

ELECTRIC AVENUE



2011 Case Study



Charlie Allcock
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Portland General Electric

A public street dedicated to charging



An urban showcase and test bed for EVs and charging technologies

PGE, Portland State University (PSU) and City of Portland (COP) partnering on two-year R&D project to examine charging patterns and behavior, system impacts

Located on PSU campus in downtown Portland, adjacent to Transit Mall

Tens of thousands of daily visitors make it an ideal venue for product launches, demo drives, and briefings



Process



Identify need

Create concept

Form a partnership

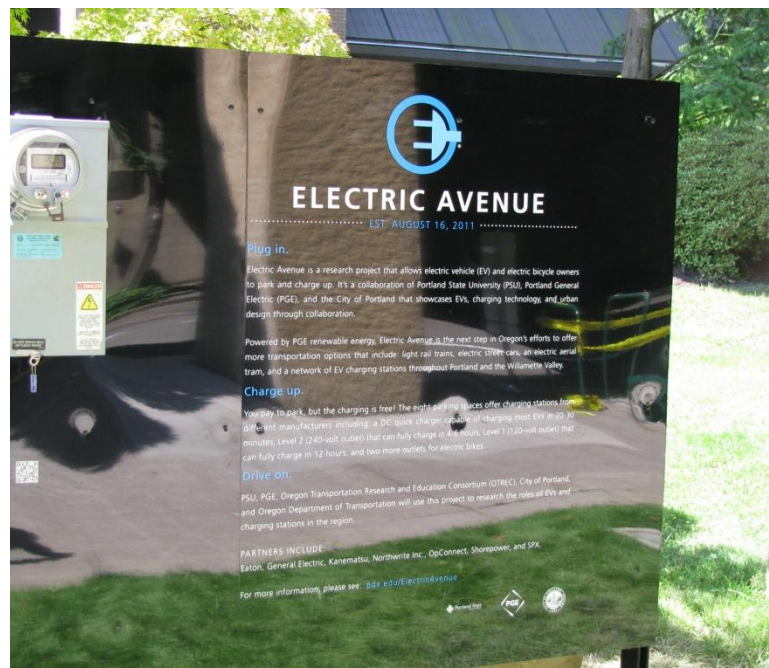
Enlist technology partners

Receive approvals

Construct the Avenue

Manage day-to-day operations

Perform research, data collection
& analysis



Project partners devoted a lot of time for concept design, project management, communication and problem-solving:

PGE: Technical expertise, installation of electrical infrastructure and charging stations, supply of electricity to charging stations, and collection of energy usage information for joint research and development

PSU: Project management, location improvements, sponsoring chargers' electricity usage, and ongoing research

COP: Technical assistance and implementation of changes to the right of way



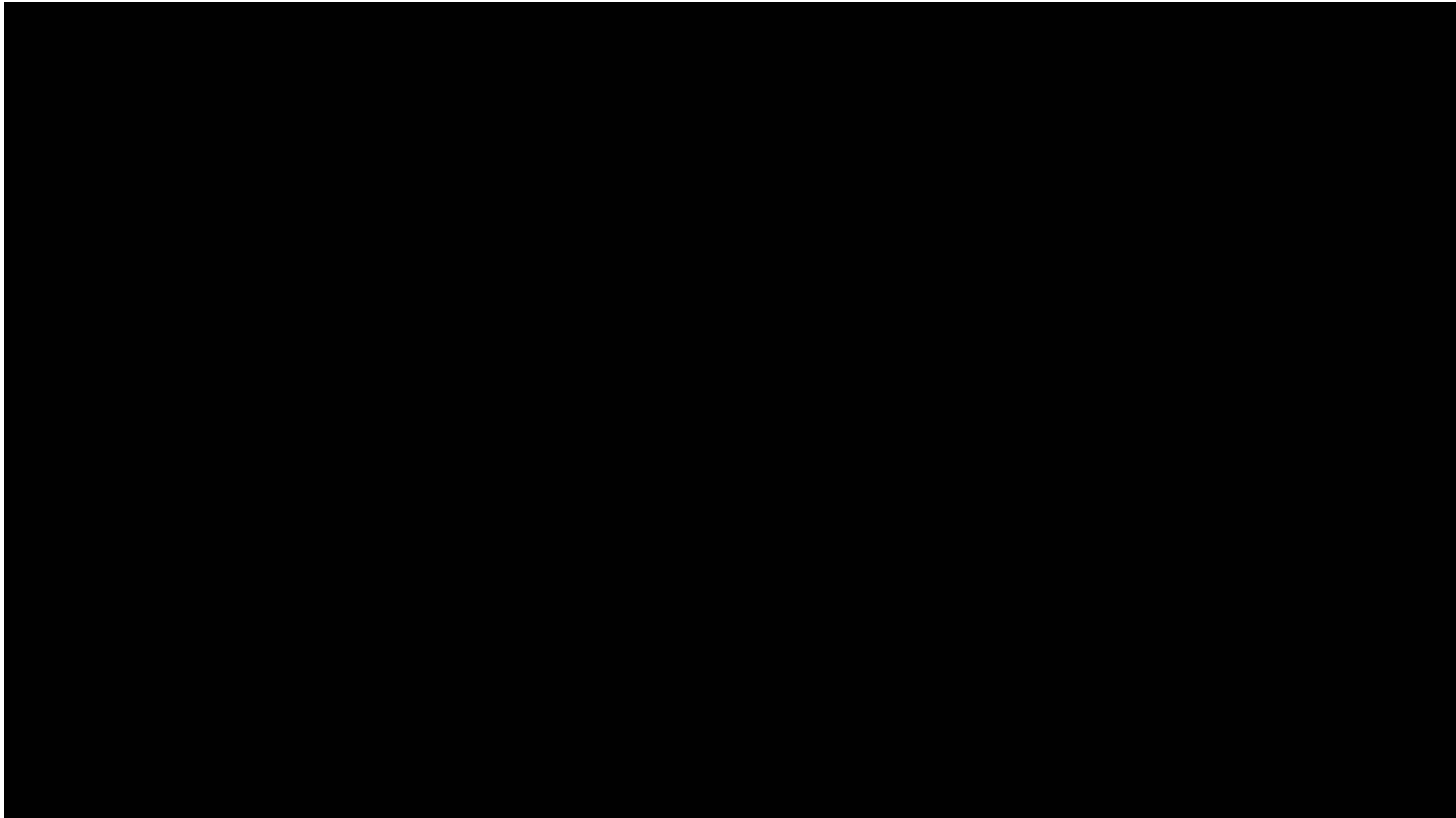
Technology partners



Eaton Corp		Opconnect	SPX
Level II	Quick Charger	Level II	Level II
			
Shorepower Technologies	General Electric	Ecotality with Zipcar	
Level II	Level II	Level II	
			

ELECTRIC AVENUE NOW OPEN

Plug in. Charge up. Drive on.



August 16 grand opening

Goal: Try new things, learn and share to benefit all

Recording electrical use, charge session details

Survey guests

Discover which charging device (L2 or DCQC) is preferred

Is clustering a variety of chargers desired over scatter gram approach of 1 – 2 units at businesses?

Effectiveness of clustering chargers by a mobility hub (adjacent to Transit Mall)



PGE's CEO, Jim Piro, speaks at the grand opening

Strategic value through discovery



Electric Avenue is helping us discover:

What works, so these things can be repeated elsewhere

Early lessons learned, to share and use to improve future projects

Important to share both hits and misses



What's working



Oregon's largest city, utility, and university are successfully collaborating on the project

Experienced contractors ensured a smooth construction and installation process

Opened on time, under budget

Major media splash raised awareness & interest

Lots of enthusiasm and interest from passersby

Provides a variety of charging options

State-wide building code simplified & expedited process



Early lessons learned



It takes time – this is a new concept with new technology, and everyone is learning as we go

- Contract/permitting
- Sleeping charging stations
- Factory grounding
- Graffiti/tagging
- Pigeons
- Clear parking signage
- Lighting



Upcoming conference and workshop in Portland, Oregon:

EV Roadmap IV ***Getting to a Million***

November 2 - 3, 2011

- Update on Electric Ave.
- Roundtable discussion with Electric Ave. participants
- Sign up now at PlanningToAttend.com



*Our continuing goal is to try new things,
learn and share to benefit all*

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