

NO: R108

COUNCIL DATE: June 10, 2019

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## REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **June 5, 2019**

FROM: **Acting General Manager, Engineering**

FILE: **8500-01**

SUBJECT: **Bus Transit Service Improvements in Surrey (2019-2020)**

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## RECOMMENDATION

The Engineering Department recommends that Council:

1. Receive this report for information; and
2. Authorize Surrey staff to work with TransLink on the design and delivery of exclusive bus-only lanes, dedicated business access and transit lanes, and bus queue jump lanes on King George Boulevard from Newton to Surrey Central Station to support the 96 B-Line.

## INTENT

The intent of this report is to update Mayor and Council on the delivery of the Mayors' 10-Year Plan and provide information on significant transit ridership growth in Surrey. This report also seeks Council support for the installation of transit priority measures, including a business access and transit ("BAT") lane on King George Boulevard and bus queue jumpers at key locations on Fraser Highway to enhance bus speed and reliability.

## BACKGROUND

### Creating Transit Plans for Surrey

In 2007, TransLink completed an Area Transit Plan ("ATP") for the South of Fraser Area, which included the Cities of Surrey, Delta, White Rock, Langley and the Township of Langley. The ATP outlined a long-range transit vision to 2031 and included shorter-term plans for phasing and implementation of transit service improvements.

The ATP was focused on identifying future rapid transit corridors, expanding the Frequent Transit Network ("FTN"), and building a grid-based transit system in the South of Fraser. ATPs are not funded plans, therefore major investments outlined in the ATP (like the 96 B-Line on 104 Avenue and King George Boulevard, as well as FTN service on Scott Road, 72 Avenue, and Fraser Highway) were delivered through subsequent TransLink investment plans.

To deliver the much-needed transit service improvements identified in ATPs across Metro Vancouver, the Mayors' Council, working with TransLink and municipal staff, developed the Regional Transportation Investments "A Vision for Metro Vancouver" Plan in 2014. The plan included 27 kilometres of rapid transit for Surrey, significant investment for increased bus service, and identification of enhanced funding sources for delivery of service improvements. The Mayors' 10-Year Investment Plan, approved by the Mayors' Council in 2016, outlined how these service improvements would be delivered in three phases. Phase 1 (2017-2019) started with the rollout of approximately 500,000 annual service hours region-wide, including over 119,000 annual bus service hours for the South of Fraser (the South of Fraser currently has approximately 1,029,000 annual bus service hours). This represented about a quarter of the overall bus service expansion in Metro Vancouver - the largest expansion of bus service hours in the region.

Phase 1 transit investment was well-aligned with Surrey-specific needs and priorities, with a focus on relieving passenger overcrowding on corridors like Fraser Highway, Highway 1, Highway 99, Scott Road, 72 Avenue, King George Boulevard and 104 Avenue. Service was also extended to developing areas, such as Morgan Creek and Clayton Heights.

Phase 2 of the Mayors' 10-Year Plan is anticipated to begin in 2020. Phase 2 includes \$1.65 billion for extending SkyTrain along Fraser Highway (funding that was originally designated for LRT on 104 Avenue and King George Boulevard and reallocated to Fraser Highway based on the new Surrey Council's election platform and supported by the Mayors' Council in December 2018).

Bus service improvements in Phase 2 are focused on reducing customer wait times, extending hours of service, expanding the FTN, and introducing a new B-Line on Scott Road and 72 Avenue. New service is planned for east Fraser Heights and 68 Avenue in Newton, which are areas that currently have little to no access to transit.

## **DISCUSSION**

### **Return on Transit Investment**

Recent transit service investments in Phase 1 have supported phenomenal transit ridership growth in Surrey. Surrey had the largest percentage growth of annual transit passenger boardings in the region at 16.7% for 2018 versus 2017. That growth equates to 5.8 million new annual passenger boardings. Since 2010, the entire South of Fraser region (including Surrey, Delta, White Rock, and the City and Township of Langley) has had the largest increase in bus ridership in Metro Vancouver, with 21.1 million new annual passenger boardings per year (a 73% increase from 2010 ridership levels).

According to the TransLink 2018 Transit Service Performance Review three quarters of the bus routes in the South of Fraser had double digit percentage growth in 2018. This was led by bus route 319 Scott Road and 72 Avenue which grew by 1.2 million passenger boardings in 2018 and had the second largest growth in absolute ridership in Metro Vancouver. Surrey's top 5 busiest bus routes by Annual Passenger Boardings, and their rank across the region, are identified in Table 1 below.

**Table 1: Top 5 Busiest Bus Routes in the South of Fraser**

<b>Bus Route</b>	<b>Annual Passenger Boardings</b>	<b>Surrey rank</b>	<b>System-wide rank</b>
319 Scott Road and 72 Avenue	6,420,000	1	11
96 B-Line 104 Avenue and King George Boulevard	5,832,000	2	15
502 Fraser Highway	3,176,000*	3	28
321 King George Boulevard	2,906,000	4	31
335 108 Avenue, 160 Street and 72 Avenue	2,876,000	5	32

\* Transit ridership on Fraser Highway is currently constrained due to insufficient service capacity (resulting in significant overcrowding where buses are too full to pick up additional passengers) and traffic congestion (impacting bus speed and reliability). Staff expect transit ridership on Fraser Highway to grow significantly, as planned service improvements are delivered as a precursor to the SkyTrain extension. The Fraser Highway corridor also supports bus routes 320 (2,295,000 annual boardings), 395 (192,000 annual boardings) and 503 (740,000 annual boardings).

Increasing transit ridership in Surrey is not just related to population growth. Transit ridership per capita is also increasing, meaning more people in Surrey are making more trips on transit. In 2016, bus and SkyTrain annual boardings per capita were 79. By 2018, annual boardings per capita had increased to 95. This recent transit ridership growth is proof Surrey is established as a strong market for transit service in the region. Surrey will continue advocating to TransLink on the pressing need to address the longstanding undersupply of transit service south of the Fraser.

### **Upcoming Transit Service Improvements and Expansion**

TransLink is proposing service improvements to bus routes in South Surrey, on Fraser Highway and on Scott Road and 72 Avenue to address issues of chronic overcrowding. TransLink is also planning on expanding service to new areas that currently have little to no access to transit. The following highlights some of the major network improvements, which are also illustrated in the attached Appendix “I”:

#### Scott Road and 72 Avenue B-Line

Bus route 319 on Scott Road and 72 Avenue is the busiest bus route in the South of Fraser and 11<sup>th</sup> busiest in the Metro Vancouver region. TransLink is planning on introducing a new B-Line on Scott Road and 72 Avenue as part of Phase 2 of the Mayors’ 10-Year Plan. The new Scott Road and 72 Avenue B-Line will operate between Scott Road Station, Scottsdale Exchange and Newton Exchange connecting to major destinations like Kwantlen Polytechnic University. TransLink and Surrey will work together to identify potential transit priority measures for this new B-Line to enhance bus speed and reliability for transit users along the corridor.

### Double-Decker Buses in South Surrey

TransLink is proposing to assign new double-decker buses to bus route 351 Bridgeport/White Rock Centre. Bus route 351 received the second highest number of requests in 2018 to increase service capacity in order to reduce overcrowding. This service change will require splitting bus route 351 into two separate routes at White Rock Centre, located at the Surrey/White Rock boundary. Double-decker buses will be assigned to the route between White Rock Centre and Bridgeport (which has the highest ridership). A new community shuttle bus route will serve local stops between White Rock Centre and Crescent Beach, which is more appropriate for ridership on this route section.

Splitting bus route 351 has generated concern in the local community as some customers west of 152 Street will now have to transfer at White Rock Centre to continue their journey to Bridgeport Station. Based on boarding data, the number of people impacted by this change is comparatively low (approximately seven people per day) while the benefit of using double-decker buses on bus route 351 to reduce overcrowding is high. This change also removes the standard 12 metre (40 feet) long buses from operating in Crescent Beach which is a longstanding concern to local residents.

### Fraser Highway Limited Stop Bus Service

As a precursor to the SkyTrain extension along Fraser Highway, that is currently in the project development phase and planned for a 2021 construction start, a high-frequency, limited stop service is planned to support ridership demand. This new limited-stop service (where buses only stop at key intersections and transfer points) will replace the B-Line planned for Fraser Highway. The new service will use 18 metre (60 feet) articulated buses to further increase capacity and reduce chronic overcrowding on Fraser Highway. Bus services on Fraser Highway are consistently among the most overcrowded in Metro Vancouver (ranking fourth region-wide in 2018 for overcrowding).

Surrey and TransLink are collaborating on transit priority measures (bus queue jumpers) at 140 Street, 96 Avenue and 148 Street to promote bus speed and reliability. Bus queue jumpers consist of an additional travel lane on the approach to a signalized intersection which allows the higher-capacity vehicles to cut to the front of the traffic queue, reducing the delay caused by the signal and improving the operational efficiency of the transit system. These transit priority measures can be achieved at low cost within existing road right-of-way (no trees will be impacted) and with a high benefit to transit passengers. Over 3.5 million transit passengers per year will benefit from this enhanced bus speed and reliability until the Surrey-Langley SkyTrain is in operation.

### New Service Areas

New transit service is planned for Abbey Ridge in Fraser Heights and along 68 Avenue in Newton, both of which are areas that currently have little to no access to transit service. In Abbey Ridge, the new service will support this growing neighbourhood. Transit service will connect Abbey Ridge residents to Guildford Exchange, where they have access to jobs, shopping and entertainment and can transfer to other transit services (like the 96 B-Line).

In Newton, a new cross-town transit service is planned on 68 Avenue connecting Scottsdale Exchange to the Sullivan neighbourhood. This new service responds to numerous requests from residents for a connection to regional transit routes and major local destinations. Residents will be able to connect to the future Scott Road and 72 Avenue B-Line at Scottsdale Exchange and transfer to other bus routes connecting to Newton, Surrey Central Station, Scott Road Station and South Surrey.

Both the Abbey Ridge and 68 Avenue services will use neighbourhood-friendly community shuttle vehicles. Service will operate every 30 minutes, seven days a week, from the morning until the evening. The new services will provide or improve transit service to 46,000 people. Staff will work with TransLink on the road and bus stop improvements needed to support these new services.

### **Making Transit Faster and More Reliable**

In support of increasing ridership on the 96 B-Line (and in advance of B-Line extension to South Surrey), Surrey staff are working with TransLink on designing and constructing dedicated business access and transit (“BAT”) lanes on sections of the 96 B-Line route which experience high traffic congestion. BAT lanes are lanes dedicated for buses (through painted markings and signage) which restrict other vehicles from travelling within the lane except if the vehicle is making the next right turn or is entering a local business. BAT lanes are relatively new to Metro Vancouver and are used in cities across North America to enhance bus speed and reliability without restricting access to local businesses. Proposed locations for “BAT” lanes on King George Boulevard include:

- 72 Avenue between King George Boulevard and Newton Exchange;
- King George Boulevard between 72 Avenue and 74 Avenue;
- King George Boulevard between 96 Avenue and 102 Avenue; and
- 102 Avenue between King George Boulevard and the approach to Surrey Central Station.

The project scope includes re-alignment of existing travel lanes within the current road right-of-way (no property acquisition required) to accommodate the BAT lanes. The project will also investigate the feasibility of providing exclusive lanes (transit lanes where vehicles operate in an exclusive right-of-way independent of general traffic) through City Centre. These lanes would support the 96 B-Line, as well as other transit routes connecting to Surrey Central Station. Transit priority measures would be funded by TransLink through the \$34 million Bus Speed and Reliability Program. The attached Appendix “II” King George Boulevard Transit Priority Lanes illustrates the proposed scope of the BAT lanes on King George Boulevard.

### **SUSTAINABILITY CONSIDERATIONS**

Transit service improvements support the objectives of the City’s Sustainability Charter 2.0. In particular, these improvements relate to the Sustainability Charter 2.0 themes of Built Environment and Neighbourhoods, and Infrastructure. Specifically, these projects support the following Desired Outcomes (“DO”):

- Neighbourhoods and Urban Design DO2: Surrey is well-connected within the city and to the rest of the region by fast and efficient public transit and active transportation infrastructure for all ages and abilities; and

- Transportation DO11: An integrated and multi-modal transportation network offers affordable, convenient, accessible and safe transportation choices within the community and to regional destinations.

## FUNDING

All of the service improvements described in this report will be fully funded by TransLink.

## CONCLUSION

Transit ridership in Surrey continues to grow at a phenomenal rate. In 2018, Surrey had the largest percentage growth of annual transit passenger boardings in the region at 16.7%. TransLink is responding by delivering the projects outlined in the Mayors' 10-Year Plan, which are well aligned with Surrey-specific needs and priorities. TransLink is also proposing changes to bus routes in South Surrey and on Fraser Highway to address issues of chronic overcrowding. In South Surrey, TransLink is proposing to assign double-decker buses to bus route 351 Bridgeport/White Rock Centre.

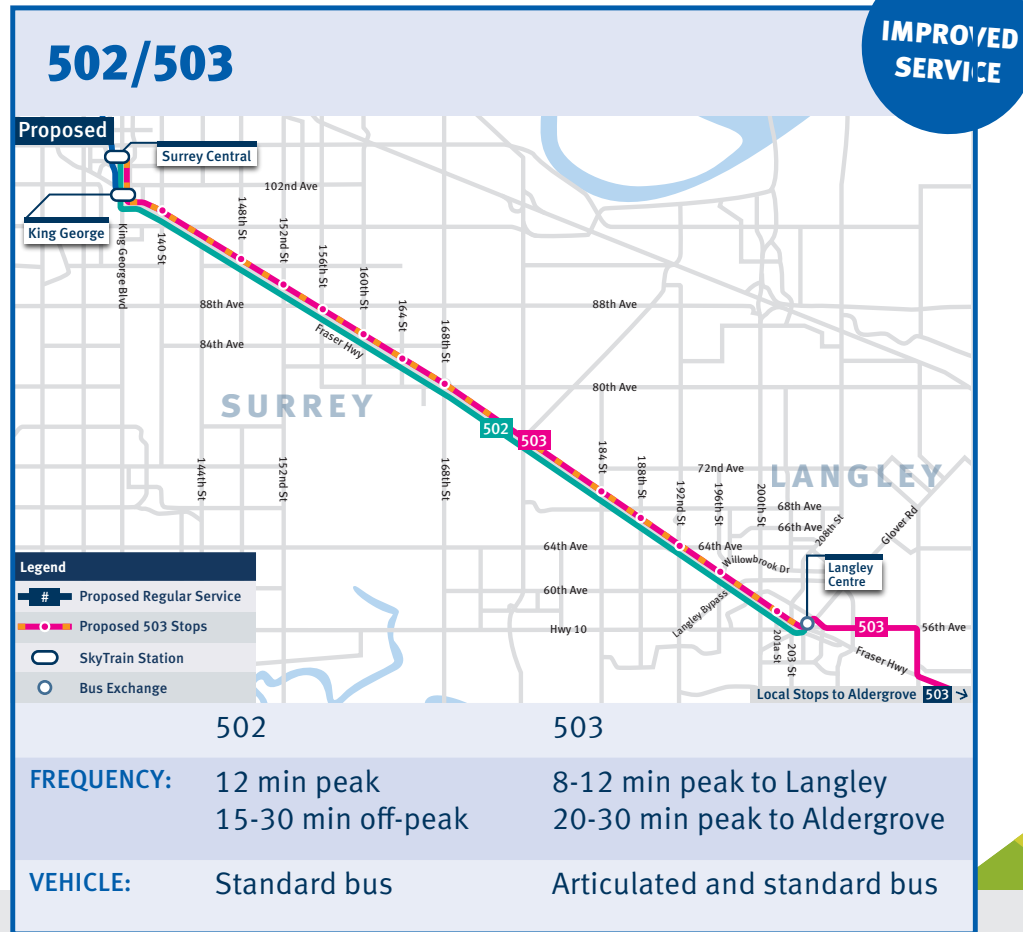
To enhance the speed and reliability of buses on key corridors, Surrey and TransLink are collaborating on transit priority measures (bus queue jumps) that can be achieved at low cost with a high benefit to transit passengers.

Jaime Boan, P.Eng.  
Acting General Manager, Engineering

PK/cc

Appendix "I" - Upcoming Transit Service Improvements and Expansion  
Appendix "II" - King George Boulevard Transit Priority Lanes

# Fraser Highway



## PROPOSED CHANGES

- Redesign route 503 to become high frequency, limited stop service between Surrey Central and Langley
- Some 503 trips continue from Langley Centre to Aldergrove with local stop service
- Reduce frequency on route 502

## WHY DID WE PROPOSE THE CHANGE?

- To address overcrowding on Fraser Hwy

## BENEFITS & TRADEOFFS

- Increases frequency between Surrey Central and Langley Centre to reduce overcrowding
- Limited stop service provides faster journey time
- Maintains current frequency between Surrey Central and Aldergrove
- Slightly longer travel time between Surrey Central and Aldergrove



# East Fraser Heights



## PROPOSED CHANGES

- Introduce new route connecting East Fraser Heights neighbourhood to 104 Ave and Guildford Exchange

## WHY DID WE PROPOSE THE CHANGE?

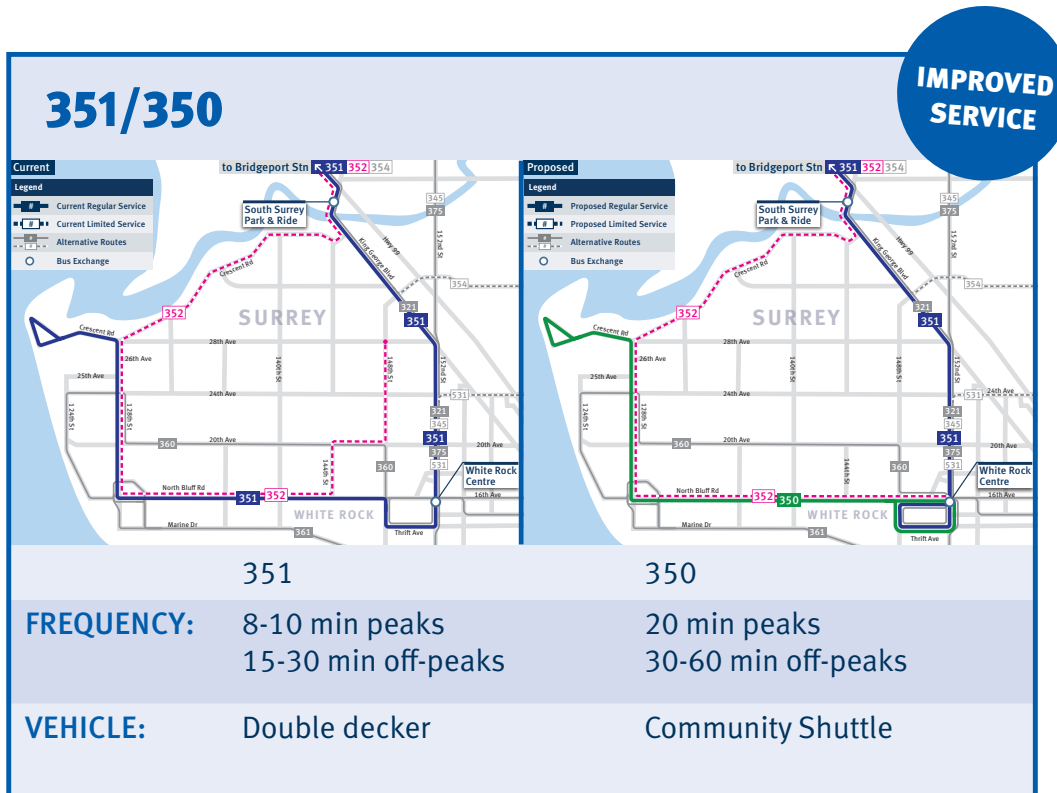
- Customers have been requesting improved access to transit service
- Connect this growing residential neighbourhood to regional transit routes and major local destinations

## BENEFITS

- Improves transit options for approximately 18,000 people, more than 3,500 of whom currently do not have access to transit
- Provides all-day service to East Fraser Heights
- New two-way service on 104th Ave
- Provides connection to local schools



# White Rock Centre – South Surrey – Bridgeport



## PROPOSED CHANGES

- Split route 351 into two routes at White Rock Centre
- New 351 will provide service between Bridgeport and White Rock Centre
- New 350 will provide service between Crescent Beach and White Rock Centre, served by community shuttles
- Introduce double decker buses on route 351
- Redesign route 352 to continue along 16th Ave at White Rock Centre

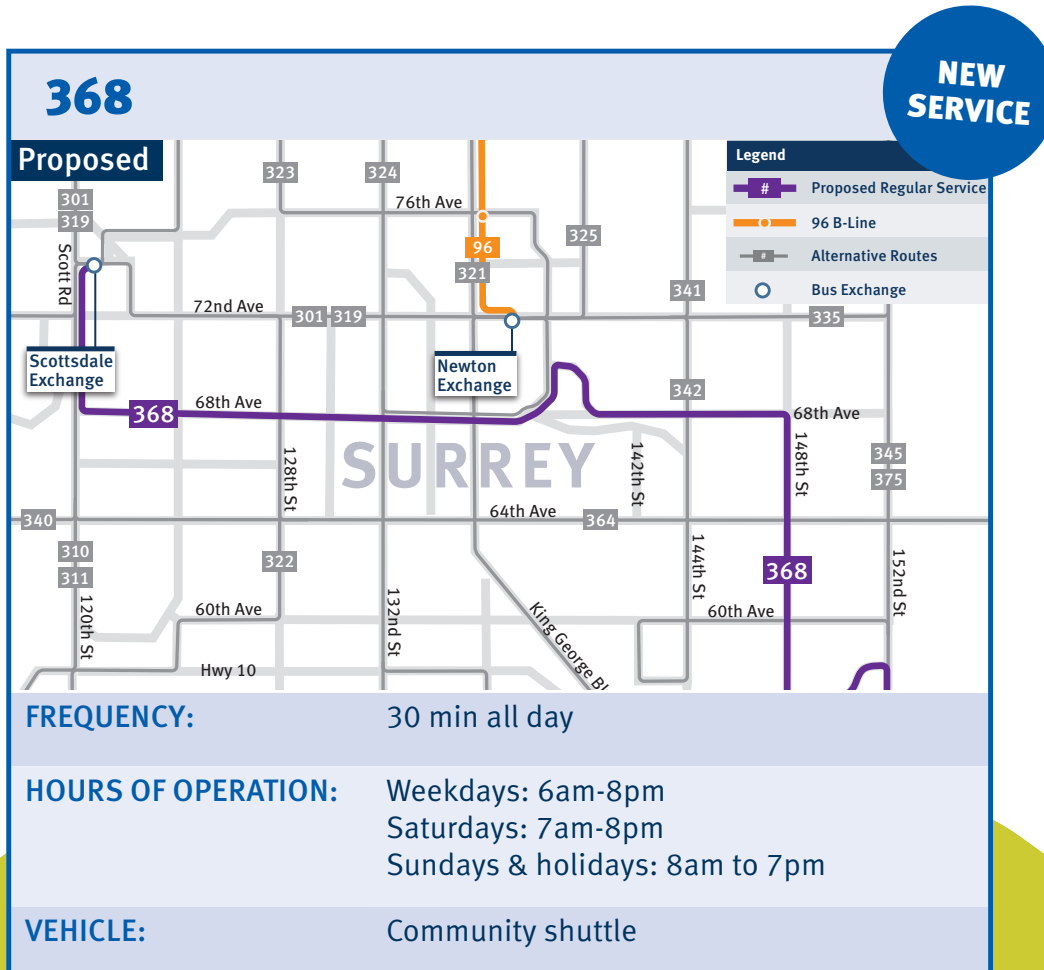
## WHY DID WE PROPOSE THE CHANGE?

- Routes 351, 352 and 354 experience overcrowding between South Surrey Park & Ride and Bridgeport
- Double decker buses will be introduced on route 351 to reduce overcrowding
- On average, 7 passengers/day travel from Crescent Beach to Bridgeport

## BENEFITS & TRADEOFFS

- Reduces peak overcrowding
- Eliminates use of standard length buses in Crescent Beach
- Allows for more efficient use of resources to address overcrowding
- Requires a transfer for some customers travelling to Bridgeport
- Some loss of service on 144th St and 148th St

# 68<sup>th</sup> Avenue



## PROPOSED CHANGES

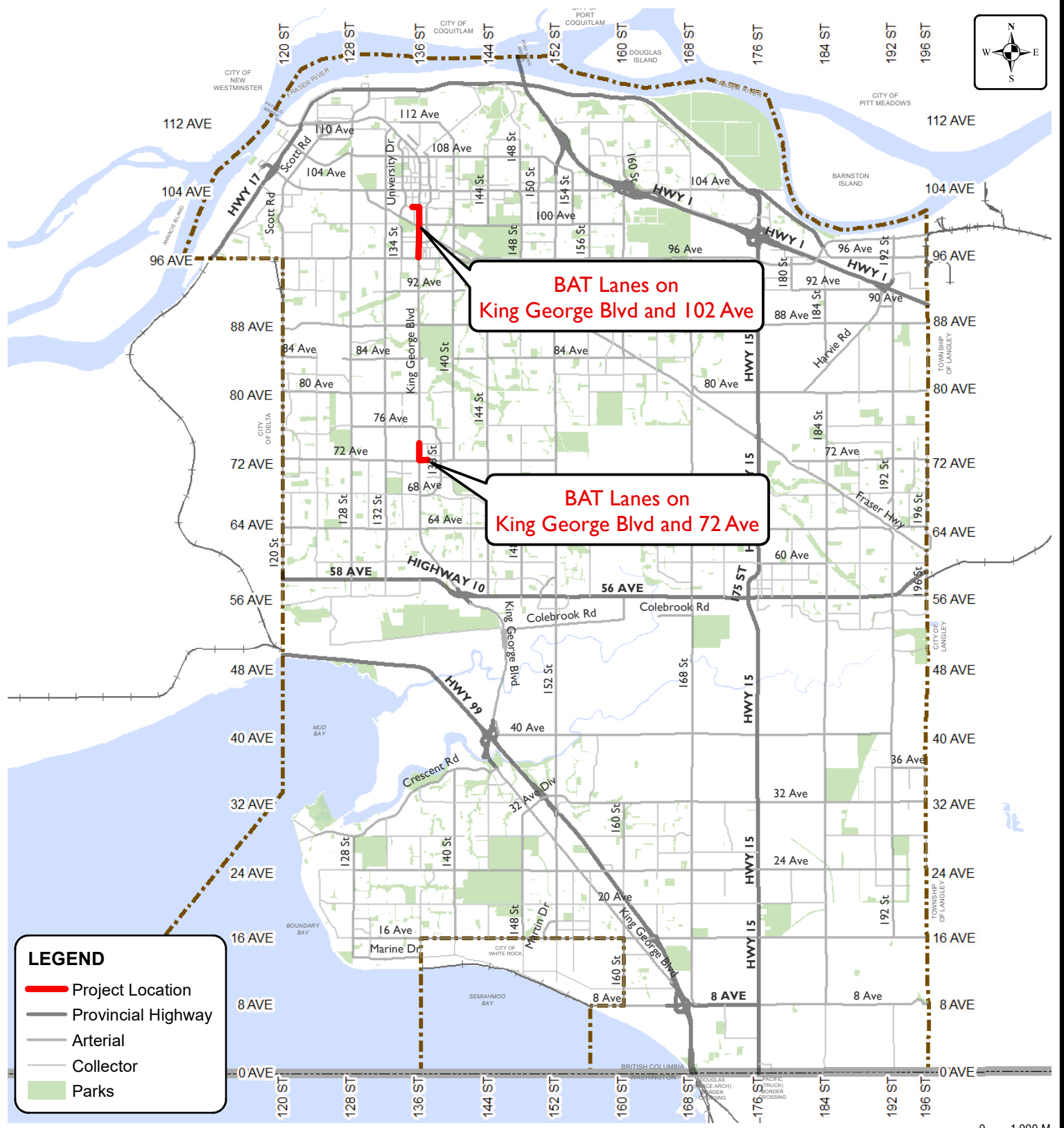
- Introduce new route connecting Scottsdale to Sullivan via 68th Ave and 148th St

## WHY DID WE PROPOSE THE CHANGE?

- Customers have been requesting improved access to transit service
- Ridership grew by 15.6% in 2018 in the South of Fraser area
- Connect this growing residential neighbourhood to regional transit routes and major local destinations

## BENEFITS

- Introduces service for approximately 28,000 people who currently do not have access to transit
- Provides connection for residents to local schools and commercial destinations
- Allows for transfers to routes connecting to Newton Exchange, Surrey Central Station, Scott Road Station and many more



**LEGEND**

- █ Project Location
- Provincial Highway
- Arterial
- Collector
- Parks

Produced by GIS Section: 27-May-2019, JJR

Scale: 1:125,000 0 1,000 M



## Proposal Location of BAT Lanes on King George Boulevard

**ENGINEERING  
DEPARTMENT**

The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey. This information is provided for information and convenience purposes only. Lot sizes, Legal descriptions and encumbrances must be confirmed at the Land Title Office.