

GREENEST CITY SCHOLARS PROGRAM - 2014 PROJECT

Project title

Viability of electric vehicles within the Vancouver Police Department Fleet

Greenest City goal(s) supported

Zero Carbon - Become a world leader in eliminating dependence on fossil fuels and minimizing the release of greenhouse gases.

Project context, scope, and value to City

Reduce the consumption of fossil fuel by the Vancouver Police Department (VPD) fleet, and the corresponding emission of greenhouse gasses through the replacement of gas-powered vehicles with electric vehicles where operationally feasible by:

- Determining the viability of deploying electric vehicles as part of the VPD fleet
- Conduct a scan of other police agencies in North American to determine how electric vehicles are deployed
- Determining the needs within the VPD that could be addressed by electric vehicles
- Determining the financial payback period of an electric car versus a less expensive gas vehicle
- Determining the optimal ratio of electric vehicles within the VPD fleet, and the projected corresponding reduction in greenhouse gasses

The successful candidate will:

- Conduct analysis of the Vancouver Police Department's fleet of vehicles to determine the viability of introducing electric cars into the fleet. The analysis must include research into the various electric vehicles available, their respective range and charge times along with their ability to meet the demands of a policing service. While these vehicles are not intended to replace traditional patrol cars, there may be administrative and investigative applications that could be well-served by electric vehicles versus the gas-powered vehicles in use today.
- Conduct analysis of vehicle-needs within the administrative and investigative areas of the VPD will be required to determine the optimal number of electric vehicles needed to efficiently meet the demand, bearing in mind the driving range and charge time of the selected make and model of electric vehicle.
- Further analysis to determine the projected reduction in greenhouse gas emissions based upon the optimal number of electric vehicles within the VPD fleet.
- Cost/benefit analysis will be required to determine a projected payback for electric vehicles within the VPD fleet over the lower cost of the gas-powered vehicles presently in use.

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Value and benefit to the City: The overall anticipated value and benefit to the City will be a reduction in operating expenses attributable to the VPD fleet and a corresponding reduction in greenhouse gas emissions. Electric vehicles do not combust fossil fuels or emit greenhouse gasses. Also, they require less maintenance than gas-powered vehicles, which contributes to an earlier electric car payback.

Scholar's work into action: The results of the scholar's research and analysis is expected enable the Vancouver Police Department to clearly demonstrate the benefit and value of introducing electric cars into its fleet of gas-powered vehicles. It will also establish an optimal target-ratio of electric to gas vehicles, which the VPD can work toward attaining with the support of the Equipment Services Branch of the City.

Deliverables

The successful candidate will prepare a comprehensive written report addressing:

- Comparison of various makes and models of electric vehicles with recommendations on suitable models for the VPD
- Areas of VPD operations best suited to electric cars
- Optimal ratio of electric cars to gas-powered cars within the VPD fleet
- Projected payback period for the introduction of electric cars
- Recommendations for marketing strategies to promote the VPD's use of electric cars within the organization.

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Vancouver Police Department

Candidate skill set/background

- Excellent research and writing skills
- Demonstrated interest in the automotive field
- Background in environmental sustainability is an asset
- Experience or knowledgeable in organizational change is an asset
- Experience conducting stakeholder engagement is an asset

Note: Successful candidate must be able to obtain and maintain and enhanced security clearance.