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Policy Forum: Reducing the Environmental Impact of Transportation—British Columbia's Tax Policy Initiatives

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INTRODUCTION

British Columbia has numerous initiatives aimed at reducing the environmental impact of transportation. It has a comprehensive and pioneering carbon tax, the highest fuel tax rates in Canada, and some of the most stringent vehicle emission requirements in the country. BC residents can access incentives to retire their older vehicles, encouraging the choice of cleaner transportation. Consumers of hybrid vehicles previously received a rebate of their provincial sales taxes, and currently those purchasing electric or alternative fuel vehicles receive cash incentives. Do British Columbia's

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policies work? What can we learn about them from the economic literature? How can they be improved?

FUEL TAXES AND CARBON TAXES

As vehicles burn fuel, they generate urban air pollution: carbon monoxide (CO), nitrogen oxides (NO_x), hydrocarbons (HC), sulphur dioxide (SO_2), and particulate matter (PM). Burning fuel also produces carbon dioxide (CO_2), a greenhouse gas (GHG). The ideal policy is to measure each pollutant and tax emissions on the basis of the marginal damage that that pollutant causes to society, but technical and administrative realities make this approach impractical. Environmental economists recommend a fuel tax as an alternative. Because of a close relationship between fuel combustion and its associated pollutants, a fuel tax approximates the ideal solution. It raises the marginal cost for every kilometre driven, encouraging people to limit their use of private vehicles, and thereby reducing emissions, traffic congestion, and vehicle accidents. A fuel tax also induces the purchase of more fuel-efficient vehicles.

Instead of fuel taxes, regulators often use fuel economy standards—a manufacturer-specific average fuel economy for vehicles sold in a jurisdiction. Alternatively, they can employ a tax on fuel-inefficient vehicles, a subsidy for fuel-efficient vehicles, or both (the "feebate" option). These alternatives influence the purchase of new vehicles but do not provide incentives to limit their use. By lowering the cost of driving each kilometre, they might even encourage people to drive more often and farther than they did before.[1]

An appropriate fuel tax is easy to implement, and most jurisdictions have adopted this type of levy. Adjusting the level of the fuel tax is cheaper than introducing and implementing new policies. In addition, the cost-effectiveness of a fuel tax in achieving environmental goals is demonstrably higher than that of alternative measures.[2] Despite these obvious benefits, many policy makers consider increases in fuel taxes to be politically toxic.

Currently, British Columbia has the highest provincial tax on gasoline and diesel in Canada. The tax is highest in the congested South Coast Region (which includes Metro Vancouver), somewhat lower in the Capital Region (which includes Victoria), and lowest in the rest of British Columbia. Table 1 illustrates the range of gasoline and diesel fuel taxes applicable in 2012, showing the carbon tax and federal components. The provincial gasoline tax in the South Coast Region is 32.17¢ per litre (¢/L), almost 11 cents higher than the levy in the next highest region outside the province, Montreal. The provincial diesel tax in the South Coast Region, at 33.67¢/L, is more than

1 See Kenneth A. Small and Kurt Van Dender, "Fuel Efficiency and Motor Vehicle Travel: The Declining Rebound Effect" (2007) 28:1 *Energy Journal* 25-52.

2 See Soren T. Anderson, Ian W.H. Parry, James M. Sallee, and Carolyn Fischer, "Automobile Fuel Economy Standards: Impacts, Efficiency, and Alternatives" (2011) 5:1 *Review of Environmental Economics and Policy* 89-108.

TABLE 1 BC Fuel and Carbon Taxes, July 2012 (Cents per Litre)

	Gasoline			Diesel		
	South Coast	Capital Region	Rest of BC	South Coast	Capital Region	Rest of BC
Total fuel tax	25.50	18.00	14.50	26.00	18.50	15.00
Carbon tax	6.67	6.67	6.67	7.67	7.67	7.67
Total provincial tax	32.17	24.67	21.17	33.67	26.17	22.67
Federal excise tax	10.00	10.00	10.00	4.00	4.00	4.00
Total excise taxes	42.17	34.67	31.17	37.67	30.17	26.67

Note: The 5 percent federal goods and services tax is applied to the net retail price including all excise taxes. A pump price of $1.40/litre thus includes 6.67 cents of federal sales tax.

Source: British Columbia, Ministry of Finance, *Tax Bulletin MFT-CT 005*, "Tax Rates on Fuels," revised July 2012.

13 cents higher than the next highest levy in Canada, in Prince Edward Island. By comparison, the provincial fuel tax in Alberta is only 9.0¢/L on gasoline or diesel.[3]

British Columbia's gasoline and diesel tax derives from three statutes, the Motor Fuel Tax Act,[4] the South Coast British Columbia Transportation Authority Act[5] (establishing TransLink), and the Carbon Tax Act.[6] Two of these directly address the environmental impacts of personal transportation. We discuss them below.

Funding Public Transit Through a Fuel Tax: TransLink

Public transport is generally considered the most efficient way to move people in dense urban areas. The individual tradeoff is often time versus money. Public transit might take more time, but if fuel and parking costs are high, it is cheaper than driving a car. In areas of high congestion, the availability of rapid transit, trains, or dedicated transitways eliminates this tradeoff: public transit can get people to work both cheaper and faster.

In the South Coast Region, TransLink operates a system of buses, light trains, commuter trains, and sea-bus ferries. TransLink receives almost a third of its funding from fuel and parking levies.[7] In 2011, fuel taxes constituted approximately

3 In addition to provincial taxes, consumers all over Canada also pay an excise duty of 10¢/L for gasoline (4¢/L for diesel), and pay a federal value-added tax (goods and services tax) of 5 percent on the after-tax price of fuel.

4 RSBC 1996, c. 317.

5 SBC 1998, c. 30.

6 SBC 2008, c. 40.

7 Public transit constitutes over 70 percent of TransLink expenses. The agency also partners with municipalities to invest in, and repair and maintain, major network roads and bridges (accounting for less than 4 percent of its operating expenses); maintains a transit police; and invests in bicycling.

28 percent of TransLink's annual revenue, and parking levies contributed another 4 percent.[8] The remainder came from property taxes, fare collection, and other sources. Of the 32.17¢ of tax collected on each litre of gasoline sold in the South Coast Region, 17 cents are remitted to TransLink.

A council of mayors in the South Coast Region has the authority to recommend increases in the transit fuel tax levy; through their recommendations, the levy has risen from 8¢/L in 1999 to its current rate of 17¢/L. The latest increase, approved by the BC legislature in April 2011, raised fuel taxes by 2¢/L to fund the construction of the Evergreen Rapid Transit Line—a new light train line connecting the eastern suburbs with the existing rapid transit network.

British Columbia is not unique in using fuel taxes to fund public transit. Quebec also funds public transit directly through fuel taxes. In other jurisdictions (for example, Florida, Virginia, Hawaii, and Illinois), transit is one of the allowable uses for revenue generated through a local fuel tax. Fuel tax increases raise the cost of driving and can lead to improvements in the quality of public transit through additional funding. However, this form of funding introduces an element of volatility into the budgets of transit authorities. As fuel prices rise (because of the tax or otherwise), people reduce driving and switch to public transit, and fuel tax revenues and parking fees fall. The latest TransLink financial report from 2011 lists a shortfall in actual fuel tax revenues compared with expected revenues.[9] Theoretically, economies of scale in public transit—falling marginal costs as the number of riders increases—should offset this shortfall. On the other hand, as fuel prices fall (while the tax rate remains constant), fuel tax revenues rise. However, lower fuel prices typically result in reduced use of public transit, and thus lower ticket revenues.

A Revenue-Neutral BC Carbon Tax

Taking the lead in North America, British Columbia introduced a carbon tax on July 1, 2008. The tax was initially set at $10 per tonne of CO_2 equivalent (tCO_2e) emissions and raised in $5 annual increments to its maximum of $30/$tCO_2e$ emissions on July 1, 2012. The tax applies to the purchase or use of fuels within the province, and covers industry, households, and transportation. Equivalent rates are calculated for different types of fuels and energy—for example, 6.67¢/L on gasoline, 7.67¢/L on diesel fuel, and $1.4898 per gigajoule (GJ) on natural gas. In fiscal year 2012-13, the carbon tax is budgeted to generate $1.172 billion in revenue (about 5.6 percent of the province's tax revenue and 2.7 percent of its total revenue).[10] The

8 TransLink, *2012 Business Plan*, *Operating and Capital Budget Summary* (Vancouver: TransLink, February 2012), at 7, 14, and 17.

9 TransLink, *2011 Year-End Financial and Performance Report* (Vancouver: TransLink, March 2012), 7 and 11.

10 British Columbia, Ministry of Finance, Budget and Fiscal Plan 2012/13-2014/15, February 21, 2012, at 66-68 and 142, table A9.

BC carbon tax was conceived as a revenue-neutral measure. Upon the introduction of the tax in 2008, all BC residents received a $100 cheque as a one-time "climate action dividend," and the provincial personal income tax rates for the two lowest income brackets were reduced by 5 percentage points. Low-income earners also receive a tax credit (discussed further below). To date, the government has taken in less revenue from the carbon tax ($2.5 billion as of 2011-12) than it has spent on tax cuts ($3 billion);[11] in effect, the carbon tax amounts to a net tax reduction.

Pricing carbon is considered the most economically efficient way of regulating GHG emissions. More efficient than conventional command-and-control interventions (such as technical standards), carbon can be priced through a carbon tax or a cap-and-trade system of emission permits. In theory, these two instruments are equivalent; the main difference is that one uses a price instrument (a tax) and the other uses a quantity instrument (a cap). In practice, there are important tradeoffs. Cap-and-trade systems have greater political appeal because permits can be allocated through grandfathering schemes that distribute permits free of charge. On the other hand, an emission tax provides price stability and can be applied more broadly. Permit prices in a cap-and-trade system can be volatile, whereas the stability of a tax rate helps to assure the return on investment of developing new energy-saving or emissions-saving technologies. An emission tax can also be applied more easily across all sectors in an economy, whereas a cap-and-trade system is limited to the industrial sector because the household and transportation sectors are too fragmented to participate in a permit market. A carbon tax is also more cost-effective to administer than a permit market.

Efficacy and Criticisms

Considering the novelty of the carbon tax in British Columbia, it is difficult to determine its efficacy in reducing CO_2 emissions; the publication of GHG inventories lags by about two years, and the full level of the tax only came into effect in mid-2012. It is likely that the tax will reduce British Columbia's carbon intensity. A research report by Sustainable Prosperity provides early indications of this effect.[12] However, planned expansion of fossil fuel production in northeastern British Columbia could lead to a large increase in CO_2 emissions, offsetting reductions induced by the carbon tax. There is also a wild card in British Columbia's carbon balance. The pine beetle epidemic may wipe out as much as 80 percent of the province's lodgepole pine stands over the next 20 years, turning forests from a carbon sink into a carbon source.

In transportation, higher fuel and carbon taxes induce a reduction in driving. We are not aware of a study directly analyzing the relationship between vehicle mileage

11 Ibid.

12 Stewart Elgie, *British Columbia's Carbon Tax Shift: The First Four Years* (Ottawa: Sustainable Prosperity, June 2012).

and British Columbia's higher fuel taxes. The economic literature[13] estimates a long-run price elasticity of gasoline use at −0.43; that is, a 10 percent increase in the price of gasoline induces a long-run reduction in gasoline use by 4.3 percent. In British Columbia, high fuel taxes will reduce the consumption of gasoline and diesel fuel over the long run. In addition, in the South Coast and Capital regions, the availability of high-quality public transit will further reduce private vehicle use. According to the 2009 Canadian Vehicle Survey, Canadians drove an average of 15,336 kilometres per year (km/yr) in light vehicles. Nova Scotians drove the farthest, at 17,427 km/yr, and British Columbians drove the least, at 12,892 km/yr; in Ontario, the average was 16,196 km/yr.[14]

Criticism of fuel and carbon taxes is often directed at their incidence. Expenditures on energy and fuel as a proportion of income fall as income rises. Thus, higher energy and fuel taxes tend to be regressive. While there is no adjustment in the BC budget for fuel taxes, the revenue-neutrality measures associated with the carbon tax include a "low income climate tax credit" ($115.50 per year per adult plus $34.50 per child for tax payments after July 2011).[15] Related income tax cuts are also targeted at the low-income tax brackets.

Another common criticism of energy and carbon taxes is their possible impact on competitiveness. The argument is that higher prices on fuel put energy-intensive industries at a competitive disadvantage relative to competitors in lower-tax regions. For example, in British Columbia, cement producers have voiced their objection to the additional cost imposed by the carbon tax; however, the production of lime in making cement (which emits CO_2 as a by-product) is already exempt from the tax. Criticism has also come from BC horticultural greenhouse owners for whom energy is a significant component of costs. Overall, relative to other manufacturing-oriented provinces, higher energy and fuel taxes have a smaller impact on competitiveness in British Columbia. Nevertheless, the BC government announced in its 2012 budget that it will undertake a comprehensive review of the carbon tax and its impact.[16]

13 See Small and Van Dender, supra note 1.

14 Natural Resource Canada, Office of Energy Efficiency, *Canadian Vehicle Survey 2009* (Ottawa: Natural Resources Canada, 2011). Ideally, data should be available on fuel consumption per capita instead of driving distances, since distance is only one of the factors determining fuel consumption. For example, fleet composition has a strong impact. Light trucks and vans consume more fuel for every kilometre driven. In 2009, Alberta had the smallest proportion of light vehicles in its fleet (44 percent) and Quebec the largest (71 percent). British Columbia fell in between, at 56 percent, slightly less than the average for Canada (59 percent). Fleet composition is determined by geography, industrial composition, individual preferences, and fuel prices. In 2009, the average gasoline-powered light vehicle in Canada consumed 10.7 litres per 100 kilometres (L/100 km). Nova Scotia had the most fuel-efficient fleet at 9.6 L/100 km, while British Columbia had the least fuel-efficient fleet at 11.6 L/100 km.

15 The credit is reduced by 2 percent for net family incomes above the specified threshold. Full details are provided in section 8.1 of the British Columbia Income Tax Act, RSBC 1996, c. 215, and the Low Income Climate Action Tax Credit Regulation, BC Reg. 135/2008.

16 Supra note 10, at 66.

OTHER ENVIRONMENTAL PROGRAMS IN THE TRANSPORTATION SECTOR

Vehicle Emission Inspections

The AirCare program (formally known as the motor vehicle emissions inspection and maintenance program) was introduced in 1992 in an effort to improve the deteriorating air quality in the Lower Fraser Valley.[17] AirCare tests vehicles for three types of pollutants (HC, CO, and NO_x) in different ways, depending on the vehicle's vintage and fuel type. Vehicles before model year 1992 get a dynamometer test while the vehicle is driven at a steady speed of 40 km/h and while the vehicle idles. Vehicle models for 1992 and later are subjected to a more advanced dynamometer test (IM240) in which the vehicle is driven through a predefined sequence of acceleration, deceleration, and cruise conditions for up to four minutes. With the advance of electronic engine control systems, eligible vehicles issued in 1998 and later are tested by reading the on-board diagnostics through interfacing with the vehicle's emission control system. Vehicle owners pay $45 per inspection, or $23 for pre-1992 vehicles.

The benefits of the AirCare program come from the consequences when a vehicle fails the test: the vehicle is either repaired and retested or taken off the road (if the owner does not wish to repair it). Since its inception in 1992, the program has tested more than two million vehicles; 36 percent of them failed the inspection at least once. The vehicle fleet in British Columbia has changed significantly with the production of vehicles that meet stricter emission standards. Starting with the 1988 model year, Canada harmonized its vehicle standards with more stringent US standards. When the program started in 1992, many vehicles did not even have catalytic converters.

While most of the improvement in urban air quality can be attributed to modernization of the vehicle fleet, AirCare also contributes to emission reductions. According to results from the MOBILE 6.2C vehicle emission model run by Metro Vancouver, AirCare contributed to an additional 33 percent reduction in emissions over the base scenario (with fleet turnover but without inspections). Despite its apparent success, AirCare will be discontinued at the end of 2014 on the premise that the percentage of vehicles without electronic emission control systems is rapidly decreasing.

Accelerated Vehicle Retirement

Accelerated vehicle retirement programs provide monetary incentives to vehicle owners to replace their old (polluting, fuel-inefficient) vehicles with new (cleaner, more fuel-efficient) ones. The BC Scrap-It program is probably the most innovative of its kind. Established in 1996 as a non-profit society rather than a government program,

17 Among the other provinces, only Ontario operates a similar type of program. The Ontario Drive Clean program covers southern Ontario (Windsor to Ottawa). Quebec is considering introducing a program of this type starting in 2013.

the BC Scrap-It underwent its largest expansion in 2008 through a $15 million grant from the provincial government. At the peak of the program following that expansion, vehicle replacement incentives were as high as $2,250 for new vehicles.

A novel and successful feature of the BC Scrap-It program is its range of post-retirement options encouraging participants to choose alternative forms of transportation. Participants can receive subsidies toward public transit use, membership in ride-share or car-share programs, or the purchase of a bicycle. Current incentives for choosing transit are higher than for vehicle replacements and cash.

The program targets emissions of local air pollutants as well as CO_2. On average, each program participant contributes emission reductions of roughly 10 tCO_2. Some of the gains are due to improved fuel efficiency, since participants are encouraged to switch to hybrid gas-electric vehicles (HEVs) through higher monetary incentives than those provided for conventional vehicles. A larger part of the gains is due to participants switching to public transit use, reflecting the much larger CO_2 reductions where individuals make this choice. Overall, the program is cost-effective.[18]

Accelerated vehicle retirement programs are most effective if focused on urban areas. They generate greater environmental (health) benefits in areas with higher vehicle density and higher ambient pollution concentrations. These gains are highest when program participants are steered toward alternative transportation modes: cycling, car-sharing, and public transit. Encouraging alternative transport is viable only in urban areas (such as the BC South Coast Region) with extensive, affordable, and high-quality public transit networks.

Subsidizing Fuel-Efficient Hybrid and Electric Vehicles

British Columbia was the first province in Canada to introduce a subsidy for the purchase of hybrid vehicles (HEVs), in August 2000. It offered a sales tax rebate of up to $500 for each HEV purchase. The amount of the rebate was raised twice, and HEVs sold after February 16, 2004 received up to $2,000. This program ended when the province adopted the harmonized sales tax in July 2010. In the same decade, Ontario, Manitoba, Quebec, and Prince Edward Island also instituted HEV incentives. All but two of these programs have since been discontinued. At the peak of their rebates, Manitoba, Quebec, and Ontario offered up to $2,000. Prince Edward Island still returns $3,000 to consumers who purchase an HEV.

An analysis of these programs finds that only 26 percent of HEV sales while the program was in effect were attributable to the rebate.[19] The highest rebate offered was $3,000, representing almost 10 percent of the retail price of the largest-selling

18 See Werner Antweiler and Sumeet Gulati, "Scrapping for Clean Air: Emissions Savings from the BC SCRAP-IT Program" (unpublished, University of British Columbia, May 2012).

19 Ambarish Chandra, Sumeet Gulati, and Milind Kandlikar, "Green Drivers or Free Riders: An Analysis of Tax Rebates for Hybrid Vehicles" (2010) 60:2 *Journal of Environmental Economics and Management* 78-93. The share of hybrid vehicles in total light vehicle sales in Canada for 2005 was 0.35 percent.

hybrid in Canada, the Toyota Camry. In the absence of the rebates, those purchasers who chose hybrids because of the subsidy would likely have bought vehicles with similar characteristics and marginally lower fuel efficiencies. Unsurprisingly, people were unlikely to give up a Hummer for a Prius; consequently, emission reductions from switching consumers to HEVs were small.

Given the evidence that most consumers who received the subsidy would have purchased a hybrid or other fuel-efficient vehicle in any case, the cost per litre of gasoline saved, or per tonne of CO_2 saved, through this type of program is very high—about \$195/tCO_2.[20] This can be compared with an average price of €25.50 (approximately \$40) for a futures contract for a tonne of CO_2 settled in the European Climate Exchange in 2008, or the \$30/tCO_2e BC carbon tax.

In recent years, the focus has switched to electric vehicles (EVs). British Columbia, Ontario, and Quebec all offer point-of-sale cash incentives: British Columbia offers up to \$5,000, Quebec up to \$8,000, and Ontario up to \$8,500. These subsidies are sizable, but the price of an EV is still significantly higher than a comparable non-electric vehicle. For example, Nissan's LEAF car starts at \$38,395. Even with an impressive range, given the constraints imposed by long charging times and limited charging infrastructure, most people are unlikely to choose an EV as their primary household vehicle. Its high price and limited usability will likely restrict purchases to environmentally motivated, affluent buyers—those who would buy an EV anyway. Since EVs are not appropriate for high daily usage, any reductions in fuel use from inducing a switch to an EV will also be small.[21]

In addition to a cash rebate, EV owners in Ontario get green licence plates allowing unrestricted access to high occupancy vehicle (HOV) lanes. A similar clean air vehicle stickers program in California provides unrestricted HOV access for a limited number of hybrid vehicles. Even though the number of stickers is relatively small, there are significant congestion effects: driving time in HOV lanes rises by 9 percent in morning peak hours.[22] Research suggests that the combination of high congestion costs and restrictive benefits makes this policy very inefficient in transferring benefits to hybrid owners—approximately five times less efficient than cash incentives.

Whether on the basis of cash incentives funded by taxpayers, or reduced commuting times underwritten by carpoolers, the environmental case for subsidizing EVs is weak.

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20 Ibid.

21 The Union of Concerned Scientists (UCS) has evaluated CO_2 emissions for EVs across the United States. It has found that approximately half of Americans live in regions where charging an EV on the grid emits less CO_2 than driving a hybrid vehicle. Emissions associated with EVs are higher in regions with a high share of coal-fired power plants. Don Anair and Amine Mahmassani, *State of Charge: Electric Vehicles' Global Warming Emissions and Fuel-Cost Savings Across the United States* (Cambridge, MA: UCS Publications, June 2012).

22 Antonio M. Bento, Daniel Kaffine, Kevin Roth, and Matthew Zaragoza, "Clearing the Air? The Unintended Consequences of the Clean Air Stickers Program in California" (unpublished, Cornell University, 2010.)

Road Tolls

British Columbia also makes use of road and bridge tolls. Between 1988 and 2008, drivers using the Coquihalla highway between Hope and Kamloops had to pay road tolls ranging from $5 for motorcycles, to $10 for cars and other light vehicles, to $50 for trucks. While road tolls can be used to relieve traffic congestion as well as emissions, in practice the tolls are primarily used to finance infrastructure projects. In case of the Coquihalla, the total amount of tolls collected over 22 years ($845 million) is approximately equal to the highway's construction cost ($848 million). Opened in June 2009, the Golden Ears Bridge connecting Langley to Pitt Meadows and Maple Ridge across the Fraser River is subject to a bridge toll ranging from $2.65 for a motorcycle, to $4.10 for a car, to $9.85 for a large truck (with discounts for vehicles with a toll device). The Port Mann bridge opened in December 2012. Users are subject to a toll of $1.50, which is scheduled to rise to $3.00 in March 2013. Toll revenue, collected by TransLink, amounts to about $40 million annually.[23]

CONCLUSION

British Columbia leads Canada in environmental initiatives in personal transportation. Its fuel tax is the highest among all Canadian provinces (although still low compared with most European countries).[24]

A fuel tax is the policy instrument considered most effective by environmental economists to reduce the environmental consequences of transportation. British Columbia also has North America's most innovative accelerated vehicle retirement program: the BC Scrap-It program provides greater monetary incentives to adopt public transit than to purchase another vehicle. And British Columbia is the only jurisdiction in North America with a comprehensive carbon tax, valued at $\$30/tCO_2e$.

The province's HEV and EV subsidy programs appear to be inefficient; they generate small environmental benefits relative to their costs. To encourage fuel efficiency at the point of vehicle purchase, a revenue-neutral feebate system is more effective and is neutral with respect to emerging and competing technologies.

23 Supra note 8.

24 According to the European Commission, fuel taxes on unleaded petrol in the European Union range from €0.363/L in Bulgaria to €0.73048/L in the Netherlands, not including value-added taxes, which also tend to be higher than those in Canada. Fuel and value-added taxes in the European Union together account for about three-quarters of the retail price for gasoline and two-thirds of the retail price for diesel. The average pump prices for regular gasoline in the European Union are about 60 percent higher than prices in Vancouver, and nearly twice as high as those in Edmonton. European Commission, *Excise Duty Tables, Part II—Energy Products and Electricity*, REF 1035, July 2012 (http://ec.europa.eu/taxation_customs/resources/documents/taxation/excise_duties/energy_products/rates/excise_duties-part_ii_energy_products_en.pdf).

TABLE 2 Summary of BC Environmental Taxes, 2012

Type/base	Rate	Projected revenue[a] for 2012		
		Amount ($ million)	Provincial (%)	TransLink (%)
Fuel tax	14.5-26.0¢/L[b]	937.0	2.2	27.8
Carbon tax	$30/t$CO_2$e	1,172.0	2.7	na
Parking tax[c]	21% bridge	51.6	na	4.3
Toll	$3.59/trip[d]	39.0	na	3.2

[a] Revenues are expressed as a percentage of the total provincial government revenue ($43.101 billion) and TransLink revenue ($1.192 billion).
[b] See table 1 for details.
[c] Collected only in the South Coast Region on behalf of TransLink.
[d] Average per crossing.

Sources: British Columbia, Ministry of Finance, Budget and Fiscal Plan 2012/13-2014/15, February 21, 2012; and TransLink, *2012 Business Plan*, *Operating and Capital Budget Summary* (Vancouver: TransLink, February 2012).

Table 2 summarizes the environmental tax measures in British Columbia and their impact on the provincial and TransLink budgets. While environmental tax measures contribute a relatively small share of total provincial revenue, they are a major source of funding for public transit in the province.