



WEST COAST
ELECTRIC
FLEETS

BC FLEET CHAMPIONS PROGRAM

Program supporting the West Coast Electric Fleets initiative



2016 Public Sector Climate Action Leadership Symposium

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Plug in BC



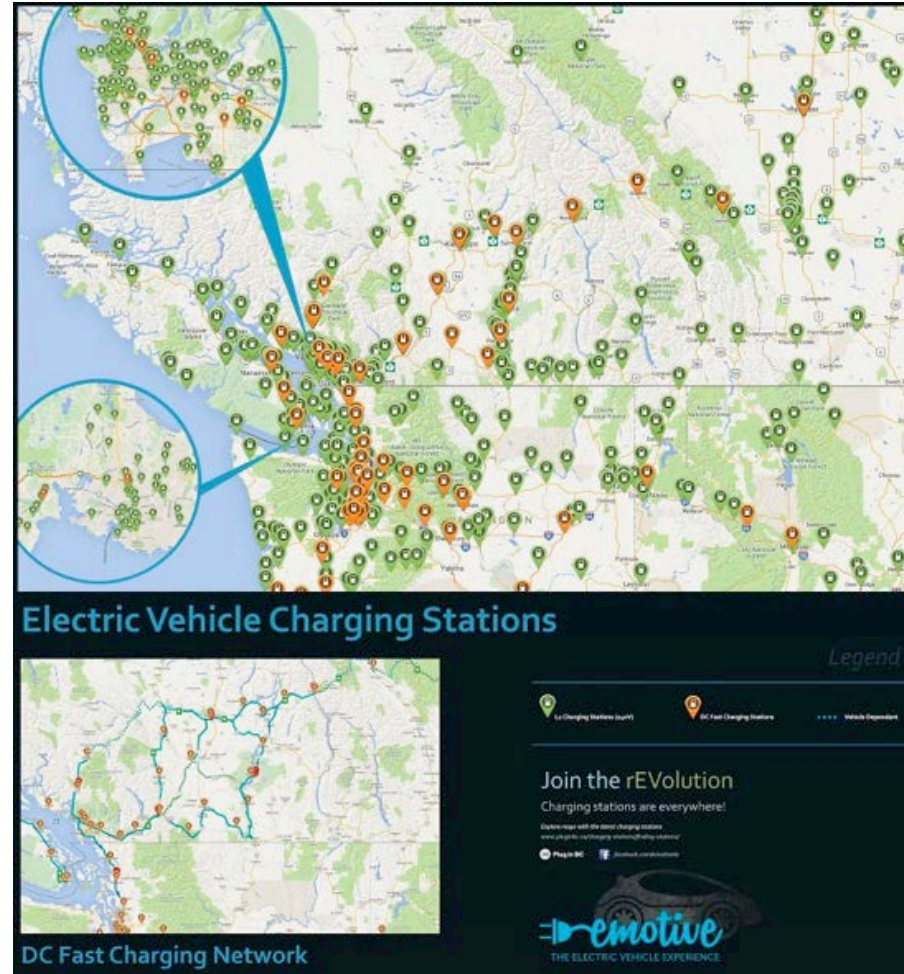
Fraser Basin Council

EVs in British Columbia

British Columbia has...

- ✓ Largest network of charging stations
- ✓ Largest price gap between gas and electricity
- ✓ Clean electricity
- ✓ Vehicle Incentives
- ✓ Highest EV adoption rate in Canada
- ✓ 20+ EV models available

CEV for BCTM
Clean Energy Vehicles for British Columbia





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Program assists fleets with their EV business case and charging solutions.

Administered by Fraser Basin Council

Funded by the Province of British Columbia

Partners incl. *FleetCarma, PowerPros Electrical Ltd, Electrum Charging Solutions*



Fraser Basin Council



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1. Fleet Business Case

- **Free EV Suitability Assessments** with [FleetCarma](#)
 - ✓ 16 fleets, average 20 loggers
 - ✓ ~\$35,000 value
- **Free EV Telematics** with [FleetCarma](#)
 - ✓ 40 loggers available
- **Simple business case** for smaller fleets
 - ✓ Excel-based tool





BC FLEET CHAMPIONS PROGRAM

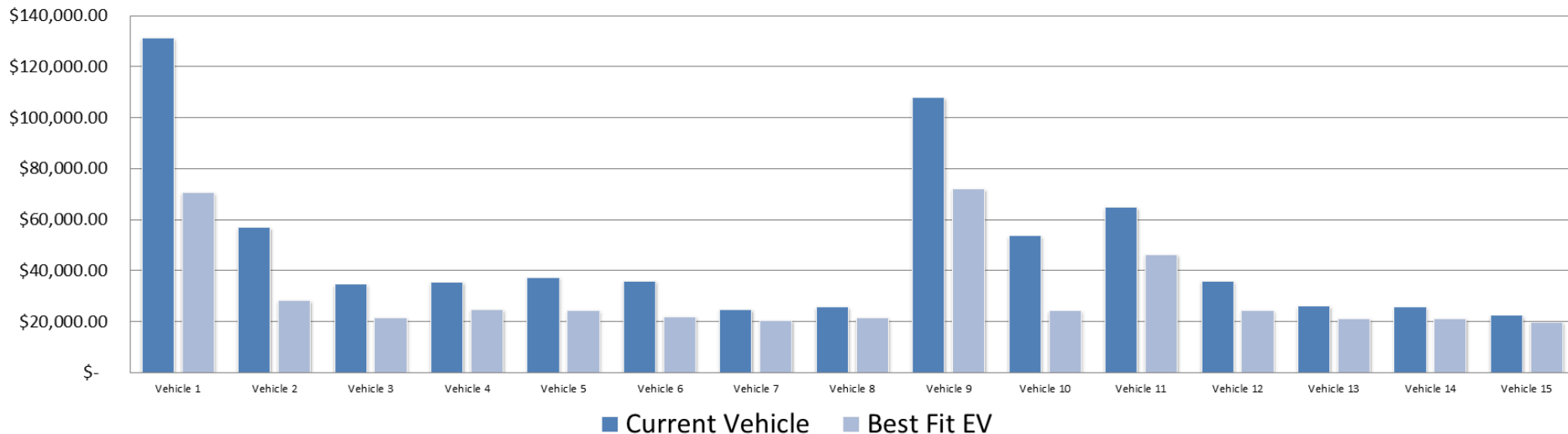
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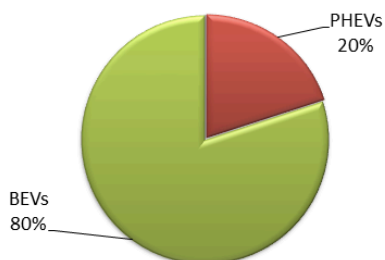


Suitability Assessment Sample

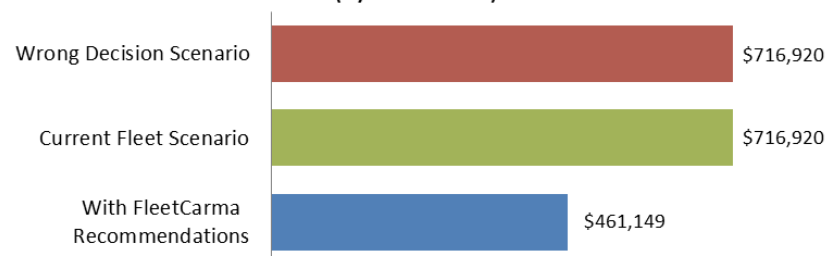
Total Cost of Ownership of Current Vehicle vs. Recommended Electric Vehicle



Recommended Fleet Breakdown
by Powertrain Type



Fleet Cost in Each Vehicle Selection Scenario
(7 year service life)





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2. Charging Station Incentives

- **Free** or reduced **site assessments** available
- Discount on EVSEs available
- **33% rebate up to \$2,000** of purchase and installation of Level 2 charging station



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How to Apply?

Applications online: www.pluginbc.ca/charging-program/incentives-for-fleets/

EV Suitability Assessment apply by **January 27 2017**

Charging Station Incentives apply by **May 1 2017**

Programs are first come, first serve.

FCP Incentives are only available to BC-based fleets that **sign the West Coast Electric Fleets Pledge**



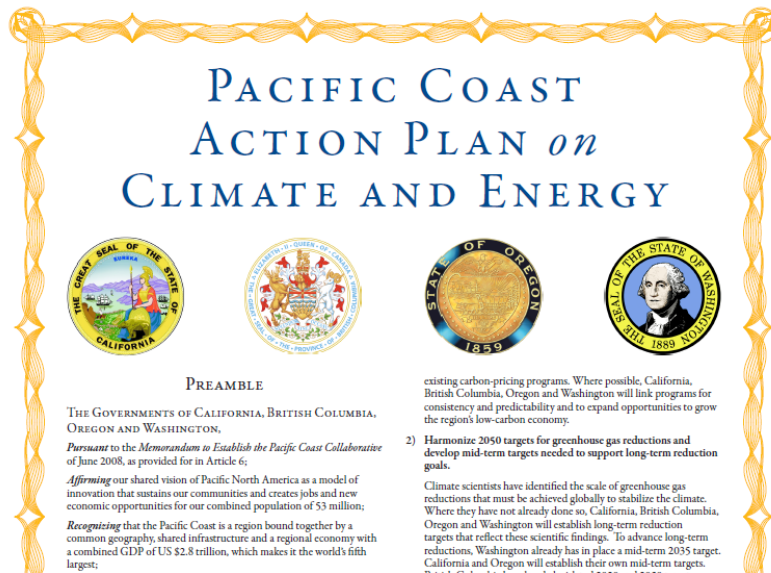
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Pacific Coast
COLLABORATIVE

Leadership now
for a sustainable tomorrow

What is West Coast Electric Fleets?



Initiative of the **Pacific Coast Collaborative**, a joint initiative of California, Oregon, Washington, and British Columbia.

Sponsoring WCEF organizations and outreach partners



Become a WCEF Partner



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Four-Tiered Pledge

- **On-Ramp:** Commit to **evaluate ZEVs** as part of every fleet purchase and revisit commitment annually
- **Highway:** Commit to procuring at least **3% of ZEVs** for all new fleet purchases and revisit the pledge annually
- **Express Lane:** Commit to procuring **10% ZEVs** for all new fleet vehicle purchases
- **Diamond Lane:** Commit to procuring **more than 10% ZEVs** for all new fleet vehicle purchases



You can complete this form online at westcoastelectricfleets.com, email a scanned copy to PacificCoastCollaborative@rossstrategic.com, or fax it to (206) 447-0956

ZEV Fleets Pledge

We invite you to become a West Coast Electric Fleets partner by pledging to incorporate Zero Emissions Vehicles (ZEVs) into your fleet. It's easy. Start by selecting your pledge commitment. Then secure commitments from senior-level colleagues and fleet managers and announce your participation to employees and partners. Finally, share your ZEV achievements with West Coast Electric Fleets.

My organization pledges to contribute to the goal of expanding the use of ZEVs with the following commitment (pick one):

ON-RAMP

☐

Evaluate ZEVs as part of all fleet purchases (including, but not requiring, purchasing and piloting the use of a small number of ZEVs) AND annually revisit this pledge to consider a higher commitment to ZEV purchases.

HIGHWAY

☐

Procure at least 3% ZEVs for all new fleet purchases by the end of 2016 AND annually revisit this pledge to consider a higher commitment to ZEV purchases.

EXPRESS LANE

☐

Procure at least 10% ZEVs for all new fleet vehicle purchases by the end of 2016.

Please provide a narrative description of your commitment below (or as an attachment), including, as appropriate, specific percentages, numbers of vehicles, and timing of ZEV procurement.

50+ Partner Fleets



British Columbia

Province of BC
City of Vancouver
District of Saanich
BC Hydro
City of Surrey
Current Taxi
Comox Valley Regional
District
Fraser Valley Regional
District
Gea Zone
Onsite Equipment
Thompson Rivers University

Washington

WA Dept Commerce
WA Dept Transportation
WA Dept Enterprise Svcs
City of Olympia
City of Seattle
Puget Sound Clean Air
Agency

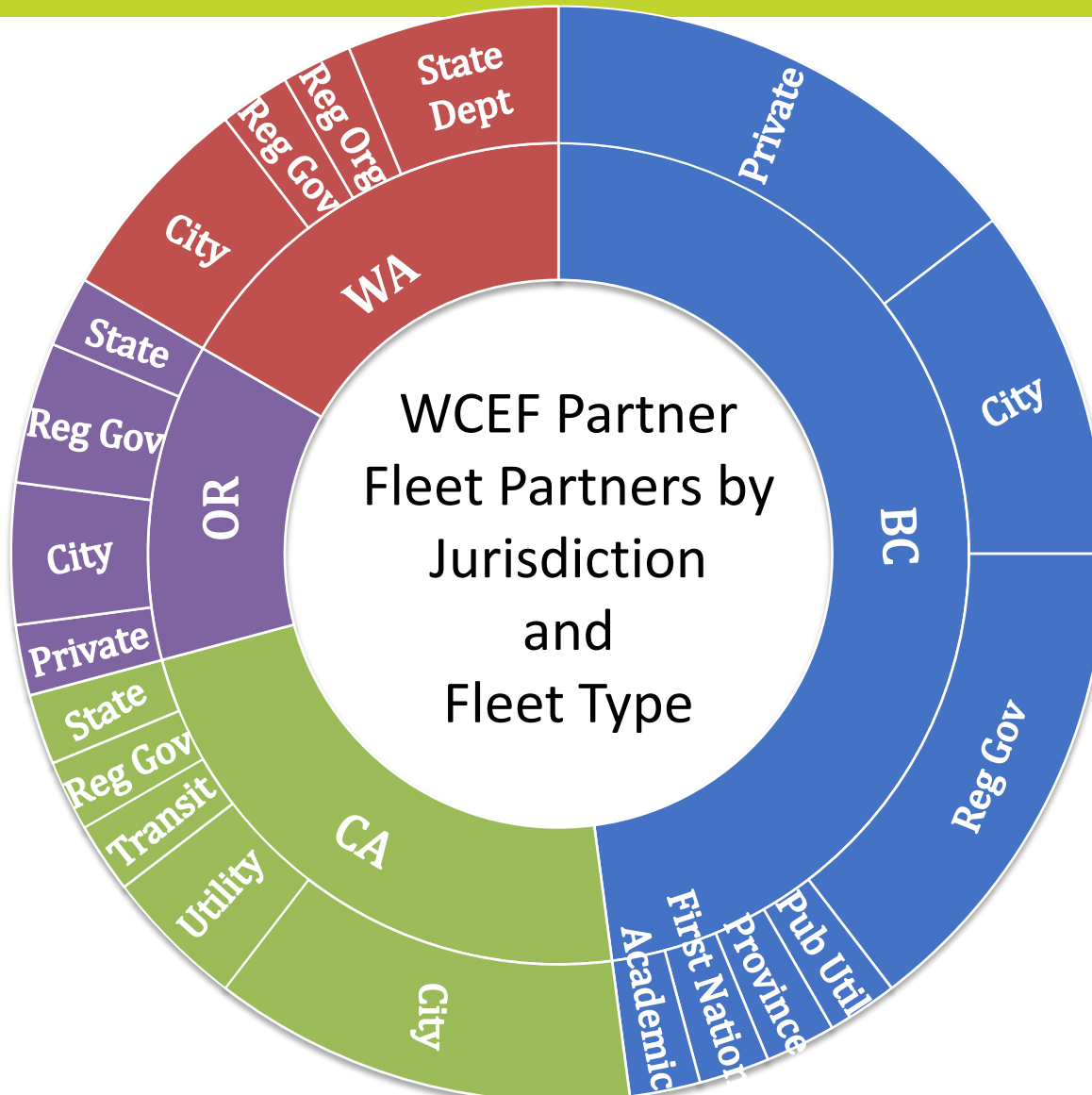
King County

Oregon

State of OR Fleets
City of Portland
Lane County
City of Ashland
Lane Regional Air
Protection Agency
CMTS LLC

California

State of California Public
Fleets
City of Santa Ana
LADWP
City of San Diego
City of San Francisco
City of Los Angeles
Oakland Public Works
Pasadena Water and
Power
City of Sacramento
Antelope Valley Trans¹⁰





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The Toolkit

www.Westcoastelectricfleets.com



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West Coast Electric Fleets

provides resources, tools, technical assistance, and access to a network of peers to help fleet managers reduce costs by incorporating zero emission vehicles into their fleets.

Resource Library & Navigator

USE THIS TOOL

The Resource Library and Navigator help you find what you need quickly. Whether you're looking for tools to analyze the cost of owning a ZEV or looking for the location of charging stations, it's all in one place. If you're new to ZEVs, use the Navigator to guide you to valuable information within a few clicks.

The Resource Library includes:



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West Coast Electric Fleets Partner Fleet Profiles



Antelope Valley Transit Authority All-In on Electric Buses

The Antelope Valley Transit Authority replaced its entire fleet of 18 buses in November 2014. The board that governs the buses in the fleet will be replaced by 2018 with \$39 million (USD) coming from Federal and State funds. At some cost, the AVTA will need to identify additional funding to end it is estimated to be 5-10 years before the fleet is fully electric.



The first of the new E-buses under the new maintenance service beginning in 2016. With this many new buses in 2014, the AVTA is approaching the infrastructure for charging requires novel approach funding, the AVTA will install 85 hard-wire stations also up to 11 wireless charging stations. Infrastructure in place, bus service should be able to the novel charging approach, the AVTA is able to power some of the chargers.

With a steep learning curve, having only replaced 18 buses in 2014, the AVTA is approaching the hands on deck attitude. Working collaboratively, AVTA is hoping to avoid future issues with includes the installation of 2 x 1200V lines to capacity currently offered.

While the AVTA only has 200 employees, the service team to respond quickly to the mandate.

For more information on AVTA's electric fleet visit www.avta.com/index.aspx?page=178
Visit us at: www.westcoastelectricfleets.com



City of Vancouver: EV Fleet Management

City of Vancouver: EV Fleet Management

In 2009, the City of Vancouver was one of the first to purchase a Mitsubishi i-MiEV as part of their fleet. By 2012, the city's fleet grew from 1 to 17, not including taxis and scooters used by staff to get to and from meetings. Currently has 31 EVs in the fleet with plans to have 2020. These EVs are utilized by a variety of departments: Police and Fire departments. The city has partnered with a car-share co-op, to further utilize EVs and also to reduce the number of fleet vehicles.



Modo purchased the first EV for their fleet in November 2014 and it was subsequently available to city staff for use. The city has been in a novel partnership with Modo instead of relying on vehicles restricted to city access to Modo's 400 cars the city has been able to access a number of fleet vehicles they have while saving money. As part of this partnership, the city allows Modo services to access City-operated charging stations. The EVs in the city's fleet has helped to reduce emissions by 11% from 2007 levels.

The partnership between the city and Modo has synergistic relationship, helping the city reduce its fleet while managing the booking system for 1,000 including 4 EVs. The additional benefit of car-share available to the public makes this a win for everyone.

For more information on Vancouver's electric fleet visit <http://vancouver.ca/streets-transportation.aspx>
Visit us at: www.westcoastelectricfleets.com



Fraser Valley Regional District

Fraser Valley Regional District Making the Case for EVs

In 2013, the Fraser Valley Regional District planned to install a dual-port charging station at their Chilliwack. Two years later, they put out a tender for their first EV in their fleet. In order to understand the costs of an EV, the FVRD conducted a business case study on a variety of vehicles including both electric and gas cars.



In understanding if EVs would meet the demands of their fleet, the FVRD analyzed trip data of their fleet from October 2013. With data showing that 73% of all trips taken were less than 100km, the FVRD had a baseline from which to assess the business case. The business case showed that over a 7-year lifespan the same or less than hybrids and conventional vehicles. EVs were even more pronounced when considering lifecycle because of the drastic savings in fuel and maintenance costs. Even more impressive was that the business case assumed any potential incentives that might reduce the cost of an EV, presenting the case that EVs could compete on their own.

In July 2015 the FVRD took possession of a Nissan Leaf. In September, they purchased their second EV, a Mitsubishi i-MiEV. Within the first four months, the FVRD staff has been a success.

For more information on FVRD's electric fleet contact Rebecca Abernethy at rabernethy@fvrld.bc.ca
Visit us at: www.westcoastelectricfleets.com



GEAZONE: All Electric Delivery

In 2012, Andrew Mitchell, an eco-preneur started an electric delivery service based in Victoria, B.C. with a electric tricycle, Andrew quickly grew the business to what's now 2 E-trikes, 3 Nissan Leafs, and 10 new electric trucks to add to their fleet. They have continued to double their growth and first delivery company to sign the West Coast.



Since the first delivery in 2012, GeaZone has reduced 400,000kg of carbon dioxide from entering the atmosphere by putting over 500,000km on their fleet vehicles. Growth in business has had its drawbacks, as new electric trucks to add to their fleet, presenting time challenges to a small business.

With little maintenance costs other than tire, GeaZone has been able to be competitive with services that use gasoline or diesel fuel. With existing customers and new ones signing up, GeaZone is expanding across Canada and inspire other fleet managers to make sense. GeaZone sees value financially, but also because it offers an incentive to reduce carbon emissions.

For fleet managers looking to make the switch to electric, GeaZone noted that taking advantage of existing infrastructure has been key in expanding their business.

For more information on GeaZone visit: www.geazone.com
Visit us at: www.westcoastelectricfleets.com



City of Surrey: Leveraging Partners In EV Adoption

The City of Surrey knows EVs are the future of transportation. This commitment was addressed through their 2008 Sustainability Charter and 2010 Corporate Emissions Action Plan. In 2011, Surrey became the first major city in Canada to host a publicly accessible EVSE. They also began piloting a Nissan Leaf that same year. It would be a few more years before EVs were added to the fleet.



In making the decision to go electric, the city worked with FleetCarm, a division of CrossChasm Technology, to assess whether gasoline vehicles were candidates for switching to electric. With this information in hand, the city decided to remove 12 vehicles in their general fleet and replaced them with 5 Nissan Leafs. This transition was also aided by collaborating with Modo, a local car-share co-op. Utilizing the software and hardware that Modo had developed, the city was able to reduce the operational and logistical complexity with the rollout of their EVs and their ongoing management.

In the initial assessment, EV usage was critical in the return on investment (ROI). It was determined that the EVs would need to be driven 60-80km per day, and this would provide an ROI of 5-6 years. This aspect of the rollout has been a success. The city also surveyed employees who utilized the EVs and were pleased to see that 96% preferred the EVs over gasoline vehicles.

Next steps for the city include replacing more fleet vehicles with EVs, and FleetCarm has already identified 3 additional candidates.

For more information on the City of Surrey's electric fleet contact Burke van Drimmelen: bvandrimmelen@surrey.ca
Visit us at: www.westcoastelectricfleets.com



QUICK FACTS

- Current fleet includes
 - 5 Nissan Leafs
- Daily use per EV
 - 60km (37mi)
- 3 Additional EVs to be purchased in 2016
- Annual Statistics per EV
 - 14,400km (8,900mi) driven
 - 2.76 tonnes GHGs avoided
 - 3.12MWh consumed
 - \$250 in electricity costs
- \$6,000 SAVED in fuel per year
- First major Canadian municipality to offer a public EVSE



More Info



www.pluginbc.ca



www.westcoastelectricfleets.com



Facebook /emotivebc

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