Financing Urban Transit:

An Analysis of Ontario Urban Transit Trends

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Abstract

The Ontario urban transit industry has undergone dramatic changes in recent years. After a decade of strong ridership growth, the 1990's ushered in significant ridership decline. Despite considerable urban growth, Ontario urban transit systems now carry roughly the same number of riders they did in 1980. While employment levels have improved since the economic recession of the early 1990's, the continued decentralization of population and employment, and an aging population, make it a formidable challenge for urban transit systems to regain their vitality of an earlier decade.

Rapidly increasing fares and major service reductions exacerbated the staggering ridership losses of the 1990's. A fiscally constrained environment meant municipalities could not make up the shortfall in provincial transit operating subsidies that began to dwindle in 1996 until their ultimate elimination in 1998. In real terms, transit operating funding in 1997 was 45% less than operating funding in 1995. Similarly, the elimination of provincial capital funding means aging fleets will be the norm for Ontario urban transit systems.

If a balance in urban transportation is to be re-established in favour of alternative modes of transportation to the automobile, adequate and stable transit funding, compact urban development and higher cost of automobile travel are required. Municipalities need a stable funding source other than the property tax in order for adequate transit service levels to be provided and for transit systems to re-price themselves more competitively in comparison to the cost of automobile travel. Transit systems themselves need to improve their efficiency and

productivity levels if they are to regain political support for increased subsidies and if service outputs are to be maximized.

Unless the current public policy void regarding the future of cities and urban transportation in particular is addressed, more and more of our cities will resemble U.S. type urban sprawl where the only travel option for many residents is the automobile. The challenge for leaders of the urban transit industry and decision-makers concerned with urban environments is to raise the issue of the future of cities on a public agenda that is dominated by health and education.

Table of Contents

Introduction

While the automobile has improved the speed and comfort of travel, the decentralization of cities has meant many activities are less accessible today for many people, despite the increase in mobility. In fact,

> " The spreading out of land use has steadily increased the amount of travel required to reach shopping, recreational, educational and employment locations. Increased travel requirements have largely offset increases in the speed of travel. Thus, as numerous studies of long-term trends have shown, roughly the same amount of time has been spent in daily travel needs in cities even though travel speeds have risen several fold." [1]

The rapid increase in travel demand and reliance on the automobile has created numerous problems in today's cities, particularly larger metropolitan areas. Some of the more significant problems include congestion, human fatalities/injuries and property damage due to traffic accidents, noise and air pollution, energy waste, excessive land consumption and inequity in mobility.

Automobile ownership and use have increased rapidly throughout the industrialized world over the last thirty years, while public transit ridership has declined or stagnated this decade. There is, however, considerable variation in the mode of travel and land use patterns among countries in Europe and North America, and between cities in the same country. This variation is attributed to differences in public policy relating to taxation of automobile ownership and use, urban development and transit funding.[2]

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[1] John Pucher and Christian Lef'evre, The Urban Transport Crisis in Europe and North America, (London: 1996), p. 1.
[2] Ibid., p. 42.

Canadian cities have traditionally had a reputation for providing a high quality of life as reflected by their vibrant core areas and inner city neighbourhoods, pedestrian orientation and successful urban transit systems. Alarmingly, researchers say this reputation is being seriously threatened as evident by the U.S. type urban sprawl and extensive automobile dependency characteristic of development in the Greater Toronto Area (GTA), and the rapid decline of transit ridership in Canada during the 1990's.[3]

Urban development and urban transportation policies in Canada have been characterized as ambivalent, accommodating increases in both auto and transit use with relative harmony in most urban areas during the 1970's and 1980's. In marked contrast, the significant decline of transit ridership during the1990's and the negative effects of increasing automobile travel, have prompted researchers to vigorously argue for the implementation of strong public policies to redress the balance of transportation modes in urban areas. A multi-faceted public policy approach is required to encourage transit-supportive urban development, higher pricing of automobile use and adequate funding levels for urban transit.[4]

In light of the economic recession of the early 1990's, Pucher and Lefevre conclude that the "most pressing problem in Canadian urban transport is finance".[5] Because the federal government provides no financial assistance for urban transportation, this funding responsibility falls into the hands of provinces and municipalities. The fiscal austerity in the public sector during the 1990's, in particular fiscal downloading, has meant that provinces and

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[3] Tamin Raad and Jeff Kenworthy, "The U.S. and Us," Alternatives Journal, Vol.24 (Winter 1998), 1.
[4] Anthony Perl and John Pucher, "Transit in Trouble? The Policy Challenge Posed by Canada's Changing Urban Mobility," Canadian Public Policy, Volume XXI, 1995, 3.
[5] Pucher and Lefevre, The Urban Transport Crisis, p. 167.

municipalities have had little room to maneuver within shrinking budgets to continue funding urban transit at previous levels.

Ontario Context

The focus of this paper will be on the financing of urban transit in Ontario, which as an industry has undergone dramatic changes in recent years. After a decade of strong ridership growth, the economic recession of the early 1990's ushered in significant ridership decline. From 1990 to 1997, Ontario transit systems lost 18% of their riders, a rate of decline almost double the nationwide ridership decline of 10%. In addition to the loss of work trips, the decline in the 15 to 24 age group, traditionally heavy transit users, and the continued decentralization of population and employment, have seen urban transit systems carry less riders. [6]

The fiscal pressures facing Ontario transit systems because of less ridership were compounded when provincial transit subsidies began declining in 1996. Moreover, the pressure to increase fares and reduce service levels has intensified for Ontario transit systems because of the complete elimination of provincial transit funding in January 1998. The dilemma for transit systems is that increasing fares or reducing service levels to any great degree simply exacerbates ridership losses that precipitate further fare hikes and service cuts.

While there is a general consensus that the financial health of the Ontario urban transit industry has worsened over the past decade, there is no clear picture of how transit systems

[6] Marc-Andre Charlebois, "A Vision for the Transit Industry", (Ottawa: June 1997), p. 3.

have responded to recent economic, demographic and funding-related changes. By looking at how Ontario urban transit systems have coped with shrinking provincial subsidies in recent years, as well as declining ridership during the early nineties, one can reasonably infer what the future without provincial subsidies will hold for urban transit. Will municipalities be able and willing to continue to fund urban transit at current levels, given the demands on other municipal services and increasing resident resistance to property tax increases? Are the efficiencies and quality of Ontario urban transit systems likely to increase now that municipalities are responsible for fully funding a service they have always been responsible for delivering?

In any event, if the Ontario urban transit industry is to recapture the vitality of the 1980's, stable funding is required to provide adequate service levels and affordable fares. Examining the variation of these and other transit variables will provide a better understanding of the political commitment to urban transit and the effectiveness of current urban transit policies.

Accordingly, this report discusses the history of transit funding in Ontario, examines trends exhibited by Ontario urban transit systems and based on the analysis of trends, outlines their public policy implications. While the issue of financing of urban transit is under review, implicitly, there is a close and complex relationship with policies and practices influencing urban development and the cost of automobile travel. Ultimately, the fate of urban transit lies in the type of cities we strive for. Past ambivalence towards the urban transportation and land use connection will simply continue the trend towards auto-dominated urban environments characteristic of the United States. The challenge for leaders of the urban transit industry and

decision-makers concerned with urban environments is to raise the issue of the future of cities on a public agenda that is dominated by health and education.

Background and Theory

Until recently, researchers have for the most part ignored the subject of financing urban transit in a Canadian context. One has to visit Frankena's economic analysis of the pricing and subsidy policies for urban roads and urban transit in Ontario. Frankena examined the transit trends of nine Ontario urban transit systems from 1950 to 1978, including the effect of government transit subsidies introduced in 1970 on ridership, service levels, fares, costs and revenues. Prior to 1970, most Ontario urban transit systems recovered the majority of costs from fare revenues.[7]

Today, no European or North American urban transit system operates without government subsidies.[8] In recent years, Pucher and other authors (1998, 1996, and 1995), have published extensive research on the state of the Canadian transit industry, including the effects of transit subsidies on some key transit variables such as ridership, service levels and fares.

Both Frankena and Pucher concur that transit subsidies fueled the expansion of transit services primarily to suburban locations. The Ontario urban transit subsidy program was justified on the basis that it provided financial support to local governments so they could pursue transit objectives relating to service levels, fare policies and land-use planning. In addition to

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[7] Mark W. Frankena, Urban Transportation Financing: Theory and Policy in Ontario (Toronto: 1982) p. 110.

[8] John Pucher, "Public Policy: The Key to Rejuvenating Canadian Urban Transit" (1998: Draft to be published in Transportation) p .12.

supporting local objectives, provincial interests of "energy conservation, economic growth and industrial opportunities" would also be pursued.[9] Clearly, the extension of transit systems to serve urban growth supported provincial objectives. In essence, the provincial conditional grant for urban transit was "designed to get local units to undertake actions they would not otherwise have undertaken",[10] in this case to expand urban transit.

The expansion of transit services to suburban locations resulted in fewer passengers per kilometre of service because of low residential and employment densities. If an across the board fare increase funded the service expansion then inner-city riders would be cross-subsidizing the less productive suburban services.[11] While there is considerable discussion in the literature about the income distribution effects of transit subsidies, this topic is beyond the scope of this paper.

Frankena notes that transit subsidies led to a significant reduction in real fares during the 1970's in Ontario. Using the principles of microeconomics theory, he suggests there is an economic justification for transit subsidies to support lower fares because of increasing returns to scale in the transit industry. The long-run marginal cost of carrying an additional transit passenger is below the long-run average cost of operating the transit system. In order for capacity to be efficiently utilized, the transit fare should be set equal to the long run marginal cost per passenger trip which is lower than the long-run average cost. Total revenue produced by passengers charged a fare equal to the long-run marginal cost is, therefore, less than the

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[9] Ravi Girdhar, Principle and Merits of Ontario's Transit Funding Approach, Ontario Ministry of Transportation and Communication, (Los Angeles, 1985), p. 2.
[10] Robert Bish and Vincent Ostrom, Understanding Urban Government, (Washington, D.C.: 1973) p. 57
[11] Frankena, Urban Transportation Financing, p. 145.

long-run cost of operating the transit system. Consequently, a subsidy is required to make up the shortfall in revenue to ensure efficient use of transit capacity.[12]

In contrast, transit fares in Canada increased faster than inflation during the 1980's and 1990's. Fare increases during the 1990's were also combined with major service reductions to exacerbate ridership losses. Specifically, "...transit fares increased three times as fast as auto operating costs from 1990 to 1995. Thus, the sharp decline in transit ridership during the 1990's was not simply due to fare increases that exceeded inflation, which was also the case in the 1980's, but fare increases that were much larger than cost increases for auto use."[13] The evidence shows that transit systems did not heed Frankena's warning over a decade earlier when he suggested that transit systems should be cautious in raising fares if the cross-elasticity of demand for the automobile is high in regards to the transit fare.

Aggregate fares can hide important variations in the fare structure. Frankena suggests that transit subsidies in Ontario during the 1970's likely prompted the elimination of zone fares and the introduction of concession fares and monthly passes. Implicit in these fare structure changes is the goal to increase ridership. Frankena, however, argues that transit fares should be designed to promote economic efficiency. While he acknowledges that transit fares should be low because automobiles are priced below their marginal social costs, he cautions about the limitation of using scarce resources to reduce transit fares in order to attract automobile users

[12] Ibid., p. 91.
[13] Pucher, Public Policy, p. 5.

to transit. Transit systems should, therefore, pursue economically efficient fare structures such as higher peak versus off-peak fares, fares by distance and charging for transfers.[14]

In contrast to Frankena's concern with economic efficiency, Pucher is focused on stemming the tide of ridership decline through the use of more attractive fare strategies. One way that he suggests that the Canadian transit industry can rejuvenate itself is to borrow from the successful European experience with deeply discounted passes and tickets. By applying the principles of price discrimination based on frequency of use, low cost monthly passes and discounted tickets are introduced to reward the more frequent rider. Cash fares are increased significantly for the infrequent rider who has less of a price elasticity of demand.

Because automobile travel is priced below the marginal social costs of using roads, Frankena argues that this justifies subsidizing urban transit at a level greater than is justified by the argument of increasing returns to scale. Pucher more strongly affirms that "until the external costs of auto use are fully internalized – and that day may never come – government subsidies to transit will be absolutely necessary ... for the long term planning of infrastructure, services and fares".[15]

In terms of the impact that transit subsidy programs have on costs and productivity, "most studies indicate that subsidies can encourage excessive costs and low productivity, especially if those subsidies come from higher levels and are not tied to specific output goals (such as

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[14] Frankena, Urban Transportation Financing, p. 88.

[15] Pucher, Public Policy, p. 22.

increased ridership). Whatever the extent of causality, it is clear that higher costs do not go as far, thus reducing whatever positive impacts subsidies can have."[16] In short, the higher the cost per revenue hour of service, the less number of service hours can be provided given the same level of expenditure.

In examining the transit industry in Ontario, Frankena finds that wage increases (excluding fringe benefits) in transit, during the first half of the 1970's when subsidies were expanding, did not exceed the average increase for the manufacturing sector. This is not a surprising result since a municipality could not afford to compromise its collective bargaining position with other municipal unions by giving transit employees higher wage increases because of provincial subsidies. Pucher, on the other hand, suggests a highly unionized work force has put upward pressure on wages and benefits, and have bargained for restrictive work rules.

According to Pucher (1998), transit unit costs in Canada have increased faster than inflation over the whole 15-year period between 1980 and 1995, and labour productivity declined during the nineties. Potential causes of higher operating costs and lower labour productivity include older bus fleets leading to higher maintenance costs, increased road congestion which slows down transit vehicles, less profitable suburban service expansion and lack of competition.[17] On this last point, Pucher suggests Canadian transit systems need to contract out more of their services, presumably for low demand routes.

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[16] Ibid., p. 9.
[17] Ibid., p. 11.

Frankena was critical of the Ontario transit subsidy program because at the time the province provided capital funding at 75% and operating funding at 50%. The "capital bias" would, therefore, be an incentive for transit managers to prematurely retire buses and neglect their on-going maintenance. Recognizing the early bus retirement incentive, the provincial subsidy program only funded replacement buses at 75% if the bus to be replaced was 18 years old. For each year a bus was retired early provincial capital subsidies were reduced proportionally.

The Ontario transit subsidy program deemed 18 years as the maximum life of a standard bus. Many experienced transit managers suggest the optimal life cycle of a standard bus is 12 years. Beyond 12 years is when large maintenance costs associated with power-train replacement and major structural repair typically occur. With the elimination of provincial funding and recent high cost of buses, one can expect greater pressure to extend the life of a bus, which in turn will increase maintenance costs. Pucher suggests that the dramatic increase in recent years of the cost of a standard bus may be the result of provincial procurement policies that encourage monopolistic prices.[18]

The "inefficiency and unjustified waste of resources" that Frankena warned, "capital-biased" subsidies would lead to, did manifest themselves in certain rail investments.[19] As Soberman notes, the province used capital funding as a lever for the TTC to adopt advanced vehicle technology for the Scarborough light rail line. The provincial objectives were to generate direct employment as well as employment resulting from the export of the new technology.

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[18] Ibid., p. 11.

[19] Frankena, Urban Transportation Financing, p. 199.

which it subsequently did to Vancouver. As it turned out, the advanced vehicle technology proved to be more expensive to purchase and operate than conventional light rail technology. Not only could scarce funding resources have gone further, the TTC was also left with a vehicle technology that is incompatible with expansion of either the streetcar or subway system.[20]

Overview of Ontario Transit Funding Environment

Until recently, urban transit systems have been financially sustained by the local and provincial levels of government, and from fare revenues including other system revenues generated from charter services, advertising and the like. At the local level, transit operating subsidies are typically funded from property tax revenues, and capital subsidies are funded from a combination of the property tax, debentures and development charges. Prior to 1996, when the urban transit subsidy program was in full effect, the province funded 50% of a transit systems net operating costs based on an expected cost-recovery target. According to the funding formula noted in Table 1, larger transit systems were expected to recover a higher percent of their costs because they typically generate higher transit ridership per capita.[21]

Table 1: Cost-Recovery Targets for Ontario

Municipal Population	Target Revenue/Cost Ratio
Over 1,000,000	72.5%
200,001 – 1,000,000	65%
150,001 – 200,000	60%
100,001 – 150,000	55%
100,000 or Less	50%

[20] Richard M. Soberman, The Track Ahead, (Toronto:1997), p. 16.
[21] Girdhar, Ontario's Transit Funding Approach, p. 4.

The provincial operating subsidy was also enhanced under several circumstances: First, where a rapid transit line was built and low ridership levels would be experienced during the initial stages; second, when a municipality wanted to expand transit services to rapidly growing areas before automobile habits were firmly established; and third, when a period of economic downturn resulted in lower ridership, such that the cost-recovery target could not be attained. In response to the economic recession of the early 1980's, the province subsidized the shortfall between the actual and expected cost-recovery target of transit systems by 25%. The additional provincial funding support was to prevent a transit system from having to implement excessive fare increases or service reductions that would precipitate a downward ridership spiral.[22]

Transit capital purchases also received 75% provincial funding. It has been documented that rapid transit lines received enriched provincial funding notably to stimulate direct and indirect employment opportunities.

After almost thirty years of providing funding assistance to urban transit systems according to the formula previously discussed, the current provincial government discontinued the urban transit subsidy program in January 1998. Prior to this, the same provincial government reduced operating subsidies by 10% in 1996 from actual levels in 1995, and a further 10% reduction was implemented in 1997, including a reduction in capital funding from 75% to 50%.

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[22] Ibid,. p. 14.

It should be noted that despite the elimination of the urban transit subsidy program, the province honoured funding commitments for the Sheppard subway, the Toronto Transit Commission's (TTC) 5-year capital plan and any bus purchases in Ontario that were ordered prior to January 1998, but not yet delivered. The five-year capital plans of the remaining Ontario urban transit systems received no provincial funding after January 1998.

The provincial government's decision to have municipalities become completely responsible for the funding of urban transit was part of the overall rearrangement of responsibilities between the province and municipalities, commonly referred to as "downloading". The "Who Does What" panel, chaired by David Crombie, was appointed by the provincial government to review and change the delivery and funding of many government services. The panel rationalized the downloading of urban transit stating that,

> "The dominant role played by provincial subsidies in municipal transit across most of the province has resulted in transit systems that are financially unsustainable, as illustrated by the rapid rise in provincial expenditure in transit during the early 1990's. This situation is exemplified by uneconomical standard 40-foot buses plying low density suburban routes and by municipalities making land use decisions incompatible with the development of affordable transit systems."[23]

Interestingly, reference to the early 1990's in the above statement points to a period of economic recession similar to the early 1980's when the province enhanced operating subsidies so transit systems could better cope with declining ridership.

The elimination of provincial transit subsidies in Ontario is the extreme result of a well

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[23] David Crombie and William F. Bell, Recommendations to the Minister from the Transportation and Utilities Sub-Panel, Ontario Ministry of Municipal Affairs and Housing, (Toronto, 1996), p. 9.

documented trend throughout Canada where municipalities have been forced to shoulder a greater share of the financial responsibility for urban transit over the last 10 to 15 years.[24] The "Who Does What" panel did recommend that the provincial gas tax be considered as a source of revenue for municipalities to fund urban transit services. To date, only Quebec and British Columbia allow their municipalities to levy taxes on gasoline or vehicle registration, in order to fund their urban transit systems.

In reference to recent urban transit funding trends, Alan Tonks, head of the Greater Toronto Services Board, which is now undertaking a transportation plan for the GTA, stated recently,

> "...The province is out of step with the country and I think the country is out of step with the rest of the world in terms of recognizing that urban transit and sustainable transit initiatives are in keeping with all of your quality of life issues."[25]

Analysis of Ontario Urban Transit Trends

This section offers an analysis of some of the key financial and service performance trends exhibited by Ontario urban transit systems. By evaluating how municipalities have coped with shrinking provincial transit subsidies, compounded by stagnant ridership, one can infer what the legacy of Ontario urban transit will be as it enters the new millennium without provincial funding.

Background

The primary source of data used in the following analysis is from the Canadian Urban Transit Association's (CUTA) annual Operating Statistics fact book. In addition to some aggregate

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[24] Pucher and Lefevre, The Urban Transport Crisis, p. 169.
[25] "Hopes ride on transit plan," The Toronto Star, August 7, 1999, p. A6.

analysis of Ontario transit trends, there will be considerable analysis of disaggregate research results involving the two largest transit systems in Ontario, Toronto and Ottawa respectively, and a grouping of ten mid-sized transit systems. These twelve transit systems carried almost 95% of Ontario transit ridership in 1997.

It was decided to analyze data from Toronto and Ottawa separately because their transit systems are much larger than the rest of Ontario transit systems. The two systems in total carried almost 80% of Ontario's transit ridership in 1997, with Toronto having an annual ridership per capita of 159 and Ottawa 107, whereas the next highest rides per capita was a distant 48 exhibited by Hamilton. The table below lists the annual ridership and rides per capita for Toronto, Ottawa and the ten mid-size systems. The ten systems were selected on the basis of carrying more than 3 million riders in 1997.

Table 2: Selected Ontario Urban Transit Systems

Transit System	1997 Ridership (millions)	1997 Rides per Capita
Toronto	379.9	159
Ottawa	69.9	107
Mississauga	23.3	40
Hamilton	19.7	48
London	12.1	37
Kitchener	8.1	30
Windsor	5.9	29
Brampton	5.5	20
Guelph	3.4	35
Sudbury	3.4	32
Thunder Bay	3.4	30
Oshawa	3.6	26

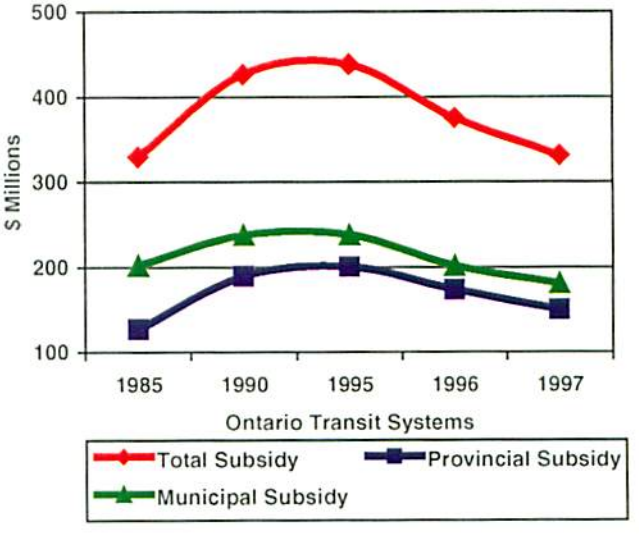
Most of the trends are analyzed from the early 1980's to 1997, the most recent year for which the CUTA fact book is available. This period was selected because it provides a contrast between the significant growth of the Ontario transit industry during the 1980's, followed by a period of ridership decline and shrinking provincial funding during the 1990's.

Cost information is expressed in nominal dollars. The real growth in costs will be analyzed by comparing the percentage growth in nominal dollars with the percentage growth in inflation for the period under review. The annual consumer price index (all items) for Ontario will be used.

Transit Subsidy Trends

From 1985 to 1990, transit operating subsidies in Ontario (excluding GO Transit) increased by $98 million, from $329 million to $427 million. (Exhibit 1 & Table 3)[26] This 30% increase in operating subsidy was slightly higher than inflation of 27.3% for the same period. Between 1990 and 1995, operating subsidies only increased 2.7% or $11.7 million, well below an inflation of 10.3% for the same period. Operating subsidies began to gradually decline from their peak level of $462 million in 1992, presumably as transit systems reduced service levels and increased fares in response to declining ridership. Between 1995 and 1997, however, a dramatic 25% or $107 million decrease in operating subsidies was witnessed. In effect, operating subsidies in 1997 were virtually at the same level as 1985. In real terms, therefore, operating subsidies declined significantly since inflation was 45% between 1985 to 1997.

Exhibit 1: Operating Subsidy Trends



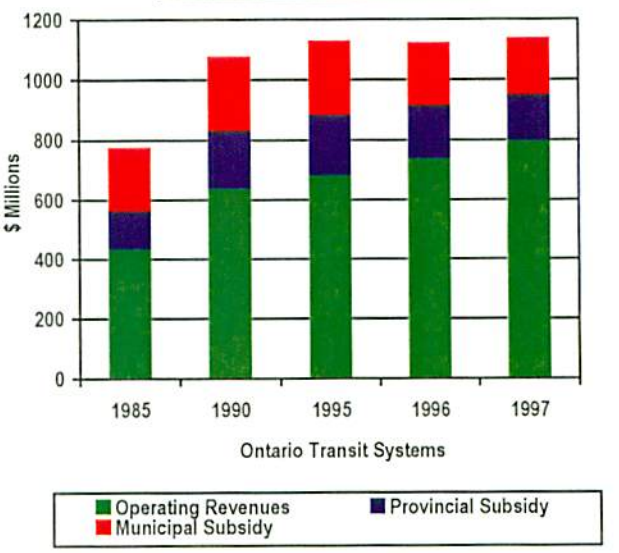
[26] Tables 3 to 18 are in Appendix A.

Between 1985 and 1990, the provincial share of operating subsidy increased from 39% to 44%, or an added $62 million. The corresponding municipal share declined from 61% to 56%, though still increased by $36 million.

The provincial and municipal share of the operating subsidy burden did not vary much on an annual basis after 1990. When the rapid 25% decline in total operating subsidy occurred between 1995 and 1997, municipalities basically followed in step with the provincial lead in reducing transit operating funding. This is not surprising given that many municipalities were coping with a revenue shortfall from the provincial realignment of services and significant resident resistance to property tax increases.

Between 1985 and 1995, the transit user would typically contribute to a cost-recovery that would vary between 57% to 61% in a given year. (Exhibit 2 & Table 3) In recent years, a much greater reliance has been placed on the transit user who in 1997 contributed to a 71% cost-recovery. As will be discussed later, the increase cost-recovery from fare revenues is the result of rapidly increasing fares.

Exhibit 2: Revenue vs.Subsidy Trends



In terms of capital funding, there was an actual decline of 6%, or $12 million between 1985 and 1990. (Table 4) From 1990 to 1995, however, capital subsidies increased significantly by $113 million, a 56% increase compared to inflation at 10.3%. This trend has intensified in recent years with a 75% increase, or $235 million in additional capital funding from 1995 to 1997. The province picked up the lion share of capital funding at 74% in 1995 and 67% in 1997. This rapid increase is largely driven by the TTC, which absorbed 75% of total and provincial capital funding in 1997. The Sheppard subway project and major rehabilitation of infrastructure, equipment and rolling stock represented most of the TTC's 1997 capital budget.[27]

In retrospect, it appears that the "Who Does What" panel's concern with the "rapid rise in provincial expenditures in transit during the early 1990's" should have more specifically referred to capital expenditures rather than operating funding, as primarily driven by the capital needs of the TTC.

Transit Ridership Trends

While Ontario experienced the nationwide trend of ridership growth during the 1980's followed by ridership decline during the 1990's, its rate of growth was much slower and rate of decline much faster. From 1985 to 1990, transit ridership in Canada increased by 6.8% while Ontario had marginal growth of 1.6%. From 1990 to 1995, transit ridership declined by 11.6% in Canada, while Ontario experienced a 16.3% decline. (Table 5)

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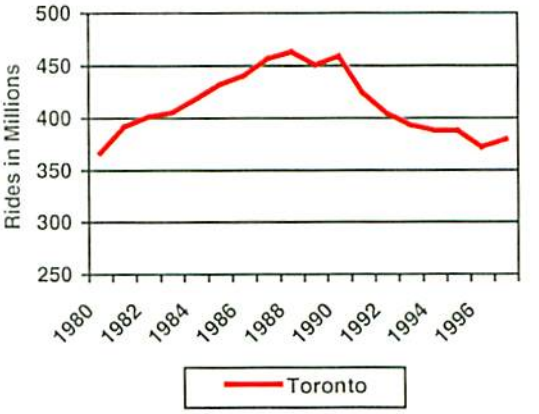
[27] Soberman, The Track Ahead, p. 41.

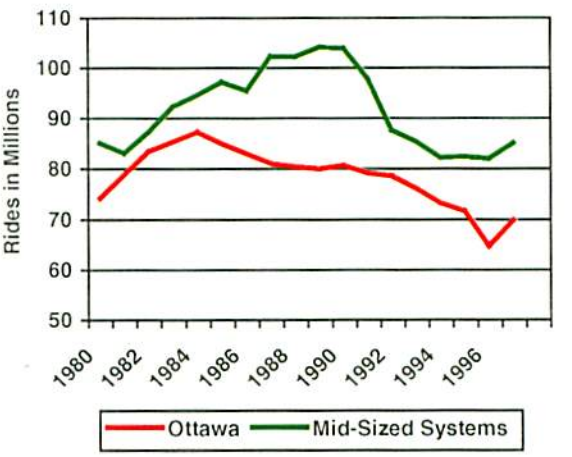
From 1980 to 1990, both Toronto and mid-sized systems had significant ridership growth of 25% and 22% respectively. (Exhibit 3 & 4; Table 5) On the other hand, Ottawa experienced a more modest 9% growth. The ridership gains Ottawa had during the early 1980's were tempered by continuous ridership decline since 1985. The loss of a significant number of federal employees, who were typically frequent transit users, has been attributed to be one of the main causes of the ridership decline.

Exhibit 3:Transit Ridership



Between 1990 and 1996 (the lowest ridership year since 1980), Toronto, Ottawa and mid-sized systems as a group, experienced significant and remarkably similar rates of ridership decline of 19%, 20% and 21% respectively. It should be noted that the ridership change among mid-sized systems exhibited considerable variation during the period as evident by a standard deviation of 16.1%. For example, Mississauga and Brampton experienced 1.8% and 2.5% ridership growth between 1990 to 1996. In marked contrast, Windsor lost 52% of their riders and London 33% during the same period. Rapid development in the GTA certainly explains most of the growth

Exhibit 4: Transit Ridership

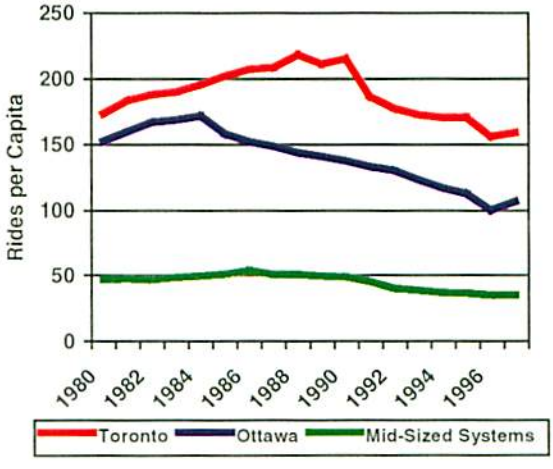


in Mississauga and Brampton while, as will be seen later, major service reductions led to huge ridership losses in Windsor and London.

In 1997, transit ridership increased by 2.0% in Toronto, 8.0% in Ottawa and 3.8% in mid-sized systems. The growth in Ottawa is higher because of a 24-day strike the previous year. It would be premature to assume that marginal growth in transit ridership for one year signals the end of a cycle of decline to be followed by an upswing. The one-year increase in ridership may temporarily reflect an improving economy while masking a secular trend of ridership decline. The alarming fact is that most Ontario transit systems are carrying close to the same or even fewer riders today then in 1980, despite considerable population growth in most urban areas during the same period.

For most years during the 1980's, ridership increased at a faster rate than population did for Toronto and the mid-sized systems, as evident by increasing annual rides per capita. (Exhibit 5 & Table 6) In Toronto, rides per capita increased by 24% from 173 in 1980 to 215 in 1990. The average rides per capita for mid-sized systems grew at a slower rate of 4%, from 46.8 in 1980 to 48.8 in 1990. The slower increase in rides per capita for mid-sized systems is likely because of faster population growth in the low density urban fringes which would generate less ridership than the more built up areas near the city's core. In contrast,

Exhibit 5: Rides per Capita



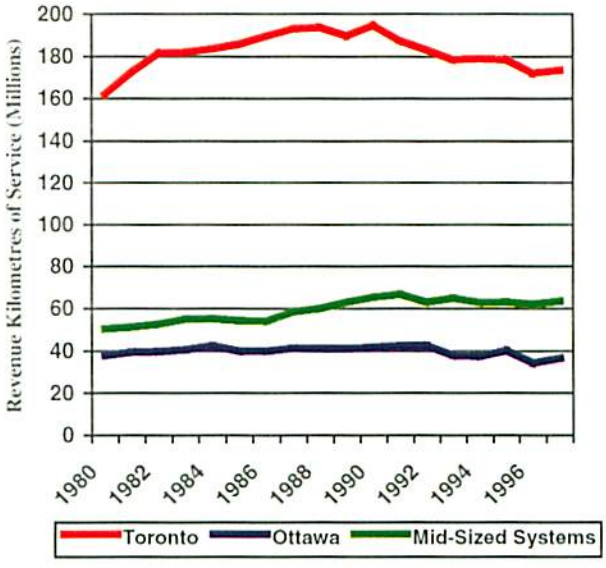
Ottawa experienced a 10% decline in rides per capita between 1980 and 1990, reflecting an overall ridership decline that began in 1985.

Between 1990 and 1996, Toronto, Ottawa and the mid-sized systems experienced a similar rate of significant decline in rides per capita ranging between 27% and 28.5%. The rapid decline in transit rides per capita during the 1990's indicates Ontario urban transit systems have lost a considerable share of a growing travel market, undoubtedly as automobile use has increased.

As illustrated by Exhibit 5, there is a positive relationship between city size and transit ridership. The per capita transit ridership for Toronto is 4.5 times greater and Ottawa's 3.0 times greater than the average per capita ridership for the mid-sized systems. Larger cities have the density and critical mass of development to support higher modes of urban transit such as subways, light rail systems and exclusive busways, which in turn make urban transit more attractive, thereby, generating more ridership. The low and declining ridership per capita for mid-sized transit systems, emphasizes the magnitude of their challenge to attract new riders and justify existing service levels to municipal councils that are facing extreme fiscal pressures due to the realignment of services (including the downloading of urban transit).

Transit Service Level Trends

Exhibit 6: Quantity of Service

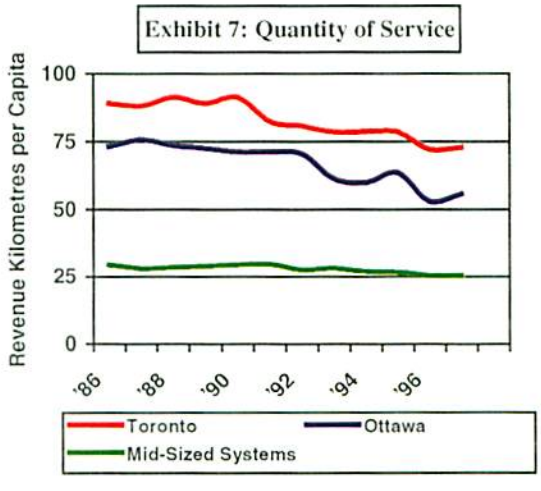


The significant ridership increases experienced by Ontario urban transit systems during the 1980's were due in large part to the considerable expansion of service. (Exhibit 6 & Table 7) Between 1980 and 1990, Toronto increased revenue kilometres of service by 20% while carrying 25% more riders. The mid-sized systems increased the amount of service at an even faster rate of 30% while carrying 22% more riders. Ottawa increased revenue kilometres of service at a more modest rate of 10% while carrying 9% more riders.

During the 1990's, Ontario transit systems significantly reduced the amount of service provided causing considerable loss of ridership. Between 1990 and 1996, when service levels were at their lowest, Toronto reduced revenue kilometres of service by 12% while ridership declined by 19%. Ottawa reduced service by 18% while losing 20% of its riders, though in 1996 there was a 24-day strike. The mid-sized systems on average reduced service by only 5%, yet experienced a 21% decline in ridership. Smaller transit systems have minimum levels of service, therefore, a service reduction is likely to have a significant impact on ridership. Conversely, larger systems with high levels of service can more easily absorb service reductions with less of an impact on ridership.

There were two pronounced service reductions during the 1990's. First, was early in the decade when sharp reductions occurred in response to ridership losses. The second round of service cuts occurred after 1995 when provincial subsidies began declining. For example, the TTC cut almost 4% of its service in 1991 and another 4% in 1996. Ottawa reduced its service by 11% in 1993 and by 10% between 1995 and 1997. The mid-sized systems undertook most of their service reductions during the early 1990's, and only reduced service by 1.4% in response to shrinking provincial subsidies. The staggering ridership losses of the early 1990's, may have signaled to the mid-sized transit systems that they are approaching a minimum service level threshold, beyond which, a downward ridership spiral will be precipitated and be difficult to recover from.

As was the case with ridership change between 1990 and 1996, the mid-sized systems also exhibited considerable variation in the amount of service provided during the same period. For example, transit systems in Windsor and London, which had the largest reductions in revenue kilometres of 23% and 18% respectively, also experienced the largest decline in ridership. Conversely, Brampton, which increased service by 13.1%, and Mississauga by 2.3% were the only two systems that experienced ridership growth between 1990 and 1996. Suprisingly, the amount of service in Oshawa was increased

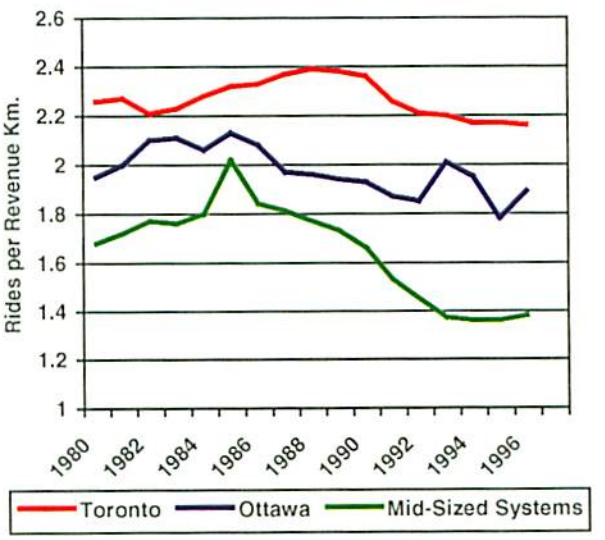


by 17.6%, yet a 17.8% decline in ridership was experienced.

In response to ridership growth during the 1980's, Toronto and the mid-sized systems increased service at a faster rate than population growth, as reflected by a 19% and 6% increase respectively in revenue kilometres of service per capita. In contrast, Ottawa was the only system that increased service at a slower rate than population growth, as reflected by a 9% decrease in the revenue kilometres of service per capita for the same period. Because of continued population growth during the 1990's, the reduction of transit service is magnified on a per capita basis. (Exhibit 7 & Table 8)

Similar to ridership, there is a positive relationship between city population size and the amount of transit service that is provided. The per capita revenue kilometres of service provided are almost 3 times more in Toronto and 2 times more in Ottawa than the level of service provided by mid-sized systems on average.

Exhibit 8: Service Utilization



During the 1980's, ridership increased faster than the amount of service provided, hence, service utilization as measured by riders per revenue kilometre increased as well. (Exhibit 8 & Table 9) During the 1990's, ridership declined faster than service was reduced, thereby, resulting in more capacity on transit systems in aggregate terms. In particular, between 1990

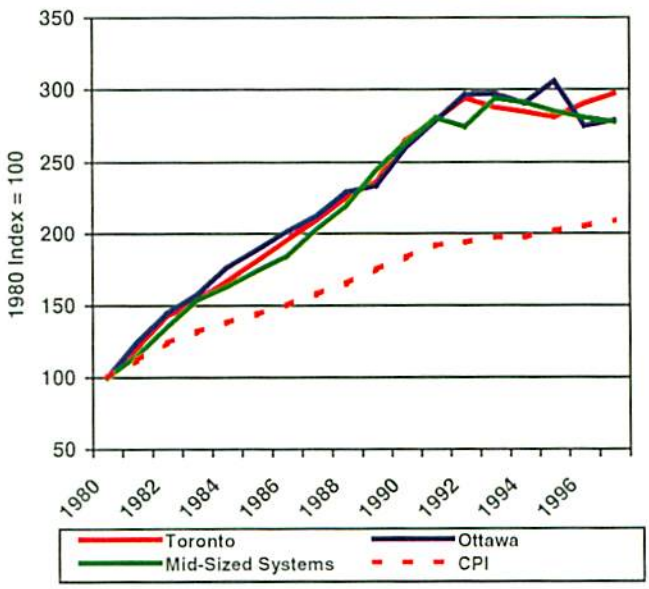
and 1996, mid-sized transit systems experienced a 16.8% decrease in the number of riders per kilometre from 1.66 to 1.38. Toronto experienced an 8.3% drop in service utilization from 2.36 to 2.16 riders per revenue kilometre. Ottawa had a slight decline of 2.0% from 1.93 to 1.89 riders per revenue kilometre.

The declining and low service utilization of mid-sized transit systems suggest they need to focus on strategies that increase ridership to fill excess capacity, otherwise, political and public concern with "empty buses" will intensify and may cause another round of service reductions.

Transit Costs and Efficiency Trends

During the 1980's, operating costs increased significantly and at a remarkably similar rate. (Exhibit 9 & Table 10) Between 1980 and 1990, operating costs increased by 165% in Toronto, 160% in Ottawa and 164% for the mid-sized systems. A small portion of this cost increase relates to service expansion of 10% in Ottawa, 20% in Toronto and 30% in mid-sized systems. Even though inflation increased by 83% during this period, it is evident that real unit costs must have increased significantly.

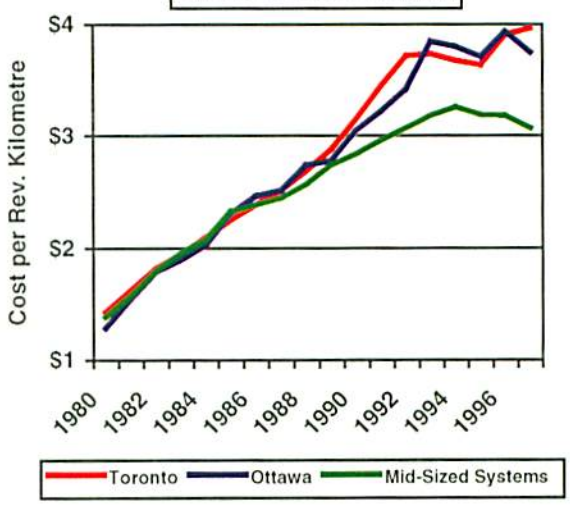
Exhibit 9: Transit Operating Costs



During the 1990's, Toronto and the mid-sized transit systems began to control operating expenditures primarily by reducing service levels in response to declining ridership. Specifically, operating costs for Toronto gradually declined by 4.5% between their peak level in 1992 until 1995. From 1995 to 1997, operating costs increased by 5.8% despite declining provincial subsidies. The mid-sized transit systems have gradually reduced operating costs by 5.5% between their peak level in 1993 and 1997. Ottawa, on the other hand, did not control operating costs until after 1995 when coincidentally provincial subsidies began to shrink. In Ottawa, operating costs were reduced by 8.8% between 1995 when costs reached their peak and 1997.

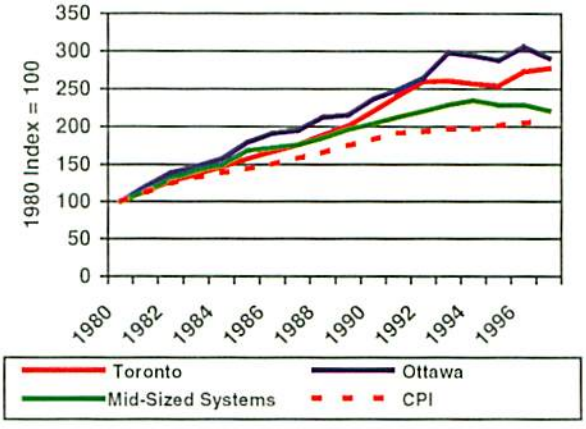
Between 1980 and 1997, unit costs as measured on a per revenue kilometre basis increased much more rapidly in the larger systems. (Exhibit 10 & 11, Tables 11,12) The cost per revenue kilometre increased in real terms by 32.7 % in Toronto and 39.2% in Ottawa, while only by 5.6% for mid-sized systems. Up until the late 1980's, unit costs were quite similar among all size categories. After that point, per unit costs for the larger systems increased at a much faster rate than the mid-sized systems on average. In 1997, relative to the average unit cost of $3.07 per revenue kilometre for mid-sized transit systems, the cost per revenue kilometre was $3.97 or 29.3% higher in Toronto and $3.75 or 22.3% higher in Ottawa.

Exhibit 10: Cost Efficiency



There are likely a variety of causes why diseconomies of scale as measured on a unit cost basis have appeared and increased since the late 1980's. First, there may have been accelerating costs associated with operating and maintaining subways, L.R.T.'s and exclusive busways. These infrastructure costs are not incurred by the smaller, bus-only transit systems. Second, the larger systems reduced services to a greater extent than the smaller systems, therefore, average unit costs would increase more because fixed-costs are spread over less kilometres of service. Third, larger unions may have had more leverage to negotiate more lucrative collective agreements than smaller unions. Finally, the larger systems may have experienced increasing traffic congestion requiring additional rolling stock to maintain the same frequency of service.

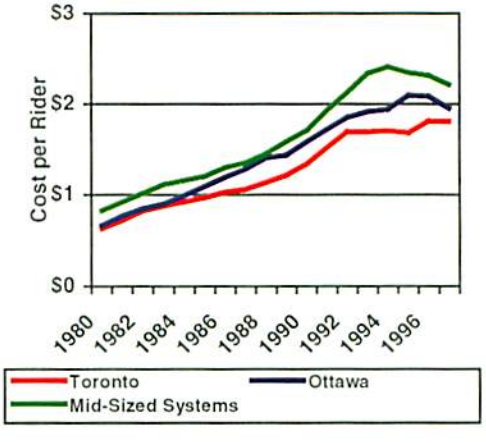
Exhibit 11: Cost Efficiency



While diseconomies of scale exist when the output measure is kilometres of service, economies of scale occur when the output measure is transit riders. (Exhibit 12 & Table 13)

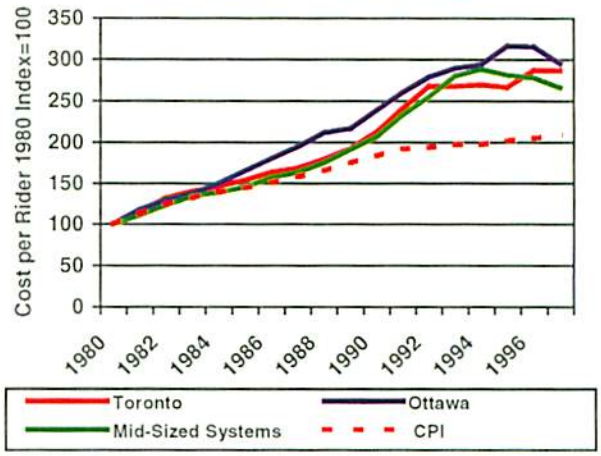
The lower operating cost per rider for larger systems reflects that the marginal cost of carrying additional riders is lower than smaller transit systems because of the greater carrying capacity of subways, LRT's and articulated buses operating on exclusive busways.

Exhibit 12: Cost Effectiveness



Even though transit systems experienced considerable ridership increases during the 1980's, the cost per rider still increased faster than inflation, particularly for Ottawa. (Exhibit 13 & Table13) To a large degree, this reflects the real increase in cost per kilometre of service and the inefficiency of extending service to the suburbs resulting in "longer trip lengths and fewer passengers per vehicle."[28] During the 1990's, the real cost per rider increased much more significantly, reflecting rapidly increasing average unit costs particularly for larger systems and rapidly declining ridership.

Exhibit 13: Cost Effectiveness



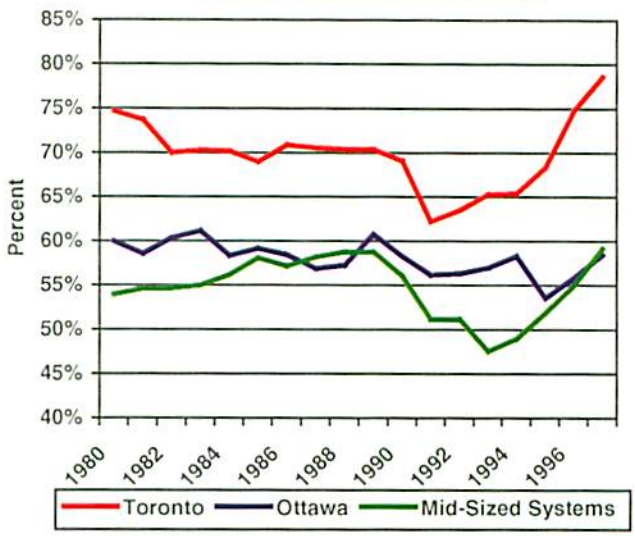
Revenue and Fare Trends

During the 1980's, Toronto typically recovered slightly more than 70% of operating costs from system revenues including passenger fares, charter and advertising revenues. (Exhibit 14 & Table 14) Ottawa had a cost-recovery consistently in the range of 57% to 61%, while the mid-sized systems gradually increased their cost-recovery from approximately 55% during the first five years to roughly 58% during the latter half of the decade. While the average fare would vary from year to year, the actual average fare and its rate of growth were remarkably similar for Toronto, Ottawa and mid-sized systems. For most Ontario transit systems, ridership growth combined with regular fare increases, funded significant service expansion while maintaining a healthy financial position throughout most of the decade

[28] Pucher, Transit in Trouble?, p. 281.

In contrast, when the ridership slump of the early 1990's began, the cost-recovery ratio for Toronto declined to a low of 62.2% in 1992 and to a low of 47.5% for mid-sized systems in 1993. Except for a low of 53.5% in 1995, Ottawa's cost-recovery was consistently within the range of 56% to 58% for most of the 1990's.

Exhibit 14: Cost-Recovery Ratio



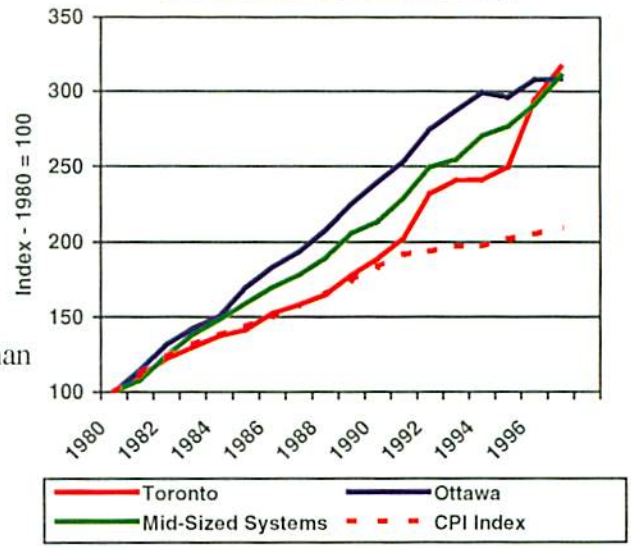
In recent years, Toronto's cost-recovery has skyrocketed to 78.6% in 1997, while mid-sized systems on average and Ottawa have gradually increased their cost-recovery to 59.1% and 58.4% respectively. A large contributing factor to changes in cost-recovery is due to changes in the average fare. After years of having similar trends, the average fare has recently shown considerable divergence. From 1995 to 1997, the average fare increased by 26.7% to $1.42 for Toronto, by 12.3% to $1.30 for mid-sized systems and by only 4.5% to $1.14 for Ottawa. (Exhibit 15 & Table15)

In anticipation of the elimination of provincial subsidies, Toronto appears to have been the most aggressive in reducing the operating subsidy burden from 31.6% in 1995 to 21.4% in 1997. The jury is still out on whether the significant increase in the average fare is a successful strategy. Recent ridership growth may not be sustainable and simply is a temporary phenomenon due to an improving economy.

In contrast, Ottawa has minimized the increase in average fare in recent years, probably as an attempt to reverse the trend of ridership decline since 1985, and to recover some ridership loss from the strike in 1996. The mid-sized transit systems are somewhere in the middle with their average fare increases. Excessive fare increases would not be a prudent strategy given the considerable ridership losses during the 1990's.

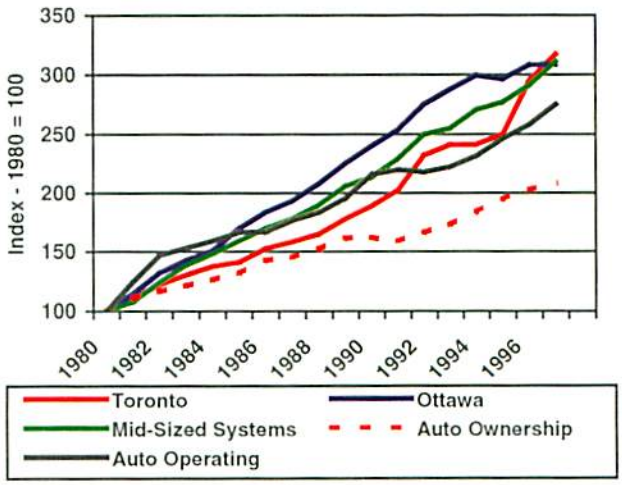
For most of 1980's, the average fare in Toronto increased near the rate of inflation and below the rise in automobile operating costs. (Exhibits 15,16 & Table 15) Both Ottawa and to a lesser extent the mid-sized systems had average fare increases higher than inflation and the increase in automobile ownership costs during most of the decade.

Exhibit 15: Average Fare vs. CPI



During the 1990's, Toronto, Ottawa and the mid-sized systems increased their average fares at a rate faster than inflation, and faster than the rise in the cost to own and operate an automobile. Until recently, Ottawa had the fastest average fare increase followed by the mid-sized systems, then Toronto. Since 1995, the rate of increase in the average fare

Exhibit 16: Average Fare vs. Auto Trends



for Toronto has rapidly surpassed both Ottawa and the mid-sized systems.

In contrast to the 1980's, the average fare for most of Ontario urban transit systems during the 1990's has not only increased faster than inflation, but more disconcerting is that the increase is faster than the rise in the cost to own and operate an automobile. Transit systems need to be concerned that they are outpricing themselves vis-à-vis the automobile. Moreover, given the significant service reductions during the same period, the overriding concern should be whether ridership losses are long-term despite recent marginal gains.

Fare Structures[29]

By looking at how the fare structures among the twelve transit systems have changed over the last ten years, some insight can be gained on how transit systems responded to declining ridership and fiscal pressures.

In 1987, two of the twelve transit systems did not offer a type of transit pass. In 1998, all of the twelve transit systems offered either a monthly pass (10) or a weekly pass (2). Based on paying the lowest adult cash or ticket fare, the break even number of trips an adult would have to take during a month in order to equal the cost of a monthly transit pass averaged 42.6 trips in 1987 and 41.3 trips in 1998. It is evident that little attempt was made during this period to further discount transit passes as a method of increasing ridership.

[29] All fare information in this section was obtained from the CUTA Fare Structure Details annual report for 1987 and 1998.

Similarly, eight of the twelve transit systems provided tickets in 1987 that offered an average discount of 8.5% from the adult cash fare. In 1998, the number of systems providing tickets increased to ten with an average discount of 20.8%. It is evident that more transit systems are now using tickets that offer a greater discount from the cash fare as a way to attract riders. Rather than rely on increasing ridership to fund the ticket discount, it appears that transit systems have implemented a higher cash fare for all rider types. The premise is that the infrequent rider, who typically pays in cash, is less sensitive to a higher fare than the more frequent rider who benefits from a lower ticket price and will likely ride more frequently. In order to fund the ticket discount, nine of the twelve transit systems charge the adult cash fare to all rider types. Students and seniors must purchase tickets or a pass to receive a fare discount.

The average discount provided to seniors and students by the twelve transit systems between 1987 and 1998 has decreased relative to the corresponding adult fare. The senior discount on passes has declined from 53% to 30%, and ticket discount from 31% to 23%. Students saw their pass discount decline from 30% to 16%, and ticket discount from 27% to 18%. It should be noted that annual senior transit passes provided by Hamilton and Mississauga were not factored in the above discount pricing analysis. The annual senior passes provide hefty discounts of approximately 80% and are funded by transit operating budgets.

In 1987, Ottawa was the only transit system in Ontario that had a fare structure related to distance and time. During peak periods, a significant premium fare was charged on express and non-local feeder routes. During the off-peak, all fares were discounted and applied to all

routes. In January 1996, the peak/off-peak component of the fare structure was discontinued and a premium charge is applied only to express routes.

A classic example of volume discount as a pricing strategy is the low cost transit passes for post-secondary students. Transit systems in Hamilton, London, Guelph, Kingston and Peterborough have negotiated with student federations low cost transit passes that most undergraduates must obtain and pay through ancillary fees. The extremely low cost of the pass makes it attractive even to students who have access to an automobile. Clearly, this is an effective pricing strategy for transit systems to increase ridership among post-secondary students and by reducing student parking demand can facilitate development intensification of campuses or reduce the need for parking expansion to accommodate increasing student enrollment. For transit systems such as Toronto, where a high market share of post-secondary student travel is already using the TTC, this type of pricing strategy would simply mean less fare revenue.

Similarly, in order to increase the number of work trips on transit, major employers are being encouraged to subsidize the price of transit passes for their employees, often with a discount also being provided by the transit system. Unlike the U.S., there are limited applications of the "corporate transit pass" in Canada, primarily because employer subsidies for transit passes are considered an employee taxable benefit. The transit industry in Canada through CUTA is currently lobbying the federal government to change tax regulations so that employer subsidized transit passes are not a taxable benefit, as is the case with free employee parking.

Urban Transit Productivity Trends

The fiscally constrained environment that municipalities currently operate in suggests that the productivity levels of urban transit systems will come under greater scrutiny, particularly now that the total subsidy burden for urban transit is a municipal responsibility. The urban transit industry uses primarily two productivity indicators; the number of revenue kilometres of service per bus operator paid hour and similarly the number of revenue hours of service per operator paid hour. (Table 17)

Between 1985 and 1997, Toronto experienced a decline in productivity of 16.8% on a revenue kilometre basis and 16.3% on a revenue hour basis. Despite this significant decline, the productivity indicators for Toronto were still higher than Ottawa and the mid-sized systems in 1997.

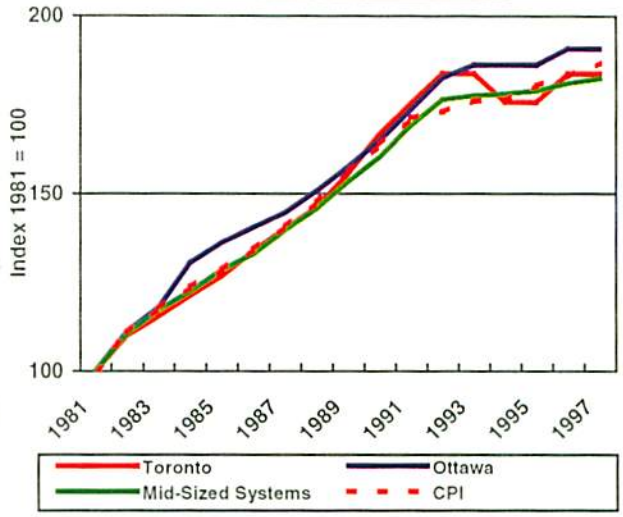
During the same period, Ottawa had a slight increase in productivity on a kilometre basis but had an 8.6% decline in hourly productivity. The productivity for Ottawa was consistently lower than Toronto and the mid-sized transit systems for most years. In 1997, the productivity on a kilometre basis for Ottawa was 9.3% lower than Toronto and 5.1% less than the mid-sized systems. On an hourly basis, Ottawa's productivity was roughly 20.0% less than Toronto and the mid-sized transit systems. On average, the mid-sized transit systems had no change in productivity on a kilometre basis but had a 3.6% decline in productivity on an hourly basis.

In interpreting these results one has to be cautious of data accuracy. For example, in a few instances transit systems reported the same number of operator paid hours for two consecutive years despite changes in the kilometres and hours of service reported. Similarly, the TTC notes in 1997 that operator paid hours also includes the pay of other operations personnel. It is uncertain whether this is a practice that began in 1997 or in an earlier year, and it raises a question of how other transit systems calculate this indicator and how consistent this method has been applied over the years.

Despite the uncertainty of data accuracy, there is, as would be expected under normal circumstances, a correlation between average unit costs and labour productivity. Because bus operator wages and benefits account for a significant amount of transit operating costs, a change in labour productivity would effect a similar change in unit operating costs. For example, the lower productivity in Toronto during the 1990's in comparison to the late 1980's parallels a similar trend for the average cost per revenue kilometre. Similarly, the lower productivity for Ottawa throughout this period reflects in a higher cost per revenue kilometre particularly in comparison to the mid-sized transit systems.

In order to determine whether provincial transit subsidies may have fueled higher labour costs, the rate of increase of the top operator wage rate is compared to inflation. (Exhibit 17 & Table 18) A more accurate indicator of labour costs would include fringe benefits and pay premiums that are common in the transit industry. The latter typically relate to length of shift, driving during evenings and Sundays, travelling between split shifts and guaranteed paid hours. While fringe benefits and pay premiums represent a significant percent of labour costs, extensive data collection would be required to include them in a measure of labour costs.

Exhibit 17: Operator Wage Rate



Despite the limitations of the top operator wage rate as an indicator, some general observations of labour costs can be made. Between 1981 and 1997, the operator wage rate for Ottawa increased faster than inflation. This was not only true for the 1980's, but also surprisingly even for most of the 1990's when transit systems were under pressure to control costs. To a certain extent, a rapidly increasing operator wage rate relates to the lower labour productivity trend for Ottawa noted previously.

In contrast, the operator wage rate for Toronto paralleled inflation during the 1980's and exhibited a rollercoaster trend during the 1990's – higher than inflation in the early 1990's and

lower than inflation in later years. Mid-sized systems were best able to control labour costs as the top operator wage rate mirrored inflation for most years.

Summary and Public Policy Implications

The demographic, land-use and socio-economic changes of the 1990's have put into question the type of future that lies ahead for urban transit in Ontario. Despite the significant growth of urban areas in the last 15 years or so, many urban transit systems are now carrying barely the same number of riders they did in 1980. The urban transportation balance is tilting perilously close to where the only option for many residents will be the automobile. Urban sprawl, facilitated by the automobile, is now threatening the reputation of Ontario cities for their vibrant downtowns, thriving inner-city neighbourhoods, pedestrian friendliness and quality transit systems. If a balance in urban transportation is to be re-established in favour of alternative modes to the automobile, an integrated public policy approach that results in adequate and stable transit funding, compact urban development and higher cost of automobile travel is required.

The current elimination of provincial funding for urban transit in Ontario contradicts the integrated policy approach needed for balanced urban transportation systems. Whereas in the past, urban transportation policies accommodated unfettered increases in automobile use, while providing significant provincial funding for urban transit, today the financial burden for urban transit rests solely with municipalities. As summarized below, the consequences of this policy change has dire consequences for urban transit.

Transit operating subsidies began to gradually decline during the early 1990's, as Ontario transit systems reduced service levels and increased fares in response to declining ridership. Of greater concern is that the funding decline accelerated at an alarming rate when provincial transit subsidies began to dwindle. In real terms, transit operating funding in 1997 was 45% less than operating funding in 1985. Municipalities were not able to make up the provincial shortfall in transit operating subsidies, since at the same time, municipalities were facing financial pressures due to the realignment of services and resistance to property tax increases by residents.

Reduced transit subsidies led to significant service reductions and fare increases, which exacerbated ridership losses during the 1990's. Mid-sized transit systems are now the most vulnerable to any further service reductions that may send ridership into a perpetual downward ridership spiral. Paradoxically, mid-sized transit systems are likely to come under greater political pressure to reduce service since the decline in riders per revenue kilometre of service will likely prompt intense questioning of "empty buses".

Similar to Pucher's analysis of fare trends in Canada, the results indicate that the large and mid-size transit systems in Ontario have not been pricing themselves competitively. During the 1990's, the average transit fare for large and mid-size transit systems has increased faster than inflation and faster than the rise in cost to own and operate an automobile. Again, mid-sized transit systems should be alarmed that their average fare has been higher than Ottawa's during most of the 1980's and 1990's and until recently, higher than Toronto's average fare during the 1990's. Borrowing from Frankena's concept of cross-elasticity of demand, it

would appear that mid-sized transit systems would be the most vulnerable to the negative effects of high fares, given the lower cost of parking and less congestion typical of smaller cities.

Similar to Pucher's recommendation for deeply discounted tickets and passes as a means for transit systems to reprice themselves competitively, most of the transit systems reviewed offered adult tickets that provided a much higher discount in 1998 then in 1987. On the other hand, transit systems were reluctant to further discount adult monthly transit passes during the same period.

Several transit systems are currently able to offer low-cost semester passes to post-secondary students by virtue that all undergraduates must purchase the pass. In contrast, employer-subsidized transit passes have had limited implementation primarily because they are a taxable benefit to the employee.

Similar to Pucher's findings that transit unit costs in Canada have increased faster than inflation between 1980 and 1995, Toronto and Ottawa exhibited significant increases in real terms in the cost per revenue kilometre during a similar period. On the other hand, mid-sized transit systems were more effective in controlling average unit costs, which increased in real terms by less than 6.0 % between 1980 and 1997.

Despite concerns with data accuracy, there appears to be a correlation between changes in average unit costs per kilometre and changes in labour productivity and bus operator wage rates. Mid-sized transit systems were best able to keep labour costs in line with inflation. Whereas there are diseconomies of scale on an average cost per kilometre basis, the larger transit systems exhibit economies of scale on a cost per rider basis. The higher capacity modes of larger transit systems means the marginal cost of carrying additional riders is less than the smaller bus-only systems.

In marked contrast to operating funding trends, capital funding increased significantly in recent years primarily as a result of the province's funding commitment to the TTC capital budget. For the rest of Ontario urban transit systems, if municipal actions regarding operating subsidy are an indication, it is likely that the elimination of provincial capital funding will result in older bus fleets in Ontario as time goes on.

Certainly, the evidence regarding operating subsidy levels suggests that municipalities are going to require a stable funding source other than the property tax in order for adequate transit service levels to be provided and for the "post-1990 price gap between autos and transit" to be closed.[30] If the only funding option for municipalities is the property tax, the next economic downturn will likely be even more devastating to the transit industry than the previous one.

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[30] Pucher, Transit in Trouble? , p. 287.

Some form of provincial conditional grant program for urban transit should be reinstated, or alternatively, municipalities should be given the legislative authority to impose a surcharge on vehicle registration fees or the motor fuel tax that is dedicated to funding urban transit. The advantages of increasing the cost of auto use are that the pricing gap between transit and auto is narrowed and the external costs of auto use are passed on to the auto user. The disadvantage of this approach is that it will likely create a political backlash, as auto users will perceive the surcharges as a tax grab. The auto lobby has already formally positioned itself against any cost increases directed at auto users, claiming drivers pay their full share of costs, including externalities.[31] Nevertheless, if the auto surcharges are dedicated to funding urban transit there is likely to be greater acceptance even from auto users who are also likely concerned with air quality issues. As well, the more transit systems can enhance services and attract ridership the less congested the road system will be.

While the federal government has no legislative jurisdiction over urban transit, the Kyoto protocol on air quality suggests that the federal government should play a role in urban affairs. At a minimum, the federal government needs to change existing tax regulations that consider employer-subsidized transit passes an employee taxable benefit.

While transit systems have attempted to price themselves competitively by introducing discount tickets they have not gone the next step of providing low cost adult monthly passes, which are now priced at a minimum of roughly 40 trips a month. In particular, mid-sized transit systems that are competing with extremely cheap parking in their core areas and who

[31] Z.A.. Spindler, Automobiles in Canada: a reality check, Report to Canadian Automobile Association, Ottawa: 1997) p. 4.

have more available capacity, need to discount their monthly passes even further if they are to regain some of their lost ridership. In order to implement this strategy more operating subsidies will be required.

Transit systems need to improve their efficiency and productivity if they are to regain political support for increased transit subsidies and if service outputs are to be maximized. In particular, larger transit systems need to get control of their average unit costs, which have outstripped inflation and the average unit cost increases of mid-sized systems since the late 1980's. While this issue requires further research, two initiatives that should be given serious consideration are more extensive traffic priority measures for transit vehicles that operate in high levels of congestion and measures to control labour costs.

In order for urban transit in Ontario to regain some of the travel market share, improved service levels and more competitively priced transit fares will require increased subsidy levels. In today's fiscally constrained environment where health and education lead the public agenda, resources for urban transit may need to be found in large capital expansion projects. As Perl and Pucher state,

> "Under today's declining ridership trend, major projects like Toronto's subway extensions will impose enormous costs on provincial and municipal treasuries. Given the reality of transit's current competitive disadvantage, governments should consider slowing down, postponing, or even cancelling such large capital outlays in order to rebuild the market for transit use."[32]

[32] Pucher and Perl, Transit in Trouble?, p. 288.

The challenge to reduce auto-dependent urban development is a formidable one. While provincial planning statements are supportive of compact urban development, the current provincial government reduced their potential effectiveness by diluting the adherence municipal plans must have to the policies from "be consistent with" to "shall have regard to". Similarly, the recent partitioning of service and financial responsibilities has left municipalities more dependent on assessment revenues and, therefore, now more likely to be accepting of auto-oriented development then before. In essence, the elimination of provincial transit subsidies thought by the "Who Does What" panel to be an incentive for municipalities to plan for transit-supportive development, will in fact, have the opposite effect.

In a decade when Ontario has witnessed devastating ridership losses, the financial challenges of urban transit are compelling. The continued ambivalence towards urban transportation and urban development simply means less differentiation between Canadian cities and their auto-dominated American counterparts as time goes on. "Throughout the post-war decades, urban transit has served as a bellwether for the quality of urban life in Canada. With transit now in trouble, can the vitality of cities be far behind?"[33]

[33] Pucher and Perl, Transit in Trouble?, p. 291.

Appendix A

Appendix A – Tables 3 to 18

Table 3: Urban Transit Operating Funding in Ontario, 1985 to 1997

	1985	1990	1991	1992	1993	1994	1995	1996	1997
Revenue as % of Operating Costs	57.4%	60.2%	57.9%	58.6%	59.0%	59.6%	61.1%	66.5%	70.8%
Operating Subsidy as % of Operating Costs	42.6%	39.8%	42.1%	41.4%	41.0%	40.4%	38.9%	33.5%	29.2%
Total Operating Subsidy (millions of nominal $)	$328.9	$426.7	$452.2	$462.8	$457.2	$445.7	$438.4	$375.3	$331.1
Provincial Operating Subsidy (millions of nominal $)	$127.0	$189.4	$201.2	$212.6	$212.4	$210.1	$200.5	$173.7	$150.3
Municipal Operating Subsidy (millions of nominal $)	$201.9	$237.3	$251.0	$250.2	$244.8	$235.6	$237.9	$201.6	$180.8
Provincial Share	38.6%	44.4%	44.5%	45.9%	46.5%	47.1%	45.7%	46.3%	45.5%
Municipal Share	61.4%	55.6%	55.5%	54.1%	53.5%	52.9%	54.3%	53.7%	54.5%

Source: CUTA Operating Fact Book

Table 4: Urban Transit Capital Funding in Ontario, 1985 to 1997

	1985	1990	1995	1996	1997
Capital Funding (millions of nominal $)	$213.9	$201.4	$314.4	$406.8	$550.0
Provincial Subsidy (millions of nominal $)	$143.4	$141.4	$231.5	$303.2	$371.0
Municipal Subsidy (millions of nominal $)	$70.6	$60.0	$82.9	$103.6	$179.0
Provincial Share	67.0%	70.2%	73.6%	74.5%	67.5%
Municipal Share	33.0%	29.8%	26.4%	25.5%	32.5%

Source: CUTA Operating Fact Book

...Appendix A

Table 5: Transit Ridership (millions), 1980 to 1997

Transit System	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Toronto	366.4	392.0	401.2	405.7	418.1	432.2	441.0	456.9	463.5	450.7	459.2	424.2	404.3	393.5	388.3	388.2	372.4	379.9
Ottawa	74.2	78.9	83.5	85.4	87.2	85.0	83.0	81.1	80.4	80.0	80.7	79.2	78.6	76.1	73.3	71.7	64.7	69.9
Hamilton	28.7	28.4	21.8	25.7	25.9	29.3	29.3	29.0	27.7	27.3	26.4	24.2	22.9	21.5	20.7	20.4	19.7	19.7
Kitchener	8.3	8.4	9.0	9.0	9.4	9.7	10.0	10.0	9.7	9.3	9.3	9.1	8.6	8.4	8.2	8.3	8.0	8.2
London	15.8	18.7	19.8	19.4	19.8	19.2	19.1	19.3	18.9	18.3	17.8	16.3	14.5	13.4	12.4	12.1	11.9	12.1
Mississauga	10.6	12.0	12.4	12.9	13.5	12.6	14.7	16.4	17.9	19.5	21.0	21.1	20.3	20.2	20.0	20.7	21.4	23.3
Windsor	7.4	4.8	8.2	8.4	8.6	9.8	9.9	10.0	10.7	12.1	12.6	9.7	8.0	7.1	5.9	5.7	6.1	5.9
Guelph	3.5	3.5	3.7	3.8	4.3	4.1	3.8	3.9	3.3	3.4	3.6	3.5	3.3	3.1	3.3	3.4	3.2	3.4
Brampton	3.6	4.0	4.2	4.2	4.5	4.6	NA	4.8	5.0	5.7	4.9	5.8	5.5	4.8	4.6	4.9	5.0	5.5
Oshawa	3.3	3.4	3.5	3.7	3.6	3.7	3.7	3.8	3.8	3.6	3.7	3.6	NA	2.8	3.1	3.2	3.2	3.4
Sudbury	4.0	NA	4.7	5.3	5.0	4.1	5.0	5.1	5.2	4.8	4.7	4.7	4.5	4.1	3.9	3.8	3.6	3.4
Thunder Bay	NA	5.3	6.0	4.9	4.7	4.5	4.1	3.5	4.4	4.5	4.4	4.1	3.6	3.5	3.4	3.4	3.5	3.4
Mid-Sized Systems	85.1	83.1	87.3	92.3	94.6	97.1	95.5	102.3	102.2	104.1	103.9	97.9	87.6	85.3	82.2	82.4	82.0	85.1
Ontario					671.1	685.3	687.6	684.0	691.7	690.0	696.4	650.2	616.6	597.3	584.2	582.7	558.3	570.5
Canada					1371.6	1434.1	1536.2	1500.0	1538.4	1519.3	1532.4	1449.8	1398.7	1370.1	1353.2	1354.2	1346.5	1378.9

Source: CUTA Operating Fact Book

...Appendix A

Table 6: Transit Ridership per Capita

Transit System	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Toronto	173.4	183.2	187.7	189.8	195.6	202.1	207.0	208.4	218.1	211.3	215.2	186.4	177.6	172.9	170.6	170.6	156.1	159.3
Ottawa	152.5	160.0	167.1	168.8	171.6	158.0	152.2	148.7	143.8	140.9	137.5	133.2	130.2	123.4	117.1	112.8	100.4	106.9
Hamilton	62.3	61.7	47.4	62.0	62.7	75.9	75.8	73.6	70.4	69.4	64.7	60.4	54.6	53.5	51.5	48.8	48.4	48.5
Kitchener	43.0	43.4	45.1	44.4	45.9	46.0	46.5	44.8	42.2	39.8	39.5	37.0	34.0	33.7	33.7	32.9	32.5	29.9
London	61.2	70.2	73.4	72.5	72.1	70.0	69.0	68.9	67.5	62.7	60.1	54.5	47.9	44.1	41.1	39.8	39.1	37.1
Mississauga	36.5	39.3	39.6	38.3	38.7	36.1	40.9	43.0	45.5	46.2	47.6	46.3	44.7	43.0	40.9	41.0	37.2	39.8
Windsor	37.8	23.5	41.9	43.6	44.5	52.4	53.1	51.0	54.8	62.2	65.2	50.2	41.6	36.7	30.3	29.2	30.3	29.5
Guelph	47.4	47.3	47.8	49.5	55.6	50.8	46.9	47.1	40.8	40.5	42.5	39.7	37.6	35.6	34.9	36.1	33.7	35.1
Brampton	25.9	27.1	27.3	22.0	27.4	27.0	N/A	24.1	24.6	26.0	21.8	25.3	23.0	19.6	18.9	19.1	18.8	19.7
Oshawa	28.6	28.9	29.4	30.8	30.0	30.2	29.9	30.9	31.2	27.9	28.9	27.9	N/A	21.4	23.8	24.1	22.7	24.6
Sudbury	43.4	N/A	45.8	51.8	48.6	39.3	47.6	50.7	52.5	48.7	47.4	47.1	44.7	33.5	31.9	35.6	33.8	32.0
Thunder Bay	N/A	47.6	54.0	44.2	41.4	39.2	36.6	31.2	38.9	40.6	39.4	36.3	32.3	31.5	29.9	30.5	31.3	30.3
Mid-Size Systems	46.8	47.1	46.6	48.3	49.3	50.8	53.9	50.6	50.5	49.9	48.8	45.3	39.8	38.4	36.6	36.1	34.9	35.1
Ontario					103.8	106.1	108.9	106.9	108.3	102.9	98.9	89.8	83.4	79.9	77.1	76.6	71.7	75.8
Canada					99.5	109.3	112.4	107.6	109.3	107.3	103.7	96.4	92.5	86.9	85.2	83.9	84.1	84.2

Source: CUTA Operating Fact Book

...Appendix A

Table 7: Revenue Kilometres of Service (000's), 1980 to 1997

Transit System	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Toronto	162,142	172,743	181,579	182,047	183,732	185,919	189,618	193,025	193,817	189,751	194,636	187,450	183,221	178,460	179,066	178,509	172,121	173,484
Ottawa	38,022	39,411	39,767	40,556	42,357	39,886	39,937	41,253	41,024	41,158	41,772	42,324	42,495	37,796	37,485	40,305	34,197	36,358
Hamilton	15,978	16,015	12,010	14,562	14,605	13,414	13,276	13,598	13,687	13,771	14,022	13,828	13,436	13,279	13,414	13,285	12,084	12,229
Kitchener	4,739	5,097	4,894	4,407	4,780	5,067	5,116	5,208	5,261	5,454	5,649	5,773	5,800	5,738	5,759	5,854	5,792	5,635
London	8,886	9,090	9,765	9,836	10,171	10,428	10,863	11,232	11,321	11,403	11,550	11,560	10,530	10,237	9,766	9,821	9,493	9,296
Mississauga	7,568	8,643	8,298	8,830	8,372	8,387	10,107	10,622	11,232	13,216	15,324	15,891	16,490	16,560	15,198	15,553	15,670	17,437
Windsor	4,646	3,110	4,873	4,692	4,513	4,514	5,005	4,827	4,998	5,110	5,144	4,440	4,642	4,224	3,882	3,946	3,959	4,007
Guelph	1,263	1,265	1,357	1,436	1,477	1,487	1,513	1,442	1,575	1,580	1,100	1,742	1,124	1,746	1,819	1,860	1,883	1,931
Brampton	2,208	2,426	2,936	3,150	3,078	3,159	NA	3,612	3,840	3,970	3,970	4,629	4,810	4,703	4,464	3,929	4,491	4,507
Oshawa	1,998	1,825	1,825	1,825	2,000	2,040	2,074	2,257	2,186	2,165	2,243	2,080	NA	2,342	2,576	2,637	2,637	2,637
Sudbury	3,211	NA	3,150	2,767	2,569	2,214	2,577	2,576	2,647	2,628	2,824	2,998	3,063	2,937	2,758	2,734	2,680	2,691
Thunder Bay	NA	3,825	3,644	3,589	3,576	3,626	3,634	3,074	3,385	3,606	3,600	3,635	3,065	3,236	3,204	3,340	3,377	3,270
Mid-Sized Systems	50,498	51,296	52,753	55,093	55,140	54,335	54,163	58,448	60,132	62,903	65,425	66,576	62,958	65,003	62,840	62,959	62,064	63,640

Source: CUTA Operating Fact Book

...Appendix A

Table 8: Revenue Kilometres per Capita, 1980 to 1997

Transit System	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Toronto	76.72	80.74	84.95	85.17	85.96	86.96	89.02	88.03	91.18	88.94	91.23	82.37	80.51	78.42	78.68	78.44	72.16	72.73
Ottawa	78.14	79.94	79.61	80.15	83.38	74.13	73.21	75.62	73.42	72.43	71.23	71.14	70.38	61.34	59.90	63.43	53.02	55.62
Mid-Size Systems	27.79	27.31	26.36	27.36	27.41	25.21	29.34	27.94	28.52	28.88	29.46	29.57	27.47	28.10	26.90	26.52	25.33	25.22
Ontario					49.70	34.17	51.18	50.33	50.91	49.12	48.12	46.09	44.29	42.66	41.52	41.68	38.73	40.33

Source: CUTA Operating Fact Book

Table 9: Riders per Revenue Kilometre, 1980 to 1997

Transit System	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Toronto	2.26	2.27	2.21	2.23	2.28	2.32	2.33	2.37	2.39	2.38	2.36	2.26	2.21	2.20	2.17	2.17	2.16	2.19
Ottawa	1.95	2.00	2.10	2.11	2.06	2.13	2.08	1.97	1.96	1.94	1.93	1.87	1.85	2.01	1.95	1.78	1.89	1.92
Hamilton	1.79	1.77	1.82	1.76	1.78	2.55	2.20	2.13	1.88	1.99	1.88	1.75	1.70	1.62	1.54	1.53	1.63	1.61
Kitchener	1.75	1.65	1.83	2.03	1.97	1.91	1.96	1.93	1.84	1.70	1.64	1.64	1.49	1.47	1.43	1.41	1.39	1.45
London	1.78	2.05	2.03	1.97	1.95	1.85	1.75	1.72	1.67	1.61	1.54	1.41	2.24	2.12	1.95	1.23	1.26	1.30
Mississauga	1.40	1.39	1.49	1.46	1.62	1.50	1.46	1.54	1.59	1.48	1.37	1.33	1.23	1.22	1.32	1.33	1.37	1.34
Windsor	1.59	1.55	1.69	1.79	1.90	2.17	1.98	2.06	2.14	2.37	2.45	2.18	1.73	1.68	1.52	1.44	1.53	1.47
Guelph	2.74	2.74	2.70	2.65	2.90	2.73	2.54	2.68	2.12	2.18	3.28	1.98	2.94	1.79	1.79	1.82	1.68	1.77
Brampton	1.65	1.65	1.44	1.34	1.47	1.45	NA	1.34	1.31	1.43	1.23	1.26	1.15	1.02	1.03	1.25	1.11	1.21
Oshawa	1.63	1.84	1.91	2.00	1.80	NA	1.77	1.69	1.73	1.65	1.65	1.72	NA	1.20	1.21	1.22	1.20	1.37
Sudbury	1.24	NA	1.48	1.91	1.93	1.85	1.94	1.97	1.96	1.83	1.66	1.57	1.46	1.38	1.40	1.38	1.34	1.26
Thunder Bay	NA	1.38	1.65	1.37	1.30	1.23	1.13	1.14	1.29	1.26	1.23	1.12	1.18	1.09	1.05	1.02	1.04	1.04
Mid-Size Systems	1.68	1.72	1.77	1.76	1.80	2.02	1.84	1.81	1.77	1.73	1.66	1.53	1.45	1.37	1.36	1.36	1.38	1.39

Source: CUTA Operating Fact Book

...Appendix A

Table 10: Transit Operating Costs (000's), 1980 to 1997

Transit System	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Toronto	$231,652	$280,805	$331,274	$355,266	$385,932	$418,460	$452,577	$485,487	$522,328	$546,640	$613,800	$646,866	$681,366	$666,843	$659,335	$650,542	$672,524	$688,576
Ottawa	$48,990	$61,091	$71,031	$77,066	$86,163	$92,330	$98,769	$104,065	$112,246	$114,351	$127,334	$136,271	$145,135	$145,506	$142,283	$149,709	$134,763	$136,508
Mid-Sized Systems	$70,406	$80,935	$95,087	$108,211	$114,470	$122,351	$129,657	$143,091	$154,592	$172,108	$185,698	$197,310	$193,222	$206,780	$204,982	$200,694	$197,583	$195,387

Source: CUTA Operating Fact Book

Table 11: Transit Operating Cost per Revenue Kilometre, 1980 to 1997

Transit System	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Toronto	$1.43	$1.63	$1.82	$1.95	$2.10	$2.25	$2.39	$2.52	$2.69	$2.88	$3.15	$3.45	$3.72	$3.74	$3.68	$3.64	$3.91	$3.97
Ottawa	$1.29	$1.55	$1.79	$1.90	$2.03	$2.31	$2.47	$2.52	$2.74	$2.78	$3.05	$3.22	$3.42	$3.85	$3.80	$3.71	$3.94	$3.75
Hamilton	$1.48	$1.73	$2.08	$2.27	$2.43	$2.79	$2.96	$3.00	$3.09	$3.31	$3.41	$3.57	$3.78	$4.05	$4.16	$3.60	$3.84	$3.65
Kitchener	$1.67	$1.63	$1.96	$2.29	$2.21	$2.34	$2.53	$2.46	$2.72	$2.93	$2.99	$3.14	$3.16	$3.16	$3.18	$3.17	$3.29	$3.22
London	$1.12	$1.36	$1.52	$1.63	$1.64	$1.78	$1.88	$1.87	$1.96	$2.17	$2.32	$2.47	$2.71	$2.73	$2.77	$2.68	$2.75	$2.88
Mississauga	$1.35	$1.36	$1.69	$1.76	$2.03	$2.19	$2.28	$2.49	$2.71	$2.76	$2.70	$2.83	$2.72	$3.07	$3.21	$3.30	$3.13	$2.72
Windsor	$1.46	$1.75	$1.73	$1.82	$2.00	$2.13	$2.10	$2.36	$2.37	$2.45	$2.65	$2.91	$3.12	$3.13	$3.39	$3.48	$3.53	$3.62
Guelph	$1.48	$1.78	$1.56	$1.87	$1.77	$1.89	$1.98	$2.23	$2.15	$2.27	$3.60	$2.25	$3.66	$2.46	$2.32	$2.37	$2.44	$2.36
Brampton	$1.26	$1.39	$1.47	$1.47	$1.66	$1.82	NA	$1.96	$2.11	$2.48	$2.48	$2.56	$2.61	$2.63	$2.81	$3.34	$2.88	$2.92
Oshawa	$1.43	$1.93	$2.21	$2.32	$2.22	$2.34	$2.54	$2.51	$2.77	$2.92	$3.02	$3.51	NA	$3.15	$2.67	$2.69	$2.68	$2.89
Sudbury	$1.39	NA	$1.70	$2.06	$2.17	$2.27	$2.48	$2.27	$2.43	$2.65	$2.72	$2.85	$2.75	$2.86	$2.99	$2.99	$3.01	$3.06
Thunder Bay	NA	$1.64	$2.02	$2.16	$2.21	$2.27	$2.42	$2.88	$2.81	$2.77	$3.04	$3.28	$3.61	$3.23	$3.09	$3.06	$3.05	$3.13
Mid-Size Systems	$1.39	$1.58	$1.80	$1.96	$2.08	$2.25	$2.39	$2.45	$2.57	$2.74	$2.84	$2.96	$3.07	$3.18	$3.26	$3.19	$3.18	$3.07

Source: CUTA Operating Fact Book

...Appendix A

Table 12: Transit Operating Cost per Revenue Kilometre, 1980 Index = 100

Transit System	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	% over inflation
Toronto	100.0	113.7	127.6	136.5	146.9	157.4	166.9	175.9	188.5	201.5	220.5	241.3	260.1	261.3	257.5	254.8	273.2	277.6	32.7%
Ottawa	100.0	120.2	138.5	147.3	157.7	179.4	191.7	195.5	212.1	215.4	236.3	249.6	264.8	298.4	294.2	287.9	305.5	291.1	39.2%
Mid-Size Systems	100.0	113.5	129.7	141.3	149.4	168.0	172.2	176.1	185.0	196.8	204.2	213.2	220.8	228.9	234.7	229.3	229.0	220.9	5.6%
CPI Ontario (all items)	100.0	112.0	124.0	131.8	138.2	143.8	150.2	157.8	165.3	174.8	183.3	191.9	193.8	197.3	197.3	202.1	205.2	209.1	

Source: CUTA Operating Fact Book, CANSIM Tables – Statistics Canada.

Table 13: Transit Operating Cost per Rider, 1980 to 1997

Transit System	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Toronto	$0.63	$0.72	$0.83	$0.88	$0.92	$0.97	$1.03	$1.06	$1.13	$1.21	$1.34	$1.52	$1.69	$1.69	$1.70	$1.68	$1.81	$1.81
Ottawa	$0.66	$0.77	$0.85	$0.90	$0.99	$1.09	$1.19	$1.28	$1.40	$1.43	$1.58	$1.72	$1.85	$1.91	$1.94	$2.09	$2.08	$1.95
Hamilton	$0.82	$0.97	$1.15	$1.28	$1.37	$1.27	$1.34	$1.41	$1.52	$1.67	$1.81	$2.04	$2.22	$2.50	$2.70	$2.35	$2.35	$2.26
Kitchener	$0.95	$0.99	$1.07	$1.13	$1.13	$1.22	$1.29	$1.28	$1.48	$1.72	$1.82	$2.00	$2.12	$2.16	$2.22	$2.25	$2.37	$2.22
London	$0.63	$0.66	$0.75	$0.83	$0.84	$0.96	$1.07	$1.09	$1.17	$1.35	$1.51	$1.75	$1.97	$2.09	$2.17	$2.18	$2.19	$2.21
Mississauga	$0.96	$0.98	$1.13	$1.21	$1.26	$1.46	$1.56	$1.61	$1.70	$1.87	$1.96	$2.13	$2.21	$2.52	$2.44	$2.47	$2.29	$2.04
Windsor	$0.92	$1.13	$1.03	$1.02	$1.06	$0.98	$1.06	$1.14	$1.11	$1.03	$1.08	$1.33	$1.80	$1.86	$2.23	$2.41	$2.31	$2.46
Guelph	$0.54	$0.65	$0.58	$0.71	$0.61	$0.69	$0.78	$0.83	$1.01	$1.04	$1.10	$1.14	$1.24	$1.37	$1.29	$1.30	$1.45	$1.33
Brampton	$0.76	$0.84	$1.02	$1.10	$1.13	$1.25	NA	$1.47	$1.61	$1.74	$2.02	$2.03	$2.28	$2.58	$2.72	$2.67	$2.59	$2.40
Oshawa	$0.88	$1.05	$1.15	$1.16	$1.24	$1.30	$1.43	$1.48	$1.61	$1.78	$1.83	$2.04	NA	$2.63	$2.21	$2.21	$2.24	$2.11
Sudbury	$1.12	NA	$1.15	$1.08	$1.13	$1.23	$1.28	$1.16	$1.24	$1.45	$1.64	$1.81	$1.87	$2.07	$2.14	$2.16	$2.25	$2.42
Thunder Bay	NA	$1.19	$1.23	$1.58	$1.70	$1.84	$2.14	$2.53	$2.18	$2.19	$2.48	$2.93	$3.06	$2.96	$2.96	$2.99	$2.94	$3.02
Mid-Sized Systems	$0.83	$0.92	$1.02	$1.11	$1.15	$1.20	$1.30	$1.35	$1.45	$1.58	$1.71	$1.93	$2.12	$2.33	$2.40	$2.34	$2.31	$2.21

Source: CUTA Operating Fact Book

...Appendix A

Table 14: Cost Recovery Trends, 1980 to 1997

Transit System	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Toronto	74.7%	73.7%	70.0%	70.3%	70.2%	69.0%	70.9%	70.6%	70.4%	70.4%	69.1%	62.2%	63.5%	65.3%	65.4%	68.4%	74.8%	78.6%
Ottawa	59.9%	58.5%	60.3%	61.1%	58.3%	59.1%	58.4%	56.8%	57.2%	60.7%	58.2%	56.1%	56.3%	56.9%	58.2%	53.5%	55.8%	58.4%
Hamilton	50.4%	49.6%	47.7%	46.5%	47.9%	57.9%	58.1%	58.6%	58.4%	58.0%	48.7%	45.9%	44.9%	41.8%	40.4%	46.5%	46.3%	50.1%
Kitchener	44.4%	59.0%	45.8%	48.0%	52.0%	50.2%	52.0%	58.5%	54.6%	52.2%	51.9%	48.8%	47.5%	48.5%	48.4%	49.2%	52.4%	56.1%
London	69.7%	70.9%	71.3%	71.4%	72.5%	71.2%	70.9%	70.9%	69.6%	71.4%	67.7%	59.3%	58.2%	57.8%	58.8%	59.3%	61.7%	65.3%
Mississauga	54.2%	56.0%	59.9%	57.8%	59.9%	53.8%	51.8%	52.3%	53.5%	53.8%	55.8%	53.1%	53.7%	45.8%	51.1%	51.1%	58.5%	65.6%
Windsor	54.0%	46.0%	62.7%	66.8%	66.4%	64.6%	60.9%	64.8%	70.6%	74.3%	74.1%	63.9%	58.2%	57.1%	55.1%	61.8%	61.3%	65.1%
Guelph	86.7%	78.9%	77.1%	79.1%	73.3%	72.2%	74.0%	67.8%	86.4%	85.3%	79.7%	74.3%	69.3%	63.5%	63.9%	63.4%	65.1%	67.6%
Brampton	47.9%	47.6%	49.2%	55.7%	59.4%	61.1%	NA	59.3%	58.7%	58.9%	58.3%	53.9%	57.9%	53.2%	58.2%	62.6%	62.2%	69.0%
Oshawa	52.4%	61.1%	63.6%	64.6%	65.1%	63.8%	61.6%	61.7%	63.3%	59.3%	61.6%	44.2%	NA	39.5%	41.9%	44.2%	53.0%	52.0%
Sudbury	44.1%	NA	48.4%	52.8%	53.0%	51.0%	52.2%	53.8%	52.7%	52.1%	55.0%	50.4%	53.1%	53.3%	51.6%	56.1%	60.4%	59.0%
Thunder Bay	NA	33.9%	32.7%	34.7%	33.5%	34.7%	32.7%	29.2%	33.9%	33.4%	31.1%	30.3%	31.8%	32.2%	35.1%	35.0%	37.2%	37.0%
Mid-Sized Systems	53.9%	54.5%	54.6%	54.9%	56.1%	58.0%	57.1%	58.1%	58.7%	58.7%	56.0%	51.1%	51.1%	47.5%	48.9%	51.8%	54.9%	59.1%

Source: CUTA Operating Fact Book

...Appendix A

Table 15: Average Fare, 1980 to 1997

Transit System	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Toronto	$0.45	$0.50	$0.55	$0.59	$0.62	$0.64	$0.69	$0.71	$0.74	$0.80	$0.85	$0.91	$1.04	$1.08	$1.09	$1.12	$1.33	$1.42
Ottawa	$0.37	$0.43	$0.49	$0.53	$0.56	$0.63	$0.68	$0.72	$0.77	$0.83	$0.89	$0.94	$1.02	$1.06	$1.11	$1.10	$1.14	$1.14
Mid-Size Systems	$0.42	$0.45	$0.52	$0.58	$0.62	$0.67	$0.71	$0.75	$0.80	$0.87	$0.90	$0.96	$1.05	$1.07	$1.13	$1.16	$1.22	$1.30

Source: CUTA Operating Fact Book

Table 16: Average Fare, CPI All Items, Auto Ownership and Operating Costs, 1980 to 1987(1980 Index = 100)

Transit System	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Toronto	100.0	111.0	122.0	130.2	137.4	141.5	152.5	158.4	165.0	177.9	188.8	202.6	232.1	240.9	241.3	249.9	294.5	316.5
Ottawa	100.0	114.9	131.9	142.5	150.6	169.9	183.2	193.3	207.7	225.4	239.7	253.5	274.5	287.3	299.0	296.2	307.8	308.3
Mid-Size Systems	100.0	108.1	124.2	138.5	148.3	159.2	169.8	177.8	189.4	206.0	213.4	229.1	249.4	254.8	270.2	276.5	291.1	310.6
CPI Index All Items	100.0	112.0	124.0	131.8	138.2	143.8	150.2	157.8	165.3	174.8	183.3	191.9	193.8	197.3	197.3	202.1	205.2	209.1
CPI Auto Ownership	100.0	111.0	116.4	121.3	126.1	131.9	142.9	145.3	152.0	161.3	162.0	158.8	166.1	172.8	183.7	194.9	202.7	208.3
CPI Auto Operating	100.0	125.1	147.1	153.2	159.3	166.2	166.7	176.5	183.4	195.6	215.9	220.0	217.9	222.2	231.6	246.4	258.2	274.5

Source: CUTA Operating Fact Book, CANSIM Tables for Ontario – Statistics Canada

...Appendix A

Table 17: Transit Labour Productivity

	Revenue Kilometres per Operator Paid Hour			Revenue Hours per Operator Paid Hour		
	Toronto	Ottawa	Mid-Sized Systems	Toronto	Ottawa	Mid-Sized Systems
1985	18.99	14.26	15.09	0.847	0.621	0.731
1986	20.32	13.12	14.94	0.902	0.551	0.741
1987	19.83	13.97	15.40	0.880	0.753	0.752
1988	19.67	13.50	14.75	0.879	0.570	0.742
1989	N/A	13.48	14.97	N/A	0.563	0.745
1992	15.28	13.65	14.19	0.690	0.551	0.707
1993	15.37	13.86	15.42	0.691	0.591	0.748
1994	15.27	14.01	15.05	0.684	0.594	0.642
1995	N/A	15.05	14.73	N/A	0.596	0.625
1996	15.28	14.11	14.67	0.688	0.568	0.719
1997	15.79	14.31	15.08	0.709	0.568	0.704

Source: 1985-1989 Ontario Urban Transit Fact Book
1992-1997 CUTA Operating Fact Book

...Appendix A

Table 18: Bus Operator Top Hourly Wage Rate

Transit System	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Toronto	10.97	12.05	12.65	13.28	13.88	14.65	15.36	16.02	17.10	18.30	19.25	20.16	20.16	19.27	19.27	20.16	20.16
Ottawa	9.70	10.77	11.42	12.65	13.20	13.61	14.03	14.63	15.30	16.00	16.86	17.70	18.05	18.05	18.05	18.50	18.50
Hamilton	10.96	11.97	12.72	13.32	13.85	14.27	14.70	15.36	16.00	16.70	17.68	18.81	19.66	19.17	19.17	19.66	19.66
Kitchener	9.46	10.45	10.97	11.52	12.10	12.58	13.08	13.64	14.20	14.20	14.78	15.85	16.17	16.17	16.17	16.41	16.57
London	9.38	9.91	11.35	11.85	12.30	12.71	13.12	13.69	14.40	15.10	15.87	16.03	16.03	16.03	16.03	16.51	16.86
Mississauga	10.46	11.72	12.31	12.93	13.45	14.02	14.88	15.51	16.60	17.80	18.56	19.40	18.43	19.40	19.40	19.40	19.40
Windsor	9.70	10.80	11.34	11.87	12.47	12.97	13.49	14.06	14.70	15.30	15.98	16.62	16.37	16.37	17.21	17.47	17.78
Guelph	8.70	9.57	10.01	10.51	10.96	11.40	12.33	12.73	13.90	14.60	15.47	15.63	15.94	15.94	15.94	15.94	16.10
Brampton	10.00	11.41	11.98	12.58	13.11	N/A	14.24	15.00	15.70	16.70	17.43	17.65	18.40	18.40	18.40	18.40	18.40
Oshawa	10.14	11.06	11.61	12.19	12.90	13.48	14.37	15.02	15.90	16.57	17.23	18.64	18.64	18.64	18.64	19.11	19.11
Sudbury	9.33	10.54	11.02	11.02	12.02	12.50	13.11	13.74	14.60	15.40	16.49	17.19	17.19	17.19	17.19	17.45	17.60
Thunder Bay	9.51	10.41	10.93	11.48	12.05	12.65	13.04	13.43	13.80	14.10	15.64	16.41	16.41	16.41	16.41	16.41	16.41
Mid-Sized Systems	9.76	10.78	11.42	11.93	12.52	12.95	13.64	14.22	14.98	15.65	16.51	17.22	17.32	17.37	17.46	17.68	17.79
CPI	57.8	64.0	68.0	71.3	74.2	77.5	81.4	85.3	90.2	94.6	99.0	100.0	101.8	101.8	104.3	105.9	107.9

Source: OUTA 1981 to 1987, CUTA 1988 to 1997, CANSIM Tables – Statistics Canada

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