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To: ["Direct to Mayor and Council - DL"](#)
CC: ["City Manager's Correspondence Group - DL"](#)
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Date: 5/12/2021 3:44:44 PM
Subject: Memo - North Shore E-Bike Share Pilot and Vancouver E-Bikes
Attachments: Memo - North Shore E-Bike Share Pilot and Vancouver E-Bikes.pdf

Dear Mayor and Council,

Please see the attached memo from Lon LaClaire. A short summary of the memo is as follows:

- The City of North Vancouver should announce the detailed plans of their e-bike share pilot soon.
 - This announcement may receive the attention of the media, the public and other bike share operators.
- There are key differences between North Vancouver's e-bike pilot and Vancouver's public bike share system:
 - North Vancouver
 - free-floating model - no physical station equipment or charging hardware
 - This free floating model carries some challenges with public realm management and long-term sustainability and staff are interested in learning from the North Shore initiative.
 - Vancouver
 - station based system - docks that lock the bikes and can be equipped to charge e-bikes on street. These stations are also integrated into City infrastructure such as bike lanes for optimal accessibility and safety.
- Staff continue to work with Mobi (Vancouver Bike Share) on the implementation of e-bikes and will keep Council informed as this work progresses.
 - If this process is successful, e-bikes may be piloted in the coming months followed by a large scale roll-out in 2022.
- As staff are currently working with Vancouver Bike Share on the City's e-bike expansion, should questions arise from Council please direct these to City staff so that staff can determine the most appropriate way to respond to Council.

If you have any questions, please feel free to contact Lon LaClaire at 604-873-7336 or lon.laclaire@vancouver.ca.

Best,
Paul

Paul Mochrie (he/him)
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The City of Vancouver acknowledges that it is situated on the unceded traditional territories of the xʷməŋ̱əm (Musqueam), lúw̱ú7mesh (Squamish), and səliwətaʔ (Tsleil-Waututh) Nations.

MEMORANDUM

May 12, 2021

TO: Mayor and Council

CC: Paul Mochrie, City Manager
Karen Levitt, Deputy City Manager
Katrina Leckovic, City Clerk
Lynda Graves, Administration Services Manager, City Manager's Office
Maria Pontikis, Director, Civic Engagement and Communications
Anita Zaenker, Chief of Staff, Mayor's Office
Neil Monckton, Chief of Staff, Mayor's Office
Alvin Singh, Communications Director, Mayor's Office

FROM: Lon LaClaire
General Manager, Engineering Services

SUBJECT: North Shore E-Bike Share Pilot and Vancouver E-Bikes

RTS #: N/A

The purpose of this memo is to inform Mayor and Council of the upcoming City of North Vancouver announcement on the detailed plans of their e-bike share pilot. This announcement may receive the attention of the media, the public and other bike share operators. As we are currently in discussion with Vancouver Bike Share, the owner and operator of the City of Vancouver's "Mobi by Shaw Go" (Mobi) bike share system, to evaluate the opportunity to integrate e-bikes into the Mobi system, this memo is to:

1. Provide information on the North Shore pilot program and explain the differences with the City's Mobi system,
2. Share the work underway to evaluate the opportunity for Mobi to integrate e-bikes within its system

As staff are currently working with Vancouver Bike Share on the City's e-bike expansion, should questions arise from Council please direct these to City staff so that staff can determine the most appropriate way to respond to Council.

What City Staff have learned about the North Shore E-Bike Program

The City of North Vancouver and the District of North Vancouver recently voted to pilot a two-year e-bike share program. This pilot program plans to grant one company a permit to operate an e-bike share system on the North Shore starting end of spring/early summer 2021 (applications are currently still under review). E-bikes will be deployed through a licence and follow a "free floating" model (see Image 1) where designated parking and staging areas will be

demarcated physically and virtually through a Mobile App. This model differs from the City of Vancouver’s station-based bike share model (see Image 2). Appendix A provides background information on e-bike systems and the bike share system in Vancouver.



Image 1 Free-floating model (no station or charging hardware)



Image 2 Vancouver’s station based system (docks that lock and can be equipped to charge bikes on street)

This “free floating” model carries some challenges with public realm management and long-term sustainability and staff are interested in learning from the North Shore initiative. Staff will be closely monitoring this pilot to grow knowledge and expertise in this transportation mode.

Progress by staff towards deploying e-bikes in the City of Vancouver

E-bikes are an important element to meet our transportation, sustainability and equity goals. Staff believe there is an opportunity to deploy e-bikes by leveraging the current station-based bike share system and have been actively working in the last few years to deploy the infrastructure required to integrate e-bikes (provision of electrical power for bike share stations through redevelopment and through the curbside electrical program).

Staff have initiated discussions with Vancouver Bike Share to develop a deployment plan for e-bikes. If this process is successful, e-bikes may be piloted in 2021 and a large scale first phase by Q2 2022. This station-based model will benefit from the robustness of the current system, which has turned out to be very resilient to the pandemic compared to other cities and continues to provide an equity program. This model also has the potential to provide a better customer experience and to better address public safety and sustainability challenges, more details are provided in Appendix A. Other cities have shown that allowing an additional supplier for e-bikes can negatively impact the long term viability of bike share.

Next steps

Staff continue to work with Mobi (Vancouver Bike Share) on the implementation of e-bikes and will keep Council informed as this work progresses. If you have any further questions, please do not hesitate to contact me directly.



Lon LaClaire, M.Eng., P.Eng.
General Manager, Engineering Services

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Appendix - Background

E-bike system

E-bike share is a short-term rental program for electric assist bikes. Members sign up to rent an e-bike from a fleet available at a variety of public locations. Users can pick a bike up at one location and drop it off at another designated location. With e-bikes the rider benefits from battery-powered pedal assistance to reduce the pedaling effort.

E-bikes have shown to provide various benefits to the public, especially in terms of equity & accessibility, allowing more people to choose this low carbon mode of transportation.

Most e-bike share systems can be divided into two charging types:

- a) **Station based** where e-bikes are recharged on street at a station
 - a. Higher cost to deploy (charging network) and lower long term operational costs
 - i. Examples: Vancouver, Toronto, Montreal, New York, Paris, Copenhagen
- b) **Free floating** (virtual stations) where e-bikes are recharged by replacing (swapping) the battery or by bringing the e-bikes to a centralized charging warehouse to recharge
 - a. Lower cost to deploy and higher long term operational costs (manually replacing batteries or collecting bikes each time they run low on power)
 - i. Examples: North Vancouver (planned), London, these systems have closed down in many cities over the past 3 years

Bike share system in Vancouver

A public bike share (PBS) system – Mobi by Shaw Go – was launched in Vancouver in 2016 and is owned and operated by a third party company called Vancouver Bike Share Inc which is a wholly-owned subsidiary of a US company called CycleHop. Since then Mobi by Shaw Go has facilitated over 2.9 Million trips from 200 stations on 2,000 pedal bikes. System coverage extends from Arbutus to Main Street, and 16th Avenue to the downtown and into Stanley Park. With bicycles located across the network at secure, easy-to-use docking stations, Mobi by Shaw Go offers a convenient, comfortable, flexible, and affordable way to get around. To find the best operator for the system, the City went through a Request For Proposals (RFP) process. Important requirements during this process included:

1. An equity program to reduce barriers to bike share
2. A station based system to simplify operations and manage safety and accessibility
3. A long term (5 year minimum) contract to make this a reliable transportation option
4. A sponsor to make the system financially sustainable long term