

NO: R169

COUNCIL DATE: October 16, 2023

REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **October 12, 2023**

FROM: **General Manager, Engineering**

FILE: **8630-20**

SUBJECT: **Bus Rapid Transit on King George Boulevard**

RECOMMENDATION

The Engineering Department recommends that Council:

1. Receive this report for information;
2. Endorse Bus Rapid Transit (“BRT”) on King George Boulevard from City Centre to South Surrey, as the City’s top BRT priority corridor; and
3. Direct staff to work with TransLink on advancing design of BRT on King George Boulevard in 2024.

INTENT

The intent of this report is to provide Council with background information to support advocacy to TransLink that King George Boulevard (“KGB”) be TransLink’s top priority for implementation of the first Bus Rapid Transit (“BRT”) service in the region.

BACKGROUND

BRT is a bus-based, rapid transit used in many cities worldwide to provide fast, efficient and high-capacity transit service. BRT provides a higher level of services than existing regional RapidBus services. TransLink’s 10-Year Priorities Plan proposes nine BRT routes across the region, including KGB from Surrey City Centre through Newton to South Surrey, as illustrated in the attached Appendix “I”. These future BRT services would be the first in British Columbia.

BRT is more advanced than existing RapidBus services because BRT requires dedicated lanes exclusively for buses, which are often separated from regular traffic by physical barriers, and feature higher-capacity buses, dedicated stations, high frequency service, and extended hours of operation that attract higher ridership. BRT services include bus priority at traffic signals, off-board fare collection, quick and convenient access platforms, and stations with advanced passenger amenities like real time information, wayfinding, and improved lighting. Distinctive features of BRT are described in Appendix “II”. Images from other Canadian BRT services are provided in Appendix “III”.

DISCUSSION

Following the COVID-19 pandemic, Transit ridership in Surrey has recovered faster than any other city in Metro Vancouver, exceeding pre-pandemic levels, and increased transit service is required to support continued growth and housing needs in Surrey. These factors support quick implementation of a BRT project and robust ridership on opening day. The City has also recently widened key infrastructure along the corridor, including the Bear Creek Bridge and Nicomekl Bridge (currently under construction).

Based on a review of the nine proposed BRT corridors in the region, attached as Appendix “IV”, KGB has the highest existing population, the highest existing transit ridership, and is the only corridor that can be advanced without coordination between multiple municipalities (as the corridor is solely within the boundaries of the City of Surrey). Transit services on KGB generate a combined 7 million passenger boardings annually. Between City Centre and Highway 10, KGB features an existing right-of-way which can accommodate median-separated bus lanes, BRT stations and five general purpose traffic lanes without significantly impacting capacity for general traffic. The wide right-of-way on KGB will avoid costly land acquisition or re-allocation of existing vehicle lanes to implement BRT.

South of Highway 10, topography, overpass and bridge infrastructure, and the Agricultural Land Reserve limit the feasibility of exclusive BRT lanes, and thus BRT would need to run in mixed traffic, similar to RapidBus. Further, analysis is required south of Highway 10 to assess feasibility and if the preferred transit service would be BRT or RapidBus, either of which are a higher level of service above current conditions.

Updated Neighbourhood Concept Plans (“NCPs”) have been completed for the town centres along the corridor. These land use plans include transit-supportive policies, such as high-density residential and mixed-use zoning. Combined, the plans have zoned capacity for 133,000 additional residents and 42,000 new jobs. In addition, the City and TransLink can utilize the previously completed Light Rail Transit reference design and business case to expedite BRT on KGB.

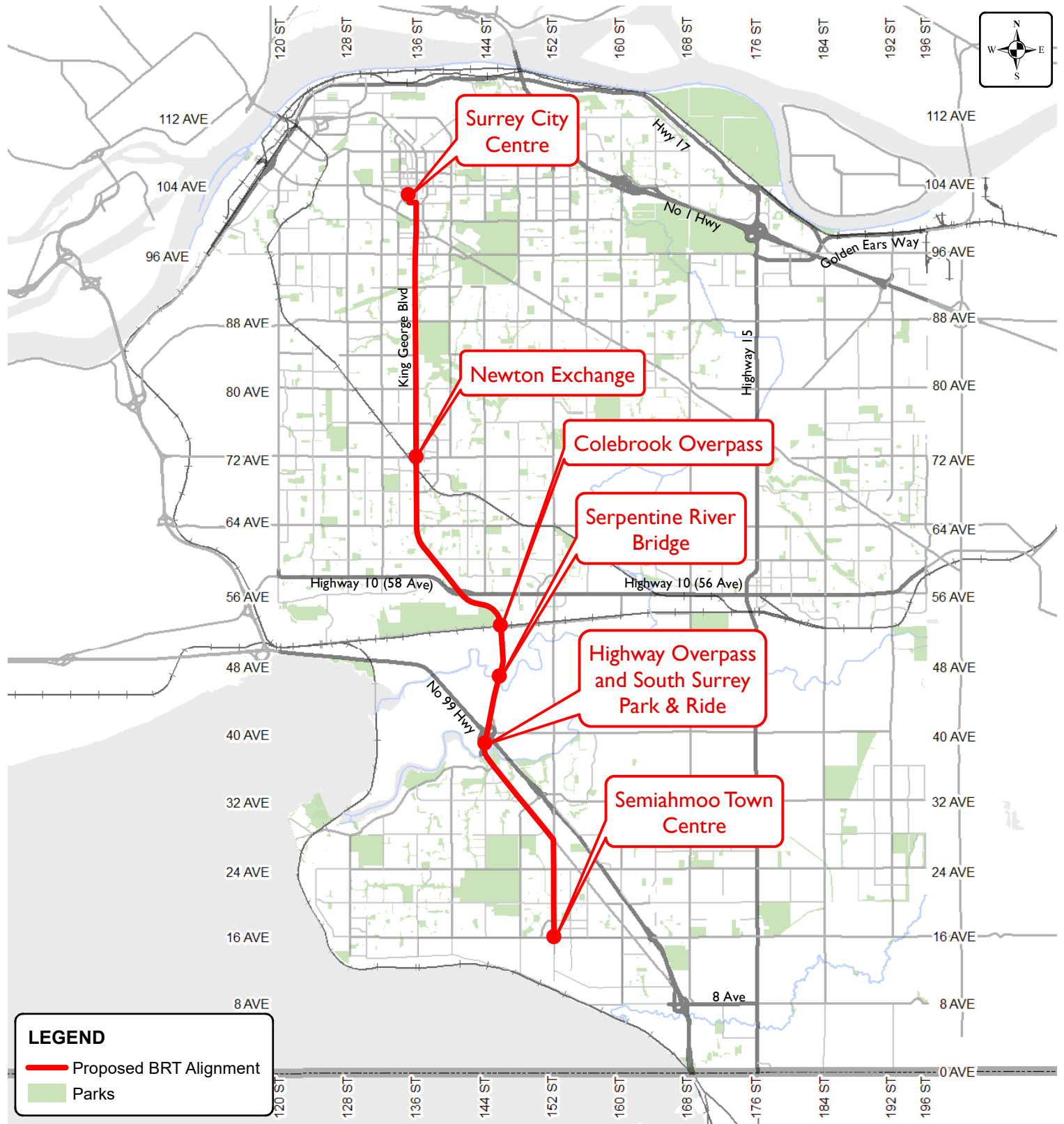
CONCLUSION

The KGB corridor should be prioritized as the first BRT project in the region. BRT on KGB would provide immediate benefits, including reduced traffic congestion and increased transit ridership, making it the most favourable option for rapid implementation.

Scott Neuman, P.Eng.
General Manager, Engineering

RV/cc

Appendix “I” - Transport 2050: 10-Year Priorities
Appendix “II” - Typical Bus Rapid Transit Features
Appendix “III” - Canadian Examples of Bus Rapid Transit
Appendix “IV” - Analysis of proposed BRT corridors in TransLink’s 10-Year Priorities Plan



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Proposed King George Boulevard Bus Rapid Transit Alignment

ENGINEERING
DEPARTMENT

Typical Bus Rapid Transit Features

The following features collectively make BRT systems faster, more reliable, higher capacity and more convenient compared to regular bus services. In many cases, BRT can offer service levels similar to light rail or metro systems. Data from the BRT system in the York region describes the advantages of median exclusive busways, as compared to curbside transit: buses operate 15-39% faster, ridership is 18-67% higher, and the corridor design has reduced road collisions by 53-69%.

Key Feature	Description
Dedicated Right-of-Way	Exclusive bus lanes, separated from general traffic by physical barriers, ensure buses are not affected by traffic congestion and are fast and reliable – in some cases providing competitive travel times to private automobiles.
Busway Orientation within the Roadway	Buses often travel along the center of the road or in a designated bus-only corridor to avoid traffic congestion at intersections and driveways.
Off-board Fare Collection	Passengers pay their fare at the station before boarding the bus, eliminating delays from passenger boarding.
Intersection Treatments and Access Management	Infrastructure and regulations to prevent turning traffic from crossing the bus lanes, reducing delays at intersections and improving safety for both buses and car drivers.
Platform-level Boarding	Stations are designed to be at the same level as the bus, allowing quick and easy boarding for all passengers – especially people with mobility challenges.
Higher-Capacity Vehicles	Buses are articulated or bi-articulated to provide higher capacity than standard buses, reducing overcrowding and pass-ups.
High-frequency service	BRT services operate at higher frequencies than regular bus routes – running up to every 5-6 minutes during peak periods. High service frequencies increase convenience and allow “show up and go” service for people to use the system without needing to refer to a schedule or timetable.
Extended hours of operation	BRT services begin operation early in the morning and run late into the night, 7 days a week, giving people confidence they will have access to transit at all hours of the day.

Canadian Examples of Bus Rapid Transit

York Region Viva BRT



Mississauga MiWay BRT



Calgary BRT



APPENDIX “IV”

Analysis of Proposed BRT Corridors in TransLink’s 10-Year Priorities Plan

Proposed BRT Corridor	2022 Population	2022 Employment	Existing Bus Routes	2022 Transit Ridership	Municipalities/ Stakeholders
King George Blvd	124,000	48,000	R1, 321, 394	6,960,000	1
Hastings St	79,000	144,000	R5	4,360,000	3
200 Street	33,000	22,000	595*	420,000	3
Lougheed Hwy	25,000	16,000	R3, 701	1,800,000	5
Lynn Valley-Downtown	96,000	159,000	241, 230, 229	1,480,000	5
Marine Drive – 22nd Street	59,000	40,000	100	3,130,000	4
Metrotown – Park Royal	100,000	86,000	R2, 130, 222	4,920,000	5
Richmond – Metrotown	91,000	62,000	430	1,870,000	3
Scott Road	45,000	17,000	319	605,000	2

Source: TransLink, Transit Service Performance Review, 2022

*595 route runs along 208 Street. The 501 route runs on 200 Street but was not included in the analysis as half the route is within Surrey. Publicly accessible ridership data cannot be broken down by bus stop.