

Reviewed by Finance & Audit Committee on June 23, 2004.

To: GVTA Board of Directors
From: Fred J. Cummings, Project Director – New Fraser River Crossing
Date: July 7, 2004
Subject: **New Fraser River Crossing – Toll Rate Regulatory Framework**

Staff Recommendation:

That the Board of Directors:

- A. Endorse the toll rate regulations as highlighted in this report; and
 - B. Approve the vehicle classifications as highlighted in this report; and
 - C. Approve the method to calculate tolls as described in this report.
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PURPOSE

The following highlights the toll rate regulatory framework that TransLink, will apply by way of a by-law to govern the application of tolls for the New Fraser River Crossing (“FRC”). The various vehicle classifications are defined and the methodology for calculating tolls is highlighted. In addition, the anticipated charges that may be applied and the approach to ensuring revenue collection are also described.

The actual collection and enforcement of the tolls established under the toll rate regulatory framework will be effected either by TransLink or by TransLink’s subsidiary Fraser Bridge Project Ltd. (“FBPL”). The appropriate party will enter into an agreement with a billing organization for the purpose of administering the toll collection task¹.

DISCUSSION

Background

The toll rate regulatory framework set out in this report is subject to the enactment of proposed clarifying amendments to the *Greater Vancouver Transportation Authority Act* (the “*GVTA Act*”). TransLink is in the process of working with the Ministry of

¹ For the purposes of this report, it is assumed that the tolls will be effected by FBPL.

Transportation to have those amendments introduced in the Legislature during the next legislative session. Changes to the regulatory framework described in this document and established in the by-law will require either a new by-law or an amending by-law and, except where there is a decrease in the toll rate, will require public consultation and ratification by the board of the Greater Vancouver Regional District (“GVRD”).

User and vehicle class definition

Users of the FRC will have the option of establishing an account; those that do will be provided with a toll device – a device that is used to detect facility usage, so as to enable FBPL to apply the toll charge and streamline the billing process (“toll device users”). An automated video recognition system will identify vehicles without a toll device and will be employed to enable FBPL to calculate the requisite tolls for users who have not established an account (“non-toll device users”).

In addition, FRC users will be segmented into one of three different groups, varying by type of vehicle, which will include:

- **“Cars”** – defined to consist of most passenger vehicles, vans, sport utility vehicles, pick-up trucks, and taxis. FRC users with cars may elect to traverse the facility with or without the use of a toll device.
- **“Small trucks”** – defined to consist of “cars” towing a trailer, light duty commercial vehicles with less than five axles (with or without a trailer), school buses, intercity buses, and non-exempt transit buses. FRC users with small trucks may elect to traverse the facility with or without the use of a toll device.
- **“Large trucks”** – defined to consist of all other vehicles (typically with five or more axles) with or without a trailer. FRC users with large trucks may not use the facility without first establishing an account and subsequently employing the use of a toll device for each trip.
- **“Motorcycles”** – defined as a motor vehicle with two wheels. Note that this category does not include bicycles.

The proposed amendments to the *GVTA Act* allow for the GVTA Board of Directors to set out, in a by-law, the types and classes of users who will be exempt from paying a toll. These may include: emergency vehicles (including police, fire, and ambulance), TransLink buses, toll operator vehicles, pedestrians, and cyclists.

Toll “Grace Period”

To encourage initial utilization, to provide users with an opportunity to try the new facility, and to allow sufficient time to test the tolling technology with live traffic, no tolls will be charged for traveling the facility for the first few months after the traffic

availability date (“grace period”). FBPL will begin levying tolls subsequent to the “grace period”.

Initial toll and calculation methodology

Users will pay a point toll for crossing the bridge. The initial tolls for the first 12 full calendar months subsequent to the grace period defined above for each vehicle classification are highlighted in the table below.

Type of Vehicle	Toll-Device User (2003\$)	Non-Toll Device User (2003\$)²
Cars	\$2.50	\$3.50
Small trucks	\$5.00	\$6.00
Large trucks	\$7.50	N/A
Motorcycles ³	\$1.25	\$2.25

These rates are provided in constant 2003 dollars and will be adjusted to reflect inflation, rounded to the nearest nickel, when the FRC is opened. The basis for determining the toll rates for small trucks, large trucks, and motorcycles is a factor of the toll rate for cars with a toll device. Specifically, small trucks with a toll device will be charged 2 times the car rate for a toll device user, large trucks will be charged 3 times the car rate for a toll device user, and motorcycles will be charged 0.5 times the car rate for a toll device user.

Users who travel the FRC without a toll device will be charged a differential toll rate to offset the additional cost of employing video recognition technology, the annual depreciation charge of the video technology, the annual operating costs associated with running the video system (e.g. additional staffing for call centre and manual video matching, additional space, etc). The annual operating costs for the system also includes the cost of recovering the debt and the lost revenue (or leakage) typically associated with non-toll device users. The \$1.00 differential (in constant 2003 dollars) is based on current estimates of the anticipated traffic and revenue for the FRC.

² Subject to further legal review.

³ Depending on the technology that is selected, motorcycle users who establish an account will not necessarily be required to mount the toll device on their vehicle.

To date, it has been assumed that the base rates identified above will be applied regardless of time of day. Additional analysis will be undertaken to determine the potential financial impact associated with variable rate pricing including review of reduced rates at night.

Future changes in the toll rate

The GVTA Board of Directors may set out, in a by-law, a framework allowing for escalation to the initial toll rate. This by-law is subject to GVRD ratification and public consultation. The proposed basic methodology for calculating the maximum annual escalation of tolls is as follows:

- The base toll rate applied to cars in the previous year will be adjusted by the reported CPI rate in Canada for the most recent 12 month period using the following formula:

$$\text{Toll rate}^{t+1} = \text{Toll rate}^t \times (\text{CPI}^t + 1)$$

Where: Toll rate^{t+1} = the base toll rate to be applied to cars for the upcoming 12-month period

Toll rate^t = the base toll applied to cars in the past 12-month period

CPI^t = the inflation rate experienced in Canada for the most recent 12-month period for which data is available

- The base toll rate for cars resulting from this calculation will rounded to the nearest nickel (\$0.05).
- The toll rate for cars without a toll device will be calculated as the new rate for cars with a toll device plus the current \$1.00 differential (now adjusted for CPI using a formula similar to that above) and rounded to the nearest nickel (\$0.05).
- The toll rate for small trucks with a toll device will be calculated as 2 times the new base rate for cars with a toll device computed above.
- The toll rate for small trucks without a toll device will be calculated as the new rate for small trucks with a toll device plus the current \$1.00 differential (now adjusted for CPI using a formula similar to that above) and rounded to the nearest nickel (\$0.05).
- The toll rate for large trucks will be calculated as 3 times the new base rate for cars with a toll device computed above.
- The toll rate for motorcycles will be calculated as 0.5 times the new base rate for cars with a toll device computed above and rounded to the nearest nickel (\$0.05).

- The toll rate for motorcycles without a toll device will be calculated as the new rate for motorcycles with a toll device plus the current \$1.00 differential (now adjusted for CPI using a formula similar to that above) and rounded to the nearest nickel (\$0.05).

Using the current toll rates, the proposed methodology for increasing rates over the life of the project, and the current estimates for inflation built into the financial model (2.5% per annum), the toll rates for the first 15 years of the project (beginning in 2008) may be calculated as follows.

Year	Cars		Trucks			Motorcycles	
	Toll Device	Non-toll Device	Small Trucks Toll Device	Small Trucks Non-toll Device	Large Trucks	Toll Device	Non-toll Device
2003	2.50	3.50	5.00	6.00	7.50	1.25	2.25
2008	2.85	4.00	5.70	6.85	8.55	1.40	2.55
2009	2.90	4.05	5.80	6.95	8.70	1.45	2.60
2010	2.95	4.15	5.90	7.10	8.85	1.50	2.70
2011	3.05	4.25	6.10	7.30	9.15	1.50	2.70
2012	3.10	4.35	6.20	7.45	9.30	1.55	2.80
2013	3.20	4.50	6.40	7.70	9.60	1.60	2.90
2014	3.30	4.60	6.60	7.90	9.90	1.65	2.95
2015	3.35	4.70	6.70	8.05	10.05	1.70	3.05
2016	3.45	4.85	6.90	8.30	10.35	1.70	3.10
2017	3.55	4.95	7.10	8.50	10.65	1.75	3.15
2018	3.60	5.05	7.20	8.65	10.80	1.80	3.25
2019	3.70	5.20	7.40	8.90	11.10	1.85	3.35
2020	3.80	5.30	7.60	9.10	11.40	1.90	3.40
2021	3.90	5.45	7.80	9.35	11.70	1.95	3.50
2022	4.00	5.60	8.00	9.60	12.00	2.00	3.60
2023	4.10	5.75	8.20	9.85	12.30	2.05	3.70

Notwithstanding this standardized approach, if TransLink wishes to amend the initial toll rate regulatory framework, including the proposed formula, to increase the tolls it may do so, in a by-law, subject to the terms of the project agreements, GVRD board ratification and public consultation. However, any change to by-laws addressing the toll rate regulatory framework resulting in a decrease to toll rates would not require GVRD ratification or public consultation but may require approval under the terms of the project agreements.

To illustrate how the project agreements potentially impact TransLink’s rate setting flexibility, under the current business model, to implement any changes, TransLink will also need to demonstrate to FBPL’s lenders that the credit quality and credit outlook for the project (over the remaining term of the project debt) is unchanged from the outlook originally established at financial close. Adjusting the toll rates in a manner different from the standardized methodology described above will require the completion of a new traffic study by an independent consultant to determine that the new annual revenues

resulting from the proposed toll rates will not be lower than those originally forecasted. Moreover, the revised debt service coverage ratio must be greater than the ratio of 1.25 to 1 to ensure no change in the investment graded credit rating for any given fiscal year and the average revised debt service coverage ratio over the remaining life of the debt may not be less than that at financial close. If so, then the lenders' approval will be automatic.

Examples of other facilities that increase their toll rates as a function of inflation on an annual basis include:

- Confederation Bridge
- The Fredericton/Moncton Highway
- Highway 104 in Nova Scotia

Volume discounts

High frequency users will benefit financially by becoming toll device users and saving the extra costs associated with collecting tolls from non-toll device users.

Other charges for toll device users

In affect, the capital costs associated with the toll devices will be borne by the users. Users who elect to utilize a toll device will be subject to the following charges:

- A “**security deposit**” of \$10.00 (2003 dollars) will be collected when an account is initially established and a toll device is acquired. This deposit will be refunded to users when an account is closed and the toll device is returned.
- A “**leasing charge**” of \$1.00 (2003 dollars) will be charged to the user's account each month. With a typical lifespan of between four and six years, the leasing charge will serve to cover the capital costs associated with toll devices. This charge will be reviewed periodically and adjusted to reflect changes in the cost of toll devices.

Approach to collecting revenue

FBPL or its billing organization, as defined in the proposed amendments to the *GVTA Act* will be responsible for collecting amounts owed on outstanding accounts. A key assumption is that ICBC will “refuse to issue” a toll facility user's driver's licence and/or vehicle licence, number plate, or other permit if the user has an outstanding excessive toll debt (as defined in GVTA's by-law) as a measure of last resort. This requirement, and the overall process for ensuring toll revenue collection, is currently being developed.

Next Steps

Once the toll rate regulatory framework has been approved by the GVTA Board of Directors, the framework will be forwarded to GVRD staff for review and comment. Subject to any comments received from GVRD on the framework, TransLink staff will draft the applicable by-law(s) with the intention that it will be passed by the GVTA Board in the fall of 2004. The by-law will then be sent to the GVRD board for its ratification. TransLink will work with Ministry of Transportation staff in submitting requests for regulations under the *GVTA Act* as they relate to the FRC, including regulations addressing the toll collection and enforcement process.

CONCLUSION

Based on the above discussion, it is recommended that the GVTA Board of Directors:

- A. Endorse the toll rate regulations as highlighted in this report; and
- B. Approve the vehicle classifications as highlighted in this report; and
- C. Approve the method to calculate tolls as described in this report.