

Environment

Introduction

Eight years ago, our city engaged in a remarkable exercise to build a long-term city plan based on principles of sustainability. The result was *OurWinnipeg*,¹ adopted in law and approved by the province, and several companion documents, summarized in the graphic below from *OurWinnipeg*:

The *OurWinnipeg* documents set broad directions for subsequent, more detailed plans such as the Garbage and Recycling Management Plan (GRMP), Transportation Management Plan (TMP) and area plans at various scales. They also acknowledge and provide further direction to prior and existing plans and policies, such as the City's 1998 commitment to the Federation of Canadian Municipalities (FCM) Partners for Climate Protection (PCP).

Winnipeg has made progress in a variety of directions set out in its sustainability documents. For example, more people live downtown now than 8 years ago and we have the beginnings of transit-oriented development along the Southwest Transitway. Waste diversion has doubled from 17 per cent to 34 per cent thanks to the rollout and promotion of new recycling carts. The city continues to promote successful water conservation and sewer backup pro-

tection measures. There are more off-street cycling and pedestrian paths that are ploughed in winter to provide opportunities for safer active transportation.

However, on several critical fronts, progress has stalled. For example, Winnipeg has failed to meet its obligations in sewage treatment, organics diversion, and greenhouse gas emissions. In this chapter, we selectively focus on these failures, link them to unsustainable budgeting and propose a more sustainable direction. The chapters on Revenue, Planning, Active Transportation and Recreation examine some of the topics in greater detail.

What is Sustainable Budgeting?

In our Introduction, we explained the concept of sustainable development and fiscal sustainability. We discussed why we need to move on from the idea of constant economic growth and stable budgeting to thinking of how we can raise revenues and direct government expenditures so they support sustainable civic ends.

Can we identify other budgeting principles that reflect the direction of transition needed to create and maintain an ecologically sustainable society and economy?

Canada's Ecofiscal Commission proposes the following (see quote on page 59):

Required by the **City of Winnipeg Charter**; adopted as a municipal by-law but requires provincial approval

Created at the discretion of the City of Winnipeg; approval is sole responsibility of the City.



An ecofiscal policy corrects market price signals to encourage the economic activities we do want (job creation, investment, and innovation) while reducing those we don't want (greenhouse gas emissions and the pollution of our land, air, and water)²

Amplifying the above, Green Action Centre has identified green fiscal guidelines to promote sustainable behavior by individuals and institutions and help create a more just and sustainable society.³

- i. Make it easier and more rewarding to act sustainably (e.g. free or low-cost recycling and public transportation services);
- ii. Make it harder and more costly to act unsustainably (e.g. by removing perverse subsidies for sprawl and fossil fuel consumption);
- iii. Promote planning and investments for a more sustainable future (e.g. economically and ecologically efficient buildings, communities, businesses, waste and transportation systems);
- iv. Take a full-cost accounting perspective in assessing the costs and benefits of actions (e.g. global social, ecological and economic costs and benefits of building, energy and transportation choices);
- v. Other things being equal, users who impose social costs should pay for those costs (user pay and polluter pay by internalizing the social costs imposed); but also
- vi. Ensure that basic welfare and human development needs (e.g. housing, health and education) are provided for all citizens.

Principles (i.) through (iv.) lead to a more sustainable society. Principles (v.) and (vi.) represent two aspects of a just society that need to be reconciled — paying the social costs of one's actions and meeting basic human needs. Despite potential tension between them, justice requires attention to both.

Finally note that the United Nations Environment Program's *Green Economy Initiative*⁴ provides further resources for designing a green economy. See especially the chapter by IISD on *Enabling Conditions*⁵ for a green economy.

Recommendations:

1. Adopt green and fair budgeting principles as an additional Direction for Sustainable Winnipeg in the current *OurWinnipeg* review.
2. Review current and proposed financial measures in city budgets for alignment or misalignment with the just achievement of climate and sustainability goals.

How has Winnipeg Failed to Reflect Ecologically Sustainable and Just Budgeting Principles?

In this section we identify three examples of unsustainable budgeting and planning and how they might be fixed.

1. Failure to Remove Phosphorous at the North End Water Pollution Control Centre (NEWPCC).

Lake Winnipeg Foundation informs us that in 2013 Lake Winnipeg was designated "Threatened

NEWPCC is the fourth largest phosphorus polluter among all wastewater treatment facilities in Canada.

Lake of the Year" thanks to growing eutrophication and toxic algae blooms from excessive phosphorous. The phosphorous entering Lake Winnipeg comes from many sources, but Winnipeg is responsible for 5 per cent and most of that is released by the North End Water Pollution Control Centre (NEWPCC), which treats 70 per cent of Winnipeg's sewage. NEWPCC is the fourth largest phosphorus polluter among all wastewater treatment facilities in Canada.⁶



Victoria Beach, 2017 by Jeope Wolfe.
— Courtesy of the Lake Winnipeg Foundation

According to the City,

The cost of the NEWPCC Biological Nutrient Removal Upgrade Project is estimated to be \$1.4 billion. This is comprised of \$600 million as per the Department’s current 10-year financial water and sewer rate plan plus an additional unfunded \$800M. The City is seeking confirmation of the \$195 million commitment from the 2007 Province of Manitoba Throne Speech, which would reduce the unfunded amount accordingly.⁷

Sewage treatment upgrades are costly, which contributes to both rising utility rates and foot dragging on achieving pollution compliance limits ordered by the Province in 2003. Yet the water and waste utility pays a 12 per cent dividend to the City for other purposes like roads, libraries and police. Indeed, in 2012 the Public Utilities Board estimated that 20 per cent of water and

waste revenues explicitly or implicitly cross-subsidize other services rather than paying for needed sewage infrastructure.⁸

Winnipeg Water and Waste is potentially a model for “user-pay” and “polluter pay” sustainable fairness in City financing if only the “surplus” revenues were prioritized for investment in the required pollution abatement infrastructure instead of general revenues. To fund the \$1.4 billion upgrade, we recommend:

1. Already funded by city through currently scheduled utility rate increases: \$600M
2. Assumed contributions from the Provincial and Federal governments: \$400M
3. Capital budget borrowing by city: \$400M

Total: \$1,400M

New Capital Expenditure:

- NEWPCC upgrades: \$400M

New Operating Expenditure:

- Debt servicing costs: \$22M

2. Failure to Implement Full Organics Diversion and Composting.

Organic materials comprise up to 50 per cent of all household waste, but only an estimated 30 per cent of Winnipeg households compost their organic waste.⁹ Winnipeg is one of the last Canadian cities without a residential green bin program for organic waste collection. According to City information, “most major Canadian cities have an organics collection program, including Victoria, Vancouver, Burnaby, Surrey, Edmonton, Calgary, Hamilton, Toronto, Ottawa, Montreal and Halifax.”¹⁰ Two years ago Winnipeg councilors shut down a scheduled consultation on organics options. A proposed doubling or tripling of the flat waste diversion fee on utility bills was judged too high and unfair to lower income households and backyard composters. No opportunities to resolve these issues were provided.¹¹

Winnipeg is one of the last Canadian cities without a residential green bin program for organic waste collection

The debate illustrated that fees need to be aligned with polluter pays. This point was recognized in the Council-approved 2011 Comprehensive Integrated Waste Management Plan, which specified that “the program costs be funded through a combination of property tax support and a user fee collected on the water bill, with property taxes supporting the diversion programs and the user fee funding the balance of garbage collection costs.”¹² This principle of sustainable budgeting was abandoned in subsequent budget exercises.

The debate also reflected push-back arising from recent accelerated utility bill increases resulting in part from Council offloading general revenue requirements onto utility bills in order

to contain property taxes. Today, Winnipeg has the lowest property taxes of comparable cities and the lowest annual increases by far.¹³

In response to the debate, Green Action Centre proposed financing and collection alternatives that incent waste reduction and do not place a disproportionate financial burden on lower-income households.¹⁴ It put forth 11 recommendations that fit with the AMB’s sustainable budgeting principals, including framing organics diversion as responsible waste management (like sewage treatment) to avoid negative environmental effects and resources loss, rather than treating it as an optional personal service. It also recommended that we introduce Pay As You Throw (PAYT) utility fees, with highest fees per volume of garbage and much lower fees for recycling and composting pickup. This will incent waste reduction, diversion, and home composting.

Importantly, it also recommended that the city explore additional bill mitigation alternatives for lower-income households. There is a growing literature on multiple ways to shrink utility bills for lower income customers to make them more affordable (e.g. *Best Practices in Customer Payment Assistance Programs*).¹⁵

What would an organics diversion program cost? The 2016 presentation to councilors (withheld at the time but released under FIPPA)¹⁶ identified all-in additional costs (operating plus financing for capital) of \$55 to \$100 annually per household, without, however, breaking out the component costs. We estimate funding requirements as follows.

1. Capital cost of compost facility plus green bins [\$40 million if shared equally with Province and Feds]: \$120 million
2. Raise average utility waste fee from current \$57.50 to \$75/year but redesign as a PAYT rate. E.g. use Radio Frequency Identification (RFID) technology to record pickups (already in service to monitor collections) and charge \$1 for each garbage

pickup and 50¢ for each recycling or organics pickup. The cost is ~\$100/year for anyone using all the pickups but only \$24/year for one pickup/month of each. To guarantee sufficient revenue, a minimum billing requirement or fixed fee component may be needed. \$5 million

Capital contributions from provincial and/or federal governments and a more efficient collection system, e.g. by collecting recyclables and garbage every other week and using two-compartment collection trucks, as Toronto does, would reduce this cost.

New Capital Expenditure:

- City's 1/3 portion of compost facility plus green bins: \$40M

New Operating Expenditure:

- Debt servicing costs: \$ 2.2M
- Facility operating costs: \$20M

New Revenue:

- Increase average waste collection fees: \$5M

3. Failure to Curb GHG Emissions.

Winnipeg has committed to a 40 per cent GHG reduction for corporate facilities and a 6 per cent reduction in overall community emissions from a 1998 baseline.¹⁷ A 2016 update to Council indicated that a 17.2 per cent corporate “reduction” was realized by 2007, mainly by subtracting Winnipeg Hydro emissions when ownership was transferred to Manitoba Hydro. Corporate emissions have grown ever since and are now back to where they were in 1998. Gas-heated City building expansions are the primary source of emissions growth.¹⁸

The community-wide target of 6 per cent reduction from 1998 has hitherto lacked an accompanying plan or timeframe for achieving the target. However, a Winnipeg GHG inventory and forecast report in 2011 concluded, “Based on

current policy, Winnipeg is forecast to achieve Council’s service target — a reduction in community-wide greenhouse gas emissions 6 per cent below 1998 levels — before the year 2050.”¹⁹ This requires strict adherence to the principles of *OurWinnipeg* and other policies and crediting the bookkeeping “reduction” from changed ownership of Winnipeg Hydro.

Unfortunately, this level of achievement is too little, too late. Winnipeg needs to adopt a plan and effective strategies in line with *Canada’s Mid-Century Long-Term Low-Greenhouse Gas Development Strategy*.²⁰ The *Strategy* explains:

Building on analyses from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report, the United Nations Environment Programme (UNEP) states that GHG emission reductions in the order of 70 to 95 per cent below 2010 levels would be required by 2050 to remain on a pathway consistent with a >50 per cent likelihood of limiting average global temperature rise to 1.5°C. Achieving this temperature goal is only possible through actions on carbon dioxide and short-lived climate pollutants (SLCPs) together. For the purpose of the Mid-Century Strategy, Canada examines an emissions abatement pathway consistent with net emissions falling by 80 per cent from 2005 levels.

A Winnipeg community climate action plan is scheduled for release and adoption this summer. We hope it will contain targets and strategies consistent with national and international commitments. To do so, it must successfully address emissions from all sectors, particularly the largest. The 2011 inventory is summarized in Table 1 below from *Winnipeg’s 2011 Community Greenhouse Gas Inventory and Forecast*.²¹

Thus, we should expect and insist upon robust strategies to reduce community-wide emissions from heating buildings with natural gas, waste disposal, and fossil-fueled transportation. Each of these sectors presents its own challenges.

TABLE 1 Summary of GHG Emissions

Activity	Annual Emission Rate (tonne CO ₂ e/year)				GHG Intensity (tonne CO ₂ e per capita)	Percent of Total
	CO ₂	CH ₄	N ₂ O	Total GHGs		
Building Electricity	18,284	0	0	18,284	0.03	0.3%
Building Natural Gas	1,790,048	1,073	9,906	1,801,027	2.60	33.5%
Transit	43,044	57	395	43,495	0.06	0.8%
Vehicles – Residential	1,689,442	2,434	33,241	1,725,116	2.49	32.1%
Vehicles – Commercial	938,779	338	6,525	945,642	1.37	17.6%
Waste Disposal	—	798,801	—	798,801	1.15	14.9%
Water and Waste Water	4,922	33,620	8,117	46,659	0.07	0.9%
Total	4,484,518	836,322	58,184	5,379,024	7.78	100%

SOURCE: Winnipeg's 2011 Community Greenhouse Gas Inventory and Forecast

What Revenue Can Winnipeg Expect to Receive From the Provincial Carbon Tax?

As discussed in our Introduction and Transit section, it would be reasonable to assume that Winnipeg and its residents and businesses should receive some portion of the \$143 million in carbon tax revenues in 2018 (\$260 million/year in 2019) to fund climate action. However, the province appears to have no intention of making a significant portion of carbon revenues available for green investments. The Budget Speech²² said:

In order to ensure that the economic impact of meeting our climate change goals is sustainable, our government is committed to achieving meaningful emissions reductions while also reducing other taxes. To this end, *all carbon tax revenues received over four years will be returned to Manitobans through tax reductions* (4, emphasis added).

Provincial Budget 2018/19 allocates \$102M to create The Conservation Trust Fund endowment at The Winnipeg Foundation to fund conservation initiatives. It also increases annual Green Fund expenditures from \$34M to \$40M. With a 5 per cent payout policy, the endowment would yield ~\$5M /year, so the total available in 2018/19 for “environmental innovation and climate change projects” is around \$45M, an \$11M increase from the year before for the whole province. It is diffi-

cult to see how major capital projects like electric buses and chargers or a capital region compost facility could be funded from this amount, especially because they must be spread to multiple organizations province-wide. Thus, for budgetary purposes, we assume the City is on its own without incremental funding from recycled carbon tax revenues.

Lack of significant participation by the province will slow down the city’s efforts and add stress its budget, but, in the spirit of the “We’re still in” response of U.S. cities and other organizations, Winnipeg should pledge to contribute its fair share to meeting the Paris goals.²³

What Actions can the City Take to Lower Both Corporate and Community Emissions?

The city has concluded consultations on its community climate action plan. The plan may be tabled for Council’s approval before this alternative budget is released. It will undoubtedly contain many recommendations on how to proceed. We focus here on several potential measures.

Waste

The proper diversion and composting of organic wastes, discussed earlier, will go far to reduce the 15 per cent of Winnipeg emissions that arise from waste disposal.

Buildings

Heating buildings with natural gas is responsible for over a third of Winnipeg's GHG emissions. In 2011, Winnipeg adopted two initiatives to address GHG emissions from public buildings. The Green Building Policy mandated that all newly constructed city-owned buildings and major additions to City-owned buildings be completed with a certification of no less than either LEED Silver or Green Globes Design at the 3 Globes Level. The *Green Building Policy for Existing City-Owned Buildings* requires publicly owned buildings to monitor their emissions. Despite these policies, however, as previously noted, building emissions have continued to rise because of growth in the Public Service.²⁴

The city should continue to look for opportunities to serve as a convener, prod and catalyst to move the parties on the climate file, including green buildings.

We recommend the City of Winnipeg work with the province, Efficiency Manitoba and commercial building sector organizations like the Building Owners and Managers Association, Building Energy Management Manitoba and Canada Green Building Council, as described in Manitoba's Climate and Green Plan, to develop a strategy to meet the following goals by 2030:

- recommission 80 per cent of buildings that are not meeting high-performance energy standards
- undertake deep retrofits for 60 per cent of buildings to meet high-performance standards²⁵

The city also needs to participate in the development, financing and deployment of green heating and district heating options, both for its own buildings and other private and institutional buildings.²⁶ In order to improve energy ef-

iciency in city-run facilities, ideas such as 'Green Revolving Funds' — discussed in our Recreation section — need to be considered.

The city should continue to look for opportunities to serve as a convener, prod and catalyst to move the parties on the climate file, including green buildings. To do so, it should have personnel and funds for planning, incentives, matching and investment. In addition, the city should review its capacity to regulate building codes and standards (e.g. through licensing and permitting) and to implement a building efficiency rating scheme for new construction, major retrofits and real estate sales and transfers. The BC Energy Step Code provides one example of how the Province, municipalities and builders can work together to ratchet up building energy requirements towards targets like zero net energy or carbon-neutral buildings by a prescribed date.²⁷

New Operating Expenditure:

- Green Building and Climate Action Fund: \$10M

Transportation

In this section we consider the challenge of sustainable budgeting for sustainable transportation. Details on improvements in service and infrastructure for transit and active transportation are found in the corresponding chapters. Transportation is the highest emitting sector in Manitoba (39 per cent) and Winnipeg (>50 per cent). Recent discussion has focused on electrifying transit.

Transit and Active Transportation

Electrification of Winnipeg Transit has become an economic proposition, which recirculates money in the Manitoba economy through Manitoba Hydro and New Flyer industries that would otherwise be spent on diesel fuel from Alberta.²⁸ The main obstacle appears to be higher first costs and the cost of charging infrastructure. The Province ought to help, as proposed in its

Climate and Green Plan,²⁹ but otherwise creative financing is needed. For example, as explained in our Transit chapter, the Amalgamated Transit Union's proposal to consider pay-as-you-save financing should be explored.

However, since Transit is responsible for less than 1 per cent of Winnipeg's emissions, even if they were reduced to zero, almost 50 per cent of Winnipeg's emissions would remain from commercial and residential vehicles. The Transit chapter considers how to attract greater bus ridership to displace residential vehicle use and emissions, and the Active Transportation section shows how to improve infrastructure so more people can use their bikes to commute.

Commercial Vehicles

Commercial vehicles are responsible for 17.6 per cent of Winnipeg's emissions. Manitoba Trucking Association (MTA) proposes to reduce these through a carbon-tax-assisted GREENER Trucking initiative to accelerate efficiencies and eventual electrification of trucks. The initiative would be supported by research into best practices and their cost-effectiveness and advised by a multi-stakeholder council. The proposal has merit and City staff should engage with the project. The funding, however, is tied to a matching reinvestment of carbon tax revenue in truck retrofits and cleaner drive trains. Since the Province controls the carbon tax purse strings, the MTA proposal has no immediate consequences for the City budget. Given the provincial budget commitment to return all carbon revenues through reduced taxes, the Province should find a tax reduction strategy for incenting GREENER Trucking, say through tax credits for green technology.

Residential Vehicles

The basic challenge of reducing the 32 per cent of Winnipeg emissions from residential vehicles is to get people out of cars and onto buses, bikes and their feet. Vancouver's goal, for example, is: *Make walking, cycling, and public transit preferred*

transportation options. By 2016, Vancouver had already surpassed its 2020 target to have over 50 per cent of trips by foot, bicycle or public transit and reduce average distance driven per resident by 20 per cent from 2007. (It was down 32 per cent by 2016).³⁰ Winnipeg's *Sustainable Transportation* document, on the other hand, envisions only *A Transportation System that Supports Active, Accessible and Healthy Lifestyle Options* as a basis for supporting active transportation infrastructure. Important as active and healthy lifestyles are, the transportation policy strategic direction fails to reflect the climate change mitigation imperative (although emission metrics are included among the performance indicators).³¹

The basic challenge of reducing the 32 per cent of Winnipeg emissions from residential vehicles is to get people out of cars and onto buses, bikes and their feet.

Winnipeg has made significant investments in transit and active transportation, as described in the AMB Active Transportation and Transit chapters, but further improvements are needed to make these alternatives more attractive. Perversely, the contrary message to bus users from City budgets has been, get back in your car, if you have one, and save on annually increasing bus fares. We will clear your streets, maintain your roads, fill potholes, build underpasses and bridges, and widen roadways without adding a penny to the costs of vehicle ownership or use. Property taxes, frontage levies and water and waste utility dividends will pay for it. The gap between zero fees for cars and rising bus fares keeps growing, exactly opposite to sustainable budgeting principles and contrary to the objectives of reducing GHG emissions and fostering a sustainable transportation system.

Our thesis is that, in addition to infrastructure and service improvements to make busing, biking and walking more attractive, Winnipeg

needs sustainable mobility pricing. We propose that the city examine a suite of measures to get motor vehicles on city streets off welfare. Have them, rather, become net contributors to the revenue needs of Winnipeg and Manitoba and reduce their social costs. The Victoria Transportation Policy Institute (VTPI) has comprehensive information on mobility pricing and transportation demand management to create efficiencies and reduce costs and emissions from vehicles while enhancing benefits.³² A thorough review of this source will yield many ideas for using economic instruments to improve transportation in Winnipeg and Manitoba. We discuss a few in the following section.

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Mobility Pricing

Cars are expensive to their owners, but they are also very costly to society. Mobility pricing seeks to implement socially optimal transport prices and markets.³³ These will normally reflect user pay and polluter pay principles as well as beneficial and equitable outcomes. Thus, optimal pricing requires consideration of a full range of transportation costs and benefits as well as potential ways to collect revenues (a) to pay for those costs and cost-reducing alternatives, but also (b) to create a price response that will reduce social costs and enhance benefits.

1. Assessing the Costs

We recommend that Winnipeg conduct a study to identify and estimate the full range of social costs of vehicle ownership and use. This will help establish a fair user-pay and polluter-pay framework for mobility pricing.

Take one example — the costs of an estimated five parking spaces per vehicle, as per Table 2.³⁴

Similar estimates are possible for the costs associated with vehicle ownership and driving, travel time, roadway construction and maintenance, traffic congestion, traffic crashes, environmental damage, fuel externalities, and impacts on non-motorized travel, land use, and social equity.

Any mobility pricing strategy must include measures to compensate low-income drivers. Research by CCPA BC considers three issues that must be considered:

[. . .] mobility pricing can create winners and losers, but good design can ameliorate the outcome. Three central fairness or equity issues are discussed in depth below: impacts on low-income households, impacts on households throughout the region and fairness in comparison to other modes of travel including public transit, car-sharing and ride-hailing. Importantly, equity outcomes depend both on how pricing is done (who pays) and how revenues are used (funding transit and any other compensating mechanisms).³⁵

2. Pricing Strategies

Winnipeg need not await completion of the motor vehicle cost study before implementing new budgetary measures. The city budget already contains transportation costs, such as roadway construction and maintenance and alternatives like transit and active transportation to inform a shift to more sustainable modes. The next question is: what are fair and efficient pricing strategies to pay for our transportation system and make it more sustainable?

VTPI identifies several transportation demand management pricing strategies in Table 3.³⁶

We recommend that the city identify and evaluate a range of pricing strategies available to Winnipeg and Manitoba, the social objectives they can serve, and how they might be implemented. The pricing strategy study can be combined with the preceding assessment of costs of vehicle ownership and use.

TABLE 2 Estimated Annualized Parking Costs Per Vehicle

	Spaces Per Vehicle	Annual Cost Per Space	Paid Directly By Users	Directly-Paid Costs	External Costs	Total Costs
Residential	1	\$800	100%	\$800	0	\$800
Non-res. Off-Street	2	\$1,200	5%	\$120	\$2,280	\$2,400
On-Street	2	\$600	5%	\$60	\$1,140	\$1,200
Totals	5			\$980 (22%)	\$3,420 (78%)	\$4,400 (100%)

NOTE: This table estimates parking costs per vehicle. Users pay directly for only about a quarter of total parking costs. The rest are borne indirectly through taxes, reduced wages and additional retail prices.

New Expenditure:

- Budget expense for a study assessing motor vehicle costs and alternative pricing strategies available to Winnipeg: \$100,000

3. Preliminary Recommendations for Mobility Pricing in Winnipeg

Without the benefit of the preceding study, we recommend that Winnipeg create either a notional or an actual transportation utility with a mandate to raise revenues to cover transportation costs and create a more sustainable, equitable and efficient transportation system. In short, revenues raised from motor vehicles should be sufficient to cover roadway costs but also to subsidize transit and active transportation. The subsidies contribute to several fair and sustainable transportation outcomes: (a) enabling and promoting alternatives that lower climate and social impacts of the transportation system while promoting healthy living, (b) reducing roadway congestion and wear and tear, resulting in improved traffic flow and reduced construction and maintenance requirements, and (c) providing affordable transportation options to meet the mobility needs of all Winnipeggers. Winnipeg (through its transportation utility) should develop pricing strategies like the following to accomplish these outcomes.

- a. Parking space fees — in our Revenue section.
- b. Commuter charge — see our Revenue section. This fee is phase one in a future comprehensive strategy (mobility pricing) to implement more extensive road use

fees (tolls). These can serve the following purposes: (a) paying for road construction and maintenance, (b) avoiding congestion that would otherwise require expensive capital investments, (c) paying for alternatives that reduce road congestion like transit and AT, (d) internalizing external costs of driving like policing, traffic injuries and their medical costs, climate change, etc.

Winnipeg’s traffic flow map at <http://winnipeg.ca/publicworks/trafficControl/pdf/Traffic-Flow-Map.pdf> shows average weekday traffic flows. From this we can estimate (a) 300,000 daily crossings of city boundaries, (b) 570,000 bridge crossings, and (c) 317,000 underpass crossings totaling almost 1.2 million crossings daily. Tolls often apply in one direction only to save capital and transaction costs and disruption, so if, say, 500,000 crossings were charged \$1 each, that would yield \$3.5 million/week or \$175 million/year, which is close to the annual streets budget. This is just an indication of the revenue potential from this source. In practice the city may wish to restrict tolling to fewer locations and adjust amounts. Moreover, the capital and overhead costs of a tolling system are likely to be significant. Only the net proceeds of a toll system would be available to fund the transportation system or other services.

- c. Increasing the carbon or fuel tax would be a much simpler and more efficient way to

TABLE 3 TDM Pricing Strategies

Increased Prices	Reduced Prices
Road Pricing	Reduced Transit Fares
Distance-Based Fees	Commuter Financial Benefits
Increased Fuel Taxes	Pay-As-You-Drive Insurance
Parking Pricing	Smart Growth Policy Reforms (some)
Comprehensive Market Reforms	
Smart Growth Policy Reforms (some)	

raise transportation revenues (although they are not locationally targeted, like tolls). However only the province has the jurisdiction to do so. We have included the tolling option as a road use fee that, arguably, is within the jurisdiction of Winnipeg to impose. As well, in time, as the proportion of Electric Vehicles increases, the city will need to broaden the tax base to include non-emitting vehicles.

Winnipeggers pay only 14 cents/litre provincial excise tax on gasoline, the lowest fuel tax load in Canada. Drivers in Vancouver and Montreal, two cities noted for their commitment to sustainability and public transportation systems, pay over twice that.

Note for comparison that, until the carbon tax kicks in, Winnipeggers pay only 14 cents/litre provincial excise tax on gasoline, the lowest fuel tax load in Canada. Drivers in Vancouver and Montreal, two cities noted for their commitment to

sustainability and public transportation systems, pay over twice that.³⁷

We recommend an initial target of \$100 million in revenues raised from various forms of mobility pricing.

Total Revenues and Expenditures to Start Shifting Winnipeg Towards More Sustainable Budgeting

Total New Capital Expenditures:

- NEWPCC upgrades: \$400M
- Organics facility and green bins: \$ 40M

Total: **\$440M**

Total New Operating Expenditures:

- Debt servicing charges: \$24.2M
- Operating costs for organics diversion: \$20M
- Green building and climate change action fund: \$10M
- Mobility fee and pricing study: \$0.1M

Total: **\$54.3M**

Total New Revenues:

- Increase waste collection fees: \$5M

¹ <http://winnipeg.ca/interhom/CityHall/OurWinnipeg/>

² <https://ecofiscal.ca/>

³ http://greenactioncentre.ca/wp-content/uploads/2015/02/Green-Action-Centre-Budget-2015-submission-FINAL_F.pdf

⁴ <https://www.unenvironment.org/explore-topics/green-economy>.

⁵ <https://www.unenvironment.org/resources/report/towards-green-economy-pathways-sustainable-development-and-poverty-eradication-13>.

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