



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

# Bay Area EV Landscape

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**Damian Breen**

Director, Strategic Incentives Division  
Bay Area Air Quality Management District



# Overview



- ◆ **Introduction**
- ◆ **Why Electric Vehicles (EV)?**
- ◆ **Bay Area EV Landscape**
- ◆ **Next Steps Towards Zero Emissions**



# Bay Area Air Quality Management District (BAAQMD)



- ◆ Established in 1955
- ◆ 7 million population
- ◆ 9 Counties
- ◆ 5,340 square miles

**Mission:** To protect and improve public health, air quality, and the global climate





# Why EVs?



## **On-road vehicles in the Bay Area account for more than:**

- ◆ **25% of Air Pollution**
- ◆ **28% of Greenhouse Gases (GHG)**





# Why EVs?



**1955**



- ◆ 3 million people
- ◆ 1.7 million cars
- ◆ 35 million vehicle miles travelled (VMT) daily

**2010**



- ◆ Over 7 million people
- ◆ 5.3 million cars
- ◆ 170 million VMT daily



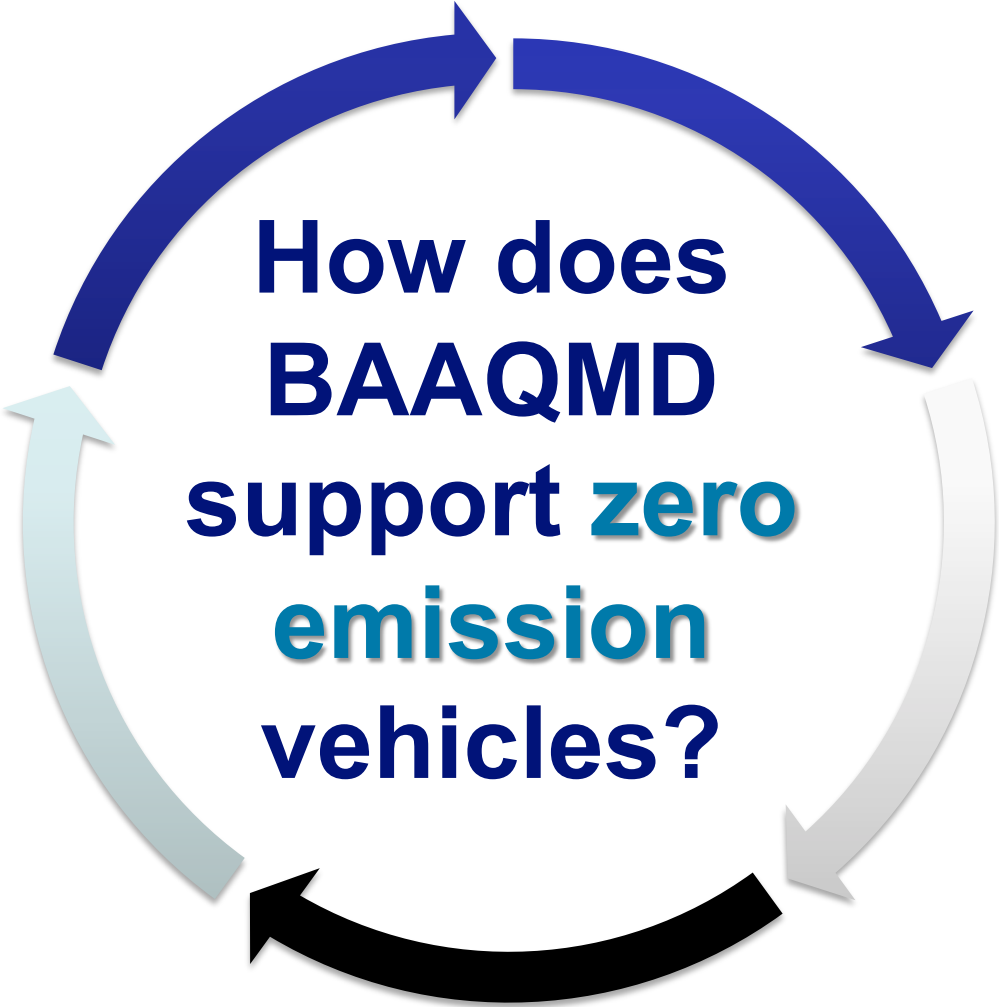
# Clean Fleets Matter



**Electric Vehicle (EV),  
ZERO-tailpipe emissions  
technology is key to  
achieving clean air**



# Clean Fleets Matter





# BAAQMD Toolbox





## **2010 Clean Air Plan**

### **MSM A-2: Zero Emission Vehicles & Plug-in Hybrids:**

- ◆ **By 2012:**
  - ✓ **1,000 ZEVs and 5,000 PHEVs**
  - ✓ **500 new EV charging stations**
- ◆ **By 2020:**
  - ✓ **10,000 ZEVs and 100,000 PHEVs**



Air Quality  
& Land Use  
Planning



# BAAQMD Strategic Incentives



**BAAQMD funds projects that achieve *early-compliance emissions reductions*:**



Strategic Incentives

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- ◆ **Approx. \$80 M allocated annually to clean fleet and trip reduction projects**
- ◆ **In the past two years, more than \$6 M allocated to deploy EV and infrastructure**

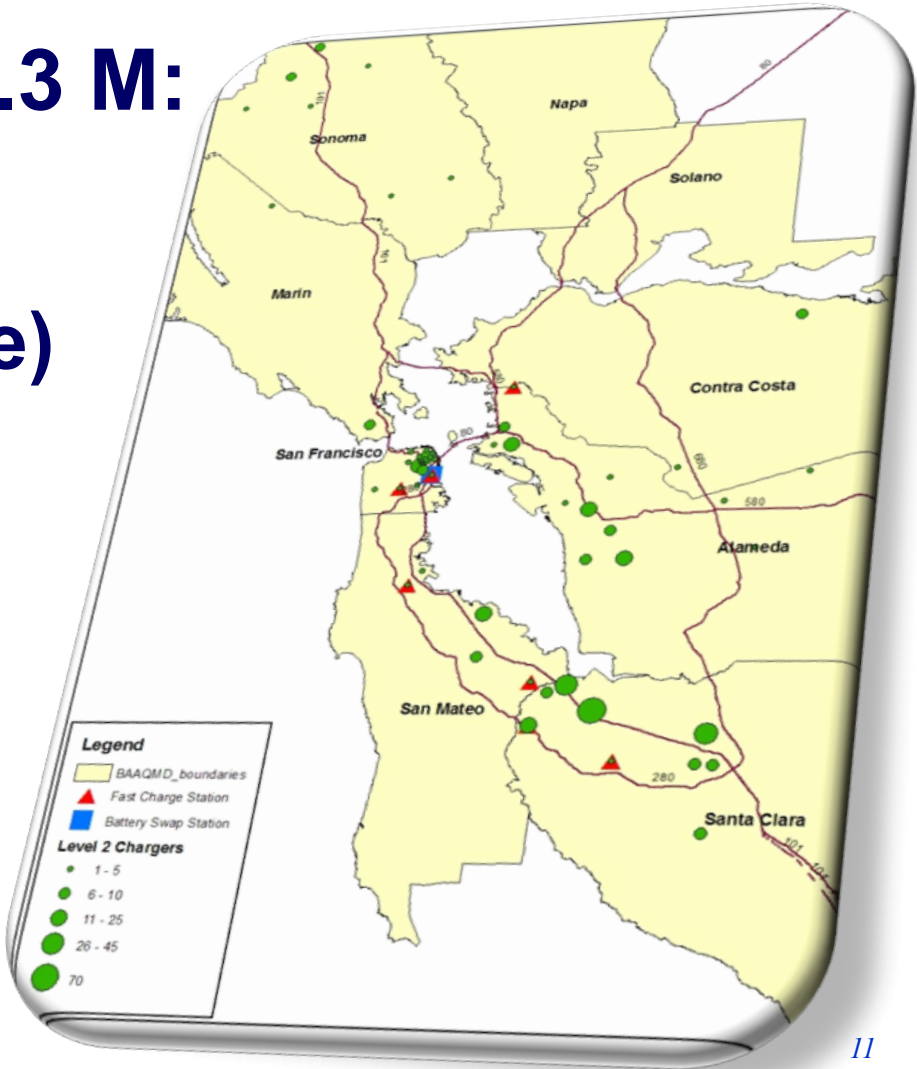


## New Public Charging ( 2010)

**BAAQMD awarded \$1.3 M:**

- ◆ 1 Battery Switch Station (Better Place)
- ◆ 402 J1772 EVSEs
- ◆ 6 DC Fast-Chargers

*Equipment is being installed by 2012*



## EV Charger Program (2011/2012)

### BAAQMD invests \$5 M in EV Infrastructure:

- ◆ **Home Chargers (~ 3,000)**
- ◆ **DC Fast Chargers (~50)** in 10-mile intervals adjacent to major roadways and in urban areas
- ◆ **Public Chargers (~ 1,000-2,000)** in high-density parking areas (e.g., transit and employer sites)
- ◆ **Regional Planning**



# BAAQMD EV Charger Program



## Deploy 3,000 Home Chargers:

- ◆ **Collect usage data**
- ◆ **4 contractors provide options for Level 2 chargers at varying price points**
- ◆ **Program open later this month (June 2011) – retroactive for chargers purchased after 12/01/2010**



# BAAQMD EV Charger Program



## Deploy 50 DC Fast Chargers:

- ◆ Installed at ~10-mile to support:
  - ✓ Extended travel within Bay Area and interstate corridors
  - ✓ EV drivers that lack access to home chargers
- ◆ Collection of usage data
- ◆ Initial deployment of 36 and network completed by 12/31/2012

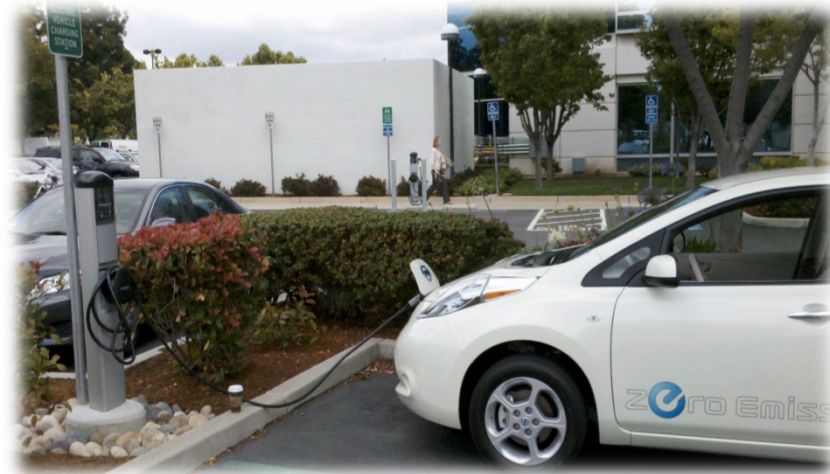


# BAAQMD EV Charger Program



## Deploy Workplace & Public Chargers:

- ◆ **1,000 – 2,000 Level 1 & 2 (by 12/31/12)**
- ◆ **Focus on:**
  - ✓ **Transit stations**
  - ✓ **Employment centers**
  - ✓ **Colleges and University**
  - ✓ **Hotels and airports**





# BAAQMD EV Charger Program



**Regional Planning:** Convene Bay Area stakeholders to:

- ◆ **Share information about the Bay Area's EV readiness**
- ◆ **Gather input to define regional priorities**
- ◆ **Use input to develop comprehensive Bay Area Regional Plan**





# Bay Area EV Landscape

## EV Ready, YES!



# In the United States, the Bay Area IS the “EV Capital”

- ◆ Investment
- ◆ Partnership
- ◆ Planning
- ◆ Early Adopters

Project Title	Lead & Support Agencies	Public Funding Allocations		Chargers		
		Source	Award	Level 2	DC Fast	
Charger Incentives for Home, Workplace and Public Parking	BAAQMD	BAAQMD	\$4,500,000	4,000 +	50	
Better Place 4 Battery Swap Stations	Better Place, San Francisco, MTC, BAAQMD, various	MTC/ BAAQMD	\$6,450,000	N/A	8	
Bay Area EV Corridor Project	ABAG/BAAQMD Local Cities/Co.	CEC/ BAAQMD	\$1,490,000	400+	19	
Upgrade Existing PEV Infrastructure	Clipper Creek	CEC	\$1,150,000	115	--	
ChargePoint America (home and commercial)	Coulomb Technologies	DOE/CEC/ BAAQMD	\$2,175,000	750	--	
Local Government PEV Projects	Santa Clara, Alameda, Sonoma, SF, others	BAAQMD/ MTC	\$2,945,000	50	--	
eFleet: Car Sharing Electrified	SFCTA/ City CarShare	MTC/ BAAQMD	\$1,730,000	24	--	
			<b>Total</b>	<b>\$20.4 Million</b>	<b>5,339</b>	<b>77</b>



# Bay Area EV Landscape Advanced Technology



- ◆ **Better Place - Battery Switch Station**
- ◆ **City CarShare - EVs and car sharing**
- ◆ **PGE conducting research and Grid-to-Vehicle technology demonstrations**
- ◆ **Google, Applied Materials, Tesla, and many other high tech companies leading the way to make Bay Area EV Ready and a model for other region**

# Bay Area EV Landscape

## EV Partnerships



- ◆ **California PEV Collaborative**
- ◆ **Joint Policy Committee (BAAQMD, MTC, ABAG) - Strategic regional planning**
- ◆ **Local Government (San Francisco, Alameda, San Jose, Oakland)**
- ◆ **Local Colleges and Universities**
- ◆ **Clean Cities Coalitions - Silicon Valley, East Bay, San Francisco**
- ◆ **Plug-in America and Golden Gate EV Association**





# Bay Area EV Landscape Early Adopters



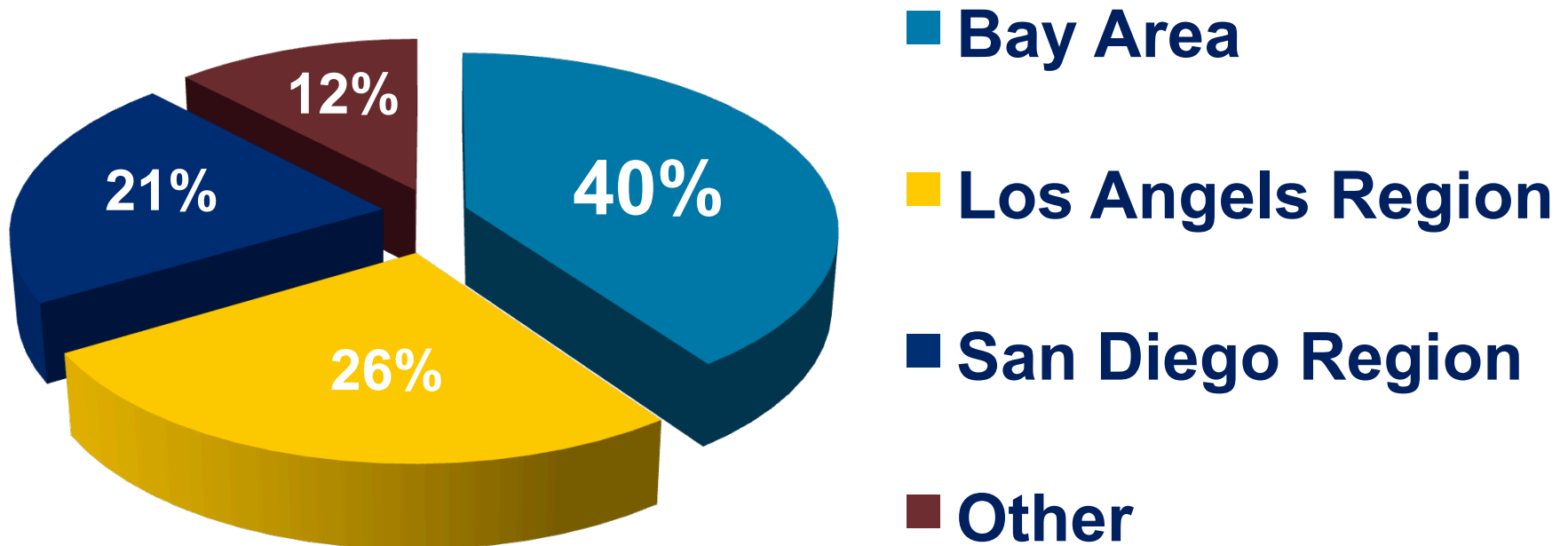
- ◆ **Today, more EVs are being delivered to California than in any other part of the United States**
- ◆ **In California, the Bay Area leads in EV adoption rate....**

# Bay Area EV Landscape

## Early Adopters



### Out of 997 Nissan LEAFs delivered to CA\*:



\* Source: Center for Sustainable Energy, based on rebates redeemed for California Vehicle Rebate Program, as of May 2011



# Looking to the Future



- ◆ **Technology continues to evolve and improve**
- ◆ **BAAQMD to invest \$6 million in alternative fuel projects (Fall 2011) and applying for additional State and Federal funds**
- ◆ **Region becoming “EV-Ready” to support deployment of EV charging infrastructure**



# Looking to the Future



**By 2012,**  
more than  
**1,000 Level 2**  
(J1772) and  
**56 DC Fast-**  
**Chargers**  
available in  
the Bay Area

