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**TO:** CITY MANAGER **DATE:** 2018 December 05

**FROM:** DIRECTOR PLANNING AND BUILDING **FILE:** 2156-01  
*Reference: SCBCTA (TransLink) Long-Range Plans*

**SUBJECT: IMPLICATIONS OF SURREY SKYTRAIN EXTENSION**

**PURPOSE:** To respond to a Council request for information on the implications to Burnaby of the proposed SkyTrain extension in Surrey.

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**RECOMMENDATION:**

1. **THAT** Council receive this report for information.

**REPORT****1.0 INTRODUCTION**

On 2018 November 19, Council adopted a motion, “That staff report back to Council on the financial impact on the City of Burnaby resulting from the decision to suspend work on light rail transit in Surrey and begin planning a SkyTrain line to Langley.” This report responds to that request.

**2.0 POLICY SECTION**

This report supports the following goals and sub-goals of the *Corporate Strategic Plan*:

- A Connected Community
  - Geographic connection: ensure that people can move easily through all areas of Burnaby, using any form of transportation
- A Thriving Organization
  - Financial viability: maintain a financially sustainable City for the provision, renewal and enhancement of City services, facilities and assets

**3.0 BACKGROUND****3.1 TransLink Funding and Approval Process**

TransLink’s long-range (30-year) strategy is laid out in the *Regional Transportation Strategy*. This was adopted by their Board of Directors and their Mayors’ Council on Regional Transportation in 2013. The Board has primary responsibility for day-to-day running of TransLink, while approval of

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the Mayors' Council is needed for strategic plans, major projects, regional funding, and any increase to borrowing limits.

To implement the *Strategy*, service improvements are currently being implemented via *Regional Transportation Investments: a Vision for Metro Vancouver (the 10-Year Vision)*. It was adopted in 2014 and specifies improvements for all modes of transportation. Regarding rapid transit, key investments identified in the *10-Year Vision* were the extension of the Millennium Line (SkyTrain) westward from Clark Drive to Arbutus Street in Vancouver, and construction of Light Rail Transit (LRT) in two corridors in Surrey and Langley. Totalling 27 kilometres, the two corridors are illustrated in *Figure 1* and consist of:

- An inverted “L” shape connecting Surrey Centre southward to Newton (along King George Highway) and eastward to Guildford (along 104 Avenue). This is referred to as the “SNG” line (Surrey, Newton, Guildford).
- A diagonal line from Surrey Centre southeastward to downtown Langley (along Fraser Highway).

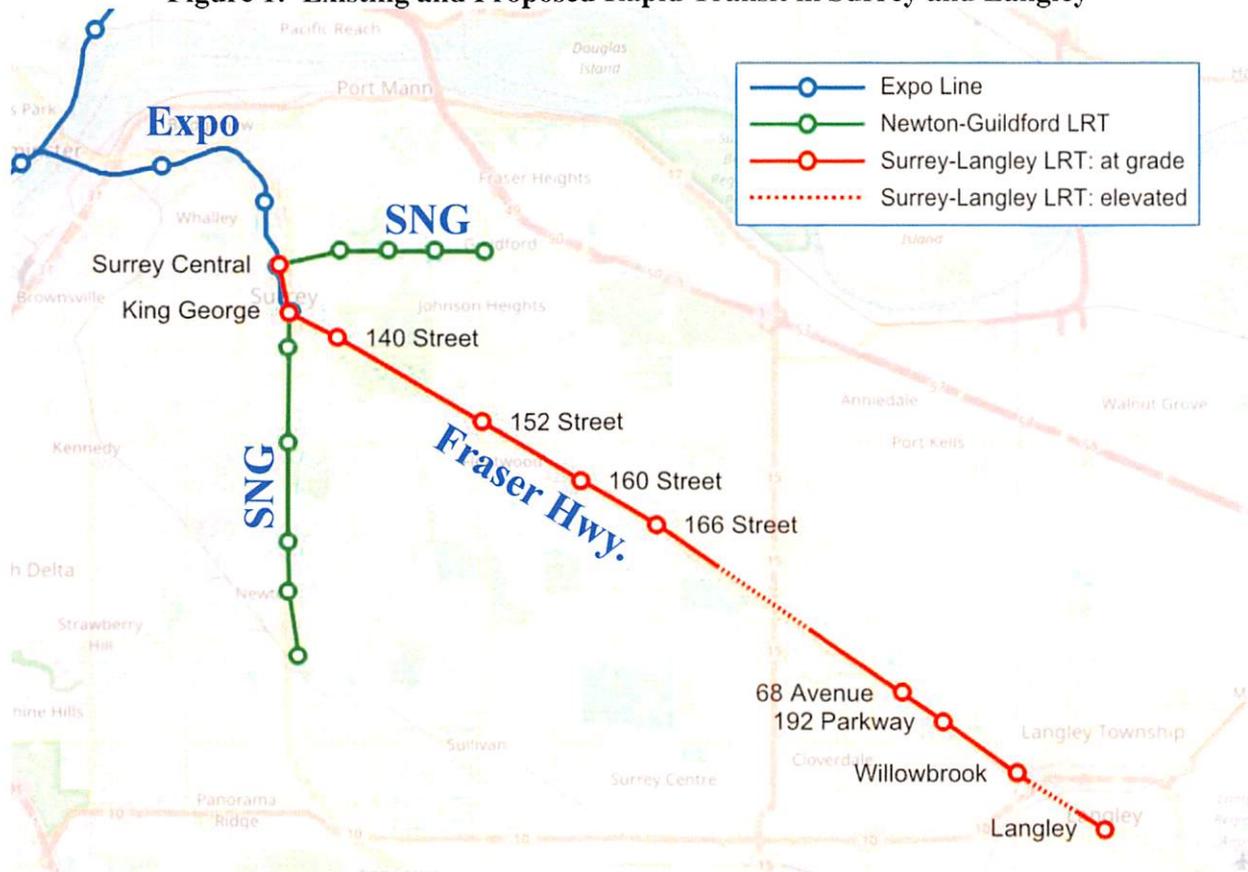
At the time of its adoption, the *Investment Plan* was unfunded. Since then, through two rounds of discussions, public consultation, and financial support from senior levels of government, TransLink has obtained funding for part of the *10-Year Vision*. In particular, funding is currently available to build and operate the SNG LRT line, but not to build or operate rapid transit (either LRT or SkyTrain) in the Fraser Highway corridor. Planning for the SNG project is well-advanced, with TransLink almost ready to issue a Request for Proposals for proponents to design, build, finance and operate the SNG line.

On 2018 November 5, Surrey Council adopted a motion asking TransLink to “cancel” the SNG line and instead build SkyTrain in the Fraser Highway corridor to Langley. However, Surrey Council also adopted a motion asking TransLink to seek funding to build the SNG line “as soon as possible”. The motion does not specify which technology Surrey Council would support for that line.

In response to the motion, TransLink immediately stopped work on the SNG LRT project, for which they had been preparing to issue a Request for Proposals in the near future. On 2018 November 15, the Mayors' Council adopted motions to:

- “Suspend” work on the SNG line. The project is not cancelled, but TransLink will not at this time expend any money or resources on it.
- Use the *10-Year Vision* and financial envelope as the basis for rapid transit planning in Surrey and Langley, while acknowledging Surrey’s request to build the Fraser Highway line first and switch to SkyTrain technology.
- Receive additional analyses and a work plan at the next meeting of the Mayors' Council, on 2018 December 13. The work plan will describe how to advance the Fraser Highway SkyTrain project immediately, while concurrently updating plans for the SNG line.

**Figure 1: Existing and Proposed Rapid Transit in Surrey and Langley<sup>1</sup>**



### 3.2 Technical Considerations

TransLink had estimated that LRT capital costs for the SNG line would be \$1.6 billion. Capital and operating costs for the Fraser Highway line, either as LRT or SkyTrain, are shown in **Table 1**. The SkyTrain option would incur an additional capital cost of a billion dollars, as well as annual operating costs that would be \$7.3 million higher.

These cost estimates are based on specific design concepts for both LRT and SkyTrain, and reflect key design assumptions such as how many stations there would be and how much of the track would be elevated (e.g., none of it, all of it, only when crossing major intersections, etc.). Different assumptions would produce different cost estimates for either technology.

**Table 1: Cost of the Fraser Highway Line (millions)<sup>2</sup>**

|                       | LRT     | SkyTrain |
|-----------------------|---------|----------|
| Capital cost          | \$1,949 | \$2,915  |
| Annual operating cost | \$18.3  | \$25.6   |

<sup>1</sup> Image source: TransLink. Additional annotations by City staff.

<sup>2</sup> From TransLink report to the Mayors' Council, "South of Fraser Rapid Transit", dated 2018 November 9.

There are other differences between SkyTrain and LRT. SkyTrain can carry about three times as many people per hour as LRT. Past work by TransLink has determined that LRT would provide sufficient capacity in the Fraser Highway corridor for the foreseeable future. SkyTrain would provide more capacity than is needed (lightly-used trains, even in the longer term).

When comparing the two systems, speed and connectivity are important considerations. SkyTrain is a faster option. LRT typically has more stations, experiences some delays at cross-streets, and requires a transfer to SkyTrain (in downtown Surrey) for ongoing trips. As a result, LRT is slower and tends to attract a higher percentage of shorter trips, whereas SkyTrain encourages longer trips across the region.

Some federal and provincial funds have already been expended on capital projects that were intended to provide a foundation for the SNG LRT. Since the funds were obtained in that context, TransLink is now seeking to determine whether or not these funds would have to be returned to the senior governments if the SNG line were not constructed as previously indicated.

#### 4.0 DISCUSSION

The motions already adopted on 2018 November 15 were essentially to pause and seek additional information. On 2018 December 13, the Mayors' Council will receive a TransLink staff report outlining options for proceeding in response to Surrey Council's request. The implications for Burnaby will become clearer once the direction of the Mayors' Council is known. The range of options available to the Mayors' Council is illustrated below.

If the Mayors' Council decides to **continue without change to the 10-Year Vision** (i.e., LRT in both corridors):

- Regional, provincial, and federal funding is already in place for the SNG line.
- There would be some costs associated with suspending and then restarting the SNG project. The magnitude of costs would likely depend on the length of time that the project was suspended, but would likely be fairly modest in the context of the overall project budget.
- There would be no significant impact on the allocation of TransLink financial or staff resources.

If the Mayor's Council decides to **cancel the SNG line**, delete it from the *10-Year Vision*, and **allocate its funds to Fraser Highway SkyTrain**:

- The estimated capital cost of the Fraser Highway SkyTrain is lower than that of the two LRT lines combined.
- Federal and provincial funds are allocated specifically to SNG LRT. Currently there is no assurance from senior government partners that the same level of funding would be available for a different technology in a different corridor.
- While any potential funding contribution by senior governments to Fraser Highway SkyTrain is not known at this time, it is unlikely that the Mayors' Council would proceed to construct

this route without levels of senior government funding similar to that currently available for SNG LRT.

- The Fraser Highway LRT project, while shown in the *10-Year Vision*, is not currently funded. If that project was converted to SkyTrain, the available funding from SNG LRT would only cover half the length of the line. Completion of the line would require new funding from TransLink and senior governments.
- Most of TransLink's local funding comes from three sources: transit fares, property taxes, and a fuel tax. One or more of these would need to increase to cover the additional second half of Fraser Highway SkyTrain. Due to market demands and constraints in its legislation, it is usually easiest for TransLink to increase the property tax rate. These taxes are collected by each municipality (on the annual property tax bill) and forwarded to TransLink. For taxpayers, this may give the incorrect impression that the municipality has raised taxes for municipal purposes and could generate increased pressure for lower municipal taxes.
- Financial efficiency and system-wide passenger-carrying capacity are maximized when each route is served by the most appropriate technology. However, SkyTrain is a popular technology, and is desired by some even when it provides capacity far in excess of forecasted demand. A decision to construct SkyTrain to Langley based on the desire of the host municipality rather than technical considerations may set a precedent, encouraging the construction of expensive SkyTrain lines in other corridors where it is not justified by projected ridership. This will increase total system cost in the long term or, alternatively, reduce the number of corridors that can be served.
- A Fraser Highway project using SkyTrain technology would result in more people travelling between Surrey and Vancouver, rather than making shorter trips in Surrey and Langley. This would increase passenger loads on the Expo Line through Burnaby.
- The cancellation of the SNG line would mean that the 96 B-Line bus would continue to operate in the SNG corridor, with corresponding operating costs. It would require the continued use of buses that, under SNG, could have been reallocated to other routes.
- Over the years, TransLink has already spent \$48 million on planning, analysis, and approvals for the SNG corridor based on LRT technology. This is money that is already spent on work that would no longer be of any value.
- TransLink has also spent \$29 million to design and/or construct certain "early works". These are smaller capital projects, such as utility relocations, done in advance to facilitate the main project. Half of these funds were provided by the federal government, specifically in the context of the SNG line. The cancellation of the SNG line would raise the possibility that TransLink may need to reimburse the federal share of about \$14.5 million. TransLink is currently seeking to clarify this.
- With the SNG line already well-advanced towards procurement, switching to the Fraser Highway line would trigger a delay of any rapid transit in the area, while work was undertaken to bring the Fraser Highway project to the same level of readiness. This would

likely include undertaking a new financial analysis, public consultation, seeking senior government funding, and initiating a new procurement process. In addition, TransLink considers it important to first reevaluate the proposed technology for the SNG corridor, since it would need to interface with the Fraser Highway SkyTrain line. The future of SNG would thus affect the design and cost of the Fraser Highway project.

If the Mayor's Council decides to **build both Fraser Highway SkyTrain and the SNG line**:

- Many of the above comments would also be applicable to this option. There is no guarantee of senior government funding, and new regional funding will be required. The existing Expo Line would become more congested. A precedent would be set of building the more expensive SkyTrain technology and adding excess capacity to the system.
- The first two options, above, were generally in line with the funding envelope of the *10-Year Vision*. In contrast, this option would require an additional billion dollars of capital and a further \$7.3 million per year for operations<sup>3</sup>. This has implications for all residents of the region.
- The numbers that follow should be considered as extremely rough approximations, as they are based on numerous assumptions about decisions that have not yet been made. This projection has been prepared by City staff using capital and operating costs developed by TransLink.
  - Based on past practices, it is assumed for this analysis that TransLink would need to fund about 30% of the increased capital costs (the rest covered by senior governments) and 100% of the increased operating costs.
  - Over a 30-year period, the regional cost (capital and operating) of the upgrade from LRT to SkyTrain is estimated at about \$510 million. If this cost was apportioned across the region, based on population, the cost to Burnaby residents would be about \$48 million. This works out to an average annual payment of about \$10 per person. For individual residents, payments could be higher or lower, depending on which funding mechanism (transit fare, property tax, fuel tax, or a new source) is used to generate these funds.
  - On the Evergreen Line and Canada Line projects, upgrades above the basic project (such as additional stations) were funded at the municipal level. The Mayor's Council might therefore conclude that the \$510 million cost of the upgrade to SkyTrain should be paid largely or entirely by Surrey, as the upgrade is over-and-above the solution identified by years of technical analyses. In this scenario, the annual cost to Surrey residents would be about \$40 per person.
- The above assumes that the SNG line would retain LRT technology. A higher cost would be incurred if the SNG line were also converted to SkyTrain.

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<sup>3</sup> From TransLink report to the Mayor's Council, "South of Fraser Rapid Transit", dated 2018 November 9.

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- Alternatively, the higher cost of SkyTrain could be offset by cancelled or deferred projects elsewhere in the region. Significant projects in Burnaby that have been discussed in the past, but not yet funded, are a gondola service between Production Way SkyTrain station and Simon Fraser University, and a stronger transit linkage between Metrotown and Brentwood Town Centres. For any given funding level, these projects need to compete with requests for improved transit corridors throughout the region.

Under any of the above scenarios, the Mayors' Council could also decide to **initiate a planning process** to review the overall plan for rapid transit in Surrey and Langley. In fact, as noted above, this would appear to be an essential step if switching the Fraser Highway corridor from LRT to SkyTrain technology. This has a consequence for Burnaby:

- In addition to regional-scale plans, TransLink conducts planning at the sub-regional level. This consists of more detailed planning in each of eight sub-regions, of which Burnaby and New Westminister are one. The plans are prepared sequentially, one sub-region at a time, and typically take a couple of years to complete. The last plan for our sub-region was completed in 2003 (the oldest such plan in the region), and the proposals in it were largely implemented by 2006. For the past dozen years, Burnaby and New Westminister have thus been operating without benefit of a TransLink plan for the sub-region. TransLink has recently advised that our sub-region is the next in the queue, with work to begin in 2019. However, it seems likely that a decision to re-open the plan for another sub-region (Surrey and Langley) would result in a delay to the plan for Burnaby and New Westminister. TransLink staff resources would likely be allocated to Surrey and Langley ahead of Burnaby and New Westminister.

## 5.0 RECOMMENDATION

This report has provided an overview of potential consequences associated with the possible conversion of the Fraser Highway corridor from LRT to SkyTrain technology, and its acceleration ahead of the more-advanced LRT project in the Surrey – Newton – Guildford corridor. The consequences could be substantial, depending on decisions made by the TransLink Mayors' Council in the coming weeks and months.

It is recommended that Council receive this report for information.



Lou Pelletier, Director  
PLANNING AND BUILDING

SR:sla:sa

cc: Director Finance  
Director Corporate Services  
City Clerk