



Date: May 30, 2012

**TO:** Board Members – Vancouver Park Board  
**FROM:** General Manager – Parks and Recreation  
**SUBJECT:** Electric Vehicle Charging Stations and Cellular Infrastructure in English Bay Parks

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## RECOMMENDATION

- A) That the Board approves the installation by Telus of three integrated Electric Vehicle charging station and cellular pole infrastructures to be located in pay parking lots along Beach Avenue.*
- B) That the Board approves a five year License Agreement with three additional five year terms for Telus to operate the radio communications equipment installations.*
- C) That the rent structure will be \$11,500 per site per annum for the initial five year term and will increase by 10% over the previous term for each of the three additional terms.*
- D) That all legal documentation is to be in a form which is satisfactory to the Director of Legal Services for the City of Vancouver and the General Manager of the Park Board.*
- E) That the General Manager be authorized to execute and deliver such documentation on behalf of the Park Board.*
- F) That no legal rights arise and no consents, permissions or licenses are granted hereby and none shall arise or be granted unless and until all contemplated legal documentation has been executed and delivered to all parties.*

## POLICY

At the July 25<sup>th</sup>, 2011 Park Board meeting the Board endorsed a new strategic framework developed for 2012 – 2017 including directions in Leader in Greening as well as Excellence in Resource Management. The Park Board approves all use of lands under its jurisdiction.

City Council at its July 14<sup>th</sup>, 2011 meeting passed a motion to adopt the Greenest City Action Plan which contains key goals around eliminating the dependence on fossil fuels and green transportation.

## **BACKGROUND**

The Park Board in partnership with the City of Vancouver, TELUS and BC Hydro have been working on a pilot project to install three integrated electric vehicle charging stations and cellular poles in parking lots at three park locations along Beach Avenue. The locations are Broughton, Bute and Bidwell Streets, and will meet the anticipated growth of electric vehicles within the lower mainland as an alternative to fossil fuel sources for transportation. A map that indicates the proposed locations is attached as Appendix A to this report.

It is estimated that by 2017, 4.9% of new purchases of light duty vehicles will be electric. With this anticipated growth there will be a need to provide charging stations in convenient public areas and in response to this need the City is supporting the planned installation of 275 stations throughout the city and where suitable, provide this service in partnership with organizations where a mutual benefit exists.

This unique partnership that integrates electrical vehicle charging with cellular poles is in response to the City's need for EV charging capacity and TELUS's need to improve their network service in the West End. Currently Telus's network capacity in the area is reaching a maximum and in order to meet the service needs (especially during large events such as the Celebration of Lights and the Gay Pride Festival) improvements are necessary.

On March 26<sup>th</sup>, 2012 the Board approved a public consultation regarding the installation of three combined cellular poles and electric vehicle charging stations to be located in pay parking lots along Beach Avenue. This report includes an overview of the public engagement process and the results.

## **DISCUSSION**

### **Infrastructure Details**

The design of the station and pole was prepared by Telus, with advice from staff. There are two components to the design: a monopole housing three shrouded wireless antennas at the top, and an architecturally designed shelter that houses a single cabinet with electronic equipment on one side, and outlets for the EV station on the other. Each unit will be located immediately adjacent to one or two EV-designated parking stalls in the park parking lots. The mono pole will be 9 meters tall and is the shortest monopole built by Telus, capable of delivering an acceptable level of service to users. The box holding

the electronics (both the EV Station and wireless antennas) is approximately 2m x 2m wide x 0.9m deep.

Significant efforts have been made to minimize the size and footprint of the infrastructure and situate it so that it will be as unobtrusive as possible for park users and residents who enjoy the beauty of these waterfront parks. All associated cabling and electrical wiring will be placed underground, no trees will be removed during this process, and Telus will repair any disturbed areas. The electrical box will be wrapped in a nature patterned material with an anti-graffiti coating.

Appendix B contains photo simulations at the proposed locations and architectural renderings.

### **Public Engagement**

Park Board staff collaborated with the project partners to prepare a communication and consultation plan for the proposal. The efforts included a detailed project web page, a web survey available on-line for 3 weeks (April through May 15<sup>th</sup>, 2012), Social Media (Twitter and Facebook), large signs at the proposed locations in the parks visible from Beach Avenue, two local newspaper advertisements, notices to West End residents, a news release and two public open houses held on May 5<sup>th</sup> and May 9<sup>th</sup>, 2012 in the Board room at 2099 Beach Avenue. The proposal received media coverage in the Vancouver Courier and CTV evening news.

The open house displays and project web page includes information about the green transportation opportunities, benefits and rationale for this type of infrastructure, and detailed photo simulations and construction concepts to inform all interested participants. Electric vehicles were parked nearby the open house for viewing.

Comments were received through forms distributed at each open house and through the online survey. The input results were very positive and indicate public support for this proposal.

Of the 170 comments received, 127 were from Vancouver residents. Of the Vancouver residents 95 (75%) were fully supportive, 14 (11%) supported with modifications, 8 (6%) supported it in other locations and only 10 (8%) did not support the proposal.

The emerging EV market which reduces CO2 emissions by up to 98% will require public recharging stations in convenient locations that enable the use of electric vehicles. The installation of cellular infrastructure and Electric Vehicle charging stations aligns with Park Board's new Strategic Framework, specifically the Leader in Greening direction.

The addition of a cellular component as part of the pilot project will improve the connectivity and service delivery to the residents in the West End as well as visitors who

enjoy the amenities of the community and park environment. The enhanced network will also enable successful calls to first responders during large events.

Telus will pay for the cost of EV charging stations up a maximum of \$10,000, the cost of providing power to all three sites (estimated at \$100,000) and up to \$15,000 per site for the construction of additional structures including benches, shelters or sidewalks. Telus will own the structure that supports the radio communications equipment installation and will pay all costs associated with its installation, including equipment cabinets, poles and will be responsible for the ongoing maintenance of same including the removal of any graffiti.

Further to this, the installations will generate revenue for the Park Board of \$11,500 per site, per annum, which supports the Strategic Framework passed in 2011; specifically, the Excellence in Resource Management direction.

## **SUMMARY**

The installation of three *integrated* electric vehicle charging stations and cellular pole infrastructure aligns with the Parks direction of Leader in Greening as well as the City's goal to be the Greenest City in the world by 2020. The installations are innovative and the first of their kind in a park environment in Canada providing recharging capabilities for electric vehicles as well as an improved cellular network service to the residents of the West End and visitors to the area. There is no cost to the Park Board for these installations and there will be a financial benefit over the next twenty years.

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Appendix A: Proposed Locations

Appendix B: Photo Simulations and Architectural Renderings

Appendix A – Proposed Locations



Appendix B – Photo Simulations and Architectural Renderings

Beach Avenue and Bute Street Location



Beach Avenue and Broughton Street Location



Beach Avenue and Bidwell Street Location



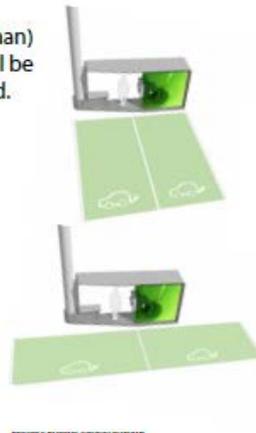
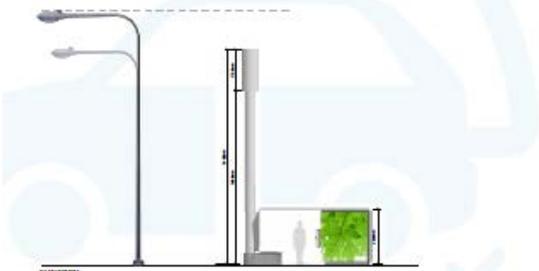
## Architectural Renderings

### Design integrated into the landscape

The combined EV charging station and cellular design has been well thought out and developed based on best aesthetics, balanced with the operational requirements of the infrastructure.

The cell monopoles are the same height as (or shorter than) lamp standards - 32' high x 2' in diameter. The stations will be approximately 16' long x 4' wide and attractively wrapped.

All cabling and electric wiring is underground.



### The Components

