



Revenue Tools for Transit Expansion: A Screening Level, Equity-Based Health Impact Assessment

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Revenue Tools for Transit Expansion: A Screening Level, Equity-Based Health Impact Assessment

Introduction

This report presents the results of a rapid, screening-level, equity-based health impact assessment of funding tools being considered to support transportation expansion in the Greater Toronto and Hamilton Area (GTHA). The report supports *Transportation Priorities and Investment for a Healthy Toronto – Update*,¹ adopted by the Toronto Board of Health on April 29, 2013.

Many factors play into the selection of tools to use to invest in improving transportation infrastructure in the Toronto region. This report focuses on two key considerations: health and health equity. This report uses the criteria adopted by the Board of Health in *Transportation Priorities and Investment for a Healthy Toronto*² in a screening level health impact assessment of the proposed transit revenue tools recommended by Metrolinx,³ the City Manager⁴ and/or the Board of Health.⁵

The screening exercise involved reviewing each proposed revenue tool according to health evidence related to the following criteria:

1. Promote health of the whole population
 - Does the proposed revenue tool make walking, cycling and taking transit more attractive options?
 - Does the proposed revenue tool encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies?
 - Does the proposed revenue tool support healthy communities?
2. Promote health equity
 - Does the proposed revenue tool ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income?
 - Does the proposed revenue tool provide affordable transit for people living on a low income?
 - Does the proposed revenue tool maximize local economic growth and strengthen social infrastructure?

As a screening level, equity-based health impact assessment, this report is primarily focused on identifying direct potential health and equity impacts of each revenue tool in and of itself (i.e., not as part of a mix of revenue tools and transportation investments).

It does not evaluate or weigh indirect, aggregate or relative impacts of proposed revenue tools. It does not consider the magnitude of potential health and equity impacts. The analysis does not include mitigation strategies for potential negative impacts or consider the impacts as compared to the evident benefits of transportation system interventions. While any tool that generates significant revenue for dedicated transit expansion supports healthy communities, this analysis separates the effects of the tools themselves from the effects of investments arising from the use of the tools (i.e. transit expansion).

The revenue tools assessed include:

- corporate income tax
- development charges
- employer payroll tax
- fuel tax
- high occupancy toll lanes
- land value capture
- parking levy
- personal income tax
- property tax
- road pricing (highway tolls, congestion charges)
- sales tax
- transit fare increase
- vehicle kilometres travelled fees
- vehicle registration tax

The assessment below provides a brief description of each tool, including contextual information such as who pays, who benefits, how much revenue might be generated and whether the tool has been tried or had health and equity implications in other jurisdictions. This contextual information is followed by a table summarizing available health and health equity evidence. Within the table, impacts are listed as "positive" if the evidence shows that they are likely to lead to improvements in public health or health equity. Impacts are listed as "negative" if the evidence shows that they are likely to diminish public health or health equity. The term "neutral" is used when no positive or negative impacts are expected. Taken together, the contextual information and list of potential impacts serve as a guide to decision makers in placing health and health equity at the forefront of decision making for transportation funding.

Corporate Income Tax

Corporate income tax, a tax applied to pre-dividend corporate profits, has the potential to generate large sums of money for transit. The city manager’s report notes that maintaining provincial Corporate Income Tax at its current rate of 11.5%, rather than reducing it to 10% once the provincial budget is balanced, could generate \$1.5 billion provincially, or approximately \$750 million GTHA-wide on an annual basis.⁶ Current corporate income taxes are well below historical levels. This is one contributor to a broad disinvestment in public services which may have influenced currently low levels of investment in transit and transportation infrastructure and operations.^{7 8} Canadian corporate tax rates are currently the lowest among G8 countries.⁹ GTHA businesses paying corporate income tax stand to benefit from reduced congestion in the region.¹⁰

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	Corporate income taxes that are not tied to investments or other policies do not in themselves serve to promote walking, cycling or taking transit.	Neutral
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	Corporate income taxes that are not tied to investments or other policies do not in themselves serve to promote least-polluting technologies and policies.	Neutral
Support healthy communities	Corporate income taxes that are not tied to investments or other policies do not in themselves support particular community designs.	Neutral
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Corporate income taxes are flat taxes applied at the corporate level. Tax credits aimed at reducing double taxation are available to those with dividend income – the majority of whom are in the top 5% of tax filers. ¹¹	Positive
Provide affordable transit for people living on a low income	Corporate income taxes that are not tied to investment or other policies do not in themselves serve to provide affordable transit for people living on low incomes.	Neutral
Maximize local economic growth and strengthen social infrastructure	Corporate tax rates have had no visible direct impact and weak and shrinking indirect impact on business investment. ¹²	Neutral

Development Charges

Development charges are imposed under the authority of the provincial *Development Charges Act* on residential and non-residential land development and re-development projects. The revenue collected by municipalities is used to help pay for capital costs of additional municipal services that occur with growth. Development charges are a one-time payment made by the developer and does not have a direct financial impact on residents. Development charges levied by the City through the City of Toronto By-law No. 275-2009, can be used for a number of services including storm water management, emergency medical services, subsidized housing, parks, transit and health. The charges are applied uniformly, city-wide.

The City has used development charges to help fund transit expansion of the Sheppard Subway and Toronto-York Spadina Subway Extension. Development charges payment exemptions include, among others, non-profit housing and dwelling rooms within a rooming house. The City Manager's report notes affordable housing projects should be exempt from paying development charges for Metrolinx transportation expansion. A 15% increase in development charges is expected to generate \$41 million in Toronto and a total of \$100 million in the GTHA (based on estimates for 2014).

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	Development charges that are not tied to investments or other policies do not in themselves serve to promote walking, cycling or taking transit.	Neutral
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	Development charges that are not tied to investments or other policies do not in themselves serve to promote least-polluting technologies and policies.	Neutral
Support healthy communities	Development charges have in the past been used to benefit local parks, transit, childcare, & pedestrian infrastructure. Structuring of development charges to support smart growth policy objectives promotes the creation of healthy communities.	Positive
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Development charges are a one-time payment by the developer. Additional costs incurred by the developer may be passed on to the final buyer. ¹³	Neutral
Provide affordable transit for people living on a low income	Development charges that are not tied to investments or other policies do not in themselves serve to provide affordable transit for people living on low incomes.	Neutral
Maximize local economic growth and strengthen social infrastructure	Development charges are applied uniformly across the City including neighbourhoods with low economic growth.	Neutral

Employer Payroll Tax

The Employer Payroll Tax proposed by Metrolinx is described as a tax paid by employers, either as a flat tax based on the number of employees they have or as a percentage of gross pay in a given period. Analysis conducted by AECOM/ and KPMG for Metrolinx³⁶ is based on payroll taxes collected through a combination of deductions from employee wages and contribution from employers, where the employee's portion is withheld and remitted by the employer similar to Canada Pension Plan or Employment Insurance. A payroll tax of 0.5% applied to businesses throughout the GTHA would generate \$700 million and could potentially generate \$810 million to \$920 million by 2021.^{36,78}

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	Payroll taxes that are not tied to investments or other policies do not in themselves serve to promote walking, cycling or taking transit.	Neutral
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	Payroll taxes that are not tied to investments or other policies do not in themselves serve to promote least-polluting technologies and policies	Neutral
Support healthy communities	Personal income taxes that are not tied to investments or other policies do not in themselves support particular community designs.	Neutral
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Payroll taxes are generally regressive since the burden imposed by the tax declines as income increases. ⁹⁴ In Canada, it is not regressive for those who earn low and modest incomes ⁹⁴ .	Neutral
Provide affordable transit for people living on a low income	Payroll taxes that are not tied to investments or other policies do not in themselves support affordable transit.	Neutral
Maximize local economic growth and strengthen social infrastructure	Payroll taxes that are not tied to investments or other policies do not in themselves support economic growth.	Neutral
	It is a concern that payroll taxes could reduce the competitiveness of businesses in the GTHA. ^{36,78}	Negative

Fuel Tax

A fuel tax is user-based fee that may take the form of a flat rate charged to the sale of transportation fuel (gas or diesel) or a percentage of the base price.¹⁴ Regional fuel taxes dedicated to transportation are used in Greater Montreal Area and Metro Vancouver area and New York City. A regional fuel tax would impact all drivers within the GTHA including GTHA businesses dependent on goods transportation.

Implementation of a fuel tax will lead to less demand for fuel either due to less driving or use of more fuel-efficient vehicles resulting in reductions in traffic related air emissions and traffic related injuries.¹⁵ A fuel tax of 5 cents/litre could generate \$134 million in Toronto and a total of \$330 million in the GTHA as note in the in the City Manager's report.

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	Fuel taxes could promote an increase in transit use and less dependency on driving as the primary mode of transport. ¹⁶ Fuel tax-related reductions in driving also reduce traffic related injuries. ^{17 18}	Positive
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	Fuel taxes reduce fuel consumption and traffic volume and promote behaviour change to fuel-efficient vehicles. ^{19 20} Reduction in fuel use due to use of fuel-efficient vehicles and less driving will result in reduction in traffic related air pollution. ^{21 22}	Positive
Support healthy communities	Fuel taxes have been shown to moderately improve air quality. ^{23 24}	Positive
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Although people living on a low income are less likely to commute by car, ²⁵ fuel taxes that are not tied to investments or other policies will put a disproportionately higher burden on those people living on a low income who rely on car travel.	Negative
Provide affordable transit for people living on a low income	Fuel taxes that are not tied to investments or other policies do not in themselves serve to provide affordable transit for people living on low incomes.	Neutral
Maximize local economic growth and strengthen social infrastructure	Regional fuel taxes that are not tied to investments or other policies would increase costs associated with transportation of goods and services in the GTHA. ²⁶	Negative

High Occupancy Toll Lanes

High Occupancy Toll (HOT) involves charging a fee per kilometre travelled to single occupant or low occupancy vehicles using high occupancy lanes that are restricted for the free use of high occupancy vehicles. HOT lanes are usually implemented on highways. There are several high occupancy vehicle (HOV) lanes already in existence in the GTHA which could be converted to HOT lanes.

The Province is planning to install 450km of HOV lanes along the 400 series highway in Ontario including those within GTHA.²⁷ High Occupancy Tolls would generate 25 million annually if implemented on GTHA highways at a rate of 30 cents/km.² HOT is estimated to generate \$10 million in Toronto based on population.²⁸

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	New HOT lanes could increase transit use and decrease dependency on driving as the primary mode of transport. ²⁹ Transit users are unlikely to switch to solo driving in HOT lanes. ³⁰	Positive
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	New HOT lanes that are not tied to investments or other policies have no impact on vehicle technologies.	Neutral
Support healthy communities	Reduction in traffic related air pollution could improve air quality. ³¹	Positive
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	People living on a low income are less likely to commute by car. ³² However, those who do drive face a disproportionate financial barrier to accessing HOT lanes. ³³	Neutral
Provide affordable transit for people living on a low income	New HOT lanes that are not tied to investments or other policies do not in themselves serve to provide affordable transit for people living on low incomes.	Neutral
Maximize local economic growth and strengthen social infrastructure	New HOT lanes that are not tied to investments or other policies do not in themselves serve to maximize local economic growth and strengthen social infrastructure.	Neutral

Land Value Capture

Land Value Capture (LVC) is generated through agreements with developers in areas of increased value in property development that results from transportation investment, mostly around transit stations. Land Value Capture revenue amounts will depend on agreements with developers on specific projects and may be collected as a single payment up-front or over the course of a development project.³⁶ An estimated \$20 million could be generated annually through LVC development in publicly held land.^{36,78} Potential for revenue collection through LVC is being examined for the Yonge North subway corridor.⁹⁵ The City Manager's report notes that current property value assessment in Ontario already captures increases in property values in the form of taxation.⁷⁸

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	The implementation of LVC will support intensification of commercial development and elimination of free parking areas ³⁶ will encourage transit use and also support development of walkable neighbourhoods.	Positive
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	Land Value Charges that are not tied to investments or other policies do not in themselves serve to promote least-polluting technologies and policies	Neutral
Support healthy communities	The implementation of LVC will support intensification of commercial development by allowing development/ redevelopment of underutilized properties along transit lines. ³⁶ Such a policy will support creation of compact, walkable and bikeable communities. Compact, land use development can reduce the distance people need to travel, which also reduces traffic related air pollutants.	Positive
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Land Value Capture payments are made by property owners. However, it can reduce housing affordability in LVC areas that has good transit availability. ²²	Negative
Provide affordable transit for people living on a low income	Land Value Capture revenues that are not tied to investments or other policies do not in themselves support affordable transit.	Neutral
Maximize local economic growth and strengthen social infrastructure	Providing incentives through LVC agreements to develop in areas with good access to transit may encourage commercial development and related economic growth in within LVC areas.	Neutral

Parking Levy

A parking levy is a fee charged for non-residential, off-street parking space. The fee, charged per day, is paid by property owners but the costs are usually passed on to parking space users. It is anticipated that increased costs associated with parking will lead to a modal shift to transit and active transportation for travel to commercial areas.^{34 35} Parking levies are used for transit funding in Vancouver, Chicago, Pittsburgh and in Australia and the UK. Annual revenue of \$700 million to \$1.4 billion from the GTHA is expected through a parking levy of \$0.50 - \$1/space/day.³ Revenue collected in Toronto is estimated at \$567 million.³⁶

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	Parking levies reduce car travel to commercial areas, making transit, walking and cycling the affordable and preferred travel option. ^{37 38 39 40}	Positive
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	Parking levies that are not tied to investments or other policies do not in themselves serve to promote least-polluting technologies and policies.	Neutral
Support healthy communities	The additional cost associated with parking supports land use policies that reduce land used for parking and supports creation of compact, walkable and bikeable communities. ^{41 42} Compact, mixed use development can reduce the distance people need to travel, which also reduces the emission of pollutants. ^{43 44}	Positive
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Although people living on a low income are less likely to commute by car, ⁴⁵ those who do rely on car travel for accessing employment, goods and services will be disproportionately burdened by potential increases in parking costs.	Negative
Provide affordable transit for people living on a low income	Parking levies that are not tied to investments or other policies do not in themselves serve to provide affordable transit for people living on low incomes.	Neutral
Maximize local economic growth and strengthen social infrastructure	Retailers located in areas of Toronto poorly served by transit rely on customer parking for attracting business. ⁴⁶	Negative

Personal Income Tax

Personal income tax, a tax applied to individual income, has the potential to generate large sums of money for transit. The City Manager’s report notes that a 1% increase in the personal income tax rate could generate \$1.36 billion annually across the GTHA and \$551 million in the City of Toronto alone. Personal income taxes are structured in a progressive way: those with higher incomes pay more as a percentage of their incomes.⁴⁷ Cuts to personal income taxes have contributed to broad disinvestment in public services and infrastructure, including transit. These tax reductions disproportionately benefit the wealthy; they provide little benefit for low-income Torontonians whose income and tax rates are already low. Personal income taxes today are well below historical levels, particularly for the highest income earners.⁴⁸ All income tax filers in the GTHA stand to benefit from transit investments.

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	Personal income taxes that are not tied to investments or other policies do not in themselves serve to promote walking, cycling or taking transit.	Neutral
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	Personal income taxes that are not tied to investments or other policies do not in themselves serve to promote least-polluting technologies and policies.	Neutral
Support healthy communities	Personal income taxes that are not tied to investments or other policies do not in themselves support particular community designs.	Neutral
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Personal income taxes are progressive; wealthier citizens contribute more as a percentage of their income. ⁴⁹	Positive
Provide affordable transit for people living on a low income	Personal income taxes that are not tied to investments or other policies do not in themselves serve to provide affordable transit for people living on low incomes.	Neutral
Maximize local economic growth and strengthen social infrastructure	Personal income taxes that are not tied to investments or other policies do not in themselves serve to maximize local economic growth and strengthen social infrastructure.	Neutral

Property Tax

Property tax rates are based on the assessed value of the property and are paid by property owners. A 5% property tax increase across the GTHA could generate an estimated annual revenues of \$670 million and the average household impact in Toronto would be \$196 annually.⁷⁸ City of London, Ontario and Metro Vancouver Region have used property taxes to fund transit.⁷⁸

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	Property taxes that are not tied to investments or other policies do not in themselves serve to promote least-polluting technologies and policies	Neutral
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	Property taxes that are not tied to investments or other policies do not in themselves serve to promote least-polluting technologies and policies.	Neutral
Support healthy communities	Property taxes that are not tied to investments or other policies do not in themselves serve to promote healthy communities.	Neutral
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Property taxes are regressive in nature since the tax rates are applied based on property value and not income. ⁹⁶ Increase in property taxes will have an impact on people living on low income since the burden of property tax increases is passed on by property owners to renters – housing and businesses, through increase in rent. ³⁶	Negative
Provide affordable transit for people living on a low income	Property tax increases that are not tied to investments or other policies do not in themselves support affordable transit.	Neutral
Maximize local economic growth and strengthen social infrastructure	Property tax increases that are not tied to investments or other policies do not in themselves support local economic growth.	Neutral

Road Pricing (Highway Tolls and Congestion Levies)

Highway tolls and road pricing are fees applied to road users, usually individual motorized vehicles. Highway tolls have the potential to generate significant revenue for transit. The City Manager's report notes that a toll of 10 cents per kilometre on all 400 series highways and major municipal expressways could generate \$1.4 billion in annual revenue across the GTHA and \$567 million in the City of Toronto. There is recent but limited evidence that highway tolls and other road pricing have direct impacts on reducing automobile use or promoting active transportation. In the UK, walking and cycling rates and distances increased after the introduction of road pricing, while in Norway, automobile use increased while public transit and active travel decreased after a road pricing system was removed.^{50 51} Indirect impacts on health may include a gradual change in social norms by discouraging automobile use⁵² and a diversion of drivers to urban arterial roads, creating new congestion and safety challenges for road users in Toronto.⁵³ 44.4% of low income Torontonians commute to work by private motorized vehicle.⁵⁴ Highway tolls may disproportionately affect their personal costs, driving routes and transit decisions, and commute times. Recent research by Toronto Public Health demonstrates that many of these lower income Torontonians are already living in areas poorly served by public transit.⁵⁵

Congestion levies and cordon charges are fees applied road users to enter a selected zone. Congestion levies are modest revenue generators. According to the City Manager's report, an \$8 downtown Toronto congestion levy applied between 6:30 am and 6:30 pm could generate \$110 million annually for the GTHA; \$45 million for the city of Toronto. Drivers appear willing to pay relatively high tolls to continue to drive on congestion zones.⁵⁶ In London, UK, traffic entering a congestion zone decreased and traffic speeds increased. Those living within the cordon area reported no change in their car use. Combined with substantial investment in cycling infrastructure, congestion pricing contributed to a doubling of cycling rates.⁵⁷ Traffic noise, air quality and injury rates remained stable and it is estimated that between 40–70 crashes per year have been prevented in the zone area.⁵⁸ No effects were observed on local economic outcomes including business performance, employment, property prices and retail sales.⁵⁹ In Stockholm, Sweden, a temporary \$2 congestion charge resulted in a 25% reduction in car journeys and an increase in physically active travel.⁶⁰ However, this effect has not always been seen in other jurisdictions implementing the congestion charge alone.⁶¹

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	<p>Highway tolls discourage automobile use and may lead to an increase in walking, cycling and taking transit.^{62 63 64}</p> <p>Congestion charges may have a modest effect on driver behaviour which may make active transportation more attractive.^{65 66 67 68}</p>	Positive
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	Highway tolls and other road pricing that are not tied to other policies have no impact on transportation technology choices.	Neutral
Support healthy communities	<p>Highway tolls and other road pricing that are not tied to investments or other policies do not in themselves support particular community designs.</p> <p>Congestion charges may improve or environmental health in congestion zones although effects in other areas have been modest.⁶⁹</p>	Neutral
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Highway tolls and other road pricing that are not tied to investments or other policies may disproportionately affect low income people's financial costs, route choices and commute times. Many low income people live in areas poorly served by public transit. ⁷⁰	Negative
Provide affordable transit for people living on a low income	Highway tolls and other road pricing that are not tied to investments or other policies do not in themselves serve to provide affordable transit for people living on low incomes.	Neutral
Maximize local economic growth and strengthen social infrastructure	<p>Highway tolls and other road pricing that are not tied to investments or other policies do not in themselves serve to maximize local economic growth and strengthen social infrastructure.</p> <p>Congestion levies have had little impact on local economies within the congestion zone.⁷¹</p>	Neutral

Sales Tax

The proposed sales tax is a percentage tax applied uniformly across all goods and services in the GTHA. The mechanism for revenue collection would be likely an increase of the current HST rate through the provincial budget.⁷² A 1% increase in HST could generate \$567 million in Toronto and a total of \$1.4 billion in the GTHA, an amount that would grow with the economy. The City Manager’s report estimates that an increase of 1% would result in an average impact per Toronto household of \$275 -550/year. A sales tax would increase the relative tax burden on people living on a low income.⁷³ Many essential goods and services such as basic groceries and public transit are exempt from the 13% HST in Ontario. Implementation of the regional (GTHA) sales tax could reduce consumer consumption rates or encourage people to shop outside the GTHA. Businesses may consider moving outside the GTHA to avoid higher tax rates.^{74 75} A province-wide sales tax increase would lessen potential relative impact on the suppliers of goods and services in the GTHA.⁷⁶ The revenue collected outside the GTHA could be used for other government priorities beyond GTHA transportation expansion.

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	Sales taxes that are not tied to investments or other policies do not in themselves serve to promote walking, cycling or taking transit.	Neutral
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	Sales taxes that are not tied to investments or other policies do not in themselves serve to promote least-polluting technologies and policies.	Neutral
Support healthy communities	Sales taxes that are not tied to investments or other policies do not in themselves support particular community designs.	Neutral
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Although the bulk of sales tax revenue will come from middle and upper income spenders, sales taxes have a disproportionate impact on low income residents who have little money to spare. ^{77 78}	Negative
Provide affordable transit for people living on a low income	Sales taxes that are not tied to investments or other policies do not in themselves serve to provide affordable transit for people living on low incomes.	Neutral
Maximize local economic growth and strengthen social infrastructure	A higher regional sales tax may put local businesses across the GTHA at a disadvantage compared with other regions of Ontario. ⁷⁹	Negative
	A province-wide sales tax increase would not put the GTHA at relative disadvantage within Ontario.	Neutral

Transit Fare Increase

Transit fares are a user charge tool for public transit. It is collected by local authorities (e.g. Toronto Transit Commission) in Ontario to fund operations and maintenance of transit systems. A fare increase of 15 cents per ride would generate annual revenues of an estimated \$50 million GTHA-wide.⁵³ In Toronto, the cost of fares may already be an issue for 15-20% of riders who do not have access to a car and are highly reliant on public transit.²⁰ Lower income commuters are more dependent on public transit to get to work than their higher income counterparts.²⁰

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	Increase in transit fare will make public transit less attractive and likely increase car usage by those who can afford it. ^{15, 53} Use of public transit also promotes walking ⁵³ and therefore decrease in transit usage will also have a negative impact on walking.	Negative
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	Revenue tools such as transit fares that are not tied to investments or other policies do not in themselves serve to promote least-polluting technologies and policies.	Neutral
Support healthy communities	Transit fare increases will likely lead to increased use of automobiles for travel, less use of public transit ^{15, 53} . Decrease in public transit usage will result in fewer walking trips to transit stops. It will have a negative impact on air quality and likely increase traffic related injuries. ¹⁵	Negative
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Increase in transit fares will place a disproportionate burden on people living on a low-income. ^{15, 20, 53}	Negative
Provide affordable transit for people living on a low income	In Toronto, the cost of fares may already be an issue for 15-20% of riders who do not have access to a car and are highly reliant on public transit. ²⁰ Lower income commuters are more dependent on public transit to get to work than their higher income counterparts. ²⁰	Negative
Maximize local economic growth and strengthen social infrastructure	The GTHA economy will be negatively impacted due to increased congestion and auto use if auto use increases as a result of fare increase. ¹⁵	Negative

Vehicle Kilometres Travelled (VKT) Fee

The Vehicle Kilometres Travelled (KVT) fee would see drivers pay a charge for every kilometre that they travel within a designated area or in all areas, as recorded by odometer readings or GPS tracking.⁸⁰ The City's Feeling Congested consultations did not seek public opinion on VKT; however, the City Manager's report notes that VKT would have certain advantages compared to highway tolls and could produce annual revenues of an estimated \$1.6 billion GTHA-wide. Implementation of VKT fees is not likely to increase traffic on local streets; and different rates could be charged based on time of travel and area of travel.⁸¹ Implementation concerns include privacy issues related to monitoring and reporting vehicle travel and administrative costs.^{82 83} Revenue from VKT fees will not be dependent on use of gasoline and diesel engines if fees are applied uniformly to all vehicles;⁸⁴ however, it will not encourage adoption of least polluting technologies. Charging VKT fees based on kilometres travelled as well as vehicle emission rates of air pollutants would support traffic-related policies for air pollution control. Vehicle kilometre travelled fees have been implemented in Germany for freight trucks based on the truck's emissions levels and number of axles.⁸⁵ The Netherlands is piloting a VKT type system where cars are monitored through a wireless internet and GPS system for kilometres travelled, route taken, time of travel and also tracks environmental impact of the vehicle.^{86 87}

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	The VKT fee increases the cost of driving and affects heavy car users most. It will encourage a transportation modal shift toward transit, walking and cycling. ^{88 89}	Positive
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	A VKT fee applied uniformly to all vehicles for kilometres travelled is unlikely to encourage the use of least polluting technologies. However, a VKT fee based on a vehicle's environmental impacts will support adoption of least polluting technologies.	Neutral
Support healthy communities	Reduction in traffic related air pollution is likely to improve air quality. ⁹⁰	Positive
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Although people living on a low income are less likely to commute by car, ⁹¹ a VKT fee will place a bigger burden on people living on a low income who rely on car travel.	Negative
Provide affordable transit for people living on a low income	VKT fees that are not tied to investments or other policies do not in themselves serve to provide affordable transit for people living on low incomes.	Neutral
Maximize local economic growth and strengthen social infrastructure	A regional VKT fee would increase costs associated with transportation of goods and services in the GTHA. ⁹² It could lead to employers locating to areas outside the GTHA to avoid the added costs. ⁹³	Negative

Vehicle Registration Tax

Vehicle registration taxes, flat taxes applied to owners of personal vehicles at the time of license plate renewal, have the potential to generate modest to moderate revenues for transit. The City Manager’s report suggests that an annual \$100 vehicle registration tax could generate \$300 million in annual revenues for the GTHA; \$122 million for the City of Toronto. A vehicle registration tax was in place in Toronto before being removed in 2011. Vehicle registration taxes are also used in New York City and the Province of Quebec.⁹⁴ In Ireland, vehicle registration taxes are tied to carbon dioxide emissions.⁹⁵ Vehicle registration taxes are unlikely to have significant impacts on travel and transit behaviour. However, they are generally supported by the Toronto public. Vehicle registration taxes tiered in relation to engine size or efficiency could also serve as a modest incentive to support least polluting personal vehicle technologies,⁹⁶ although this incentive is more likely to benefit wealthier vehicle owners who can afford newer and less polluting vehicles.

Criterion	Comments	Predicted Impact on Community Health Wellbeing
Criteria that promote health of the whole population		
Make walking, cycling and taking transit more attractive options	Vehicle registration taxes that are not tied to investments or other policies are unlikely to lead to a significant increase in walking, cycling and taking transit.	Neutral
Encourage the adoption of least polluting transport technologies that support climate change and sustainable energy use policies	Vehicle registration taxes that are not tied to investments or other policies have no impact on vehicle technologies.	Neutral
	Vehicle registration taxes tiered in relation to engine size or efficiency could serve as a modest incentive to support least polluting personal vehicle technologies. ⁹⁷	Positive
Support healthy communities	Vehicle registration taxes that are not tied to investments or other policies do not in themselves support particular community designs.	Neutral
Criteria that promote health equity		
Ensure revenue collection for transportation does not place a disproportionate burden on people living on low-income	Although vehicle registration taxes affect only those who own vehicles, low income car users pay a higher proportion of their incomes. 44% of low income Torontonians commute by private motorized vehicle. ⁹⁸	Negative
Provide affordable transit for people living on a low income	Vehicle registration taxes that are not tied to investments or other policies do not in themselves serve to provide affordable transit for people living on low incomes.	Neutral
Maximize local economic growth and strengthen social infrastructure	Vehicle registration taxes that are not tied to investments or other policies do not in themselves serve to maximize local economic growth and strengthen social infrastructure.	Neutral

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