Next Stop Health: Transit Access and Health Inequities in Toronto

March 2013

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The photo used on the cover was taken by a parent who participated in the Toronto Public Health study, *Perspectives of Parenting on a Low Income in Toronto*. Her statement about this photo was: ***"I can't afford to have a car now, so for emergencies, I can take the bus, or I can walk."*** This captures a key theme of the report: families on a low income must rely on public transit to access needed programs and services, but it is not always an affordable option.

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About this Report:

Access to public transit contributes to the health of individuals, neighbourhoods, and to the city overall. The importance of public transit in Toronto is evident in residents' high usage rates to commute to work compared to other Canadian cities. This is particularly true for lower income commuters who are more dependent on public transit to get to work than their higher income counterparts.

Despite greater reliance on public transit, its cost remains a problem for low income Toronto residents, particularly for those on social assistance. As well, the availability of transit has an impact on low income residents' ability to access important goods and services such as food, health care, employment, and recreation, all of which impact their health.

It is critical that the barriers to accessing public transit experienced by low income residents be addressed. It is an opportune time to consider the needs of low income residents given the focus on transit expansion in Toronto. This is especially important given the impact of limited access to transit on health and well-being. This report examines public transit use in Toronto, disparities in affordability and availability of public transit, the health impact of limited access to transit for low income residents, and strategies to improve access to public transit for low income residents.

In addition to this technical report, there is a TPH staff report that summarizes *Next Stop Health: Transit Access and Health Inequities in Toronto* and makes recommendations regarding transit affordability and availability. TPH also commissioned the Civics Research Co-operative to conduct a jurisdictional review of strategies to increase the affordability of public transportation for people living on a low income. The report provides an in-depth description of seven discount transit pass programs being implemented in Canada.

The staff report, technical report, and key findings from *A Jurisdictional Review of Canadian Initiatives to Improve the Affordability of Public Transit for People Living on a Low Income* were presented to the Toronto Board of Health on March 25, 2013. Copies of these reports can be found at: http://www.toronto.ca/health

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Introduction

> ***"Social inclusion is an important role of public transit. The ability to participate actively in society is often dependent on accessibility and for many groups, transit is a key link for them. Seniors, students, new Canadians, and low income earners are among the people who benefit from access to affordable and comprehensive transit. A major factor in social inclusion is the ability to access – both in an abstract and physical sense – jobs, healthcare, education, and other facilities. By increasing the scope and potency of our transit systems, we will be providing more opportunities than simply travel to a number of Canadians."***
>
> Senator Art Eggleton

Healthy cities are liveable, prosperous, and sustainable. They are cities with high quality built and natural environments, public transit, housing, culture, education, food, and health care. Healthy cities do not just happen. They result from creative vision, strategic decision-making, and thoughtful implementation that respects the needs and challenges of all residents. They happen by design, through intentional investment and provision of infrastructure, programs and services with health in mind. This vision of a healthy city was articulated in Healthy Toronto By Design, the first in a series of reports by Toronto Public Health exploring what makes a city healthy (Toronto Public Health, 2011a).

An affordable and available public transit system is an important component of a healthy, inclusive, and welcoming city. Public transit enables all residents to access the determinants of health, maximize health related opportunities, and fully participate in urban life. The use of public transit contributes to increased levels of physical activity by promoting walking (Besser & Dannenberg, 2005; Lachapelle & Frank, 2009), improved air quality, and lower greenhouse gas emissions (Canadian Urban Transit Association, 2003). It is also a key component of the economy and plays a vital role in Canada's productivity (Canadian Urban Transit Association, 2010).

Public transit is highly valued by Canadians. A 2012 national public opinion survey conducted among Canadians with public transit in their communities found that 94% of Canadians and 96% of residents of the Toronto Census Metropolitan Area (CMA) believe it is important for the community to have access to public transit. Over half (57%) of Canadians are very concerned that governments are not making public transit infrastructure a priority (Canadian Urban Transit Association, 2012).

Access to transportation supports equity; it provides disadvantaged populations with access to the pathways to health, social, and economic well-being (Litman, 2012). Economically disadvantaged populations are less likely to have a car (Hess & Farrow, 2010) and more likely to rely on public transit (Canadian Urban Transit Association, 2003). Yet cost and availability issues pose barriers to use. This is of concern as public transit is critical for accessing food (Dempster & Tucs, 2012, Transport Canada, 2006; City of Toronto, 2005), employment, education, health services, and social and recreational activities. It can also help to reduce social isolation (Dempster & Tucs, 2012, Transport Canada, 2006; Toronto Employment and Social Services, 2008; City of Toronto, 2005).

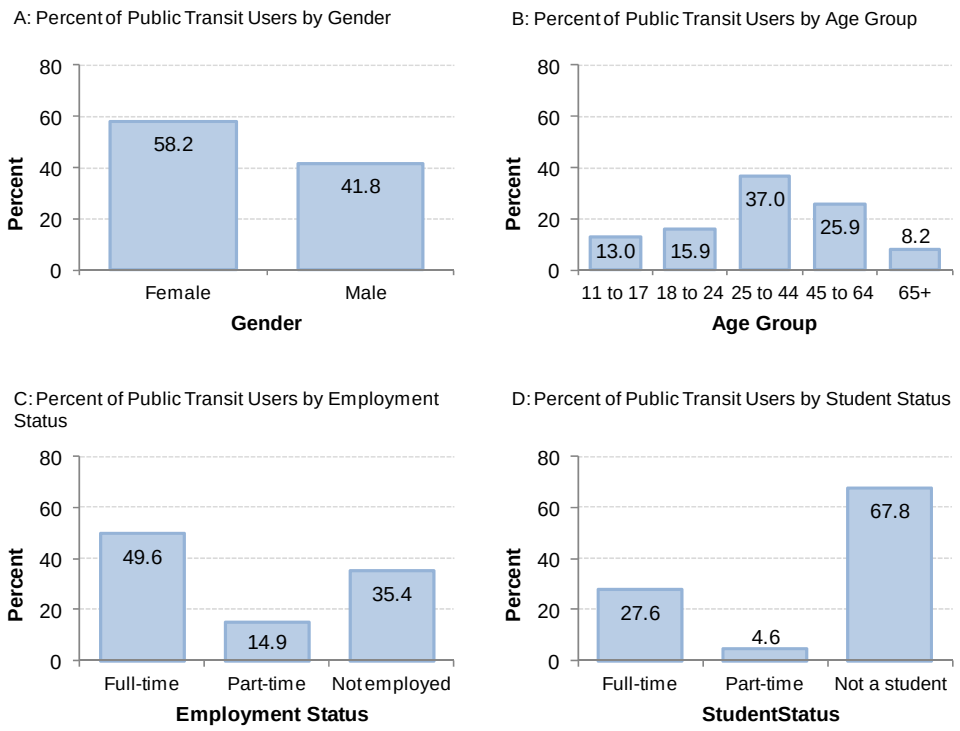
This report examines public transit use in Toronto, disparities in affordability and availability of public transit, the health impact of limited access to transit for low income residents, and strategies to improve access to public transit for low income residents.

Public Transit in Toronto

Use of Public Transit

Public transit ridership has increased in Toronto every year for the past eight years and was projected to increase to 503 million in 2012. Ridership increased from 477.3 million in 2010 to 500.2 million in 2011 (TTC Operating Statistics, 2011). According to the 2006 Transportation Tomorrow Survey (TTS), more females use public transit in Toronto compared to males (58.2% vs. 41.8%) (Figure1A). The majority of public transit users were 25 to 64 years of age (62.9%), and ridership was highest among 25 to 44 year olds (37.0%) (Figure1B). Almost two-thirds of riders were employed either full-time or part-time (Figure 1C) and one-third (32.2%) of public transit users were students (Figure 1D).

Figure 1: Select Socio-Demographic Characteristics of Public Transit Users, Toronto, 2006



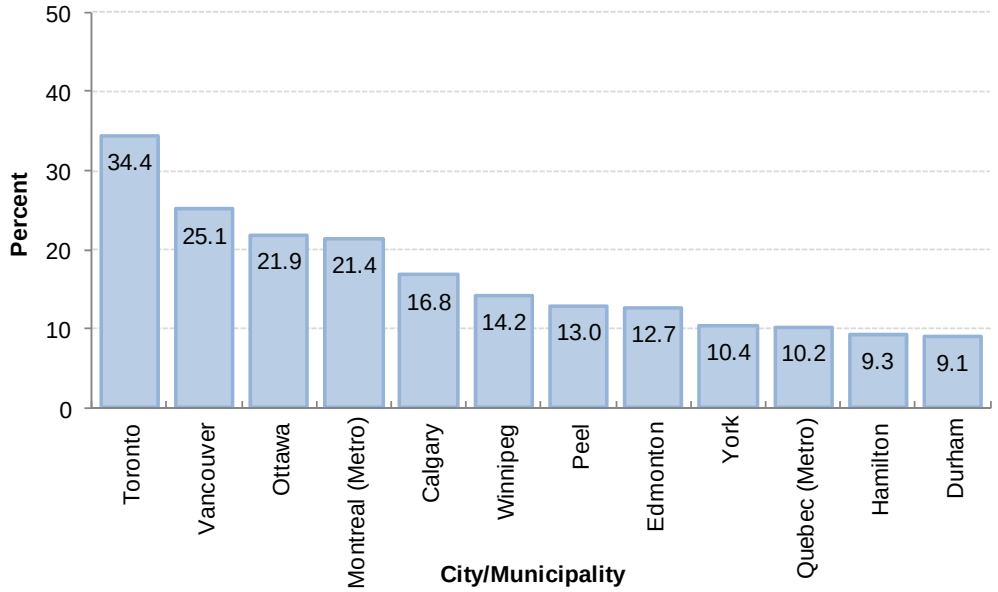
Notes: (1) Primary Mode of Travel: Transit excluding GO Rail. (2) Full-time employment status includes 1.3% of public transit users who work from home full-time; part-time employment includes 0.7% of public transit users who work from home part-time. (3) Not employed includes people not in labour force.

Source: Data Management Group, University of Toronto. Transportation Tomorrow Survey, 2006

Prepared by: Toronto Public Health, May 2012

According to the 2006 Census, Toronto (34.4%) has the highest percentage of commuters who use public transit to travel to work compared to other Canadian cities, including similar urban centres such as Vancouver (25.1%) and Montreal (21.4%) (Figure 2).

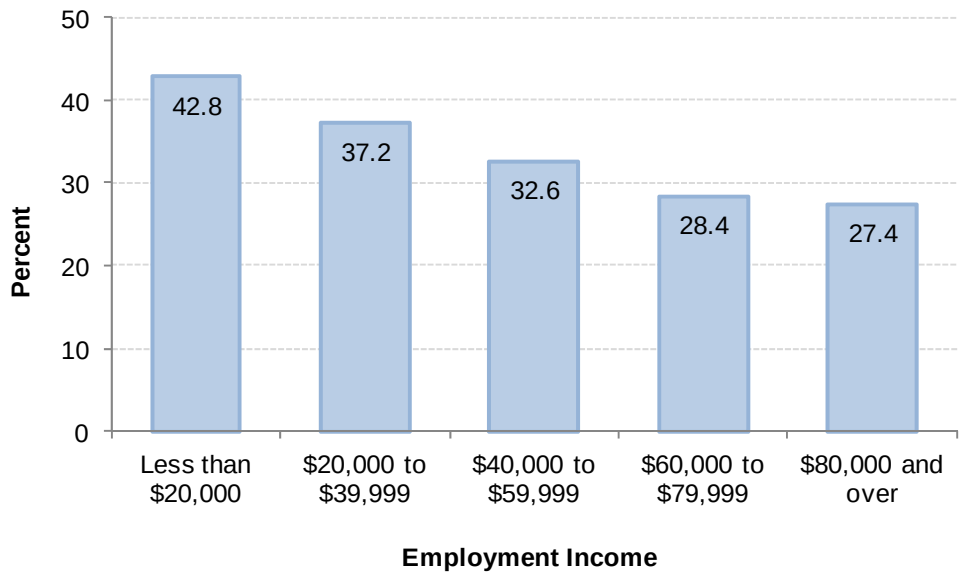
Figure 2: Percent of Commuters Using Public Transit to Get to Work, Select Canadian Cities/Municipalities, 2006



Notes: (1) Figure includes Quality of Life Reporting System members with populations (2006) greater than 500,000.
Source: Federation of Canadian Municipalities, Quality of Life Reporting System. Ottawa, Ontario.
Prepared by: Toronto Public Health, May 2012.

Mode of transportation to commute to work is related to income level in Toronto. Use of public transit to travel to work is highest among low income groups. The lowest income commuters are 1.6 times more likely to use public transit to get to work compared to the highest income commuters (42.8% vs. 27.4%, respectively) (Figure 3). The opposite trend is seen for commuters using private motorized vehicles (e.g. car, van, truck, motorcycle), where the highest income commuters are 1.5 times more likely to commute using a private motorized vehicle compared to the lowest income commuters (66.5% vs. 44.4%, respectively).

Figure 3: Percent of Labour Force Using Public Transit to Commute to Work by Employment Income, Aged 15+, Toronto, 2006



Notes: (1) Mode of transportation to work by total employment income of persons 15 years and over with a usual place of work or no fixed workplace address.

Source: Statistics Canada, 2006 Census of Canada (CANSIM Table: 97-561-XCB2006015.IVT)

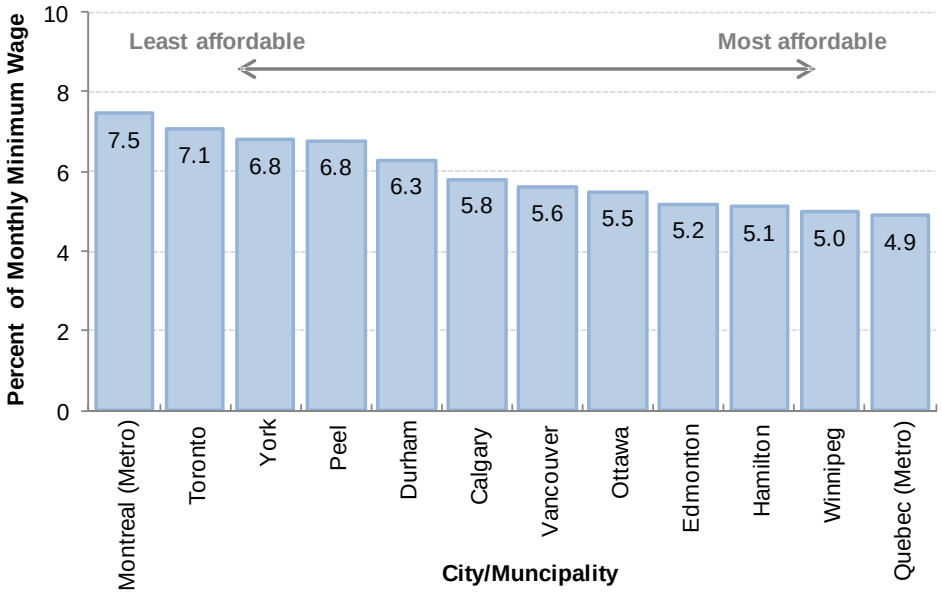
Prepared by: Toronto Public Health, May 2012

Economically disadvantaged populations are more reliant on public transit. A recent study examining walkability in eight Toronto high rise neighbourhoods (seven in the inner suburbs and one in the core of the city) found that for households reporting annual incomes of $24,000 or less, 56% reported being without a vehicle compared to 33% of households with incomes of $25,000-$39,000 and 29% of households with incomes of $40,000 or more. Most of the study participants (79%) reported combined annual incomes of less than $40,000 per year. Public transit was the most common way to travel to work or school (41%) for study participants. Walking (27%) or a combination of walking and other modes, that is, walking in one direction and using transit or taxis in the other direction (26%) was the most common way to shop for food. Using mixed modes was identified as a way to carry heavy groceries and save travel fare (Hess & Farrow, 2010).

Affordability of Public Transit

Toronto has one of the least affordable transit passes among Canadian cities, based on the cost of a monthly transit pass as a percent of monthly minimum wage income (Figure 4). In 2009, among Canada's three largest urban centres, a public transit pass was the most affordable in Vancouver (5.6%) compared to Toronto (7.1%) and Montreal (7.5%), the least affordable (Federation of Canadian Municipalities, 2010).

Figure 4: Transit Affordability (Cost of Monthly Transit Pass as a Percent of Monthly Minimum Wage Income), Select Canadian Cities/ Municipalities, 2009



Notes: (1) Figure includes Quality of Life Reporting System members with populations (2006) greater than 500,000.
Source: Federation of Canadian Municipalities, Quality of Life Reporting System. Ottawa, Ontario.
Prepared by: Toronto Public Health, May 2012.

While examining the cost of a transit pass as a percent of income is helpful, it does not provide a complete picture of people's economic circumstances. When the cost of rent and healthy food are taken into account, it becomes apparent that many individuals and families living on a low income have very little money left over to meet their basic needs, including the purchase of a metro pass. The Ontario Public Health Association Food Security Working Group developed seven scenarios depicting various family sizes, levels of income, and cost of rent and healthy food (Table 1). These scenarios demonstrate that after paying for rent (ranging from 63% to 126% of total monthly income) and healthy food (ranging from 23% to 40% of total monthly income), Ontario Works and Ontario Disability Support Program recipients (Scenarios 1,4,5,6) do not have sufficient funds to purchase a monthly transit pass. In stark contrast, after paying for rent and healthy food, a household with the median income for Ontario has sufficient funds to purchase a metro pass.

Table 1: Nutritious Food Basket Scenarios and Metro Pass Affordability, May 2012

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7
	Family of Four, Ontario Works	**Family of Four, Minimum Wage Earner (Full-time/Full-year)[j]**	**Family of Four Median ONTARIO Income (after tax)[k]**	**Single Parent Household with 2 Children, Ontario Works**	**One Person Household, Ontario Works**	**One Person Household, ODSP**	**One Person Household, OAS/GIS**
Monthly Calculations							
Total Income	**$2,032.00**	**$2,639.00**	**$6,360.00**	**$1,855.00**	**$642.00**	**$1,115.00**	**$1,326.00**
Total Selected Expenses (Rent and Food)	**$2,151.04**	**$2,151.04**	**$2,151.04**	**$1,740.54**	**$1,063.54**	**$1,264.54**	**$1,196.84**
Funds Remaining (for other basic needs)	-$119.04	$487.96	$4,208.96	$114.46	-$421.54	-$149.54	$129.16
Cost of a TTC Metro Pass	$128.50	$128.50	$128.50	$128.50	$128.50	$128.50	$106.00
Funds Remaining (for other basic needs) After Purchase of Metro Pass	-$247.54	$359.46	$4,080.46	-$14.04	-$550.04	-$278.04	$23.16
Percentage of income required for rent	68%	53%	22%	63%	126%	90%	76%
Percentage of income required to purchase healthy food	38%	29%	12%	31%	40%	23%	14%
Percentage of income required to purchase a TTC Metro Pass	6%	5%	2%	7%	20%	12%	8%

Notes: (1) Depending on the scenario, total income may include: Income from Employment, Basic Allowance[a], Maximum Shelter Allowance[a], Old Age Security/ Guaranteed Income Supplement (OAS/ GIS/ GAINS)[b], Child/Family Benefits[c], GST/HST Tax Credit[d], Ontario Sales Tax Credit[d], Employment Insurance paid[e], Canada pension paid[f], Working Income Tax Benefit[g]
(2) See Appendix A for Scenario References.

Source: Adapted from the May 2012 Nutritious Food Basket Scenarios, Ontario Public Health Association Food Security Work Group.

Help with transportation costs is provided through social assistance for specific employment related activities and medical appointments (City of Toronto Employment and Social Services, n.d.). The transportation costs for other important activities such as grocery shopping are not typically covered through social assistance although there is limited scope to assess requests on a case by case basis.

Cost of fares has also been identified as a barrier to public transit use for people living on a low income in Toronto (Shapiro, 2012; Toronto Public Health, 2011b; Wilson et al., 2011; Campbell, 2009; Community Social Planning Council of Toronto & Family Service Association of Toronto, 2004; Toronto Employment and Social Services, 2008; City of Toronto, 2005; and Khosla, 2003). In 2005, a quarter (24.5%) of the population in Toronto lived below the Statistics Canada low income cut-off (before tax) (LICO), up from 22.6% in 2000. Recent income trends show that the situation in Toronto is worsening. The median household income in Toronto increased by only 7% between 2000 and 2005, compared with 13% for Ontario and 15% for Canada (Toronto Public Health, 2008). Groups in Toronto that are more likely to be low income are children, youth, senior women, recent immigrants, members of racialized groups, and lone parents (Social Policy, Analysis & Research, 2011).

In 2010, Toronto's Fair Fare Coalition undertook "*No Fair Box*", a project aimed at gathering comments about the impact of fare increases and the importance of public transit in people's lives. A total of 237 comments were collected from 13 sites including drop-in centres, health centres and community centres across the Greater Toronto Area. A key concern identified by respondents was the cost of fares. People reported that the cost of public transit limits their access to essential programs and services (e.g., doctors' appointments, food programs, employment services) by restricting when and where they can go. For many respondents, decisions can come down to purchasing food or taking the TTC. Groups identified as facing particular difficulties were seniors, persons with disabilities and others on fixed income, especially those receiving social assistance. Some respondents reported turning to alternatives such as riding a bike, despite feeling that it is unsafe (Shapiro, 2012). However, for some, cycling is not always an option.

> ***"I am a widow senior woman living on a fixed income…. I frequent drop-ins to get tokens, otherwise I would not be able to afford TTC tickets. I have many doctors' appointments and it is expensive."***
>
> Shapiro, 2012

A survey of clients of Sistering, a women's health based organization, found that 63% of women indicated that help with TTC fares was the most helpful service that community-based organizations offer. Almost one-third of participants reported that not having access to public transportation was an obstacle to accessing community support services (Campbell, 2009). The need to address transportation barriers was also identified in research on the health and social service needs of homeless and underhoused women in Toronto. One solution recommended by participants to improve access to services for homeless women was to reduce barriers to public transportation by providing transit tickets and passes (Ontario Prevention Clearinghouse, Ontario Women's Health Network, Toronto Christian Resource Centre and Toronto Public Health, 2006). The need for organizations to provide TTC tokens for newcomers to access services has also been identified by several Toronto Local Immigration Partnerships (Lawrence Heights LIP, 2011; Northwest Scarborough LIP, 2011; and Bathurst/Finch LIP, 2011).

Many community-based organizations and various city divisions/departments such as Toronto Social Services, Social Development Finance and Administration and Toronto Public Health recognize that the cost of public transit is a potential barrier to the use of programs and services for people living on a low income (City of Toronto, 2005). In 2006, the Community Services Committee approved a review process

to ensure that all City programs provide transit support to low income participants, where this support would improve program effectiveness (City of Toronto, 2006).

Many community agencies purchase TTC tickets and tokens to support clients. In 2009, the Fair Fare Coalition conducted an informal survey of annual TTC expenditures by community agencies. Twenty-eight agencies participated in the survey. TTC expenditure ranged from $0-$90,000, with an average of $14,209. While some agencies did not have the funding to provide TTC fares, others relied on a number of sources including private donations, fundraising, and different levels of government (Fair Fare Coalition, 2009). More recently, Sistering, a women's health based organization, spent $33,000 in 2011 for TTC fares to support clients (Lindsay, 2012). In 2012, Woodgreen Community Services, one of the largest social service agencies in Toronto with 32 locations, spent $86,000 for TTC tokens for clients (Dyson, 2013).

Lack of funds for public transit was also identified as a concern by individuals living on a low income in numerous community consultations conducted as part of the development of the Ontario Poverty Reduction Strategy. This resulted in people not being able to apply for jobs and families not being able to access resources for themselves or their children. The strategy identified access to public transit as a key area in which municipalities could make an important contribution and encouraged local governments to look at other jurisdictions for best practices (Government of Ontario, 2008).

Availability of Public Transit

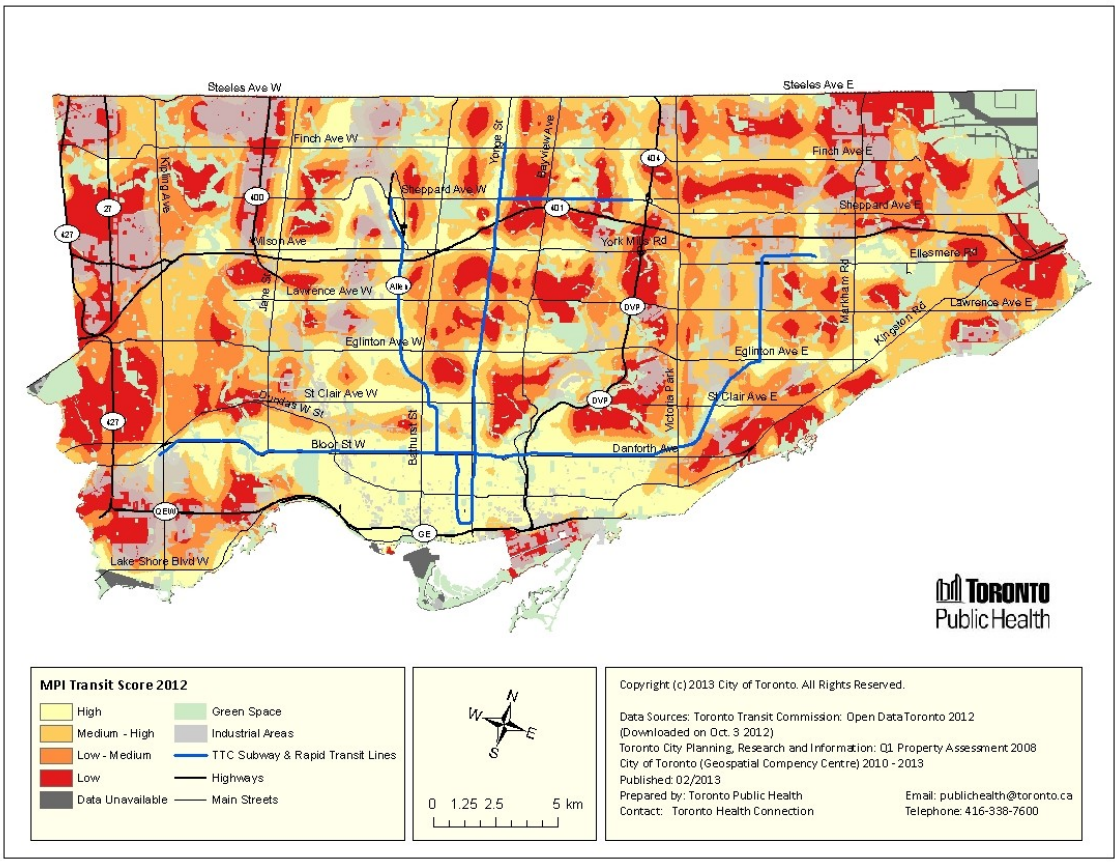
Toronto's long term transportation plan extends 25 years into the future. It is important that this plan take into account the changing economic picture in Toronto. *The Three Cities in Toronto* (2010) has demonstrated that from 1970 to 2005 income polarization has occurred resulting in a significant increase in low income neighbourhoods and a decline in middle income neighbourhoods. The location of low and very low income neighbourhoods has become concentrated in the inner suburbs (Hulchanski, 2010). If these trends continue, by 2025 only a fraction of Toronto's neighbourhoods will be middle income, with the remaining being either high or low income neighbourhoods (Hulchanski, 2010). This projected geographic concentration of low income has implications for the future affordability and availability of public transit in Toronto. The report notes that these trends can be altered by implementing measures to increase the affordability of housing for low income households, revitalizing aging high rises in the inner suburbs, and expanding access to transit and services in areas with the greatest need (Hulchanski, 2010).

These recommendations were echoed in *Creating a Healthier Toronto through the Official Plan* (2012), a recent staff report to the Board of Health, based on a Toronto roundtable on public health and land use. Among the recommendations for strengthening health and equity considerations in various policies in the Official Plan were access to affordable housing in all areas of the city and access to public transit service in Toronto's inner suburbs that is affordable, frequent, and with good connectivity to employment areas, including downtown (City of Toronto, 2012).

Toronto continues to experience an increased number of low income residents in the inner suburbs. Families are moving to high rise buildings in these areas because they are increasingly becoming the only places they can afford to live in the city (United Way, 2011). In the past, these were middle income communities where people had access to a personal vehicle. These areas were designed with little commercial development nearby as it was assumed that people would have access to a personal vehicle (Toronto Public Health & the Centre for Urban Growth and Renewal, 2012; Martin Prosperity Institute, 2010). This creates barriers to mobility for people living in these areas who cannot afford an automobile, making access to public transit even more important.

Availability and frequency of transit across Toronto has been measured using the Transit Score, which was developed by the University of Toronto's Martin Prosperity Institute (MPI) (Martin Prosperity Institute, 2011; Martin Prosperity Institute, 2012). Toronto Public Health adapted the MPI method and used more recent data on TTC routes, type of TTC vehicle, and stop schedules and locations to develop a Transit Score map. It is important to note that the Transit Score is not an assessment of specific TTC routes. The Transit Score is an estimate of availability of public transit based on the density of transit stops, frequency of service, and vehicle capacity in areas in close proximity to one another (Figure 5).

Figure 5: Martin Prosperity Institute (MPI) Transit Score 2012, Toronto



Notes:

(1) Transit scores were calculated for each stop location which had transit between 7 am and 8 pm on regular weekday service and based on the number of TTC vehicles that stopped. The score was then weighted by relative vehicle capacity (buses were weighted 0.25, streetcars weighted 0.5 and subways weighted 1). The transit score was then divided to represent an average hour. Transit score = ((frequency of buses x 0.25) + (frequency of street cars x 0.5) + (frequency of subways x 1)) / 13

(2) An Interpolation model was used to create the transit score surface map. Interpolation is a geo-statistical method used to estimate transit scores in areas where no sample points exist. The interpolation model chosen was a Kernel Smoothing Model, which is a variation of a first order Local Polynomial Interpolation and uses the shortest distance between points for prediction (ESRI, 2011). This model was chosen to take into account natural barriers which exist within the landscape of Toronto.

Transit scores vary across Toronto (Figure 5). High transit scores are seen primarily in the downtown core reflecting a higher concentration of stops, frequency of service, and vehicle capacity. Transit scores generally decrease as distance from subway lines or major roads increases. Yet there are some areas with low transit scores that can be seen adjacent to subway lines. This occurs when there are longer distances between subway stops and little transit along the side streets or where there are natural barriers to transit

such as green space or highways. There are many areas of Toronto with a relatively high density of stops, frequency of service and vehicle capacity.

There are also areas located throughout the City with low transit scores. Some of these areas are located in the inner suburbs, close to industrial areas. Low transit scores in industrial areas may be related to more frequent transit service when people are travelling to and from work and less frequent service throughout the rest of the day. The TTC (2008) has standards that govern the location of transit stops, frequency of service, and how service changes are made. For bus and streetcar routes, the minimum level of service is 30 minutes. Service frequency levels beyond that are determined by ridership numbers (Toronto Transit Commission, 2008). It is important to note that the transit score map does not take into consideration where people are travelling to or the length of time it takes people to reach their destinations, which may have an impact on transit use.

In areas of the city with low transit scores and low income, affordability and/or the number of transfers required to reach destinations may be barriers to using transit. These factors would affect ridership levels and consequently frequency of service. Given that many of the areas with low transit scores are located close to industrial areas, re-development of neighbourhoods is also an important consideration. Toronto Public Health's report, *Walkable City* (2012), notes that old neighbourhoods can be transformed from industrial areas into pedestrian and transit-supportive neighbourhoods (Toronto Public Health, 2012). Transit improvement and expansion plans in Toronto should take into account areas of the city with low transit scores and low incomes. Engaging residents in these areas in a dialogue about the barriers they face in accessing transit is important.

New Rapid Transit Expansion

Significant new rapid transit expansion is planned for the City of Toronto. In 2008, Metrolinx released *The Big Move*, a 25 year, $50 billion regional transportation plan. Metrolinx was established by the Government of Ontario to improve co-ordination and integration of all modes of transportation in the Greater Toronto and Hamilton Area. A key element of this plan is the establishment of a regional rapid transit network (Metrolinx, 2008). "Rapid transit refers to any system of buses, street cars, light rail, subways or trains that operate on dedicated lanes or tracks that are separated from other vehicles. Rapid transit systems provide express service, connecting riders to major transit hubs with a minimal number of stops along the way" (Metrolinx, n.d. a).

Among Metrolinx priority projects slated for early implementation are four light rail transit (LRT) lines in Toronto that received funding totalling $8.7 billion (Metrolinx, 2012). In November 2012, Metrolinx and the TTC signed an agreement to build these lines (Metrolinx, n.d.b):

- Eglinton Crosstown LRT from Jane Street/Black Creek to Kennedy Station
- Scarborough RT replacement and extension to Sheppard Avenue
- Sheppard East LRT from Don Mills station east to Morningside Avenue
- Finch West LRT from the future Finch West subway station to the extended Spadina Subway line to Humber College.

The Big Move also identified several other unfunded Toronto rapid transit projects. Some examples include (City of Toronto, 2012):

- Eglinton Crosstown LRT-Phase 2 Jane/Black Creek to Pearson Airport
- Scarborough RT: Extension Scarborough Centre to Malvern
- Scarborough-Malvern BRT/LRT: Kennedy Station to Malvern

- Sheppard East LRT-Phase 2 Morningside/Conlins Yard to Meadowvale
- Finch West LRT-Phase 2 Keele to Don Mills, south to Sheppard, Beyond Phase 2 Humber College to Pearson Airport
- Downtown Core Subway Capacity Relief : East & West
- Yonge Subway Extension: Finch Station to Richmond Hill/Langstaff Gateway

Metrolinx recently announced its next wave of *Big Move* projects, which include two new subway lines in Toronto, the Downtown Relief Line and the Yonge North Subway Extension (Metrolinx, n.d. c). Metrolinx is currently developing a funding strategy to support implementation of its next phase and other unfunded projects in its regional transportation plan. Public consultations are being undertaken to support the development of this funding strategy which is due to the Province by June 2013 (City of Toronto, 2012).

Health Impacts of Limited Access to Public Transit

For low income residents access to programs and services that support health and well-being is even more important. The report, *The Unequal City: Income and Health Inequalities in Toronto* clearly demonstrates that areas of Toronto with a higher proportion of people with low income experience more risk factors for illness, higher rates of disease, and death at an earlier age than people with higher incomes (Toronto Public Health, 2008). Difficulty accessing transit, whether due to cost or availability, can have adverse impacts on health by limiting access to health and other services, food, employment and educational opportunities, settlement services, recreation, and social outings.

Access to Health Services

Health services aimed at maintaining and promoting health, preventing disease and restoring function all contribute to health and well-being. Many barriers exist to accessing health services such as physical accessibility, geographic isolation, socio-cultural issues, and the cost of non-insured services (Butler-Jones, 2008). Limited access to transit is also a barrier to accessing health services (Toronto Public Health, 2011b; Mckeary & Newbold, 2010), which can be compounded by these other barriers.

> ***"But I guess there was a situation where, I think it was on a weekend, and my son had fallen and needed to get to the medical clinic. And there was just no way to get there at all, so I had to wait a couple of days until I had the money to get on the bus and go there."***
>
> ***"We were all going for family counselling . . . but we had to back out because I just couldn't afford the fee plus the transportation for everybody."***
>
> Williamson et al., 2006

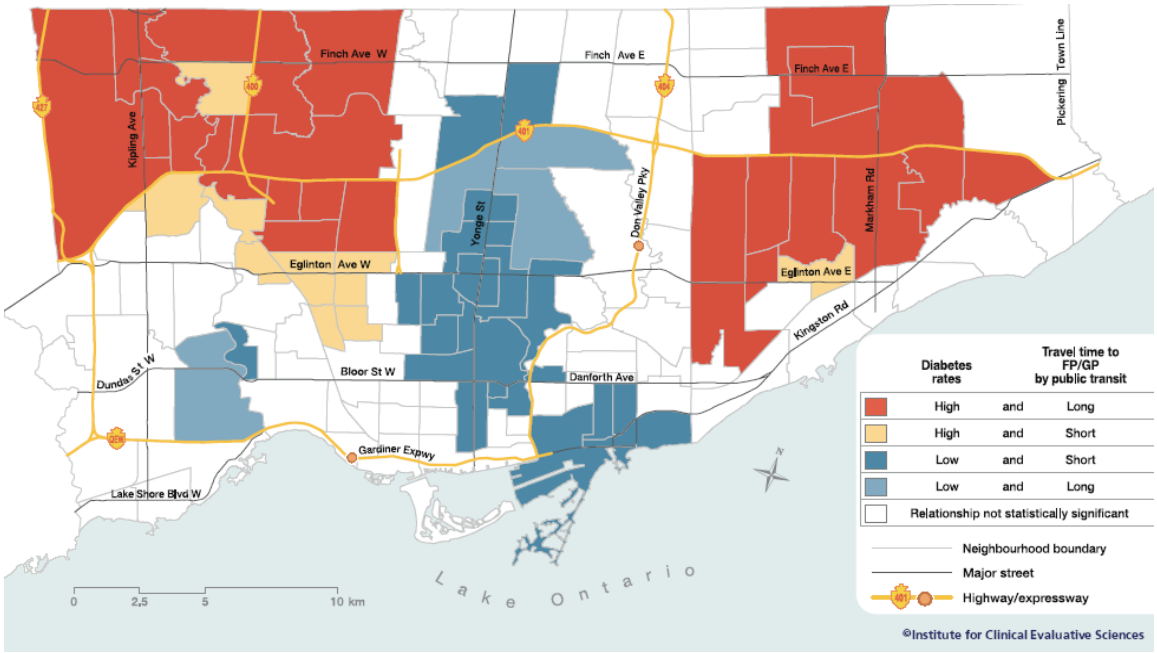
Access to transit is important for the management of children's health. A recent Toronto Public Health study of the impact of poverty on parenting and promoting child health and development illustrated the various ways that inability to afford public transit can affect the family. Sometimes parents missed doctor/specialist, dental care and developmental service appointments for their children because they did not have the transit fare. Some low income parents will put off taking their child to their doctor until the child is due for a vaccination even though they may have a concern. This could delay early identification and treatment of a health problem for a child. This study also found that the cost of public transit affects the ability to access other community-based services such as parent child programs and food banks which have an impact on physical and mental well-being (Toronto Public Health, 2011b).

Similarly, an Edmonton study found that low incomes, inadequate health coverage, and lack of transportation were barriers to low income parents' capacity to promote child health and manage illnesses. Parents without cars reported that they were sometimes not able to afford bus or taxi fare to take their sick children to the doctor or to regular activities and programs (Williamson & Drummond, 2000).

Another study conducted in Toronto and Edmonton (Williamson et al., 2006) also found that low income residents restricted their use of health-related services due to transportation concerns. Many participants only used services accessible by public transportation or located close to home. In addition, participants' access to services was sometimes limited because they could not afford to pay for transit.

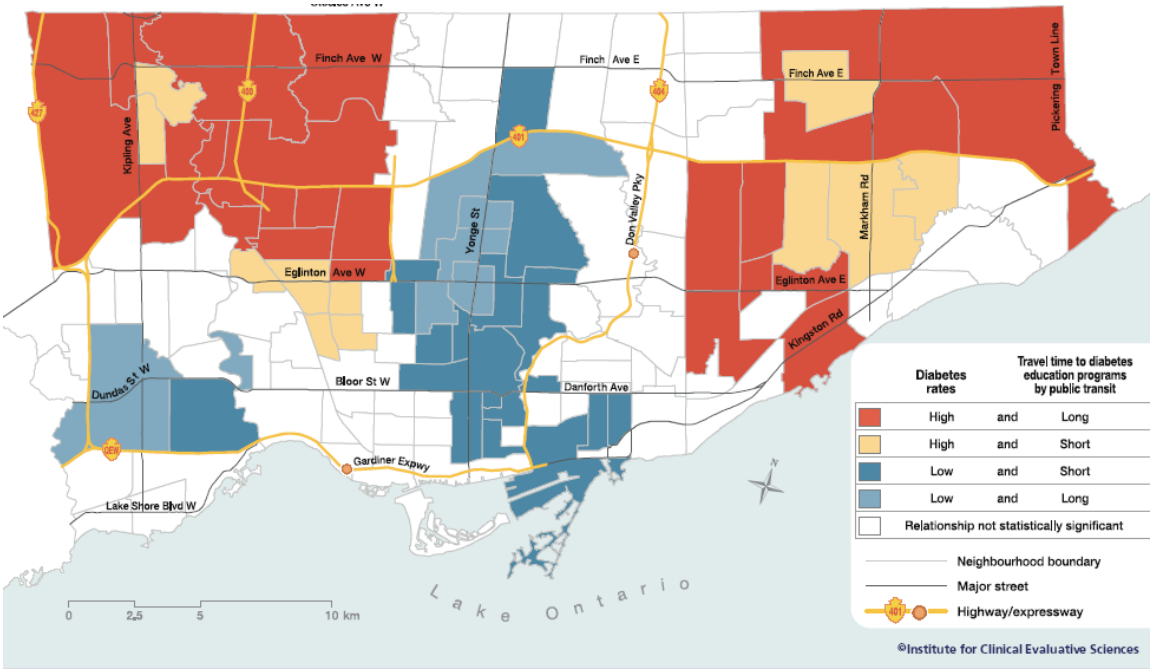
Another example that illustrates the importance of transit to access in health services is diabetes management. *Neighbourhood Environments and Resources for Healthy Living-A Focus on Diabetes in Toronto* (2007), describe relationships between neighbourhood characteristics and diabetes prevalence and uses geographic methods to map these patterns. One of the factors examined in the study was accessibility of physicians and diabetes education centres, based on where people live. These resources are important to the prevention of diabetes in high risk populations and to the management of the disease. The study found that areas in the northwest and east ends of the city had higher diabetes rates and longer public transit travel times to family physicians/general practitioners (Figure 6) and community and hospital based diabetes education programs (Figure 7). These areas of the city also had lower average annual household incomes. Downtown Toronto has the highest concentration of family physicians/general practitioners whereas the northwest and east ends of the city have fewer doctors. This was also the case for diabetes education programs which are also primarily located in downtown Toronto. Improving public transit in parts of the city with high diabetes rates could increase access to services necessary for the diagnosis and control of diabetes and its related conditions (Glazier et al., 2007).

Figure 6: Spatial Relationship between Diabetes Prevalence Rates [2001/2002] (high or low) and Travel Time to the Nearest Family Physician/General Practitioner (GP/FP) by Public Transit [2002] (long or short), by Neighbourhood or Residence in Toronto



Source: Glazier et al., 2007

Figure 7: Spatial Relationship between Diabetes Prevalence Rates [2001/02] (high or low) and Travel Time to Diabetes Education Programs by Public Transit (long or short), by Neighbourhood or Residence, Toronto



Source: Glazier et al., 2007

A study of newcomer health in Toronto found that the need to travel long distances to medical appointments and the lack of access to a car, especially when travelling with children, were the two most common transportation-related barriers. Other challenges noted were having limited knowledge of the transit system and clinic locations (Toronto Public Health & Access Alliance Multicultural Health and Community Services, 2011). A Hamilton study examining barriers to health care access for refugees also identified transportation-related barriers. The inability to afford transit fares was one of the factors found to contribute to missed health care appointments (McKeary & Newbold, 2010).

Access to Healthy Food

Access to a sufficient quality and quantity of food is fundamental to health. Inadequate access to healthy food is associated with chronic illnesses such as heart disease, diabetes, high blood pressure, and poor self rated health (Mikkonen & Raphael, 2010). Many Torontonians face economic and geographic barriers to accessing healthy and culturally appropriate foods on a regular basis (Daily Bread Food Bank, 2012). Several neighbourhoods in the city are underserved by quality and lower-priced food retail options within easy walking distance, along with relatively poor access to public transit. Even individuals in areas that are well served by healthy food retail can face challenges, especially seniors, newcomers, those with disabilities and single parents with young children (Toronto Public Health, 2010).

Thousands of lower income residents, primarily those outside the downtown core, live more than one kilometre from a supermarket. Many of these neighbourhoods are also dominated by food retail locations that offer few healthy, high quality and lower priced items. While more affluent neighbourhoods also often have a lower density of food retail, these residents have the financial resources to overcome geographic barriers to food access (Nasr, Polsky, Patychuk, & Sopher, 2011).

In Toronto, many residents of the inner suburbs are highly reliant on walking or public transit to reach food stores which are located a considerable distance away from where people live (Martin Prosperity Institute, 2010). The Toronto Food Strategy consultations found that residents living outside the downtown core had to travel outside of their neighbourhood to grocery shop. Many had to take public transit and spoke about the challenges associated with travelling with children, transferring buses, and carrying several grocery bags on the bus. They also mentioned wanting to go to several stores to get the best prices or to purchase food that is culturally appropriate or met their religious requirements; however, they were unable to afford the transit costs of going to multiple locations (Toronto Public Health, 2010).

Residents in many of Toronto's lower income communities have consistently voiced concerns about the availability of healthy, affordable food, as evidenced by consultations conducted by the IntoHealth Partnership (Todorva, 2011). Many individuals living on low incomes report having to travel long distances to reach community fresh food markets, food banks, and low cost grocery stores. The cost of public transit incurred was identified as a burden for those already living on very limited means. Participants proposed reducing the cost of transit passes for the unemployed, people living with a disability and those receiving social assistance (Todorova, 2011). Toronto residents living on low incomes who participated in a community food mapping exercise also identified the need for flexibility with TTC transfers to allow time for food shopping at route intersections on the way home without having to pay additional fares (Toronto Public Health, 2010).

Access to Employment/Education/Training

Employment provides a source of income but also provides a sense of identity and structure to daily life. Lack of employment is associated with poverty, physical and mental health problems such as stress, depression and anxiety, and unhealthy coping behaviours such as tobacco use and excessive alcohol use (Mikkonen & Raphael, 2010). Education also contributes to health and economic success by increasing the chances for job and income security, and job satisfaction. It also increases people's ability to seek out and understand information to help keep them healthy (Public Health Agency of Canada, n.d.).

> ***"I used to work at KFC but I couldn't afford to pay for child care and transportation."***
>
> ***"Transportation costs too much in this city when you're poor. My daughter stayed home from school yesterday (because we had no money for TTC). It's embarrassing."***
>
> Community Social Planning Council of Toronto & Family Service Association of Toronto, 2004

Access to public transit is important for employment, particularly for low wage workers. A recent study of racialized residents of the Black Creek area working in precarious employment found that inadequate public transit, length of travel from home to work, and the rising cost of fares were some of the reported barriers to finding secure stable employment (Access Alliance, 2011). Another study exploring work, access to community services and their impacts on young families in Toronto had similar findings (Community Social Planning Council of Toronto & Family Service Association of Toronto, 2004). Parents identified transportation problems, particularly for night shifts or jobs in the suburbs, as a barrier to maintaining work. They identified the need for affordable transit, better transit services in the suburbs and improved service at night, and to support low wage workers and reflect the changing conditions and location of work in the city (Community Social Planning Council of Toronto & Family Service Association of Toronto, 2004).

Access to public transit is also vital for education and training. The presence of available and accessible public transit was identified as one of the seventeen key characteristics of a welcoming community according to a report commissioned by Citizenship and Immigration Canada. A welcoming community is

important to the long-term integration of immigrants (Esses, Hamilton, Bennett-AbuAyyash & Burstein, 2010). A recent study of settlement and integration services use by immigrants and refugees in Ontario highlights the role that public transportation plays in communities. Survey respondents from the Toronto CMA identified public transit as the most commonly used mode of transportation to employment and skills training (65.5%) and language training (48.8%) programs and services. They identified distance to services as the most common barrier to accessing employment and skills training (16.8%) and language training (12.6%) programs and services (Ontario Council of Agencies Serving Immigrants, 2012).

In another study exploring best practices in Language Instruction for Newcomers to Canada (LINC) in six Ontario communities (including Toronto), approximately 75% of the programs reported transportation assistance as a major need for students (Cummins, Jacot & Parau, 2006). These findings are echoed in the work of the Toronto Local Immigration Partnerships which were formed to help communities develop strategic action plans to support the social and economic integration of newcomers. The cost of transit and inaccessibility and under-servicing of transit in some areas were identified as barriers to accessing services (Social Development, Finance and Administration, 2011).

Access to Recreation/Social Activities

Recreation and cultural programs have numerous physical, emotional, and social benefits. Physical activity can lower the risk of chronic health conditions such as cardiovascular disease, stroke, hypertension, diabetes, colon cancer, breast cancer, and osteoporosis (Warburton, Charleworth, Ivey, Nettefold, & Bredin, 2010). In addition, participation in recreation and cultural activities contributes to positive mental health and promotes the development of social relationships (Torjman, 2004).

Limited access to transportation can be a barrier to participating in recreation programs (Redmond & Associates, 2007; Hanvey, 2001; Community Social Planning Council & Family Services Association, 2004; Toronto Public Health, 2011b). This was illustrated in a multi-component initiative implemented by the Ontario Task Group on Access to Recreation for Low Income Families. This project involved conducting a survey of municipal policies, reviewing promising practices, and developing a policy framework and implementation guide to support the participation of low income families in recreation. The 2007 survey of 145 municipal recreation practitioners in Ontario found that 62% of municipalities identified limited transportation and equipment as key barriers to accessing recreation but that only 7% of municipalities reported providing funding to address these barriers (Redmond & Associates, 2007). Similarly, another survey of municipal recreation departments across Canada found that 47% of respondents identified transportation as a barrier to school aged children and youth accessing recreation programs (Hanvey, 2001).

One of the key themes that emerged from the review of promising practices in Ontario to support participation of low income families in recreation was the importance of eliminating user fees and offsetting transportation and equipment costs (Ontario Task Force on Affordable Access to Recreation, 2008). The need to address these barriers was integrated into both the Task Group's policy framework and guide to support communities to develop affordable access policies for recreation (Ontario Task Force on Affordable Access to Recreation, n.d.). A Toronto study exploring work, access to community services, and their impacts on young families also found that transit costs were a barrier for some families without local access to recreation centres (Community Social Planning Council & Family Services Association, 2004).

The City of Toronto Investing in Families (IIF) Project was identified as a promising practice to increase access to recreation for low income families (Ontario Task Force on Affordable Access to Recreation, 2008). IIF integrates employment, health, recreation and childcare services for single parents on social assistance so they find secure sustainable jobs. This is achieved through intensive case management and

service planning which includes addressing transportation issues in recognition of how important access to affordable transit is to support participation in services or activities. Funds are issued monthly based on identified needs and are issued specifically as "participation supports" not from the individual's recreation allotment.

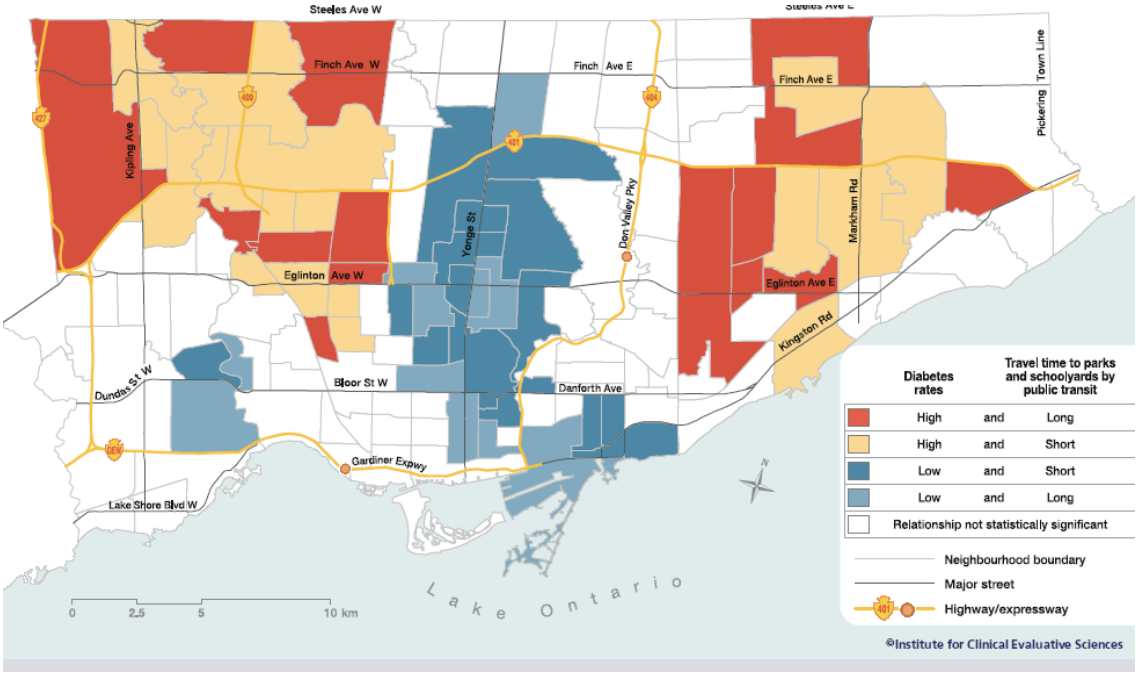
The importance of public transit to access recreation was also identified in a recent IntoHealth survey of Toronto residents living with disabilities, most of whom were living on low incomes. Among the barriers to physical activities for these residents is the expense to transportation to a facility. In addition, nearly one-third of survey respondents identified that “bus stops near facilities” would further increase access to sports facilities. Variety Village is the largest sports facility in Toronto and Canada for individuals living with physical and cognitive disability. For several years, Variety Village had been advocating to the TTC for a bus stop nearer or in front of the centre (Todorova, 2011). In May 2011, the TTC created a bus stop directly in front of Variety Village (Peat, 2011).

A Toronto Public Health study on the impact of poverty on parenting and promoting children's health and development also found that it is difficult for families with young children to even participate in free activities offered in the city, such as visiting Harbourfront, because of the cost of public transit for their family (Toronto Public Health, 2011b).

> ***"I want to be able to go take her downtown, go take her to Harbourfront, go take her to see shows, or this, or that, but it costs money…. The reason why a lot of kids these days are really big is because parents don’t have the money to pay for their bus fare to go anywhere. So that’s why a lot of kids are so cooped up inside because everything is money…. To have a children’s metro pass would be so helpful because then we could take our kids places and our kids wouldn’t be overweight."***
>
> Toronto Public Health, 2011.

In Toronto, parks, schoolyards, and public recreation facilities are generally well distributed. However, *Neighbourhood Environments and Resources for Healthy Living-A Focus on Diabetes in Toronto* (2007), a study of neighbourhood factors related to diabetes found that several neighbourhoods in the northwest and east end of the city had high diabetes rates and longer travel times by public transit to parks and schoolyards (Figure 8) and public recreation facilities. The longer travel times may be related to longer indirect routes and waiting times for public transit connections in some communities. While there are a number of factors related to diabetes, it is important that residents be able to access places where they can exercise (Creatore et. al, 2007).

Figure 8: Spatial Relationship between Age and Sex-Adjusted Diabetes Prevalence Rates [2001/02] (High or Low) and Travel Time to Parks and Schoolyards by Public Transit [2002-2005] (Long or Short), by Neighbourhood of Residence, in Toronto



Source: Creatore et al., 2007

Strategies to Improve Access to Transit for People with Low Income

Public transit facilitates access to important goods and services such as food, health care, employment, and recreation, all of which contribute to good health. Removing barriers to use of public transit needs to be addressed, particularly for people most dependent on it. Affordability and availability are both important aspects of access to transit for people living on a low income.

Improve Affordability of Transit

Transit can be made more affordable for individuals living on a low income in a number of ways. One option is to lower transit costs, through for example, the provision of targeted discount transit pass and ticket programs. Another option is offsetting the cost of transit through incorporating the cost of transportation into social assistance rates and/or ensuring that existing targeted tax benefits take into consideration transit costs. The implementation of universal strategies that address cost can also benefit those living on a low income. These options are discussed in the following section along with affordability measures currently being implemented in Toronto.

Discount Transit Pass Programs

Several Canadian cities provide deeply discounted monthly transit pass programs. *A Jurisdictional Review of Canadian Initiatives to Improve the Affordability of Public Transit for People Living on a Low Income* (2012), commissioned by Toronto Public Health examined seven such programs in depth (Table

2). Five of these programs were well established, and had been operating for a number of years, while two were pilot programs. Most of the programs examined were located in Ontario (Dempster & Tucs, 2012).

In several cases, exploratory work was undertaken prior to the development of the program. In Calgary, two studies were undertaken. One study examined how many people would switch from a regular pass to a discounted pass and the costs associated with this change. The other study identified the level of discount that would be provided to low income residents. York Region undertook a needs assessment which identified transportation as an issue in the region. They also examined various transit subsidy programs (as did other municipalities) prior to the development of their pilot program (Dempster & Tucs, 2012).

Eligibility for most programs was based on having an income below the Statistics Canada low income cut-off. Some jurisdictions also have an employment requirement. Ontario Works (OW) and Ontario Disability Support Program (ODSP) recipients, not receiving other transportation supports, were eligible for most of the programs. In two cases, the target group was social assistance recipients. The jurisdictional review also identified other discount transit pass programs for seniors, people with disabilities, and children (Dempster & Tucs, 2012).

Table 2: Addressing Public Transit Affordability – Monthly Municipal Discount Transit Passes

City/Region	Eligibility	Cost Reduction
Region of Waterloo Transit for Reduced Income Program	Adults with an income below the Low Income Cut-Off (LICO).	The transit pass is reduced by 44% and costs $35.
Transit Assistance Pass Program	OW recipients who are upgrading their education	The transit pass is provided free of charge.
Windsor Affordable Pass Program	Students and adults with an income below the LICO who are working	The transit pass is reduced by 27% for students and 49% for adults and costs $40.
Hamilton Affordable Transit Pass Program	Adults with incomes below the LICO who are working	The transit pass is reduced by 50% and costs $43.50.
Kingston Affordable Transit Pass Program	Youth, adults, and seniors with incomes below the LICO.	The transit pass is reduced by 32% and costs $34.25, $46.50 and $31.50 respectively.
Calgary Low Income Monthly Transit Pass Program	Adults with incomes below 75% of the LICO.	The transit pass is reduced by 57% and costs $40.
Guelph (Pilot) Affordable Bus Pass Program	Youth, adults and seniors with incomes below the Low Income Measure in mid-2012.	The transit pass will be reduced by 50% and cost $31, $36 and $30 respectively.
York Region (Pilot) Discount Transit Pass	OW and ODSP recipients who are working.	The transit pass will be reduced by 50% and cost $57.50.

Source: Dempster & Tucs, 2012

In most instances, program uptake was slower than anticipated. For example, in Hamilton the budget for a one year pilot lasted for over two years. In the first year of operation, Windsor's program only used one third of its budget. Factors thought to contribute to the slower uptake include discount prices still being too expensive, public transit not meeting travel needs in particular communities, and limited advertising of the program because of concerns about need exceeding availability of discount transit passes. The Region of Waterloo's Transit for Reduced Income Program also experienced a slow start up. As a result, the level of discount was increased after six months. The program has a maximum capacity of 2000 registrants. As of December 2011, the program had a waiting list of 1000 people (Dempster & Tucs, 2012).

Funding

Most programs were fully funded from the municipal tax base; however in two cases programs were supplemented by provincial contributions. Only a few programs had some assurance of continuing funding with the rest coming from special/reserve funds. Most funds were provided to social service departments; however, in some instances they are given to transit authorities (Dempster & Tucs, 2012). Allocating funds directly to transit authorities can result in cross-subsidization between funds targeted to low income passengers and the regular fare paid by all passengers. For this reason, funds allocated to social service departments have a higher degree of reliability in targeting groups most in need (Dawson, 2012). The jurisdictional review also identified two provincially funded programs (British Columbia and Saskatchewan). Ontario also provides some transportation subsidies for social assistance recipients (Dempster & Tucs, 2012).

Successful Program Establishment

Many factors played a role in the successful establishment of these programs. The involvement of community advocates and champions in the government such as councillors and municipal staff was vital. An understanding of the importance of transit for those living on a low income was another important factor. In some cases, an imminent change that would decrease transit affordability facilitated action (e.g. fare increase or ending a program). Operating these programs involves some degree of partnership, though the level of collaboration varied significantly between municipalities. City councils, transit authorities, social services and community partners were involved in all of the programs. This was deemed beneficial because of the different strengths and viewpoints of each group (Dempster & Tucs, 2012).

Evaluation

Three of the long term programs have been evaluated (i.e., Region of Waterloo, Calgary, and Hamilton). Overall the programs are considered beneficial to users, specifically in terms of improving access to employment, education, and health services. Maintaining social connections was also noted as another benefit of these programs. For example, Calgary's Low Income Transit Pass Outcome Survey with program users found that having a pass benefitted them in many ways: they had more money to purchase things (90% of respondents); they visited family and friends more often (62%); they went to medical appointments more often (60%); they were able to keep a job (59%); they took more training/education classes (55%); they found employment or better employment (49%); and they were able to volunteer more often (48%) (Dempster & Tucs, 2012).

Discount Ticket Programs

Another strategy being implemented by some municipalities are discounted transit ticket programs. In Calgary, Region of Waterloo, and York Region, community agencies can purchase tickets at a reduced rate from transit authorities. These agencies then distribute tickets to clients free of charge. In the case of York Region, agencies can apply for funding to purchase tickets (Dempster & Tucs, 2012).

In West Midlands, UK, the transportation authority partnered with local employment agencies to implement WorkWise. In this program, unemployed clients are provided with free transit tickets from the employment agencies to attend interviews. The transport authority provides travel information. In England, transport authorities cannot subsidize travel for people who are unemployed. Once employed, clients can receive monthly passes. An evaluation of WorkWise revealed that 80% of clients who found a job reported that they would not have been successful without the program (UITP Transport and Urban Life Commission, 2007).

Incorporation of Transportation Costs in Social Assistance Rates

One of the recommendations of the Ontario Poverty Reduction Strategy was a review of social assistance in Ontario. The review was completed and the final report of the Commission for the Review of Social Assistance in Ontario, *Brighter Prospects: Transforming Social Assistance in Ontario*, was released in October 2012. The report identified the affordability of transportation as an issue and recommended its cost be considered in the establishment of new standard social assistance rates in Ontario. In determining adequacy of rates, the Commission proposed using a Basic Measure of Adequacy (BMA) which reflects the costs of food, clothing, and footwear, personal and household needs, transportation, and shelter. For areas of the province with public transit, the transportation component was based on the cost of a monthly transit pass for two adults and 12 taxi fares per family per year (Lankin & Sheikh, 2012).

Toronto Public Health, as part of a health collaborative, made two submissions to the Commission that noted the importance of addressing transportation costs in a reformed social assistance system (Barnes, Gardner & the Social Assistance Review Health Working Group, 2011 & 2012). The collaborative specifically recommended the creation of a basket of essential supports to enable good health for all including a transportation allowance for all members of a family. This allowance would enable access to employment and training programs, participation in job searching, volunteering, access to health and dental care, attendance at community and recreation programs, and access to grocery and other stores and continued engagement with society (Barnes, Gardner & the Social Assistance Review Health Working Group, 2012).

Tax Benefits

Federal and provincial income security programs (e.g., Working Income Tax Benefit) play an important role in the redistribution of income by increasing low incomes. Improving these measures would have a significant impact on poverty. These tax benefits provide a way to offset the costs of transit for low income individuals who are reliant on transit. The additional advantage of incorporating transit costs into established tax benefits is that the capacity exists to provide payments on a regular basis.

Universal Strategies

While the *Jurisdictional Review of Canadian Initiatives to Improve the Affordability of Public Transit for People Living on a Low Income* (2012) was focused on discount transit pass programs and to a lesser degree discount ticket programs, it also identified some universal strategies that while not directed to those living on a low income, could benefit them too. These strategies include open transfers, free public transit, bulk purchasing, and various passes.

Open Transfers

Some Canadian municipalities have implemented open transfers which allow travel in any direction for a set period of time (Dempster & Tucs, 2012) (Table 3). Open transfers reduce the costs of trip chaining which refers to having more than one destination when commuting for work such as stopping to pick up groceries or for child care. *The Impact of Public Transit Fees on Low Income Individuals and Families in Guelph* (2010) noted that trip chaining is challenging for low income women, particularly lone mothers. Paying multiple fares for multiple trips was identified as a barrier (Ellery & Peters, 2010).

Table 3: Examples of Canadian Municipalities with Open Transfers in 2012

90 Minute Open Transfer	Two Hour Open Transfer
Vancouver	Brampton
Calgary	Oakville
Edmonton	Mississauga
Ottawa	York Region
	Windsor

Source: Transit Authority Websites, 2012

Free Public Transit

Free transit can benefit people with low incomes. Free public transit for all citizens has been advocated for by many groups and is being implemented in some jurisdictions. For example, Hasselt, Belgium has been offering free transit since 1997. In Canada, free transit for specific groups is more common such as people registered with the Canadian National Institute for the Blind, veterans, young children, and attendants travelling with people with disabilities. Free transit based on a specific time of day or location (e.g. Winnipeg and Halifax), such as free mid-day or downtown service, is less common (Dempster & Tucs, 2012).

Bulk Purchasing

Some transit authorities provide minimal discounts based on bulk purchasing of transit passes. These discounts are beneficial for low income transit pass programs. For example, the Region of Waterloo Transit Assistance Pass Program purchases passes at the corporate rate. The savings provide a small increase in the number of passes that can be purchased under the program's budget (Dempster & Tucs, 2012).

Various Passes

There are also different types of passes such as weekly passes (7 day or 5 day), day/weekend passes (for individuals or families), summer-time student passes, free spring-break passes, and discounted student/youth pre-paid passes (e.g., 6 month, term length). Day passes are commonly designed for use by families – including combinations of one or two adults with up to four or five children. These passes, especially at a reduced price, could be very helpful for families with low incomes.

Current Situation in Toronto

The TTC's ten year *Ridership Growth Strategy* (2003) notes that the cost of fares may be an issue for 15-20% of riders who do not have access to a car and are highly reliant on public transit but that it is beyond the mandate of the TTC to deal with issues related to welfare and income distribution. It further notes that fare levels remain affordable for most public transit users. However, the TTC has historically provided reduced fares for children, students, and seniors (Toronto Transit Commission, 2003). A recent Toronto Public Health study explored Toronto residents' views about strategies that could improve the lives of low income families. Residents were asked to consider that implementation of these strategies might result in increased taxes or cuts in spending in other areas. The study found that 77% of respondents supported reducing the cost of TTC for low income families (Toronto Public Health, 2011b).

In Toronto, discounts on monthly metro passes based on income level are not available. The TTC does provide discounts on monthly metro passes for seniors and students. They also provide discounts on yearly metro pass subscriptions, discounts for metro passes for city employees, and bulk metro pass purchases by organizations and institutions. The TTC also offers daily and weekly passes. The TTC does not provide discounts on bulk purchases of tickets or tokens to community agencies.

Toronto's Fair Fare Coalition has been advocating for a subsidized transit pass for people living on a low income as well as for discounts to agencies that make bulk purchases of tokens for distribution to clients (South Riverdale Community Health Centre, n.d.). A reduced cost pass for parents with young children was identified in a Toronto Public Health study on the impact of poverty on parenting and promoting children's health and development (Toronto Public Health, 2011b) and for newcomers by several Toronto Local Immigration Partnerships (Balla, Harb, & Mills, 2010; Northwest Scarborough Local Immigration Partnership, 2011 and Don Valley Local Immigration Partnership). In 2006, Toronto Employment and Social Services, in a report detailing social assistance and broader income support system reforms, recommended that the City of Toronto, together with the province, explore options for making transit passes available for all Toronto residents (including children) receiving Ontario Works (Toronto Social Services, 2006).

The TTC currently operates a two hour open transfer along the 512 St. Clair route (TTC, 2005). This program began as a one year pilot but is still in effect (Topping, 2012). Open transfers are not currently available on other routes in Toronto. Toronto residents living on low incomes who participated in a community food mapping exercise identified the need for flexibility with TTC transfers to allow time for food shopping at route intersections on the way home without having to pay additional fares (Toronto Public Health, 2010).

Improving Availability of Transit in Low Income Areas

The importance of addressing the availability of public transit for socio-economically disadvantaged groups has been integrated into considerations about where rapid transit expansion in Toronto should occur. *The Big Move* noted that rapid transit in the region is intended to provide 80% of residents with service within two kilometres of where they reside. Areas targeted for improved access are those with large populations of seniors and people living on low incomes, because of their increased reliance on transit. The plan also identifies a number of areas of concentrated social need in the GTHA that require improved access to transit (Metrolinx, 2008). These areas of social need are based on an index comprised of six factors: government assistance, seniors, lone-parent families, no high school diploma, low income (LICO), and unemployment rate (E.R.A. Architects, planning Alliance, & Cities Centre at the University of Toronto, 2010).

The Big Move further notes that social needs and impacts should be taken into consideration in determining where investments are made along with financial, economic and environmental needs and impacts (Metrolinx, 2008). For example, the four new LRT lines in Toronto run through nine of thirteen priority neighbourhoods[1] (Figure 9) (Eglinton-Scarborough Crosstown, 2010). The Pembina Institute estimates that implementation of this plan will result in an additional 45, 000 low income residents being connected to rapid transit. They also note that LRTs are beneficial for neighbourhoods because they encourage shopping and activity in local businesses along the street route (Burda & Haines, 2011).

[1] Priority neighbourhoods were identified based on distance to key services and a range of socio-demographic indicators (United Way, 2005). The term Neighbourhood Improvement Area is now being used to identify the work underway in targeted neighbourhoods (City of Toronto, 2012)

Figure 9: Toronto Transit Plan and Priority Neighbourhoods

Source: Toronto Transit Commission

A recent report commissioned by the Hamilton Poverty Roundtable on the impact of LRT on low income households and neighbourhoods identified that LRT development can increase property values, though this is dependent on neighbourhood characteristics and the length of time studied. This has the potential to reduce access to housing in areas near the lines for people with low incomes pointing to the need for inclusive transit-oriented development (Wayland, 2011) that includes affordable housing.

Improve Public Transit Data Collection

Public transit data is collected through national, regional, and local surveys conducted by government bodies and/or transit authorities. The main sources of public transit data in Toronto are the National Household Survey, Transportation Tomorrow Survey, and TTC surveys/studies.

Census/National Household Survey

The Census has been a source of public transit data in Toronto. The Census collected information on a broad range of socio-demographic factors and mode of travel to work (Statistics Canada, 2011). The Census did not collect other essential information about how people reach destinations such as grocery stores and medical appointments. Data collection that is focused exclusively on mode of transportation to work excludes groups that are not employed. Information previously collected through the long form Census is now being collected through the voluntary National Household Survey (Statistics Canada, 2011)

The Transportation Tomorrow Survey

The Transportation Tomorrow Survey (TTS) is a household travel survey. These surveys are the main way to collect personal travel behaviour for transportation planning (Stopher et al, 2008). They are also used in social exclusion research to compare trip rates and travel behaviour between different social groups (Delbosc & Currie, 2010). The TTS is the main source of personal travel behaviour data in the

Greater Golden Horseshoe Area (GGHA) (Roorda, Shalaby & Saneinejad, 2010), and the key source of data on public transit use in Toronto. The TTS is funded by 23 governmental organizations including the Ministry of Transportation of Ontario, Metrolinx/Go Transit, the TTC, and 20 municipalities (Ministry of Transportation of Ontario, 2012).

The TTS collects information about trips made on a single weekday by all members of a household 11 years of age or older, by all modes of transportation (including public transit). The TTS is conducted every 5 years (Roorda, Shalaby & Saneinejad, 2010). It also collects information on age, gender, employment, student status and occupation type (Data Management Group, 2009).

The survey does not collect information about income, immigrant status, ethno-racial identity or educational level. A report examining transportation data collection in the GGHA also identified that the survey does not collect information about the costs of travel and parking; travel by children under the age of 11 years; weekend travel; and details on activities. It recommends addressing these gaps by the addition of questions to existing surveys or through the development of new surveys (Roorda & Shalaby, 2008).

Income is considered important to include in travel surveys because it is a key factor in travel decision-making (Miller, 1999; Roorda, Shalaby & Saneinejad, 2010). Income questions have been included in other major travel surveys (Table 4).

Table 4: Examples of Household Travel Surveys with Income Questions

Country-Wide Surveys	State-Wide Surveys	Region/City-Wide Surveys
US National Household Travel Survey UK National Travel Survey New Zealand Travel Survey	California State-Wide Household Travel Survey	Edmonton Household Travel Survey Winnipeg Area Travel Survey

Source: Household Travel Survey Websites, 2012

One of the recommendations of a U.S. national transportation body examining standards for household travel surveys was related to minimum information that should be collected. Examples of data considered important to collect are educational level, disability, race, and costs of tolls and fares (including how much the respondents pay) (Stopher et al, 2008).

An issue with conducting surveys in general, including household travel surveys, is that some groups are hard to reach with the usual sampling methods. One approach to address this issue might be to undertake smaller special surveys of disadvantaged groups to supplement household travel surveys. In order for this to occur, work would have to be done to ensure the representativeness of disadvantaged groups in the special survey sample (Delbosc & Currie, 2010). Both Metrolinx and the City of Toronto have indicated an interest in smaller scale surveys designed to collect more comprehensive information on daily travel (Halrcrow Consulting Inc., 2008).

Transit Surveys

Major transit authorities in the GGHA also conduct surveys which collect information on transit operations and usage to assist with scheduling and service planning. Transit ridership surveys which gather information on passenger volumes are the most common type. In addition, transit authorities conduct attitudinal surveys to collect data on transit rider preferences regarding various service characteristics (Roorda & Shalaby, 2008). The TTC collects data about riders through a variety of methods. Access to this information would enable a better understanding of the travel behaviour and characteristics of transit users. The Canadian Urban Transit Association also collects detailed operating

and financial data on individual Canadian transit systems. This information is only available to members of the association (Canadian Urban Transit Association, n.d.).

Conclusion

Access to public transit contributes to the health of individuals, neighbourhoods, and to the City overall. The importance of public transit in Toronto is evident in residents' high usage rates to commute to work, compared to other Canadian cities. This is particularly true for lower income commuters who are more dependent on public transit to get to work than their higher income counterparts. Despite greater reliance on public transit, its cost remains a concern for low income Toronto residents, both those who are low wage earners and those on social assistance. In addition, a growing number of low income residents are living in the inner suburbs in which there are pockets where transit is less available. This has an impact on residents' ability to access important goods and services such as food, health care, employment, and recreation, all of which impact their health. It is critical that the barriers to accessing public transit be addressed through improving the affordability and availability of transit, and improved data collection to enable transit planning that meets the needs of low income residents.

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Appendix A:

Data Sources and Limitations

Census

The Census is conducted by Statistics Canada, and provides information about Canada's demographic, social and economic characteristics. The Census is conducted every five years. Data used in this report were drawn from the 2006 Census.

Limitations of Census Data

The Census undercounts some groups such as the homeless, young adults and aboriginal people on reserves. Some people are not counted while others are counted more than once. These errors result in a net under-count. The undercoverage rate for the Toronto Census Metropolitan Area (CMA) in 2006 was 4.9% (Statistics Canada, 2010). The Census collects a limited amount of information on mode of transportation. Retrieved data consists of mode of transportation used to commute to work and is based on labour force participants aged 15 years and older.

Federation of Canadian Municipalities

The Federation of Canadian Municipalities (FCM) leads the Quality of Life Reporting System (QOLRS), a program designed to analyze social, environmental and economic factors associated with quality of life among Canada's largest cities and municipalities (Federation of Canadian Municipalities, 2012). This report draws from QOLRS analyses based on data from the Census and Human Resources and Social Development Canada Minimum Wage Database.

Limitations of Data Used in the Quality of Life Reporting System (QOLRS)

Details regarding these data sources in relation to FCM's work have been published elsewhere (Federation of Canadian Municipalities, 2010). Limitations associated with the Census have been described above.

Transportation Tomorrow Survey

The Transportation Tomorrow Survey (TTS) is a joint initiative between several municipal and provincial organizations in Ontario. Using computer-assisted telephone interviews (CATI), the TTS collects information on urban travel in Southern Ontario (Transportation Tomorrow, nd). Approximately, 5% of households are sampled and results are weighted to ensure they are representative of the respective cities/municipalities. One member of a household is selected to provide detailed information on trips taken by all members of the household on the previous weekday. The TTS is conducted every five years. Data used in this report were collected in 2006 for Toronto. In 2006, the unweighted sample size for Toronto (11 years of age and older) was approximately 129,000 and these data were weighted to represent approximately 2,445,000 residents of Toronto (11 years of age and older) (Data Management Group, 2008).

Limitations of Transportation Tomorrow Survey (TTS) Data

The sample frame for the TTS is based on residential telephone subscriber lists and excludes individuals residing in households with no landline, individuals residing in institutions and households with unlisted telephone numbers. Census dwelling counts are used to determine the weights for data expansion, thus, are sensitive to Census undercounts (see Census data limitations). This limitation resulted in an under-reporting of the population in the survey area for Toronto of 2.3%. A data validation study conducted in 2006, using the Census as the gold standard, indicated that TTS data under-represented males, full-time post secondary students, individuals 18 to 27 years of age (especially for public transit use) and individuals in the employed labour force, whereas TTS data over-represented individuals 48 to 87 years of age (Data Management Group, 2008). Caution should be used when interpreting demographic information from the TTS.

TTS data are self-reported. People may not accurately remember their travel behaviour or the travel behaviour of members of their household, and may under- or over-report behaviours or characteristics based on social desirability. The impact of this limitation is most notable for discretionary and off-peak trips. Discretionary trips and off-peak travel are generally under-reported in oral surveys, such as the TTS. A comparison of trip diaries and oral surveys in Toronto, using TTS data from 1986/87, indicated that oral surveys under-report almost half of non home-based trips and approximately 10% of home-based transit trips (Halcrow Consulting Inc., 2008). The TTS collects limited socio-demographic information, including: age, gender, employment and student status and occupation type. The survey does not collect information on household income or socio-demographic characteristics associated with low income, for example, level of education, immigrant status, ethno-racial identity or family structure. TTS data are limited to weekday travel behaviour.

Canadian Urban Transit Association – 2012 Public Impressions Survey

Harris Decima conducted the 2012 Public Impressions Survey in collaboration with the Canadian Urban Transit Association (CUTA). The purpose of the survey was to collect information on perceptions of public transit in Canada. Data collection occurred during October and November 2012 through teleVox - Harris Decima's national telephone omnibus survey. The final sample included 1,934 Canadians aged 18+ who reported access to public transit in their community. Data were weighted to represent the Canadian population by region, age and sex. Findings for Toronto (n=340) were reported at the CMA geographic unit (Canadian Urban Transit Association, 2012).).

Limitations of the 2012 Public Impressions Survey

Survey findings were restricted to respondents who reported access to public transit in their community. Data are self-reported and may be subject to inaccurate recall and social desirability bias.

T1 Family File

The T1Family File provides data primarily collected by the Canada Revenue Agency from tax returns. It covers all Canadians who completed a T1 tax return in 2009 or who received Canada Child Tax Benefits (CCTB), their spouses who did not file a return, their non-filing children identified through the CCTB, birth files and historical files, and their children who files a tax return with the same address as their parent. The data are grouped to identify census families (parents and children living at the same address) or individual not in a census family.

These data were used to calculate the Low Income Measure (LIM). The LIM is set at 50% of the median family income of Canada's population. It takes family size into account but does not reflect community size or cost of living. A person or family whose after-tax income falls below the LIM is considered low income.

Limitations of the T1 Family File:

The T1 Family File captured approximately 95% of all Canadians (greater than 91% of the population estimates across all provinces and territories). The data have been neither weighted nor adjusted to compensate for the 5% of the people who are missing.

Toronto Transit Commission (TTC) Data

The data file contains TTC scheduling information (TTC vehicle type, route definitions, stop patterns, stop locations, and schedules) was downloaded from the City of Toronto Open Data website on October 3, 2012. The TTC provides updates approximately every 6 weeks.

Limitations of TTC Data:

The scheduling information is modified based on current construction projects that may temporarily change stop locations, type of TTC vehicle, route, etc. Thus transit stop scores will change depending on when the data are downloaded and may shift understanding where there is low transit.

Nutritious Food Basket Scenarios

The nutritious food basket scenarios presented in Table 1 were prepared by the Ontario Public Health Association Food Security Work Group in May 2012. Toronto Public Health adapted this table by adding the cost of a TTC Metro Pass and percentage of income required to purchase a TTC Metro Pass.

Scenario References for Table 1:

Scenario 1 - 2 adults (male and female ages 31-50), 2 children (girl age 8, boy age 14); on Ontario Works (OW).

Scenario 2 - 2 adults (male and female ages 31-50), 2 children (girl age 8, boy age 14); income is based on one minimum wage earner, 40hr/wk, $10.25/hr.

Scenario 3 - 2 adults (male and female ages 31-50), 2 children (girl age 8, boy age 14).

NOTE: Income from employment is based on median after-tax income- couple households with children; however, EI and CPP contributions are calculated using median income- couple households with children. Assumption of a dual income family with a split of 65% / 35% between partners.

Source: Statistics Canada. 2007. Ontario (table). 2006 Community Profiles. 2006 Census. Statistics Canada Catalogue no. 92-591-XWE. Ottawa. Released March 13, 2007.

http://www12.statcan.ca/english/census06/data/profiles/community/Index.cfm?Lang=E (accessed July 23, 2010).

Scenario 4 - 1 adult (female age 31-50), 2 children (girl age 8, boy age 14); on Ontario Works.

Scenario 5 - 1 adult (male age 31-50); on Ontario Works.

Scenario 6 - 1 adult (male age 31-50); on Ontario Disability Support Program.

Scenario 7 - 1 adult (female age 70+); income based on Old Age Security, Guaranteed Income Supplement and Ontario Guaranteed Annual Income System (OAS/GIS/GAINS)

a - OW rates taken from TESS Intranet (http://tss.toronto.ca/fa/rates.htm). Rates effective Dec. 2011. ODSP rates taken from MCSS ODSP site (Basic allowance: http://www.mcss.gov.on.ca/en/mcss/programs/social/directives/directives/ODSPDirec

b - Old Age Security, Guaranteed Income Supplement and Ontario Guaranteed Income System (OAS/GIS/GAINS) rates effective May 2011. Source: Social Assistance, Pension and Tax Credit Rates April to June 2011, Ministry of Community and Social Services.

b - Old Age Security and Guaranteed Income Supplement (OAS/GIS) rates May 2011. Source: Social Assistance, Pension and Tax Credit Rates April to June 2011, Ministry of Community and Social Services

c - Includes maximum Canada Child Tax benefit, National Child Benefit Supplement, & Ontario Child Benefit. Effective July 2011 - June 2012. http://www.cra-arc.gc.ca/bnfts/clcltr/menu-eng.html (accessed July 10, 2012).

d - Based on net annual income. GST/HST and Ontario Sales Tax Credit are issued on a quarterly basis, but calculated on a monthly basis. Figures derived from GST/HST and related provincial programs calculator, effective July 2011-June 2012. http://www.cra-arc.gc.ca/bnfts/clcltr/menu-eng.html (accessed July 10, 2012).

e - Employment Insurance Premium Rates http://www.cra-arc.gc.ca/tx/bsnss/tpcs/pyrll/clcltng/ei/cnt-chrt-pf-eng.html (accessed June 30, 2011).

f - Canada Pension Plan Reference: http://www.cra-arc.gc.ca/tx/bsnss/tpcs/pyrll/clcltng/cpp-rpc/cnt-chrt-pf-eng.html (accessed June 30, 2011).

g - Working Income Tax Benefit Online Calculator . http://www.cra-arc.gc.ca/bnfts/wtb/menu-eng.html (accessed June 30, 2011).

h - Rental Market Reports (Ontario), Canada Mortgage and Housing Corporation, Spring 2012. Some communities may need to add utility costs. Average Rents in Privately Initiated Apartment Structures of 3 Units and Over, April 2012.

i - Nutritious Food Basket Data Results 2012 Toronto Public Health - Includes Family size adjustment factors.

j - Minimum wage http://www.labour.gov.on.ca/info/minimumwage/ (accessed June 30, 2011).

k - Source: Statistics Canada. 2007. Ontario (table). 2006 Community Profiles. 2006 Census. Statistics Canada Catalogue no. 92-591-XWE. Ottawa. Released March 13, 2007. http://www12.statcan.ca/english/census06/data/profiles/community/Index.cfm?Lang=E (accessed June 30,2011).

l- Housing for Scenario 6 has been changed from Bachelor to 1-bedroom for 2011. This change reflects a more accurate housing need for persons with a disability. This change will need to be recognized when attempting to compare 2011 results to previous years.