



Winnipeg In Transit

MEASURES REQUIRED TO GROW
WINNIPEG'S PUBLIC TRANSIT SYSTEM

Submitted to the
Rapid Transit Task Force

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Founded as the Recycling Council of Manitoba, RCM was incorporated as a non-profit organization in 1985.

From its early days, the Council played a significant role in waste reduction. The Council carried out public awareness programs, advocated waste minimization at the community and provincial levels, and set up pilot recycling depots which demonstrated both the practicality of recycling and the public demand for it.

In 1996, with blue box programs established and a legislated commitment to waste reduction in place, the members of the Recycling Council voted to change the name to Resource Conservation Manitoba and set a revised mission committing RCM to public education on ecological sustainability.

RCM is directed by an elected community board. Volunteers and professional staff deliver our programs. Projects are funded by contributions from individuals, foundations, governments, and businesses. Programs include public education on composting, an environmental speakers bureau for schools, an annual waste reduction week, the Commuter Challenge, the Campus Commuter Challenge, Active and Safe Routes to School, transportation demand management services for workplaces, and a trip reduction program for secondary school students.

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INTRODUCTION

As an organization which has been actively engaged in promoting alternatives to the growing and unsustainable reliance on the automobile for access to work and leisure in Winnipeg, Resource Conservation Manitoba (RCM) is pleased to be able to present its views to this forum on the policies required to promote the use of public transit in Winnipeg.

Since 1998, RCM has been promoting healthy and sustainable transportation alternatives through programs that encourage students to walk to school and for commuters to use alternatives to the 'single occupancy vehicle' (SOV) mode of travel. It has also produced a policy paper, ***Towards the Creation of a Sustainable Transportation System for Manitoba*** which outlines policy options for achieving such a system.

RCM Programs

RCM has promoted children walking to school through its ***Active and Safe Routes to School*** program. We work with parents, children and schools to support children walking to school safely under adult supervision. This involves education, a safety audit or 'walkabout' of the neighbourhood with a police officer or other traffic expert, route mapping, and recruitment and orientation of volunteers. A group of children walking together with an adult is a "walking school bus." We piloted Walking Wednesdays with 20 classes last spring and can report that there is much enthusiasm for the concept among students, parents and teachers.

RCM coordinates the annual Winnipeg Commuter Challenge as part of a national sustainable transportation event celebrated during Environment Week that fosters friendly competition between workplaces and schools to encourage people to adopt alternative forms of transportation. The week-long event has won national accolades, with Winnipeg taking first place in the Canadian Challenge for the past two years.

By way of promoting alternatives to the SOV mode of commuting to work on a year-round basis, RCM has developed an array of Transportation Demand Management tools and services. The program, piloted under the name Going Green, builds upon the successes of the Winnipeg Commuter Challenge by working with workplace representatives who are looking to build capacity and identify mechanisms of support within their own organizations to promote transportation alternatives.

A case study developed for Transport Canada that highlights the successes of RCM's Sustainable Transportation programs is available at:
www.tc.gc.ca/programs/environment/UTSP/greencommutinginitiatives.htm.

RCM Policy Development

In its policy paper ***Towards the Creation of a Sustainable Transportation System for Manitoba***, RCM set out a **vision** of a sustainable transportation system that affords people as much access to goods, services and social opportunities as they currently have but does so by making far more use of non-motorized means of transport such as walking and cycling, greater use of public transport, greater use of cleaner fuels, less need for travel to communicate and shorter travel distances through urban re-design. The paper also established two goals which a sustainable transportation system achieves:

1. Meet the access needs of individuals and society in an efficient and affordable manner.
2. Limit greenhouse gas emissions of carbon dioxide and other greenhouse gases from transportation to one fifth of the total of such emissions in 1990.

In achieving both goals, the transportation system meets the social and economic purposes it is meant to achieve but does so within the environmental limits required for sustainability.

Further on the policy front, RCM was asked to help steer the City of Winnipeg's Active Transportation Study, along with several City of Winnipeg departments and the Manitoba Cycling Association. The Study, conducted by Marr Consulting & Communications, is about to be completed, and will provide recommendations on how to make active transportation a higher priority in planning and development projects. RCM has provided an important link to the study from the community of cyclists and pedestrian advocates. Through special promotions during the Commuter Challenge, and specially designed surveys delivered after the event, impressions and ideas offered by participants have provided important examples of “on the ground” improvements to create better conditions for cyclists and pedestrians.

Implications for Sustainable Transportation

Sustainable transportation requires reducing distortions caused by automobile dependency and encouraging the development of a more balanced transportation system¹. The Victoria Transport Policy Institute concludes that:

“Most transportation problems share a common root: *market distortions that result in excessive automobile use*. From this perspective, solving transport problems requires planning reforms that increase transport options, and market reforms that give consumers suitable incentives to choose the best option for

¹ Victoria Transport Policy Institute, 2004. *Sustainable Transportation and TDM, Planning That Balances Economic, Social and Ecological Objectives*, TDM Encyclopedia. www.vtpi.org/tdm/tdm67.htm

each individual trip. The motto is, “increase transportation system diversity and efficiency.”²

Transportation Demand Management is the general term for this approach, and is essential for achieving sustainable transportation. Recent national studies and conferences provide evidence of public transit as the cornerstone of providing transport options leading to sustainable transportation systems.

Moving Together Towards A Healthier and More Sustainable Future: A report from the Transportation, Air Issues and Human Health Conference, co-sponsored by Pollution Probe and the York Centre for Applied Sustainability, identifies three main categories of solutions to achieve sustainable transportation:

1. Further reduce the emissions of the current transportation system by building cleaner and more fuel- efficient vehicles and engines, and shifting to cleaner fuels.
2. Get more people out of cars and into public transit, particularly for commuting to and from work. This will require more support for transit and incentives and penalties to motivate people to make the switch.
3. Change development patterns to slow urban sprawl and to encourage denser development. This will allow more efficient use of transit. The Smart Growth approach is an example.

An Environics report from a tracking survey of the One Tonne Challenge (October 2004) related the importance of renewed public transit infrastructure to engage Canadians in reducing greenhouse gas emissions. The report concludes that:

“Canadians remain most likely to identify motivational barriers (to reducing their home energy consumption), and structural barriers -- *particularly the limited public transit options, (when it comes to reducing vehicle use)*”.

Through our years of program and policy work, RCM has learned much about the importance of adequate public transit systems in turning Sustainable Transportation vision statements into action plans. As studies have shown, the key to achieving a sustainable urban transportation system is a well-developed and well-used public transportation system. The focus of this brief is that of,

- describing the key challenges facing the Winnipeg public transit system;
- identifying the causes of those challenges; and,
- proposing measures which will address those challenges.

² Victoria Transport Policy Institute, 2004. *Demand Management and Sustainable Transportation, Why Manage Transportation Demand*, TDM Encyclopedia. www.vtpi.org/tm/tm51.htm

THE STATE AND CONDITIONS OF TRANSIT USE IN WINNIPEG

Based on data presented in the *Direction to the Future* Report which the City's own Working Group on Public Transportation Policy produced in January 2000, there have been several negative trends in the Winnipeg Transit system between 1982 and 1998. As the following table shows, the number of revenue passengers has declined by 36 per cent, the level of service has declined by between 8 and 21 per cent and average fares, per trip, have increased in real/inflation-adjusted terms by 169 per cent. In real terms, the cost of operating the system also has increased and most of that increase has been paid for by passengers. In fact, according to Transit officials, Winnipeg has the second highest cost recovery rate through fares in Canada, second only to Toronto.

Indicator	1982	1998	Change
1. Number of Revenue Passengers ¹	60 million	38 million	- 36%
2. Annual bus hours of operation ²	1.40 million	1.29 million	- 8%
3. Number of bus hours per square kilometer (level of service) ²	6,003	4,730	- 21%
4. Average fare per trip (1998\$) ¹	\$0.48	\$1.29	+169%
5. Total level of funding (1998\$) ¹	\$66 M	\$88 M	+ 33%
- Provincial Grant	\$18 M	\$16 M	- 11%
- City Grant	\$19 M	\$25 M	+ 31%
- System Generated (fares)	\$29 M	\$47 M	+ 62%

Notes:

¹ These figures have been estimated from charts on pp. 24 and 58 of the *Direction to the Future* Report.

² Pg. 55 of the *Direction to the Future* Report.

Recent Winnipeg stats suggest that transit ridership is continuing to decline. From 2000 to 2004, driving as the main mode of travel used most often to travel to work has increased from 68.7 % to 72.9%; bus travel has declined from 16.8% to 12.2%³

A review of the literature on the determinants of transit ridership clearly shows that the decline in transit ridership is due, in part, to the decline in service and the increase in fares. A recent comprehensive review concluded, as follows:

“ Taken as a whole, variables which directly or indirectly measure automobile access and utility (including auto ownership and parking availability) explain more of the variation in transit ridership than any other family of factors. Next, economic factors, such as unemployment levels, CBD employment levels and income levels explain substantial portions of transit use. . . With respect to internal factors, improvements in service supply – for example, frequency, coverage and reliability – have been shown to be more important than price (fares) in determining ridership. . . service quality is a

³City of Winnipeg, Public Works Department, 2004. Active Transportation Study Report.

more significant factor than both quantity and prices. . . . To sum, transit ridership is largely, though not completely, a product of factors outside of the control of transit managers. Among those factors that transit systems do control, the quality of transit service and adroit pricing of transit services to target particular travel markets have proven most effective. The quantity of transit service is, of course, strongly related to transit use. . . . many of the factors which most affect transit ridership are not beyond the bounds of public policy. Policies which support private vehicle use – such as extensive arterial and freeway systems, relatively low motor fuel taxes, policy which require parking to be provided to satisfy all demand at a price of zero – affect transit use more than policies such as substantial public transit subsidies which encourage transit use. Thus, altering auto-supporting policies to encourage drivers to fully compensate society for the externalities of private vehicle use would likely cause the public to become more judicious in their use of private vehicles and, in metropolitan areas, would make public transit service relatively more attractive to auto users.”⁴

In a subsequent empirical analysis of the determinants of transit ridership in 265 urbanized areas in the U.S., Taylor and Miller found that the level of supply of public transit (# of unlinked trips) had an effect on ridership more than four times as great as that of transit fares.⁵

Fare reductions become interesting when trying to reach people who seldom ride the bus. “Price changes may have relatively little impact on ridership for a basic transit system that primarily serves transit dependent users, but to attract significantly more riders and reduce automobile travel, fares will need to decline and service quality improve significantly to attract more price-sensitive, discretionary riders.”⁶

A much less refined empirical analysis of transit ridership in Canadian municipalities confirms the importance of the level of supply and cost of transit use in determining demand for public transit.⁷

Thus, from the Winnipeg transit statistics and literature cited above, it is clear that the City has adopted policies over the last 20 years that have caused transit ridership to decline. On the one hand, it has constrained the total amount of service offered (bus hours of operation) to less than that of the early 1980s while providing service over a broader geographical area, resulting in a reduced quantity and quality of service per route. On the other hand, it has deliberately chosen to finance the growing costs of the transit system by relying much more heavily on fares, resulting in fare increases well

⁴ Brian D. Taylor and Camille N.Y. Fink, *The Factors Influencing Transit Ridership: A Review and Analysis of the Ridership Literature*. UCLA Department of Urban Planning Working Paper. 2003. www.uctc.net/papers/681.pdf

⁵ Brian D. Taylor and Douglas Miller, *Analyzing the Determinants of Transit Ridership Using a Two-Stage Least Squares Regression on a National Sample of Urbanized Areas*. UCLA Department of Urban Planning Working Paper. 2003. www.uctc.net/papers/682.pdf

⁶ Victoria Transport Policy Institute, 2004. *Transportation Elasticities: How Prices and Other Factors Affect Travel Behavior*, TDM Encyclopedia, www.vtpi.org/tdm/tdm11.htm#_Toc68662045.

⁷ Harold M. Kohn, *Factors Affecting Urban Transit Ridership*. Statistics Canada. Cat. No. 53F0003-XIE.

above the changes in both the cost of living and in automobile use (see, pg. 44 of the *Direction to the Future* Report).

It is also clear that the City must increase the level of service provided to Winnipeggers and constrain the cost of fares in order to increase ridership. The key challenge is how to do that in the most cost effective manner, while building the environmental integrity of the fleet.

MEASURES REQUIRED TO INCREASE TRANSIT RIDERSHIP

The *Direction to the Future* Report indicates the range of improvements required to increase transit ridership. Winnipeg Transit has stayed the course to implement improvements suggested in the report. Transit officials report that the following changes have and continue to be implemented since the year 2000:

Measures Which Have Been Implemented

1. Making on-going improvements to service

- Routes have been modified and new routes have been implemented, as travel patterns change;
- The bus fleet is being converted to low-floor design. Forty-four per cent of the fleet is currently low-floor and all new buses are of a low-floor design;
- Major stops are being upgraded, with approximately 5 stops upgraded each year;
- Fifteen to 20 new transit shelters are added each year.

2. Making transit easier to use

- Four demand-responsive DART services have been implemented;
- Eleven Park and Ride lots have been created;
- Map and timetable improvements have been made;
- The transit website and TELEBUS system has been improved;
- The automated On-Line Trip Planning Service (Navigo) on www.winnipegtransit.com has been implemented.

3. Making the service more affordable

- Weekly passes have been introduced;
- "Power-Hour" Time-Slice Transfer System has been implemented;
- Post-secondary discounted monthly bus pass and employer subsidized monthly bus pass (Ecopass) has been implemented.

Note: The 20 per cent fare discount for post-secondary students resulted in a 6 to 8 per cent increase in transit trips by these students during the academic year.

4. Making the service more productive

- Several 'Transit Priority' measures have been implemented such as introducing diamond lanes and transit signal priorities.

5. Making a commitment to high speed transit

- Several new express routes have been implemented and more are planned.

Measures Which Have Not Been Implemented

What is missing from this list of improvements is the implementation of the proposed/recommended Bus Rapid Transit Initiative. The key rationale for investing in a Bus Rapid Transit was well stated by the *Direction to the Future* report. It said:

"If additional ridership is to be attracted to public transit, then measures must be taken to improve the **performance** of the transit system . . . The key to improving transit performance in Winnipeg is **speed** . . . A commitment to high speed transit requires the operation of buses in congestion-free corridors. In ascending order of effectiveness, it includes the following components:

- Expanded express services.
- On-street rapid bus services to improve the speed, on-time performance and comfort of mainline transit routes.
- Rapid transit in selected radial corridors to make transit travel competitive with automobile travel."⁸

The report goes on to note that express services traveling in heavily traveled streets cannot provide sufficient time savings to compete with the automobile. What is needed is a system of high speed transit corridors dedicated to the exclusive use of public transit vehicles.

RCM concurs with the need for the development of such a system for Winnipeg. With a system that linked the downtown with the four quadrants of the City via dedicated roadways, commuters could be brought quickly downtown. There would be a clear rationale for creating Park and Ride facilities at the terminal points of these expressways which provide amenities and services in each of suburban quadrants of the City. This would offer the commuter the convenience of travelling on foot, bike, carpool or car for a short trip to the terminus of the busway coupled with the quick ride downtown. Particularly if the Park and Ride had secure bike lock-up facilities and parking space was free, or included in the price of a weekly / monthly bus pass, or far less expensive than downtown parking, it would offer a clear financial incentive for commuters to use this service.

⁸ City of Winnipeg, *Direction to the Future: The Guide to Better Transit for Winnipeg. Final Report.* January 7, 2000. pg. 51.

The City's own *Sustainable Winnipeg: A Comprehensive Environmental Strategy* recommends implementing the suggestions provided in the *Direction to the Future* Report as an important strategy for improving public transportation.

Transportation Options for Use in Dedicated Public Transit Corridors

There are two possible options for building a rapid transit system- Bus Rapid Transit (BRT) or Light Rail Transit (LRT). Both options have been implemented in various locations throughout North America and have been studied extensively.

A recent analysis was carried out in 2001 by the federal U.S. government's General Accounting Office (GAO). It confirms the economic superiority of the BRT approach to providing rapid transit.⁹ It notes that the average cost per mile for **constructing** light rail systems was \$34.8 Million (in year 2000\$), compared to \$13.5 Million for busways, \$9.0 Million for bus on High Occupancy Vehicle (HOV) lanes and \$0.7 Million for bus on arterial routes (see, Figure 6). **Operating** costs (per revenue hour and per revenue mile) tend to be lower for Bus Rapid Transit systems than Light Rail systems (see, Figures 7 and 8). Finally, Figure 9 of the GAO report shows that the average speed is substantially greater for BRT systems. Thus, on both the construction and operating costs criteria, the BRT approach proves superior to the LRT approach.

The City of Winnipeg conducted a Cost Benefit Analysis on a Bus Rapid Transit project. A conservative estimate gives a 2.14:1 benefit to cost ratio, which is high for a public investment. In comparison, the estimated Cost Benefit Analysis for the Kenaston Overpass project produces a 1.2:1 ratio.

There is a third, lesser studied, option for a dedicated rapid transit system accomplished by running commuter trains on existing rail infrastructure. The City of Ottawa has turned an under-used rail line into an "urban people mover" at a cost of about \$2.6 million per kilometre for construction, as described in the January 23 edition of the Winnipeg Free Press. If such an option were evaluated for Winnipeg, some important points to consider are:

- the existence of multiple rail lines that cross the city, many of which are used sparingly;
- Many of these lines converge downtown;
- Several lines travel through areas of the city where much of the recent development has occurred (eg: Island Lakes, Royal Woods);
- Existing and potential developments could be incorporated into the network (eg: Forks/Union Station);
- The current transit system need not be disrupted, and linkages are possible to integrate a variety of travel modes;
- *Direction to the Future* clearly identifies using the rail right of ways as major routes for expansion of the rapid transit system.

⁹ General Accounting Office, *MASS TRANSIT: Bus Rapid Transit Shows Promise*. September 2001. www.gao.gov/new.items/d01984.pdf

On the strength of this analysis and the cost benefit studies which have been conducted by the City of Winnipeg and other agencies, RCM believes that a *comprehensive* BRT option is the clear choice for Winnipeg.

As VTPI¹⁰, Transit officials and Winnipeg bus users have suggested, a comprehensive BRT system must include the following characteristics:

1. BRT must be integrated into the overall transit system, including a coordinated network, a common fare policy, common workforce, integrated passenger information systems, etc.
2. Park n' ride system must be incorporated at bus stops along the BRT, with covered and heated shelters, real-time schedule information display boards, maps, ticket vending machines, telephones, benches, landscaping and retail convenience outlets.
3. Convenient pedestrian and cyclist access is provided to all stops and stations used by BRT routes with secure bike lock-up facilities. On this point, RCM was pleased to read in *Sam's Action Plan for a New Winnipeg* the Mayor's vision for "expanded pedestrian and bicycle paths with way-finding signage... for people to make their way home after work or to access major public transit junctions."
4. A clear approach is taken to provide a comprehensive development of the rapid transit system in such a way that service to certain communities or segments of the population is not undermined to provide better service to others.
5. BRT must be considered as just one part of the solution in improving the Transit system as a whole for all the people of Winnipeg. Existing routes must be planned to integrate directly into the BRT system, as to allow for ease of connections. Reduced waiting times and easier connections can contribute as much as speed of the vehicle in providing important service improvements.
6. BRT must use clean technology by adding hybrid diesel-electric buses into the fleet renewal program. Toronto is preparing to spend up to \$110 million to purchase a fleet of hybrid diesel-electric bus purchases. Hybrid-electric buses cost about \$750,000 per unit, compared to between \$450,000 and \$500,000 for standard diesel buses. Seattle has the largest in-service hybrid fleet in the world, with 210 buses manufactured by Winnipeg-based New Flyer.

10 Victoria Transport Policy Institute, 2004. *Transit Evaluation: Determining the Value of Public Transit Service*, TDM Encyclopedia, , <http://www.vtpi.org/tm/tm62.htm>

Additional Measures Required to Increase Transit Ridership

By way of increasing transit ridership, two other measures should be given priority consideration by the Rapid Transit Task Force:

- a) Expansion of non-traditional service delivery like the flexible dial-a-ride service (DART) that operates on demand when and where required; and,
- b) Developing supportive conditions

Expansion of Non-Traditional Services

With respect to the expansion of non-traditional service delivery like the DART, there are several proposals for taking this concept further by making it the chief means of public transit within the low-density suburban areas of the City.¹¹ One proposal features small buses that pick up passengers at sites within a six minute walk of their house. The service is accessed by phone and the dispatcher asks for your site location and destination. The bus arrives within six minutes and payment is made electronically via bank or credit card. For the suburban areas of the city where demand for regular transit service is low, these transit options may provide a more cost effective way of serving the public than that of increasing the frequency and number of buses. If the expansion of this option allows buses to be removed from routes serving low density areas of the city and put onto major arterial routes, then the quality of service would increase substantially, leading to substantial increases in ridership, as the empirical literature has shown.

The key to success for this type of system is integration into an improved Transit system which would make it worth while for someone to consider using public transportation in the first place.

Creation of Supportive Conditions

Of vital importance to increasing transit ridership is the creation of conditions which are supportive to the use of transit. The *Direction to the Future* Report cites six such conditions:

- Strengthen Plan Wpg to encourage transit use
- Integrate land-use planning more fully with transportation planning;
- Improve pedestrian facilities;
- Integrate transit more fully downtown;
- Integrate individual and group modes of travel; and,
- Minimize further growth in the supply of long-term parking in the downtown.

¹¹ Anton C. Nelessen, *The Computer Commuter: Neighbourhood Transit for the 21st Century*. At: <http://tmip.fhwa.dot.gov/clearinghouse/docs/udes/nelessen.stm>.

These conditions are supported by *Transportation Demand Management* practices and policies, as outlined by the Victoria Transport Policy Institute¹².

Transit Oriented Development

In their annotated bibliography on *Financing Transit System Through Value Capture*¹³, Smith and Gihring (2004) describe how Transit Oriented Development can provide a number of benefits to residents, businesses and society, including improved accessibility, reduced consumer transportation costs, reduced traffic congestion, reduced parking costs, reduced accidents, plus environmental and health benefits. They explain how proximity to transit tends to be particularly important for:

- Retail businesses that serve transit riders.
- Employment centers that attract many commuters, such as offices, medical centers and educational facilities.
- Recreational and entertainment activities that attract large crowds.
- Residents who cannot drive, or prefer to use alternatives.

Furthermore, TODs increases an employers' potential employment pool, and many types of retail businesses want to take advantage of the concentrated pedestrian traffic around transit stations.

With respect to the enactment of land use measures which promote "Transit Oriented Design" (TOD), the City of Minneapolis' website includes a good article which describes how zoning can be used to promote transit use.¹⁴ Transit Oriented Design measures include things like,

- a) Reducing the number of parking stalls required for multifamily housing developments located in close proximity to transit routes. This provides an opportunity for the developer to intensify the use of land by building even denser housing;
- b) Creating the opportunity for reductions in the number of required parking stalls if the development includes an appropriate transit shelter and/or bicycle racks;
- c) Creating parking lot maximums to avoid unused parking space; and,
- d) Creating bonus density incentives if parking is located underground.

A recent example of how current zoning by-laws work against transit-oriented development is the requirement that the new Safeway being constructed in Osborne Village have 212 parking spaces. Given that most of the customers live within a short distance of this store, this requirement was excessive and would have further degraded the walkability of Osborne Village. (To the City's credit, a variance was introduced to

¹² Victoria Transport Policy Institute, 2004. *Transit Evaluation: Determining the Value of Public Transit Service*, TDM Encyclopedia. www.vtpi.org/tdm/tdm62.htm

¹³ Jeffery J. Smith and Thomas A. Gihring, November 2004. *Financing Transit Systems Through Value Capture: An Annotated Bibliography*, submitted for publication in the *American Journal of Economics and Sociology*. <http://www.vtpi.org/smith.htm>.

¹⁴ *The Role of Zoning in Implementation of Transit-Oriented Development (TOD) in the Hiawatha Corridor*. At: www.ci.minneapolis.mn.us/lrtrezoning/tod-hiawatha.asp

slightly reduce the number of required parking stalls, with a total number for the entire proposed new development at 160).

Creating Walkable Environments

Developing pedestrian-friendly neighborhoods can often lead to improved transportation outcomes, including better integration of Transit into core areas and provision for group and individual modes of travel. All transit trips include a walking (or cycling) component. When access is improved for pedestrians and cyclists, then Transit becomes a more attractive option. Coupled with dedicated Transit facilities, high congestion areas can be improved by reducing the infrastructure for regular vehicular traffic.

Take the case of Osborne Village. Transit officials confirm that congestion through this area can add up to 10 minutes to a route at any time of the day, and up to 19 minutes during peak hours. There are two solutions to providing better transit service through this area. The first is to by-pass the area entirely, as was proposed in the BRT plan of 2004, such that buses riding on a separate corridor can avoid the congested areas on Osborne. Unfortunately, this solution does nothing to resolve the conflicts that continue to exist among pedestrians, cyclists, transit users and motorists who live, work or shop in the area.

The second approach is to solve the congestion problem; that is to considerably reduce the number of motorized vehicles actually entering the area. Steps to provide more friendly spaces for pedestrians and cyclists can be the catalyst for change in these high congestion areas. Enabling "road diet" approaches, such as those identified by Dan Burden¹⁵, includes switching car lanes to transit only lanes, providing space for cyclists and walkers, reducing speeds, improving signalization, and limiting left turns during peak hours. These improvements provide better flow of traffic right through the entire area. A re-design of the corridor from Confusion Corner up to and including Osborne Bridge that puts emphasis on walking and transit first could considerably improve the flow of people, and vehicles, through the area.

In many Canadian cities, four-lane roadways carrying 19,000 to 25,000 cars per day, which traditionally discouraged mobility and access of transit users, pedestrians and cyclists, were successfully prescribed road diets. For example, in Toronto, a 1.6 km section of St. George Street was converted from four lanes to two lanes at a cost of \$4M (in 1997). The roadway carries the same capacity as before. Ottawa and Hamilton have successfully implemented similar "road diet" conversions.

Equitable fare structure

There is a common perception that people currently pay much more to operate their car than to take the bus. This is true in the case of the "all or nothing" approach, where one either sells or refuses to buy a vehicle and chooses alternative modes of transportation at all times. This is an unlikely scenario for most Winnipeggers, especially as a short-

¹⁵ Dan Burden and Peter Lagerwey 1999. *Road Diets: Fixing the Big Road*. Walkable Communities Inc. <http://www.walkable.org/download/rdiets.pdf>.

term solution. A more realistic, manageable approach presents a situation where individuals or households still own a vehicle and just choose to drive it less. People will choose to drive their car only when necessary, such as to pick up groceries or drop off children at the soccer practice.

In the more likely second scenario, the *marginal cost* of using a vehicle to go to work actually decreases significantly. The costs for insurance, leasing or owing, and financing a car are actually considered by car owners as “sunk costs”. Thus, only variable operating costs, such as gas, parking and maintenance are considered when determining whether to drive or use an alternate mode. The CAA has calculated that the average annual operating cost per km in 2004 for a caravan was just under \$0.13/km (based on 18,000 kms driven annually; not including parking). At that rate, one would have to travel at least 15 kms (one way) for transit to become an economically attractive alternative (comparing the marginal cost of driving with paying the current Transit one-way fare of \$1.85). As a recent City of Winnipeg Public Works study confirms, most Winnipeg commuters travel on average 8km to get to work. For most people, the perception remains that it is cheaper to use their car than to opt for public transit.

Of course the actual marginal costs are much higher, but are not perceived because they are in the public realm (street repair, cleaning, etc) or are not easily translated into economic values (air and noise pollution, water contamination from street run-off, etc). A fundamental shift in how the costs of marginal trips are calculated and communicated is sorely needed. Until that happens, reducing the costs for using Transit and devising a more adequate fare structure are important ways of balancing the drive vs. ride equation. Examples of preferential rate treatments include:

1. **Higher discounts for seniors and students.** Calgary offers student and senior discount at a fraction of the original cost (about 50\$ per year).
2. **Drastic decrease in fares,** to a level where the rates are attractive to a much larger percentage of the population. (A 1\$ fare makes the marginal cost of driving more expensive than Transit for someone who lives up to 8km away).
3. **Better promotion of existing discounted services,** such as the free downtown shuttles and the Ecopass program.
4. Engaging in discussions with provincial and federal government officials to make the **Ecopass program a tax-exempt benefit for employees.** Better yet, follow the example of the Quebec government and move toward designating the **purchase of a monthly pass as a tax deductible expense.** Such a program would send a positive price signal to commuters who already choose transit, and attract new riders.
5. Considering the **option of distance-based fares.** Based on the marginal cost analysis, distance-based fares become interesting because those who travel a shorter distance pay less, making Transit more attractive compared to driving. Consequently, those who travel further distances would pay more. As long as fares are still lower than operational driving costs, those who live further away will find it interesting to choose Transit to get to regular destinations.

6. Promoting **Pay-As-You-Drive (PAYD) Insurance** pricing mechanisms. PAYD means that a vehicle's insurance premiums are based directly on how much it is driven. This lets motorists save money by reducing their mileage. PAYD can be a consumer option, so motorists select the rate structure that offers them the best value. This would be one other enticement to choose transit, because users will pay less on insurance by leaving their car at home.

OPTIONS FOR FINANCING THE CONSTRUCTION OF A RAPID TRANSIT SYSTEM

In their review of the literature on the determinants of transit ridership, Taylor and Fink stated,

"Policies which support private vehicle use – such as extensive arterial and freeway systems, relatively low motor fuel taxes, policy which require parking to be provided to satisfy all demand at a price of zero – affect transit use more than policies such as substantial public transit subsidies which encourage transit use. . . Thus, altering auto-supporting policies to encourage drivers to fully compensate society for the externalities of private vehicle use would likely cause the public to become more judicious in their use of private vehicles and, in metropolitan areas, would make public transit service relatively more attractive to auto users."¹⁶

This quote forms the basis of our recommendation for financing the construction of a BRT through levies on the use of vehicles in the City. Simply building a BRT without altering the relative prices commuters pay for using their car vs. transit is of limited value in promoting transit ridership. Measures are required which, on the one hand, make it more expensive to use the Single Occupancy Vehicle (SOV) for commuting and, on the other hand, make it easier and more convenient to use public transit. Building a BRT system accomplishes only the latter. Financing the construction of such a system through levies on the use of the car accomplishes the former. With both policy levers in place, transit ridership will increase much more than with just an improved transit system.

The City is hoping to secure a share of the federal excise tax on gas and diesel fuel within the next year or so. The City's own Environmental Strategy clearly recommends working with other levels of government to shift the investment of fuel tax revenue away from urban automobile infrastructure and towards public transportation infrastructure as one way of fostering sustainable behaviour among its citizens. RCM urges the Rapid Transit Task Force to strongly recommend that a significant part of any money flowing from the federal gas tax be devoted to financing a BRT in the City.

¹⁶ See, footnote 2, above.

However, through a recent amendment to the City of Winnipeg Charter, Council now possesses the authority to raise additional revenues through the application of a special levy on parking lots throughout the City. The Province amended the City of Winnipeg Charter to permit Council, by by-law, to create classes of premises assessed for business assessment. Classes may be differentiated in any way and on any basis that council considers appropriate. Furthermore, the business tax rate may be different for each class established by Council.

With this amendment, Council now has the authority to designate parking lots both downtown and throughout the City as a special class of premise and apply a tax rate on those premises aimed at raising additional revenues for improvements to the City's transportation infrastructure. Doing so would accomplish two things. First, it would raise the cost of using the automobile to commute thus raising the marginal cost of driving and tipping the scales in favour of transit use. Secondly, it would tax those who cause the wear and tear on the road system of the City and create additional revenues needed to repair the road system and strengthen the public transit infrastructure. Under this system, tax breaks should be afforded for special areas designated as Bike and Ride or Park and Ride areas.

SUMMARY AND CONCLUSIONS

Sustainable transportation objectives require increased public transit options, more comprehensive analysis of private vehicle impacts, consideration of demand management solutions, and public involvement in transportation decision-making.

The evidence clearly shows that the City has been pursuing policies over the last 20 years that are counter to these objectives and have resulted in significant declines in transit ridership. To reverse this trend, the City must increase the quantity and quality of public transit offered to the public and keep fare increases to changes in the cost of living, with considerations for new fares structures that attract new users. Building a BRT system for the City is the required next step to improving the quantity and quality of transit service.

However, other measures are also needed to encourage the public to use an expanded transit system. They include expansion of DART-like transit services in the suburbs, the adoption of Transit Oriented Design measures and the limitation and taxing of parking lots throughout the City. Creating a special levy on parking lots that raised money to improve the transportation infrastructure of the City (both roads and public transit) would tax those who cause the wear and tear on the road system, increase the operation costs of driving, and provide them with a financial incentive to use transit more and provide a revenue source to improve the quality and quantity of transit.

The Victoria Transport Policy Institute confirms that transit ridership has increased in many specific markets in recent years, particular after the introduction of service

improvements, marketing strategies, and Transit Oriented Developments.¹⁷ In fact, there is a recent trend where demand is shifting from the personal automobile to public transportation -- society is now becoming attuned to the benefits from developing a more diverse transportation system through multi-modal land use patterns.¹⁸

RCM believes that Winnipeggers are opening up to a new way of thinking and are ready to reap the benefits of TDM and TOD approaches. With Transportation Demand Management initiatives in place, one can then more readily opt for public transit, carpooling or cycling to get to work or school. In fact, recent stats show that ridership has actually increased in some of the better Transit-serviced areas of the City. Continued focus on TDM and TOD will provide the framework to reproduce this expansion into suburban areas.

As the David Suzuki Foundation has confirmed, in *Taking the High Road, Sustainable Transportation for the 21st Century*:

“increasing public transit usage and infrastructure will contribute to improvements in urban growth management, reducing the cumulative impacts of urban sprawl. As commercial centres and more compact residential developments occur along transit lines, the amount of land dedicated to urban areas is reduced. Additionally, as fewer cars are on the road and congestion decreases, less land is needed for new roads.”¹⁹

Winnipeg can expect to see similar overall social, ecological, and economic benefits by investing NOW in rapid transit. This commitment should be supported by measures to recover the hidden, externalized costs of private automobile use and to implement service improvements in an integrated, multi-modal transportation system.

¹⁷ TRL, 2004, *The Demand for Public Transit: A practical Guide*, Transportation Research Laboratory, Report, www.trl.co.uk

¹⁸ Todd Litman, 2004. *You Can get there from here: Evaluation Transportation System Diversity*, Victoria Transport Policy Institute. www.vtpi.org.

¹⁹ *Taking the High Road, Sustainable Transportation for the 21st Century*, David Suzuki Foundation, 1999.