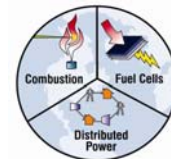


ZEV•NET

Zero Emission Vehicle • Network Enabled Transport

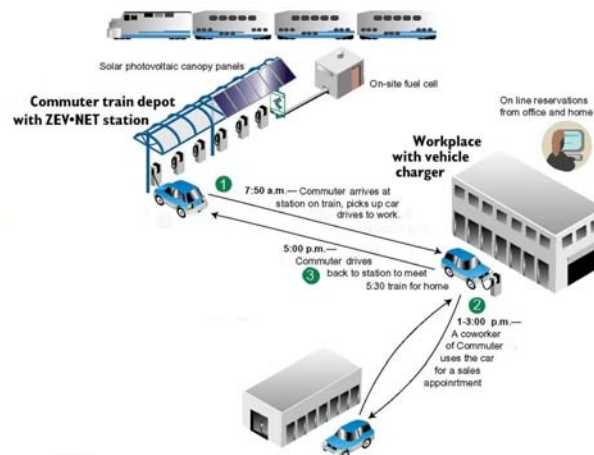


Tim Brown, Ph.D.
Technology Manager, Sustainable Transportation
Advanced Power and Energy Program, UC Irvine



Program Overview

A Day in the Life of a ZEV•NET Shared-use Electric Station Car



Program Overview

Current participants



Program Overview

Management

ZEV•NET is currently managed by:

- 2 Full-time staff members
- 1 Part-time staff member



Responsibilities include dealing with participants, handling website issues, vehicle maintenance and research.



Zero-Emission Vehicle

Toyota RAV 4



This 100-percent electric vehicle (EV) can transport passengers at speeds up to 75 miles per hour, with a range of 80 to 100 miles per charge.

The RAV 4 is powered by 24 sealed NiMH 12-volt batteries.



Zero-Emission Vehicle

Charging the Vehicle



Requirements:

- Inductive Charging System*
- 208-240 V AC
- 40 amp
- 4-5 Hours for a full charge
- Draws 6.2 kW during charging

*The inductive charger has no direct electrical connection to the EV. A weatherproof "paddle" provides power transfer to the vehicle through the generation of a magnetic field.



Network Enabled Transport

The vehicles are managed by a web-based reservation system which allows vehicle tracking and monitoring of driver habits.

<http://www.zevnet.org>

Zero Emission Vehicle - Network Enabled Transport (ZEV-NET)

a brilliant concept for commuters

Zero Emission Vehicle - Network Enabled Transport (ZEV-NET) provides commuters an alternative.

ZEV-NET is a new concept in transportation that is now becoming a reality. It is a systems approach that combines mass transit with low-emissions shared-use vehicles to provide a cleaner alternative to single-car commuting.

ZEV-NET addresses two of the greatest challenges facing Southern California - traffic congestion and reduced air quality. ZEV-NET relieves traffic congestion in two ways. It enables more commuters to take the train to work by providing convenient transportation between the train station and office. It also allows multiple users to share a single car through the use of an intelligent web-based reservation system.

ZEV-NET eliminates the pollution associated with a one-person-per-car freeway commute. Moreover, the ride to and from the train station is made using zero and near-zero emissions vehicles. Additionally, solar panels and fuel cells generate zero-emission electricity on site to charge the EV's. Thus, the net effect of ZEV-NET is to reduce traffic congestion, emissions, and the use of fossil fuels - three of the greatest challenges associated with individual transportation today.

ZEV-NET and the ZEV-NET logo are trademarks of the National Fuel Cell Research Center, Univ. of CA - Irvine

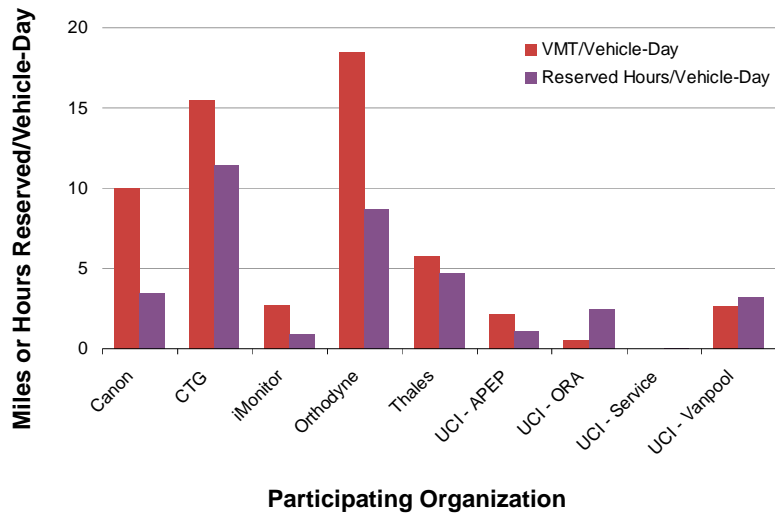
Network Enabled Transport

The website communicates with the vehicles via cellular communication. The vehicles are equipped with SmartCard devices that allow users with reservations access.



The vehicles are also equipped with GPS devices for data collection.

Data collection

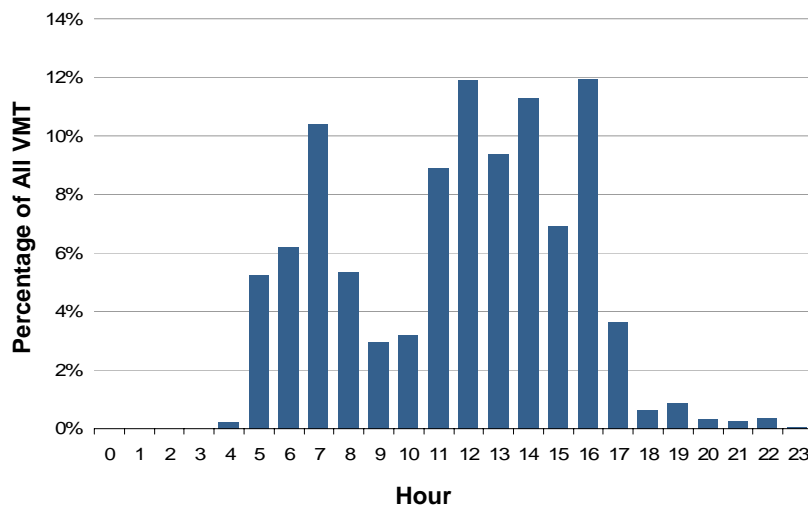


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Data collection

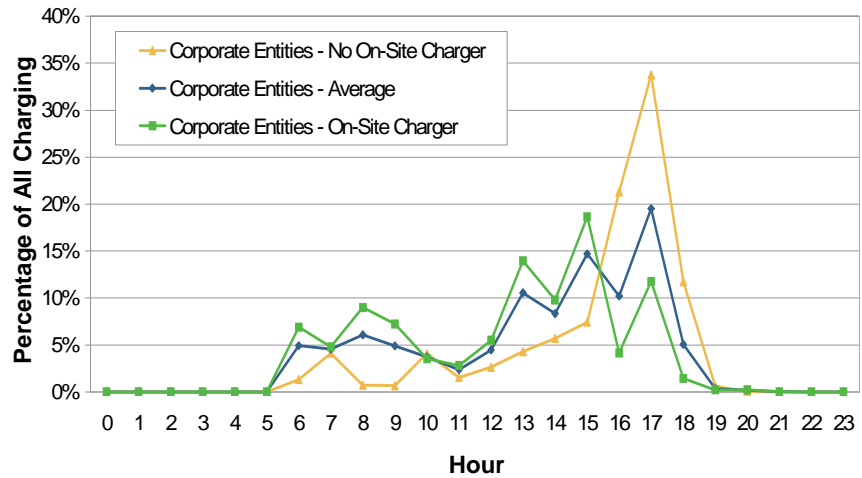


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Data collection



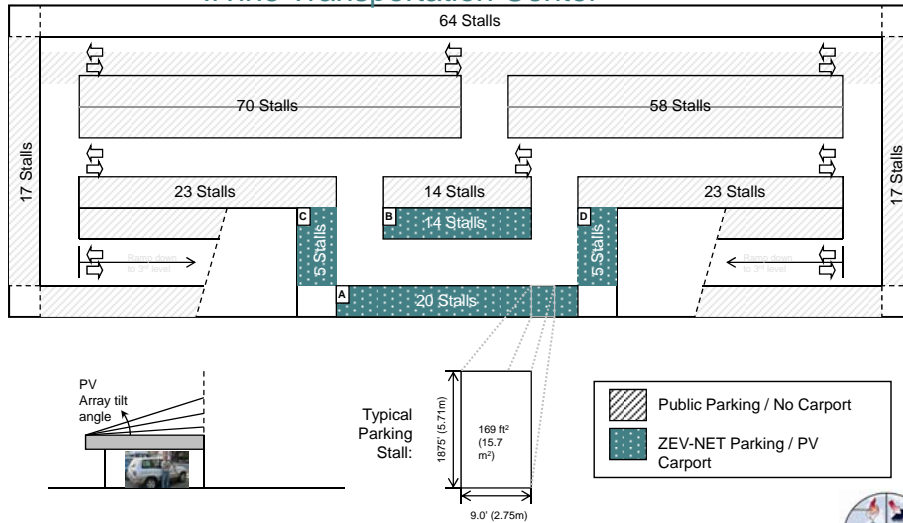
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Future Plans

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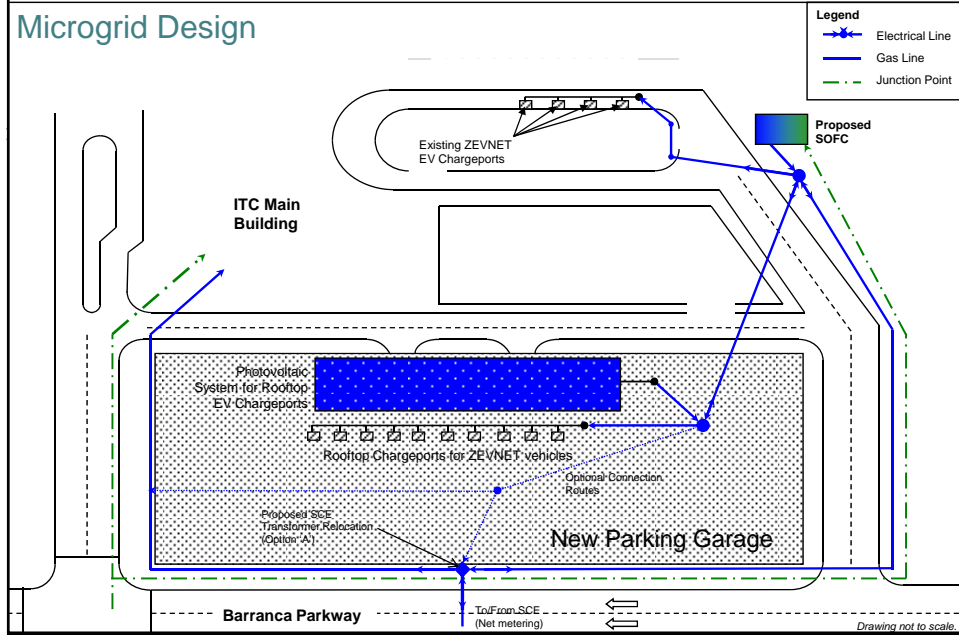
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Irvine Transportation Center – Phase II

Microgrid Design



Thanks, questions?

