



**CARB 2nd PEV Infrastructure Info
Gathering Meeting
July 15, 2014**

Ashley Horvat
State of Oregon Chief EV Officer

Oregon Accelerating EV Market

- High EV sales & EV Infrastructure Deployment
- Environmental & clean tech industry leadership
- *West Coast Electric Highway*
- *Oregon Electric Byways*
- *8-state ZEV MOU committing to 3.3 million EVs by 2025*
- Governor's ZEV MOU Implementation Task Force
- *Pacific Coast Action Plan on Climate and Energy*
- "Energizing Oregon" Statewide EV Action Plan
- Energizing Oregon Coalition
- Oregon Auto Dealers Association & Clean Cities Collaboration

Establish Parameters

GOAL: Develop host site specifications to filter potential host sites, which all regions must utilize.

1. Location Relative to the Interstate/Interurban Highway
2. Site Accessibility
3. Site Layout
4. Site Facilities
5. Site Hours of Operation and Staffing
6. Site Parking
7. Site Shelter
8. Signage
9. Combination or Cooperative Sites



Oregon Electric Byways and Other EV Tourism Initiatives



Oregon Department of Transportation



Visibility: Tourism

EV Tourism Initiative : ODOT & Travel Oregon

GOAL: To develop an EV Tourism Industry in Partnership with Travel Oregon, Travel Portland, and other Tourism Industry partners.

The screenshot shows the Travel Oregon website interface. At the top, there is a navigation bar with links for 'SEE AND DO', 'TRIP IDEAS', 'CITIES AND REGIONS', 'ASK OREGON', 'SEASONAL FEATURES', 'PLACES TO STAY', 'TRAVEL DEALS', and 'GETTING AROUND OREGON'. Below this is a secondary navigation bar with 'Oregon Stories', 'Itineraries', 'Scenic Byways', 'Grant's Getaways', and 'Travel Interests'. The main content area features the article title 'Mt. Hood and Columbia River Gorge EV Itinerary' by Eileen Garvin, dated April 4th, 2013. A large photograph of the Columbia River Gorge is displayed, with a caption identifying the Vista House. A 'Add to Trip Planner' button is visible next to the photo. The article text begins with 'The Mt. Hood Loop Day Trip is an excellent way to experience the rugged wilderness, verdant farmland and charming small towns that lie just outside of the vibrant metropolis of Portland.' The footer contains social media links and subscription options.

Sign In / Create Account Search Oregon... search

SEE AND DO TRIP IDEAS CITIES AND REGIONS ASK OREGON SEASONAL FEATURES PLACES TO STAY TRAVEL DEALS GETTING AROUND OREGON

Oregon Stories Itineraries Scenic Byways Grant's Getaways Travel Interests

- Trip Ideas > Itineraries -

Mt. Hood and Columbia River Gorge EV Itinerary

by [Eileen Garvin](#) - April 4th, 2013

Vista House, built in 1916, on Crown Point in the Columbia River Gorge National Scenic Area. (Photo credit: Larry Geddis)

[+ Add to Trip Planner](#)

Just about anything you find on TravelOregon.com can be added to your own personal Trip Planner. [Find out how.](#)

The Mt. Hood Loop Day Trip is an excellent way to experience the rugged wilderness, verdant farmland and charming small towns that lie just outside of the vibrant metropolis of Portland.

Portland

Start your day in downtown Portland at [Electric Avenue](#) on the Portland State University campus. While riging up, choose from a host of delicious downtown breakfast spots like [Tasty n Alder](#). Blue

TRAVEL OREGON LET'S GET SOCIAL f t You Tube v i p g+

STAY IN TOUCH SUBSCRIBE GET IN CONTACT FREE TRAVEL GUIDES TRAVEL OREGON NETWORK INTERNATIONAL VISITORS

OR EV Plan Recommendation: *Deployment* EV Tourism Initiative : “Oregon Electric Byways”

Series of 5 itineraries based on the West Coast Electric Highway that take EV drivers on curated trips to experience a more thorough view of the state.





**Mt. Hood Columbia
River Gorge Electric
Byway**



Agree upon a “brand” (Example: West Coast Electric Highway)

- Establishes reputation
- Creates brand recognition
- Public relates brand to reliability
- Makes it easier to convey messaging in collateral, earned media, etc.

NC can utilize “Electric Highway” logo & possibly call: “East Coast Electric Highway”

Portray single “branding” that signifies the larger network in order to transmit a singular look and feel to the public

West Coast Electric Highway: Creating A Brand

Get plugged in!

Making the case for a shift towards electric transportation

Energy independence. National security. Economic stability. Clean environment. Moving toward other sources of energy, especially renewable sources, is an increasing priority for people and governments, including the states of Oregon and Washington. America's transportation sector, highly reliant on oil, offers a prime opportunity to make such a move. That's where electric vehicles (EVs) come in.

Oregonians spend \$7 billion per year for petroleum, money that mostly disappears from the state's economy. EVs, powered by locally generated electricity, keep the money near home.

About one-third of Oregon's greenhouse gas emissions (GHG) come from the transportation sector, including traditional internal combustion engine vehicles. Replacing these vehicles with EVs can make a significant impact on reducing overall GHG emissions.

All of these vehicles have created the conditions for a nationwide effort to move to electric transportation, using a sustainable, reliable and cleaner transportation fueling source.

The West Coast Leading the Charge on Electric Transportation

Now let's drive on and explore!

A 100% electric vehicle can now coast the 555 miles of I-5, the major transportation vein through Oregon and Washington, without using a single drop of gasoline.

Factor your vehicle and range into purchase and consider the EV along I-5 in Oregon, Washington and California. The West Coast Electric Highway is a network of more than 100 publicly-accessible EV DC fast-charging stations on I-5, at key locations near major travel destinations, and along heavily-traveled highway corridors radiating out from I-5 every 40-60 miles.

It will take between 20-30 minutes to refuel at a fast-charger. EV drivers on the West Coast Electric Highway could refuel their vehicle at a charging station in less time than it takes to stretch their legs and refuel their own system with a large cup of coffee.

By five percent of present U.S. light-duty vehicles could be powered by existing off-peak generating capacity.

Electric motors can convert up to 85% of the chemical energy in series to power the wheels while internal combustion engines only convert about 20% of the energy stored in gasoline to the wheels.

10) Oregon drivers traveled an average of 28.4 miles per day, well in the current 100-mile range on a charge that the EVs out in the marketplace can get.

Don't own an EV? Coming to Portland or Eugene from out of state and need to take a quick-free trial? You can rent an EV in Eugene and Portland, WA. Just charge along I-5, you can take your EV rental just west of 60 miles beyond that to access the world renowned world surfing on the California coast.

Or you want to travel the scenic I-5 coastline, with over 180 miles of coastline EV ready, you can travel fully-charged from North Astoria all the way to Astoria, home of the Sea Lion Caves.

Refuel, charge, drive longer, and save money along the West Coast Electric Highway. What a great place to explore in EV!

Drive cleaner. Drive smarter. Drive electric.



To advance electric transportation, Washington and Oregon have designed a border-to-border network of EV fast-charging stations along I-5, the first stage of a planned network called the "West Coast Electric Highway."

With American Recovery and Reinvestment Act (ARRA) funding, the Washington State Department of Transportation (WSDOT) installed 11 AeroVolution fast-chargers along I-5, U.S. Route 2, and I-90 in 2012.

To further facilitate travel along the "Main Street" of the West Coast, the Oregon Department of Transportation (ODOT) and ARRA funds from the Oregon Department of Energy to install 10 AeroVolution fast-chargers along I-5 in 2012. All of these chargers will augment the multitude of level 2 and DC fast-chargers that ECChalky has installed through the national ARRA-funded EV Project.

In addition to the I-5 installations, ODOT will install 50 AeroVolution fast-chargers in Oregon along the George Coast, Central Oregon, and the Willamette Valley. These chargers will provide multiple charging opportunities in areas that radiate out from the major population corridors.

The West Coast Electric Highway projects aim an investment in sustainable transportation infrastructure that will provide long-term economic and environmental benefits and

Charging 101

Level 1
Level 1 charging stations come with your car and can be plugged into any common 110 volt wall outlet giving you endless opportunities to charge whenever you go.

Level 2
Level 2 charging stations use the same type of 240 Volt circuits as an electric stove or dryer. This makes recharging your EV at home or in public convenient, easy, and inexpensive. The level 2 uses a J1772 connector standard that all new EVs in the market can access. This charging regimen is often called opportunity charging, because it calls for recharging during "opportune" down time such as sleep, work, or play.

Benefits of Electric Transportation

Making the shift to electric transportation will:

- Lower the cost to refuel a vehicle by using electrons instead of oil
- Reduce environmental impacts from greenhouse gas emissions
- Reduce vehicle maintenance costs
- Help displace oil as the nation's dominant fuel source
- Utilize a reliable fuel with price stability and predictability
- Increase national security through energy

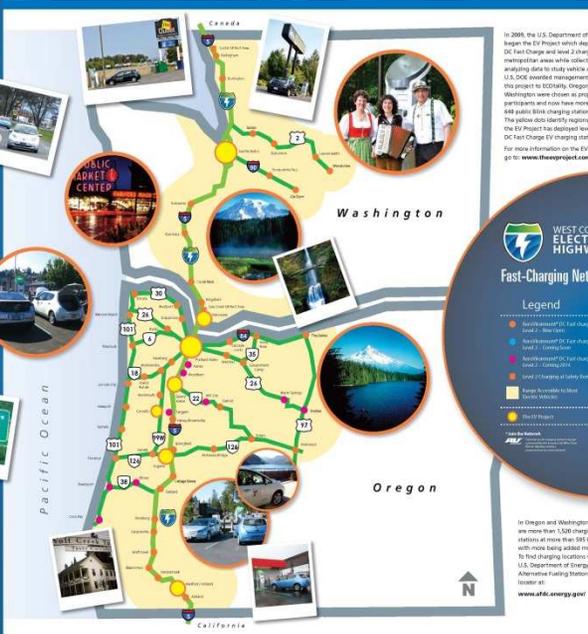
5 things to know before you go

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WEST COAST ELECTRIC HIGHWAY
Fast-Charging Network

- Legend**
- AeroVolution DC Fast-Charger and Level 2
 - AeroVolution DC Fast-Charger and Level 1
 - AeroVolution DC Fast-Charger and Level 1
 - Level 1 (Level 2) Public Charging Station
 - Public Transit Center
 - Public Transit

In Oregon and Washington there are more than 1,500 charging stations or more than 180 locations with more being added monthly. To find charging locations on the U.S. Department of Energy Alternative Fueling Station locator at www.afc.energy.gov



On Oregon's electric highway visit www.oregonelectrichighway.com
 State of Oregon Chief EV Officer: ashley.n.horvath@odot.state.or.us
 Washington's electric highway visit www.westcoastelectrichighway.com
 Development and Communications Manager: tomia.buell@wsdot.wa.gov
 Sign on EVs and Clean Cities go to www.cleancities.energy.gov



Partners Developed: Logo, branding, brochure, & outreach plan.

Oh, the places we'll go.
 Transportation Electrification for a
 Clean, Energy-Independent Future.

Drive cleaner. Drive smarter. Drive electric.

Electric Highway Map inside >

Washington State Department of Transportation
 Oregon Department of Transportation
 CLEAN CITIES

Key Recommendation: EV Highway Signage-ODOT petitioned FHWA



EXIT 174
Cottage Grove
Dorena Lake
1 MILE



Ashley Horvat, Chief EV Officer

Cell: (503) 385-3293

Website: www.oregonelectrichighway.com

Twitter: @ashleyinoregon

Email: ashley.n.horvat@odot.state.or.us

