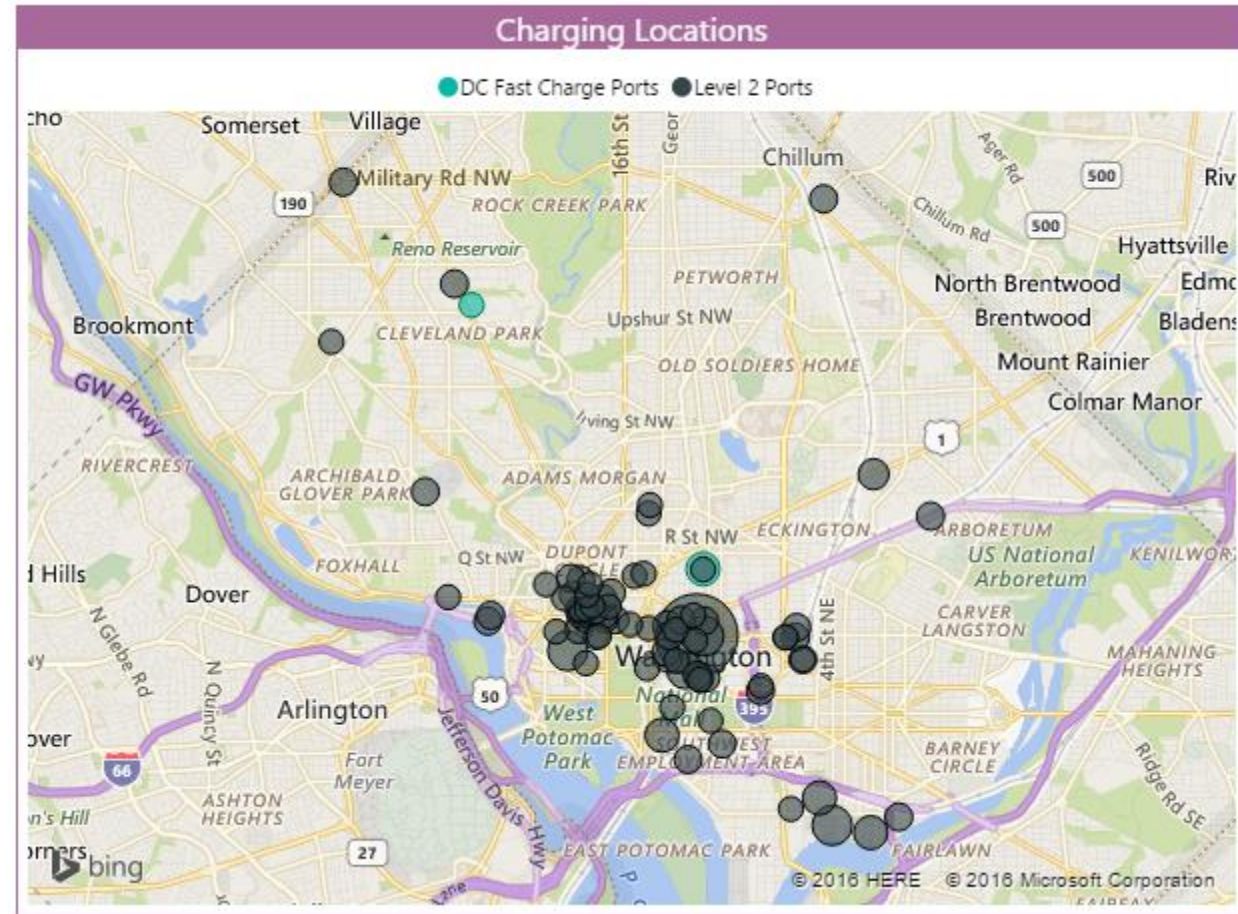
EVs in the DMV: Drilling Down to DC

- Filtering to show only DC reveals EV sales surge in 2016
 - Follows record sales at national level
 - Data unavailable for final month of Q3



EVs in the DMV: Drilling Down to DC

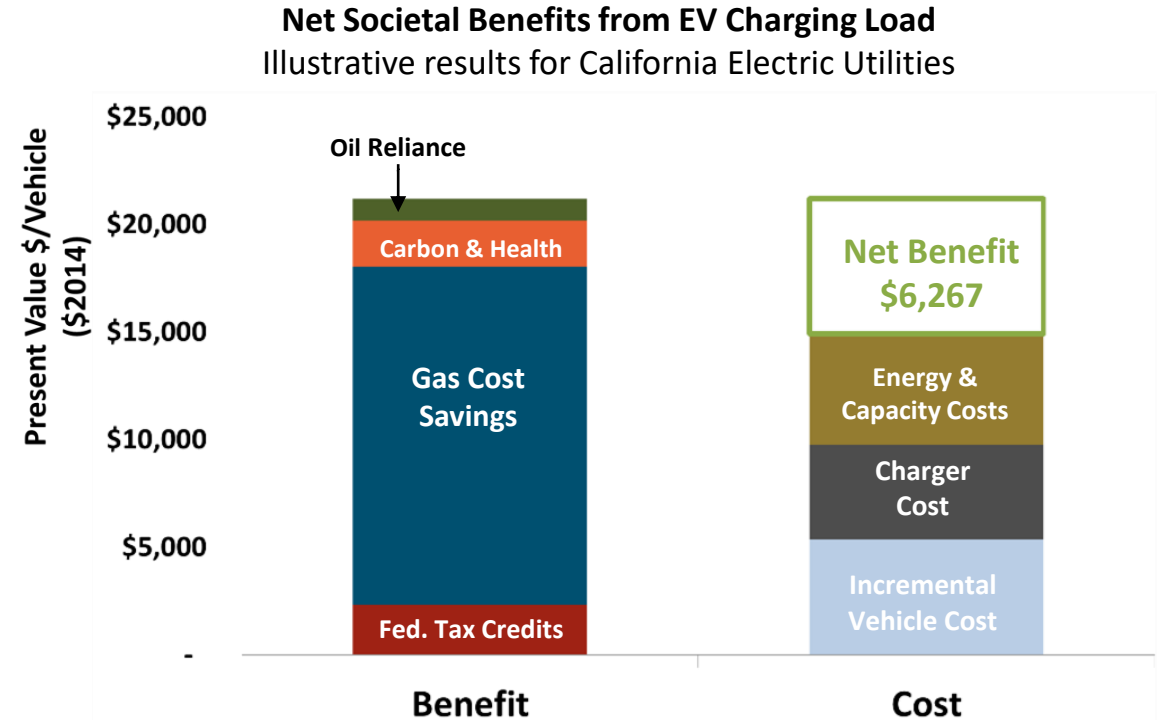
- Very little DC fast charging stations
 - Makes all-electric ownership more difficult for garage orphans





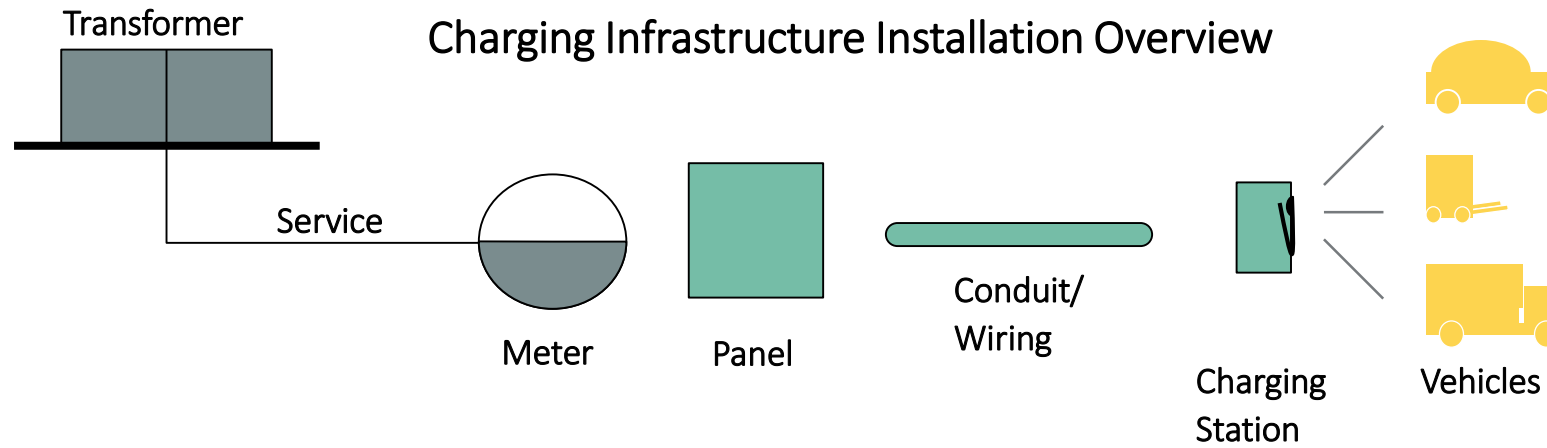
EVs Can Also Benefit All Electricity Ratepayers

- California public utility commission concluded state achieves net economic benefits with greater EV adoption
 - EV owners monthly bills more than offset costs to serve incremental load and put downward pressure on rates
- Grid-specific research needed to evaluate societal benefits for other regions



Source: Nancy Ryan E3

Potential Role of Electric Utilities in EV Charging Infrastructure



Risk/Reward



Potential Role of Utility

- Before meter (BAU) / or new allowances
- After meter infrastructure only
- Before and after meter infrastructure
- Charger only (rebate, own)
- Before meter and charger
- Before and after meter infrastructure & charger

Source: CMK Consulting



Shared-Use Mobility Programs using EVs

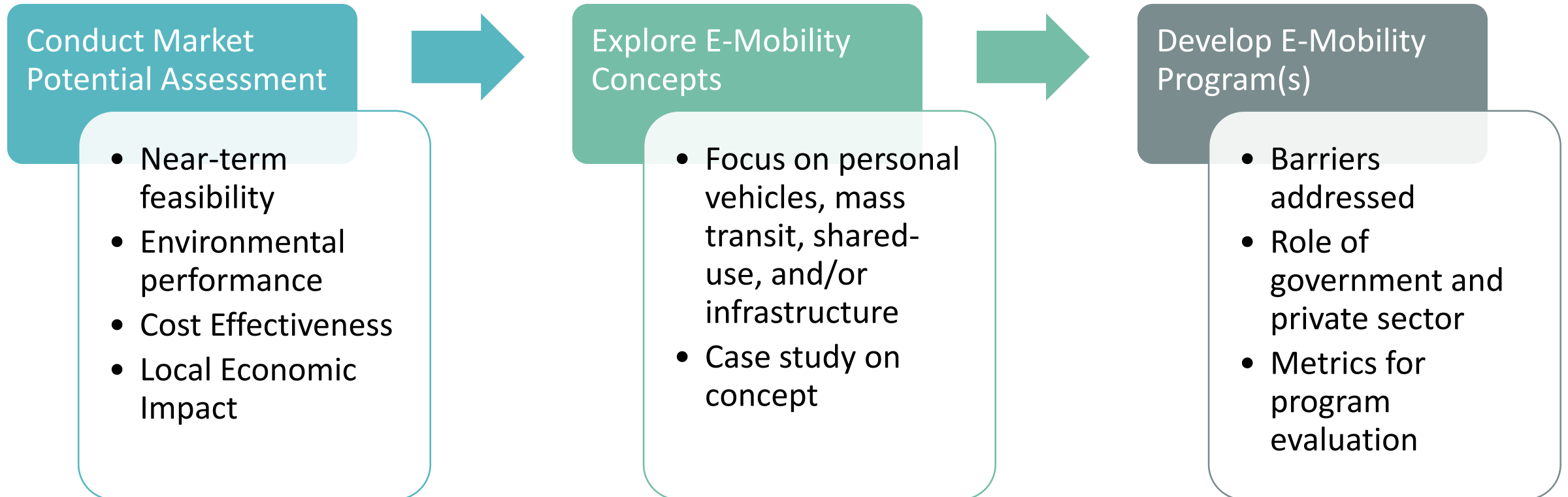
- Evercar rented EVs to drivers of ride-hailing services such as Uber and Lyft in Los Angeles and San Francisco (ended in October 2016)
- BlueIndy carsharing service gives users access to a fleet of EVs and charging stations in Indianapolis
- WaiveCar in Los Angeles focuses on underserved communities, connecting users with ad-supported EVs that users can drive for free

Shared-Use Mobility

- Complements local public transit
- Ride-hailing: The user is a passenger in a hired vehicle, primarily for one-way trips.
- Carsharing: The user has access to a fleet of vehicles to drive for a one-way trip and/or roundtrip.

10 businesses worldwide have EV-focused carsharing programs (5 are exclusive EV programs)

E-Mobility Program Development Process





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