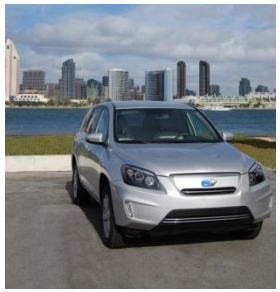
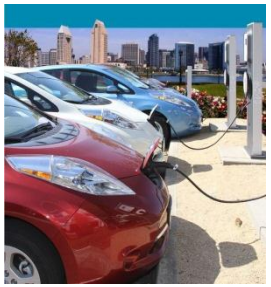




SAN DIEGO REGIONAL PLUG-IN ELECTRIC VEHICLE READINESS PLAN

PEV INFRASTRUCTURE SITE SELECTION WORKSHOP

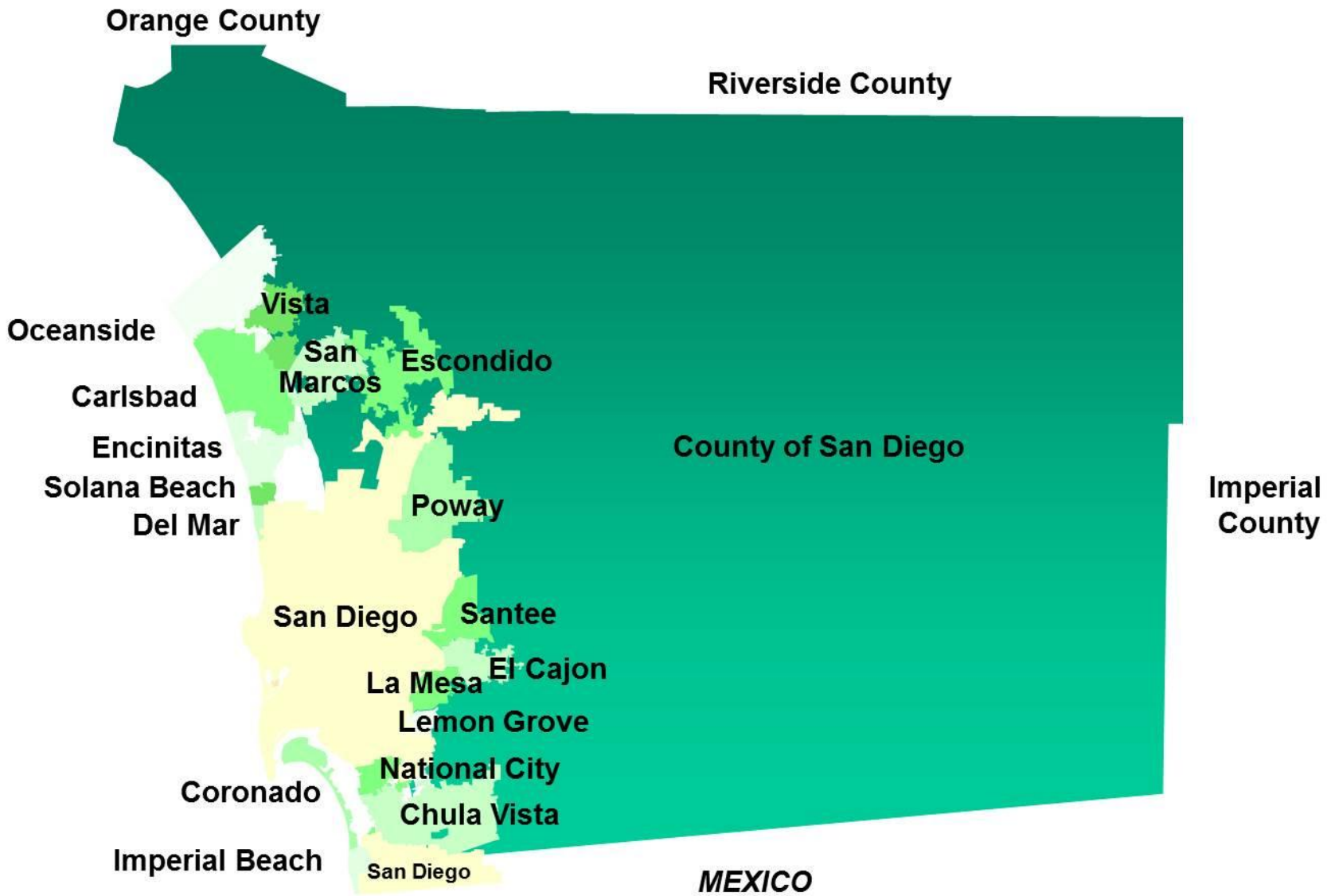
Susan Freedman, San Diego Association of Governments

California Public Utilities Commission, Rulemaking 13-11-007
CPUC Auditorium, 505 Van Ness Avenue, San Francisco

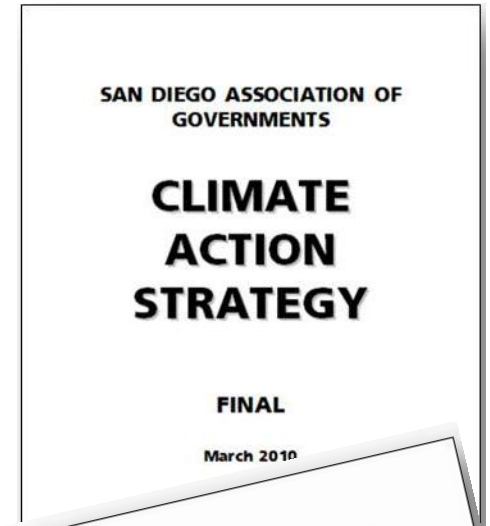
June 10, 2015

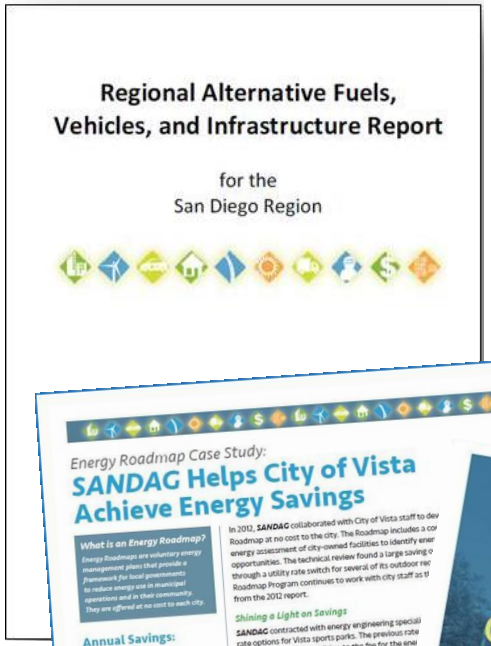
SANDAG

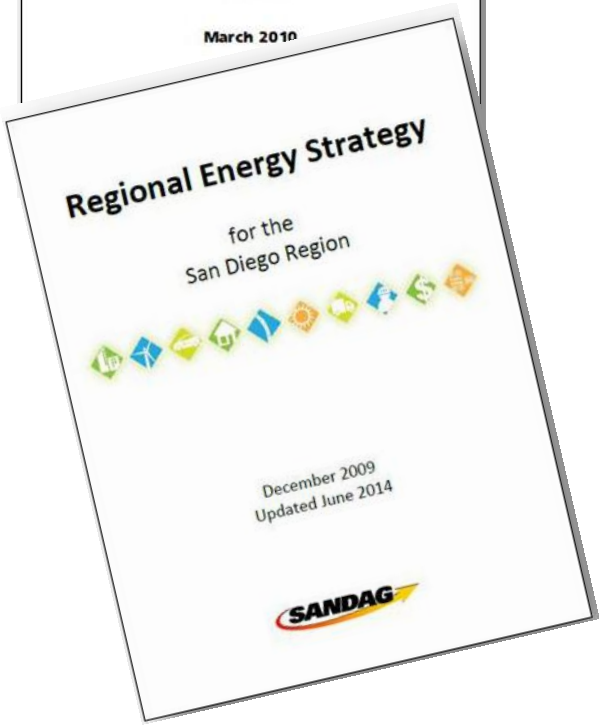
San Diego Region

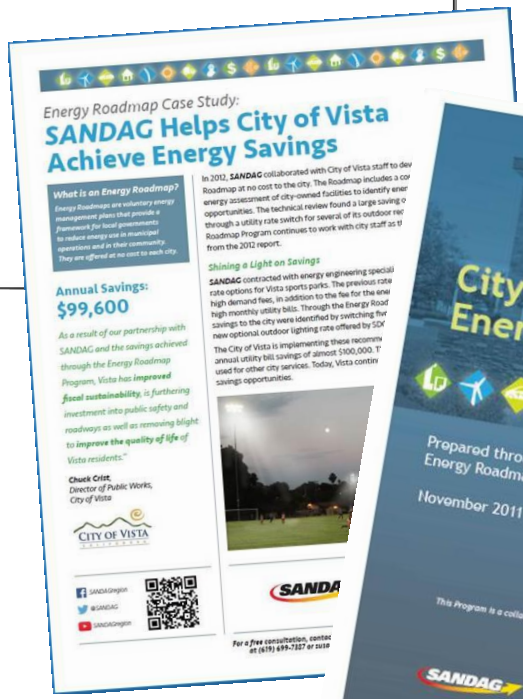


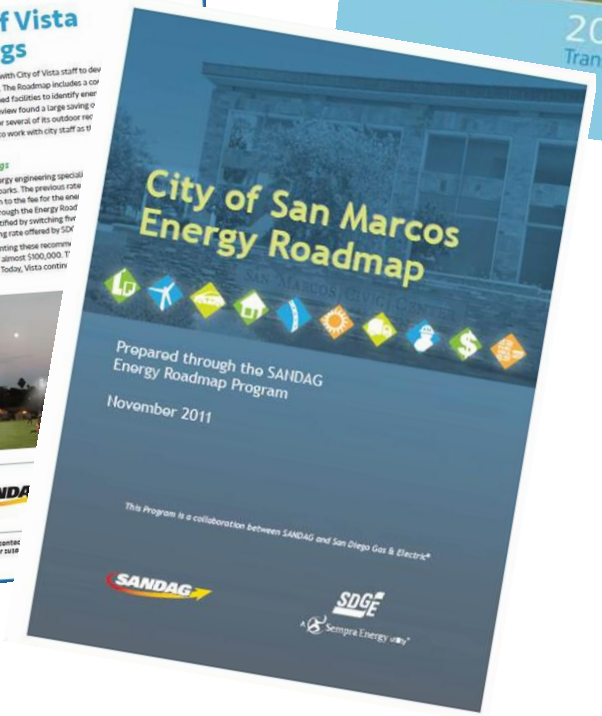
SANDAG Planning for Electric Vehicles and Alternative Fuels











Targeted Regional PEV Readiness Planning

- The EV Project (2009) SANDAG, SDG&E and Center for Sustainable Energy were local partners
- DOE-funded Phase One Assessment of PEVs in San Diego by CSE (2012)
- CEC-funded San Diego Regional EV Infrastructure Working Group (REVI) and Regional PEV Readiness Plan (2014)

Center for Sustainable Energy™

CSE's Role in DOE PEV Readiness

Center for Sustainable Energy™

Conducted surveys with local jurisdictions in the San Diego region to determine PEV readiness in these categories

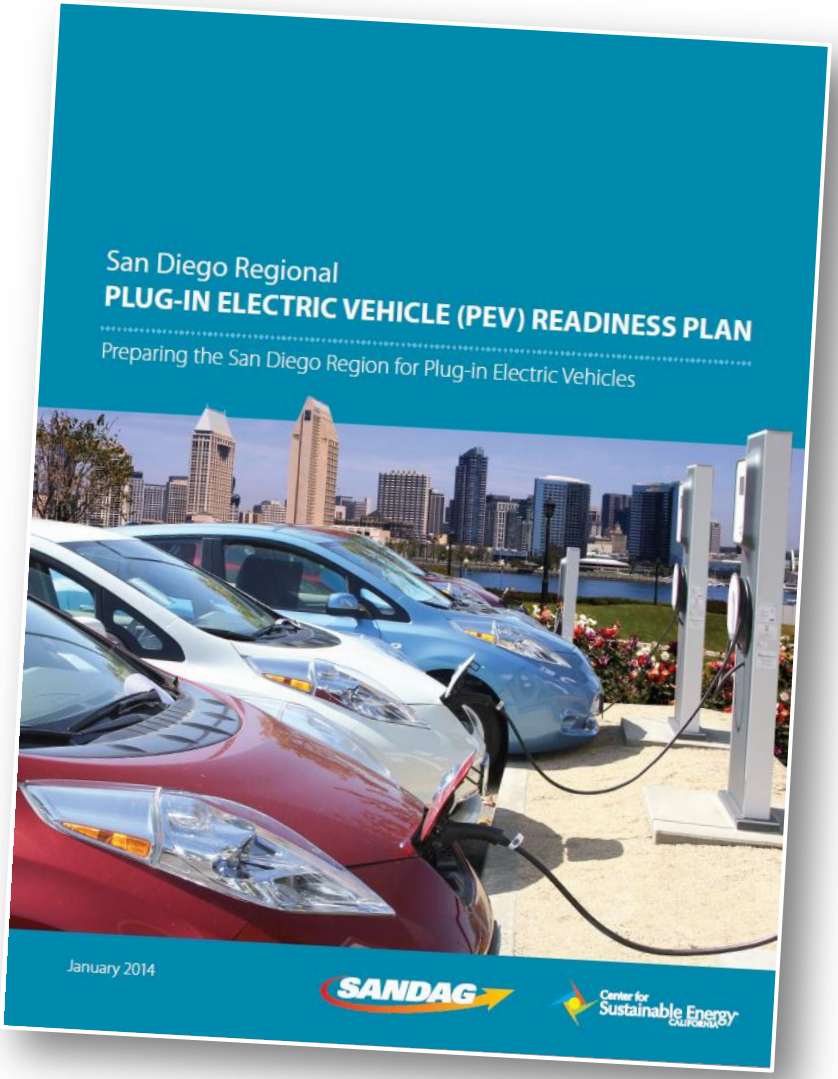
Building Codes	Inspection & Installation	Permitting	Zoning

Result

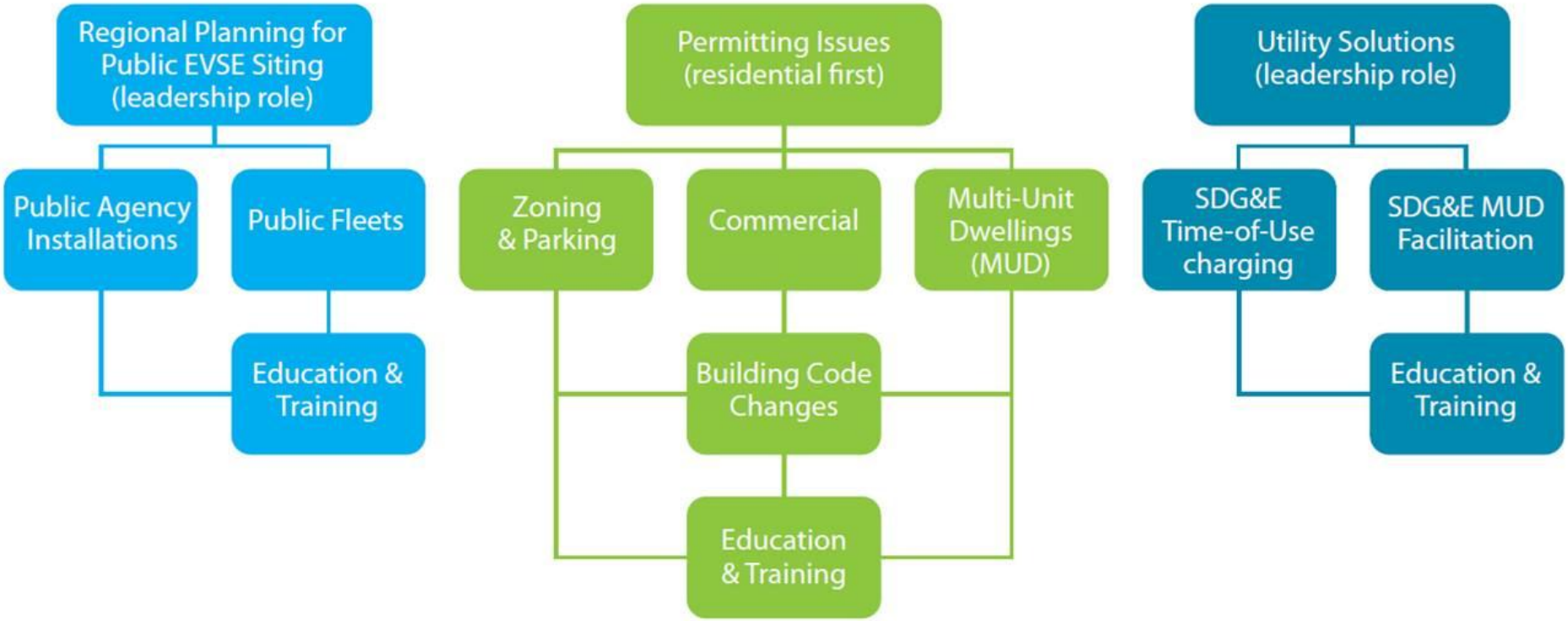
Developed PEV Readiness Plan (Regional Assessment)	Hosted PEV Readiness Workshop in San Diego for City and Municipal Staff

San Diego Regional PEV Readiness Plan

- Identifies regional barriers to PEV charging infrastructure deployment
- Includes regional best practices and resources for reducing and addressing regional barriers
- Describes outstanding barriers and what is needed to overcome them



San Diego Regional PEV Barriers Flow Chart



Developed through stakeholder engagement during the DOE and CEC readiness planning projects.

Condos, HOAs and Apartments

Plug-in Electric Vehicles

Charging at Condos, Apartments and Community Living Areas

By 2050, half of the San Diego region's population is expected to be living in multi-unit dwellings (MUDs). When it comes to accommodating EV chargers, each MU has its own unique set of circumstances and challenges to address. Below are some of the most common challenges a al apartment buildings, homeowner associations (HOAs) and condos have addressed them. This doc in conjunction with SDG&E's fact sheet on installing PEV charging stations in multi-unit dw ug-in Vehicles.

Reaching Out to Building Man

Since EV chargers will likely be inst important to engage the building the process. Identify any existing conditions and restrictions (CC8 installation of charging station aware of any potential hurdle research before approaching

Determining Demand

Survey residents to gauge electric vehicle (PEV). Th number of charging uni and in what layout(s). charging. Planning ah

The PEV Collaborati available at http://

Allocating Cos

It is important t paid. How cost

Siti

Prepping for plug-in vehicles

AT CONDOS, TOWNHOMES AND APARTMENTS

SDGE connected

A Sempra Energy utility

Quick facts

Technologies for charging stations range from simple "plug and charge" standalone units that are open to all users, to networked units with automated user ID and payment systems.

If you own, rent or manage multi-family housing, installing plug-in vehicle charging equipment is a community project. Here are some suggested steps to help get multi-unit residential communities - such as condos, townhomes, apartment complexes and manufactured/mobile home parks - plug-in ready for electric vehicles.

1. Take a poll

See how many people in your residential community are interested in plug-in vehicles and when they might actually be in the market to buy one.

2. Explore your options

SDG&E® offers periodic workshops to help you learn about your options, including the types of plug-in vehicles and charging technologies that are available, the costs, and business models for plug-in charging. Visit seminars.sdge.com or email MultiUnit@sdge.com for information about upcoming workshops.

Technologies for **electric vehicle supply equipment - also referred to as "EVSE" or "charging stations"** - range from simple "plug and charge" standalone units that are open to all users, to networked units with automated user ID and payment systems. Electric vehicle supply equipment with more advanced communicating and scheduling features may offer: metering capabilities to track users' use; access control; user-specific billing and service fee options; and remote control and monitoring capabilities. Single or multiple cord sets may be housed in a box mounted to a wall, pole, ceiling or floor, depending on site-specific needs.

To get an idea of the wide array of EVSE options that are available for residential and commercial charging, visit Plug In America at www.pluginamerica.org/accessories, Advanced Energy at www.advancedenergy.org/transportation/evse or GoElectricDrive at GoElectricDrive.com.

3. List the challenges

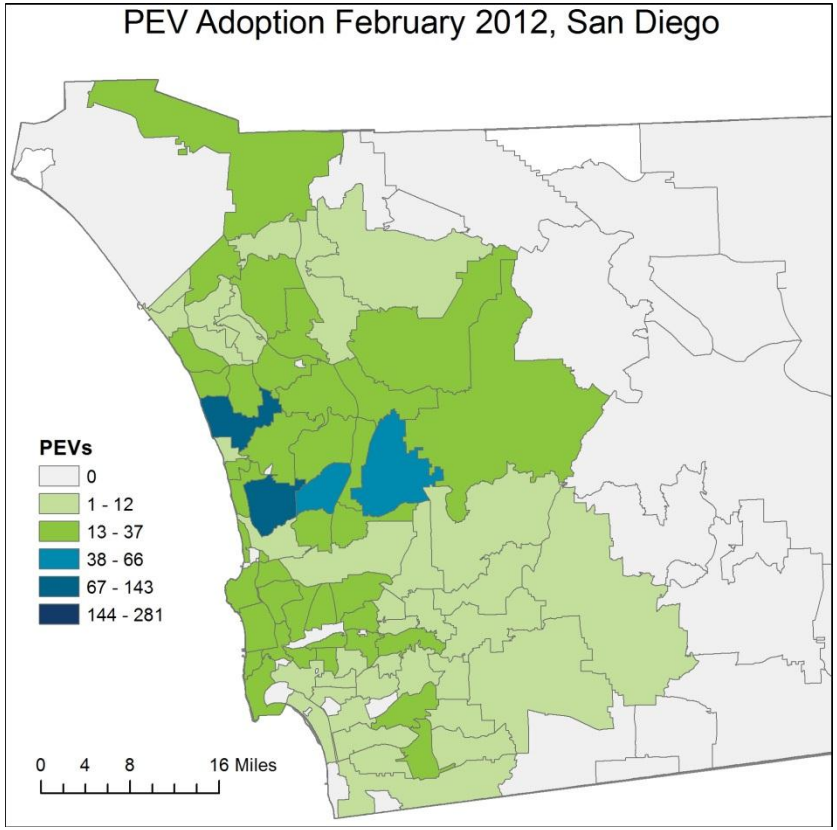
To pave the way for charging stations where electric vehicles can plug in, each multi-family development has its own unique set of circumstances and challenges to address. For example:

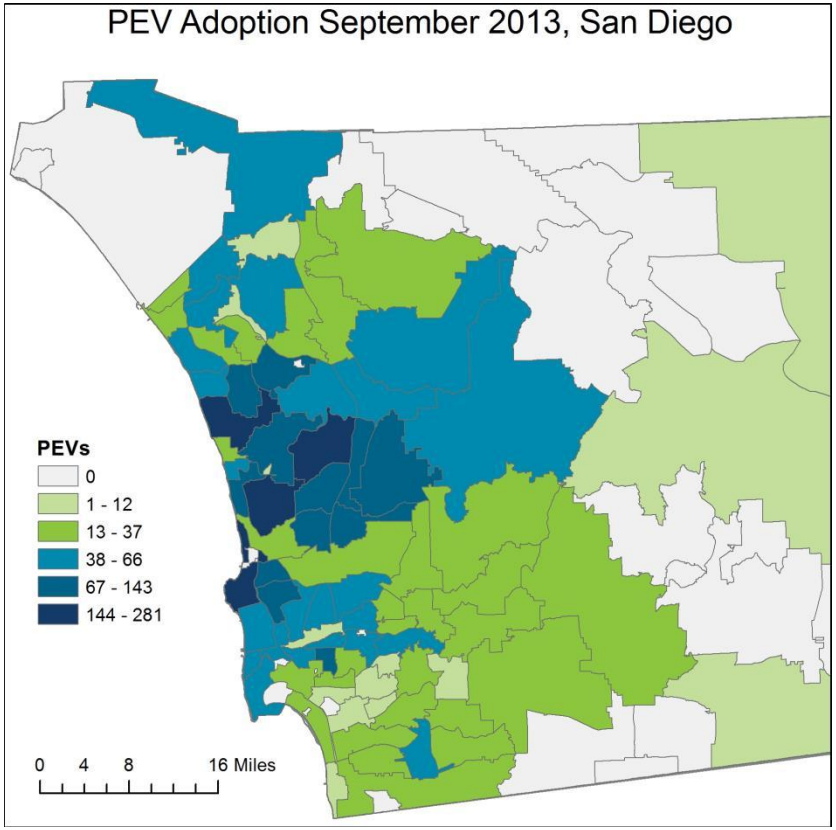
- How well will the property layout - including the location and type of electric metering, wiring and parking spaces - accommodate the desired charging equipment?
- What existing rules in the covenants, conditions and restrictions ("CC&Rs") would affect the installation of charging stations in common areas and private areas?
- Which assigned and unassigned parking spaces could accommodate EV charging equipment?
- What state or local regulations relate to common area use of charging infrastructure?

continued on back

- Recommended steps to determine charging needs at property
- Considerations for owner, tenant, parking, etc.

San Diego Regional PEV Adoption: Pre- and Post-PEV Readiness Planning





Around the San Diego Region

- CivicSpark: Cities of Chula Vista and National City
- Procurement: Caltrans and County of San Diego
- Permit Guidance: City San Diego and Oceanside

BEV Car-Sharing

EVCS at Transit Stations

FSP Training

The Road Ahead

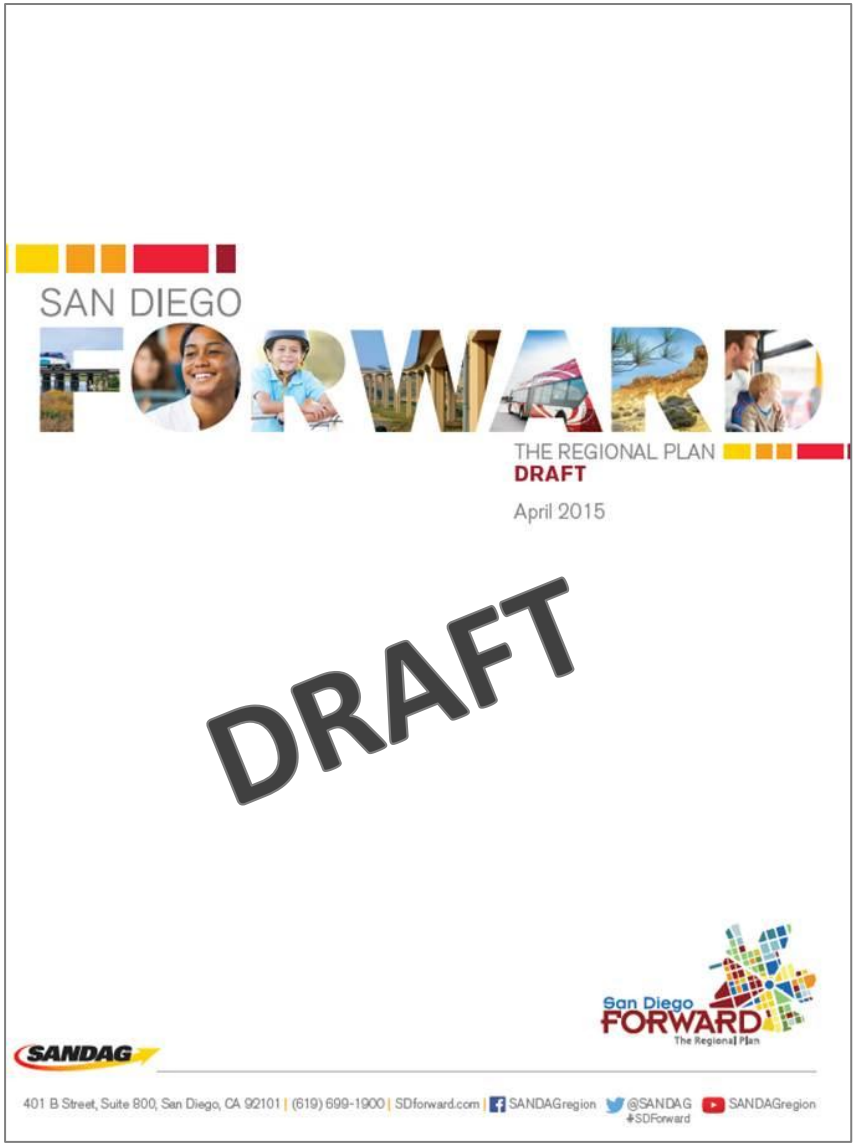
Alternative Fuel Readiness Planning

- 2014 CEC Grant for $300,000 from 2014-2016
  - SANDAG, Clean Cities Coalition (CSE), APCD
- Readiness plan and toolkits to be developed with input from Refuel: San Diego Regional Alternative Fuel Coordinating Council

Implementing PEV Readiness Plan

- 2015 CEC Grant for $300,000 from 2015-2017
  - SANDAG and Center for Sustainable Energy
- "EV Expert" for public agencies, training and general education

Draft San Diego Forward: The Regional Plan

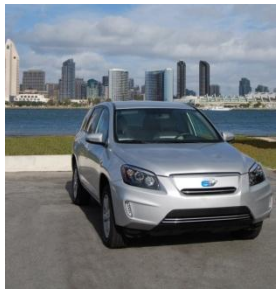


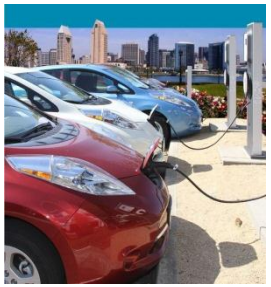
Plans to 2050 for the San Diego Region that includes:

- Regional Transportation Plan
- Sustainable Communities Strategy
- Regional Comprehensive Plan

Proposes to:

- Fund regional electric vehicle charging infrastructure
- Implement measures to reduce GHG emissions from transportation projects





THANK YOU!

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www.sandag.org/energy