

Provincial Policies for Achieving Transportation Emission Reduction Targets

Comments for the BC Clean Transportation Action Plan Consultation Paper
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Summary

British Columbia has ambitious goals to reduce greenhouse gas (GHG) emissions while also increasing affordability, social equity, public health and safety, and economic development. It has targets to reduce emissions 40% by 2030 and 80% by 2050, to reduce light-duty vehicle-kilometres 25% by 2030, and increase walking, bicycling and public transit mode shares to 30% by 2030 and 50% by 2050. However, the province is not currently on track to achieve these goals. This report identifies provincial policies that can achieve these targets in ways that are cost effective and provide additional benefits. Other jurisdictions demonstrate the leadership and technical support needed for success.

Introduction

British Columbia has ambitious targets to reduce climate emissions and achieve other strategic goals. The province has targets to reduce emissions 16% by 2025, 40% by 2030, 60% by 2040, and 80% by 2050, relative to a 2007 baseline, and reduce transportation sector emissions 27-32% by 2030. It also has goals related to affordability, social equity, public health and safety, and economic development. The *Clean BC Roadmap to 2030* has targets to reduce light-duty vehicle-kilometres travelled 25% by 2030, and increase walking, bicycling and public transit mode shares to 30% by 2030, 40% by 2040, and 50% by 2050. This report identifies specific provincial policies for achieving those goals.

Table 1 summarizes potential emission reduction strategies. Strategies that improve affordable modes (walking, bicycling, micromodes, public transit and telework), TDM incentives to reduce total vehicle travel, and Smart Growth Development policies that create more compact, multimodal communities, can provide large co-benefits. This suggests that, for fairness and cost efficiency, at least half of emission reduction targets should be achieved by vehicle travel reductions.

Table 1 **Emission Reduction Strategies**

Clean Vehicle Incentives	Improve Non-auto Modes	TDM Incentives	Smart Growth Policies
<i>Shift travel to efficient and alternative fuel vehicles.</i>	<i>Improve walking, bicycling, public transit and telework.</i>	<i>Provide incentives to choose resource-efficient modes.</i>	<i>Create more compact, multimodal communities.</i>
<ul style="list-style-type: none"> • Subsidize clean vehicle purchases, including micromodes (e-bikes and e-scooters). • Require and subsidize electric vehicle charging networks. 	<ul style="list-style-type: none"> • Improve active travel (walking and bicycling) networks. • Improve public transit service quality (more service, dedicated lanes, better integration, etc.). • Support ridesharing. • Support car- and bikesharing services. • Support telework. • Stop expanding highways. 	<ul style="list-style-type: none"> • Encourage or require commute trip reduction programs. • Encourage or require efficient parking pricing. • Implement pay-as-you-drive (PAYD) vehicle insurance pricing. • Create transportation management associations. 	<ul style="list-style-type: none"> • Establish complete streets policies. • Eliminate parking mandates. • Allow and encourage compact infill. • Encourage mixed-use, walkable urban villages. • Discourage low-density, sprawl development.

Achieving BC's emission reduction targets will require both clean vehicle initiative and vehicle travel reduction strategies. Although the province has targets to reduce light-duty vehicle travel 25% and approximately double walking, bicycling and public transit trips by 2030, it will need additional policies to achieve them.

Leadership and Support

What: Provide leadership and technical support for more multimodal planning. This includes data collection, professional development, and guidance for more efficient, multimodal planning, and transportation policy reforms by local governments. Several peer jurisdictions are demonstrating such leadership and support. For example, California (CAPCOA 2021), Colorado (CDOT 2022), New Zealand (NZTA 2022) and Wales evaluate all major transportation projects to determine their vehicle travel and emission impacts; those that contradict targets are rejected or require significant mitigation (BBC 2023).

Current Practices: Canada, including British Columbia, collects little travel data, provides little support for multimodal planning, and does not require consistency between planning decisions and vehicle travel and emission reduction targets.

Provincial Policies: British Columbia should collect detailed travel activity and infrastructure investment data, develop modelling tools for predicting travel and emission impacts, provide multimodal planning technical support, and require that major transport and land use programs support strategic targets.

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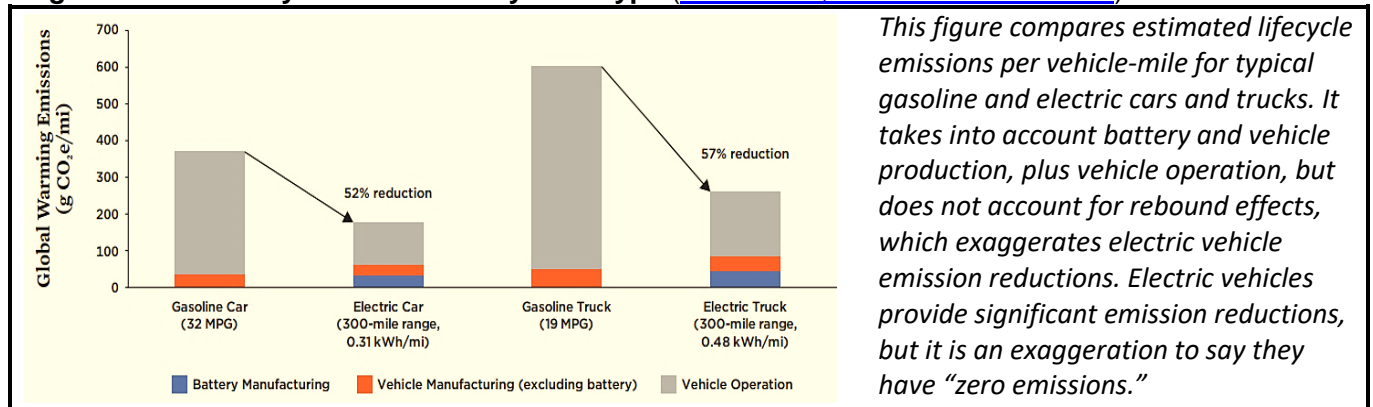
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Clean Vehicles Initiatives

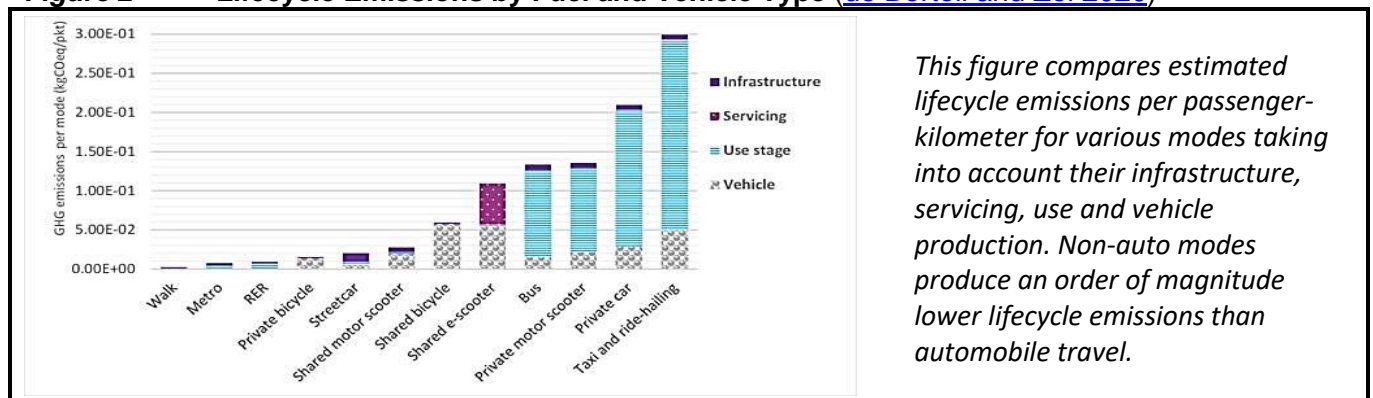
What: Clean vehicles are significantly more energy efficient than average, such as hybrids, or use renewable fuels such as electricity or hydrogen. Clean vehicle initiatives include subsidies and regulations to encourage clean vehicle purchases and development of charging/refueling networks.

Figure 1 Lifecycle Emissions by Fuel Type ([Reichmuth, Dunn and Anair 2022](#))



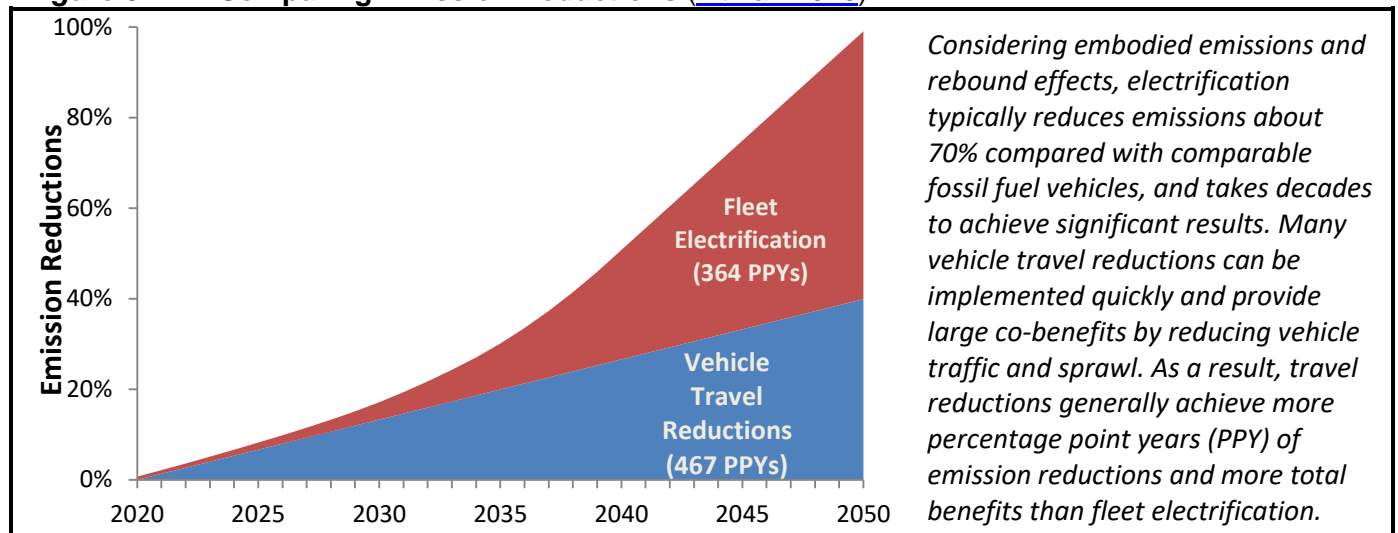
Lifecycle emission analysis considers the total emissions produced by vehicle production and use, and in some studies, their infrastructure requirements such as roads, parking facilities and rail lines. Measured this way, clean vehicles typically reduce total emissions by 40-80%, depending on vehicle type and energy sources. Since about 90% of BC electricity is from renewable resources, clean vehicles probably reduce lifecycle emissions 70-80%. Figure 1 and 2 illustrate these impacts.

Figure 2 Lifecycle Emissions by Fuel and Vehicle Type ([de Bortoli and Zoi 2020](#))



Because clean vehicles cost about half as much to operate as a comparable fossil fuel vehicle they induce additional vehicle travel, typically 10-30%, and so increase traffic problems including infrastructure subsidies, traffic and parking congestion, crashes and sprawl-related costs. Considering these factors, fleet electrification can at best achieve about half of the emission reduction targets; vehicle travel reductions will need to achieve at least half of the targets.

Figure 3 Comparing Emission Reductions ([Litman 2023](#))



Current Practices: Federal and provincial governments currently provide substantial subsidies for electric vehicle purchase and charging networks. For example, the federal Zero-Emission Vehicles Program provides up to \$5,000 for electric vehicle purchases, and Natural Resources Canada is spending nearly a billion dollars to build electric vehicle charging infrastructure. In addition, the CleanBC Go Electric program offers subsidies up to \$2,000 to purchase hybrid vehicles and \$4,000 for battery electric vehicles, plus up to \$350 for installation of a residential Level 2 electric vehicle charging stations. In addition, electric vehicles pay no road user fees comparable to the special excise tax applied to motor vehicle fuel subsidies. Subsidies for e-bikes are much smaller. Residents who scrap a qualifying car or truck can receive \$750 rebates to purchase new e-bikes, and business owners can receive up to \$1,700 to purchase a cargo e-bike, but these limited and much smaller than electric automobile subsidies.

Recent studies indicate that e-bike subsidies are more cost effective, provide more benefits and help achieve a wider range of goals than other electric vehicle subsidies since they are affordable and help reduce road and parking facility costs, and traffic congestion in addition to reducing emissions (Crider 2021; Edmondson 2022). Because they can travel faster and farther, carry heavier loads and easily climb hills, e-bikes approximately double the portion of trips that can be made by light two-wheelers. However, to achieve their full potential communities will need to develop better bicycling infrastructure.

Currently, the British Columbia government invests little in e-bike subsidies and bicycling infrastructure, far less than needed to serve demands and achieve provincial targets. For example, the Ministry of Transportation and Infrastructure spends less than 1% of its budget on walking and bicycling programs, much smaller than provincial mode share targets for these modes.

Provincial Actions: Electric vehicle subsidy programs should be designed to favor e-bikes over electric automobiles in recognition of their cost efficiency, affordability and diverse benefits. The province should prioritize active transportation infrastructure programs to ensure that British Columbia communities accommodate growing bicycling and e-bike travel demands.

Provincial Policies for Achieving Transportation Emission Reduction Targets
Victoria Transport Policy Institute

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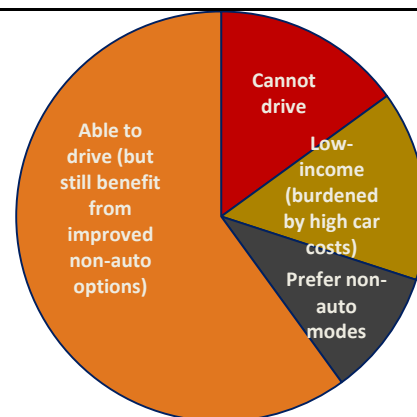
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Multimodal and Least-Cost Planning

What: Multimodal planning means that the transportation planning recognizes non-auto travel demands and the unique and important roles that non-auto modes play in an efficient and equitable transportation system. *Least-cost planning* means that transportation agencies invest in the most cost-effective projects, considering all impacts, including non-auto modes and TDM incentives.

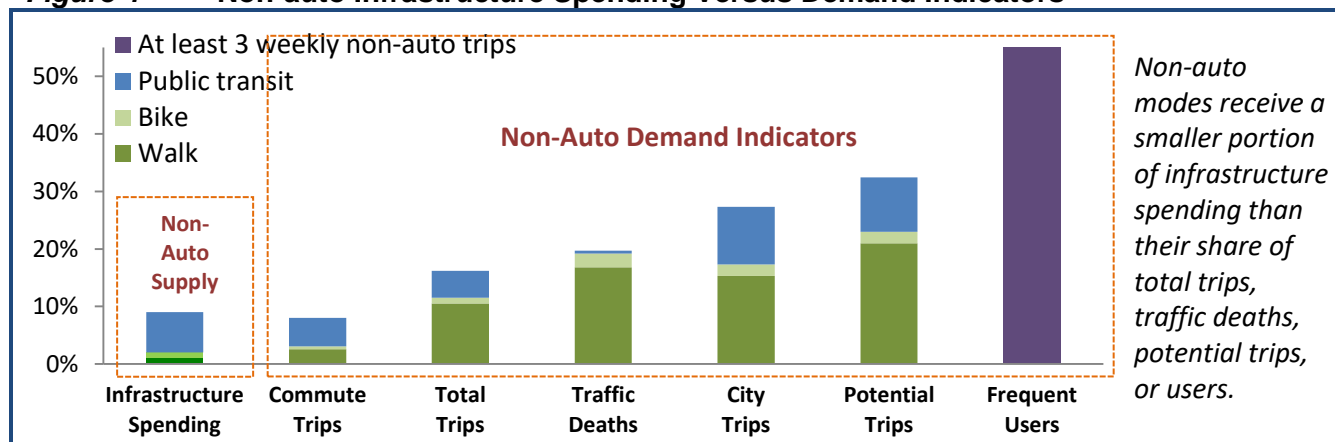
Non-auto Travel Demands (Litman 2023)

- Seniors and people with disabilities who do not or should not drive.
- Adults who lack driver's licenses.
- Youths who lack driver's licenses or vehicles (12-22 years).
- Zero-vehicle household members (20% of Victoria households).
- Drivers who lack or share vehicles.
- Low-income motorists.
- Tourists and visitors who lack vehicles.
- Travellers impaired or distracted by alcohol, drugs or devices.
- People who want to walk and bike for health and enjoyment.
- Owners of pets that need walks.
- Motorists who benefit from better travel options for others.



To be efficient and equitable a transportation system must be diverse to serve diverse demands. In a typical community, 20-40% of travellers cannot, should not, or prefer not to drive and will use non-auto modes if they are convenient and affordable. This allows travellers to choose the most efficient option for each trip: walking and bicycling for local errands, efficient public transit when travelling on busy corridors, and automobiles when they are really most efficient overall, considering all impacts.

Figure 4 Non-auto Infrastructure Spending Versus Demand Indicators



Although British Columbia has targets to reduce motor vehicle travel and increase walking, bicycling and public transit travel, provincial transportation planning continues to prioritize automobile facilities and underinvest in non-auto modes. To achieve its targets transportation planning must prioritize affordable and resource-efficient modes over expensive and resource-intensive modes. Other jurisdictions, including California, Colorado, New Zealand, Wales and Washington State, require that all major transportation and land use development projects be evaluated for their vehicle travel impacts, and projects which induce additional travel be rejected or significantly changed for consistency.

Current Policies: The BC Ministry of Transportation and Infrastructure (MoTI) currently spends the majority of its budget on roadways, including highway expansion projects that will induce more vehicle travel, contradicting local, regional and provincial vehicle travel reduction goals. For example, it is expanding Highway 14 between Sooke and Victoria, and has plans to expand the Highway 99 Fraser River tunnel from four to eight lanes. Less than 2% of the MoTI budget is devoted to active transportation programs and it currently invests virtually nothing in TDM programs although they are essential for achieving mode shift targets. This is inefficient and unfair. It fails to implement the most cost-effective solutions to transportation problems and fails to serve the needs of travellers who cannot, should not or prefer not to drive. Current traffic models fail to account for induced vehicle travel and the increased traffic costs (downstream congestion, parking costs, crash risk and pollution emissions) that generally result from urban roadway expansions.

Provincial Actions: Require that all major transportation policies and programs be evaluated according to their impacts on provincial targets to reduce automobile travel and increase travel by resource-efficient modes. Account for induced vehicle travel in transportation project appraisals. Apply least cost planning principle, so non-auto modes and TDM programs receive investments when they are more cost-effective than roadway expansions, considering all impacts.

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Active and Micromode Improvements

What: Active modes (walking, bicycling, and variants such as wheelchairs and scooters) and micromodes (e-bikes and e-scooters) are very resource-efficient and affordable, and they support other efficient modes. For example, most public transit trips include active and micro-mode links, so improving sidewalks and bicycling networks can significantly increase transit travel. The box below describes ways that active mode improvements tend to leverage additional vehicle travel reductions, so with effective planning each additional kilometer walked or biked reduced more than one vehicle-kilometer.

Box 1 Active Mode Leverage Effects ([Litman 2023](#))

Improving walking, bicycling, e-bikes and public transit often leverages additional reductions in automobile travel, so each passenger-mile reduces more than one vehicle mile of travel.

- *Shorter trips.* Shorter active trips often substitute for longer motorized trips, such as when people choose local shops rather than driving to more distant shopping centers.
- *Reduced chauffeuring.* Improving non-auto modes reduces the need to make special vehicle trips to chauffeur non-drivers. These often require empty backhauls (miles driven with no passenger), so each mile of avoided chauffeuring often reduces two vehicle-miles.
- *Increased public transit travel.* Since most transit trips include walking and bicycling links, improving these modes supports public transit travel and transit-oriented development.
- *Vehicle ownership reductions.* Improving non-auto modes can allow some households to reduce their vehicle ownership, which reduces total vehicle-travel.
- *Lower traffic speeds.* Active travel improvements often involve traffic speed reductions. This makes non-auto travel more time-competitive with driving and reduces total automobile travel.
- *More compact development.* Non-auto modes help create more compact, multimodal communities by reducing the amount of land needed for roads and parking, and creating more attractive streets.
- *Social norms.* As active travel increases, these modes become more socially acceptable.

According to the BC Active Transportation Strategy's *General Population Survey*, 11% of BC residents use active modes frequently (more than half of their travel time), 67% use active modes occasionally; about 10% of commute trips and 9% of errand trips are by active modes; and the province has targets to approximately double these shares by 2030. This suggests that to achieve our transportation targets, and for fairness sake, at least 20% of transportation investments should be devoted to active mode infrastructure and programs, and possibly more to make up for decades of underinvestments.

Current Policies: The BC Ministry of Transportation and Infrastructure spends the majority of its budget on roadways and highways. For example, the Province distributes \$24 million annually among BC municipalities through the [Active Transportation Plan](#), and in 2023 committed to spend an additional \$100 million over three years on active transportation capital projects. This is a good start but small in scale. This \$57 million annual expenditure still represents less than 1% of the Province's \$5,740 million total 2022-23 transportation infrastructure investments ([BC 2023, p. 188](#)). Even if these targeted programs only represent half of provincial expenditures on active transportation infrastructure, this is far less than commensurate with the share of trips currently made by active modes, with their mode share targets, and with the total benefits provided by active transportation improvements. The Province must significantly increase active transportation funding.

Many local governments are increasing their active mode investments, but these are also inadequate to achieve provincial mode shift targets. Most neighborhoods have incomplete sidewalk, crosswalk and bikeway networks, yet few have plans to fill in those gaps. In fact, most local governments lack a comprehensive sidewalk inventory, so they do not even know where improvements are required. Although active facilities are relatively inexpensive and cost effective (governments typically spend \$50-100 annually per capita on sidewalks and bikeways, which is small compared with expenditures on roads and parking facilities), no governments have dedicated funds to complete their walking and bicycling networks.

Provincial Actions: Significantly increase active mode program funding, at least to the 11% of provincial transportation infrastructure spending, which is equal to the portion of travellers who rely on active modes, or up to 20% of spending to be commensurate with provincial mode share targets. Encourage or require municipal governments to inventory sidewalk and bikeway networks, and to establish targets and dedicated funding for completing those networks. Improve active mode conditions on provincial highways, ferry terminals, and other transportation facilities. Reallocate road space to active and micromode infrastructure.

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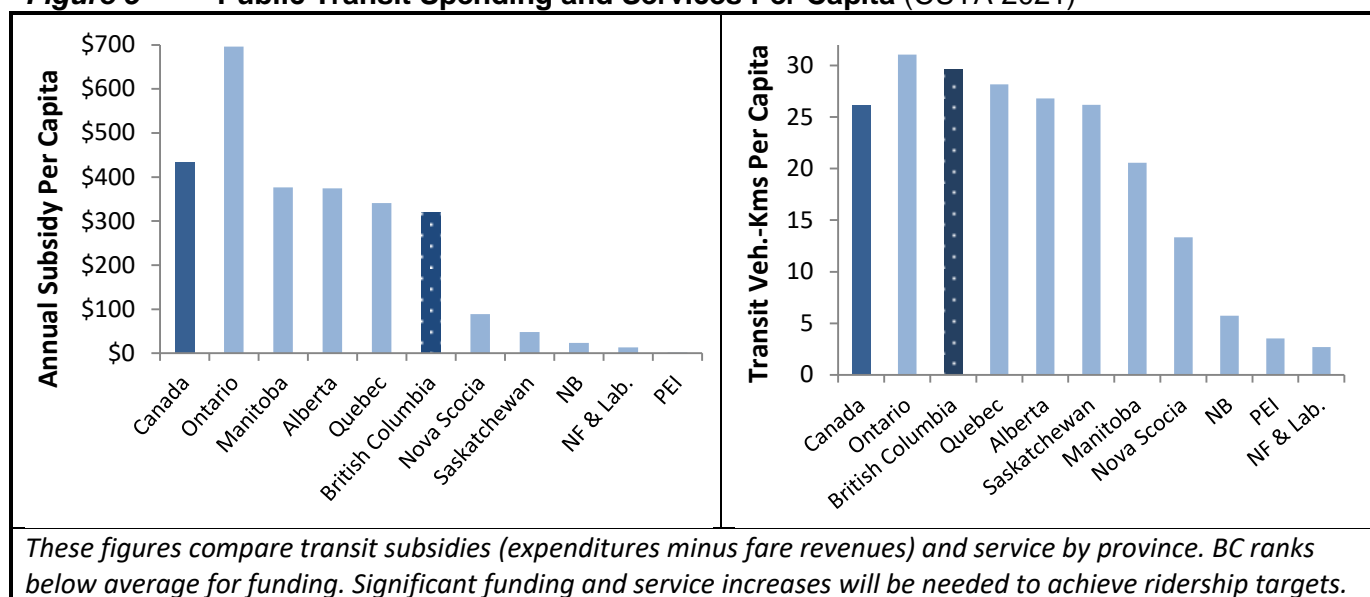
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Public Transit Service Improvements

What: Public transportation includes local and intercity bus and rail services. Experience around the world indicates that transit service improvements implemented with complementary TDM programs and Smart Growth development policies can significantly increase ridership and provide many benefits including user time savings, road and parking facility costs savings, affordability, more independent mobility for non-drivers, traffic safety, public health, and reduced sprawl costs (DeRobertis, et al. 2020; NACTO 2022; Peterson 2017).

Figure 5 Public Transit Spending and Services Per Capita (CUTA 2021)



Current Practices: British Columbia has moderate-quality urban transit services and minimal intercity services. In 2021 it spent about \$320 per capita on transit, which is less than the Canadian average (Figure 5). Service and funding levels are not increasing to achieve provincial targets. The BC Transit’s *Service Plan* performance indicators and targets focus on organization management (BC Transit 2023; MoF 2015, p. 50-51); virtually none reflect service quality as experienced by users. The Plan includes vague goals to “grow ridership,” primarily through completing currently-planned capital projects. It aspires to increase from 38 million trips in 2021/22 to 51 million in 2024/25, which is simply recovery to pre-pandemic levels. It does not reference provincial targets to double transit ridership and reduce light-duty vehicle travel, and has no specific plans to significantly increase service quality or implement TDM incentives that are needed to achieve ridership targets and increase transit investment economic returns. For example, commute trip reduction programs and parking cash out typically double affected travellers’ transit ridership, which increases transit fare revenue and the benefits provided by investments, making more transit projects cost effective.

Provincial Actions: Significantly increase both urban and rural public transit services. Increase transit funding commensurate with ridership targets, so per-capita funding approximately doubles. Shift funds from highway expansions to transit service improvements. Increase regional and local transit funding options. Encourage or require integrated planning to create transit-oriented neighborhoods, and TDM incentives to encourage mode shifting.

The table below summarizes factors that affect transit ridership and what is needed to achieve provincial transit ridership growth and automobile travel reduction targets. Bus rapid transit networks can be developed by reallocating existing travel lanes and parking spaces.

Table 3 Factors Affecting Transit Ridership and Cost Efficiency

Factor	Current BC Conditions	Needed to Achieve Targets
Amount of transit service provided, such as bus-kilometres per capita, and therefore per capita funding.	Average service and funding levels. BC spends about \$320 annual per capita, which is less than the national average, and planned increases are less than inflation.	Significant increases in service and funding. This can include a combination of increases in provincial and local funding.
Service quality, including service speed, station and vehicle comfort, reliability, user information and fare payment.	Moderate to poor service quality. Vehicles are often crowded. Few routes have bus lanes, few communities have bus stations and many Skytrain stations are unpleasant.	Significant service quality improvements (expanded service, dedicated bus lanes, nicer vehicles and stations, more integration).
Fares. Lower fare increase ridership and affordability.	Fares are currently moderate and some passengers receive discounts, but rural fares are high.	Set fares to support strategic goals. Develop innovative fare subsidies, such as parking cash out.
Integration. Whether transit and community planning are integrated.	Little integration. Some Skytrain stations (Metrotown) are good, but others (Bridgeport) are very poor.	Encourage or require integrated planning and station-area planning.
TDM incentives such as commute trip reduction programs, efficient parking policies, and PAYD insurance pricing.	The province currently has no plans to implement TDM incentives.	Implement TDM policies and programs in conjunction with transit service improvements to increase ridership and transit investment cost-efficiency.

Various factors affect transit ridership. Current policies and programs are unlikely to achieve provincial ridership and vehicle travel reduction targets, or maximize the economic returns on transit investments.

Unmet Transit Demand: Example ([CRD 2017](#); [Litman 2022](#))

Between Sooke and Victoria there are 32 daily buses and \$2.50 per trip fares, which in 2017 carried 22% of peak-period travellers, demonstrating that many rural residents will use transit if it is convenient and affordable. In contrast, between Duncan and Victoria there are only four daily buses with \$10 fares, so it is unsurprising that transit carries an insignificant share of trips there. The province is considering spending billions of dollars to expand the highway between Duncan and Victoria, although frequent and affordable bus service would be cheaper and provide more total benefits. To serve these travel demands in ways that also help achieve emission and vehicle travel reduction targets the province should invest in frequent and affordable intercity transit rather than more highway expansions.

Although public transit improvements are not necessarily the most cost effective way to reduce climate emissions, they can be very cost effective when all impacts are considered. Residents of communities with high quality transit tend to save 20-40% on transportation than they would in automobile-dependent areas, which more than offset additional tax subsidies to finance service improvements. Residents also benefit from more independent mobility for non-drivers, improved traffic safety and health, and their communities benefit from reduced road and parking cost savings, so additional transit funding reflects a shift from automobile infrastructure spending.

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For More Information

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Transportation Demand Management Programs

What: Transportation demand management (TDM) programs include various programs that encourage travellers to choose the most efficient option for each trip. School and campus transport management programs focus on schools and college/university campus travel. Commute trip reduction (CTR) programs encourage workers to use efficient commute modes. Special event transport management can reduce driving for major cultural and sport events. Transportation management associations (TMAs) coordinate transportation and parking services in major activity centers such as downtowns, malls, medical centers and campuses. Some jurisdictions encourage or require major developments to implement TDM programs in order to reduce traffic and parking generation (Galdes and Schor 2022; Spack and Finkelstein 2014). Washington State's *Commute Trip Reduction Program* requires that major employers in urban areas establish a commute trip reduction plan. This has proven to be successful at reducing vehicle traffic and is politically popular (WSDOT 2017). They typically reduce trip and parking generation by 20-50%, and repay their costs with parking cost savings.

Current Practices: British Columbia currently has no TDM incentives or requirements, and the BC government does not have such programs for its own employees. TransLink support some CTR programs in the Vancouver region, but there is no government support elsewhere. Some schools, campuses and private companies have trip reduction programs but there is minimal provincial support.

Provincial Actions: Establish a provincial law that requires large urban employers to implement CTR programs, with various incentives and support services provided by local, regional and provincial agencies (transportation management associations, local governments, BC Transit, TransLink and the MoTI), such as in Washington State. Support development of TMAs.

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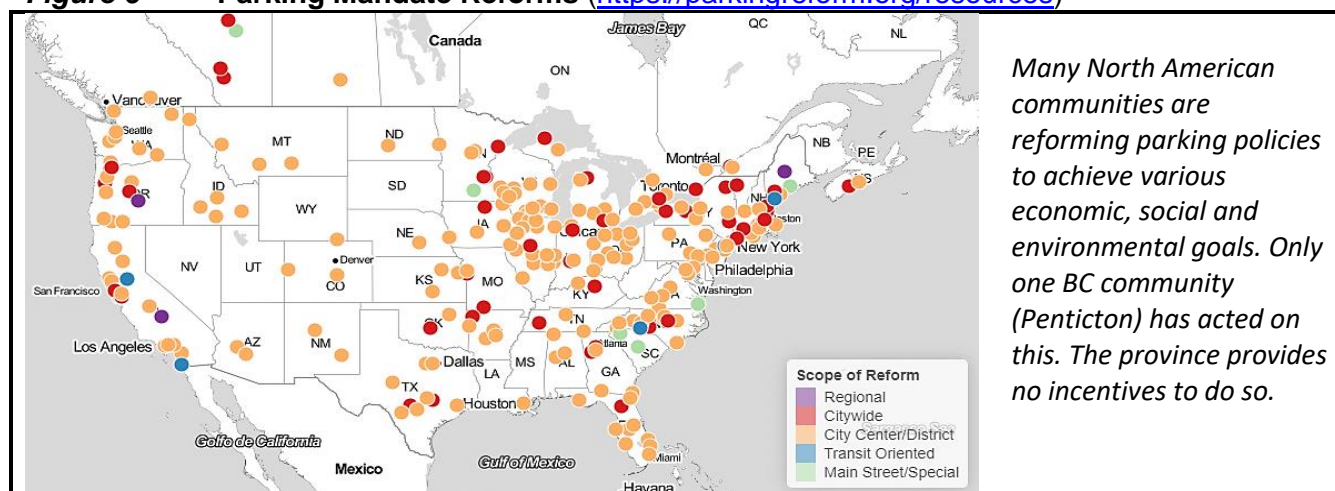
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Parking Policy Reforms

What: How parking is regulated and priced significantly affects automobile ownership and use. Shifting from unpriced to priced parking typically reduces vehicle ownership and use by 10-30%, and more if implemented with non-auto mode improvements. Many experts now recommend parking policy reforms for efficiency, affordability and equity sake. These include eliminating parking mandates, requiring parking *cash out* (non-drivers receive cash benefits equivalent to parking subsidies provided to motorists), and *unbundling* (parking spaces are rented separately from building space, so instead of charging \$2,500 per month for an apartment with two parking spaces, the apartment rents for \$2,000 plus \$250 for each space the occupants use).

Many jurisdictions are reforming parking policies, such as reducing or eliminating parking minimums, as illustrated below. Currently, only one BC community has acted on this despite their importance in achieving housing affordability and mode shift targets.

Figure 6 Parking Mandate Reforms (<https://parkingreform.org/resources>)



Current Practices: Currently, most jurisdictions require abundant parking supply at most locations, and most parking is unpriced, financed indirectly through taxes (for on-street parking), rents (for residential parking) and higher prices for retail goods (for “free” parking provided at stores and restaurants).

Provincial Actions: Encourage or require municipal governments to eliminate parking mandates and implement parking reforms. Local, regional or provincial governments could support green building rating systems that reward parking policy reforms and TDM programs.

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Smart Growth Development Policies

What: Smart Growth (also called New Urbanism, Transit-Oriented Development and 15-minute cities) are development policy reforms that create more compact, mixed, multimodal communities where it is easy to get around without driving. Some governments, such as California and Oregon, encourage or require municipal governments to implement Smart Growth policies such as allowing higher densities and more housing types, and eliminating parking minimums in urban neighborhoods.

Residents of Smart Growth communities typically own 20-60% fewer vehicles, drive 20-60% fewer annual kilometers, and rely on non-auto modes two or three times more than they would if located in conventional, automobile-oriented areas.

Current Practices: Although most BC communities are implementing some Smart Growth policies, these are modest. Most municipal governments continue to prohibit or restrict missing-middle and multifamily housing, and mixed-use development in most residential neighborhoods, and almost all mandate parking even in walkable and transit-oriented areas.

Provincial Actions: British Columbia could require and encourage local and regional governments to implement Smart Growth policies, as in California and Oregon. The province could commission development of tools, such as California's *Smart Mobility Calculator*, which estimates the vehicle travel and emissions resulting from specific developments and ways to mitigate them.

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Pay-As-You-Drive Vehicle Fees

What: Pay-As-You-Drive (PAYD) pricing means that currently fixed vehicle insurance premiums and registration fees are prorated by average annual kilometers for that vehicle class, so for vehicles that average 20,000 annual kilometers a \$800 annual premium becomes 4¢ per vehicle-kilometer, a \$1,200 annual premium becomes 6¢ per vehicle kilometer, and a \$2,000 premium becomes 10¢ per vehicle-kilometer. This provides a significant new incentive for motorists to reduce their mileage, but is not a new fee, simply a different way to pay existing vehicle fees. Most motorists would save money with this price structure. Several insurance companies outside of BC offer PAYD pricing.

This type of PAYD pricing is predicted to reduce affected vehicle travel by 5-15%. This could achieve a quarter to half of provincial vehicle travel reduction targets. On average, motorists would save about 10% on their premiums, and since annual kilometers per vehicle tend to increase with income, this would be progressive with respect to income overall. Since higher risk motorists would pay more per vehicle-kilometer, PAYD pricing can provide even greater reductions in crash rates, reducing traffic deaths by 10-15%.

Current Practices: In BC, most insurance premiums and registration fees are fixed costs: motorists generally pay the same amount regardless of how many kilometers they drive each year, although the costs that these fees represent – crashes and road use – do increase with annual kilometers. This price structure is inefficient and unfair. It encourages motorists to maximize their driving in order to get their money's worth on their fixed expenditures, and it results in lower-annual-kilometer motorists cross-subsidizing the costs of higher-annual-mileage drivers.

Provincial Actions: Require ICBC to transition to PAYD insurance premiums and registration fees within three years.

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Summary

The table below summarizes the emission reduction strategies described in this report, including their impacts and co-benefits.

Table 4 Potential Transportation Emission Reductions

Strategy	Travel and Emission Reductions	Other Benefits
Leadership and support	Support multimodal planning.	Many co-benefits.
Clean vehicles initiatives	Electric cars tend to increase and e-bikes can reduce total vehicle travel. Electric vehicles typically reduce lifecycle emissions 60-80%.	Electric cars provide few co-benefits; e-bikes provide many.
Multimodal and least-cost planning	Result in planning and investment reforms that can significantly reduce vehicle travel.	Provides many co-benefits.
Active and micromodes	Can increase active mode shares by 50-100%, and reduce vehicle travel by 5-20%.	Many co-benefits.
Public transit service improvements	High quality transit can attract 10-30% of commuters and leverage vehicle travel reductions.	Many co-benefits.
TDM programs	TDM programs with significant financial incentives typically reduce affected vehicle travel 10-30%, and more if implemented with non-auto mode improvements.	Many co-benefits.
Parking policy reforms	Cost-recovery parking fees typically reduce affected vehicle travel 10-30%.	Many co-benefits.
Smart Growth policies	Residents of Smart Growth communities tend to drive 20-50% less than they would in conventional, automobile-oriented areas.	Many co-benefits.
PAYD vehicle pricing	If implemented as proposed could reduce affected vehicle travel 5-15%.	Large co-benefits including affordability and traffic safety.

This table summarizes potential emission and vehicle travel reduction strategies described in this report. Typical co-benefits include traffic and parking congestion reductions and associated road and parking facility savings, consumer savings and affordability, more independent mobility and improved economic opportunity for non-drivers, increased fairness, public health and traffic safety, reduced pavement area and associated stormwater management savings and reduced heat island effects, noise and local air pollution reductions, local economic development, and more livable communities.

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Have No Fear of Vehicle Travel Reductions!

Discussions with BC policy makers indicate that they tend to fear vehicle travel reduction policies, based on the assumptions that, because most households, including those with low incomes, rely on automobiles for most travel, vehicle travel reductions harm residents, are regressive, and are particularly unfair to rural communities. These assumptions are generally inaccurate and can easily be addressed in policy design.

Although few motorists want to forego driving altogether, surveys indicate that many want to drive less, rely more on non-auto modes, save travel time and money, and live in more walkable communities, provided they are convenient, comfortable and affordable. The policies described in this report respond to those demands, and by reducing traffic problems, provide a variety of direct and indirect benefits. Motorists benefit from reduced congestion and crash risk, and reduced chauffeuring burdens. Most lower-income and rural residents benefit from improved travel options, and the cost burdens to lower-income and rural residents can be offset by targeted discounts and subsidies.

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Conclusions

British Columbia has ambitious targets to reduce transportation emissions and shift travel to more resource-efficient modes, but without significant changes the province is unlikely to achieve these goals. New investments and incentives are needed to improve resource-efficient modes and encourage their use. This report identifies an integrated set of provincial policies that can achieve emission reduction targets and provide significant co-benefits by improving efficient and affordable modes, providing incentives for travellers to use the best option for each trip, and creating more compact, multimodal communities. British Columbia has a short window to act.

www.vtpi.org/pptter.pdf