

# Regional Transit Local Funding Options

TECHNICAL ANALYSIS 22 August 2012

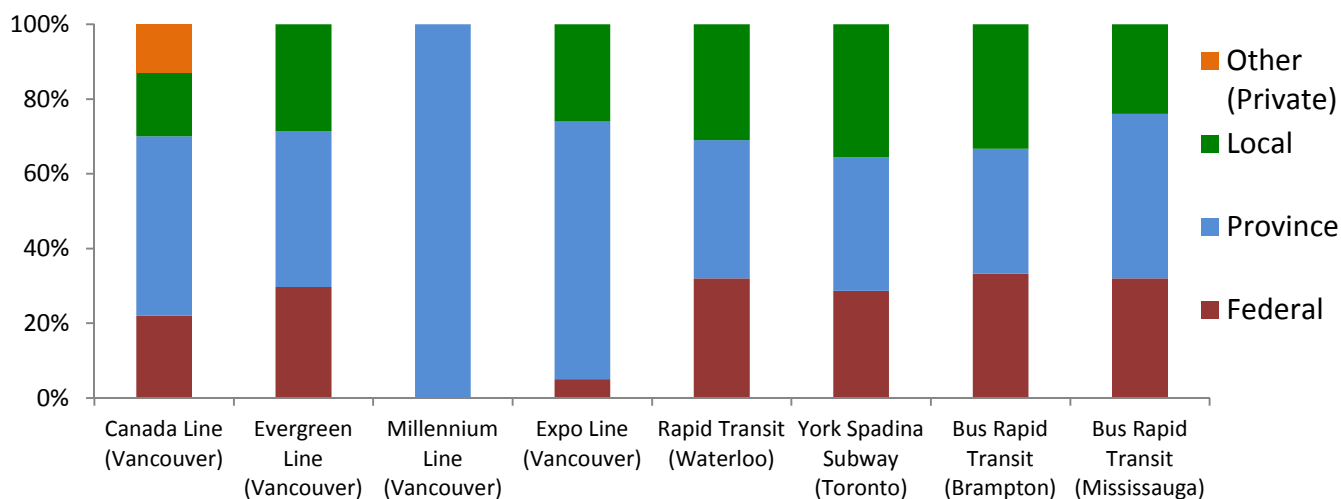
THIS REPORT DESCRIBES the results of a study commissioned by the Victoria Regional Transit Commission (VRTC) and the Capital Regional District (CRD) to identify and evaluate potential regional funding options to help finance major public transit improvements in the Capital Regional District. It evaluated seventeen potential funding options according to nine criteria. This research included literature reviews, public surveys and focus groups, and analysis.



## Key Conclusions

- High quality public transit, the type of transit that attracts discretionary travelers (people who would otherwise drive) and results in more compact land use development, can provide various benefits including direct benefits to users, and indirect benefits to other residents by helping reduce traffic congestion, road and parking facility costs, accidents and pollution emissions.
- These diverse benefits to residents and businesses, including people who do not currently use public transit, justify diverse funding sources.
- Most major transit projects in Canada are usually financed about equally (1/3, 1/3 and 1/3) by federal, provincial and regional funds.

### Recent Canadian Transit Capital Project Funding Share



- Seventeen funding options were evaluated according to nine criteria, based on regional planning objectives. All have advantages and disadvantages. Some are more consistent than others with these planning objectives.
- Commonly-used regional funding sources include fares, general property taxes, and regional fuel taxes.
- Potential new funding options include vehicle levies (a fee on vehicles registered in this region), employee levies (a fee on employees who work in the transit service area), parking levies (a special property tax on all parking spaces in the region), and special taxes on property or development close to transit stations.
- Most funding options identified in this study require provincial approval and support for implementation to help finance major public transit improvements. The next step in this process should involve negotiations between key regional and provincial stakeholders to develop a public transit funding package that is considered efficient, equitable and consistent with regional planning objectives.

## Executive Summary

High quality public transit, the type of transit that attracts discretionary travelers (people who would otherwise drive) and results in more compact development, can provide various benefits including direct benefits to users, and indirect benefits to other residents by helping reduce traffic congestion, road and parking facility costs, accidents and pollution emissions. Under appropriate conditions public transit investments can provide positive economic returns: their savings and benefits offset their costs.

The Capital Region has strategic plans to improve transportation system efficiency, safety, affordability, and environmental quality. Various transit service improvements identified in the *Transit Future Plan* are essential components of the region's overall transport plans. Implementing these planned transit improvements will require additional funding. Although federal and provincial governments generally provide special grants and transfers, significant new regional funding will probably be required.

The Greater Victoria regional public transit services currently cost about \$100 million annually in total (about \$265 annually per capita), of which \$34.8M (35%) is from fares, \$34.4M (35%) is provincial funding, and \$29.9M (30%) is from locally-generated taxes. Although there is currently no specific transit improvement financial plan, a typical scenario will require about \$1 billion in additional funding over twenty years, or about \$45 million in annualized costs. If divided about equally between federal, provincial and local governments, this implies that the region will need to raise about \$15 million (about \$40 per capita) in additional revenue, an increase of approximately 50% over current levels.

In 2011 the Victoria Regional Transit Commission and the Capital Regional District Board established a special Task Force to investigate and recommend preferred local transit funding options. This report describes the Task Force's research and analysis. The study was originally established to identify potential funding for a Light Rail Transit line but most results can be applied to any regional transport improvements.

This effort is not unique. Many other jurisdictions are searching for new transport funding options. An extensive body of research exists on this subject, including recent Canadian studies. Using literature reviews and surveys, seventeen potential funding options were identified that meet the basic criteria for this study. Some of these funding options are currently used in British Columbia, some are not used here but common in other jurisdictions, and some are considered innovative.

A survey of peer communities (ten similar size Canadian cities, plus Vancouver) indicates that they rely on a relatively limited number of funding options to finance public transit, primarily fares, property taxes, fuel taxes and development fees, plus federal and provincial grants. A broader range of funding options is used in other regions and countries. Literature review indicates that economists are particularly enthusiastic about road pricing because it can reduce traffic congestion in addition to generating funds, but it tends to be costly and politically difficult to implement and total revenues are often modest compared with regional funding requirements.



Surveys and focus groups commissioned for this study indicate broad support for regional public transit improvements but uncertainty about priorities and funding options. Some residents have strong preferences about these issues, but many want to learn more before making judgments. Among the funding options considered there was reluctance to increase transit fares or general taxes (on property, sales or utility services). Support tends to be higher for transport-related revenue sources (fuel taxes and vehicle levies) and for station-area land value capture.

Using results from this research, the seventeen funding options listed in Table ES-1 were evaluated according to the following nine criteria:

- *Potential revenue* – Amount of revenue each option can reasonably generate. This depends on various assumptions about the scope and magnitude of a pricing option, such as the geographic area where it will be applied and the rate that will be charged.
- *Predictability and Stability* – The degree that revenue is predictable and stable.
- *Horizontal equity* – Whether those who pay also benefit from the project. See box below.
- *Vertical equity* - Whether the option is progressive with respect to income (costs are smaller for lower-income households) or in some way benefits disadvantaged people.
- *Travel impacts* - Whether the option helps achieve regional targets to reduce automobile travel and increase use of alternative modes. This is based on our understanding of the impacts of pricing on travel activity.
- *Development objectives* - Whether the option supports smart growth and transit-oriented development. This is based on our understanding of the impacts of pricing and taxes on development patterns.
- *Public acceptance* - Degree of public support and acceptance.
- *Ease of implementation* - The option's *transition* (initial implementation) and *transaction* (ongoing) costs. This is based on our understanding of these costs, and various examples and case studies.
- *Legal status* - Whether the option can be implemented under existing laws. This is based on our understanding of legal constraints and requirements.

Although some of these evaluation criteria can be quantified directly, most require making assumptions and qualitative assessments. Equity analysis tends to be particularly subjective because it depends on how equity is defined and impacts measured. For horizontal equity (i.e., beneficiaries pay), it is most equitable to generate additional transit funding from people and businesses that directly benefits from transit improvements, such as users of the new transit services, employers who generate commute trips, and owners of transit station area properties. However, high quality public transit tends to provide a variety of dispersed benefits, including “external” benefits to people who do not currently use the service but enjoy reduced traffic and parking congestion, improved safety, reduced need to chauffeur non-drivers, energy savings, emission reductions, and increased regional economic development. Public transit improvements tend to provide a broader scope of benefits than highway expansion so a wider range of funding options can be justified for horizontal equity sake.

Table ES-1 describes key observations about these funding options relative to the criteria above. The report provides more detailed discussion of these issues.

**Table ES-1 Funding Options Key Observations**

Definitions	Key Observations
<i>Fare increases</i> - Increase fares or introduce a multi-zone fare structure	Although it is possible to increase fares, doing so tends to reduce ridership which reduces net revenue and benefits. Fares charge users for direct benefits but tend to be regressive.
<i>Property taxes</i> - Increase property tax mill rates	This is stable, distributes burdens broadly, and reflects external benefits that transit provides local residents and businesses. However, it has already been raised during the last decade and there is resistance to additional increases.
<i>Sales taxes</i> - Special sales tax within the transit service area	This distributes burdens broadly and reflects transit's external benefits. It is widely used in the U.S., but not in Canada due to our high general sales taxes.
<i>Fuel taxes</i> - Increase the special fuel tax within the transit service area	The VRTC already receives dedicated fuel tax revenue. This tax discourages driving and encourages public transit use, although by itself the effects are small. Public acceptance seems to be relatively high.
<i>Carbon tax</i> - Dedicate a portion of carbon taxes collected in the region area to transit	Public support for this is relatively strong, but it would require changing provincial policy which dedicated carbon tax revenues to specific uses.
<i>Vehicle levy</i> - An additional fee for registering vehicles in the region	This charges motorists for external costs they impose and benefits they could gain from reduced congestion, but does not reflect the amount a vehicle is used. Implementation would require provincial support.
<i>Utility levy</i> - A special transit levy to all utility accounts in the region	This tax is relatively regressive and potential revenues are small.
<i>Employee levy</i> - Special fees per employee located in the transit service area	Reflects travel costs generated by employment. This could be an appropriate revenue source but would require establishing a collection system.
<i>Road tolls</i> - Fees for driving on specific roadways.	Although road tolls can reduce congestion and encourage public transit use, they have high implementation costs and face political opposition.
<i>Vehicle-Km Fee</i> - A charge per kilometre travelled	This has high implementation costs and faces political opposition, and so would be difficult to implement in this region alone.
<i>Parking sale taxes</i> - A special tax on parking transactions	Would probably generate modest revenue. Contradicts other planning objectives by discouraging parking pricing and downtown development
<i>Parking levy</i> - A special property tax on non-residential parking spaces throughout the region	This distributes costs broadly, collecting a relatively modest amount from non-residential parking facilities throughout the region. It would have moderate implementation costs and political opposition.
<i>Development cost charges(DCC)</i> - A special charge on new development in the transit service area	May generate some transit funding, but the amount is likely to be limited and unpredictable. If only applied near transit stations, high development fees could discourage transit-oriented development.
<i>Land value capture</i> - A special property tax in areas with high quality public transit	This may generate small to moderate transit funding. If only applied near transit stations high taxes could discourage transit-oriented development.
<i>Station rents</i> - Revenue from development on public land in or near transit stations	Station rents depend on opportunities and demand for such development. It may take many years for many of these opportunities to fully develop.
<i>Station air rights</i> - Sell the rights to build over transit stations	May generate modest transit funding, depending on opportunities and demand for such development.
<i>Advertising</i> - Increase advertising on transit vehicles, stops and stations.	Can provide modest revenue. Its potential is likely to increase somewhat with increased service, ridership and facilities.

*This table summarizes key observations about the funding options evaluated in this study.*

This research identified no new funding options that are particularly cost effective and easy to implement. Each option has disadvantages and constraints. Even people who do not currently use public transit benefit from reduced congestion, increased public safety and health, improved mobility option for non-drivers, regional economic development, or improves environmental quality. As a result, a preliminary observation of this analysis is that a variety of funding options should be used to help finance public transit improvements to insure stability (so total revenues are less vulnerable to fluctuations by a single economic sector or legal instrument) and to distribute costs broadly.

Current public transit funding sources used in British Columbia include fares, property taxes, fuel taxes, utility levies, commercial parking taxes, advertising and station rents. There is potential for increasing revenues from these options, although fare increases contradict other planning objectives, and the options that seem most acceptable to the public (development fees, station rents and advertising) tend to generate modest revenue. Some additional funding options are being considered in BC. TransLink implemented a parking levy (a special property tax on parking spaces), which was subsequently rejected by the provincial government, and is currently requesting provincial support to also impose vehicle levies and road tolls. Employee levies are used to finance public transit in some jurisdictions but currently not in British Columbia.

Some additional funding can be generated from existing transit revenue sources, including fares (particularly by returning to a zoned fare structure that charges higher fares for longer-distance trips), property taxes and fuel taxes. Fuel tax increases are particularly appropriate because, in addition to raising revenues, they also encourage more efficient transport and fuel conservation. Because this region is geographically isolated, fuel tax increases will cause relatively little sales leakages to other jurisdictions. However, fuel taxes are considered burdensome and regressive (their actual regressivity depends on the quality of transport options available, and so is reduced by public transit service improvements), and tend to be politically unpopular, and so should be implemented predictably and gradually. It may be appropriate for the region to establish a schedule of modest increases in fuel taxes each year after 2012, since the provincial carbon tax is unlikely to increase further.

Three new revenue options with significant potential deserve more consideration: *parking levies* (special property taxes on non-residential parking spaces throughout the region), *vehicle levies* (an additional fee on vehicles registered in the region) and *employee levies* (a levy on each employee, often only collected from larger employers). These could generate relatively large amounts of revenue, distribute costs broadly, and have a logical connection to transit improvements (high quality transit benefits motorists, businesses and employees). Parking levies can encourage more compact development and more efficient parking pricing. All have moderate implementation costs; more than increasing existing transit funding options but less than road tolls or vehicle-kilometer fees.

Where feasible, *development cost charges*, *station rents* and *air rights* can be used to generate funds, but their revenues will depending on the demand for transit-area development and other factors, so their revenues are difficult to predict and are likely to be modest during the foreseeable future. *Land value*

*capture* taxes may also be appropriate but should be structured to avoid discouraging transit-oriented development (they should not be too high or too geographically concentrated), and it may be best to defer their implementation for a few years until station-area rents have significantly appreciated. It may be particularly appropriate to create local area benefit districts around transit stations where modest special levies and parking meter revenues can be used to finance local improvements such as station amenities, streetscaping and special cleaning and security services, rather than using this revenue to finance system-wide transit services.

Revenue options that are implemented should be structured to maximize benefits and minimize problems. Taxes and levies should be designed to support other regional planning objectives including increased transit ridership, reduced automobile traffic, economic development, energy conservation, compact development and greenspace preservation and affordability.

Most funding options identified in this report require provincial approval and support for implementation to help finance major public transit improvements. In addition, the provincial government is currently considering regional transit and transportation governance reforms that may affect both funding requirements and opportunities. The next step in this process should involve negotiations between key regional and provincial stakeholders to develop a public transit funding package that is considered efficient, equitable and consistent with regional planning objectives.

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## Introduction – Overall Context and Goals

### Project Context and History

The Capital Regional District (CRD) and the Victoria Regional Transit Commission (VRTC) are currently developing various strategic public transit improvement initiatives, described below. Implementing these plans will require additional funding, particularly for capital investments. Although federal and provincial governments may provide a share of the needed funds, additional regional revenue will probably be required.<sup>1</sup> As a result, in May 2011 the CRD and VRTC established a Task Force to identify, evaluate and recommend preferred funding options for regional public transport improvements.<sup>2</sup> This project will:

- Develop a comprehensive list of funding options.
- Evaluate options based on various criteria.
- Identify possible combinations of funding options
- Develop recommendations for these options

### Justifications for Regional Transit Improvements

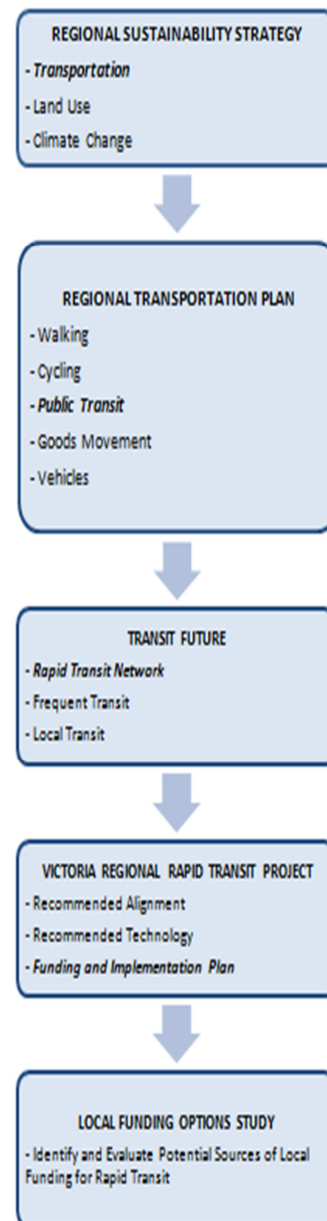
Current demographic and economic trends (aging population, rising fuel prices, urbanization, changing consumer preferences, and increasing health and environmental concerns) are increasing public transport demand and the value of public transit. Potential benefits are particularly large for high quality transit services that support transit-oriented development and attract travelers who would otherwise drive. These include congestion reductions, economic development, increased affordability, improved accessibility for non-drivers, improved road safety, energy conservation, emission reductions, and improved public fitness and health.

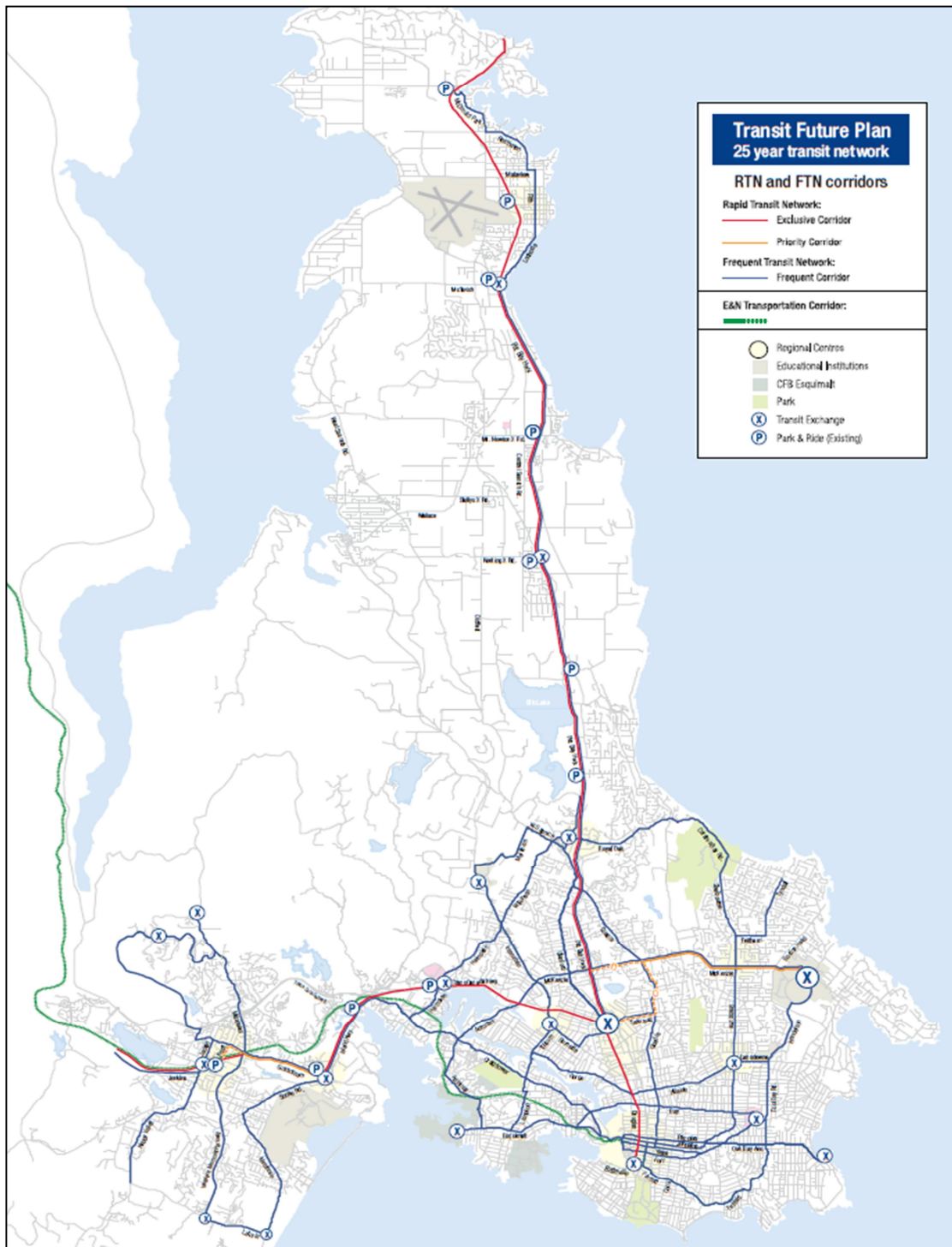
A series of linked plans are underway that provide a roadmap for regional public transport service improvements, as summarized in Figure 1. These include the *Regional Sustainability Strategy*, of which more efficient transport and more compact land use development are key goals, the *Regional Transportation Plan* which emphasizes walking, cycling and public transport improvements to achieve regional planning objectives, the *Transit Future Plan* which guides development of an integrated network of public transit routes (Figure 2), and the *Victoria Regional Rapid Transit Project*, which identified a specific light rail transit (LRT) project to connect Victoria, Saanich and Westshore communities.

These plans all include significant public transit improvements, with supportive transport and land use objectives and policies related to pedestrian and cycling improvements in urban areas, more compact land use development along transit corridors, transportation demand management programs, and the like.

Although the Task Force was established primarily to identify LRT project funding options, analysis results can be used for other public transport projects and programs.

**Figure 1**  
**Regional Transport Plans**



**Figure 2** Transit Future Plan

*This illustrates the Transit Future plan services. Implementing this plan requires additional funding.*

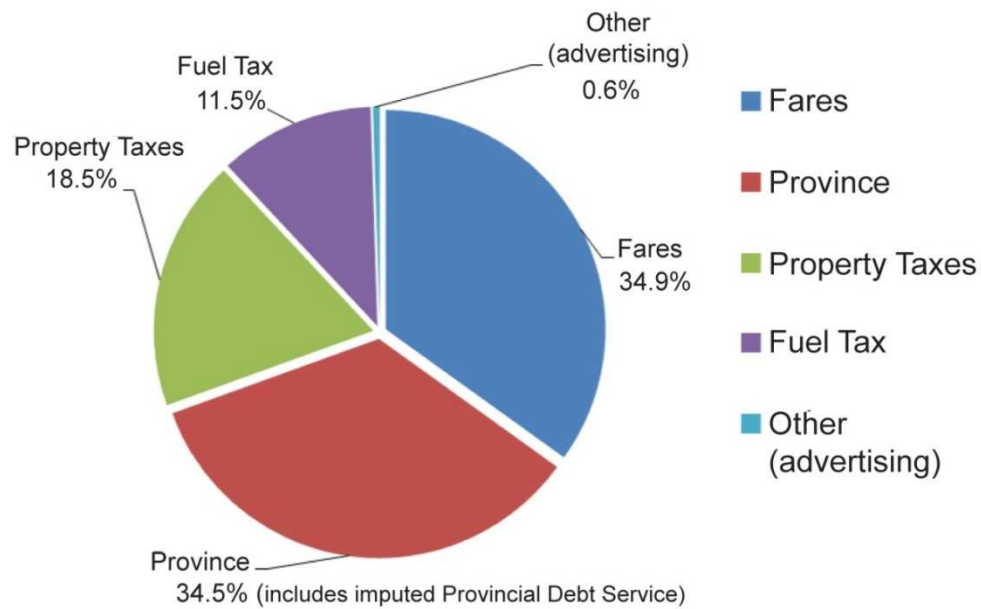
## Public Transit Funding In Victoria

Table 1 and Figure 3 summarize Victoria Regional Transit Commission (VRTC) funding sources. Provincial funding is provided through the British Columbia Transit Authority (BCTA). These funding options and obligations are defined in the *BC Transit Act*.

**Table 1**      **Victoria Regional Transit Funding**

Funding Source	Description	FY 2010/11 Revenue	Legal Status
Fares	As of 1 April 2012, adult fares are \$2.50 per trip, \$7.75 for a day pass and \$85.00 for a monthly pass.	\$34.9M annual (approximately \$92 per capita), 35% of total budget.	The BC Transit Act gives VRTC authority to set and change fares.
Property taxes	Special tax applied in the VRTS service area. For 2012/13, mill rates are 0.2208 for residential and 1.0709 for commercial per \$1,000 assessed value.	\$18.5M annual (approximately \$49 per capita), 18.5% of total budget.	Transit property tax increases require provincial legislation ( <i>BC Transit Act</i> and <i>Assessment Act</i> ).
Provincial funding	Funding provided directly from provincial budgets.	\$34.5M annual (approximately \$91 per capita), 35% of total budget	To operate conventional service the Province provides 31.7% and the VRTC must raise 68.3%. To operate custom (accessible) service the BCTA provides 63% and the VRTC must raise 37%.
Fuel taxes	A 3.5¢ tax per litre of fuel sold in the VRTS service area is dedicated to transit.	\$11.5M annual (approximately \$30 annual per capita), 11.5% of total budget.	Section 12.1 of the BC Motor Fuel Tax Act gives the VRTC access to 3.5 cents per litre of all fuel sold within the service area.
Advertising	Revenues from transit vehicle, stop and station advertising.	\$0.6M (approximately \$1 annual per capita), 0.5% of the VRTS operating budget.	The BC Transit Act gives the VRTC the ability to recommend to BC Transit Board any local funding sources.

*This table summarizes current Victoria Regional Transit System funding sources.*

**Figure 3**      **Victoria Regional Transit Funding Sources, Fiscal Year 2010/11**

*This graph illustrates Victoria Regional Transit Commission funding sources, including conventional and custom (accessible) transit and lease fees for fiscal year 2010/11.*

## Benefit Analysis

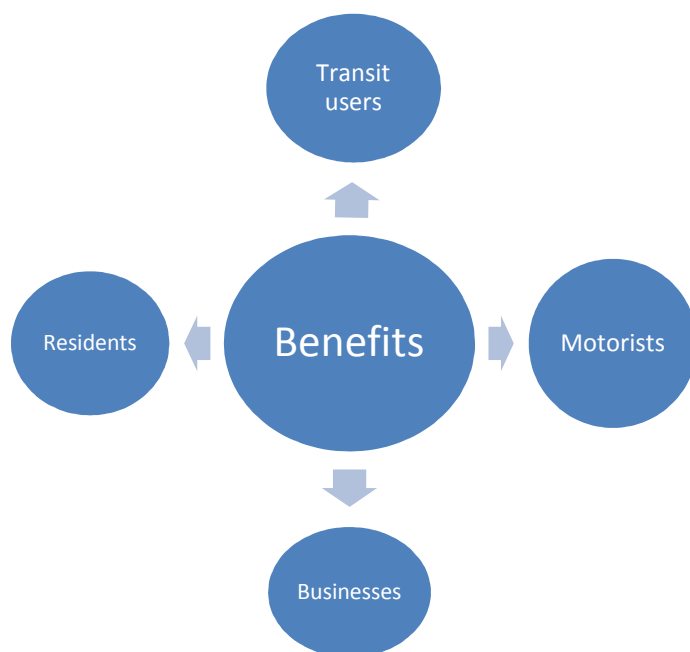
One criterion for evaluating funding options, called *beneficiary pays*, is the degree to which the cost of a project or service are borne by the people or businesses that benefit. This reflects a principle of *horizontal equity*, which suggests that people should generally “get what they pay for and pay for what they get.”

Public transit service improvements can provide various widely distributed benefits:<sup>3</sup>

- *Transit users* benefit from improved convenience and comfort, financial savings, and increased safety.
- *Motorists* benefit from reduced traffic and parking congestion, reduced need to chauffeur non-drivers, increased traffic safety, and reduced pollution (particularly from electric powered transit).
- *Businesses* benefit from improved employee and customer access, parking cost savings, congestion reductions, improved employee safety and fitness, and increased regional economic development.
- *Residents* benefit, regardless of how they travel, from improved mobility for non-drivers, reduced parking costs for new development, increased safety and reduced pollution.

Some of these benefits result from the service improvements themselves, such as improved convenience and comfort to transit users. Some result when public transit attracts travelers who would otherwise drive, which reduces traffic congestion and parking costs, accidents and pollution emissions. Other benefits result if transit projects provide a catalyst for transit-oriented development, which creates neighborhoods where residents own fewer vehicles, drive less and rely more on walking, cycling and public transport than they otherwise would. Figure 4 illustrates this concept.

**Figure 4 Distribution of Savings and Benefits**



*Public transit provides various benefits, including indirect benefits to people who do not currently use the service.*



**Table 2**      **Distribution of Transit Benefits**

	Transit Users	Motorists	Businesses	Residents
Improved convenience and comfort	✓			
Congestion reductions	✓	✓	✓	
Roadway cost savings			✓	✓
Parking cost savings	✓		✓	✓
User savings and affordability	✓			
Improved mobility for non-drivers	✓	✓		✓
Improved traffic safety	✓	✓	✓	✓
Energy conservation	✓			
Emission reductions		✓		✓
Improved public health	✓			✓
Regional economic development		✓		

*High quality public transport can provide a variety of widely distributed benefits.*

Some of these benefits are concentrated on certain people, businesses and areas. Others are more widely dispersed to residents and businesses throughout the region. For example, even residents who never use public transport and live away from the urban core benefit if public transit improvements reduce the traffic congestion they experience when driving on regional roads, reduce their obligation to chauffeur non-driving family members and friends, or reduce regional air pollution. Similarly, businesses benefit if regional transit service improvements expand their pool of potential employees and customers, reduce the number of parking spaces they need to supply, and support overall regional business activity and economic development, for example, by making the city more attractive to industries such as tourism.

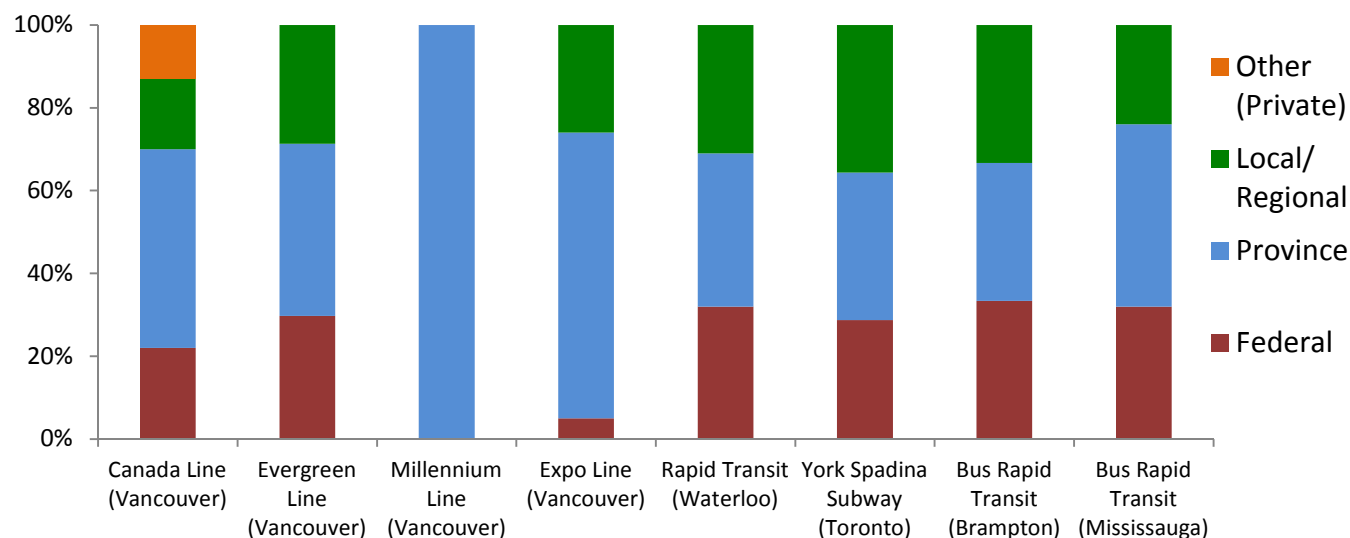
Under favorable circumstances public transit service improvement provide a positive financial return on investment to residents and businesses. For example, residents of U.S. urban regions with high quality public transit (e.g., New York, Chicago, Boston and San Francisco) pay on average \$100 to \$200 in additional annual taxes to finance those systems, but save about \$500 annually per capita in reduced transportation costs (vehicle, fuel and transit fare expenditures), plus other savings and benefits.<sup>4</sup> Similarly, additional business taxes are often repaid by parking cost savings and increased regional productivity.<sup>5</sup> A typical urban parking space has an annualized cost (including land value, construction and maintenance expenses) of \$500 to \$2,000, so a business benefits if the additional taxes they pay to help finance transit improvements allow a small reduction in their parking facility costs.

Not every person or business enjoys all of these benefits at all times, but over the long run most experience at least some benefits. This suggests that a variety of funding sources can be justified on a beneficiary-pays basis, including funding from people who do not currently use public transit but gain indirect savings and benefits.

## Funding Options Research

As previously mentioned, most major public transit capital projects rely on a combination of federal, provincial, regional and local funding sources, as illustrated in Figure 5. Overall, about a third of these funds are local/regional.

**Figure 5 Recent Canadian Transit Capital Project Funding Share<sup>6</sup>**



*This graph illustrates funding sources for various major transit capital projects in Canada. The Canada Line's "Other" funding consists of investments by the project's contractors expected to be repaid through future revenues.*

This study used literature reviews, Internet searches, and a survey of peer agencies to identify potential public transport funding options. This research is not unique. Many jurisdictions are investigating new transport funding options in response to declining revenue from existing sources (fuel tax value is declining due to inflation and increased vehicle fuel efficiency), rising costs (many highways and transit systems are aging and require major reconstruction), and growing demand for walking, cycling and public transport. As with this study, they are searching for funding sources that are convenient and cost effective to collect, reliable, considered equitable and politically acceptable (or least politically unacceptable), and if possible, support other strategic planning objectives.

The results of this research are summarized below.

United States federal and state governments distribute transit funding through legislated formulas and grant programs,<sup>7</sup> and regional and local governments use various combinations of general fund, gas tax motor vehicle, rental car sales tax, vehicle registration fees (levies), bond proceeds, general sales tax, and interest income.<sup>8</sup> The Transit Cooperative Research Cooperative report, *Local and Regional Funding Mechanisms for Public Transportation* identified the funding options listed in Table 3. It evaluated these

options using the following criteria: revenue yield (adequacy and stability), cost efficiency, equity across demographic and income groups, degree to which beneficiaries pay, political and popular acceptability, and technical feasibility.

**Table 3 U.S. Local and Regional Public Transport Funding Options<sup>9</sup>**

Traditional Tax- and Fee-Based Transit Funding Sources	Common Business, Activity, and Related Funding Sources	Revenue Streams from Projects (Transportation and Others)	New “User” or “Market-Based” Funding Sources
General revenues	Employer/payroll taxes	Transit-oriented development/joint development	Tolling (fixed, variable, and dynamic; bridge and roadway)
Sales taxes (variable base of goods and services, motor fuels)	Vehicle rental and lease fees	Value capture/beneficiary charges	Congestion pricing
Property taxes (real property, includes vehicles)	Parking fees	Special assessment districts	Emissions fees
Contract or purchase-of-service revenues (by human service agencies, school/universities, private organizations, etc.)	Realty transfer tax and mortgage recording fees	Community improvement districts/community facilities districts	VMT fees
Lease revenues	Corporate franchise taxes	Impact fees	
Vehicle fees (title, registration, tags, inspection)	Room/occupancy taxes	Tax-increment financing districts	
Advertising revenues	Business license fees	Right-of-way leasing	
Concessions revenues	Utility fees/taxes		
	Income taxes		
	Donations		
	Other business taxes		

*Various potential funding options are described in a Transit Cooperative Research Program (TCRP) report.*

Table 4 summarizes current local public transit funding sources for various size U.S. cities.

**Table 4 U.S. Local Public Transportation Capital and Operating Funding By System Size<sup>10</sup>**

Funding Source	Percent Capital Investment			Percent Operating Expenses		
City population	> 1m	200k to 1 m.	50k to 200k	> 1m	200k to 1 m.	50k to 200k
Fares and Earned Income	—	—	—	58.2%	30.2%	37.8%
Sales taxes	35.5%	38.9%	51.1%	18.8%	25.8%	28.3%
Other directly generated local funds	33.7%	—	—	—	—	—
Local general funds	—	42.5%	32.7%	11.1%	26.9%	21.3%
Other Local Dedicated Funds	18.4%	—	—	—	—	—
Local Property Taxes	—	—	9.7%	—	—	—
Other local sources	—	8.2%				

Note: dashes indicate minor contribution.

A study titled, *Innovative Infrastructure Financing Mechanisms for Smart Growth*, for Smart Growth BC and Infrastructure Canada, describes and evaluates infrastructure (including but not limited to public transit improvements) funding options that support smart growth by influencing travel activity or the location or type of land use development. It discussed factors to consider when choosing funding strategies, including revenue stability and support for strategic planning objectives.<sup>11</sup> These include:

- High Occupancy/Toll Lanes (San Diego)
- Sector and Density Gradient Approach to Development Cost Charges (Kelowna)
- Parking Site Tax (Vancouver)
- Land Value Taxation (Harrisburg)
- Standard Offer Contract (Toronto)
- Storm Water Utility Fee Credits (Minneapolis)
- TOD Policy Leveraging (San Francisco)
- Fuel Tax Transfer (Edmonton)
- Tax Increment Financing (Portland)
- Tax Base Sharing (Minneapolis)
- Vehicle Registration Surcharges (Montreal)
- Commuter Tax (Philadelphia)
- Tax-Exempt Tax Revenue Bonds (Denver)
- Local Option Sales Tax (Denver)
- Grant Anticipation Revenue Vehicles (New Jersey)

Another Canadian study, *Time to Get Serious: Reliable Funding For GTHA Transit / Transportation Infrastructure*,<sup>12</sup> investigated options to fund *The Big Move*, a strategic transportation improvement program proposed for the Greater Toronto and Hamilton Area (GTHA). It identified and evaluated the funding listed below. The analysis described the benefits and drawbacks of each option, and examples of their implementation. Table 5 shows that study's evaluation summary table.

### **Revenue options evaluated for funding Toronto region transport improvements**

- New tolls or high occupant tolls (HOT) on regional highways
- Increased fuel taxes
- Commercial parking levy
- Regional sales tax
- Dedicated HST on fuel sales (a transfer of provincial tax revenue)
- Central area congestion levy
- Vehicle registration fee
- Value capture
- Utility bill levy
- Employer payroll tax
- Additional federal funding.

**Table 5** Summary of Toronto Revenue Options Analysis (Irwin and Bevan 2010)

Source	Net Revenue	Basis of Estimate	Policy Advantages	Implementation Issues
1. Tolls on regional freeways (400 series highways and municipal controlled-access highways)	\$1 – 2 B/year	10 – 20 ¢/km	Relieves congestion hot spots. Revenue grows with demand. Encourages transit use. Increases traffic speed and road capacity. Moderates road expansion costs.	Traffic diversion concerns. “Double taxation” concerns. Much better transit required first. Social equity concerns.
2. Regional gas/diesel fuel tax	\$1 – 2 B/year	10 – 20 ¢/litre	Can marginally reduce auto use but not focusing on hot spots. Encourages energy-efficient, and transit use. Easy to administer.	Sales leakage to nearby areas. Declines as fuel-efficiency increases. Best introduced when gas prices are low.
3. Commercial parking levy	\$1 – 2 B/year	\$1.00 – 2.00/day per space	Reduces auto use to commercial areas. Encourages more use of transit and active transportation. Administratively straightforward	Employment leakage to surrounding areas. A version, the Commercial Concentration Tax, was previously rejected.
4. Regional sales tax	\$1 – 2 B/year	1 – 2% in addition to the HST	Administratively stable, reliable source	No direct incentive for more sustainable travel. Sales leakage. Political opposition.
5. High Occupancy Toll (HOT) lanes or express lanes on GTHA freeways	\$400 – 800 M/yr. for Express Lanes \$200 – 400 M/yr. for HOT Lanes	10 – 20¢/km for single-occupant vehicles (HOT Lanes) or for all vehicles (Express Lanes)	Encourages car-pooling. Increases person-carrying capacity and average speed on major highways. Provides a toll-free alternative in the freeway network	Relatively small revenue versus infrastructure and enforcement costs
6. Dedicate a portion of gas/diesel HST revenue to GTHA transit	\$400 – 600 M/year	May 2010 report of \$895 M additional gas tax revenue anticipated from 2010/11 HST	Same as above for Regional Gas/Diesel Fuel tax. Would be timely if dedicated as of July 1, 2010 or shortly thereafter.	As above except province wide application of HST avoids fuel sales leakage to surrounding areas
7. Congestion levy on private vehicles entering central area, 6:30 am–6:30 pm Monday – Friday	\$250 – \$500 M/yr	\$5 – 10/vehicle entry-charge at cordon	Reduces Central Area Congestion. Encourages more use of transit and active transportation. Improves mobility in Central Area	Potential Central Area employment loss. Congestion & parking spillover. Better transit needed first. Implementation cost and enforcement issues.
8. Vehicle registration fee (varies with vehicle GHG emission levels)	\$200 – 400 M/year	\$100 – 200/year per vehicle	Stable, reliable source. Encourages low-emission vehicles. Easy to administer	Does not moderate amount of use of the vehicle
9. Value capture levy (revenue from higher property values/taxes in areas served by higher-order transit)	\$50 – 100 M/year	N/A	Encourages compact development and increased transit use. May reduce land speculation. Easy to administer	Uncertainty in estimating increased value. Upward pressure on rents. May force out small business and low income residents
10. Utility bill levy	\$50 – 100 M/year	\$20 – 40/year per household	Stable, reliable source. Easy to administer	No direct incentive for more sustainable driver behaviour
11. Employer payroll tax in areas within walking distance of rapid transit	\$40 – \$80 M/year	\$100 – 200/year per full time employee	Stable, reliable source. Partially borne by incoming workers who benefit from improved transit. Administratively straightforward	Higher costs, potential loss of jobs in taxation zones. Benefits to local employees may not compensate for lower wages.
12. National federal-provincial transit strategy	\$1 – 2 B/year	25 – 50% of transit capital costs 25 – 50% of net transit operating costs	Administratively straightforward. Provides relatively reliable funding plus a stable policy framework from the federal and provincial governments	Difficult in context of large federal/provincial deficits. Could stop, as in 1998. No direct incentive for more sustainable transport activity.

*This table summarizes options for funding Toronto region transportation improvements.*



TransLink is currently engaged in a study of transport funding options.<sup>13</sup> Table 6 summarizes the options identified.

**Table 6**      **Transportation Funding Options Identified in the Current TransLink Study<sup>14</sup>**

User Fees and Taxes	Beneficiary Fees	Other Taxes and Financing Tools	Direct Government Grants
Transit fares	Land value capture levy	Carbon tax	Provincial grant program
Gas tax	Property tax	Debt instruments	Federal grants
Parking pricing	Employer/Payroll tax	Regional sales tax	Federal-provincial national transit strategy program
Road pricing	Development charges	Vehicle sales tax	Social service
Transportation Improvement Fee			
Vehicle-km travelled fee			
Flat levy (e.g. Hydro Levy)			

*This table summarizes options for funding Vancouver region transportation improvements.*

As part of this study we performed a survey of transit capital funding sources used by peer transit systems, including ten middle-size Canadian cities, plus Vancouver (Earthvoice Strategies 2012). Table 7 summarizes the results. These projects rely on a combination of federal, provincial, regional and local funding. Local funding sources include fares, property taxes, fuel taxes and development cost charges. None appear to rely significantly on new transit funding options.

**Table 7 Comparison of Funding Sources for New or Expanded Transit Services<sup>15</sup>**

System	Brampton, ON	Durham, ON	Edmonton, AB	Halifax, NS	Hamilton, ON	London, ON	Saskatoon, SK	Vancouver, BC	Waterloo, ON	Windsor, ON	Winnipeg, MB
Ownership	Municipal	Regional transit authority	Municipal	Regional municipality	Municipal	Municipal transit commission	Municipal	Regional transit authority	Regional municipality	Municipal	Municipal
Population Served	491,580	565,492	793,000	312,400	478,000	362,200	224,300	2,369,000	423,971	219,345	650,000
New Service Type <sup>1</sup>	BRT expansion	BRT	LRT - North line	bus service expansion	bus service expansion	bus service expansion	bus service expansion	Sky Train Evergreen line	LRT	bus service expansion	BRT
Adult Cash Fares	\$3.25	\$2.90	\$2.85	\$2.25	\$2.55	\$2.75	\$2.75	\$2.50	\$2.50	\$2.50	\$2.40
Capital Cost	\$285 M	\$101 M	\$755 M					\$1.4 B	\$818 M		\$138 M
Date of Introduction	2011	2013	2014					2016	2017		
Funding Sources											
Fares				√							
Fare increase									√		√
Property tax				√	√					√	
Property tax increase								√	√		
Fuel taxes								√			
Development cost charge	√	√			√	√					
Debt		√	√								√
Federal government <sup>2</sup>	√		√	√	√	√	√	√	√		√
Provincial government <sup>3</sup>	√	√	√		√	√		√	√		√
Reserves		√	√				√				√

Notes: <sup>1</sup> BRT = Bus Rapid Transit; LRT = Light Rail Transit; <sup>2</sup> Federal grants and subsidies, including federal gas tax contribution; <sup>3</sup> Provincial grants and subsidies, including provincial gas tax contribution for Ontario systems

This review indicates that various regional and local funding options are currently used or are being considered by other jurisdictions to finance public transit service improvements. These options are being evaluated based on criteria similar to those of this study, including revenue potential, implementation and operating costs, public acceptability, consistency with strategic planning objectives, and the perceived reliability and amount of experience with their implementation.

## Public Preferences

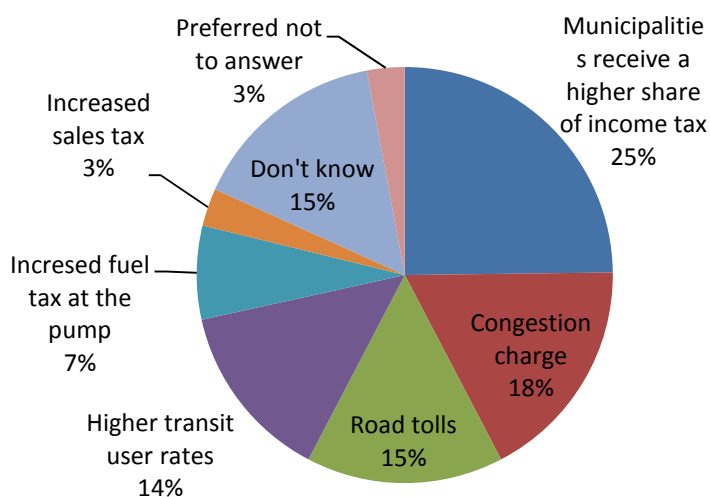
This study investigated public preferences regarding transit funding options in order to help decision-makers understand which options or combination of options are most politically acceptable. It included a literature review of recent public opinion surveys, a survey on the Victoria Regional Rapid Transit Project Funding Options Website, and a series of focus groups commissioned specifically for this project. This section summarizes the results of this analysis.

### Literature Review

Some previous studies have investigated public attitudes toward various funding options for transportation in general and public transportation in particular. A public opinion survey performed in California in 2006 concerning potential transportation improvement funding options found about equal support for gas taxes, sales taxes, and vehicle license fees; each received about 40% public acceptance, with higher levels of support by women, young people and residents of areas that currently have toll roads, and evidence of increased support for funding options that support environmental objectives.<sup>16</sup>

The Canadian Broadcast Corporation recently sponsored a public opinion survey titled, *How Would You Finance the Big Fix?*, which interviewed Montreal, Toronto and Vancouver residents concerning their perceptions of transport system problems and potential improvements, particularly road pricing.<sup>17</sup> Roughly half of public transit users interviewed are willing to pay more for better transit. A substantial majority (70%) believe that road tolls would encourage some motorists to switch to transit. Support for road tolls depends on how revenues are used: 38% support tolls if revenues are used to improve both transit and roads; 20% support tolls if revenues are dedicated to roadway improvements; 7% support tolls if only used to improve transit, and 20% would not support tolls under any conditions. Figure 6 illustrates public transit funding preferences. The greatest preference is for more funding from higher levels of government, followed by congestion charges, higher transit fares, road tolls, higher fuel taxes and sales taxes. This poll had ambiguous wording (for example, respondents may have little understanding of the differences between *road tolls* and *congestion charges*), and it did not consider many of the funding options considered in this study, including employee and parking levies, and value capture.

**Figure 6 Public Transit Funding Preferences (CBC 2011)**



This graph summarizes the result of a CBC poll concerning public transit funding preferences.

## Website Survey Results

For this study a survey was posted on the *Victoria Regional Rapid Transit Project Funding Options* website to solicit public opinions concerning funding options.<sup>18</sup> For complete survey results see this report's appendix. The survey was promoted through community organizations and mass media. A total of 144 responses were received between 17 January and 5 February 2012. Respondents were more likely to be male, older and retired than the CRD overall. City of Victoria residents were somewhat over-represented and Saanich and Langford underrepresented.

Table 8 summarizes respondent's support or opposition to various funding options.

**Table 8 Support or Opposition to Funding Options**

Option	Support	Don't Support
Fuel /Gas Tax	40	12
Road tolls	36	15
Carbon Tax	34	5
Advertising/sponsorship	33	3
Station rents	32	3
Parking tax	32	11
Development cost charges	30	8
Station air rights	29	3
Vehicle usage (VKT)	29	13
Vehicle registration fee (levy)	28	11
Fares/User Fees	28	25
Land value capture	23	5
Property Tax	18	28
Utility levy	11	13
Sales Tax	10	17

*This table summarizes the results of the web-based survey of public transit funding preferences.*

## Focus Groups Results

This research project included three focus groups conducted during February 2012 to explore regional residents' attitudes and preferences concerning regional transit funding options. For complete focus group analysis see Quay Communications Inc. (2012). Participants were recruited through the LRT Funding website, selected to provide demographic balance (different ages, jurisdictions, travel patterns, etc.), and grouped by age (18-44, 45-64, and 65+ age groups). Participants received background information about the Transit Future Plan and current Victoria region transit funding.<sup>19</sup> Their attitudes and preferences were explored using a combination of probing questions, ranking and weighting exercises, plus unaided responses and discussions. As with all qualitative projects, the findings are considered exploratory in nature and cannot be extrapolated to the overall population.



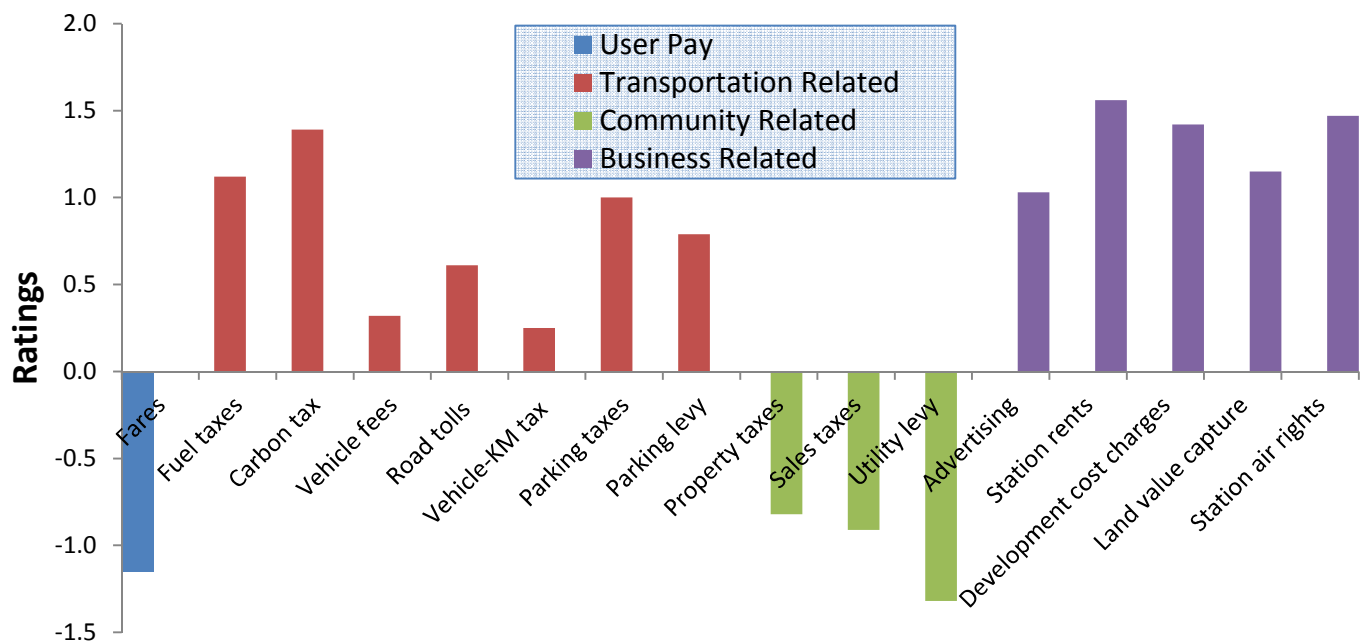
Participants were asked to consider four broad categories of regional funding sources.

1. *User pay* (Fares).
2. *Transportation related taxes* (fuel taxes, carbon taxes, vehicle fees, road tolls, vehicle–km tax, parking tax).
3. *Community related taxes* (property tax, sales tax, utility levy).
4. *Development/business benefiting taxes or charges* (development cost charges, land value capture, station air rights, advertising, station rents).

All three groups tended to consider “acceptable” *Transportation Related* and *Development/Business* categories. Some participants felt that all four categories should be used “to spread the impact.”

Participants in the younger (18-44 year) age group were more likely to consider *Community Related* ‘acceptable’ than those in the oldest (65+) age group. All age groups expressed concern about the disproportionate impacts that fare increases could have on lower income people.

Figure 7 illustrates the aggregate (all age groups) funding preferences. It indicates that *Transportation Related* and *Development/Business Related* tend to be preferred over *User Pay* and *Community Related* options. Funding options that capture the increased value provided by transit (station rents, development cost charges, land value capture and station air rights), or that charge motorists according to the amount they drive (fuel and carbon taxes, parking taxes and levies) tended to receive the most support.

**Figure 7 Focus Group Regional Funding Responses** (Quay Communications Inc. 2012)

This graph illustrates aggregate ratings to various transit funding options. Higher values indicate greater support.

Participants were next asked to review and then to weight the relative importance of four potential evaluation criteria. Of the four proposed evaluation criteria, *Sustainable* had the highest average weighting across all three groups. The second highest average weighting was for *Financial*. *Fairness* was suggested in all three groups as an additional evaluation criterion, although some participants felt that this was covered by the *equitable and not regressive* criteria.

Focus group participants wanted to maintain a clear distinction between funding for capital projects (which are considered long-term investments that provide durable benefits to future residents) and operating expenses (which are considered current costs that should be borne by current residents). As one participant remarked, “Operating costs should be more fare based than capital.”

Several participants found this exercise difficult. Some participants felt that the criteria were too broad i.e. they had too many components and that some of them could be contradictory. An example given was in the *Financial* criteria, wherein a potential funding source might have the ability to raise funds, but be unreliable. One participant commented that, “Too much is left to the interpreter who will summarize [the] survey.” One participant expressed that the *Implementation and Administration* criteria were “outcomes of the right decisions or must-haves (transparency); and not weighting factors”

In summary, the public survey and focus groups did not seem to identify any important new funding options, and there was no clear consensus concerning which local funding options are preferred, but there seemed to be some agreement that lower income should not be excessively burdened by large increases in fares or property taxes.

## Funding Options Evaluation

This section describes various funding options and evaluates them according to the criteria identified in this study's terms of reference. Table 9 summarizes the funding options considered. Some of them are already used by the VRTC, in which case this analysis refers to incremental increases in their revenues.

**Table 9 Funding Options Considered in this Study**

Name	Description
Fare increases	Increase fares or introduce a multi-zone fare structure
Property taxes	Increase property tax mill rates
Sales taxes	Special sales tax within the transit service area
Fuel taxes	Increase fuel taxes within the transit service area
Carbon tax	Dedicate a portion of the carbon tax collected within the transit service area to transit
Vehicle levy	Additional fees for registering vehicles in the region
Utility levy	A special transit levy to all utility accounts in the region
Employee levy	Special fees per employee located in the transit service area (often only for larger employers)
Road tolls	Fees for driving on specific roadways. A <i>congestion fee</i> is a road toll that is higher under congested conditions in order to reduce traffic congestion
Vehicle-Km tax	A form of road pricing that charges motorists per kilometre travelled
Parking sale taxes	A special tax on parking transactions (when motorists pay directly for parking)
Parking levy	A special property tax on non-residential parking spaces throughout the region
Development cost charges	A special charge on new development in the transit service area, or allow existing development fees to be used for public transit infrastructure investments
Land value capture	A special property tax in areas with high quality public transit to recover a portion of the increased land values provided
Station rents	Revenues from development on publically-owned land in or near transit stations
Station air rights	Sell rights to build over transit stations
Advertising	Increase advertizing on transit vehicles, stops and stations

*This table summarizes the funding options evaluated in this study.*

Each funding option is evaluated according to the following criteria:

- *Potential revenue* – Amount of revenue each option can reasonably generate. This depends on various assumptions about the scope and magnitude of a pricing option, such as the geographic area where it will be applied and the rate that will be charged.
- *Predictability and Stability* – The degree that revenue is predictable and stable.
- *Horizontal equity* – Whether those who pay also benefit from the project. See box below.

- *Vertical equity* - Whether the option is progressive with respect to income (costs are smaller for lower-income households) or in some way benefits disadvantaged people. See box below.
- *Travel impacts* - Whether the option helps achieve regional targets to reduce automobile travel and increase use of alternative modes. This is based on our understanding of the impacts of pricing on travel activity.
- *Development objectives* - Whether the option supports smart growth and transit-oriented development. This is based on our understanding of the impacts of pricing and taxes on development patterns.
- *Public acceptance* - Degree of public support and acceptance. See previous discussion on Public Preferences.
- *Ease of implementation* - The option's *transition* (initial implementation) and *transaction* (ongoing) costs. This is based on our understanding of these costs, and various examples and case studies.
- *Legal status* - Whether the option can be implemented under existing laws. This is based on our understanding of legal constraints and requirements.

## Transportation Equity Analysis<sup>20</sup>

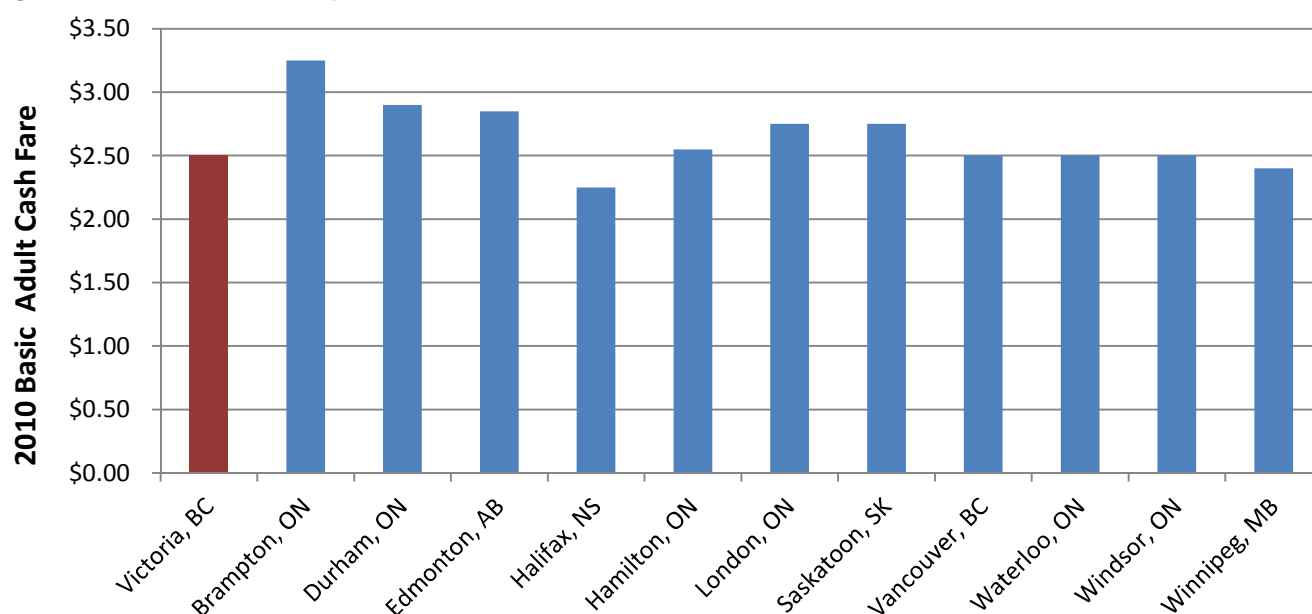
*Equity* refers to the distribution of impacts (costs and benefits) that are considered fair and appropriate. There are two major categories: *Horizontal equity* refers to the distribution of impacts between people similar in wealth, ability and need. It generally assumes that similar people should be treated equally, and so implies that people should “get what they pay for and pay for what they get” unless a subsidy is specifically justified. *Vertical equity* refers to the distribution of impacts between people who differ in wealth, ability or need. It generally assumes that cost burdens should be smaller and benefits greater for physically, economically or socially disadvantaged people. Policies that do this are called *progressive* and those that impose higher costs on disadvantaged people are called *regressive*.

Transportation equity analysis can consider various types of impacts, and group people in various ways. For example, road pricing is generally considered regressive, since a given toll represents a larger portion of income to lower-income than to higher income motorists. However, lower-income people tend to own fewer cars and drive less than wealthier people, particularly on major urban highways that are candidates for tolling. Lower-income people tend to rely more on alternative modes, and can benefit directly if congestion pricing reduces delay for rideshare vehicles and buses. As a result, road pricing may be less regressive than other roadway funding options (such as general taxes), and may be progressive overall if it leads to improvements to alternative modes, such as increased investment in cycling facilities and transit services, or reduced rideshare vehicle and bus congestion delay.

## Fare Increases

It is possible to increase all fare categories, selected categories, reintroduce a multi-zone fare structure with higher fares for longer-distance trips (such as between the Core Communities, West Shore and Central Saanich), or introduce premium fares for special services such as light rail or express commuter buses. Current adult fares are \$2.50 per trip, \$7.75 for a day pass and \$85.00 for a monthly pass, with lower (*concession*) fares for youths, seniors and people with disabilities. This currently generates \$34.8M annually (about \$92 annual per capita), 35% of the VRTS budget.

**Figure 8** Fares Compared (CUTA 2011)



*Victoria's fares are currently about average among its peers.*

### Potential Revenue

The price elasticity of transit ridership with respect to fares is usually  $-0.2$  to  $-0.5$  in the short run (first year), and increases to  $-0.6$  to  $-0.9$  over the long run (five to ten years). This suggests that a 10% fare increase typically increases revenue 5-8% over the short run and 1-4% over the long-run. As a result, rising fare increases revenue, but less than proportionately (raising fares 10% provides less than 10% increased revenue), and revenue gains tend to decline over time. These impacts tend to vary depending on the types of riders and types of services. In general, transit dependent users and peak period travel are less price-sensitive than discretionary travelers (people who could travel by automobile) and off-peak travel.

### Predictability and Stability

The additional revenues from fare increases can be difficult to predict with precision.



**Horizontal Equity**

Fare increases can be considered horizontally equitable, since users pay for the services they receive. However, automobile travel imposes significant external costs, particularly under urban-peak conditions, including traffic congestion, road and parking subsidies, accident risks and pollution damages.<sup>21</sup> Under urban-peak travel conditions, transit subsidies and external costs are often smaller than the external costs of automobile travel. To the degree that shifting travel from automobile to public transport is considered a sacrifice that benefits other people, fare increases can be considered horizontally inequitable because they double-charge transit users.

**Vertical Equity**

Since public transit provides basic mobility and many users are lower-income, fare increases tend to be regressive and vertically inequitable. The regressivity of fare increases vary depending on specific conditions.

**Travel Impacts**

Fare increases tend to reduce public transit travel and shift travel to automobile. They therefore tend to contradict strategic planning objectives to reduce automobile travel.

**Development Objectives**

Transit fare increases may reduce the relative attractiveness of transit-oriented locations, such as downtowns and transit station areas.

**Public Acceptance**

Although there is general support for the user pay principle, surveys and focus groups indicate opposition to significant fare increases due to vertical equity concerns (a desire to keep public transit affordable to lower-income users), and a desire to encourage public transit travel.

**Ease of Implementation**

Fare increases are easy to implement.

**Legal Status**

The Victoria Regional Transit Commission has the legal ability to increase fares.

**Examples**

Most transit agencies, including BC Transit, regularly increase fares.

**Observations**

Although it is possible to increase fares, doing so tends to reduce ridership which reduces net revenue and external benefits; traffic congestion, parking costs and pollution emissions will be higher than if revenue is generated from other sources. Fares charge users for direct benefits but tend to be regressive. An alternative is to reestablish a multi-zone rate structure, with higher fares for longer trips. More analysis is needed to predict the revenue, travel impacts and equity impacts of various fare increases.

## Property Taxes

The VRTS currently receives special property tax revenue. The 2012/13 mill rates are 0.2208 for residential and 1.0709 for commercial per \$1,000 of assessed value, which is less than 10% of total property taxes (general property tax mill rates are 3.7731 in Victoria, 3.2034 in Saanich and 2.9257 in Oak Bay). This generates \$18.5M annually (about \$50 annually per capita), 18.5% of the VRTS budget. During the last decade these taxes more than tripled for residential and more than doubled for businesses, as indicated in Table 10. This is significantly higher than the 25% inflation rate during that period.

**Table 10** Victoria Regional Transit Property Tax Trends

	Average Residential Tax	Business Multiplier	Average Business Tax
2001	\$27.30	5.40:1	\$525.74
2002	\$37.52	5.40:1	\$734.92
2003	\$37.64	5.40:1	\$748.28
2004	\$38.41	5.40:1	\$736.86
2005	\$46.65	5.40:1	\$831.04
2006	\$46.76	5.90:1	\$822.88
2007	\$53.76	6.54:1	\$950.71
2008	\$64.25	5.75:1	\$1,046.17
2009	\$74.87	5.00:1	\$1,085.93
2010	\$86.00	5.00:1	\$1,195.47
2011	\$93.08	5.00:1	\$1,358.60
2012	\$120.68	5.00:1	\$1,652.36
2013	\$120.47	4.85:1	\$1,715.59

### Potential Revenue

With provincial approval it is possible to increase transit property taxes by virtually any amount, but large tax increases may be politically difficult.

### Predictability and Stability

Property taxes are relatively stable.

### Horizontal Equity

To the degree that public transit improvements increase nearby property values or provide other savings and benefits to nearby residents and businesses (congestion reductions, parking cost savings, household savings, emission reductions, etc.), property tax funding can be considered horizontally equitable.

**Vertical Equity**

Property ownership tends to increase with income, and lower-income residents tend to qualify for various property tax discounts and exemptions, so this tax tends to be relatively progressive with respect to income. However, even poor people bear a portion of these taxes through rents, and property taxes are burdensome to some lower-income home owners.

**Travel Impacts**

Property taxes have few direct travel impacts.

**Development Objectives**

Large property tax differences may cause development to shift between jurisdictions, but transit taxes are relatively small and applied region-wide so impacts are likely to be minimal.

**Public Acceptance**

Although property taxes are widely used to finance public transit, and tend to be considered a default funding source (the source used if other options are infeasible), surveys and focus groups indicate resistance to significant increases in this tax.

**Ease of Implementation**

Since transit property taxes are already collected in this region, they would be relatively easy to increase, with provincial approval.

**Legal Status**

Transit property tax increases require provincial legislative changes (*BC Transit Act* and *Assessment Act*).

**Examples**

Property taxes are a common source of transit funding and there are many examples of property tax increases used to finance transit capital projects and increased operating costs.

**Observations**

Property taxes are stable, distribute burdens broadly, and reflect the external benefits that transit provides local residents and businesses. This can be considered the default option if other funding sources are unavailable. However, this tax has already been raised significantly during the last decade and there seems to be public resistance to additional increases.

## Regional Sales Taxes

A special sales tax dedicated to public transit. Variations include special taxes on particular transactions such as hotel rooms and vehicle rentals.

### Potential Revenue

A regional general sales tax could generate virtually any amount of revenue. Revenues from taxes on sales of particular products tend to be modest.

### Predictability and Stability

Sales taxes tend to fluctuate more than property taxes.

### Horizontal Equity

To the degree that transit provides general consumer benefits, sales taxes can be considered horizontally equitable, although the relationship is indirect (people who benefit most do not necessarily pay more).

### Vertical Equity

Sales taxes are regressive, and so tend to be vertically inequitable.

### Travel Impacts

Sales taxes do not directly affect travel activity.

### Development Objectives

Large sales tax differences may cause development to shift between jurisdictions, but transit taxes are relatively small and applied region-wide so impacts are likely to be minimal.

### Public Acceptance

Survey and focus group feedback indicates resistance to additional sales taxes.

### Ease of Implementation

Although provincial and federal governments collect HST (soon to be converted to GST), no local sales taxes are currently collected.

### Legal Status

This would require provincial legislation to delegate a Provincial taxing power to a local government.

### Examples

Sales taxes are the most common form of dedicated transit revenues in the U.S. (INPIRG 2007). Sales taxes comprised the largest source of local revenues for capital spending (38%), and the second largest source of operating expenses (27%) after fares (32%). In 2008, more than two-thirds of Los Angeles County voters approved Measure R, a referendum that established a special 0.5% sales tax dedicated to

transit and some road improvements.<sup>22</sup> An online poll found that 74% of Greater Toronto Area residents would support to some degree a 0.5 per cent regional sales tax dedicated to transit and infrastructure.<sup>23</sup>

### Observations

Regional sales taxes are a broadly distributed funding source which reflects the external benefits that transit provides regional residents, visitors and businesses. They are widely used to finance public transit in the U.S., but not in Canada due to our high general sales taxes (HST/GST).

## Fuel Taxes

The VRTS currently receives 3.5¢ per litre tax on fuel sold in the service area. This generates \$11.4M annually (\$30 annual per capita), 11.5% of the VRTS operating budget.

### Potential Revenue

Although fuel price increases reduce demand (a 10% price increase typically reduces fuel consumption by 2-4% in the medium-run), the tax increases considered in this study would have minimal impact.

Doubling the current 3.5¢ tax per litre regional tax would generate about \$11M annually.

### Predictability and Stability

Fuel tax revenue is moderately stable. It tends to fluctuate more than property taxes.

### Horizontal Equity

To the degree that motorists benefit from public transit improvements, due to reduced traffic and parking congestion, and reduced need to chauffeur non-drivers, and to the degree that automobile travel imposes external costs, fuel taxes can be considered to increase horizontal equity.

### Vertical Equity

Fuel taxes are regressive, but this regressivity is reduced if public transit improvements provide more convenient and affordable alternative to driving. Described differently, of all possible fuel tax uses, transit improvements are relatively progressive if they improve affordable mobility options.

### Travel Impacts

Fuel tax increases tend to reduce automobile travel and encourage use of alternative modes. The tax increases considered in this study would have minimal impact.

### Development Objectives

Fuel tax increases tend to encourage more compact, multi-modal land development, although the effects of this are likely to be minimal.

**Public Acceptance**

In general, fuel tax increases tend to be unpopular. However, surveys and focus groups indicate relatively high support to fuel tax increases, as indicated in Table 8 and Figure 7.

**Ease of Implementation**

Since the VRTS already receives a portion of fuel taxes, increasing it would be relatively easy.

**Legal Status**

This would require provincial legislation.

**Examples**

In Metro Vancouver the transit fuel tax is 15¢ per litre. Metro Vancouver mayors recently endorsed and the province approved a 2¢ per litre increase to fund the Evergreen Line rapid transit expansion. In Ontario, 2¢ per litre of the provincial gas tax is devoted to funding public transit. Calgary and Edmonton receive 5¢ of the provincial gas tax collected in each city to spend on roads or transit. In greater Montreal, a tax of 1.5¢ per litre of gas sold in the Greater Montreal region goes to the Agence Métropolitaine de Transport (AMT), Greater Montreal's regional transportation authority, and the recent provincial budget proposes doubling gas taxes for transit in Montreal and Quebec City.

**Observations**

The VRTC already receives dedicated fuel tax revenue. This tax discourages driving and encourages public transit use, although by itself the effects are small. Public acceptance seems to be relatively high.

**Carbon and Fuel Tax Transfer**

British Columbia currently applies carbon taxes of 5.56¢ per litre of gasoline and 6.39¢ per liter of diesel fuel, based on \$25 per tonne of CO<sup>2</sup> equivalent emissions. This will increase to \$30 per tonne in July 2012. Revenues from this tax are currently used to reduce other personal and business taxes, and provide special rebates to lower-income households. The province also collects HST/GST on fuel. A portion of this taxes revenue could be dedicated to transit.

**Potential Revenue**

Assuming regional residents consume 1,200 annual average liters of fuel, carbon tax revenues total about \$66 per capita or about \$20 million annually in total. HST/GST revenues are about twice that amount.

**Predictability and Stability**

Same as fuel tax.



### **Horizontal Equity**

Same as fuel tax.

### **Vertical Equity**

Same as fuel tax.

### **Travel Impacts**

Same as fuel tax.

### **Development Objectives**

Same as fuel tax.

### **Public Acceptance**

There seems to be relatively high public acceptance of this concept (see Table 8 and Figure 7).

### **Ease of Implementation**

Since these taxes are already collected, shifting their revenue to public transport would be relatively easy.

### **Legal Status**

This would require provincial legislation.

### **Examples**

British Columbia is one of the few jurisdictions with a carbon tax, but most jurisdictions have fuel taxes, a portion of which is used to finance transportation projects.

### **Observations**

Public support for this is relatively strong, but it would require changing provincial policy which dedicated carbon tax revenues to specific uses.

## Vehicle Levy

An additional fee for registering a vehicle in the region.

### Potential Revenue

Small to moderate. Assuming there are approximately 225,000 vehicles registered in the region, each \$4.44 annual fee generates \$1 million.<sup>24</sup>

### Predictability and Stability

Stable.

### Horizontal Equity

As previously discussed, to the degree that motorists benefit from public transit improvements and to the degree that automobile travel imposes external costs, a vehicle levy can be considered to increase horizontal equity. However, since vehicle fees do not reflect use (fees are the same for vehicles driven high and low annual mileage), this fee poorly reflects the external costs imposed by a particular vehicle.

### Vertical Equity

This fee tends to be regressive, particularly because lower-income motorists tend to drive their vehicles lower annual mileage, so they pay more on average per kilometer than higher income motorists.

### Travel Impacts

Higher vehicle fees may reduce vehicle ownership and therefore use, but impacts are likely to be small.

### Development Objectives

No significant impacts.

### Public Acceptance

According to survey and focus group responses, vehicle levies have less public acceptance than other transportation-related revenue options.

### Ease of Implementation

With provincial support this would be relatively easy for the region to implement.

### Legal Status

Requires provincial legislation and support.

### Examples

Toronto, Montreal, Quebec City, Gatineau, Trois-Rivières, Saguenay, Sherbrooke and Saint-Jérôme use vehicle registration fees to help finance public transport. In Montreal and Quebec City, \$30 from the provincially-levied license/vehicle registration revenue is devoted to transit operations. Toronto collects \$60 annual registration fees per vehicle. In the U.S. 33 states and 27 local jurisdictions have vehicle

registration fees that help finance transportation improvements, which sometimes includes public transit. TransLink is considering a \$15 to \$55 per vehicle levy, called a Transportation Improvement Fee.

**Observations**

This charges motorists for external costs they impose and benefits they could gain from reduced traffic and parking congestion, but does not reflect the amount a vehicle is used. Implementation would require provincial support.

**Utility Levy**

Apply a special transit levy to all utility accounts in the region.

**Potential Revenue**

Small. Assuming about 200,000 households and businesses in the region, each \$5 annual fee generates \$1 million.

**Predictability and Stability**

Stable.

**Horizontal Equity**

Similar to a property tax, a utility levy charges residents.

**Vertical Equity**

A utility levy is likely to be relatively regressive, since it is a flat fee per household.

**Travel Impacts**

No significant impacts.

**Development Objectives**

No significant impacts.

**Public Acceptance**

According to survey and focus group responses, utility levies have low public acceptance. It had the greatest level of opposition of all options presented (see Figure 7).

**Ease of Implementation**

Relatively easy. Has been used to fund BC Transit in the past, and is currently used to finance TransLink, under authority of the South Coast Transportation Authority Act.

**Legal Status**

BC Transit does not currently have the legal ability to impose a utility levy; would require a change in Provincial legislation.

**Examples**

TransLink receives a hydro levy of \$1.90 per month from each BC Hydro account within the service region. The hydro levy generates approximately \$18 million per year in revenue. The levy is collected by BC Hydro on TransLink's behalf.

**Observations**

This tax is relatively regressive and potential revenues are small.

**Employee Levy**

Charge a special fee per employee located in a transit service area (often only larger employers).

**Potential Revenue**

Small to moderate potential revenues, depending on the number of employees covered and the level of the levy. In the near future the Capital Regional District is projected to have approximately 200,000 employed persons.<sup>25</sup> Assuming a levy applies to half of all employees (excluding part-time, work-at-home, self-employed and rural jobs), each \$10 annual fee would raise one million dollars.

**Predictability and Stability**

Stable.

**Horizontal Equity**

Can be considered fair to the degree that commuters create traffic congestion and create demand for public transit.

**Vertical Equity**

The incidence (i.e., who ultimately bears it) of this fee is difficult to predict. It may substitute for wages, reduce total employment, or shift employment location if a large levy is applied just in the urban core.

**Travel Impacts**

Travel impacts are likely to be small.

**Development Objectives**

Development impacts are likely to be small unless a large levy is applied just in the urban core.

**Public Acceptance**

Uncertain.

**Ease of Implementation**

Would probably involve moderate implementation costs, similar to other business taxes and fees.

**Legal Status**

May require provincial legislation.

**Examples**

In France, the *Versement Transport* (Transport Levy) taxes employers with more than nine staff to help finance local public transport services.<sup>26</sup> A special 0.6% payroll tax is collected from most employers in the Portland and Eugene Oregon regions to help finance public transport services.

**Observations**

This fee reflects the travel costs generated by employment. This could be an appropriate revenue source but would require establishing a collection system.

**Road Tolls**

*Tolls* are user fees for driving on a particular road, bridge or area. For example, they could be applied on the Island Highway, the Malahat, or for driving in downtown Victoria. A variation is High Occupancy Tolls (HOT) lanes, which are free for use by high occupant vehicles (buses and carpools), but require a fee for use by single-occupant vehicles. *Congestion pricing* refers to tolls that are higher during peak periods to reduce traffic congestion. Such tolls cause travel to shift time, route, mode and destination.

**Potential Revenue**

Although revenues are theoretically large if tolls are widely applied, most proposals only toll a minor portion of total roads, resulting in relatively modest total revenues. For example, if 10,000 peak-period motorists each pay \$1.00 per trip, revenues would total \$5 million annually.

**Predictability and Stability**

Once established, revenues would probably be moderately stable, but may decline over the long run as travelers take tolls into account when making longer-term decisions (such as where to live).

**Horizontal Equity**

Tolls are generally considered vertically equitable, because they charge users directly for the congestion and roadway costs they impose, but they are often criticized as unfair if they only apply to a few roadways.

**Vertical Equity**

Tolls are often criticized as regressive, since a given toll represents a higher portion of income for poorer than wealthier motorists, but overall regressivity depends on the incomes of actual road users, the quality of travel options on that corridor, and how revenues are used. Tolls are often progressive compared with other funding options, such as using general taxes to finance roads and public transit services.

**Travel Impacts**

Road tolls tend to reduce affected automobile travel, and can be particularly effective at reducing traffic congestion, particularly if implemented with public transit improvements.

**Development Objectives**

Mixed impacts. If applied in just central city areas, tolls may encourage more dispersed development, but if more broadly applied and implemented with improvements to other modes, efficient road pricing may encourage compact development.

**Public Acceptance**

There is often public opposition to tolls, particularly on existing roadways, although surveys and focus group responses indicate some acceptance if revenues are used to support road and public transport improvements.

**Ease of Implementation**

Although there are many possible ways to implement road tolls, including some new technologies that reduce costs, implementation is still likely to be difficult and expensive, particularly if implemented by a single region.

**Legal Status**

Road tolling would require provincial legislation. Current BC government policy only allows tolls to finance major new highway capacity expansion that directly benefits toll payers, and where there is a reasonable alternate route.<sup>27</sup>

**Examples**

London, Singapore and Stockholm apply congestion tolls for driving on urban roads during peak periods. Many urban highways, including Toronto's 407, are financed by tolls.

**Observations**

Although road tolls can reduce congestion and encourage public transit use, they would have high implementation costs and face political opposition, and so would be difficult to implement in this region



## Vehicle-Km Fee

A form of road pricing that charges motorists per kilometre travelled. Rates could vary by vehicle type, such as higher fees for higher polluting vehicles.

### Potential Revenue

Potentially large. Assuming that approximately 2,250 million vehicle-kilometers are driven in the region annually (225,000 registered vehicles averaging 10,000 regional kilometers), each 1¢ per kilometer fee would generate about \$22.5 million dollars.

### Predictability and Stability

Moderate. Similar to fuel taxes.

### Horizontal Equity

Similar to fuel taxes. To the degree that motorists benefit from public transit improvements, and to the degree that automobile travel imposes external costs on non-drivers, vehicle-kilometer fees can be considered to increase horizontal equity.

### Vertical Equity

Is likely to be regressive. However, to the degree that public transit improvements reduce the need to drive, this regressivity is reduced.

### Travel Impacts

Vehicle-kilometer fees tend to reduce automobile travel and encourage use of alternative modes, including public transit.

### Development Objectives

Vehicle-kilometer fees tend to encourage more compact, multi-modal land development.

### Public Acceptance

In general, vehicle-kilometer fees tend to be unpopular. However, survey and focus group responses indicate relatively high support for this option, as indicated in Table 8 and Figure 7.

### Ease of Implementation

Would have high implementation costs since it would require a special system to measure annual vehicle kilometers in the region.

### Legal Status

Would require provincial legislation and support.

**Examples**

Vehicle-kilometer fees have been proposed in many jurisdictions (Huang, et al, 2010), but so far have only been implemented for freight trucks in Germany. Since 2005, all trucks have been charged a VKT of €0.09 to €0.14 per kilometer based on the truck's emissions levels and number of axles.

**Observations**

Although kilometer fees have some advantages over fuel taxes, they have high implementation costs and face political opposition, and so would be difficult to implement in this region alone.

**Parking Sales Taxes**

A special tax on parking transactions (when motorists pay directly for parking).

**Potential Revenue**

Small to moderate. Only a minor portion (probably 5-10%) of parking activity is priced, and this would further encourage businesses to provide free parking to employees and customers. If applied to municipal parking facilities it would reduce municipal revenues.

**Predictability and Stability**

Moderate to low stability.

**Horizontal Equity**

As with other vehicle use fees, it can be considered horizontally equitable to the degree that transit improvements benefit motorists and to the degree that motor vehicle travel imposes external costs.

**Vertical Equity**

Since this fee only applies when parking is priced, it is probably less regressive than other vehicle fees.

**Travel Impacts**

By marginally increasing parking fees it may slightly reduce vehicle trips, but by increasing the value to users of parking subsidies and reducing commercial parking profitability it may reduce the total portion of parking that is priced.

**Development Objectives**

Because this fee primarily applies in downtowns and other major commercial centers, it tends to discourage compact development.

**Public Acceptance**

There is generally public opposition to parking fees. Survey and focus group responses indicate relatively high support for this option, as indicated in Table 8 and Figure 7.

**Ease of Implementation**

Implementation costs are likely to be small to moderate. It may require new accounting requirements for commercial parking operators.

**Legal Status**

Requires Provincial legislation and support.

**Examples<sup>28</sup>**

TransLink has permission to collect a 7% parking surcharge to off-street parking transactions, but found it too administratively burdensome to collect. Many U.S. jurisdictions levy parking surcharges. Pittsburgh's is the highest in the U.S., at 37.5%. Chicago assesses a flat parking surcharge, rather than a percentage charge, on daily, weekly and monthly parking, with charges ranging from \$0.75-\$2 for daily parking, \$3.75 to \$10 for weekly and \$15 to \$40 for monthly parking.

**Observations**

This tax would probably generated modest revenue and contradicts other planning objectives; it discourages parking pricing (it increases the value of a parking subsidy), and it makes downtowns less competitive.

**Parking Levy**

A special property tax on non-residential parking spaces throughout the region.

**Potential Revenue**

Potential revenue is large. Assuming that there are one to two qualifying parking spaces per capita, a \$50 per space annual tax could generate \$20-40 million annually.

**Predictability and Stability**

Relatively stable, although revenues could decline slightly over time if property owners are allowed to reduce their parking supply.

**Horizontal Equity**

Like a fuel tax, this can be considered fair to the degree that motorists benefit from public transit improvements, or to the degree that parking facilities or automobile travel impose currently uncompensated external costs.

**Vertical Equity**

The ultimate incidence of this tax is difficult to predict, and will vary depending on specific conditions. It will mainly be borne by commercial property owners (residential parking is exempt), and so may marginally increase retail prices, increase parking pricing, and reduce wages. Costs may be reduced if property owners are allowed to reduce their parking supply. To the degree that public transit improvements reduce the need to drive, any regressivity is further reduced.

**Travel Impacts**

This tax will tend to reduce parking supply and encourage property owners to price parking, which can reduce vehicle travel.

**Development Objectives**

This tax encourages reduced parking supply and therefore more compact development.

**Public Acceptance**

Surveys and focus groups indicate relatively high support for parking taxes (see Table 8 and Figure 7). Vancouver region experience indicates possible opposition from suburban businesses.

**Ease of Implementation**

This tax would have relatively high implementation costs, since it requires adding a new field to provincial property records, but once established, ongoing costs are likely to be modest.

**Legal Status**

This would require provincial legislation.

**Examples**

Melbourne, Perth and Sydney, Australia all impose parking levies to encourage use of alternative modes and fund transport facilities and services.<sup>29</sup> TransLink implemented a parking levy in 2006, but this was subsequently rejected by the provincial government.

**Observations**

This levy distributes costs broadly, collecting a relatively modest amount from non-residential parking facilities throughout the region. It would have moderate implementation costs and political opposition.

## Development Cost Charges (DCCs)

A fee on new development to help fund infrastructure costs, and allow existing development fees to be used for public transit infrastructure investments.<sup>30</sup>

### Potential Revenue

Small to moderate. Since it only applies to new development it depends on the amount of development occurring in the region.

### Predictability and Stability

Is highly variable depending on how it is applied and the amount of qualifying development that occurs.

### Horizontal Equity

To the degree that new development increases demand for public transit, or that developers benefit from high quality transit service, it can be considered equitable.

### Vertical Equity

Uncertain. Although wealthier people tend to purchase more new housing, this fee will increase the costs of all new development and so will tend to increase rents and reduce housing affordability.

### Travel Impacts

If the charges discourage more compact, infill development they may increase sprawled development and therefore automobile travel.

### Development Objectives

If the charges discourage more compact, infill development they may increase sprawled development.

### Public Acceptance

Surveys and focus groups indicate relatively high support for such fee (see Table 8 and Figure 7).

### Ease of Implementation

Implementation costs are minimal since development fees are already collected in most jurisdictions.

### Legal Status

The Local Government Act allows for municipalities and regions to collect DCC's, however the uses for which DCC funds can be applied does not include public transit facilities. Provincial legislation would probably be required.

### Examples

In the 1970s, San Francisco, California enacted an ordinance to collect a Transit Impact Development Fee (TIDF) designed to recover the operating subsidy and capital expansion costs of the San Francisco

Municipal Railway (Muni), the local transit provider.<sup>31</sup> The TIDF is a one-time fee charged to cover the cost of providing transit services over the 45-year useful life of an office building, with the maximum fee of \$5 per gross square foot. Each year the impact fee is recalculated based on new development.

#### **Observations**

DCCs may generate some transit funding, but the amount is likely to be limited and unpredictable. If only applied near transit stations, high development fees could discourage transit-oriented development.

### **Land Value Capture**

A special property tax imposed in areas with high quality public transit, intended to recover a portion of the increased land values provided by transit and to help finance the service improvements. Sometimes called a transit benefit district tax.<sup>32</sup>

#### **Potential Revenue**

Moderate to large over the long-run.

#### **Predictability and Stability**

Difficult to predict, but stable once development occurs.

#### **Horizontal Equity**

Is considered horizontally equitable to the degree that high quality public transit provides an extra increase in land values and development revenues.

#### **Vertical Equity**

Vertical equity impacts depend on how the tax is structured and development conditions. It tends to capture value from developers and property owners, but some of the tax may be passed on to residents, and it can reduce housing affordability in transit-oriented developments, which is regressive.

#### **Travel Impacts**

Depends on details. If such a tax discourages development around transit stations it could reduce transit ridership and transit-oriented development.

#### **Development Objectives**

Mixed. May discourage some transit-oriented development, but it could encourage more concentrated development near transit stations.

#### **Public Acceptance**

Surveys and focus groups indicate relatively high support for land value capture (Table 8 and Figure 7).

**Ease of Implementation**

May require special analysis and legislation to determine the most appropriate tax structure.

**Legal Status**

The Local Government Act allows municipalities to apply land value capture, but there is no specific provision allowing regional districts to apply such taxes. The South Coast Transportation Authority Act specifically allows Translink to collect such taxes but no such provision in the BC Transit Act to permit the VRTC to do this.

**Examples**

Land value capture in the form of transit benefit districts is used in some U.S. cities including Miami, Florida; Los Angeles, California; and Denver, Colorado.<sup>33</sup>

**Observations**

Land value capture may generate small to moderate transit funding. If only applied near transit stations high taxes could discourage transit-oriented development.

**Station Rents**

Collect revenues from public-private developments on publically-owned land in or near transit stations.

**Potential Revenue**

Probably small. It depends on BC Transit's ability to obtain and develop land around transit stations, and the demand for such building space.

**Predictability and Stability**

Revenues are difficult to predict, but once established may be relatively stable.

**Horizontal Equity**

Is considered horizontally equitable to the degree that it captures the value of proximity to high quality public transit.

**Vertical Equity**

Vertical equity impacts depend on development conditions. It can be an opportunity for a community to raise additional revenue from businesses and higher income residents, but if rents are structured to maximize revenue it may reduce housing affordability in accessible locations (i.e., lower-priced housing in transit-oriented developments) which is regressive.



**Travel Impacts**

Uncertain. If this increases transit-oriented development it may help reduce total vehicle travel.

**Development Objectives**

Uncertain. It may increase or discourage transit-oriented development, depending on how development and rents are structured.

**Public Acceptance**

Surveys and focus group responses indicate relatively high support for station rents (see Table 8 and Figure 7).

**Ease of Implementation**

Some station development may be relatively easy, but maximizing this revenue option may involve some effort and risks.

**Legal Status**

The Victoria Regional Transit Commission has the legal ability to develop stations, but there may be legal challenges if a government were to appropriate land specifically for commercial development, as opposed to transit facility improvement.

**Examples**

TransLink has established a Real Estate Division is responsible for acquiring, managing and disposing of TransLink's properties in a manner that optimizes revenue, reduces capital costs and supports TransLink's strategic development goals.<sup>34</sup> This includes station-area development.

**Observations**

Station rents depend on opportunities and demand for such development. It may take many years for many of these opportunities to fully develop.

**Station Air Rights**

Sell the rights to build over transit stations.<sup>35</sup>

**Potential Revenue**

Depends on demand for such development. There are probably few sites on the proposed rapid transit line where this would be feasible, so total potential revenues are probably modest.

**Predictability and Stability**

Uncertain. Depends on demand for such development.

**Horizontal Equity**

Is considered horizontally equitable to the degree that it captures the value of proximity to high quality public transit.

**Vertical Equity**

Vertical equity impacts depend on specific conditions. It can raise revenue from businesses and higher income residents, but if structured to maximize revenue it may reduce housing affordability in accessible locations (i.e., lower-priced housing in transit-oriented developments) which is regressive.

**Travel Impacts**

Uncertain. If this increases transit-oriented development it may help reduce total vehicle travel.

**Development Objectives**

Uncertain. It may increase or discourage transit-oriented development, depending on how development and rents are structured.

**Public Acceptance**

Surveys and focus groups indicate relatively high support for station rents (see Table 8 and Figure 7).

**Ease of Implementation**

Some station air rights development may be relatively easy, but maximizing this revenue option may involve some effort and risks.

**Legal Status**

The Victoria Regional Transit Commission probably has the legal right sell or rent station-area air rights.

**Examples**

The Toronto Transit Commission has investigated options for selling air rights at the York Mills subway station, the Eglinton/Yonge bus terminal, the Sheppard/Yonge station bus terminal and land adjoining the Spadina station.<sup>36</sup>

**Observations**

Station air rights may generate modest transit funding, depending on opportunities and demand for such development. It may take many years for these opportunities to develop.

## Advertising

Increase advertising on transit vehicles, stops and stations. Advertising currently generates approximately 0.6% of the VRTS operating budget. Revenues are likely to increase somewhat with increased service, ridership and facilities.

### Potential Revenue

Although expanding transit service and increasing transit ridership should allow more advertising, even doubling or tripling of revenue would provide relatively small additional revenue.

### Predictability and Stability

Relatively unstable.

### Horizontal Equity

No clear impact.

### Vertical Equity

Does not generally harm disadvantaged people.

### Travel Impacts

No clear impact.

### Development Objectives

No clear impact.

### Public Acceptance

Surveys and focus groups indicate relatively high support for advertising (see Table 8 and Figure 7). However, there may be public opposition to particular advertising methods or materials.

### Ease of Implementation

Since BC Transit already has advertising, expansion is relatively easy.

### Legal Status

Already used.

### Examples

Most public transit agencies, including BC Transit, already generate funds from advertising.

### Observations

Advertising can provide modest revenue. Its potential is likely to increase somewhat with increased service, ridership and facilities.



## Key Observations and Next Steps

High quality public transit which attracts discretionary travelers and results in more compact land use development can provide various benefits, including direct benefits to users, and indirect benefits to other residents by helping reduce traffic congestion, road and parking facility costs, accidents and pollution emissions. Under appropriate conditions public transit investments can provide positive economic returns: their savings and benefits offset their costs.

The Capital Region has strategic plans to improve transportation system efficiency, safety, affordability, and environmental quality. Various transit service improvements identified in the *Transit Future Plan* are essential components of the region's overall transport plans. Such improvements will require additional funding. Although senior governments usually contribute to such projects, additional regional funding will probably be required.

This research has discovered no new funding options that are particularly cost effective and easy to implement. Each funding option has disadvantages and constraints. As a result, a preliminary observation of this study is that a variety of funding options should be used to help finance public transit improvements to insure stability (so total revenues are less vulnerable to fluctuations by a single economic sector or legal instrument) and to distribute costs broadly. Even people who do not currently use public transit benefit from reduced congestion, increased public safety and health, improved mobility option for non-drivers, regional economic development, or improves environmental quality. These widely dispersed benefits justify dispersed funding sources.

Current public transit funding sources used in the Capital Region include fares, property taxes, fuel taxes, and advertising. There is potential for increasing revenues from these options, although fare increases contradict other planning objectives, and the options that seem most acceptable to the public (development fees, station rents and advertising) tend to generate modest revenue. Some additional funding can be generated from these existing revenue sources, including fares (particularly by returning to a zoned fare structure that charges higher fares for longer-distance trips), property taxes and fuel taxes. Fuel tax increases are particularly appropriate because, in addition to raising revenues, they also encourage more efficient transport and fuel conservation. Because this region is geographically isolated, fuel tax increases will cause relatively little sales leakages to other jurisdictions. However, fuel taxes are considered burdensome and regressive (their actual regressivity depends on the quality of transport options available, and so is reduced by public transit service improvements), and tend to be politically unpopular, and so should be implemented predictably and gradually. It may be appropriate for the region to establish a schedule of modest increases in fuel taxes each year after 2012, since the provincial carbon tax is unlikely to increase further.

Three new revenue options with significant potential deserve more consideration: *parking levies* (special property taxes on non-residential parking spaces throughout the region), *vehicle levies* (an additional fee on vehicles registered in the region) and *employee levies* (a levy on each employee, often only collected from larger employers). These could generate relatively large amounts of revenue, distribute costs broadly, and have a logical connection to transit improvements (high quality transit benefit motorists, businesses and employees).

Parking levies can encourage more compact development and more efficient parking pricing. All have moderate implementation costs; more than increasing existing transit funding options but less than road tolls or vehicle-kilometer fees.

Where feasible, *development cost charges*, *station rents* and *air rights* can be used to generate funds, but their revenues will depend on the demand for transit-area development and other factors, so their revenues are difficult to predict and are likely to be modest during the foreseeable future. *Land value capture taxes* should also be considered. These should be carefully structured to avoid discouraging transit-oriented development (they should not be too high or too geographically concentrated), and it may be best to defer their implementation for a few years until station-area rents have significantly appreciated. It is particularly appropriate to create local area benefit districts around transit stations where modest special levies and parking meter revenues can be used to finance local improvements such as station amenities, streetscaping and special cleaning and security services, rather than financing system-wide transit services.

**Table 11 Funding Options Key Observations**

Definitions	Key Observations
<i>Fare increases</i> - Increase fares or introduce a multi-zone fare structure	Although it is possible to increase fares, doing so tends to reduce ridership which reduces net revenue and benefits. Fares charge users for direct benefits but tend to be regressive.
<i>Property taxes</i> - Increase property tax mill rates	This is stable, distributes burdens broadly, and reflects external benefits that transit provides local residents and businesses. However, it has already been raised during the last decade and there is resistance to additional increases.
<i>Sales taxes</i> - Special sales tax within the transit service area	This distributes burdens broadly and reflects transit's external benefits. It is widely used in the U.S., but not in Canada due to our high general sales taxes.
<i>Fuel taxes</i> - Increase the special fuel tax within the transit service area	The VRTC already receives dedicated fuel tax revenue. This tax discourages driving and encourages public transit use, although by itself the effects are small. Public acceptance seems to be relatively high.
<i>Carbon tax</i> - Dedicate a portion of carbon taxes collected in the region area to transit	Public support for this is relatively strong, but it would require changing provincial policy which dedicated carbon tax revenues to specific uses.
<i>Vehicle levy</i> - An additional fee for registering vehicles in the region	This charges motorists for external costs they impose and benefits they could gain from reduced congestion, but does not reflect the amount a vehicle is used. Implementation would require provincial support.
<i>Utility levy</i> - A special transit levy to all utility accounts in the region	This tax is relatively regressive and potential revenues are small.
<i>Employee levy</i> - Special fees per employee located in the transit service area	Reflects travel costs generated by employment. This could be an appropriate revenue source but would require establishing a collection system.
<i>Road tolls</i> - Fees for driving on specific roadways.	Although road tolls can reduce congestion and encourage public transit use, they have high implementation costs and face political opposition.
<i>Vehicle-Km Fee</i> - A charge per kilometre travelled	This has high implementation costs and faces political opposition, and so would be difficult to implement in this region alone.
<i>Parking sale taxes</i> - A special tax on parking transactions	Would probably generate modest revenue. Contradicts other planning objectives by discouraging parking pricing and downtown development
<i>Parking levy</i> - A special property tax on non-residential parking spaces throughout the region	This distributes costs broadly, collecting a relatively modest amount from non-residential parking facilities throughout the region. It would have moderate implementation costs and political opposition.
<i>Development cost charges(DCC)</i> - A special charge on new development in the transit service area	May generate some transit funding, but the amount is likely to be limited and unpredictable. If only applied near transit stations, high development fees could discourage transit-oriented development.
<i>Land value capture</i> - A special property tax in areas with high quality public transit	This may generate small to moderate transit funding. If only applied near transit stations high taxes could discourage transit-oriented development.
<i>Station rents</i> - Revenue from development on public land in or near transit stations	Station rents depend on opportunities and demand for such development. It may take many years for many of these opportunities to fully develop.
<i>Station air rights</i> - Sell the rights to build over transit stations	May generate modest transit funding, depending on opportunities and demand for such development.
<i>Advertising</i> - Increase advertising on transit vehicles, stops and stations.	Can provide modest revenue. Its potential is likely to increase somewhat with increased service, ridership and facilities.

*This table summarizes key observations about the funding options evaluated in this study.*



Revenue options that are implemented should be structured to maximize benefits and minimize problems. Taxes and levies should be designed to support other regional planning objectives, including increased transit ridership, reduced automobile traffic, economic development, energy conservation, compact development and greenspace preservation and affordability.

Most funding options identified in this report require provincial approval and support for implementation to help finance major public transit improvements. In addition, the provincial government is currently considering regional transit and transportation governance reforms that may affect both funding requirements and opportunities. The next step in this process should involve negotiations between key regional and provincial stakeholders to develop a public transit funding package that is considered efficient, equitable and consistent with regional planning objectives.

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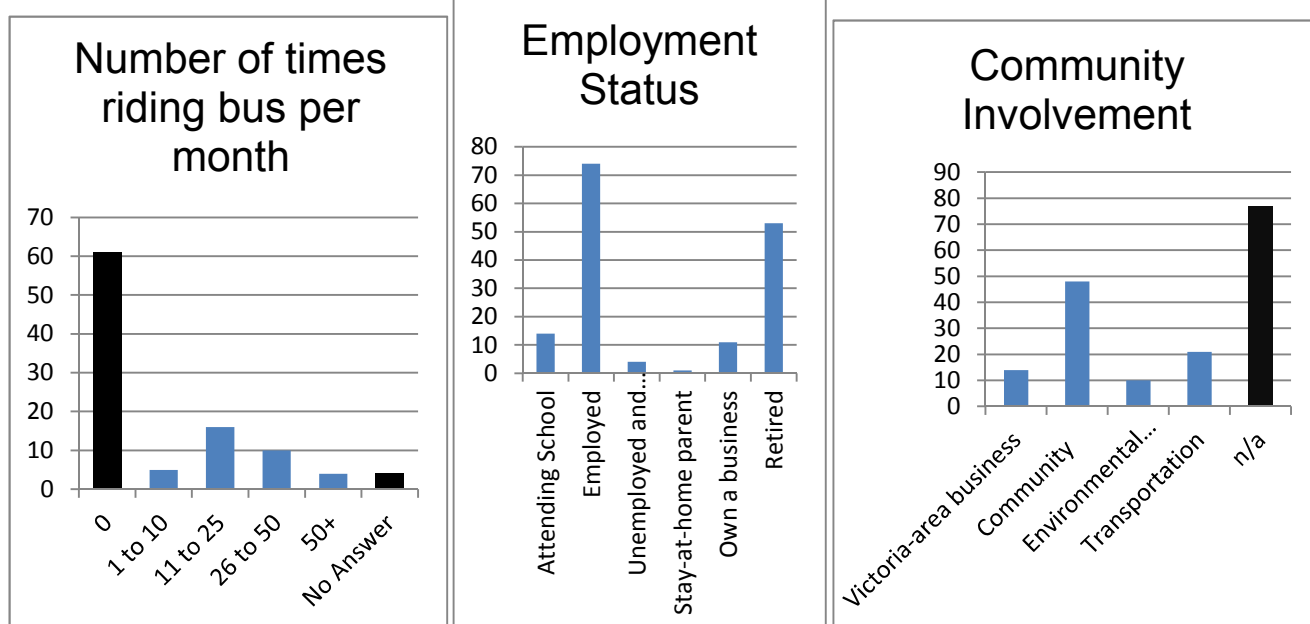
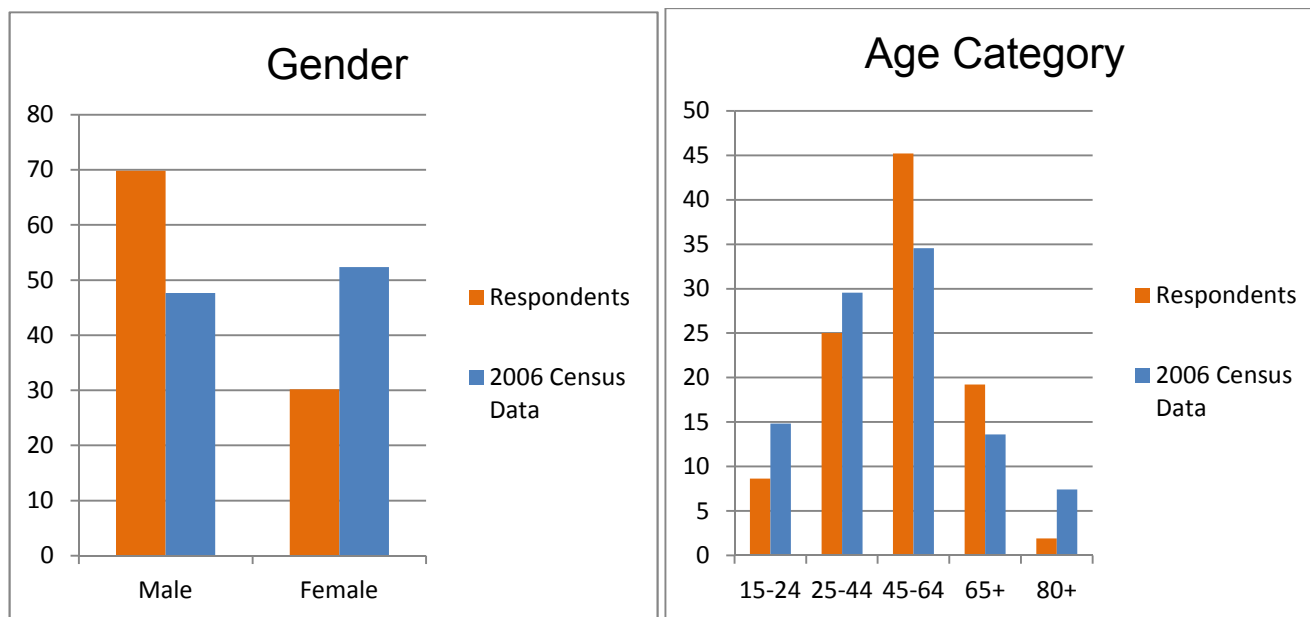
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## Appendix - Website Survey Results

As part of this project a survey was posted on the *LRT Funding Options* website to solicit public opinions concerning funding options.<sup>37</sup> This appendix summarized the results.

A total of 144 responses were captured between 17 January and 5 February 2012. Respondent demographics are summarized in the following graphs. Respondents were more likely to be male, older and retired than the CRD overall. City of Victoria residents were somewhat over-represented and Saanich and Langford underrepresented.





**Question 1: Are there any other funding options that you think should be added to this list?**

Table A-1 indicates options suggested by 3 or more respondents. Most were already proposed.

**Table A-1 Additional Public Transport Funding Options**

Potential Options	Number
Previously Proposed Options	
Do not build LRT	15
Fund through building parking garages/parking tax	7
Limit Taxes to service area	6
Need provincial/federal funding	5
Fund through vehicle usage (gas tax or VKT)	4
Fund only by user fees	4
Fund through sponsorship/advertising	3
Fund through toll roads	3
Fund through carbon tax/off-sets	3
Fund through higher LRT fare	3
Fund through sales tax	2
Fund through HOT lanes	2
No other options	36
No Answer	17
New Options	
Fund through public/private partnership	10
Fund through congestion charges	4
Fund through distance-based land-value tax (higher further from core)	4
Fund through bond sales	4
Fund through savings/service rationalization	3
Fund through charging car drivers/manufacturers	3
Fund through fares/user fees	3

**Question 2: What are your comments about the various funding options identified?****Table A-2 Support or Opposition to Funding Options**

Option	Support	Don't Support
Fuel /Gas Tax	40	12
Road tolls	36	15
Carbon Tax	34	5
Advertising/sponsorship	33	3
Station rents	32	3
Parking tax	32	11
Development cost charges	30	8
Station air rights	29	3
Vehicle usage (VKT)	29	13
Vehicle registration fee (levy)	28	11
Fares/User Fees	28	25
Land value capture	23	5
Property Tax	18	28
Utility levy	11	13
Sales Tax	10	17

Respondents provided additional comments, led by, *Don't build LRT* and limiting cost to service area, sometimes explicitly mentioning the West Shore, Uptown, or the Douglas Street corridor.

**Table A-3 Additional Comments**

Other Comments	Number
Don't build LRT	15
Fund through limiting costs to service area	12
Fund only by user fees	11
Concern about taxpayer impact	8
Concern about linking funding impact to benefit	4
None / No comment	7

**Question 3: What issues do you think are most important to consider when evaluating funding options?**

Respondents raised a number of issues. The largest category concerned financial impact on specific groups including taxpayers, non-users of the system, people outside the LRT service area, and lower-income or disabled people. Other common concerns related to the overall affordability of the project, and the impacts of other major infrastructure projects including but not limited to sewage treatment. A few suggested that money should be redirected from sewage treatment to the LRT.

**Table A-4 Issues To Consider In Evaluations**

Issues	Number
Minimize taxpayer impact	24
Apply the funding options only within service area	20
Minimize impact on non-users	18
Funding should impact mostly automobile drivers	13
Concern about equality of funding options	11
Concern about affordability of the funding options	10
Funding should be chosen by amount of vehicle travel reduction	10
Minimize impact on users	8
Concern about cost of other major capital projects (ex. Sewage)	8
Apply funding options equitably across whole region	5
Funding should be chosen by public acceptance of the funding options	5
Funding must take into account environmental sustainability of the LRT system	5
Concern about effect on transit users of funding options	4
Concern about ability to get funding from provincial/federal sources	4
Funding should be chosen by ability of each option to generate revenue	4
Funding should be chosen by cost of collecting various types of funding	4
Funding should come from existing transit revenues	4
Funding should impact mostly on businesses that benefit	4
Funding should be spread funding over many options	3
Funding must take into account reduction of pollution	3

**Table A-5 Additional Comments**

Comments	Number
Don't build LRT	19
Build on E&N	6
Uncertain if cost/benefit analysis is accurate	5
No answer	4

## Endnotes

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- <sup>1</sup> BC Transit and CRD (2011a).
- <sup>2</sup> BC Transit and CRD (2011b).
- <sup>3</sup> For information on these benefits see Banister and Thurstain-Goodwin 2011; CTOD 2011; Litman 2011; EDRG 2007.
- <sup>4</sup> Litman 2004; CNT 2012.
- <sup>5</sup> CTS 2009; Currie 2011; EDRG 2007.
- <sup>6</sup> BC Transit and CRD (2011)
- <sup>7</sup> APTA 2009; TCRP 2009.
- <sup>8</sup> CSG 2008; UCTM 2010
- <sup>9</sup> TCRP (2009).
- <sup>10</sup> TCRP (2009).
- <sup>11</sup> Tomalty (2007).
- <sup>12</sup> Irwin and Bevan (2010)
- <sup>13</sup> Cayo (2012).
- <sup>14</sup> *TransLink Funding Options Website*  
[www.translink.ca/~media/Documents/bpotp/10\\_year\\_plan/Supporting%20Docs/Mayors%20Curriculum%20Materials%20%20Research%20on%20Funding%20for%20Transportation.ashx](http://www.translink.ca/~media/Documents/bpotp/10_year_plan/Supporting%20Docs/Mayors%20Curriculum%20Materials%20%20Research%20on%20Funding%20for%20Transportation.ashx).
- <sup>15</sup> Earthvoice Strategies 2012.
- <sup>16</sup> Dill and Weinstein 2007.
- <sup>17</sup> CBC 2011
- <sup>18</sup> [www.lrtlocalfunding.ca/index.php/survey](http://www.lrtlocalfunding.ca/index.php/survey).
- <sup>19</sup> VRRRT 2012.
- <sup>20</sup> Fruin and Sriraj 2005; Forkenbrock and Weisbrod 2001; Litman 2002; TRB 2001.
- <sup>21</sup> For more discussion see Litman 2009, and TC 2008.
- <sup>22</sup> [www.metro.net/projects/measurer/](http://www.metro.net/projects/measurer/)
- <sup>23</sup> CBC (2012), 74% of GTA residents support 0.5% sales tax for transit: poll, Canadian Broadcasting ([www.cbc.ca](http://www.cbc.ca)); at [www.cbc.ca/news/canada/toronto/story/2012/04/18/gta-regional-sales-tax-toronto657.html](http://www.cbc.ca/news/canada/toronto/story/2012/04/18/gta-regional-sales-tax-toronto657.html).
- <sup>24</sup> CRD 2010.
- <sup>25</sup> Urban Futures (2009)
- <sup>26</sup> TBoT (2010)
- <sup>27</sup> [www.th.gov.bc.ca/Publications/reports\\_and\\_studies/tolling/index.htm](http://www.th.gov.bc.ca/Publications/reports_and_studies/tolling/index.htm).
- <sup>28</sup> TBoT (2010)
- <sup>29</sup> Litman (2010).
- <sup>30</sup> MRSC (2010)
- <sup>31</sup> TCRP (1998), “Transit Impact Fee” ([http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp\\_rpt\\_31-2-b.pdf](http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_31-2-b.pdf)).
- <sup>32</sup> TRILLIUM Business Strategies Inc. 2009.
- <sup>33</sup> TBoT (2010)
- <sup>34</sup> [www.translink.ca/en/About-Us/Doing-Business-with-TransLink/Real-Estate.aspx](http://www.translink.ca/en/About-Us/Doing-Business-with-TransLink/Real-Estate.aspx)
- <sup>35</sup> Tompkins (2010),
- <sup>36</sup> Hall (2002)
- <sup>37</sup> [www.lrtlocalfunding.ca/index.php/survey](http://www.lrtlocalfunding.ca/index.php/survey).