

## **Progressive Environmental Programs, Municipal Finances, and Urban Autonomy**

Andy Cragg. December 4, 2006.

### **I. Introduction**

Canadian cities face ever-mounting environmental duress, the clearest example of which is the growing number of smog days per year. At the same time, cities in Canada are facing a particularly difficult combination of providing an increase in services without a significant increase in financial ability. This paper will look specifically at the situation in Toronto. First, it will examine the extent to which environmental problems are compounded in cities in general, and specifically in Toronto. Second, it will look at the particular financial situation of cities in general, and again specifically in Toronto. We will look at some of the causes of the situation, as well as at some of the proposed solutions, particularly increased urban autonomy. Thirdly, we will pose the main question of the project: can the city of Toronto relieve a significant amount of financial stress through the implementation of progressive environmental programs? That is, can progressive environmental programs either generate significant revenue, or else significantly reduce current expenditures and costs? To attempt an answer to this question, we will examine the success of existing programs in Toronto and other cities, specifically in the areas of transit, waste management, and parking. Finally, we will provide some analysis of the findings, concluding that progressive environmental programs do lead to significant financial benefits, but that many of these financial benefits are not necessarily reaped by cities directly. Thus, while the programs will provide some revenue to fuel a more autonomous city of Toronto, they will also provide an incentive for other levels of government to transfer money saved back to Toronto, from whence the savings came.

## **II. Environmental problems facing cities**

Cities are home to more than 50% of the world's population<sup>1</sup>, a figure that will only rise over time. In Canada, more than 80% of our population is concentrated in cities with a population over 100 000.<sup>2</sup> Not only this, but cities are the so-called economic engines driving national growth, and thus have a concentration of industrial activity. For example, 40% of Ontario's GDP comes from Toronto. As Anne Golden says in the forward to John Lorinc's book *The New City*, "Cities are now the platform for the international export of goods and services."<sup>3</sup> As such, environmental issues are somewhat more pressing in cities than in other places: "Worldwide, the burgeoning urban population is responsible for more than half of the global production of goods and services; but they also account for a much larger proportion of all waste and pollution."<sup>4</sup> Or, as John Lorinc in *The New City* says, "Even though our cities occupy a minuscule proportion of Canada's overall land mass, they punch well above their weight when it comes to their overall contribution to climate change, certain types of environmental degradation, and the depletion of the world's energy resources."<sup>5</sup> The clearest example of this is the amount of smog that comes out of cities; Toronto counted a record 48 smog days in 2005.<sup>6</sup>

## **III. Financial situation of Toronto as a city in Canada**

Cities began to feel financial stress beginning in the 1990s when the federal government aggressively cut much expenditure in order to balance the federal budget. The result was that they downloaded the provision of many services to the provincial governments. In Ontario, the

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<sup>1</sup> Population Reference Bureau, 2005. [www.prb.org](http://www.prb.org)

<sup>2</sup> John Lorinc, *The New City*. 99

<sup>3</sup> Ibid. xi

<sup>4</sup> Rachael Unsworth. "Making Cities More Sustainable: People, Plans and Participation," in *Exploring Sustainable Development*. Martin Purvis, and Alan Grainger Eds., London: Earthscan, 2004. 128

<sup>5</sup> Lorinc. 251

<sup>6</sup> Toronto Environment Alliance, "2005 Toronto Smog Report Card." [www.torontoenvironment.org](http://www.torontoenvironment.org)

Progressive Conservatives under Mike Harris were also aggressively scaling back spending in order to balance the provincial budget. They accomplished this in large part by downloading to cities a myriad of social responsibilities. Cities became responsible for such varied services as social assistance, public health, public housing, ambulances, public transit, water and sewage treatment, ports, and airports.<sup>7</sup> This might have been all well and good except that cities did not gain any new revenue gathering ability. As prominent Torontophile Alan Broadbent says, “These obligations were not accompanied by the money to pay for them, so cities began to squeeze their budgets to break even.”<sup>8</sup> Property taxes continue to be the largest source of municipal revenue. Currently the city of Toronto gets its revenue from property taxes, user fees, provincial and federal transfers, and incise taxes. In 2005, the city’s total revenue was just over \$7 Billion. The 2005 City of Toronto budget reports that over \$3 Billion in property tax was collected in 2005, representing over 41% of all city revenue.<sup>9</sup> By way of contrast, in European and American cities property taxes average 15% and 5% respectively.<sup>10</sup>

User fees are the second highest source of revenue for Toronto, representing \$1.8 Billion or 24% of all revenue. These user fees come primarily from transit fares, facility use fees (skating, swimming, etc.), and water and wastewater rates.<sup>11</sup> But the budget report notes that there is little room for growth in this area. There is also minimal income from fines, approximately \$130 million, which though it is obviously a lot of money represents only 2% of the city’s revenues. Provincial grants and transfers make up of the rest of the city’s revues, totaling approximately \$1.5 Billion, or 20%. Although this is a significant amount, it is all

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<sup>7</sup> Alan Broadbent, et. al. “Towards a New City of Toronto Act.” 2005, [www.ideasthatmatter.com](http://www.ideasthatmatter.com). 7; Lorinc. 104, 212; Tindal and Tindal. *Local Government in Canada 5<sup>th</sup> ed.* Toronto: Nelson Thomson Learning, 2000. 15

<sup>8</sup> Broadbent et. al. 2005. 7

<sup>9</sup> “City of Toronto 2005 Financial Report and 2006 Budget Summary,” [www.toronto.ca/budget2006](http://www.toronto.ca/budget2006). 47

<sup>10</sup> Broadbent et. al. 2005. 7

<sup>11</sup> Toronto 2005 Financial Report. 52

earmarked for specific social programs, mostly social assistance, housing, health services, and childcare.<sup>12</sup>

Besides being insufficient, property taxes are undesirable because they are not tied to income or population growth. As the economy grows and incomes rise, property values (and therefore property taxes) change much more slowly. Property taxes do not automatically rise with economic growth; they only rise as quickly as property value assessments rise. Also, property taxes encourage gentrification, whereby when an area in a city is doing well the value of the properties rise (along with the corresponding taxes) and long-time residents who can no longer afford to live there are forced to relocate. Thus, one of the main solutions to the fiscal imbalance between cities and other levels of government is to broaden the cities' sources of income. Enid Slack (2004) in a report on revenue options for Canadian hub cities writes, "access to revenues from a mix of taxes would give Canada's hub cities more flexibility to respond to their changing expenditure needs and prevent further erosion of physical and social infrastructure." And she continues, "as part of the tax mix, the hub cities need some revenues that allow them to benefit from economic growth."<sup>13</sup> This essentially means either giving cities the authority to levy their own taxes, or else transferring them a percentage of provincially and/or federally collected (income) taxes. That is, what it comes down to is a debate over urban autonomy.

Proponents of the "New City of Toronto Act" argue that more autonomy should be given to cities for two reasons: subsidiarity and fiscal accountability. Subsidiarity is the idea that, "policy and program decision-making is made as closely as possible to the citizen. Specifically, national or provincial governments should legislate only if the objectives cannot be effectively achieved at the local or regional level." Fiscal accountability is the idea that, "the government that delivers goods and services is also responsible for raising the monies that pay for them."<sup>14</sup> But there are drawbacks to new locally collected (income) taxes, mainly in the cost to collect the tax.

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<sup>12</sup> Ibid. 103

<sup>13</sup> Enid Slack. *Revenue Sharing Options for Canada's Hub Cities*. Prepared by Enid Slack Consulting Inc. 18

<sup>14</sup> Broadbent et. al. 2005. 3-4

The alternative is for cities to get a share of (federal) income taxes, (provincial or federal) sales taxes, and/or excise taxes (like the gasoline tax). Of course, there has recently been an agreement between Toronto and the federal government to transfer a percentage of the gas tax, an example of an excise tax transfer. But still the urban autonomists have a compelling case and numerous high profile advocates. In light of what has been discussed so far, we can ask whether progressive environmental programs can provide revenue (or reduce expenditures) for cities and thereby reduce fiscal stresses. We can also ask whether these revenues could be used to make cities more financially autonomous. But first let us look at some existing urban environmental programs.

#### **IV. Progressive environmental programs in Toronto and elsewhere**

This section will discuss progressive environmental programs existing in Toronto and other cities.

##### *Toronto's waste diversion program*

In 2001 the city of Toronto convened a task force to look at waste management options for the city. At the time, Toronto households were producing more than 900 000 tonnes of garbage, sending most of it to the city-owned Keele landfill at \$12/tonne.<sup>15</sup> However, the city knew that the Keele site would be full and closing by the end of 2002, and explored with the province the options of either creating a new landfill (most notably in an old mine at Kirkland Lake) or using making deals with other cities to use their sites. But, the task force reports, "There is nowhere else in Ontario that is willing and able to dispose of, at an affordable cost, the 907,000 tonnes of garbage that Toronto householders create in a year."<sup>16</sup> This led to the city making a deal with the state of Michigan to dispose of its waste there, at a heightened cost of \$52 per tonne, more than 4 times the cost of disposal at the Keele site. Because of this, the city began an aggressive waste diversion program, increasing its recycling program, and beginning an organic waste

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<sup>15</sup> City of Toronto. "Waste Diversion Task Force 2010 Report."  
[www.toronto.ca/taskforce2010/](http://www.toronto.ca/taskforce2010/)

<sup>16</sup> Ibid. 3

compositing program (called the “green-bin program”). The 2001 task-force set haughty goals: to divert 30% of household waste away from landfill by 2003, 60% by 2006, and 100% (!) by 2010. In tonnage, this would mean for 2006, diverting 555 700 tonnes from Michigan, which at \$52/tonne translates into over \$28 million per year that will not go to the owners of Michigan landfill sites, going instead to supporting green industry in Canada.

On the ground, the program has been very successful thus far, having been implemented city-wide, with more than 500 000 single-family homes now participating.<sup>17</sup> In 2000, before the plan started, the city diverted 24% of its residential waste through recycling and leaf collection, and had no kitchen organic collection. For 2005, the city reported that it had diverted nearly 350 000 tonnes of residential waste from landfill, 100 000 of which was from the green-bin program which the city claims sees a 90% participation rate. The city has however pushed back its goals slightly, seeking 60% diversion by 2008 (not 2006) and 100% by 2012 (not 2010).<sup>18</sup> And the program continues to be dogged by a low success rate in multi-unit residences which divert only 13% of waste compared with the 40% being attained in single-family residences.

Financially, the program has also been successful. The 2005 city budget reports a 4.5% decrease (from 2004) in net operating costs for solid waste management due decreasing volume headed to Michigan, as well as an increase in prices paid for recycled materials.<sup>19</sup> The original 2001 Task force report projected that by 2006 the cost of implementing the new program would actually be less expensive than if they were to not make any changes to their existing program. Projected costs for 2006, associated with a diversion rate of 60% were \$157 million per year, or \$160 per household, as opposed to \$158 million per year, or \$161 per household, to maintain waste diversion at 2001 levels of 25%.<sup>20</sup> One can only expect that over the coming years and decades the costs of waste disposal can only rise, and thus Toronto’s sustainable waste management, though initially more expensive, will save more and more money for the city.

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<sup>17</sup> Ibid. 3

<sup>18</sup> City of Toronto. “Green-Bin FAQ,” <http://www.toronto.ca/greenbin/faq.htm>

<sup>19</sup> City of Toronto. 2005 Financial Report. 65

<sup>20</sup> City of Toronto. “Waste Diversion Task Force...” 48

### *London's Congestion Pricing*

In 2001 in an effort to reduce congestion and pollution, London implemented a toll system for the central region of the city. The charging zone covers 21 square kilometers, which is 1.3% of the total size of Greater London, and has 174 entry and exit points.<sup>21</sup> Transport for London (TfL), the city department that administers the congestion charge, reports that 250 000 vehicles make a total of 450 000 movements into the charging zone. The infrastructure for administering the charge includes 203 sets of cameras that record license plate numbers and then bill the owners. TfL claims that the scheme will have paid for itself after 18 months. The project aims to reduce traffic levels (measured by 'vehicle miles') by 10-15%, and congestion (measured by 'vehicle delays') by 20-30%. The program began with a £5 charge, but this was raised to £8 in 2005. By law, the funds raised from the charge must be spent on improving transport infrastructure. TfL estimates that the charge will raise more than £1.3bn in the first 10 years.

Similar to Toronto's waste diversion program, TfL's initial projections have been shown to be high, but not significantly so. The fourth annual report (2006) on the progress of the congestion charge reports an average 26 per cent decrease in congestion since the program's initiation, which is below the hoped for 30 per cent, but still within the desired range. It also reports strong pollution level decreases: "NOx emissions within the charging zone fell by 13 percent and total PM10 emissions fell by 15 percent."<sup>22</sup> The charge generated revenues of £122 million in 2005/06, which are also on par with expectations. But there are some confusing negative reports about the congestion charge scheme, including a BBC story from October 27, 2004, that cites report issued by TfL that admitting an 8% *increase* in congestion, as well as increases in pollution levels. The article also quotes a local opposition politician as saying, "For all the talk on reducing congestion, improving air quality and being a champion of the environment, the Mayor has failed to deliver real and vital improvements."<sup>23</sup> (BBC) This is

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<sup>21</sup> All statistics, except where noted, are from Transport for London, [www.tfl.gov.uk](http://www.tfl.gov.uk)

<sup>22</sup> TfL. "4<sup>th</sup> Annual Report." 9

<sup>23</sup> BBC News, "Road toll 'fails to cut traffic'". October 27, 2004.

especially confusing given the Mayor's continued claims for the success of the program, as well as the above-cited 2006 TfL report. However, the TfL and the mayor have acknowledged some of the confusion may be over the fact that over the time that the congestion charge has been implemented there has been a general trend towards more vehicle use:

The results need to be understood in the context of longer-term trends to congestion in central and inner London. These suggest that competing demands on road network capacity have meant continuing adjustments to capacity, leading to increasing delays for traffic inside and outside the charging zone. Inside the zone these adjustments would have had a broadly similar effect on network traffic speeds with or without congestion charging.<sup>24</sup>

So it seems that at worst, the congestion charge has maintained congestion, traffic, and pollution levels where they might have otherwise continued to rise. And, at best the scheme has reduced levels of congestion, traffic, and pollution. Besides which, the scheme has generated millions of dollars of new revenue that the city of London can invest in improving its heavily used public transit system.

#### *Other transit-related schemes*

Although, they will not be discussed in any detail, it is worth mentioning that both Singapore and Mexico City have congestion reduction schemes. The Singapore scheme, Electronic Road Pricing (ERP), was actually the model for the London Congestion Charge. The ERP program collects a toll by installing a box in cars that detects entrance into charge zones and bills the vehicle owner. Installation of these boxes is mandatory, and they can be rented for visiting vehicles. The scheme has reduced traffic by 8%-13% depending on the time of day.<sup>25</sup>

Mexico City has a well-known congestion reduction plan that limits vehicle use based on license plate numbers. This plan has reduced congestion by 10-20% but there is not a specific monetary component. It was implemented as a desperate attempt to reduce pollution more than to raise money.

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<sup>24</sup> TfL. "4<sup>th</sup> Annual Report." 7

<sup>25</sup> Dr. Kian-Keong Chin (Land Transport Authority, Singapore). "Road Pricing—Singapore's Experience." [www.imprint-eu.org/public/Papers/IMPRINT3\\_chin.pdf](http://www.imprint-eu.org/public/Papers/IMPRINT3_chin.pdf)

### *Parking schemes*

The taxing of vehicle parking is an increasingly popular and potentially very lucrative option for cities. Environmentally, charging more for parking can help reduce vehicle emissions by discouraging vehicle use, and encouraging alternative modes of transit. Donald Shoup (2005) details the many benefits that result from the wholesale elimination of free parking, including reduced vehicle use, but also decreased congestion, increased economic efficiency, and reduced urban sprawl. The elimination of free parking reduces congestion by discouraging vehicle use, but also by discouraging cruising for free parking spaces. According to Shoup, in a study of Detroit, cruising accounted for almost 35% of all traffic in some areas.<sup>26</sup> With a decrease in congestion there will be increases economic efficiency. Transport for London reports that congestion in London costs their economy £2-4 million due to lost time. Reduced congestion also reduces pressure for urban sprawl. Shoup says, “urban planners limit density so that new development will not generate more vehicle trips than nearby roads can carry.”<sup>27</sup> The wholesale elimination of free parking is just one type of parking scheme, and it focuses primarily on publicly-owned curb-side parking.

There are three different types of parking taxes, commercial tax, per-space or area levy, and public parking pricing. Commercial parking tax involves charging the owners of commercial parking facilities based on their transaction receipts. This tax would be largely passed on to customers, but also partially borne by owners. Commercial taxes tend to reduce the amount of commercially operated parking spaces, and encourage free parking spaces. Free parking is undesirable environmentally because it encourages personal-vehicle use. Of the three, the commercial tax is the least desirable.

Victoria, BC planner Todd Litman describes per-space levies:

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<sup>26</sup> Donald Shoup. *The High Cost of Free Parking*. Chicago: Planners Press, 2005. 279-280

<sup>27</sup> Ibid. 58

Per-space parking levies are a special property tax applied to parking facilities. Commercial parking taxes discourage the pricing of parking and concentrate impacts in a few areas. Per space levies distribute cost burdens more broadly, encourage property owners to manage parking supply more efficiently, and reduce sprawl. Although per-space levies are more challenging to implement they tend to support more strategic planning objectives.<sup>28</sup>

Thus, a per-space or area levy accomplishes two goals simultaneously, raising revenue and supporting other city planning goals like reduced congestion, pollution and sprawl. The levy is similar to general property taxes, and can be based on the area and assessed value of parking areas, or it can be a flat fee.

Public parking pricing generally means charging for curbside parking. This can be done through metering, including the use of new metering collection that increases efficiency and quantity. The city of Seattle increased its parking revenues from \$10 million to \$16 million between 2003 and 2006 by simply installing electronic metering. Clearly, \$16 million is not a lot of revenue compared to the multi-billion dollar budgets of large cities. But Donald Shoup claims that it can be much higher if you charge for all public parking, and charge based on value of the land being used. He claims that just in Manhattan south of 59<sup>th</sup> Street, 75% of curbside spaces are unmetered. That represents 28 737 unmetered curbside spaces, which one would think could earn at least a dollar an hour. That would generate \$250 million per year!<sup>29</sup> High potential revenue indeed. If you charge rent for parking spaces based on square footage, the amount is even higher.

## **V. Analysis and Conclusions**

So far we have seen that cities face both environmental and financial stress. Toronto has tried to relieve the financial burden by lobbying aggressively for either more government transfers or more autonomy in revenue gathering. Urban autonomists present a compelling argument that increased autonomy is the ideal way for cities to relieve financial strain, most compellingly because of the principles of subsidiarity and fiscal accountability. We have looked at a variety of progressive environmental programs, including Toronto's waste diversion strategy, London's

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<sup>28</sup> Todd Litman. *Parking Taxes: Evaluating Options and Impacts*. Victoria Transport Policy Institute, 2006. [www.vtpi.org](http://www.vtpi.org).

<sup>29</sup> Shoup. 513-514

Congestion Charging, the pricing or taxing of public and private parking, and, in less detail, schemes in Singapore and Mexico City. These programs have seen impressive results both environmentally and financially. Toronto's waste diversion program will certainly save the city money over time, London's congestion charge has generated billions of dollars for investment in transit, and, if Shoup (and others) is anywhere close to correct, parking has the potential to deliver enormous windfalls. So it would seem, urban autonomists in Toronto should push hard for progressive environmental programs.

However, not only do these schemes likely require large start-up fees, but many of the other financial benefits they deliver are not directly felt by cities. For example, the reductions in vehicle use that accompany these schemes will certainly reduce health care costs for the province. Also, the increased efficiency resulting from reduced congestion and faster transit times will certainly benefit the economy greatly. Though savings of this type could be large, they are difficult to measure, and in any case would be felt in the former case by the province, and in the latter by business and government through sales and income taxes. This is all to say that if Toronto implements new environmental programs intergovernmental cooperation on tax revenue would be fair because it would recognize that federal and provincial savings would be coming from the city. Revenue sharing would encourage, even more, the implementation of environmental programs by Toronto (because they would see more financial benefit) and would be returning savings from whence they came.

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