San Diego Regional PEV Planning through The EV Project

REVI Meeting

Agenda Item 7A

SDG&E Energy Innovation Center

March 21, 2013

Overview

- EV Project regional planning components
- San Diego's regional approach
  - What made an "optimal" charging site?
  - GIS modeling and mapping
- Long-term goals and near-term needs
- From planning to implementation

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PEV Infrastructure Planning

- **Near-Term Needs**
  - Identify method to best site PEV chargers
  - Use visual tools through GIS mapping
  - Plan for 1,500 publicly accessible chargers
- **Long-Term Goals**
  - Select [public] sites where it makes sense for the region
  - Reduce driver "range anxiety"
  - Develop interregional network
  - Enhance future siting capabilities

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The EV Project

Project and advisory meetings led by Ecotality

Stakeholder Advisory Committee

- SANDAG
- County of San Diego
- City of San Diego
- Santee
- Chula Vista
- Escondido
- Oceanside
- Port of San Diego
- SDG&E
- Nissan
- Qualcomm
- UCSD
- SDSU
- California Center for Sustainable Energy
- San Diego Regional Clean Cities Coalition

What Makes an Optimal Site for Level 2 PEV chargers?

What Makes an Optimal Fast Charge Site?

Site characteristics

5 minute to half hour stay

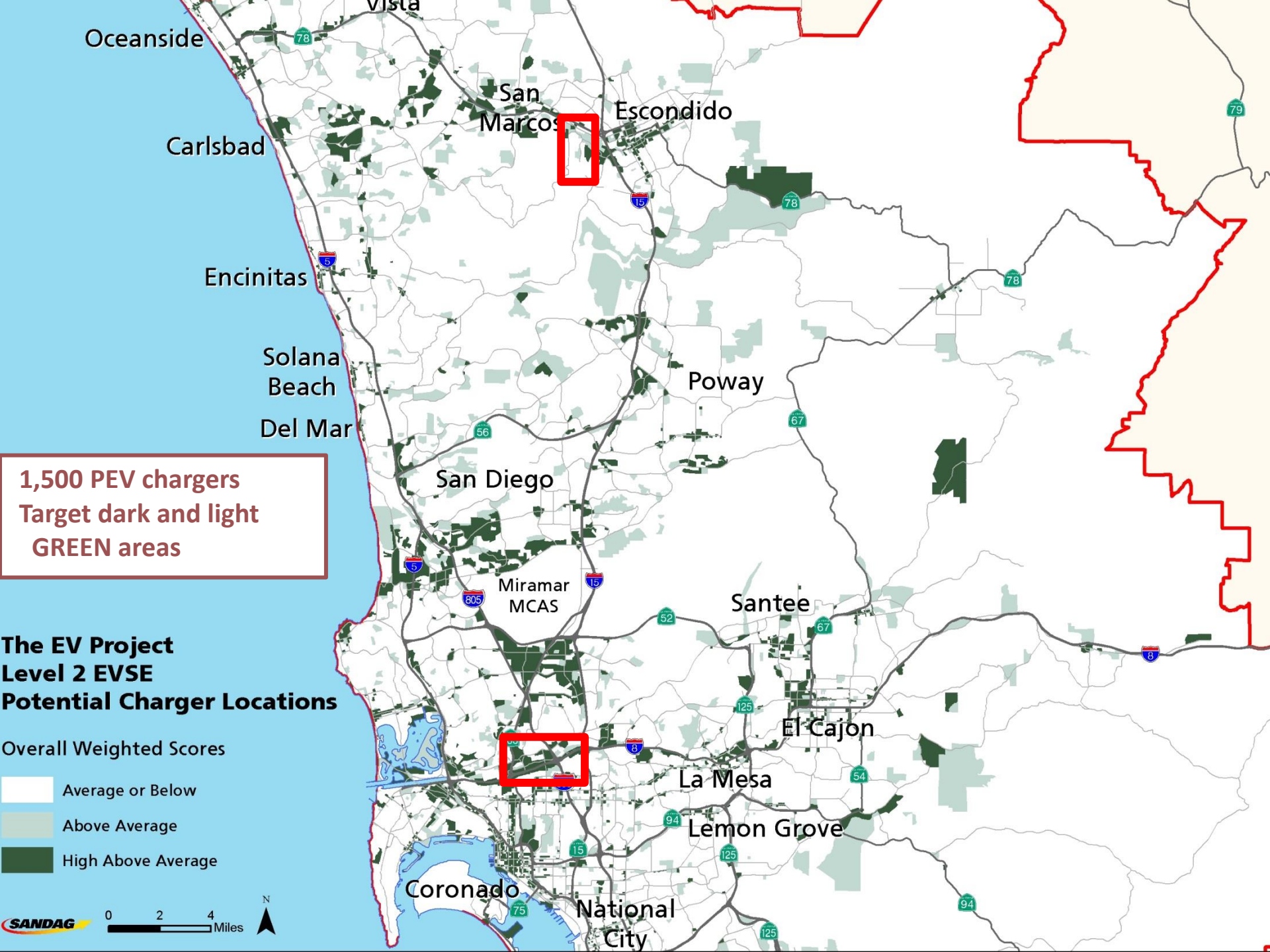
Part of daily routine

Regular turnover in vehicles

Available to many different users

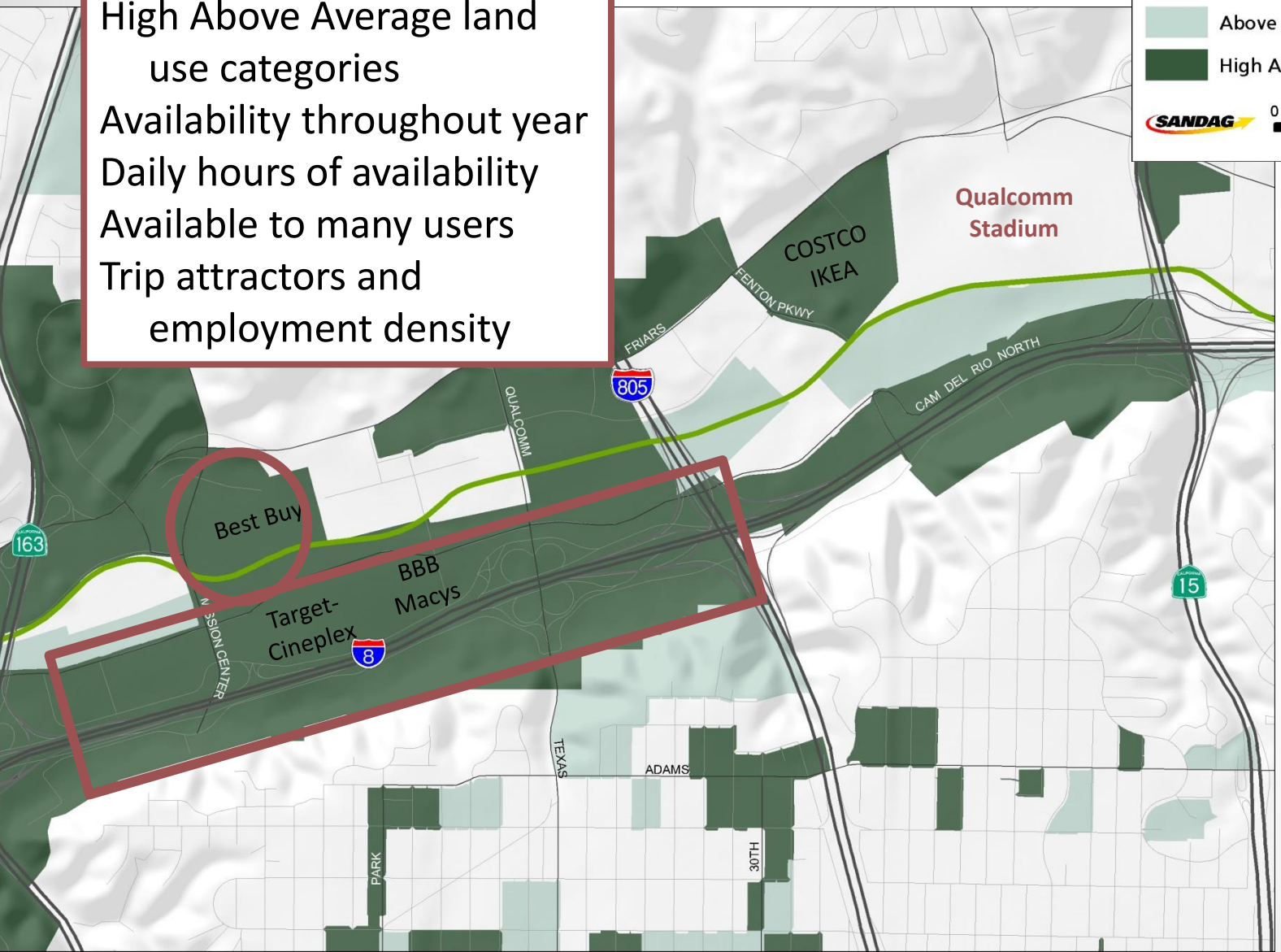
Convenient

Not necessarily a destination stop

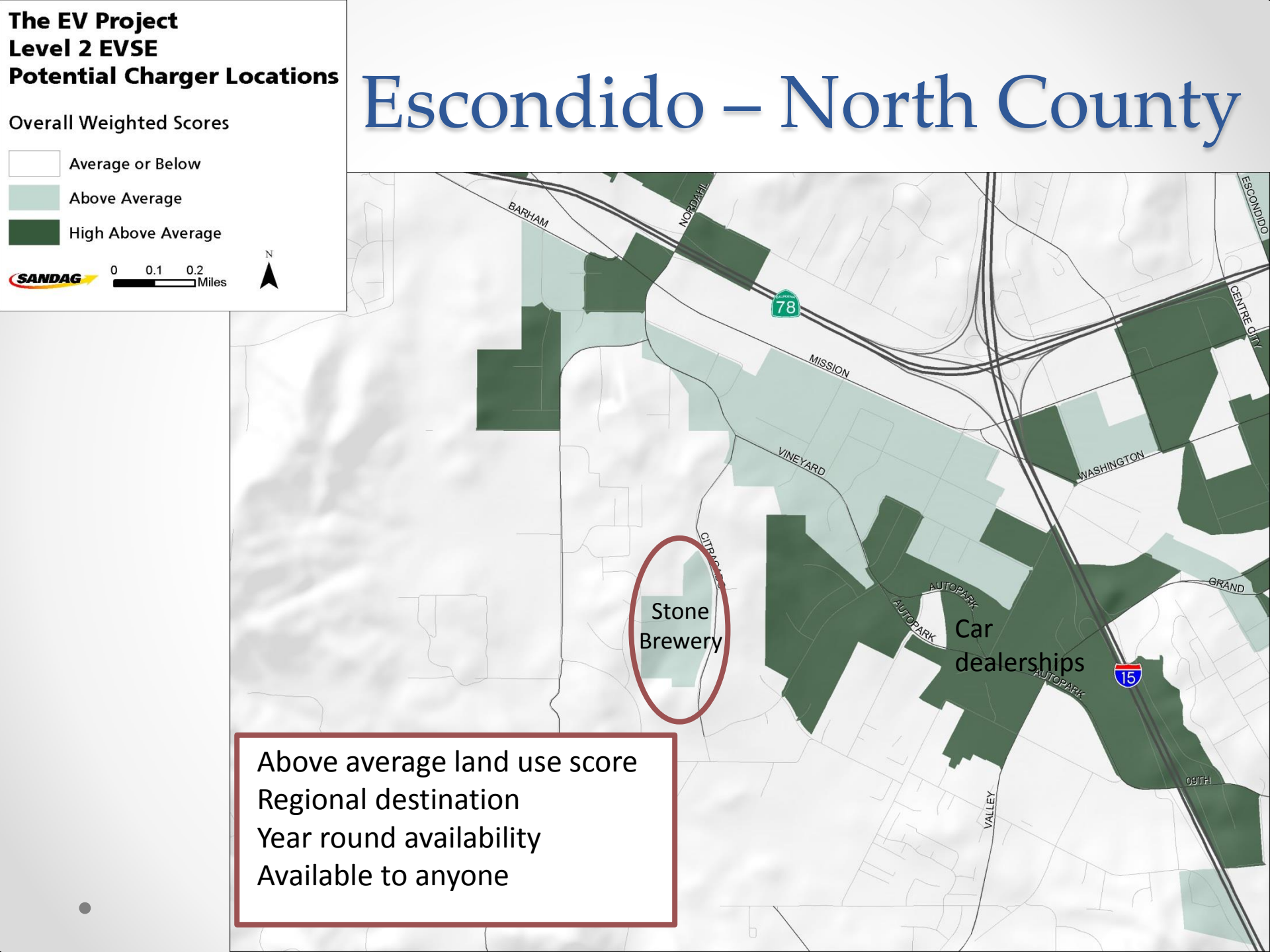

Oceanside
Vista
San Marcos
Escondido
Carlsbad
Encinitas
Solana Beach
Del Mar
Poway
San Diego
Miramar MCAS
Santee
El Cajon
La Mesa
Lemon Grove
Coronado
National City
1,500 PEV chargers
Target dark and light GREEN areas
The EV Project
Level 2 EVSE
Potential Charger Locations
Overall Weighted Scores
Average or Below
Above Average
High Above Average
SANDAG
0 2 4 Miles
N

Mission Valley, San Diego

- High Above Average land use categories
- Availability throughout year
- Daily hours of availability
- Available to many users
- Trip attractors and employment density



Escondido – North County



Above average land use score
Regional destination
Year round availability
Available to anyone

From Planning to Installations

- Land use and transportation criteria were a method to identify high potential areas
  - Based on regional characteristics
- GIS tools and mapping visualized advisory group findings
- Served as a jumping-off point for Ecotality to visit actual sites and contract with property owners

ecotality
NASDAQ:ECTY

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Follow-up to San Diego Regional Planning for Public EVSE

- Ecotality
  - Assess where EVSE were installed vs. optimal sites from the model
  - Identify correlation(s) between optimal sites identified in model and those utilized by PEV drivers
- CCSE
  - Interviews with PEV drivers on charging
  - Clean Vehicle Rebate Program (CVRP) data analysis
- SANDAG
  - Coordinate with other regions on inter-regional PEV charging
  - Integrate EVSE into new construction for transit and park-and-ride lots along major transportation corridors
- REVI
  - Provide input and advice on above and other regional planning