

From: "Johnston, Sadhu" <Sadhu.Johnston@vancouver.ca>

To: "Direct to Mayor and Council - DL"

CC: "City Manager's Correspondence Group - DL"

"LaClaire, Lon" <lon.laclaire@vancouver.ca>

Date: 7/28/2020 4:55:47 PM

Subject: Memo: Granville Island Vertical Access (Elevator) Feasibility

Attachments: Memo - Granville Island Vertical Access (Elevator) Feasibility.pdf

Dear Mayor and Council,

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

- The Granville Island Vertical Access feasibility study was undertaken in collaboration with CMHC Granville Island and will be published to the City website.
- An elevator facility (elevator + stairs) is anticipated to carry up to 10,000 people per day, and reduce GHG emissions by 5,000 tonnes CO₂eq.
- A single bank of two elevators plus a stairway located on either side of the bridge is feasible; with the inclusion of a signalized crosswalk on the bridge, the preferred Granville Connector option (West Side Plus) will work regardless of the ultimate elevator bank location; however, a west side elevator option would provide improved connectivity and integration with the Connector.
- The project is expected to cost between \$15 - \$20 million; timing and funding opportunities remain to be further explored, and additional facility siting, geotechnical, and signalized crosswalk impact analysis would be required, anticipated to be led by CMHC Granville Island.

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

Best,
Sadhu

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Pronouns: he, him, his



The City of Vancouver acknowledges that it is situated on the unceded traditional territories of the Musqueam, Squamish, and Tsleil-Waututh peoples.

MEMORANDUM

July 28, 2020

TO: Mayor and Council

CC: Sadhu Johnston, City Manager
Paul Mochrie, Deputy City Manager
Karen Levitt, Deputy City Manager
Lynda Graves, Administration Services Manager, City Manager's Office
Rena Kendall-Craden, Civic Engagement and Communications Director
Katrina Leckovic, City Clerk
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: Granville Island Vertical Access (Elevator) Feasibility

The purpose of this memo is to provide a summary of the outcomes of the Granville Island Vertical Access Feasibility Study and related work.

Background

In 2017, the Canadian Mortgage & Housing Corporation (CMHC) completed the *Granville Island 2040: Bridging Past and Future* plan. One of the four key strategies identified in the plan was to improve walking, cycling, and transit access to Granville Island. A key recommendation to realize this strategy was to provide a vertical connection in the form of an elevator and stairwell between the Granville Street Bridge and Granville Island.

A vertical connection could reduce vehicle traffic to Granville Island while providing improved active transportation and transit access, which would support an increase in the overall number of visitors. This traffic reduction would also translate to City streets, supporting the City's Climate Emergency goal of increasing the share of walking, cycling, and transit trips to two-thirds of all trips by 2030.

Recognizing these potential benefits and the opportunity to incorporate findings into the Granville Bridge Structural and Seismic Upgrades as well as Granville Bridge Connector design process, the City worked with CMHC on a Granville Island Vertical Access (GIVA) feasibility study, which was completed in 2019.

Summary

Key outcomes of the GIVA feasibility study and related work were:

- An accessible vertical connection to the Granville Street Bridge is feasible and would more than double the number of people that are within a 30 minute transit ride or a 30 minute walk to Granville Island, providing a more equitable level of access to a key regional destination (see attached Figures 1 and 2).
- The facility could carry up to 10,000 people per day (similar to an average regional bus route), and reduce lifecycle GHG emissions by at least 170 tonnes CO₂eq annually up to the year 2050 (equivalent to removing 2,500 vehicles from the network for a year).
- A single elevator/stairway bank containing two fully accessible elevators and a stairway was determined to be technically feasible, to adequately serve demand, and to provide system resilience (e.g. during maintenance).
- An elevator bank through the middle of the bridge was determined not to be feasible due to negative impacts it would have on the bridge structure and maintenance equipment, and the large physical space requirement.
- Three potential landing locations for a single elevator bank on Granville Island were identified, one located on the west side of the bridge, and two on the east side.
- The “West Side Plus” alignment for the Granville Bridge Connector has been identified as preferred after significant public and stakeholder engagement. This alignment would work with any of the three potential landing locations for the single elevator bank; however, the west side elevator location would provide enhanced connectivity and integration with the Connector.
- A signalized crosswalk on the bridge deck can be safely accommodated and would be required to provide transit access in both directions to and from the elevator facility. Such a mid-span signal and the corresponding bus stop operations would have some impact on the vehicular carrying capacity of the bridge; however, there is further opportunity to explore design options to mitigate these impacts.
- The project would provide a significant opportunity to create a visual icon and enhanced public space on the Granville Bridge Connector. It would also increase use of the Connector by shortening the walking distance to and from Granville Island and the South False Creek Seawall, both major trip generators for both residents and visitors.
- There was overwhelming public and stakeholder support for a vertical connection from Granville Island during the Granville Bridge Connector engagement process. Many people felt the elevator should be a priority given the benefits it would provide to residents and visitors, and economic opportunities and business vitality for Granville Island.
- The project is estimated to cost between \$15 - \$20 million dollars, subject to more detailed design work, traffic signal, and geotechnical analysis.

- There would be potential to increase people-moving capacity by adding more elevators to the bank, and to create improved lookout and commercial opportunities by adding additional height to the structure; however, this would increase project costs.

Next Steps

Awaiting final confirmation with CMHC:

- Publish the GIVA feasibility study on the City website (in progress).

Subject to strategic direction and project funding opportunities:

- Continue to explore timing and funding opportunities (led by CMHC).
- Identify a final preferred location on Granville Island in partnership with CMHC and in consultation with impacted stakeholders.
- Conduct additional geotechnical (CMHC) and signalized crosswalk impact analysis to advance to further design stages with project partners.

If you have any questions or would like more information, please contact me directly.

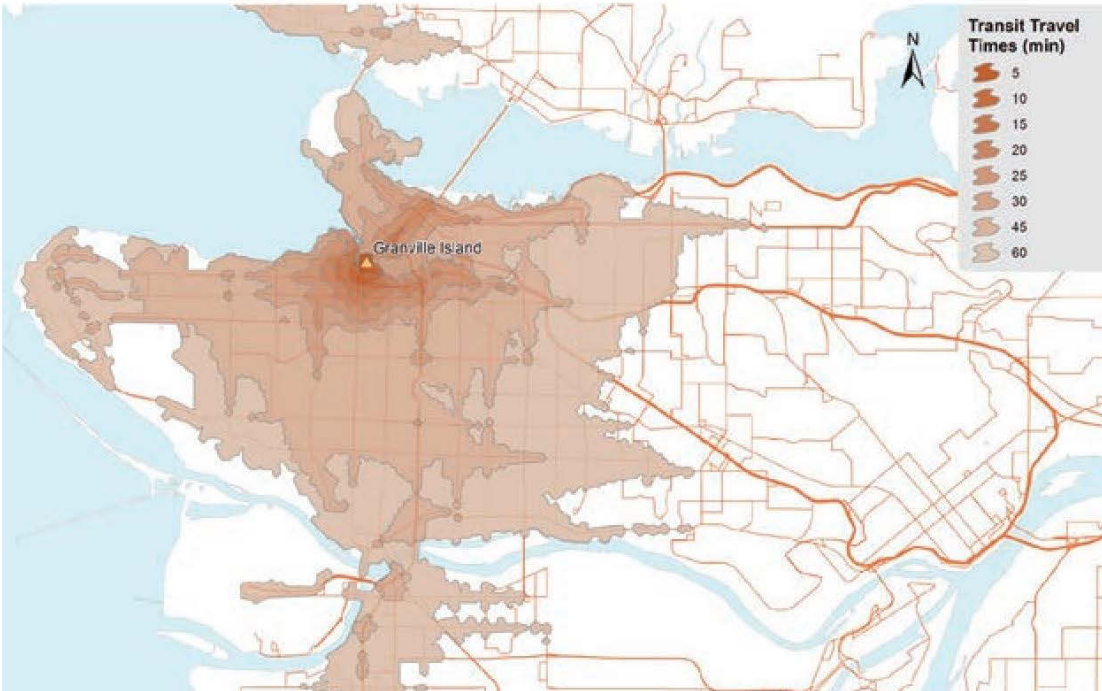


Lon LaClaire, M.Eng., P.Eng
General Manager, Engineering Services

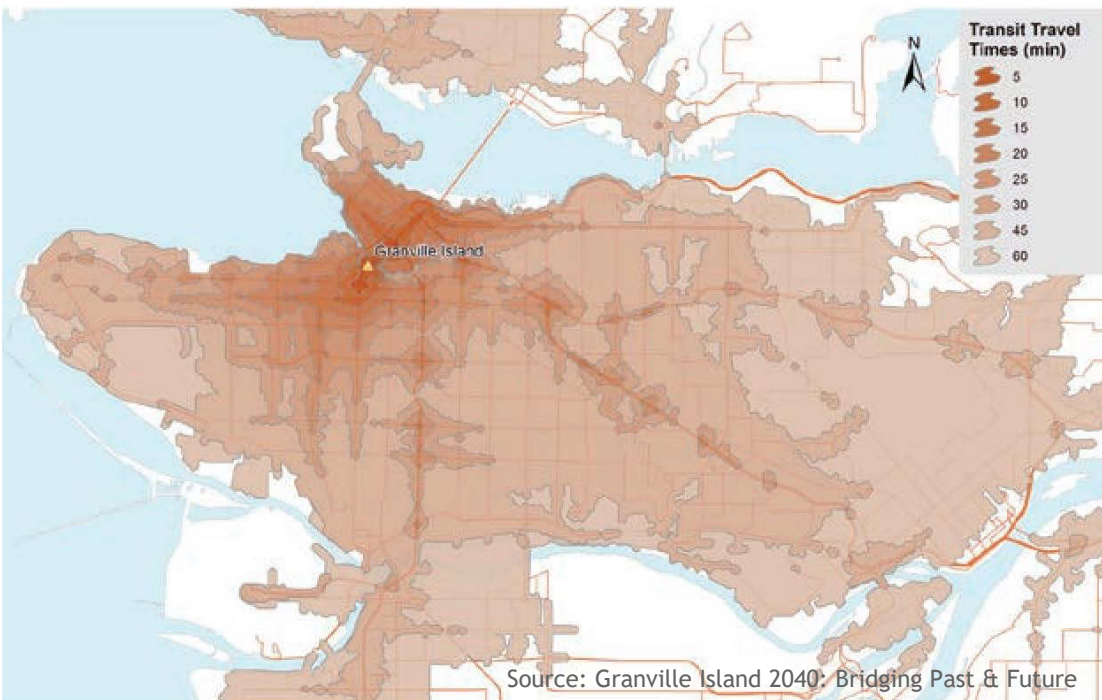
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Figure 1: Granville Island Vertical Connection Access Effects

Area accessible to Granville Island by transit, by time – Existing conditions



Area accessible to Granville Island by transit, by time – With Elevator



Source: Granville Island 2040: Bridging Past & Future

Figure 2: Granville Island Vertical Connection Network Integration

