



## BRIEFING NOTE FOR INFORMATION

**DATE:** October 29, 2013

**PREPARED FOR:** Honourable Todd Stone, Minister of Transportation and Infrastructure

**ISSUE:** University of British Columbia (UBC) / Broadway Corridor Rapid Transit

### SUMMARY:

- The 2012 *UBC Line Rapid Transit Study* examined a broad range of routes and technologies to provide rapid transit to UBC;
- The study was led by TransLink in partnership with the ministry and had significant input from the City of Vancouver, UBC, the University Endowment Lands, and Metro Vancouver;
- Based on evaluation and public consultation, an initial short-list of 7 route / technology alternatives was narrowed to the following 3 alternatives (see attached diagrams), all of which were determined to meet demand to the end of the 30-year study horizon:
  - Surface light rail transit (LRT) from Commercial-Broadway Station to UBC;
  - A combination of LRT from Main Street Station to UBC and a mostly underground extension of the Millennium Line SkyTrain to Central Broadway; and
  - A mostly underground extension of the Millennium Line SkyTrain to UBC;
- The study estimated capital costs at \$1.1 billion for surface LRT (\$300-\$750 more for a partially underground LRT through central Broadway), \$2.7 billion for the combination alternative, and \$3.0 billion for underground SkyTrain to UBC (all amounts in 2010 dollars);
- The City of Vancouver publicly supports a SkyTrain extension to UBC;
- The UBC Line findings, along with those of the Surrey Rapid Transit Study and other studies, will inform consultations by TransLink this fall on its *Regional Transportation Strategy* and discussions by the Mayors' Council on what regional transit priorities the public wants and are willing to pay for.

### BACKGROUND:

From 2009-2012, TransLink and the ministry jointly sponsored the *UBC Line Rapid Transit Study*, which evaluated a broad range of rapid transit alignments and technologies. Study partners included the City of Vancouver, UBC, the University Endowment Lands (as represented by the Ministry of Community, Sport and Cultural Development), and Metro Vancouver. TransLink published study findings in March 2013, with three alternatives identified for further consideration, all of which meet demand to 2041:

(1) LRT between Commercial-Broadway Station and UBC, running at street level in lanes largely separated from traffic, along Broadway, upper West 10th, and University Boulevard (\$1.1 billion in 2010 dollars) or partially underground through Central Broadway (\$1.4-\$1.9 billion);

(2) A combination of LRT between Main Street Station and UBC along the Arbutus Rail Corridor, Broadway, upper West 10th, and University Boulevard, with SkyTrain from VCC-Clark Station to Broadway and Arbutus (\$2.7 billion in 2010 dollars); and

(3) Extension of the Millennium Line from VCC-Clark to UBC, mostly underground along Broadway, upper West 10th, and University Boulevard (\$3.0 billion).

The attached diagrams show the proposed alignments of the three alternatives.



TransLink is developing a 15-year implementation plan for its *Regional Transportation Strategy*. This plan is expected to identify priorities for transit service expansion and investment, including for rapid transit. TransLink proposes to commence public consultation in November and December 2013 on a range of high-level transportation investment options.

Also in fall 2013, government will consult with the Mayors' Council to identify the council's priorities for transit service expansion and investment, together with costs and proposed funding sources. These will inform a referendum on transit funding to be held no later than the fall 2014 municipal elections.

## DISCUSSION:

The study looked at a variety of alternate routes to UBC, including 16th Avenue, among others. These were evaluated to be less promising than Broadway itself because they would miss or be farther away from major traffic generating sites, such as Vancouver City Hall, Vancouver General Hospital (VGH), and the Central Broadway business area. A route along the CPR / Arbutus rail corridor and 16th Avenue to UBC would also miss providing direct rapid transit connections between UBC's research centres and life sciences facilities around VGH. A February 2013 KPMG study identified this link as a major requirement to support growth of the region's health and technology sectors.

The 3 Broadway rapid transit alternatives identified for further consideration have a wide range of capital costs and benefits. All represent significant improvements from the current B-Line bus service, which has poor reliability and is reaching capacity limits.

LRT would solve current capacity and reliability issues on the Broadway corridor and is expected to meet demand to 2041 at the lowest capital and lifecycle cost. It is forecast to generate 11,000 more daily transit trips by 2041, but has less ability than the other alternatives to expand capacity to meet growth beyond then. Because it operates at street-level, drivers would face turning restrictions, mainly at secondary intersections, and on-street parking would be reduced. A partially tunneled LRT through Central Broadway would reduce road impacts, but at much higher cost. City of Vancouver concerns with LRT include its ability to meet demand beyond 2041 and impacts on road capacity.

The combination LRT / SkyTrain alternative also solves current capacity and reliability issues, at 2.4 times the cost of LRT. It is forecast to generate an extra 44,000 daily transit trips by 2041 and has capacity to meet growth beyond then. It serves two routes east of Arbutus, so provides rapid transit benefits to a broader area. Because the LRT portion operates at street-level, it would reduce road capacity, although not through Central Broadway where service would be by underground SkyTrain.

A Millennium Line SkyTrain extension to UBC solves current capacity and reliability issues, at almost 3 times the cost of LRT, and provides the fastest travel time between Commercial-Broadway and UBC (19 minutes versus 28 minutes by LRT). It is forecast to generate 54,000 more daily transit trips by 2041 and has potential capacity to meet demand well beyond then. Being underground, it would not reduce road capacity along the Broadway Corridor.

None of the alternatives are expected to materially increase transit mode share without significant transportation demand management measures. All alternatives will impact traffic during construction.

### PREPARED BY:

Ross Long, Research Officer /  
Ed Storm, Manager TransLink Initiatives  
Transit Branch  
(250) 387-8616 / (250) 356-1566

### REVIEWED BY:

Kevin Volk, Director Transit  
Transit Branch  
Jacquie Dawes, ADM  
Partnerships Department

### INITIALS:

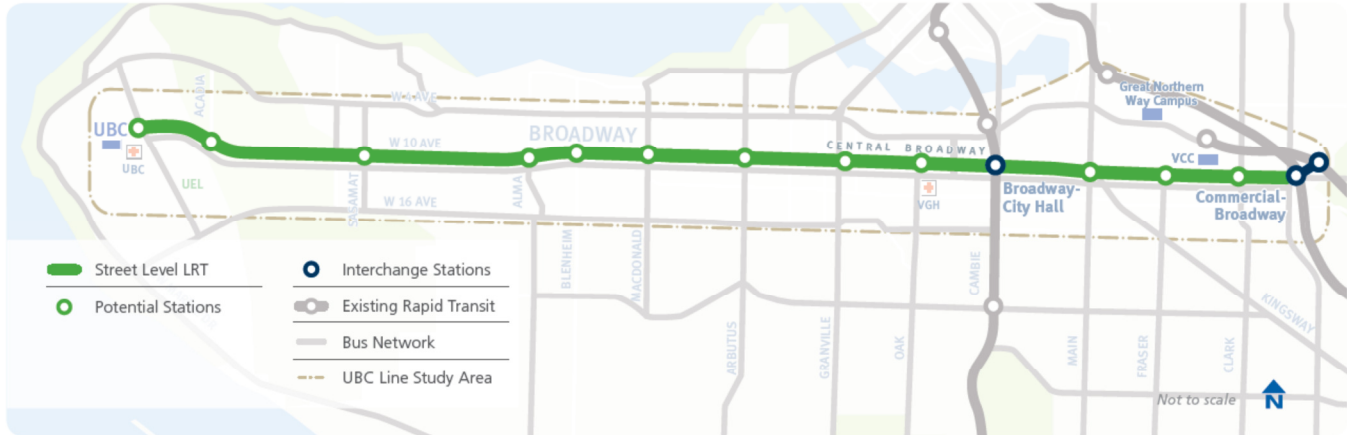
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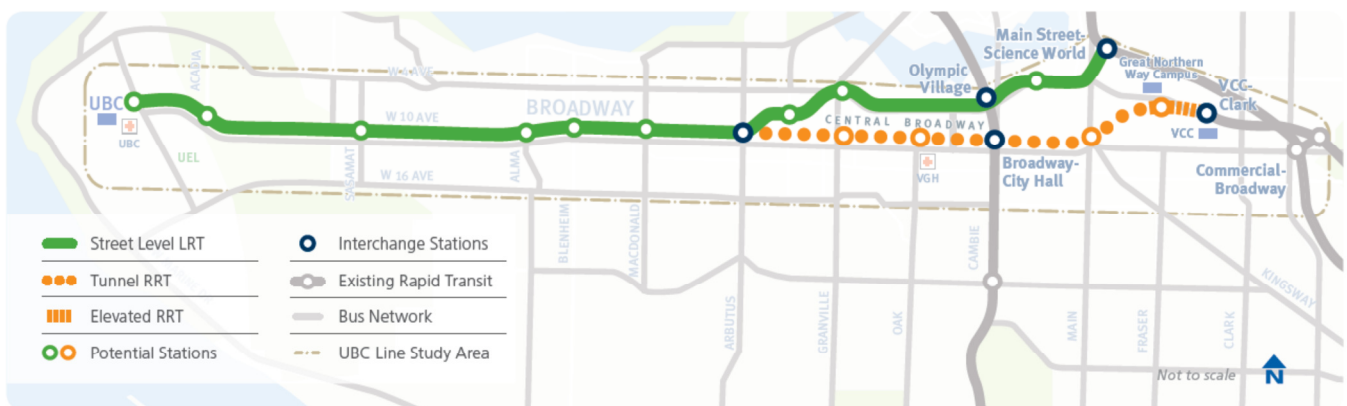


## Appendix - Rapid Transit Alternatives

### Light Rail Transit from Commercial-Broadway Station to UBC (\$1.1 to \$1.9 Billion)



### Combination of Light Rail Transit and SkyTrain to UBC (\$2.7 Billion)



### Extension of Millennium Line SkyTrain to UBC (\$3.0 Billion)

