

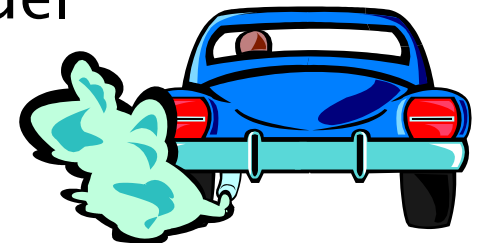
Charged Up: Making Metropolitan Washington Electric Vehicle Ready



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July 25, 2012

Purpose of report

- ▶ Region's policies and charging infrastructure not yet ready for growth in EV market
- ▶ Coordinated approach will ease EV deployment by addressing barriers
- ▶ EV offers potential environmental, economic and energy security benefits
 - Reduced tail pipe emissions (NO_x, VOC, CO, CO₂)
 - Reduced fuel cost
 - Reduced dependence on imported fuel



Barriers to EV

- ▶ Limited availability of EVs for sale, slow demand, cost
- ▶ Need for additional charging infrastructure to support future
- ▶ Range anxiety (travel distance between charging)
- ▶ Policies related to codes, standards and processes



EV Stimulus Programs

- ▶ Dept of Energy EV stimulus grants (2009)
 - ECOtality's the EV Project (2009)
 - Coulomb Technology's 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, data
- ▶ Vehicle Registration
- ▶ Household Travel Demand Survey (2007–2008)
- ▶ Charging Station (EVSE) Inventory, number and location



Survey of Local Governments (Jan–Feb 2012)

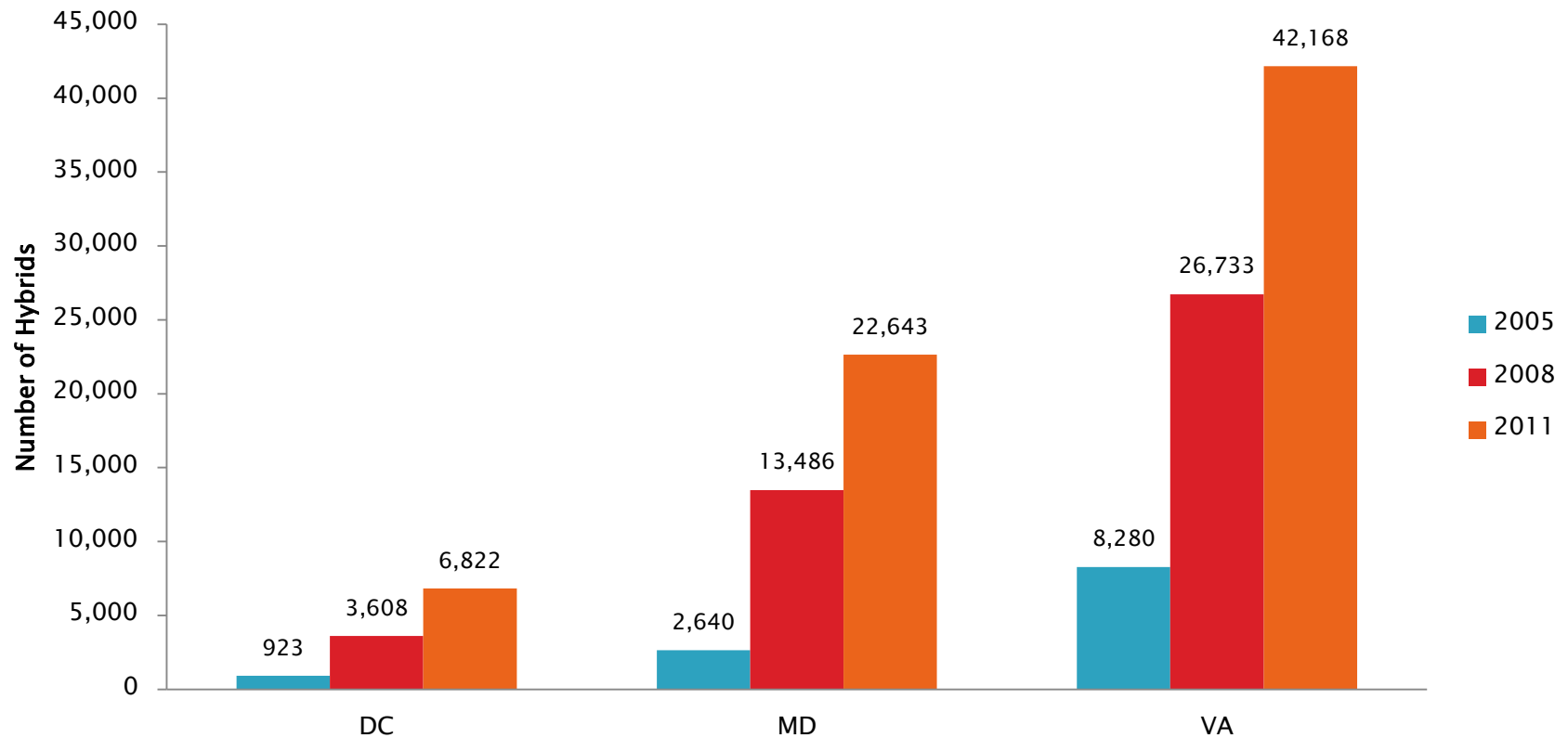
- Most have no EV policy development
 - DC and Fairfax County have zoning considerations , building code policy and ADA parking restrictions
- Most permit EV charging stations as a standard electrical appliance
 - City of Frederick and Falls Church track EV charging permit applications
 - DC and Fairfax County have online permitting

Vehicle Registration

- ▶ Less than 500 EVs registered in metro Washington region
 - 189 MD suburbs
 - 110 District of Columbia
 - 173 Northern Virginia
 - Total: 472
- ▶ Hybrid registration: 76,181 vehicles (2011)
- ▶ History of early adopters, hybrid vehicle registration 2005–2011 suggests major EV growth potential

Hybrid Vehicle Registration

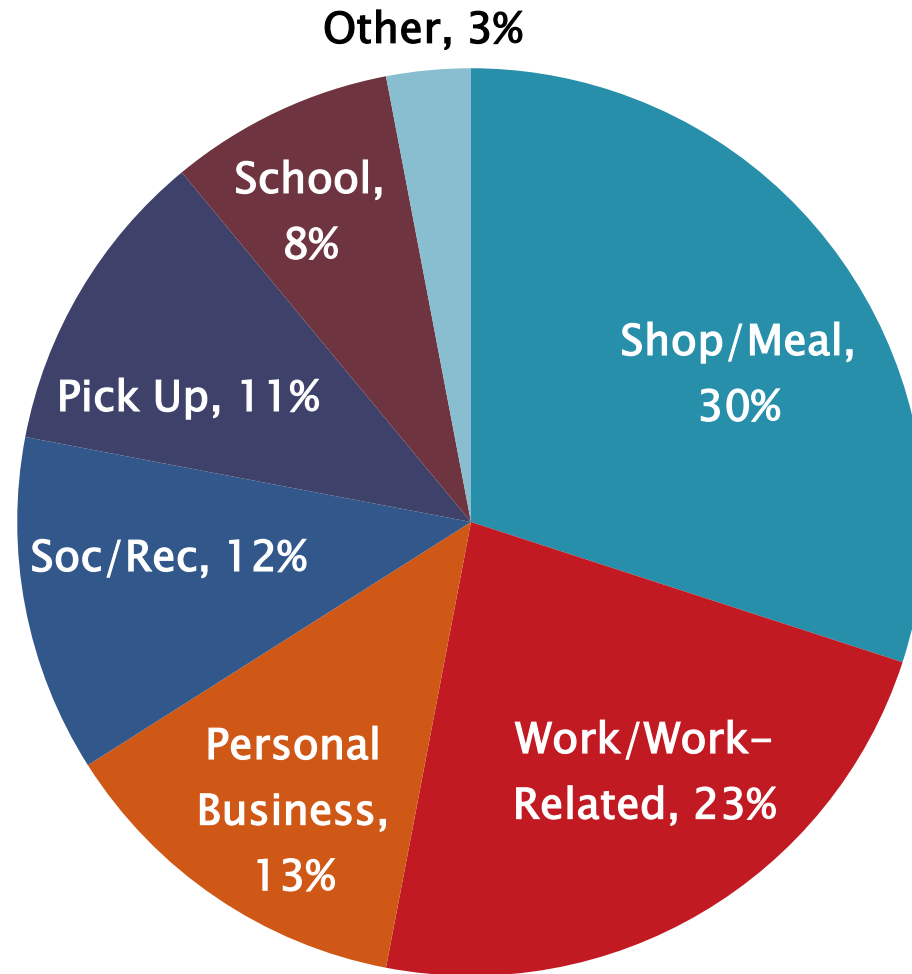
Figure 3-1. Washington Area Hybrid Vehicle Registration Comparison by State for 2005, 2008, and 2011



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

Daily Trips by Purpose (All Modes), Metropolitan Washington Region, 2007–2008

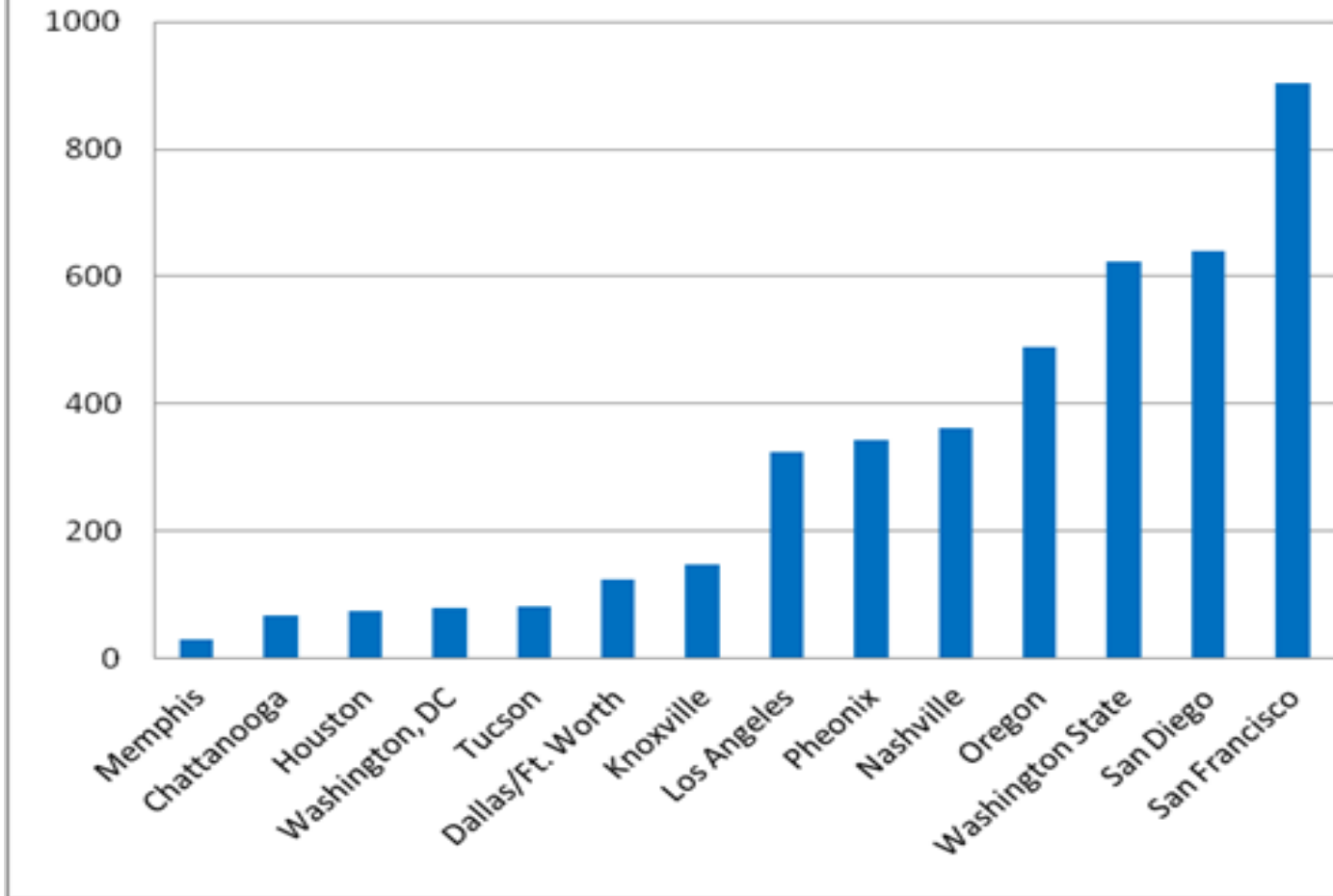


Inventory of EV Charging Equipment

- ▶ 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



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

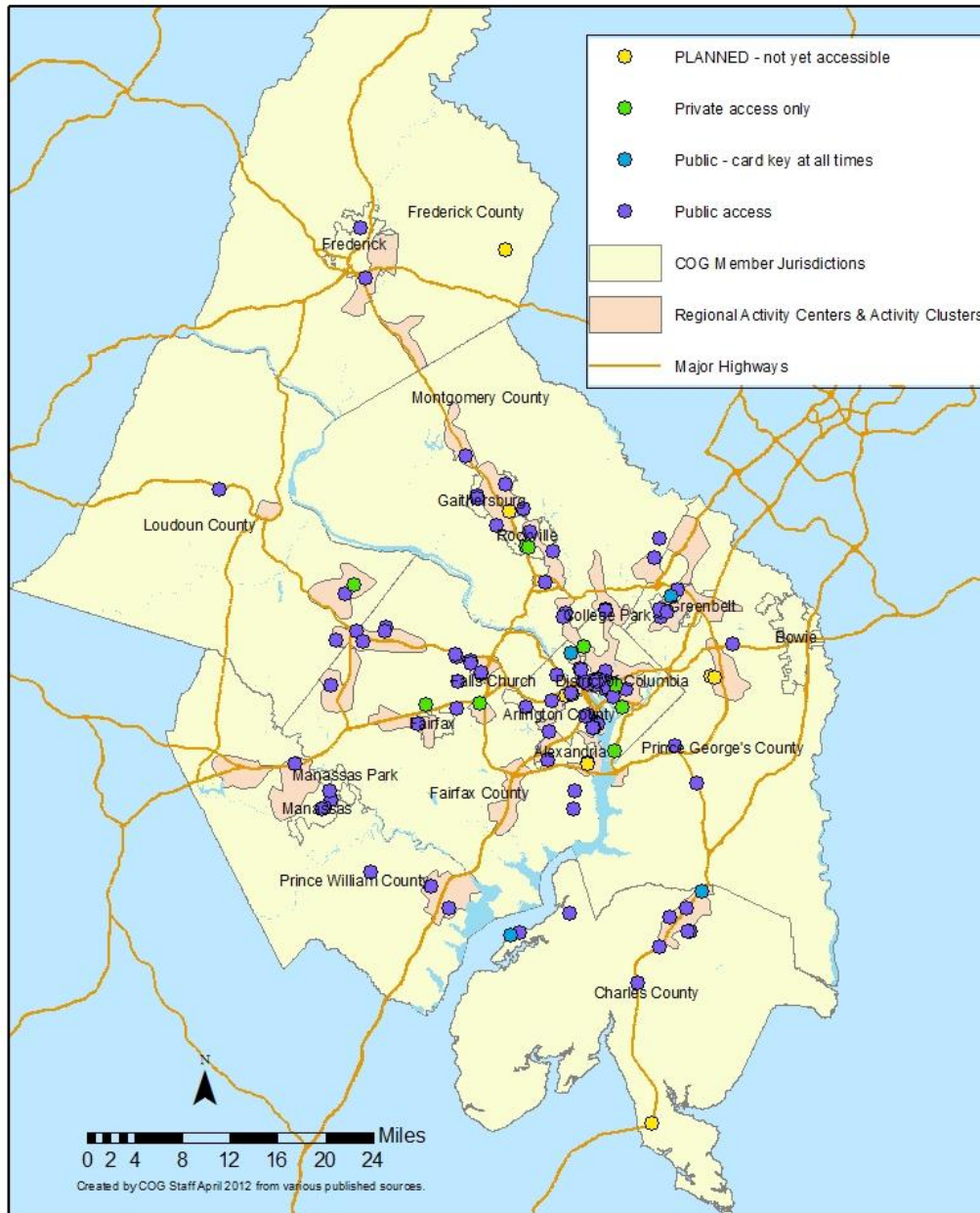


Ecotality, May 2012

Charging Stations by Location Type, Metropolitan Washington Region

	Stations	Chargers
Office	45	110
Shopping	20	48
Dealership	17	20
Government	11	27
University	10	25
Mixed use	10	38
Multifamily dwelling unit	7	11
Recreation	5	26
Hotel	3	6
Transportation hub	2	4
Airport	2	16
Restaurant	1	1
Total	133	332

Electric Vehicle Charging Stations in the COG Region by Status



EV Report Overview

- ▶ EV and EVSE Deployment Planning
 - Projected demand, EVSE siting
- ▶ Local Government Policy
 - Policy/Planning & Zoning, Inspection & Permitting
- ▶ Electric Utility Policy
- ▶ Benefits of EV for Fleet Use
- ▶ Outreach and Education

- ▶ 25 Recommendations → 5 priorities

Priority Recommendations

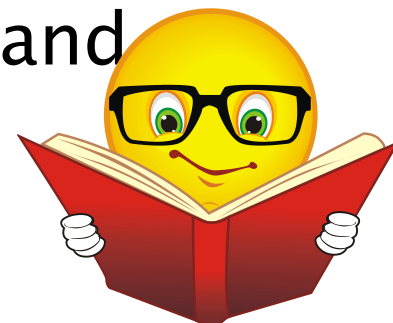
- ▶ Local and state officials, employers, property managers, and other EV stakeholders should **consider offering incentives to spur EV market**, including preferred parking and HOV occupancy exceptions for EV drivers and benefits for developers who invest in EVSE infrastructure.
- ▶ **Stakeholder partnerships** should present the **business case** for EVs and make clear the community return on investment.

Priority 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 that the built environment can accommodate future EVSE installations.

EV Report : Next Steps

- ▶ CEEPC reviews EV Report, comments and suggestions due by August 31



- ▶ CEEPC reviews and adopts final EV Report September 27



- ▶ Presentation to COG Board, October 10