

Plug-In Vehicle Strategic Planning/Feasibility Study

October 2011

**By
Rogue Valley Clean Cities Coalition
www.roguevalleycleancities.org**



Plug-In Vehicle Strategic Planning/Feasibility Study Rogue Valley Clean Cities Coalition

The Rogue Valley Clean Cities Coalition has been an integral player in Oregon's electric vehicle strategic planning for three years. The coalition sponsored seven events, from a forum discussing the logistics of home builders equipping garages with charging equipment to a car show featuring the region's first Nissan Leafs and Chevrolet Volt. The Rogue Valley Clean Cities Coalition has led the region in research and coordination of electric vehicle use, charging station site locations and promotion of educational events. The coalition is a regional alternative fuel leader by conducting research, sponsoring educational events, promoting alternative fuels through the coalition website, newsletter and email distribution list and coordinating EV efforts by cities. Furthermore, Oregon is one of seven US test markets (along with Phoenix, Tucson, Tennessee, San Diego, Los Angeles and Washington DC) for the Nissan Leaf. Oregon is scheduled to receive 2,500 public charging stations installed between Portland and Eugene. Thanks to the efforts of the Rogue Valley Clean Cities Coalition, the charging station locations have been extended to Southern Oregon. Former Oregon Governor Ted Kulongoski announced the charging stations during a news conference at Medford City Hall September 29, 2010, co-sponsored by Rogue Valley Clean Cities. Now a year later, the governor's announcement is about to come to fruition. Oregon Department of Transportation will soon install a Level 3 fast charging project on Interstate 5 at Exit 14 near Ashland. In August 2010, ECOTality North America published the Long-Range Electric Charging Infrastructure Plan for Western Oregon.¹ This Rogue Valley Clean Cities report is intended to serve as a regional supplement to the Western Oregon report. To learn more about coalition activities, visit the website, www.roguevalleycleancities.org. Read about our role in extending the electric highway in the newsletter, *Attachment A*.

- 1) **ASSESSMENT SUMMARY AND PURPOSE:** The scope and purpose of the electric vehicle plug-in vehicle strategic plan is to summarize and evaluate past performances, plan for the future and recognize coalition needs.
 - a. The Rogue Valley Clean Cities Coalition serves the geographic region of Jackson County. The coalition may serve Josephine County in the near future and Klamath Douglas, Siskiyou and Curry counties in the distant future.
 - b. For the assessment effort, the coalition focused on the cities of Medford and Ashland, the concentration area for electric vehicle activity.
 - c. The assessment is necessary to conduct research, gauge interest in electric vehicles and encourage more drivers to choose alternative fuel vehicles when purchasing new vehicles.

- 2) **PAST & CURRENT PLUG-IN VEHICLE IMPLEMENTATION:** The Rogue Valley Clean Cities Coalition has played a key role in the plug-in vehicle implementation

¹ The Long-Range Electric Charging Infrastructure Plan for Western Oregon is available online at http://www.roguevalleycleancities.org/images/news.html/August_2010_downloads/Oregon_EV_LR_Plan.pdf

in Southern Oregon. Coalition efforts resulted in the extension of the electric vehicle highway to the southern end of the state.

- a. Our region had an electric vehicle presence before Rogue Valley Clean Cities Coalition's involvement. Patrick Box, owner of Plug-In Rides in Phoenix, converted several vehicles to electric, including a Nissan pickup that he drives for demonstrations. Additionally, there have been three electric vehicle-related companies in our region; Brammo Inc., is an electric motorcycle manufacturer with headquarters in Ashland; RedCloud of Ashland converts fleet vehicles to electric and provides a monitoring system; Barefoot Motors, manufactured electric utility vehicles in Ashland until its closure in 2010.

Medford is Southern Oregon's stop on the West Coast Green Highway, an initiative to advance the adoption and use of electric and alternative-fuel vehicles along the Interstate-5 corridor. The states of Washington, Oregon and California and the province of British Columbia are working together to promote clean fuels to reduce the region's reliance on foreign oil. Furthermore, the Medford-Ashland area is now a participant in the EV Project after a request was made by the Rogue Valley Clean Cities Coalition. The EV Project is an effort to install electric vehicle chargers at hundreds of sites in Portland and Eugene as part of a \$99.8 million Recovery Act grant through the U.S. Department of Energy. To learn more, see the September 15, 2010 coalition newsletter, *Attachment A*.

- b. Rogue Valley Clean Cities Coalition is involved in research and planning for several public/private partnership activities.
 1. One of the public/private partnerships being developed is with Dry Creek Landfill and Jackson County on a feasibility study for the conversion of landfill gas to landfill compressed natural gas. The project is a component of a regional greenhouse gas reduction strategy, a sustainable local fleet alternative fuel option and a regional air quality improvement strategy. Another partnership involved CSA Planning Ltd., a local land use planning firm, Pacific Power, the region's power provider, and the developers of Summerfield, the commercial portion of Southeast Plan, Medford's largest transit-oriented development. To learn more, read a memo prepared by CSA Planning, *Attachment B*.
 2. Rogue Valley Clean Cities Coalition's role in these efforts is to provide research, coordination, discussion forums, public information through website and newsletter updates and writing letters of support.
 3. The Rogue Valley Clean Cities Coalition role is to research, coordinate public involvement and secure and distribute grants to fund charging stations and other alternative fuel infrastructure.
 4. The organizations leading these efforts have participated and contributed to Clean Cities forums and events and share the Clean Cities mission of energy independence.

5. Pacific Power, the region's local electric utility, has been involved in the coalition's research and participated in the early forums about electric vehicles. The Pacific Power regional manager and the Rogue Valley Clean Cities Coalition coordinator keep in touch about issues involving supply and distribution and the impact of increased use by electric vehicles. Our coalition communicated closely with a credit union employee who was on the waiting list for one of the first Nissan Leafs in Southern Oregon. When the Nissan Leaf arrived in Medford, the coalition sponsored a car show at the credit union to introduce the public to the Nissan Leaf. The event drew more than 100 people and four plug-in electric vehicles, including three Nissan Leafs and one Chevy Volt.
 - c. Right now there are three charging stations in the assessment area at Lithia Nissan, 600 North Central Avenue, Medford, Town and Country Chevrolet, 2045 Highway 99 North, Ashland and at Southern Oregon University, 351 Walker Avenue, Ashland. The Lithia and TC Chevy stations are used by Leaf and Volt owners and the SOU station is used by the maintenance staff that drives a converted Ford pickup. The City of Ashland is preparing for the installation of Level 2 EV charging units in downtown parking lots soon. The City of Medford is preparing to install four Level 2 charging stations in downtown soon.
 - d. Rogue Valley Clean Cities Coalition has sponsored seven events related to electric vehicles including a car show and forum, a news conference with the Oregon governor, an EV Highway update featuring Oregon Department of Energy's Rick Wallace, a forum to encourage builders to equip garages for EVs, a forum for utility providers and suppliers, a stop of the Zero Race world tour and a media day at Southern Oregon University to introduce an EV monitoring system. We invited Russell Vare of Nissan North America to participate in our stakeholder events; he proved to be a valuable resource about plug-in electric vehicles. In 2012, we plan to hold an electric motorcycle race in partnership with Brammo. Learn more about the car show from the summary, See *Attachment C*.
- 3) **ASSESSMENT OF PLUG-IN VEHICLE IMPLEMENTATION POTENTIAL:** The Rogue Valley has a growing potential for plug-in vehicle implementation. Our valley has already demonstrated a commitment to plug-in electric vehicles. Two private companies have installed charging stations for electric vehicles. The region's university has launched an electric vehicle test program. And the City of Ashland is preparing to install the region's first charging stations on public parking lots. Below are examples of EV potential.
- a. Our region has growing potential for plug-in vehicle implementation. Two OEMs offer plug-in vehicles in Southern Oregon, Lithia Nissan sells The Leaf and Town and Country Chevrolet sells the Volt. Butler Ford in Ashland plans to sell the Ford Focus in the future. Other companies include Brammo, which manufactures electric motorcycles and Webfoot Truck and Equipment in Medford, which sells an electric hybrid heavy-duty truck. Another Southern Oregon company (although not an OEM) is RedCloud in Ashland, which installs electric drive trains in light

- duty gas-engine trucks built between 1995 and 2010 and provides a monitoring system to track maintenance.
- b. The City of Ashland is planning for the installation of Level 2 EV charging units in downtown parking lots by the end of the calendar year. The City of Medford is also planning to install Level 2 charging units in the parking garage and public lots in downtown Medford. Oregon Department of Transportation has announced plans to install Level 3 fast chargers at Exit 14 and other Interstate 5 locations in Southern Oregon. Also, ECOtality plans to install Level 1 charging stations in Southern Oregon as part of the EV Project funded by the Department of Energy.
 - c. Oregon residents who buy an alternative fuel vehicle or infrastructure or convert a vehicle to alternative fuel can get a tax credit for 25% of the cost or \$750 (whichever is less). Public entities and non profits may choose to transfer tax credits to a business or individual with an Oregon tax liability in exchange for a cash payment through the Oregon Department of Energy's Business Energy Tax Credit. The federal government offers a tax credit of up to \$7,500 for drivers who purchase the Nissan Leaf. Those who purchase a Brammo Inertia can receive a 10 percent federal tax credit of \$800. There are many non-financial incentives for local residents to purchase electric vehicles, including reduced fuel costs, making a contribution to clean air in the Rogue Valley and notoriety as a pioneer adopter of new technology.
 - d. The Rogue Valley Clean Cities Coalition plans to work with Columbia-Willamette Valley Clean Cities Coalition to assess the real or potential effectiveness of financial and non-financial incentives on developing the market. The Rogue Valley coalition plans for this assessment for the 2012 schedule.
 - e. The local stakeholders most likely to adopt plug-in vehicles include representatives from the General Services Administration (GSA), Southern Oregon University, City of Central Point, City of Ashland, City of Medford and City of Eagle Point. In discussions with leaders, we learned that GSA has purchased several plug-in vehicles and will soon deploy them in Oregon. We learned that the City of Eagle Point desires to install an electric vehicle charging station at its city shops. We learned that the City of Central Point plans to install an electric vehicle charging station and purchase plug-in electric vehicles in the near future. We have worked with the cities of Medford and Ashland in researching sites for electric vehicle charging stations. And we have partnered with Southern Oregon University in announcing a new vehicle charging station in Ashland.
 - f. The Rogue Valley Clean Cities Board of Directors prepared an anecdotal list of locations for future public charging stations at the request of ECOtality. However, the board recommended that ECOtality conduct an official study of potential charging station sites. The board recommended consulting existing traffic studies and surveying local businesses and the Rogue Valley/Medford Chambers of Commerce. For a map showing existing and planned EVSE infrastructure, see Attachment D.

- 4) **PERMITTING PROCESS ANALYSIS:** The current permitting process is established by ORS 918-311-0065 Electric Vehicle Charging Station Statewide Permit and Inspection Protocol. Rogue Valley Clean Cities Coalition sponsored a forum attended by 10 building and code officials from the City of Medford, Jackson County, State Fire Marshall's Office, Oregon State Building Division, Medford Fire Department and Fire District 3.² At the meeting, building officials described the State of Oregon's desire to make building codes supportive of the EV effort. The state has a protocol for permits and charging stations, both public and residential. Dennis Clements of the Oregon Building Division said a newer section of the Oregon Building Code (2010 Mechanical Inspection Code C413) addresses indoor and outdoor home fueling installations for EV and NGV. The state offered training for local inspectors.
- 5) As a result of the stakeholder meetings, Rogue Valley Clean Cities Coalition keeps in communication with building officials. In September 2011, we conducted an email and telephone survey with Adam Hanks and Michael Grubbs of the City of Ashland, Ted Zuk of Jackson County and Craig Batesole of the City of Medford. Please see survey results below.

² Participants in the February 17, 2010 meeting: Mike Grubbs (City of Medford), Mike Thrapp (Fire District 3), Derek Zwagerman (City of Medford), Ted Zuk (Jackson County Building), Michelle Stevens (Oregon State Fire Marshal), Tim Price (Jackson County Building), Mark Stevens (Jackson County), Greg Kleinberg (Medford Fire Department), Gabrielle Schiffer (Oregon State Building Division), Dennis Clements (Oregon State Building Division). Mike Montero (RVACT), John Vial (Jackson County Roads), John Becker (Oregon Department of Environmental Quality) Gary Hall (Gary Hall & Associates), Sue Kupillas and Melissa Stiles (RVCCC).

Streamlining EVSE Permits: Question and Answer with Building Officials

Here are the results of a telephone and email survey about obtaining permits to install electric vehicle charging stations for residential or commercial locations. The coalition surveyed Adam Hanks and Michael Grubbs of the City of Ashland, Ted Zuk of Jackson County and Craig Batesole of the City of Medford.

Q: Is your department aware of the issues surrounding electric vehicle charging stations?

A: *Michael Grubbs, Building Official, City of Ashland:* Yes, we are aware of the safety issues involved with EV charging stations. Issues include location, exposure to physical damage and wiring methods.

A: *Ted Zuk, Building Official, Jackson County:* We probably won't know until we start inspecting regularly what quirks, if any, arise.

A: *Craig Batesole, Electrical Inspector, City of Medford:* There seem to be few issues surrounding electric charging stations in a residential environment. However, in the commercial setting, more problems could arise, the biggest being availability of infrastructure. The more electric cars that come into an area, the more charging stations we will need.

Q: Is your department prepared for potential growth in this sector?

A: *Jackson County:* At this point it appears the growth would mainly be in additional branch circuits which should be easily covered by our electrical inspection staff.

A: *City of Medford:* At this point in time there are four locations scheduled for charging stations.

Q: .What is the county or city permitting process for EVSE installation, including a time line from initiation to approval?

A: *City of Ashland:* The building and electrical permit process is fairly simple, basically over the counter. The planning department would want a site plan to approve an exterior installation on commercial or public property. There may be Historic Building approvals if installed in one of our historic districts.

A: *Jackson County:* Most permits would be over the counter. Faxed in permits for an electrical contractor registered to do so with our office are also an option. Additionally the State has amended the OAR to allow use of the minor label program for installations of branch circuits less than 40 amp 240 volt in garages with an electrical within sight of the EVSE unit.

A: *City of Medford:* The permitting process for the installation of these units would be no different than obtaining an electrical permit for the installation of electrical equipment or branch circuits. The permit can be purchased over the counter at the City of Medford building department. The cost is \$50. The system could be installed and approved within two days.

Q: Does the county or city have plans to expedite the permitting process to allow for fast installation of charging infrastructure for purchasers of plug-in vehicles?

A: *City of Ashland:* Yes, we would push a permit application for an EV charging station to the head of the line and expedite its approval.

— *By Rogue Valley Clean Cities Coalition*

- 6) **ANALYSIS OF PUBLIC INFORMATION AND EDUCATION NEEDS:** Rogue Valley Clean Cities Coalition needs to sponsor events that reach young drivers who are considering a new vehicle purchase. The Coalition is in the process of receiving a \$15,000 grant from the State of Oregon Energy Department for EV outreach. Here are outreach possibilities:
- a. The education for potential buyers of plug-in vehicles could be coordinated with local auto dealers who sell the Nissan Leaf, Chevy Volt and Ford Focus (when it arrives in Southern Oregon.)
 1. Education events could be held at the dealerships or at auto events at the Jackson County Expo. Speakers could include building officials who could discuss the process for installing Level 2 home charging, including the process for locating certified electricians to do the work.
 2. The coalition could sponsor an education event at Southern Oregon University or Rogue Community College with ShorePower on the safe operation of EVSE.
 - b. The education component could also include a forum sponsored by the City of Ashland and ODOT about public charging infrastructure installations. The forum could include a walking tour of the city's new charging stations.
 - c. RVCCC could conduct an educational forum at the City of Central Point about fleet implementations of plug-in vehicles and infrastructure. Participants could include public works officials from Medford, Eagle Point and Phoenix, local cities that have expressed interest in electric vehicles and infrastructure.
 - d. The coalition plans to sponsor a safety course about alternative fuels for first responders, public safety officers, construction permitting officials and others. The coalition surveyed local fire chiefs about the best time of year to hold the course and the cost per person local districts would be willing to pay. The coalition hopes to hold a training event in 2012 and coordinate with the local training association to improve attendance and efficiency.
- 7) **ANALYSIS OF OTHER BARRIERS:** The Coalition has identified potential barriers to deployment of plug-in vehicles and recharging infrastructure in Southern Oregon.
- a. One of the barriers is the cost of the home charging unit. The units are an estimated \$2,500 upgrade for the Nissan Leaf and Chevy Volt.
 - b. Coalition incentives could include grants to pay a portion or all of the cost for the home charging unit. Other incentives could include: free parking passes to city-owned lots for EV drivers; priority parking spaces for EV drivers; build a plaque at Lithia Commons in downtown Medford with the names of the first 500 adopters of alternative fuel vehicles; loans with reduced interest rates for EV buyers. Such incentives should be adopted and promoted through local car dealerships as a way of encouraging auto buyers to switch to alternative fuels.

- c. The coalition could sponsor a forum and invite auto dealers and city officials to discuss the idea of erecting a plaque at Lithia Commons. We could follow up with a strategy to implement and fund construction. Another step to removing barriers includes sponsoring a forum with public works directors and college officials to discuss the creation of EV parking spaces. We could follow up by creating a brochure listing EV incentives, posting it on the coalition website and providing copies for auto dealers, colleges and visitor centers.

8) **ROLE OF COALITION TO FACILITATE PLUG-IN VEHICLE**

IMPLEMENTATION: The coalition's role in plug-in vehicle implementation has been education and promotion. Our success story includes Medford EV Pioneers Dustin and Ariana Denley. We showcased the Denleys at an August car show and forum that drew more than 100 people and much media attention.

- a. The coalition will follow up on this assessment by scheduling forums as part of the 2012 schedule. The coalition will continue to feature Leaf Owner Justin Denley as a speaker and resource at our events.
- b. The coalition will continue its tradition of taking a strong role in marketing, outreach and training related to electric vehicles. Four television stations, one radio station and one newspaper covered the coalition's August car show. The coalition will continue to sponsor events that point the spotlight on electric vehicles. Our big goal is to sponsor an electric motorcycle race for Odyssey Day 2012. The coalition has been communicating with Brammo, an Ashland-based manufacturer of electric motorcycles and the owners of the local race track. A race would be popular, well-attended and attract a different audience than we've reached in the past.
- c. Resources needed include a brochure about electric vehicle owner incentives. The brochure could include a map of charging station locations and the coalition's website. It's important to keep the website up to date with infrastructure locations, local companies that provide alternative fuel services and education opportunities. The coalition coordinator is a skilled public speaker and available to talk to local schools. The coalition could publish a brochure summarizing the work of Rogue Valley Clean Cities Coalition to be handed out during classroom visits.³

³ This study was written by Melissa Stiles, Rogue Valley Clean Cities Coalition, melissa@roguevalleycleancities.org

9) IDENTIFICATION OF KEY CONTACTS/PERSONNEL: Below are established points of contacts or offices involved with plug-in vehicle specific activities, coordination, permitting and other related issues.

	Name of Organization or Company	Territory Served	Role in Implementation / Planning Efforts	Primary Contact Name	Phone	Email
1)	City of Ashland	Southern Jackson County	Project Manager: EVSE Installation Coordinator responsible for research and city council recommendations.	Adam Hanks	541-552-2046	hanksa@ashland.or.us
2)	City of Ashland	Southern Jackson County	Building Official: oversees regulations of installation and permitting for EVSE	Michael Grubbs	541-552-2073	Michael.grubbs@ashland.or.us
3)	City of Medford	Medford region	Building Department: placement of electric vehicle charging stations in Medford	Christy Taylor	541-774-2350	Christy.Taylor@cityofmedford.org
4)	City of Medford	Medford	Electrical Inspector: oversees selection and installation of EVSE in parking lots/garages	Craig Batesole	541-774-2350	Craig.batesole@ci.medford.or.us
5)	Lithia Nissan of Medford	Southern Oregon	Promotes electric vehicles and EVSE public charging station on N Central Ave, Medford	Jim Riley	541-773-3655	jriley@lithia.com
6)	Town and Country Chevrolet	Southern Oregon	Promotes electric vehicles and EVSE public charging station on Highway 99 North, Ashland	Derek DeBoer	541-482-2411	dd@tcchevy.com
7)	Nissan North American	North America	EV Regional Manager	Russell Vare	323-535-4460	russell.vare@nissan-usa.com
8)	GSA	Southern Oregon	Coordinates GSA for Southern Oregon, including recently purchased Nissan Leafs	Kathy Fritz	541-	Kathleen.fritz@gsa.gov
9)	Rogue Valley Credit Union	Southern Oregon	Provides discounted loans for alternative fuel vehicles; promotes employee purchase of AFV	Charlie Baggett	541-858-7104	cbaggett@rogueducu.org
10)	Southern Oregon University	Southern Oregon	Public EVSE; participant in pilot program with monitoring system on electric maintenance truck	Drew Gilliland	541-552-6093	gilliland@sou.edu
11)	Oregon Institute of Technology	Southern Oregon	Research and development of EV monitoring systems	James Long	541-885-1580	James.long@oit.edu
12)	RedCloud	Oregon	Research, development and promotion of EV monitoring system	Melissa Brandao	541-708-2199	mbrandao@redcloudev.com
13)	Plug-In Rides	Oregon	Electric vehicle conversions	Patrick Box	541-951—599	pbox@redcloudev.com
14)	Jackson County	Jackson County	Building Official: ESVE Permits	Ted Zuk	541-774-6921	zuktj@jacksoncounty.org
15)	ODOT	Oregon	Project Director, Innovative Partnerships	Art James	503-986-3858	Art.James@odot.state.or.us
16)	Oregon Dept. of Energy	Oregon	Senior Policy Analyst	Rick Wallace	503-378-3265	rick.wallace@state.or.us



Extending the electric highway to Southern Oregon

The electric highway may soon be coming to Medford. The company installing 2,500 charging stations between Eugene and Portland will add 20 in Southern Oregon. ECotality Area Manager David Mayfield said The EV Project has 1,000 units available statewide for installation on private property and 150 on public property. ECotality hopes to sign contracts with national accounts that have a presence in Southern Oregon to reduce installation costs. The units will be installed in pairs near high-traffic areas where The EV Project is likely to gather the most data. For example, ECotality looks for sites with frequent turnover of users rather than employee parking lots. For on-street parking, ECotality prefers angled parking rather than parallel parking because of safety and maintenance issues. ECotality welcomes recommendations, David Mayfield told the RVCC board during an August 25 meeting. City electrical inspector Mike Grubbs said Medford has identified two city parking garages that would support Level 3 charging stations and eight city parking garages that would support Level 2 charging. The cities of Central Point, Eagle Point and Ashland have also identified locations for charging stations. Jackson County Roads Director John Vial and Board Chair Mike Montero suggested a comprehensive study to provide ECotality with a list of recommended sites. Central Point City Council member Mike Quilty suggested a CMAQ grant to complete a feasibility study in Southern Oregon. (Learn more about Level 2 and Level 3 from the RVCC website, www.roguevalleycleancities.org. Click on news.)



What is The EV Project?

ECotality North America was awarded a \$99.8 million grant from the U.S.

Department of Energy to launch The EV Project October 1, 2009. The U.S. Department of Energy on June 16 granted \$15 million more to expand The EV Project to Los Angeles and Washington, DC with a match by Nissan North American and General Motors/Chevrolet. The \$230 million project will deploy 15,000 charging stations in 16 cities in Oregon, Washington, California, Arizona, Tennessee and Texas and the District of Columbia. Drivers of the Nissan LEAF and Chevrolet Volt plug-in hybrid will receive a free residential charger.

The EV Project will collect and analyze data in diverse topographic and climatic conditions to evaluate the effectiveness of charge infrastructure. The goal is to learn from the deployment of the first 8,300 EVs and infrastructure to streamline deployment of the next 5 million.

Source: <http://www.TheEVProject.com>

Alternative Fuels Q&A

Question: How much is the total tax credit for Oregonians who purchase an electric vehicle and install a charging station at home?

Answer: The total tax credit is \$2,250 for an electric vehicle such as the Nissan Leaf and the home charging unit. Technically the vehicle gets two credits, one for the electric or alternative vehicle itself and the second for the on-board charging system. An additional credit of up to \$750 can be taken for the EVSE, the home charging unit.

From Rick Wallace, Oregon Department of Energy

The Chronicle is a regular publication of Rogue Valley Clean Cities Coalition. The Coalition is made up of businesses and agencies with a shared goal of reducing the nation's dependence on imported oil. Contact Sue Kupillas, coordinator, by email, sue@roguevalleycleancities.org. Learn more: www.roguevalleycleancities.org

Governor Kulongoski announces expanded electric highway, grant



“The electric vehicle will change our lives for the better,” Governor Kulongoski told a crowd of about 50 people gathered at Medford City Hall on Wednesday, September 29. “It will be cheaper, healthier and reduce CO2 levels.” The Governor said he dreams of driving his electric vehicle to Jackson county, fishing the Rogue River while his car is charging and driving back with zero-emissions.



The Rogue Valley Clean Cities Coalition is pleased to join Team EV Oregon along with the Governor’s Office and ECotality, Board Chairman Mike Montero told the crowd (above left). Board member Gary Hall (above right) said the new charging stations will pave the way for more electric vehicles on Southern Oregon roads. Board member Mike Quilty said the EV highway extension helps the coalition meet its mission of reducing dependence on foreign oil. Below, Michael Grubbs, electrical inspector for the City of Medford, plugs in the Toyota Prius demo car to the Blink Level 2 charger, which can “fill” the car in four to six hours.



ATTACHMENT B



Memorandum

To: Raul Woerner, Principal
From: Melissa Stiles, Associate Planner
Date: May 16, 2011
Subject: Charging Station Research

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Here is a summary of my research about installing an electric vehicle charging station in the Summerfield Southeast Commercial Core near Barnett and North Phoenix Road. My research included a site visit with Rylan Wood, an estimator with Pacific Power, a discussion with Patrick Box of REDCloud in Ashland and research through Rogue Valley Clean Cities Coalition.

Level 2 charging stations make the most economic sense for a commercial development. The Level 2 universal plug (J1772) is compatible with electric vehicles available in Southern Oregon, the Nissan Leaf and the Chevrolet Volt. The Level 2 charger would not require a separate transformer but could share a transformer with a commercial building. It would need a separate electric meter at a cost of about \$600. The cost for the Level 2 charging unit is between \$2,500 and \$5,000 and state and federal tax credits are available. It's possible that an auto manufacturer would be willing to share the cost. The drawback of Level 2 is that drivers who stay for a full charge could consume a parking space for up to 8 hours.

Level 3 charging stations are the most efficient with charging times of about 30 minutes. However, they are the most expensive because they require a dedicated transformer, priced at about \$20,000. Additionally, because of the high voltage, Pacific Power would likely charge a monthly demand charge of \$4 per kilowatt, or between \$200 and \$800 a month depending on the model of the charging unit. The price of a Level 3 charging unit is estimated at about \$50,000, although Nissan is promising an economical unit priced at \$17,000. The costs could be offset by state and federal tax rebates and partnerships with auto makers. Level 3 charging stations will be compatible with the next generation of electric vehicles, including Mitsubishi models scheduled for release by 2015.

There are other costs not factored into this memo including concrete pad, fencing and cover to protect the unit from vandalism, rain and snow. Other concerns to consider include safety, liability, collecting a gas tax and passing on the cost of electricity to consumers.

Estimated Specifications and Costs for Charging Stations

	Voltage (VAC)	Current (Amps)	Power (kW)	Charging time	Cost Est. Meter	Cost Est. Transformer	Monthly Demand Charge (\$/kW)	Cost Est. of Charging Station
Level 2 **	220	30	2 to 5	4 to 8 hours *	\$600	0	0	\$5,000
Level 3 ***	480	68	50	10-30 minutes	\$600	\$20,000	\$200 to \$800	\$50,000

* One hour of charging replenishes 15 to 25 driving miles
** Specifications for AeroVironment Model EVSE-CS <http://evsolutions.avinc.com/products/>
*** Specifications for AeroVironment Model EV50-PS <http://evsolutions.avinc.com/products/>

Electric Car Show: Back to the Future

Held at Rogue Federal Credit Union, Medford, Oregon, August 17, 2011

Justin Denley talks to a KDRV 12 reporter about his family's new Nissan Leaf.



Reps for Senators Merkley and Wyden attended the region's first plug-in electric car show.



Electric car owners don't have to give up power or comfort, said TC Chevy's Derek DeBoer.



Nissan Leaf, Chevrolet Volt steal the show, wow crowds

Nearly 100 people attended the Rogue Valley Clean Cities electric car show held at Rogue Federal Credit Union. Four television stations and the Mail Tribune newspaper covered the event that highlighted the Nissan Leaf and Chevrolet Volt, the first plug-in electric sedans to arrive in Southern Oregon. "Our plan was to take a road trip in our new electric vehicle and we may have been the first Oregon family to do so," said Justin Denley. The RFCU computer technician recounted his journey before a standing-room-only crowd. Derek DeBoer said he and his father, Alan, purchased the Chevrolet Volt to gain first-hand knowledge of the extended range sedan that's showcased on the TC Chevy lot in Ashland. "We love it," DeBoer said. "It's a completely no-compromise vehicle. This is the way we see technology heading in the future." Jim Riley of Lithia Nissan of Medford said The Leaf is a favorite with drivers because they don't have to stop at the gas station to fill up. Other speakers included Adam Hanks of the City of Ashland and Charlie Baggett of Rogue Federal Credit Union. Amy Amrhein, field rep for Sen. Jeff Merkley, and Traci Dow, field rep for Sen. Ron Wyden, stopped by to show support for alternative fuel vehicles.

— By Melissa Stiles, Marketing Director



Sponsored by Rogue Valley Clean Cities Coalition, www.roguevalleycleancities.org

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August 18, 2011

56° 
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Have plug will travel

Mileage-minded motorists flock to a demonstration of several hybrid and all-electric cars in Medford

Photo 1 of 3 | Zoom Photo +



Ashland's Town and Country General Manager Derek DeBoer is a satisfied owner of the Chevy Volt, a plug-in hybrid vehicle made by General Motors. Alisha Jucevic / Mail Tribune

Alisha Jucevic

August 18, 2011

By **John Darling**
for the Mail Tribune

Seeking an up-close inspection of new gas-unfriendly cars, potential buyers flocked to a plug-in electric car showing Wednesday in Medford, where they learned grant money is arriving for placement of the all-important charging stations in the "electric corridor."

Showing off his all-electric Nissan Leaf at the event Wednesday outside Rogue Federal Credit Union, Justin Denley, an information tech worker with the credit union, said he may have made a trailblazing journey in it, taking his family to the coast with one planned overnight stop for charging in O'Brien, 65 miles away.

"I bought it mostly for city driving, around the valley," said Denley, noting he has been able to drive his Leaf at in-town speeds for as far as 116 miles without a recharge.

Denley said he received \$7,500 in federal tax credits and \$1,500 in state tax credits against the sticker price in the low \$30,000s.

Showing how his new Chevy Volt plugs into regular household current, Derek DeBoer, general manager of Town & Country in Ashland, said, "I absolutely love it; it's one of the finest automobiles I've ever driven. It's the best of both worlds."

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The Volt, he added, has a backup gasoline engine that comes on only when batteries are drained — and has all the features of mid- to high-end cars, including leather, heated seats, navigation, great sound and a computer that can identify which part of a battery needs replacing, instead of getting an entirely new one.

"I've bought only 5 gallons of gas since I got it in May, 2,400 miles ago," said DeBoer, "and that was just to show how the gas engine came on and ran."

Plugged into a household current, the Volt charges in eight hours. With 220-volt charging, it takes half that time. When driving it, you "get into playing games," said DeBoer, "so you learn how to be efficient and stretch out the charge."

In hybrid mode, the Volt can go 600 miles, he said, adding that it gets up to 42 miles per gallon.

DeBoer said he has two for sale and two more expected on the lot soon. They're \$44,000, he adds, "so it's like buying two cars."

Think of it as an investment in the not-so-far future, says Sue Kupillas, coordinator of Rogue Valley Clean Cities, a coalition that has secured grants from the U.S. Department of Energy to study the feasibility of sites for charging stations on the electric corridor from Eugene to the California border.

Kupillas, a former Jackson County Commissioner, said that, in her role with Clean Cities, she drove a Volt on the Indianapolis Speedway.

"I absolutely love all this new technology," Kupillas said. "The prices will come down as gas goes up and competition comes in."

Driving range is "the big limitation" of plug-in cars, she said, "but in the next few years, we'll have electric corridors."

Using federal stimulus money, the Oregon Department of Transportation and state Department of Energy has hired a firm to collect data about the demand, location and pricing structure for charging stations, said Adam Hanks, project manager for the city of Ashland.

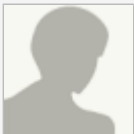
Requests for proposals on the stations have begun and a fast-charging station should be installed at Ashland's exit 14 (Ashland Street) by winter, Hanks said. The Ashland City Council has approved funding of charging stations in downtown Ashland.

There are 88 Clean Cities coalitions in the U.S. The other one in Oregon, the Columbia-Willamette Clean Cities group, has secured grants and begun opening the first charging stations, she said. They extend as far south as Eugene.

John Darling is a freelance writer living in Ashland. E-mail him at jdarding@jeffnet.org.

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LATE CHANGE for Monday at 9: Amy Orr is out, Ed Perkins is IN to talk about travel and finding good deals: <http://www.smartertravel.com/travel-advice/bio.php?id=ed>



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Jefferson Exchange

MONDAY 8/15 @ 8: Did you not hear the electric car coming? Its presence in the Rogue Valley celebrated at car show: <http://roguevalleycleancities.org/events.html>



Events - RV Clean Cities

roguevalleycleancities.org

Rogue Valley Clean Cities events.



Friday at 2:40pm · Like · Comment



Jefferson Exchange

MONDAY 8/15 @ 8:30: An undersea volcano erupts off Oregon, and scientists celebrate predicting the eruption: <http://oregonstate.edu/ua/ncs/archives/2011/aug/scientists-discover-new-eruption-undersea-volcano-after-forecasting-event>



Scientists find eruption at undersea volcano - after forecasting the event | News & Research Communi

oregonstate.edu

NEWPORT, Ore. – A team of scientists just discovered a new eruption of Axial Seamount, an undersea volcano located about 250 miles off the Oregon coast – and one of the most active and intensely studied seamounts in the world.



Friday at 2:38pm · Like · Comment



Jefferson Exchange

MONDAY 8/15 @ 9: Exploring the "boy crisis" in American schools with a Linfield professor who studies the issue: <http://www.linfield.edu/linfield-news/faculty-experts/expert-biographies/amy-orr/>

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Apps for Electric Cars



August 17, 2011

By Yessenia Anderson

MEDFORD, Ore. -- With a down economy, many Americans are trying to cut cost in any way possible.

Today a local electric car show revealed new technology that is helping residents keep cash in their wallets. The car show featured a number of electric cars.

Some were hybrids, a combination of gas and electric powered vehicle, then there was the Leaf: an all-electric vehicle. The Leaf now accommodates a new iPhone app that allows electric car owner Justin Denley to confirm his charging status and control the climate inside the vehicle.

"The cost of driving the vehicle is so cheap its so convenient to have your car in your garage every night plug in not have to worry about which gas station I'm I going to go search and find the cheapest gas for," said Denley.

Denley became the first to own the Leaf in May of last year and has spent \$50 in electricity after putting 2,400 miles on their car.

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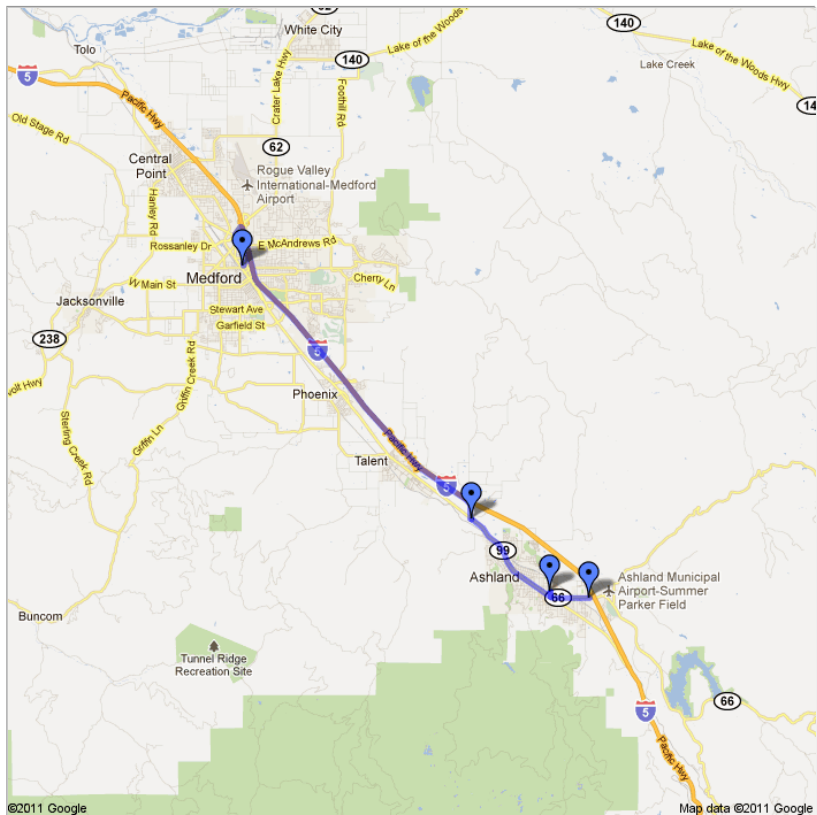
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-  Lithia Nissan 600 N Central Avenue, Medford, OR
-  Southern Oregon University, 351 Walker Avenue, Ashland, OR
-  Town and Country Chevrolet, 2045 Highway 99 N, Ashland, OR
-  Interstate 5 at Exit 14, Ashland, OR (Scheduled for installation, operation, Winter 2011-2012)
- 

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