Surrey Langley SkyTrain

Business Case Summary

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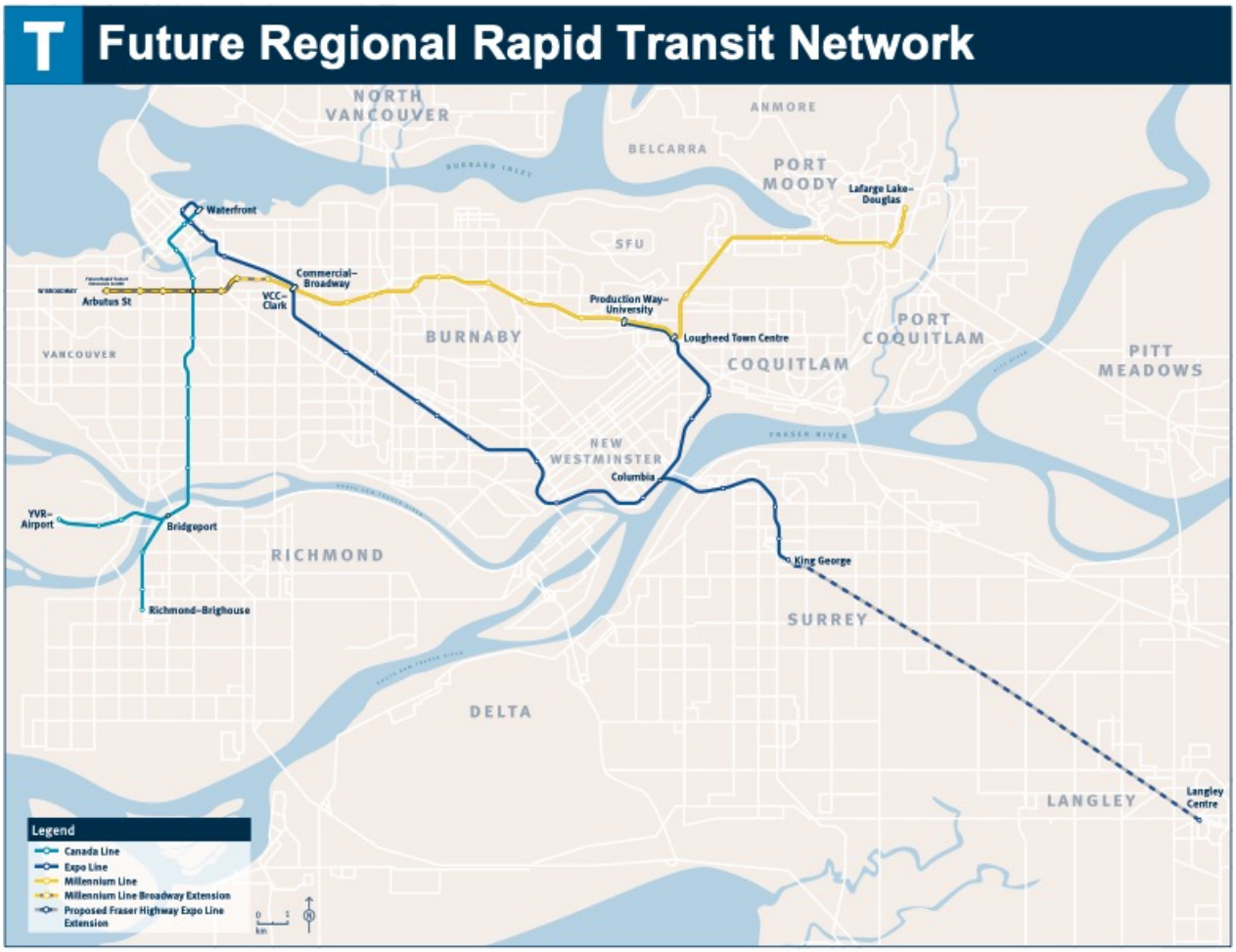
Purpose

This Business Case Summary for the proposed Surrey Langley SkyTrain project ("the project") highlights the need to further invest in rapid transit south of the Fraser and confirms the benefits of project implementation.

The project would improve the transit customer experience by providing a fast, frequent and reliable means of transit; attract new riders; improve regional accessibility to jobs, post-secondary education, and affordable housing; reduce vehicle kilometres travelled and greenhouse gas emissions; support economic development; and deliver value for public money.

This document provides an overview of the project background, need, and benefits. It also describes timing of next steps, including further public engagement and construction.



Background

In 2014, the regional mayors' 10-Year Vision identified three priority corridors for a 27-kilometre network of rapid transit in Surrey and Langley: 104 Avenue, King George Boulevard, and Fraser Highway.

In June 2016, the federal and provincial governments announced funding for development of the first phase of this network - a 10.5-km light rail transit project to connect Surrey Centre with Guildford and Newton - "the SNG LRT Project." Full approval and $1.63 billion in funding by all levels of government was announced on September 4, 2018. In November 2018, Surrey's newly-elected Mayor and City Council withdrew support for the SNG LRT Project and requested that TransLink instead work on extending SkyTrain along Fraser Highway.

On December 13, 2018, the Mayors' Council directed TransLink to suspend work on the SNG LRT Project and proceed with planning and project development for a SkyTrain on Fraser Highway, and concurrently, initiate a planning process to refresh the South of Fraser Rapid Transit Strategy, consistent with the 10-Year Vision of building 27-kilometres of rapid transit on the three corridors.

In July 2019, following cost updates, initial technical work, and a first round of public engagement, the Mayors' Council directed TransLink to complete a Surrey Langley SkyTrain project Business Case, develop a staged construction plan, and prepare for procurement, based on available funding of $1.63 billion.

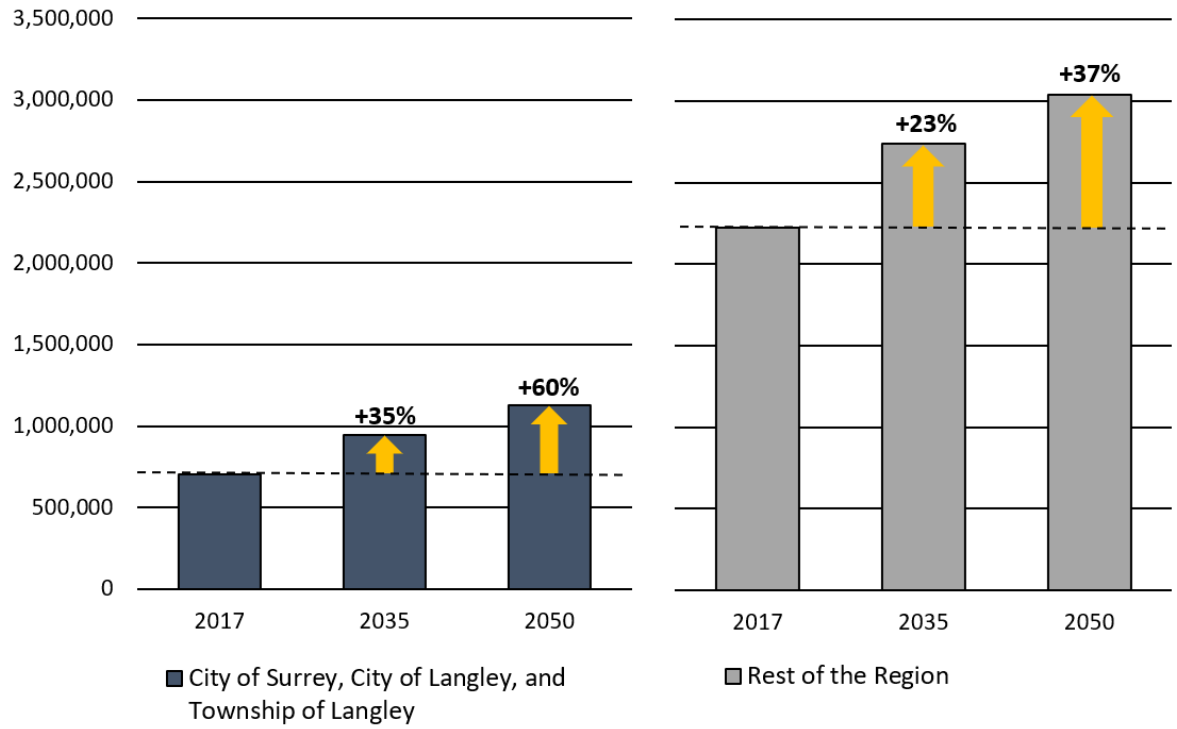
Photo credit: TransLink

Project Need

A growing region

Metro Vancouver continues to grow. It is projected that by the year 2050, the region will welcome 1,200,000 additional residents and create 500,000 new jobs. The area south of the Fraser River is one of the fastest-growing in the region, and it is expected that by 2050, the City of Surrey, City of Langley, and Township of Langley will welcome 420,000 new residents and 147,000 new jobs. This area has been identified as a priority for rapid transit improvements to help address current challenges and support planned future growth. Projected population growth is shown in Figure 1:

Figure 1: Projected population growth



Transportation system challenges

Demand for transit in Metro Vancouver is growing. In 2018 alone, system-wide ridership grew 7.1%, led by the South of Fraser region, which experienced growth of more than 15%. Over the years, TransLink has responded to demand growth by increasing bus service. More than 125,000 annual service hours have been added since transit expansion restarted with approval of the Phase One Investment Plan (2016). Bus routes have been augmented with higher capacity vehicles, including additional articulated buses and new double-decker buses. Yet, crowding continues to pose a challenge. Route 502 on Fraser Highway experiences overcrowding during more than 27% of its service hours and ranks as the fourth most-crowded of TransLink's bus services.

Growth management and affordability

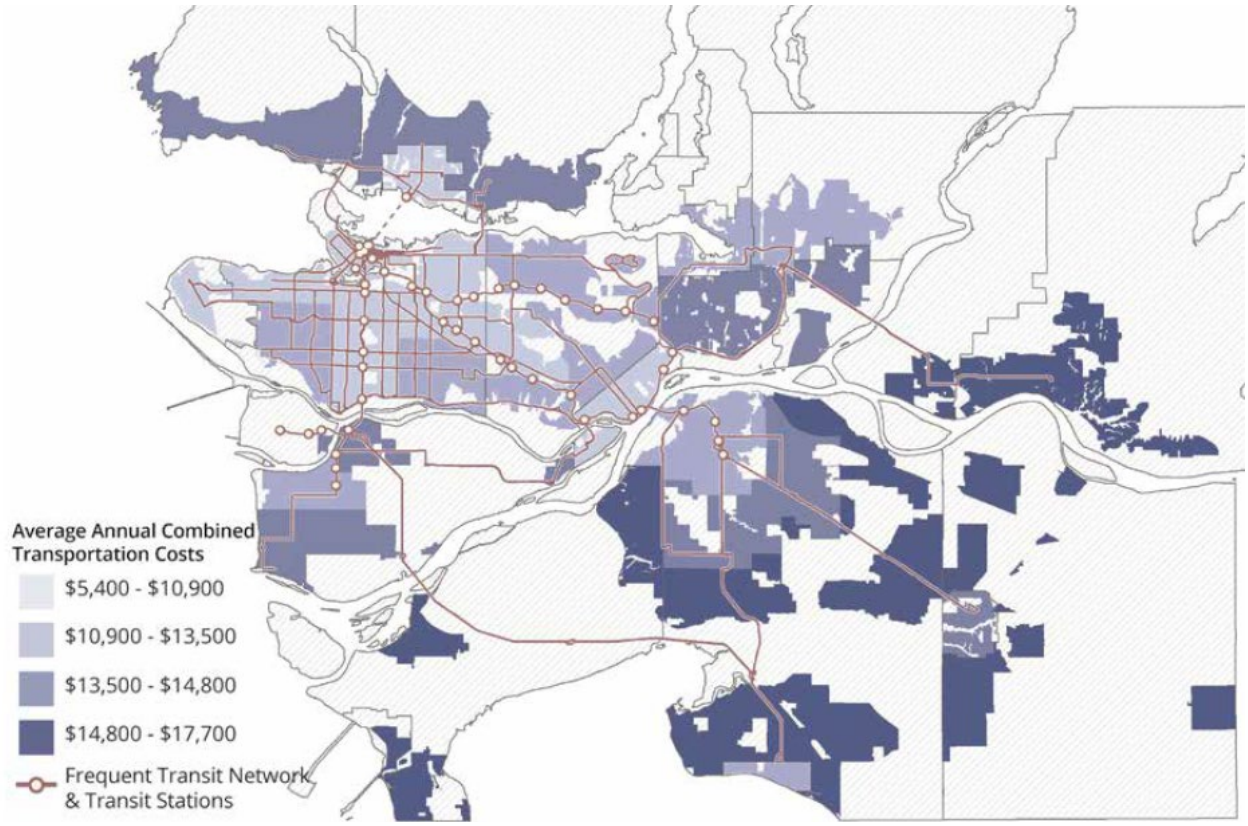
Growth management is an important priority for transportation investment. Urban development is managed in partnership between municipal governments, Metro Vancouver, and other governments through the Regional Growth Strategy. The strategy designates urban centres for concentrations of housing, jobs and services and calls on TransLink to connect these centres with frequent, reliable transit. The existing Expo Line, opened in 1986, provides a rapid transit connection from the Surrey Metro Core to the rest of the region. Plans for rapid transit through the 10-Year Vision include connections to Newton, Guildford, Fleetwood, and Langley City Centre as shown in Figure 2.

Figure 2: Metro Vancouver Urban Land Use Designations

Metro Vancouver's lack of affordable and diverse housing options challenges the region's success and prosperity. Rental vacancies are at record lows, housing prices hover at many multiples of the median income, and many people struggle to find affordable places to live. Metro Vancouver's Regional Affordable Housing Strategy projects a demand for 18,000 additional housing units per year, of which 5,500 are rental units.

Surrey and the surrounding municipalities offer some of the most affordable housing in the region. However, a 2011 study by Metro Vancouver found that while housing costs are relatively low, household transportation costs are above average due to a lack of affordable options and long, travel distances required to reach to jobs and other services (see Figure 3). As a result, the combined burden of housing and transportation costs makes this part of the region amongst the least affordable, consuming 42% of subregional median income for working households.

Figure 3: Average Annual Combined Transportation Cost for Working Households



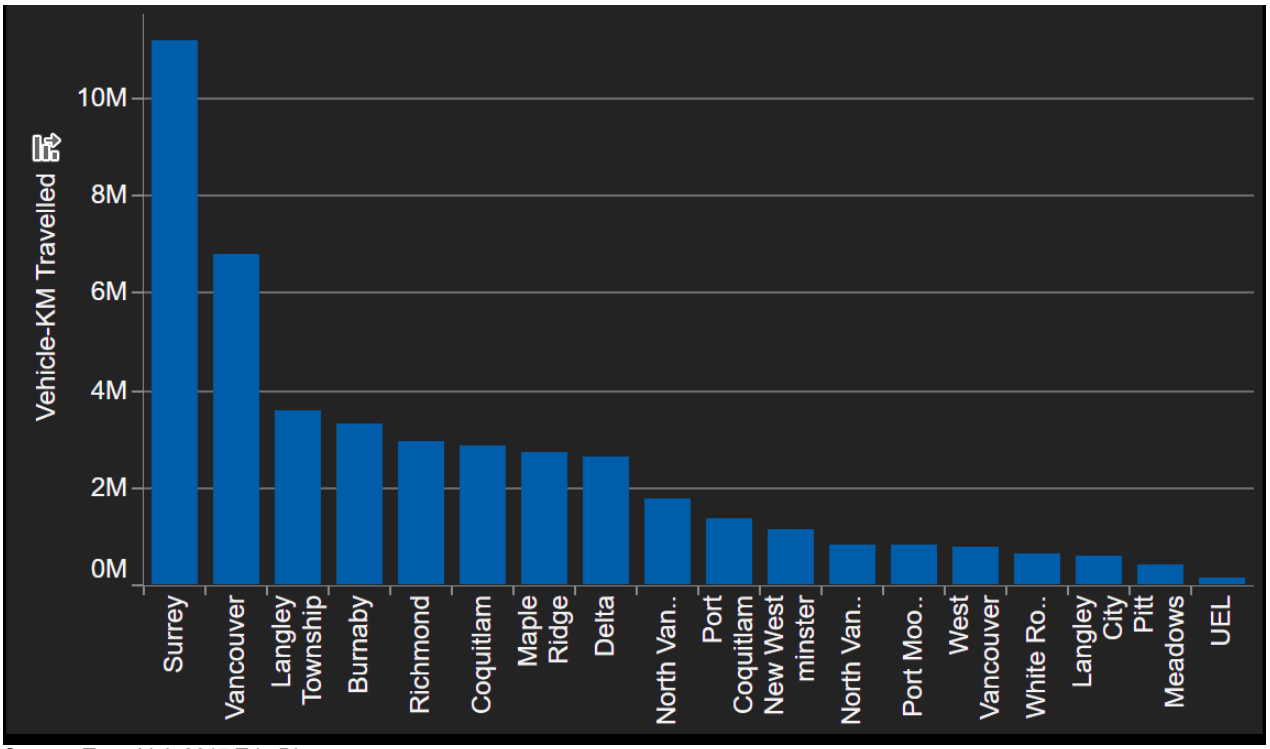
Source: The Metro Vancouver Housing and Transportation Cost Burden Study, 2015

Addressing global climate change

Governments at all levels are taking action to address the challenge of greenhouse gas pollution and its impact on our climate. In British Columbia, automobiles and light trucks are the largest source of greenhouse gas emissions -- at 31%. For its part, TransLink adopted targets to reduce greenhouse gas emissions from its operations by 80% by the year 2050, and to utilize 100% renewable energy in all operations by 2050. TransLink's operations represent a small share of overall regional emissions. More significant greenhouse gas reductions can be achieved by meeting the goals of the Regional Transportation Strategy, which calls for an increase to 50% of trips by sustainable travel modes by the year 2045 (from 28% today), and to reduce the average distance driven per person by one third.

The relatively long distances driven and higher use of automobiles for travel result in Surrey residents driving more than 11 million kilometres daily -- more than any other municipality in Metro Vancouver -- and 64% more kilometres than Vancouver (in second place) despite Surrey's population as three-quarters the size. Similar patterns exist in other South of Fraser municipalities, as illustrated in Figure 4.

Figure 4: Daily automobile vehicle kilometres traveled by municipality

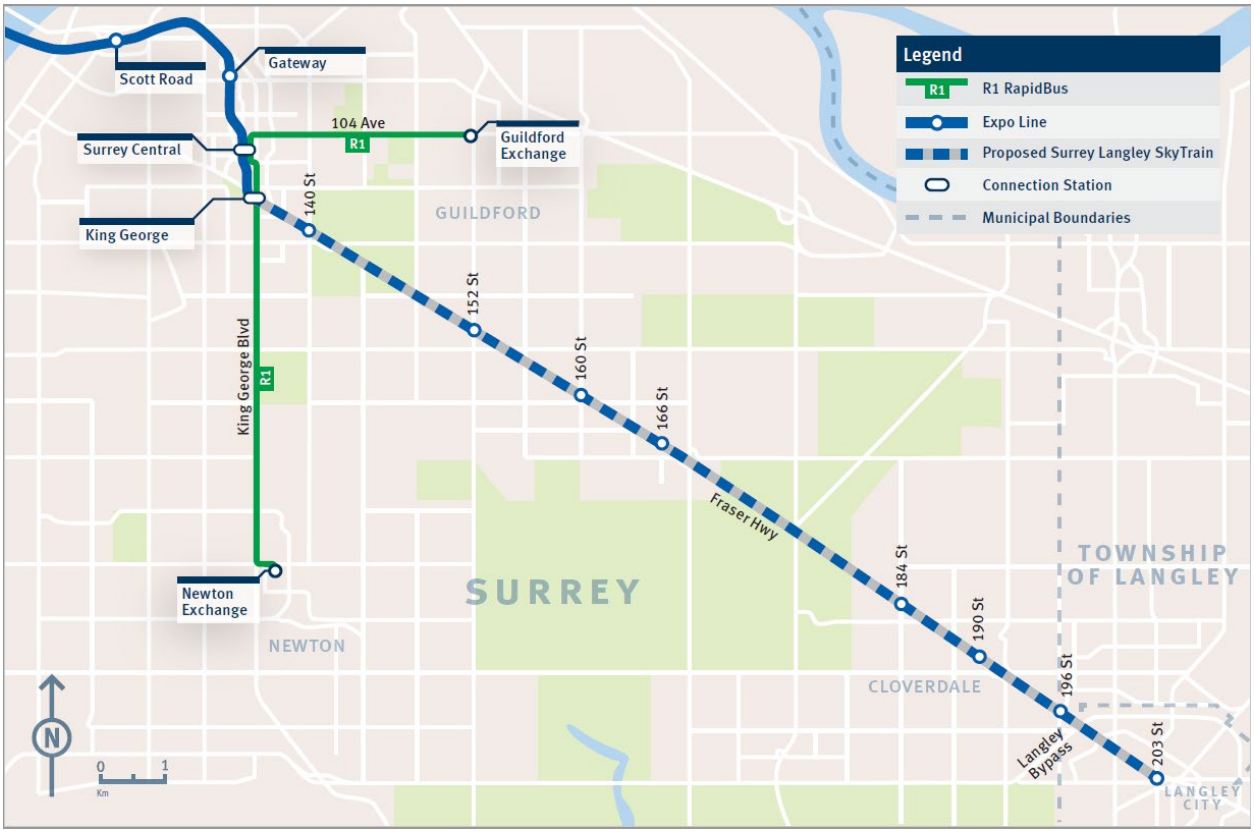


Source: TransLink 2017 Trip Diary

Project Overview

The Surrey Langley SkyTrain project would extend the Expo Line from King George SkyTrain Station to Langley City Centre along Fraser Highway. The project includes 16-kilometres of elevated guideway with 8 stations (see map below), 3 bus exchanges, and park-and-ride spaces. It requires 55 additional SkyTrain vehicles and a new Operations and Maintenance Center (OMC) to serve the expanded Expo and Millennium Line network.

The project would connect Surrey Centre, the emerging second core for the Metro Vancouver region, with the growing communities of Fleetwood, Clayton, Willowbrook, and Langley City. It would connect key destinations, including Kwantlen Polytechnic University's Surrey Center and Langley campuses, Surrey Memorial Hospital, Jim Pattison Outpatient Care and Surgery Centre, RCMP E-Division headquarters, Fortis BC's Surrey office, Green Timbers Urban Forest, the Surrey Sport and Leisure Complex, and Willowbrook Shopping Centre. Proposed stations would be located at arterial streets where bus connections, cycle and pedestrian paths would provide access to more South of Fraser and Fraser Valley communities.



The Case for SkyTrain

Project Objectives

The objectives of the project are to:

- Provide a great transportation user experience;
- Provide fast, frequent, reliable, and convenient transit across the region;
- Increase access to employment, schools, housing, and services;
- Support healthy communities and a healthy environment; and
- Advance local and regional prosperity.

All while:

- Spending wisely; and
- Implementing prudently.

Project Benefits

If delivered, the project will:

Improve Transportation Options

Improve transit service by reducing travel times,increasing capacity and reliability. This will attract additional transit users, and improve road safety through a reduction in auto vehicle kilometres travelled and an increase in sustainable mode share.

The project is forecasted to serve 62,000 average weekday boardings in 2035. Nearly 20,000 person-trips will be made by transit that would otherwise take place by car, increasing the sustainable mode share in the South of Fraser region by 1 percentage point.

Travel times will be 22 minutes from Langley Centre to the existing King George SkyTrain Station with trains departing every few minutes. By the year 2035, transit users will save nearly 900,000 hours of travel time annually as time savings grow.

SkyTrain will provide capacity to move 6,800 passengers per hour per direction - more than 10 times the capacity of bus service today - with the ability to add further capacity to address future growth.

Increase Access to Opportunities and Housing

Improve regional accessibility and promote social and community cohesion by connecting Surrey Metro Centre, Fleetwood Town Centre, and Langley City Centre with rapid transit. Outcomes will include better connections to more housing, employment, schools, and services, and higher-density, mixed-use development around SkyTrain stations.

In the year 2035, Langley City Centre will connect to more than 380,000 jobs and 23,000 post-secondary education spaces within a 60-minute commute by transit. This is more than twice as many jobs and almost 10 times as many educational opportunities reachable in the same time without the project.

By 2035, it is projected that 80,000 residents will live within 800 metres of the project's new stations. The municipalities along the corridor are updating their respective land use plans to accommodate this growth.

Support Healthy Communities and Environment

Reduce greenhouse gas emissions through fewer vehicle kilometres travelled, which will replace diesel bus service with electric SkyTrain service, reduce congestion-related idling, and support compact, walkable development. Greenhouse gas reductions are estimated at 17,000 tonnes annually.

Most transit trips involve walking or cycling at the start and end of journeys. Active transportation supports improved public health outcomes and is associated with reductions in obesity, diabetes, and heart disease. The project is estimated to increase the number of trips by active transportation modes by more than 25 million annually in the year 2035.

Support Economic Development

Support economic development by improving access to employment and educational opportunities, improving efficiencies for businesses to get their goods to market, increasing business access to the region's labour force, and driving innovation by an increase in competition among companties. Project construction will result in 3,000 direct jobs annually. Once in operation, the value of enhanced economic productivity over the life of the project is estimated at $255 million.

Funding

The estimated capital cost of the Surrey Langley SkyTrain – from King George SkyTrain Station to Langley City Centre – is $3.1 billion. This estimate includes:

- Design and project management
- Property acquisition
- Construction
- New SkyTrain vehicles
- Operations and maintenance system upgrades
- Testing and commissioning
- Financing costs during construction.

The cost of these activities and assets increases with time. This estimate includes a projection of inflation over the life of the project and assumes that implementation commences in mid-2020 with the project built in one stage.

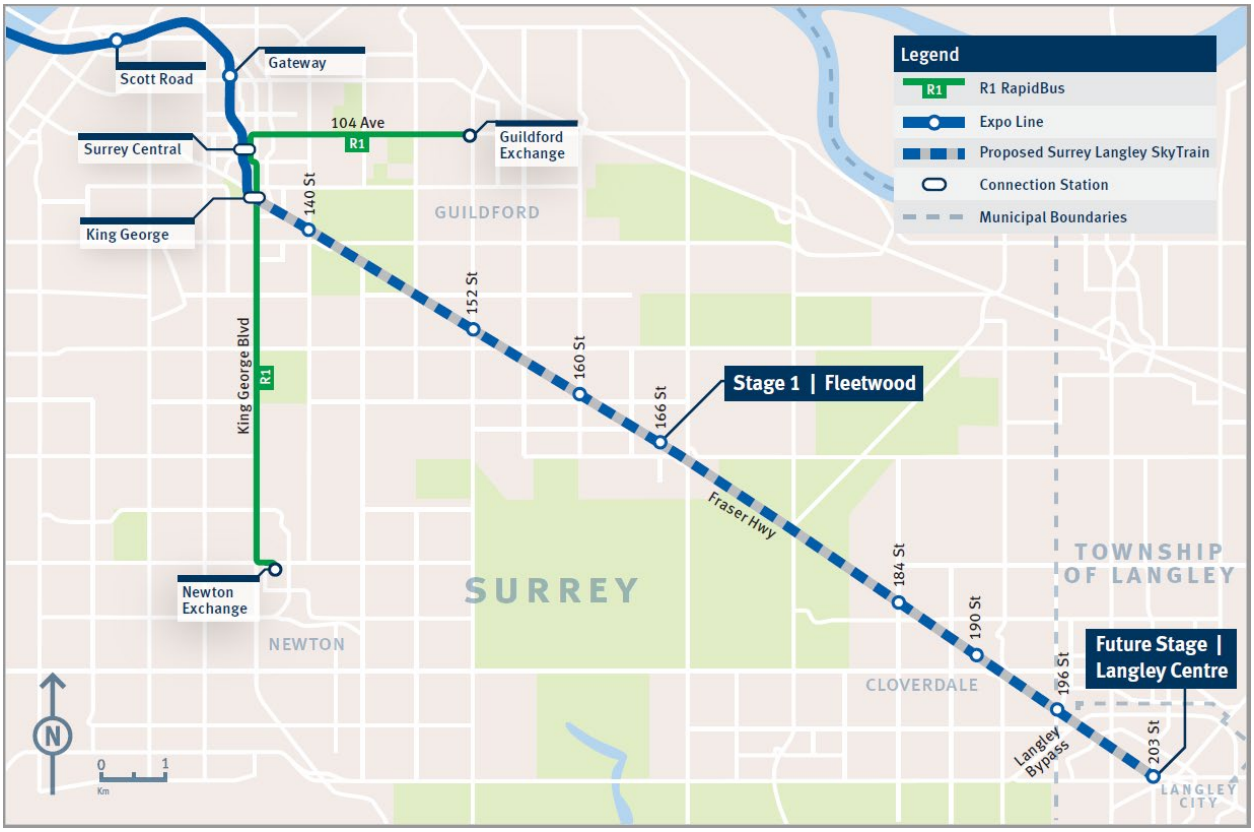
Currently, there is approximately $1.63 billion in available funding, which is enough to construct the project to 166 Street and Fraser Highway in Fleetwood. It is proposed that funding for the first stage of the project come from the Investing in Canada Infrastructure Program, a partnership between Canada, British Columbia, and the region. Under the program, the federal government will contribute 40% of eligible capital costs, the provincial government will contribute 40% of capital costs, and TransLink will fund the remainder, including the cost of operations and maintenance over the life of the project. The City of Surrey will contribute $39 million to the first stage of the project.

Photo credit: TransLink

Staging

Based on available funding, TransLink plans to deliver the project in stages. The first stage - from King George SkyTrain Station to 166 Street and Fraser Highway in Fleetwood - could be constructed within five-and-a-half years from the project approval date. The anticipated opening date for passenger service on this first stage is late 2025. Simultaneously, TransLink is completing planning and design work for the second stage - from 166 Street to Langley City Centre - to enable construction as soon as funding is secured.

The region's share of the first stage project costs was secured through an Investment Plan to deliver Phase Two of the 10-Year Vision, approved by the Mayors' Council on Regional Transportation in June 2018. An to update to this plan replacing the SNG LRT Project with the Surrey Langley SkyTrain project (first stage) will be brought forward in 2020.



Procurement

With the assistance of Partnerships BC, TransLink assessed a range of procurement models for the project. The objective is to select a model that manages key project risks, maximizes competition, allows for innovation and efficiency, complies with procurement policies and standards, and provides cost and schedule certainty. The procurement smodel recommended for the first stage of the project is a Design Build Finance model. Under this model, a portion of the construction costs will be financed privately, with repayment upon project completion. TransLink will be responsible for project delivery and own the project at its completion. Operations and maintenance will be performed by BC Rapid Transit Company, the TransLink subsidiary responsible for operations and maintenance of the existing Expo and Millennium Lines.

Benefit-Cost Analysis

A Benefit-Cost Ratio (BCR) summarizes the overall value for money of a major project. A BCR is the ratio of the benefits of a project, expressed in dollar amounts, relative to its costs, also expressed in dollar amounts. The benefit-cost analysis compares user, environmental, and wider economic benefits with project costs over a 30-year period. The higher the BCR, the better the investment. All major projects undergo this form of analysis to determine whether an investment represents good value.

The BCR of the Surrey Langley SkyTrain project is 1.24, which is comparable to previous SkyTrain business cases: the Canada Line (1.25) and Evergreen Extension (1.27).

Photo credit: TransLink

Alternatives Considered

A Multiple Account Evaluation was developed to assess the proposed project against a Business as Usual (BAU) scenario, defined as the Fraser Highway RapidBus service, as well as a Light Rail Transit (LRT) alternative. The results of this assessment are summarized in Figure 5.

Figure 5: Multiple Account Evaluation BAU, LRT, SkyTrain

Account	Alternative		
	BAU	Light Rail Transit	Above-Grade SkyTrain
Customer Service / User Experience	✓✓✓	✓✓✓✓	✓✓✓✓✓
Transportation	✓✓✓	✓✓✓✓	✓✓✓✓✓
Urban Development	✓✓✓	✓✓✓✓✓	✓✓✓✓
Social, Community, and Environment	✓✓✓	✓✓✓✓	✓✓✓✓✓
Economic Development	✓✓✓	✓✓✓✓	✓✓✓✓✓
Financial	✓✓✓	✓✓	✓✓✓✓
Deliverability	✓✓✓	✓✓	✓✓✓✓

SkyTrain performs similarly to or better than the BAU and LRT options on all evaluation accounts, including customer service/user experience, transportation, urban development, social community and environment, economic development, financial, and deliverability and acceptability. Accordingly, a SkyTrain extension is recommended as the preferred option for the Fraser Highway corridor.

Engagement

Engagement is a key component of rapid transit planning. Robust public, stakeholder, and First Nations engagement has been undertaken on this project, which has resulted in record-level interest and response, including approximately 30,000 survey responses and over 3,000 attendees at nine open houses. Regular interactions with diverse community groups and business associations have taken place since project inception and are ongoing. Support for the project is high throughout Metro Vancouver. Feedback is helping the project team refine the project design and confirm the scope of the Environmental Screening Review. An overview of engagement efforts to date follows:

Phase 1 Engagement (Spring 2019)

Between April 4th and 26th, TransLink conducted a first round of public engagement on the Surrey Langley SkyTrain project.

To ensure broad access to information and to maximize public participation, the three-week engagement period included:

- A robust print, radio, digital and in-transit multilingual marketing campaign
- Online opportunities, including a survey in English and Punjabi
- In-person opportunities, including four open houses, a stakeholder workshop, and promotions at major transit hubs in Surrey and Langley
- Outreach to diverse communities, including attendance at Surrey's Party for the Planet and Vaisakhi Parade, and a presence at local temples.

This resulted in record-level public participation with more than 21,000 survey responses and 1,000+ attendees at open houses.

Survey results indicate widespread support for improved transit in Surrey and Langley, generally, and the proposed Surrey Langley SkyTrain, specifically. In Surrey and Langley, 85% of respondents support the proposed project, and in the rest of the region, support lies at 84%. The following is a breakdown of support:

- Surrey – 82%
- City of Langley – 90%
- Township of Langley – 92%
- Rest of Metro Vancouver – 84%

Survey respondents noted that the most important considerations for rapid transit south of the Fraser are predictable transit travel times, efficient use of public money, a comfortable and safe transit experience, and increased transportation options.

To augment feedback on rapid transit south of the Fraser, TransLink commissioned a market research survey to help obtain statistically-representative responses. Findings were consistent with the public engagement survey.

Phase 2 Engagement (Fall 2019)

A second round of public engagement was held between November 1st and 17th, during which stakeholders and members of the public provided feedback on the proposed SkyTrain alignment and station locations, access to SkyTrain and integration with other modes of transportation (walking, cycling, buses, and private vehicle), the Environmental Screening Review (ESR), and rapid transit on 104 Avenue and King George Boulevard.

Similar to the first round of public engagement, there was significant interest in the project with:

- 2,000 attendees at the five open houses
- 8,000 survey responses
- 5,000 participants in a live Telephone Town Hall with the Surrey Langley SkyTrain project director.

The engagement revealed:

- General support for the SkyTrain extension, especially for it to be built in one stage and on an expedited basis
- Agreement that identified factors were sufficiently thorough in helping to determine placement of the guideway
- Shelter, lighting, maps and signage, bus connections and pedestrian walkways, and pickup/dropoff and park-and-ride spaces are key to new stations and the surrounding areas
- Agreement (93%) that the ESR process is sufficiently thorough.

Once again, TransLink commissioned a market research survey to help obtain statistically representative responses. Findings were consistent with the public engagement survey and, additionally, found that the level of support for the project remains high at 77%.

Environmental Screening Review (ESR)

TransLink is committed to delivering the project in a manner that respects the environment and considers all project-related effects, including both natural and human. As such, the public, First Nations, government agencies, and stakeholders have been invited to provide feedback on the Environmental Screening Review. The ESR studies the potential effects of the project's construction and operation, and determines mitigation measures, as required. Results of the ESR will inform the final project design and set quality and performance standards for construction and operation. A complete list of the effects being assessed is available at surreylangleyskytrain.ca.

First Nations Engagement

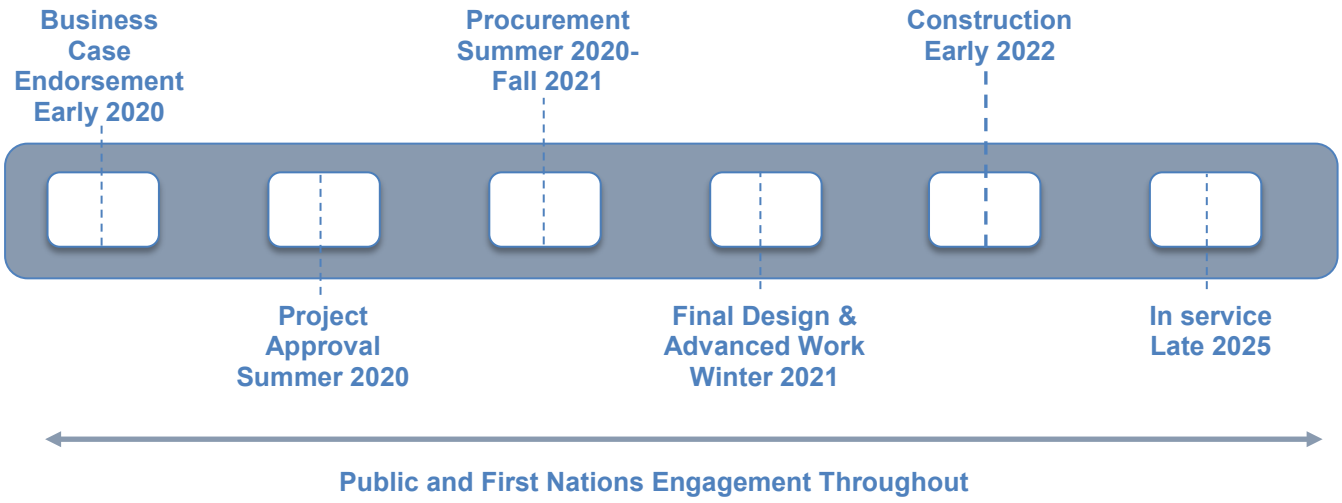
First Nations engagement is a key component of rapid transit planning with input helping to inform decision-making, including project development, and design work. Upon direction from the Mayors' Council to proceed with planning for a Surrey Langley SkyTrain, TransLink initiated an engagement process with First Nations that have territorial interests in the project. The project development phase provides a number of opportunities for First Nations engagement, including the Environmental Screening Review and related field studies.

Future Engagement

Through 2020 and beyond, we will continue to engage with the public, stakeholders and First Nations on how to minimize impacts on residents, businesses, and commuters during the construction and operation phases of the project.

Next Steps

The following diagram illustrates the project's next steps:



Conclusion

The Surrey Langley SkyTrain project is a necessary infrastructure project to help meet current and future transit demand in the fast-growing South of Fraser region, and contribute to the long-term prosperity of the region. Project will:

- Improve Transportation Options
- Increase Access to Opportunities and Housing
- Support Healthy Communities and Environment
- Support Economic Development

A solid Benefit-Cost Ratio of 1.24 confirms the benefit of the project, which has demonstrable public support across the region.

Current available funding of $1.63 billion enables construction of Stage 1 from King George SkyTrain Station to 166 Street in Fleetwood beginning in Summer 2020. TransLink will pursue implementation of the remainder of the extension when additional funding is secured.

Photo credit: City of Surrey