

Making Metropolitan Washington Electric Vehicle Ready



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Why Electric Vehicle Strategy?

- ▶ Early 2011 Nissan Leafs and Chevy Volts arrived at area dealerships
- ▶ Federal stimulus funds invested in charging networks—Baltimore, Richmond
- ▶ COG Electric Vehicle Forum, April 2011
- ▶ Consensus: *A coordinated regional approach is needed to facilitate deployment of electric vehicles*
- ▶ EV Task Force formed, Sept. 2011, focus: Plug-in hybrids and Battery Electric Vehicles

Electric Vehicle Working Group

- COG Member jurisdictions (Fairfax Co, DC chaired)
- Pepco, Dominion
- Greater Washington Regional Clean Cities Coalition
- Fleet owners, operators
- Electric Vehicle manufacturers and equipment suppliers
- Washington Airports Authority, MNCPPC
- MD Energy Administration
- State Depts of Transportation

Process to Develop EV Strategy

- ▶ Experts shared information, experience, best practices
- ▶ Local experiences: District, Fairfax County
- ▶ Subgroups formed to address:
 - Municipal policy
 - Inspection and Permitting
 - Electric utility
 - Siting: Public, Commercial, Multifamily
 - Outreach and Communication
 - Fleets

EV Report Overview



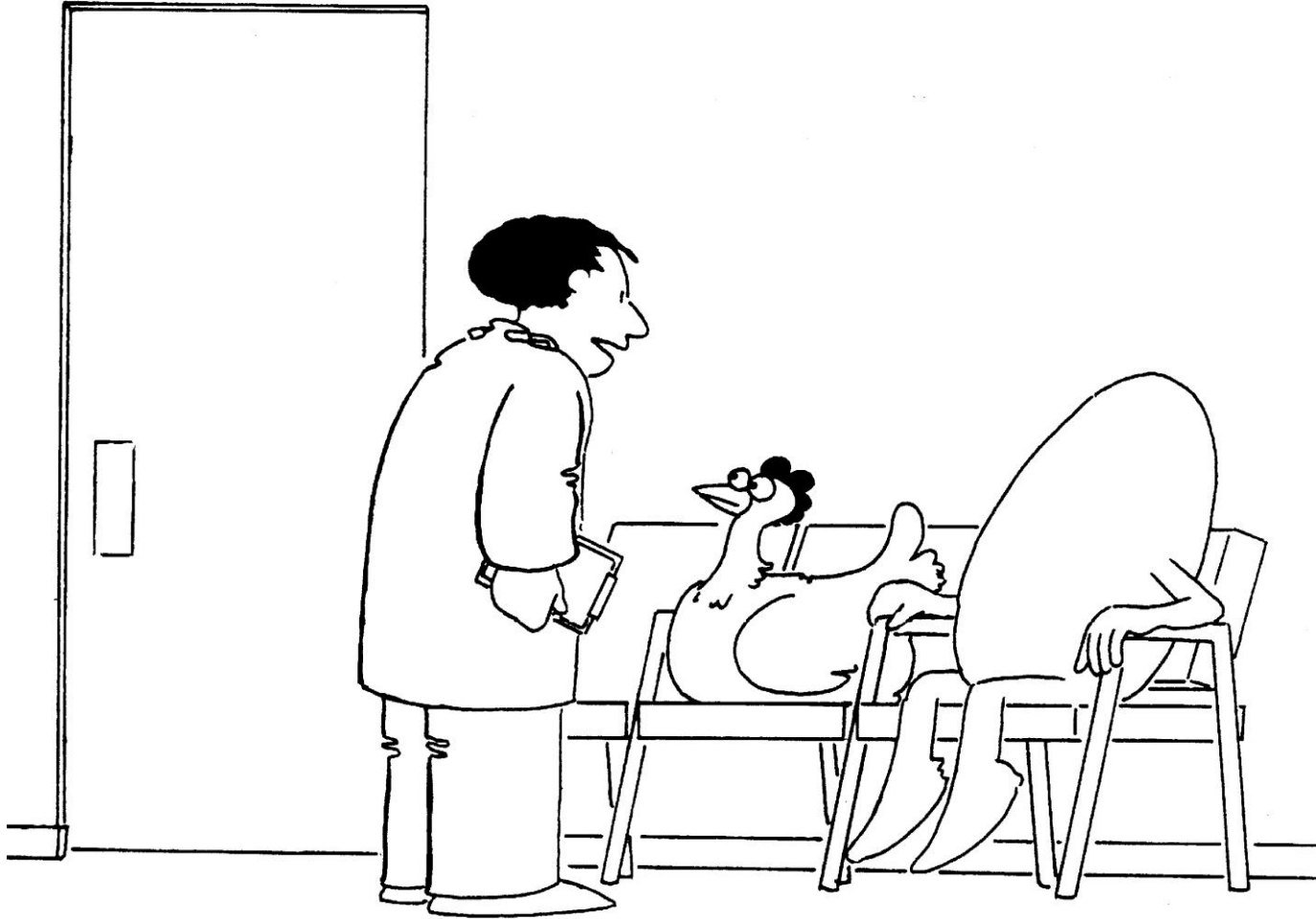
- ▶ EV adoption offers environmental, economic, and energy security benefits
- ▶ Regional strategy needed to address obstacles to infrastructure planning
- ▶ EV Task Force recommendations for facilitating EV adoption and infrastructure planning

EV Benefits

- ▶ Battery-only EV (BEV) called “zero emissions” vehicles (no tailpipe emissions)
- ▶ PHEV and BEV can help achieve environmental goals (reduced air pollution-causing emissions, reduced GHG)
- ▶ Fuel savings: cost to drive: \$0.04 per mile
- ▶ High fuel economy (BEV – 75–100 MPGe)
- ▶ Energy security– reduced dependence on imported oil

Barriers to EV

- ▶ Limited availability of EVs for sale, slower than expected demand, upfront cost
- ▶ Range anxiety (travel distance between charging)
- ▶ Need for additional publicly available charging infrastructure
- ▶ Inconsistent policies related to codes, standards and processes



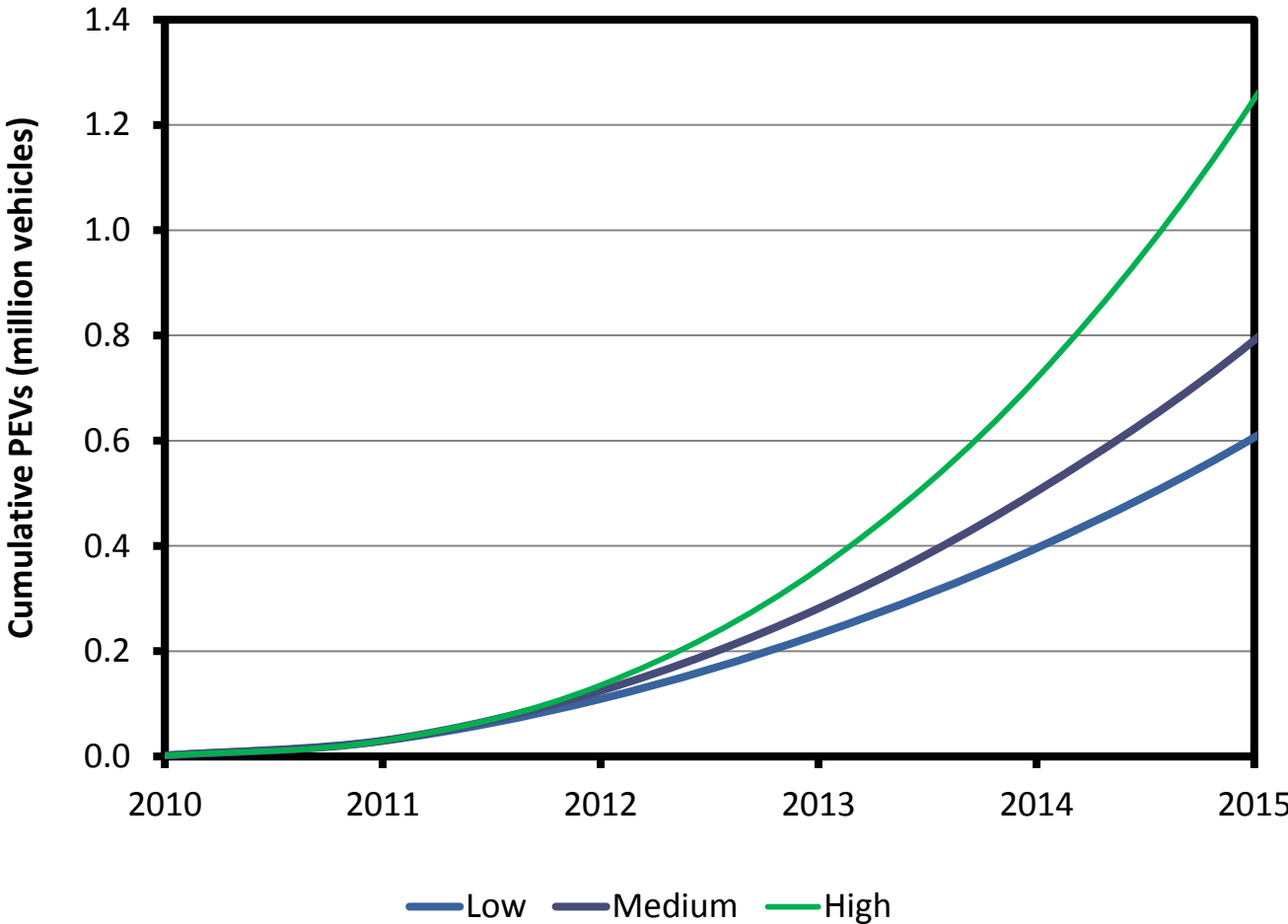
"Who was first?"



Outlook for EV Market

- ▶ Examples of local investment in EV, such as recent application to Arlington County for the nations' first all-EV taxicab fleet
- ▶ Interest in DC fast charger installation
- ▶ New Corporate Average Fuel Economy Standards (CAFÉ) for 2017–2025, 54.5 mpg
- ▶ Transportation funding bill, MAP–21, may promote DOT investment in EV and CNG infrastructure

U.S. Cumulative PEV Sales Projections through 2015, EPRI



EV Stimulus Programs

- ▶ Dept of Energy EV stimulus grants (2009)
 - ECOtality's the EV Project (2009)
 - ChargePoint America
 - Maryland Energy Administration (MEA), MD EV Infrastructure Project (2010)

- ▶ Transportation Climate Initiative (TCI) (2011)
 - New York State Energy Research & Dev. Authority
 - Clean Cities Coalitions in Northeast and DC
 - Georgetown Climate Center

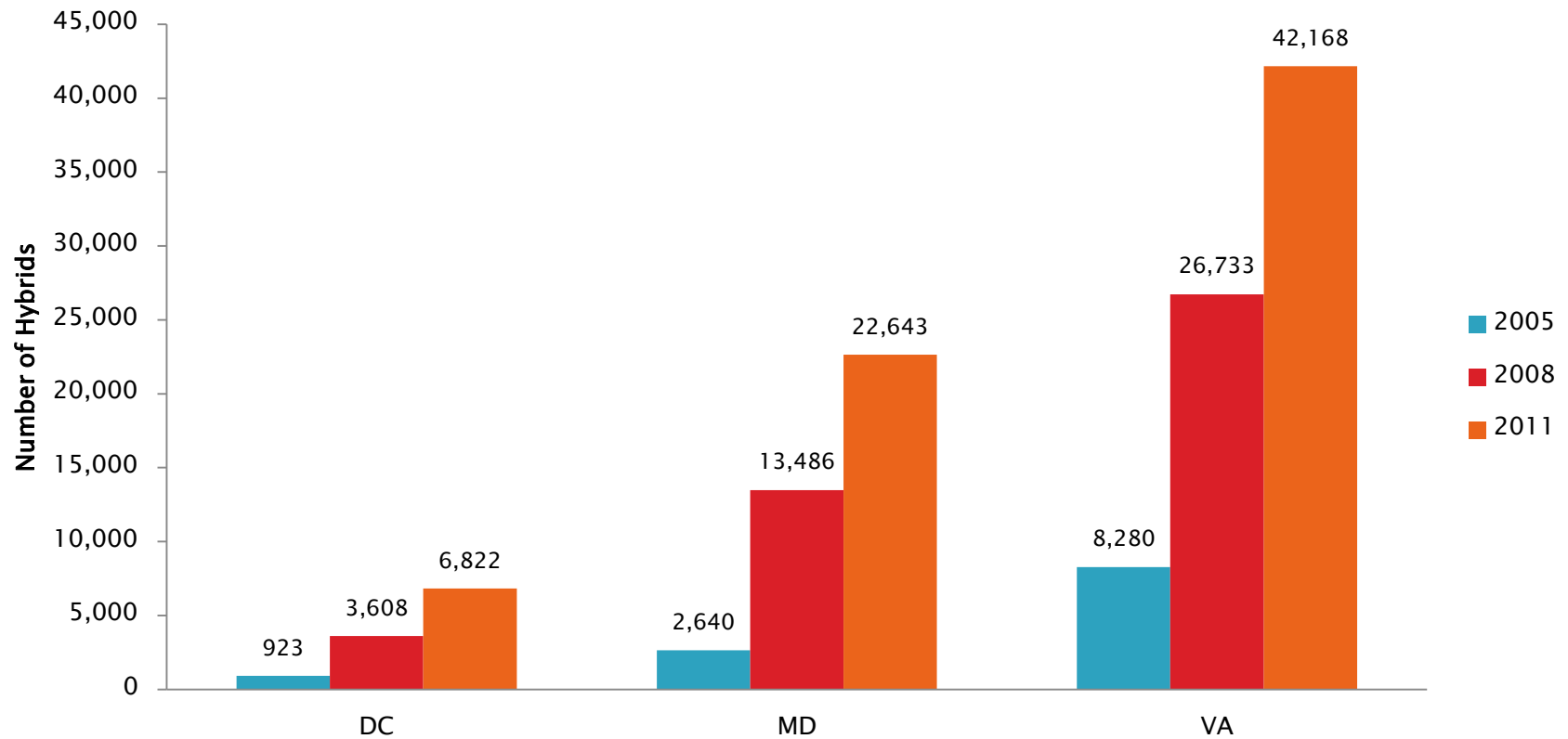
Evaluating EV Readiness, Washington Region

- ▶ Local Government Policies (permitting, inspection)
- ▶ Vehicle Registration
- ▶ Household Travel Demand Survey (2007–2008)
- ▶ Charging Station (EVSE) Inventory, number and location



Hybrid Vehicle Registration

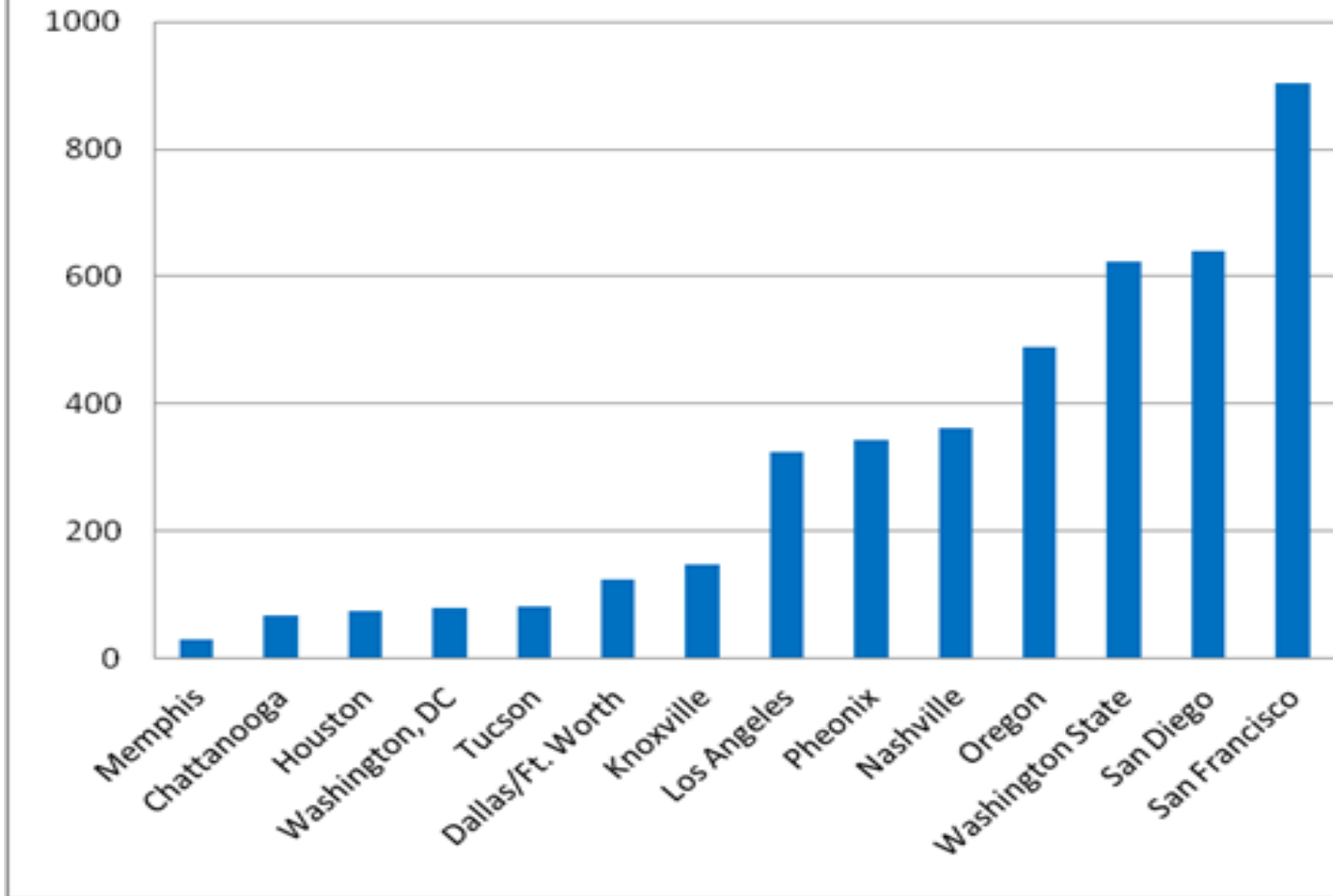
Figure 3-1. Washington Area Hybrid Vehicle Registration Comparison by State for 2005, 2008, and 2011



Household Travel Demand Survey

- ▶ 81% of daily trips in region are by auto
- ▶ Most trips relatively short, average 7.7 miles
- ▶ Work trips: 90% of trips are less than 20 miles one way
- ▶ Shopping trips: 96% are less than 20 miles one way

Figure 3.7. Total EV Project Chargers Installed by Metropolitan Area, Through March 2012



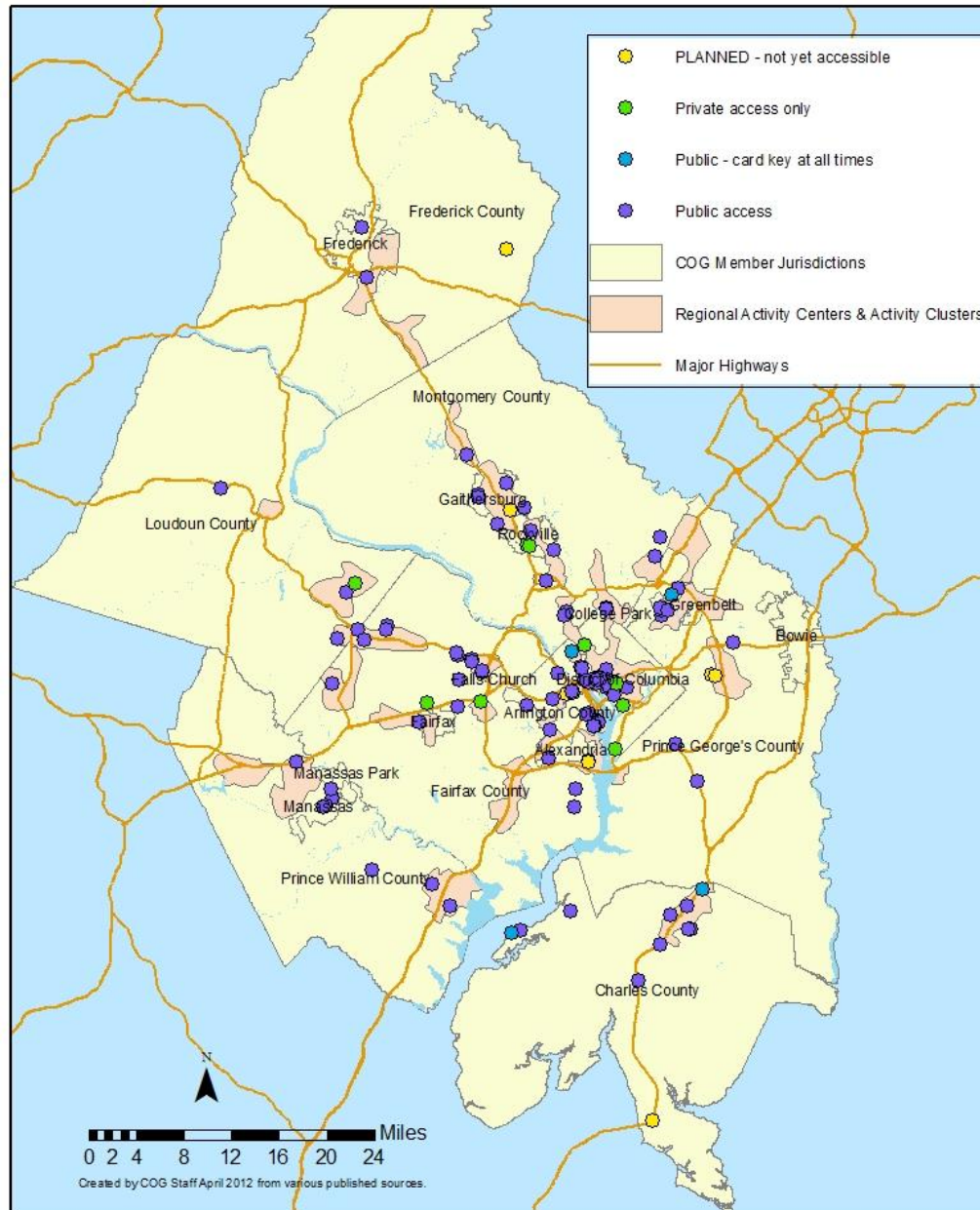
Ecotality, May 2012

Inventory of EV Charging Equipment

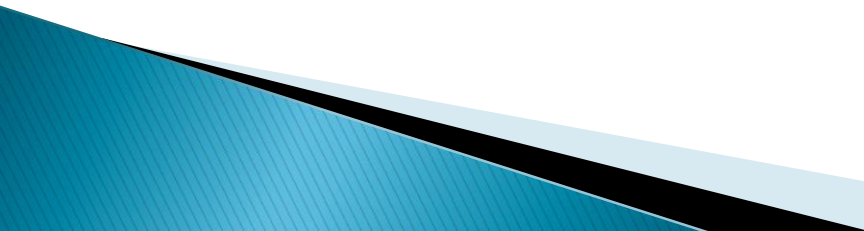
- ▶ 332 chargers at 133 charging stations in metropolitan Washington region
 - District: 36
 - Arlington: 15
 - Fairfax Co: 18
 - Charles Co: 11
- ▶ Location of charging stations:
 - Office (1 / 3 of stations)
 - Shopping
 - Dealership



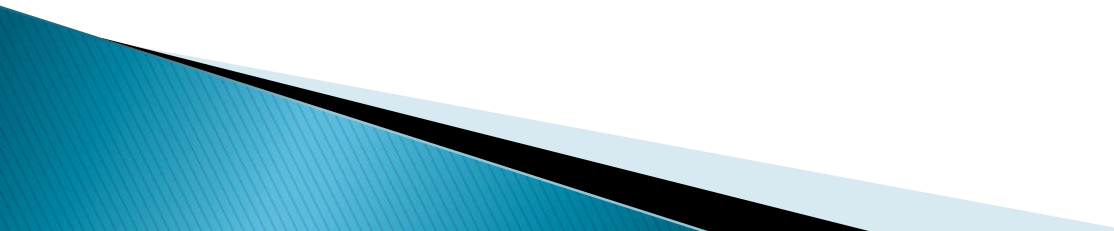
Electric Vehicle Charging Stations in the COG Region by Status



Report Recommendations

- ▶ Stakeholder partnerships, such as a **Washington Regional Electric Vehicle Partnership**, should be formed to develop a business case for EVs, and to assess the potential for community return on investment.
 - ▶ Stakeholders should consider offering incentives such as preferred parking, HOV occupancy exceptions, and tax credits to promote EV adoption.
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Report Recommendations

- ▶ Electric permitting procedures should identify EVSE installations and notify electric utilities of their locations.
 - ▶ Outreach and education is needed to promote EV adoption and inform the public of its benefits.
 - ▶ Comprehensive plans and zoning regulations should guide EV infrastructure development and ensure the built environment can accommodate future EVSE installations.
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EV Report : Next Steps

- ▶ CEEPC adopted final EV Report in September. Recommended adoption by COG Board
- ▶ CEEPC recommends participation in an Electric Vehicle Partnership to support EV deployment in the region
- ▶ Presentation to COG Board, November 10