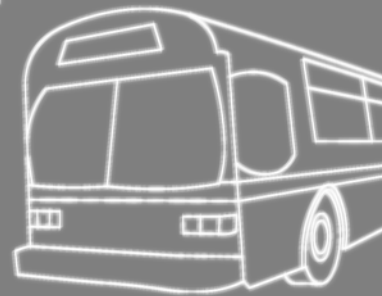


# TRANSIT BLUEPRINT FOR HAMILTON



Final Report

March 2004



hamilton transit  
users group

Prepared by the Hamilton  
Transit Users Group

## Executive Summary

Hamilton's transit system moved 29 845 000 riders in 1984. If the City implements a proposed fare increase of even 5¢ this year, the resulting decrease of 184 000 additional rides will mean Hamilton's transit system has lost over 10 million annual rides in the span of two decades. Over the same period, Hamilton's population has increased by 22 per cent.

Hamilton's Official Plan sets a target of reaching 100 rides per capita. We have been moving farther and farther away from this goal. A fare increase this year will lower our ridership to almost 39 rides per capita.

Reduced funding from the federal, provincial and municipal governments, the rapid growth of transit-unfriendly development at the City's edges and the ensuing deterioration of the downtown core have driven this decline. To break the vicious cycle, the HSR needs the commitment of all levels of government to a long-term growth strategy for public transit in this City. Hamilton City Council must take the lead in order to leverage funding from senior levels of government. Policies should focus on increasing ridership per capita levels toward the goal of 100 trips/person/year laid out in Hamilton's Official Plan.

Recommendations for restoring an effective transit system to Hamilton include:

- a) Improving peak and off-peak period service;
- b) keeping fares low through reductions, discounted passes, concession fares, and innovative fare media;
- c) planning for ridership growth by developing an HSR Ridership Growth Strategy, committing any gas tax transfers to public transit, and implementing policies that support and facilitate transit use.



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## About the Hamilton Transit Users Group

The Hamilton Transit Users Group was founded in late 2003 with two fundamental convictions:

- public transit is a crucial municipal service, central to the health of this community;
- public transit planners and providers must respond to the needs of transit users.

## Contact Us

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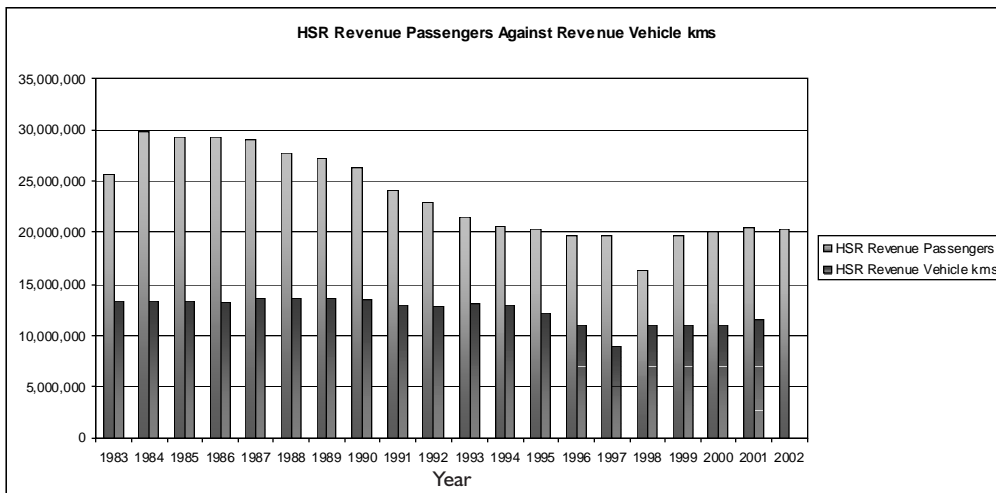
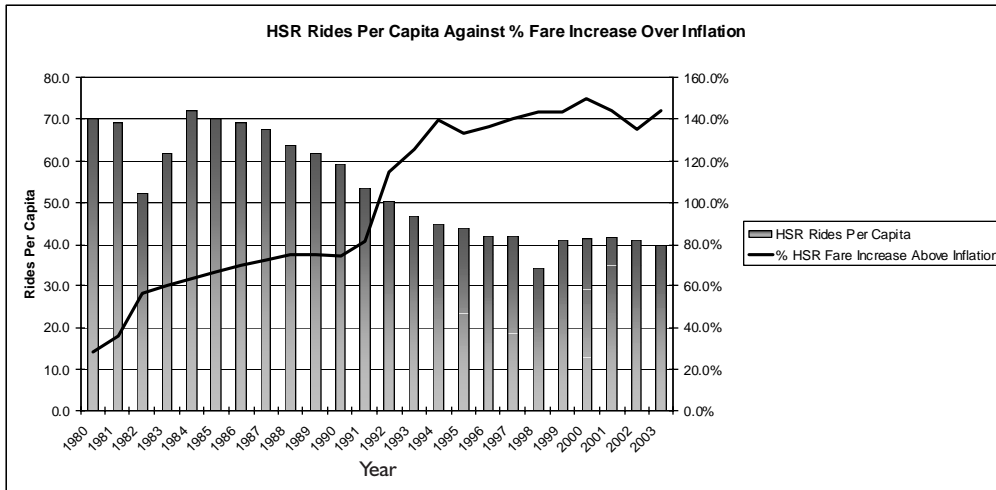
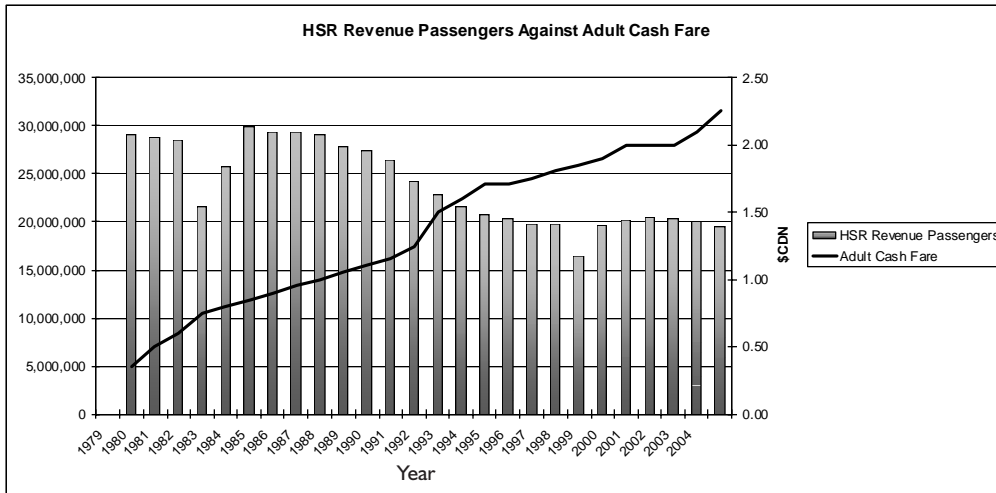
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### HSR Statistics 1979 -2003

Year (ATU strike)	Municipal Population (Hamilton- Wentworth)	HSR Revenue Passengers	HSR Rides/ Capita	Total Transit Expenditures	Total Transit Revenues	Total Transit Revenues (1990 change in reporting practices)	Net Levy	Net Levy (1990 change in reporting practices)	R/C Ratio	R/C Ratio (1990 change in reporting practices)	Revenue Vehicle Kms	Adult Cash Fare
1979	411,000	29,000,000	70.6									\$ 0.35
1980	410,648	28,750,000	70.0									\$ 0.50
1981	411,445	28,500,000	69.3									\$ 0.75
1982*	414,175	21,600,000	52.2									\$ 0.80
1983	414,000	25,674,845	62.0	\$ 33,305,076.00	\$ 15,230,101.00		\$ 18,074,975.00		45.7%		14,643,647	\$ 0.85
1984	414,000	29,845,000	72.1	\$ 36,329,000.00	\$ 20,089,000.00		\$ 16,189,000.00		55.0%		13,351,122	\$ 0.90
1985	418,000	29,323,000	70.2	\$ 38,683,000.00	\$ 21,655,000.00		\$ 17,028,000.00		56.0%		13,295,122	\$ 0.95
1986	423,398	29,264,000	69.1	\$ 40,565,000.00	\$ 22,856,000.00		\$ 17,709,000.00		56.3%		13,348,122	\$ 1.00
1987	429,051	29,007,000	67.6	\$ 42,308,000.00	\$ 23,892,000.00		\$ 18,416,000.00		56.5%		13,264,122	\$ 1.05
1988	434,704	27,742,000	63.8	\$ 44,240,000.00	\$ 24,707,000.00		\$ 19,533,000.00		55.8%		13,483,122	\$ 1.10
1989	440,357	27,271,000	61.9	\$ 48,306,000.00	\$ 26,461,000.00		\$ 21,845,000.00		54.8%		13,496,122	\$ 1.15
1990	446,010	26,386,000	59.2	\$ 50,412,000.00			\$ 22,826,000.00		47.3%		13,655,122	\$ 1.25
1991	451,665	24,156,000	53.5	\$ 52,014,000.00			\$ 23,160,000.00		44.5%		13,453,122	\$ 1.50
1992	454,892	22,867,000	50.3	\$ 53,910,000.00			\$ 24,000,000.00		44.5%		12,960,122	\$ 1.50
1993	458,119	21,526,000	47.0	\$ 56,303,000.00			\$ 24,871,000.00		44.2%		12,802,122	\$ 1.60
1994	461,346	20,662,823	44.8	\$ 56,870,000.00			\$ 24,347,000.00		42.8%		13,005,122	\$ 1.70
1995	464,573	20,354,716	43.8	\$ 56,229,000.00			\$ 25,967,000.00		46.2%		12,876,122	\$ 1.70
1996*	467,799	19,704,197	42.1	\$ 51,613,000.00			\$ 21,565,000.00		41.8%		12,235,169	\$ 1.75
1997	472,293	19,733,000	41.8	\$ 48,939,000.00			\$ 22,456,000.00		45.9%		11,010,947	\$ 1.80
1998*	476,787	16,406,060	34.4	\$ 46,274,000.00			\$ 19,107,000.00		41.3%		8,986,297	\$ 1.80
1999	481,281	19,628,935	40.8								11,010,947	\$ 1.90
2000	485,775	20,147,700	41.5								11,010,947	\$ 2.00
2001	490,268	20,440,000	41.7								11,010,947	\$ 2.00
2002	494,756	20,393,653	41.2	\$ 47,451,731.00			\$ 26,066,989.00		58.0%		11,467,178	\$ 2.00
2003	503,000	20,003,000	39.8	\$ 47,255,963.33			\$ 28,353,578.00		60.0%			\$ 2.10

**T**he last twenty years have been difficult ones for Hamilton's transit system. Ridership has declined by 33% over a period in which our City's population has grown by 25%. Bus fares have more than doubled, service levels have decreased, and overall system reliability has dropped. Transit riders in Hamilton now pay more and get less.

Reduced funding from the federal, provincial and municipal governments, the rapid growth of transit-unfriendly development at the City's edges, and the ensuing deterioration of the downtown core have largely driven this decline. The *Transit Blueprint for Hamilton* examines the broader historical trends affecting transit, analyzes the impacts that transit's sustained degradation has had on our City, and offers recommendations to Hamilton City Council and the City's Transit Division to help us move toward a more sustainable future.

## Escaping Destructive Cycles

The dominant approach to transportation planning in Canada perpetuates two negative cycles: a cycle of increasing traffic congestion, and a cycle of declining public transit.

### 1. The Cycle of Increasing Traffic Congestion

Much of our investment in new roads and roadway widening is undertaken to reduce traffic congestion. Unfortunately, these strategies have been shown to increase traffic congestion rather than alleviate it.

#### *More Cars = More Roads = More Sprawl*

As the number of cars on the road increases, so too does congestion of the existing road system. Building more roads and expanding the road network increases the potential number of transportation routes and, at least in the very short term, reduces the average concentration of vehicles on affected routes.

Like other goods and services however, automobile use operates on the principles of supply and demand, where supply is road capacity, demand is travel, and travel time is the associated cost, being the major variable cost involved in automobile use.

Increasing road capacity increases supply, and reduces the cost of automobile travel by reducing travel time. Through a process called induced traffic, greater road capacity thus encourages greater automobile use.

Induced traffic occurs in two phases. In the short term, individuals stop car-pooling or riding transit, make more or longer trips, and switch travel routes. These changes in travel behaviour are found to rapidly fill up to 50% of new road capacity.

In the long term, new road capacity encourages low-density development. Often, road building is intended to open up areas to residential development that is almost exclusively low-density in nature.

#### *More Sprawl = More Roads = More Cars*

Conventional low-density residential development limits transportation options. With patterns of zoning that separate residential areas from industrial and commercial areas, and therefore from employment and services, the nature of low-density residential development requires a reliance on the automobile. Consequently, increased low-density development increases traffic load.

The long-term increase in automobile travel as a result of increased road capacity has been found to fill 50% to 100% of new road capacity within three or more years.

Both short-term and long-term forms of induced traffic increase congestion. If the chosen solution to this congestion is building new roads and increasing road capacity, then the cycle continues. We find ourselves in a situation where car volume outpaces capacity despite continually building more roads, and where development is primarily car-dependent and low-density, often destroying natural or agricultural lands in the process.

Increasing road capacity does not offer long-term relief from congestion pressures. Instead, it worsens the problems it is meant to solve, and has profoundly destructive effects on our economic development, our environment, our social equity, and our health.

### 2. The Cycle of Declining Public Transit

As we continue attempts to build our way out of congestion, the effective solution of public transit suffers from its own vicious cycle.



***Budget Pressures = Reduced Service and Increased Fares = Reduced Ridership***

Faced with operating deficits, municipalities often resort to cutting their support of transit systems, either through service cuts or fare increases. These decisions reduce the efficiency and attractiveness of the transit system, and result in lower ridership.

***Reduced Ridership = Reduced Cost Effectiveness***

Reduced ridership decreases the number of paying users, and impairs the ability of the transit system to take advantage of economies of scale. Both changes lead to decreased revenue-to-cost ratios.

***Reduced Cost Effectiveness = Budget Pressures***

The declining revenue-to-cost ratio prompts further service cuts or fare increases in an attempt to redress the revenue deficit. The cycle is perpetuated.

Considering transit in an isolated fiscal context, reduced transit ridership is a positive thing. Since public transit does not recover all its costs, transit riders can be considered a liability. Fewer riders means a lower transit cost to the municipality. However, this perspective ignores the problems associated with reduced ridership, and the benefits of transit use, which outweigh the financial cost of a transit system many times over.

***Consequences of Reduced Ridership***

Transit riders can be divided into two categories. Riders who use transit given the option of viable alternative modes of transportation are called choice riders. Pushing these riders off transit results in an increase of their personal automobile use, which feeds into the first cycle discussed above.

Captive riders are those riders who cannot afford, or do not have access to other modes of transportation. When forced off transit, these riders cannot get where they need to go, or are limited to destinations within walking distance. These constraints limit their ability to find and maintain employment, and may prevent them from visiting friends and family, going to school, and generally participating in civic life.

Reduced transit use, then, affects society from two sides. Choice users are driven into their cars and the first cycle of increasing traffic congestion is perpetuated. Captive users are driven onto social assistance and can

end up costing a municipality far more than the revenue generated by fare increases or service reductions.

***Benefits of Transit Use***

Several key benefits of transit use are worth highlighting.

*Reduces Congestion:* Improved public transit cuts traffic congestion, which increases travel speeds for both transit riders and car drivers.

*Improves Productivity:* This reduced congestion in turn improves local productivity and competitiveness. In fact, transit investment improves productivity up to twice as much as road building.

*Improves Air Quality:* Cars and trucks are responsible for over 50% of this City's smog problem. Over 2000 Ontarians die every year from air quality-related illnesses. Improved transit reduces smog and helps to meet our City's Clean Air goals.

*Improves Economy:* Public transit supports significant job creation and business revenues increases, creating considerable economic benefits in addition to the more obvious mobility benefits. Studies show local business revenues increase by more than three dollars for every one dollar invested in transit. This point was driven home here in Hamilton during the 12-week HSR strike in 1998, when downtown businesses reported a 45% drop in sales.

*Improves Equity:* One in five Hamiltonians don't have access to a car, and a lack of effective transportation options contributes to an unemployment rate of 75% among the disabled. These individuals require effective transit to contribute productively to Hamilton's livelihood.

***The Need for Transit***

A transit system looked at in isolation represents a net investment, or subsidy. When considered in the context of the municipal budget as a whole, transit represents at minimum a five-fold return on that investment. Rather than revenue-cost ratio, ridership is the most important asset and indicator of a transit system's success. Decisions regarding Hamilton's transit system need to be made based primarily on its ridership/capita figures. Policies should be geared towards increasing this number instead of diminishing it.



## Hamilton Trends

### *Population & Employment*

As a result of declining heavy industry, sustained disinvestment in the downtown core, and the subsidization and subsequent rapid growth of automobile-dependent suburbs, Hamilton is experiencing what is known as the "doughnut-effect." This phenomenon was widely experienced in American municipalities throughout the 1970s and 80s: While municipal dollars flowed to the hastily expanding edges of a city, the downtown core was left to decay.

In the last ten years, Hamilton's Central Area experienced a 22% decline in employment while the outer suburbs experienced only a small employment growth of 4%. Hamilton's population increased by 9% over the same period, with the majority of growth occurring outside the boundaries of the former City of Hamilton. In this decade of population growth, employment in the City declined by 1% overall.

### *Transportation*

As development shifted further away from facilitating transit service, and toward an intensification of personal automobile use, Hamilton's transit system suffered extensive decreases in ridership. Between 1986 and 2001, the share of total trips made by transit in the City of Hamilton declined from 12% to 7%, while the total trips made by automobile increased from 72% to 76%.

In 1986 the HSR provided over 30 million passenger trips per year. After years of service cuts and fare increases; the withdrawal of federal, provincial, and municipal transit funding; a declining downtown; and rapid suburban sprawl, by 2003 annual rides had declined by 33% to just over 20 million passenger trips per year. The average number of trips Hamiltonians make by transit has declined from 72 trips per year in 1984 to 39 trips per year in 2004.

Any further fare increases or service cuts will drive away more riders, and speed the HSR along its downward spiral of reduced funding, reduced service and increased fares, and reduced ridership. A new approach to Hamilton's transit system is urgently needed.

### *Vision*

Hamilton's Official Plan sets the goal of increasing

HSR ridership to 100 trips/person/year by providing a transit service that is "affordable, efficient, convenient, and accessible, stressing easy access to activity areas." Further, the Plan commits Hamilton to improving public transit to "a level of service adequate to enhance its use as a viable alternative to the automobile." These commitments have been made in recognition of the numerous associated social, ecological, and economic benefits of increased transit ridership. Indeed, these benefits have been proven to far outweigh any initial public investment.

Public transit ridership in the New City of Hamilton is currently at 39 trips/person/year. In order to more than double these ridership levels and fulfill the ambitious commitments clearly laid out in the Official Plan, a significant shift will be required both in the primary mode of transportation for many citizens and in City Council's strategic funding priorities.

Unfortunately, the past 15 years have seen a consistent lack of support for the HSR from all levels of government. Provincial funding was reduced several times in the 1990s and, while the new Ontario government promises to restore some of this funding via a portion of the gas tax, no money has yet been allocated. Beginning in the 1980s, the Region of Hamilton-Wentworth, and later the New City of Hamilton, have steadily increased fares and made cuts to HSR service. Consequently, the HSR's ridership and market share have dropped significantly during this period—a trend that is in direct opposition to the Official Plan.

The HSR needs a substantial and ongoing funding commitment from all levels of government in order to fulfill its basic role of providing affordable, efficient, convenient, and accessible transportation to the people of Hamilton. With a stable source of increased funding and a commitment from the City of Hamilton to implement policies that support efficient transit operations and transit-oriented development, the HSR can begin to offer faster, more frequent, more convenient and more affordable service that would be able to attract more people out of their automobiles and onto transit.

The Hamilton Transit Users Group puts forth the following recommendations in order to contribute significantly to achieving Hamilton's Official Plan objective of increasing ridership from its current 39 trips/person/year to its goal of 100 trips/person/year.



# Immediate-term Recommendations for 2004 Tax Budget

The following section presents concrete policy options that can be initiated immediately, or implemented within the short term. Our recommendations are divided into three categories: improve service; keep fares low; plan for ridership growth.

## Proposals

### A. Improve Service

Improving transit service in Hamilton is the most effective way of quickly and substantially improving the experience of transit users, as service improvements benefit large numbers of existing passengers. Improved service levels also attract new passengers to the system due to the overall improvement in quality of service, and are a necessary condition for other initiatives aimed at increasing transit ridership. Efforts at promoting transit and increasing ridership will suffer from minimal success unless service levels are conducive to a positive transit experience.

#### 1. IMPROVED PEAK PERIOD SERVICE

Many transit users ride the bus only during peak use hours, and consequently service improvements during these windows will affect the greatest proportion of riders. At peak service levels, however,

Hamilton's transit division currently does not have the capacity to increase service. This situation must be rectified, as a transit system without any peak absorptive capacity has no possibility of addressing increased ridership.

#### RECOMMENDATIONS:

*OPTION 1: Increase Peak Period Service on Major Routes by 2%*

*OPTION 2: Increase Peak Period Service on Major Routes by 6%*

#### 2. IMPROVED OFF-PEAK PERIOD SERVICE

Improving off-peak period service represents an easily implemented improvement to a transit system, and high-quality transit service in the off-peak period is also needed to encourage greater numbers of people to adopt a truly transit-oriented lifestyle. At off-peak times, there is a greater likelihood that additional ridership can be accommodated using the excess capacity that exists on many routes at off-peak times. The overall cost of operation at off-peak times is also lower than at peak times because it is more efficient to schedule operators for additional work at off-peak

**Table A - Service Proposals**

The expected direct passenger benefits, cost implications and indirect benefits of implementing these recommendations are summarized in the following table.

	Existing riders who benefit	New ridership	Operating Costs			Peak vehicles required	Capital cost	Projected increase in local business revenue (i)
			Costs	Revenue	Subsidy			
		thousand	\$thousand				\$thousand	
<b>1. Improve peak period service on major routes:</b>								
2% increase in peak service	208	22	75	28	47	3	1,236	141
6% increase in peak service	2,170	84	250	113	137	10	4,120	411
<b>2. Improve off-peak service on major routes:</b>								
	2,152	110	666	145	521			1,563

(i) Projections based on American Public Transit Association (APTA) studies.



times than it is to schedule small pieces of work in the morning and afternoon.

**RECOMMENDATION:**

*Increase Off-Peak Service On Major Routes Utilizing Existing Excess Capacity*

**3. IMPROVED ACCESSIBLE TRANSPORTATION SERVICE**

Equal opportunity to participate in a community, and consequently, equal access to transportation services, is a human rights issue. Currently, nearly 35% of individuals with a disability say they are uninvolved in their communities, and the lack of effective transportation options contributes to an unemployment rate of approximately 75%.

**RECOMMENDATIONS:**

*Users requiring accessible transportation be guaranteed equal service*

- a. DARTS must provide timely, efficient service*
- b. HSR must provide safe, truly accessible service*
  - i. Drivers receive proper technical and sensitivity training*
  - ii. Access to the buses, such as cleared sidewalks and bus stops, is ensured*
- c. DARTS and HSR must provide capacity for dealing with emergencies*
  - i. Proper training of staff in emergency procedures*
  - ii. Service capacity to deal with stranded riders*

*Assessment of DARTS eligibility reflect both mental and physical needs and abilities of users.*

**B. Keep Fares Low**

**1. OPTIONS THAT MAINTAIN THE EXISTING FARE SYSTEM**

After the level of service provided, fares are the next most important component in the decision to use

public transit. In recent years, HSR fares have increased by more than 40% above the rate of inflation. This steep increase in fares contributed to a dramatic decline in annual ridership from a peak of 29 845 000 in 1984 to 19 628 925 in 1999. While ridership improved to 20 440 000 rides in 2001, overall ridership is still more than 32% below the 1984 peak and has begun to decline again. One option to reverse this trend is to apply a fare decrease to all fare categories.

**RECOMMENDATIONS:**

*OPTION 1: Pro-rata reduction of \$0.10*

*OPTION 2: Pro-rata reduction of \$0.20*

These programs could be expected to increase HSR ridership by approximately 291 000 passengers per year for each \$0.10 change in fares.

**2. DISCOUNTS/CHANGES TO EXISTING FARE MEDIA**

Alternatives in this group have been developed and assessed for three categories: pass discounts; lower concession fares; and special fare days. Adjusting the price of passes represents an attractive method of encouraging both new riders and increased transit use by existing riders. Research has found that riders who travel on passes have the highest trip rates and tend to increase trip-making after switching to passes from another fare media. The increased use of passes should be encouraged because it provides numerous benefits to the HSR by increasing commitment to transit by riders and making transit more convenient for pass purchasers. The increased use of passes can also reduce the level of fare media processing required within the system.

**RECOMMENDATIONS:**

*OPTION 1: Discount the Adult Monthly Pass by \$5.00*

*OPTION 2: Discount the Adult Monthly Pass by \$10.00*



These discounts could be expected to increase ridership by approximately 87 000 passengers annually on the HSR for every \$5.00 discount.

The second category is adjustments to concession fares. Students and children are less likely to be employed and more likely to have a higher degree of dependency on transit to meet their travel needs. It is appropriate to examine pricing strategies for this group in light of these characteristics. The following alternatives were examined for concession fares:

**RECOMMENDATIONS:**

*OPTION 1: Reduce Student fares from 79% to 60% of Adult fares*

*OPTION 2: Reduce Student passes from 77% to 60% of Adult fares*

As a final option in this category, the HSR can consider an alternative that would reduce the cost of an adult cash fare from \$2.10 to \$1.00 for a one-day period. This option could be a way to stimulate ridership on days with low system utilization (e.g. statutory holidays), as well as to thank riders for their patronage.

**3. IMPLEMENTATION OF NEW FARE MEDIA**

Innovative fare media that encourage and facilitate transit use by new riders must be explored and developed. These options include fare media such as:

a Neighbourhood Transit Pass, which applies the economy of scale and reduced administrative load of a bulk purchase pass program at the residential community level; an expanded Employer Commuter Pass; and the development of Regional Transit Passes.

**C. Plan For Ridership Growth**

Hamilton's Official Plan sets the goal of achieving 100 rides per capita by the year 2020. In 1980, Hamilton-Wentworth had a transit ridership of 70 rides per capita (approximately 30 million rides per year). By 2003 the New City of Hamilton had lost more than 10 million of these transit trips, servicing only 20 million rides per year to a population that is nearly 25% larger than it was in 1980. As a result, this City's Transit Division currently has a ridership of just less than 40 rides per capita—a far cry from the 100 rides per capita goal this Council is committed to achieving. A substantive reversal of this harmful trend is only possible through the sustained implementation of policy options that directly and indirectly support the growth of Hamilton's transit system. These policy options include: the development of a ridership growth strategy; the commitment of gas tax transfer to funding transit; and the implementation of programs that increase transit efficiency, facilitate transit use, and support transit-oriented development.

**Table B - Fare Proposals**

The expected direct passenger benefits, cost implications and indirect benefits of implementing these Recommendations are summarized in the following table.

	New ridership	Operating Costs			Projected increase in local business revenue (i)
		Costs	Revenue	Subsidy	
	thousand	\$thousand			
<b>Maintain Existing Fare System</b>					
Pro-rata reduction of \$0.10	290	685	382	303	909
Pro-rata reduction of \$0.20	584	1,132	479	653	1,959
<b>Discounts/Changes to Existing Fare Media</b>					
Adult Pass Discount of \$5.00	87	206	112	94	282
Adult Pass Discount of \$10.00	165	389	193	196	588
Reduce Student fare to 60% of Adult fare	131	310	165	145	435
Reduce Student Pass to 60% of Adult Pass	107	253	89	164	493

(i) Projections based on American Public Transit Association (APTA) studies.



1. DEVELOP AN HSR RIDERSHIP GROWTH STRATEGY WITH INDICATORS AND TIMELINES.

The HSR's experience over the past decade dramatically illustrates the negative impact that the withdrawal of government support has on transit ridership. In addition, the HSR's funding arrangements have been changed annually, typically with final approvals for any one year being received well into the year when the expenditures are already underway. This funding arrangement would be completely unacceptable for a business that requires investment decisions for vehicles with 18-year lives, and facilities that last 40 years or more, and should be equally unacceptable for a transit division.

Furthermore, short-term actions to increase transit ridership are not effective in generating sustained increased ridership if no long-term stable funding arrangement has been established to maintain higher ridership levels. A strategic approach to increasing transit ridership requires a clear, consistent, long-term ridership growth strategy and a stable funding arrangement that realistically reflects operating costs, state-of-good repair capital needs, and the funding requirements of ongoing system and fleet expansion.

For transit to be a truly effective alternative to the automobile in Hamilton, all three levels of governments must collectively commit to adequate stable funding for the HSR over the coming decade and beyond. A Ridership Growth Strategy would be Hamilton's plan of action to convince senior levels of government to increase funding to the HSR.

2. COMMIT ANY FUTURE GAS TAX TRANSFERS TO FUNDING PUBLIC TRANSIT.

At some point in the next four years the Provincial Government will provide a portion of the gas tax revenues to municipalities for investment in public transit. It is not clear at this point what conditions will be attached to this funding. It is important for Hamilton to make a strategic commitment to invest these much-needed funds in public transit.

3. IMPLEMENT PROGRAMS THAT INCREASE TRANSIT EFFICIENCY.

a. *Expand express service and routes*

One of the most popular, successful, and high-ridership routes in the City is the 10 Beeline. Express

The Toronto Transit Commission (TTC) developed its *Ridership Growth Strategy* in order to both increase ridership and achieve the objectives laid out for transit in Toronto's Official Plan. The funding priorities laid out in the 10-year strategy include:

Meeting current system needs;

Increasing service capacity;

Implementing fare initiatives;

Expanding infrastructure.

Implemented in conjunction with the intelligent land use practices also laid out in Toronto's Official Plan, the TTC's *Ridership Growth Strategy* would increase ridership by 25%, or roughly 100 million annual rides.

The document provides critical guidance for the efficient utilization of public funds, and gives the transit system specific and concrete targets with which to lobby all levels of government.

The TTC's *Ridership Growth Strategy* is available at:

<http://www.toronto.ca/ttc/>



bus service of this kind needs to be expanded to run throughout the day, as opposed to the current rush hour-only service, and on more routes across the city, including express North-South connections that service the Mountain. Expanded express bus service represents an easy-to-implement option that would improve transit efficiency in Hamilton; express service would be further enhanced by partial or exclusive rights-of-way such as Bus Only and High Occupancy Vehicle lanes.

*b. Implement Bus Only and High Occupancy Vehicle (HOV) lanes*

Bus Only and HOV lanes on existing streets in conjunction with expanded express service provide an affordable and immediately achievable way for Hamilton to take advantage of some of the benefits of rapid transit systems.

Buses operating in mixed traffic cannot realistically be expected to provide a quality of service that is attractive enough to compete effectively with the automobile. As the road network becomes more congested, buses are delayed along with the rest of the traffic, and the reliability of the service deteriorates. Slow and unreliable bus transit service, where people can wait 45 or more minutes for a vehicle that was scheduled to come every ten minutes, will not attract significant numbers of passengers away from their automobiles.

In addition, there is a practical limit to the number of passengers that transit vehicles can carry through a congested road network if they are operating in mixed traffic. Regardless of the number of vehicles assigned to the route, in practice, transit vehicles can only move through congested intersections and pick up passengers at the maximum rate of approximately one vehicle per traffic signal cycle length (90 to 120 seconds). Excluding fully grade-separated rights-of-way, the only practical way of increasing the capacity of routes that are at their capacity in mixed traffic is to give additional priority to transit vehicles on the road network.

For these reasons, the City needs to explore the potential for surface rapid transit options on higher-order transit corridors. The operation of buses in partial or exclusive rights-of-way on major arterial roads provides a way to move beyond the problems

The Greater Vancouver Transportation Authority has implemented an extensive network of Bus Only lanes both on city roadways and on expressways in order to:

Improve transit service, travel time, and reliability;

Make the best overall use of the street system;

Encourage transit ridership and decrease single occupant vehicle travel;

Improve people movement efficiency ("move people, not cars");

Maintain or improve safety;

Reduce total pollution and fuel consumption.

For more information, visit:

<http://www.city.vancouver.bc.ca/ctyclerk/cclerk/980407/tt2.htm>



associated with vehicles operating in mixed traffic, without the high costs associated with tunnelling or fully grade-separated transit operations.

*c. Plan for future Rapid Transit systems*

Fully grade-separated rapid transit rights-of-way (like Calgary's C-Train, Edmonton's LRT, Ottawa's express bus only Transitway, Toronto's subway and streetcar only lanes, and Vancouver's Sky Train) provide an attractive alternative to automobile travel, in part because they provide service in a reliable way, at speeds that are comparable to automobile travel. Constructing such systems requires large investments in infrastructure. To warrant such expenditures Hamilton must develop and implement a plan to aggressively expand transit ridership and support transit-oriented development.

*d. Implementing a Traffic Signal Priority program*

A Traffic Signal Priority program consists of equipping major transit routes with transit priority equipment at traffic signals. The equipment involves a detector at each traffic signal, which identifies transit vehicles in the traffic stream and reduces the time wasted waiting at red lights, either by extending the green time or reducing the red time experienced by the transit vehicle for that particular cycle. Similar programs in other municipalities have been very successful at increasing the speed of transit vehicles sufficiently to increase capacity and/or reduce the number of transit vehicles that must be assigned to major routes. The TTC estimates that its Traffic Signal Priority program will increase its ridership by an additional 600 000 per year when fully implemented.

4. IMPLEMENT PROGRAMS THAT FACILITATE TRANSIT USE.

An effective transit system needs to facilitate its use in conjunction with other modes of transportation. It is unrealistic to assume that public transit can meet all transportation requirements, and facilities that permit transit users to link their trip modes are crucial. Consequently, the development and expansion of programs that enable these modal connections must be pursued. This includes:

The Regional Municipality of Waterloo has submitted an application for Strategic Infrastructure Funding (pursuant to Bill C-49) for the development of a light-rail transit system (LRT). The Region preferred LRT over other options because it is a clean, quiet, electrically-powered technology that:

- Has priority over automobile traffic at intersections;
- Can be coupled into two or three car trains to maximize capacity;
- Can be operated on a single track separate from vehicular traffic with sidings at key station locations to permit passing;
- Meets the passenger capacity needs of the corridor and has the greatest flexibility to meet future needs;
- Focuses community development and promotes in-fill development;
- Provides a travel option that is competitive with the automobile in terms of speed and comfort;
- Is typically more attractive to potential users than busway options.

The Region seriously considered Bus Rapid Transit (BRT) in developing their proposal. It concluded that its flexibility can be a useful technology in staging to a higher order solution such as LRT. Given the unique linear development of the region's urban areas, it was felt that LRT in the first phase of the corridor was more appropriate.

For more information, visit:

<http://www.region.waterloo.on.ca>



*a. Developing Park & Ride facilities as part of an overall transit improvement program.*

By encouraging shifts to transit and ridesharing, Park & Ride facilities reduce urban and highway traffic congestion and worksite parking demand. These benefits can be significant since Park & Ride tends to be most effective where traffic congestion and parking problems are worst. Costs are primarily associated with facility construction and operation, and are usually lower than the costs of providing parking at city centres.

*b. Integrating bicycling effectively with public transit*

A transit stop normally draws riders from within a 10-minute, half-mile walking distance. Cyclists can travel three or four times that distance in the same time, increasing the transit catchment area ten-fold, and making bicycle access crucial to the viability of transit use in low-density development. Attracting cyclists requires the development of safe bicycle routes and bike lanes, bicycle parking at transit stops, and equipping buses with bike racks, so that riders can continue their journey by bicycle at the other end. Roughly one third of all transit buses in North America now have bike racks, with many transit agencies now specifying that all new buses must be equipped with them.

## 5. IMPLEMENT POLICIES THAT SUPPORT TRANSIT-ORIENTED DEVELOPMENT.

*a. Transit-centred planning*

Hamilton should be consistent with the Ontario Ministry of Transportation and Ministry of Health's Transit Supportive Land Use Guidelines that promote higher density, mixed-use development around transit hubs and along major transit corridors. Pedestrian and bicycle facilities would be enhanced, and parking requirements reduced in these areas.

*b. Encourage compact in-fill development*

Since such development can make use of existing transit service, it will maximize the efficiency of public transit and hence increase revenue recovery. In contrast, low-density development at the urban fringe requires the introduction of brand new transit routes and hence will decrease the overall cost-efficiency of the transit system.

Ottawa's OC Transpo operates Park & Ride facilities at its major Transitway exchanges. At all stations but one, parking is free and direct service to the downtown is offered. The lots are open 24 hours a day. Facilitating modal transfers is a crucial factor in OC Transpo achieving over 100 rides per capita per annum.

For more information, visit:

[http://www.city.ottawa.on.ca/city\\_services/traffic/26\\_1\\_8\\_2\\_3\\_3\\_en.shtml](http://www.city.ottawa.on.ca/city_services/traffic/26_1_8_2_3_3_en.shtml)

The Victoria Regional District commissioned a regional transportation strategy, the *TravelChoices Strategy*, whose aim is to shift demand from automobiles to walking, cycling and public transit. Its recommendations to enhance cycling's attractiveness as a transportation choice include:

More than doubling the existing 200 km of on-street bicycle routes and trails to over 550 km of on and off-street facilities;

Supporting facilities needed to integrate cycling with other modes of transportation through the provision of end-of-trip and inter-modal facilities;

Offering secure bicycle parking at strategic locations such as the downtown, transit exchanges, major employment centers, and institutions.

For more information, visit:

<http://www.crd.bc.ca/regplan/rgs/travelchoices/>

TRANSIT  
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*c. Respect urban growth boundary*

Since it is not cost-effective to provide new transit service to new development at the urban fringe, the urban growth boundary laid out in the Official Plan should be respected. Official Plan amendments to move the boundary should not be permitted outside 10-year reviews of the current boundary. The 10-year review process should ensure that the boundary is only extended if it can be shown that the anticipated growth cannot be accommodated within the existing boundary through in-fill and transit-oriented intensification.

*d. Invest in revitalization of the Downtown Core*

Hamilton should actively discourage the development of transit, cyclist, and pedestrian-unfriendly power centres and Meadowlands-style big-box complexes on the urban fringe and instead aggressively promote commercial development in the downtown core.

*e. Discourage Car-Dependent Land Uses*

For instance, implement bans on drive-through establishments. Design of commercial areas should make it easy to walk, cycle, and take transit from business to business.

*f. Discourage automobile-oriented street design*

Cul-de-sacs and the typical winding suburban street layout make it difficult (if not impossible) to provide effective transit service. New development should have a street layout that supports efficient transit service and convenient access to transit routes.

Portland, Oregon is a mid-sized port city of roughly half a million people that faced an economic crisis in the 1970s. With its heavy industry and downtown in decline, Portland responded with an approach that has become a model for smart growth worldwide. Aspects of this approach include:

Keeping urbanization strictly contained while protecting surrounding farmland and forest from encroaching development;

Promoting efficient land use within the city rather than expanding;

Choosing to invest in public transportation infrastructure over automobile infrastructure;

Funding a transit system used by more people than any other transit system its size, 80% of whom are non-captive riders.

As a result of these and other planning measures, Portland's population density in 1990 was 3 734, an increase of 300 over the 1960 figure. The city is home to the largest urban forest in the US, and 20% of the city's employment is concentrated in the downtown.

Portland represents a ready-made model from which Hamilton can adapt demonstrably successful growth and development policies.



## NOTES

