Transportation for Young People

Overview

The transportation needs of children and youth have been largely overshadowed by other transportation issues in Canada. Few municipalities appear to take into account their specific needs in terms of land use and transportation planning. In addition, until recently, little was known about the effects of air pollution on children's health and well being.

This issue paper reviews some of the major health effects of transportation on young people, potential actions and recommendations, as well as some of the potential future benefits to society.

Selected Canadian Resources

1. Active & Safe Routes to School (ASRS)
2. Centre for Sustainable Transportation (CST), *Child Friendly Transportation Planning*
3. Go for Green
4. Canadian Institute of Planners (CIP), *A Kid's Guide to Building Great Communities: A Manual for Planners and Educators*

Selected International Resources

1. European Union, Environment for Young Europeans.
2. Washington's Department of State, Agency Council on Coordinated Transportation

Additional resources are found at the end of this paper.

Context

For decades, governments and non-government organizations alike have worked to meet sustainable transportation objectives using a variety of policies, plans, programs, and cross-disciplinary collaborations. However, until only recently, the specific transportation needs of children and youth have been barely noted. This appears to be a substantial omission given that young people make more trips by active and sustainable modes than any other age group (e.g., more than half of all weekday cycling and walking trips are made by children under the age of 18).

The percentage of these trips could be increased if certain factors that inhibit the ability of young people to use active and sustainable modes were taken into account:

- Children are often not given a choice of transportation mode.
- Parental fears, or peer pressure from other parents, may influence the mode of travel.
- Urban design, street safety, and availability of transit pose barriers.
- Peer pressure to drive may play a role once a youth reaches the legal driving age.
- Parents may be unaware of the long-term health effects of child inactivity.

Health Issues

The transportation sector accounts for about 25% of all greenhouse gas emissions in Canada. The effects of air pollution on children, including those emissions associated with transportation, have been well documented in recent years. Several organizations—including the Canadian Institute for Child Health (CICH), the Ontario Medical Association (OMA), and the Coalition for Active Living—agree that children and youth are more susceptible to air pollution than any other age group.

Children need more oxygen for their body weight than adults and breathe at a faster rate, taking in, proportionately, more air pollutants. In addition, their lungs are still developing and can be more damaged from chemicals and dirt particles. In addition, because children play on or nearer the ground, they are more likely to come into contact with ground-level pollutants (CICH, 2005).

Between 1971 and 1995, asthma rates in Canada increased from about 300 per 100,000 children to 900 per 100,000 children (PHAC, 1999). Similar statistics are found in the United States where asthma rates for

children aged 3 to 5 increased 160% between 1980 and 1994 (Harvard, 2004).

Transportation-related Health Issues

Traffic fatalities are now the leading cause of injury and death in Canada for children aged 1 and older (CICH, 2000).

Young people spend more time in cars than ever before. Between 1986 and 2001 weekday travel by car for 11-15 year olds increased 83%, while the per capita increase for adults was only 11% (TTS, 2001). In addition, the rates of overweight and obese children have tripled over the past two decades, mainly due to decreased physical activity (CICH, 2005).

The pollution level inside a car can be as much as 18 times higher than the outside air. Children riding in diesel-fueled transit and school buses are particularly vulnerable where airborne particulate concentrations can be 15 times higher than background levels. Chronic noise pollution, from sources such as traffic, can also impede a child's ability to learn and cause sleep disorders (CST, 2004).

Strategic Considerations

Children and youth can be the key to changing adult travel behaviour—not only the habits of their parents and caregivers today, but also their own transportation habits as they grow older.

Auto ownership and vehicle use. Car ownership in Canada is the single most important factor influencing mode choice for adults (Tsi, 2005). If young people are more aware of the effects of their transportation choices, as adults they may use active and sustainable modes more and drive less.

Champions. Politicians and senior bureaucrats can set the tone for municipal planning staff by incorporating a child and youth perspective into daily planning decisions. Task forces or advisory committees that encourage child and youth involvement can set an important example for other municipalities as well.

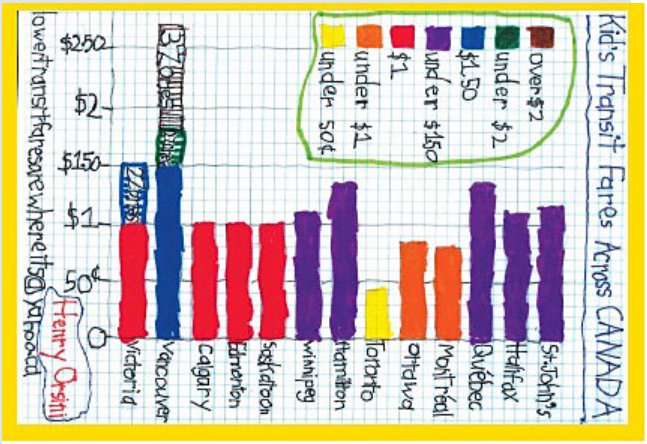
Identifying destinations. Travel patterns can be established by surveying children, youth and their parents. Factors such as the existence and condition of sidewalks, bicycle lanes or paths, proximity to traffic, pedestrian and traffic light crossings, snow clearing, sign visibility, etc., can also be examined with children's safety in mind.

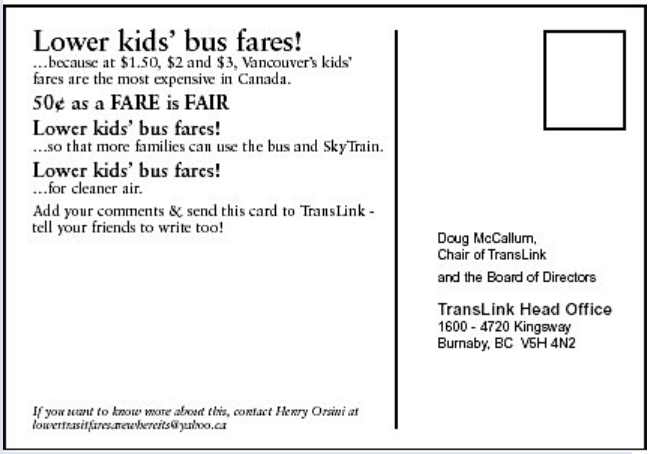
Urban v. suburban transit use. Children living in inner-city areas tend to use transit more often and at a younger age, suggesting that if efficient public transit is available, children will use it. In Toronto, 23% of 13-year olds use public transit every day and, by age 11 about 10% of journeys are made by public transit. In contrast, in Halton and Peel—more outlying areas of the Greater Toronto area—only 3% of children aged 13 used transit every day, and virtually no 11-year olds used transit (TTS, 2001).

Transit fares. Transit ridership can be negatively affected by an increase in fares (VIPIRG, 2003). Conversely, new riders can be persuaded to try public transit using fare incentives such as family day passes. Lower fares for children and youth can also increase ridership.

Henry Orsini's Postcard Campaign

Henry Orsini, the 9-year old son of a transit activist with Better Environmentally Sound Transport, compared transit fares in 13 Canadian cities and created a postcard campaign urging Vancouver's transit authority, Translink, to lower the children's fare to 50¢.





Lower kids' bus fares!
...because at $1.50, $2 and $3, Vancouver's kids' fares are the most expensive in Canada.

50¢ as a FARE is FAIR

Lower kids' bus fares!
...so that more families can use the bus and SkyTrain.

Lower kids' bus fares!
...for cleaner air.

Add your comments & send this card to TransLink - tell your friends to write too!

Doug McCallum,
Chair of TransLink
and the Board of Directors

TransLink Head Office
1600 - 4720 Kingsway
Burnaby, BC V5H 4N2

If you want to know more about this, contact Henry Orsini at lowertransitfares.wewherets@yahoo.ca

Henry has presented his postcard campaign to several schools and at transportation conferences. Although Translink has not

implemented a lower children's transit fare, the postcard campaign has received widespread media attention.

Potential Benefits

GHG emission reductions. Many municipalities are in the process of implementing sustainable community plans that aim to reduce GHG emissions. Promoting child- and youth-friendly transportation can help meet those objectives.

Healthier citizens. Health care expenditures associated with air pollution-related illness costs the Province of Ontario up to $1 billion each year (OMA, 2000). If auto ownership can be reduced (thus minimizing exposure to pollution) and if children can be helped to choose sustainable transportation options early, there may be a corresponding reduction in health care costs.

Lower infrastructure costs. Compact urban developments that feature sustainable and active transportation choices can lower overall infrastructure costs. Studies show that, on average, compact development can reduce capital costs for roads by 25% compared to conventional infrastructure (Environment Canada, 2002).

Safer conditions for all. Enhancing cycling and pedestrian amenities, such as those listed under *Strategic Considerations* (e.g., bicycle lanes, grade changes, signage, etc.) not only increase safety for children and youth, but can also affect other demographic groups, such as seniors and the disabled. Improving conditions for all of these groups can make walking and cycling conditions safer for the entire population.

Actions and Examples

Urban form and infrastructure. New urbanism concepts that combine work-live-play opportunities within one community can greatly reduce the use of the private automobile. Features that characterize new urban communities include a main centre or "town square," dwellings within a five-minute walk of the centre, streets that are designed for walking and cycling, and elementary schools that are within walking distance for children (VTPI, 2005).

Where higher pedestrian volumes exist (commercial and school districts, for example), the ideal sidewalk width is 2.5-4 metres. Large, successful downtowns typically have sidewalks as wide as 6-9 metres, and some use a 50/50 ratio of street and sidewalk width (Building Communities, 2001). Lowering speed limits in residential zones, introducing traffic calming measures and bicycle lanes, and removing sight obstructions can also improve the conditions for active transportation and provide important safety benefits, particularly for children and youth.

Access to public transit and to safe walking and cycling areas can also be used as marketing tools in new housing developments.

Town of Markham's New Town Centre

The Town of Markham's new Town Centre—a 1,000-acre downtown area—will feature high-density housing, retail and commercial space, interconnected parks and open spaces, and walking and biking trails. New developments are guided by the *Performance Measures Document* (PMD), a series of environmental, design, transit, and pedestrian-supported criteria that help staff, the community, and developers assess development proposals. An Advisory Committee oversees development and includes representatives from the Mayor's Youth Task Force and the area's public and Catholic school boards. Of the 11 principles that guide development, five deal specifically with transportation issues, ranging from support for rapid transit, developing an effective and safe street network, and enhancing pedestrian activity.

Toronto's "Road Diets"

Toronto transit and land use planners regularly review major city intersections to see which are best suited to road lane narrowing, also known as "*road diets*." In one case, sidewalks along one road in a university area were widened from 1.5-2 metres to 2.5-5+ metres, the road was narrowed from four lanes to two, and pedestrian crossings and bicycle lanes were added. All of these measures in combination decreased traffic collisions by 40% over six years.

City of Ottawa

The Currents, a new energy-efficient condominium in the City of Ottawa is located near the city's bus rapid transitway and the developer's billboard advertisements showcase the proximity of a Vrtucar car-sharing lot. Similarly, *EcoCité on the Canal*, another sustainable urban housing development in Ottawa, includes a membership with Vrtucar with the purchase of each unit. Families choosing a more urban lifestyle that includes access to sustainable transportation such as these can be an important example to their children and influence their future behaviour.

Garrison Woods

The City of Calgary's *Garrison Woods*, a refurbished military base, has bike paths, trailways, and easy access to transit. Its Website proclaims: "Why suffer with the inconvenience of busing your children to school? Public and separate schools from elementary to high school,

charter schools and private academies are all within walking distance of Garrison Woods."

Transportation planning. Transportation planners can play a major role in increasing the availability of transit and active transportation choices for young people. Full-cost accounting of all impacts—including the costs and benefits of transportation choices on children's health—can contribute to more comprehensive planning (CST, 2004). Proactive transportation planning can also increase modal choice for all transit users, including children and youth.

Municipalities can also designate a staff member to bring a children's perspective to transportation and land use planning, or to introduce general transportation demand management (TDM) measures to the community. Involving children and youth in planning can affect the way communities and transportation options are designed.

Urban and transportation planners and other municipal staff need a greater awareness of how children's health and mobility are affected by their day-to-day planning decisions. The Canadian Institute of Planners guide, referred to in this paper, provides a good overview of the planning concepts and principles to be considered in this regard. The CST also offers a range of information on children's health and mobility, transport concepts, and child-friendly transportation and land use policies and guidelines.

City of Brampton

When people move into a new subdivision, it's an ideal time for municipalities to try and change transportation habits. If transit services are not available from the start, residents may have no choice but to drive, and, even if transit services are introduced at a later stage, habits may be so ingrained that they are difficult to change. Using a "strike while the iron's hot" philosophy, the City of Brampton's transportation and planning departments work cooperatively to introduce new transit routes and services before any new subdivision is built.

You Can Clear the Air

The Region of Waterloo, Ontario hired a TDM coordinator to educate the general public about TDM measures as part of its Regional Transportation Master Plan. As a result, a Grade-3 curriculum supplement was created. You Can Clear the Air is an educational program, delivered by teachers, which aims to create a generation of travel-wise citizens. Children take part in activities and games that teach them about air pollution and transportation choices.

As part of You Can Clear the Air, students developed messages that ran as advertisements on city buses.

Canadian Institute of Planners

The Canadian Institute of Planners' (CIP) *Kid's Guide to Building Great Communities* includes fact sheets, activities and games that can be used to educate children about planning concepts. One of the guide's activities is a survey entitled *How Does Your Community Work for You?* Students are asked how easily they can walk to school, church, a grocery store or library, and if there are designated places to cycle, jog, or walk a baby in a stroller.

Youth Advisory Committee

The mayor of the City of Burlington established the *Youth Advisory Committee* (YAC) in 1996 as a forum for youth aged 14-19 to express their opinions on a variety of municipal planning issues, including transportation. The YAC organizes annual events for Burlington youth including art shows, city clean up campaigns, a winter games event, and helps to run the *Velocity* youth club.

Education and outreach. Municipalities, transit providers and schools can develop educational programs that provide opportunities for children to become more accustomed to and comfortable riding transit. In addition, many organizations offer cycling, pedestrian and other safety information programs for children and youth, which can be accessed by municipal planners and educators.

Community-based social marketing (CBSM) can be used to remove barriers to behaviour change. Adults often cite transporting children to school or to after-school activities as a barrier to changing their own travel behaviour. This suggests that, when developing programs aimed at adults, young people's needs should be taken into account.

You Can Clear the Air

Waterloo's *You Can Clear the Air* program includes a bus tour with the region's transit authority, Grand River Transit (GRT). Children learn how to board a bus safely, and are quizzed on the neighbourhoods they travel through, with an eye toward making children feel safer

and more comfortable using public transit. GRT bus drivers participate in the program, providing information on transit services and answering questions.

City Hall School

The City of Calgary's *City Hall School* combines several issues into one program aimed at promoting a better understanding among students of the role of municipal government. Among its many partners is Calgary Transit and children begin the week-long program by taking a bus to city hall. In some cases, this is the first time students have ever ridden a city bus.

Ottawa Safety Village

The *Ottawa Safety Village* teaches children about cycling safety in a scale model of a neighbourhood.

Children test their cycling skills at the Ottawa Safety Village where traffic lights, buildings, and roads are all children-sized.

Walking/Cycling School Bus

The *Walking/Cycling School Bus* is an active transportation system that involves volunteer parents and caregivers taking turns walking or cycling with children to get them to and from school.

Children and their parents who walk together to school, like these children from Morton Way Public School in Brampton, socialize and learn about traffic safety

Bike Smarts

The *Bike Smarts* program was introduced in Lochside Elementary School in Victoria, BC to educate students about bicycle safety and to encourage them to travel by bicycle. As part of the program, the students' parents also became involved. Once the program was completed, most of the parents allowed their children to ride to school more often, and 25% of parents reported cycling at least 20% more than they used to.

Walking the Talk

CBSM techniques aimed at travel behaviour can also be integrated with other programs. For example, Ottawa's *Walking the Talk* combined information on travel choices with energy audits. During home visits, EnviroCentre (which delivers the EnerGuide for Houses program in Ottawa) provided information and resources on car maintenance, reducing idling time, and helping children walk or bike to school. In post-program surveys, almost half (47%) of those with children reported increased walking and cycling activities by their children.

Participants

With efforts such as those outlined above, there is a need to influence action and involve a wide range of people. Participants, such as children, youth, their parents and caregivers, schools, and other community partners are, therefore, the key to change.

Children and youth. When planning for child- and youth-friendly transport, the most important participants are the young people themselves who can often bring a fresh perspective that highlights barriers or unsafe conditions.

Community partnerships. Partnerships can include schools, school boards, NGOs dedicated to children's issues, and community centres. Activities often involve pedestrian or bicycle audits that pinpoint issues that affect children's mobility. Pedestrian audits can also be done in combination with other organizations for seniors and/or the disabled, and will often highlight barriers that are similar to those for children.

Whitehorse Driving Diet

The City of Whitehorse's *Driving Diet* (one of eight showcases that received funding through the UTSP) conducted pedestrian audits to identify barriers in partnership with the Canadian National Institute for the Blind. As a result, sound activated signals and some curb

changes have been installed at some intersections. In April 2005 city officials also toured other areas of concern with seniors and the physically handicapped to see what other changes could be made.

References and Resources

Bike Smarts. Tools of Change, www.toolsofchange.com

Burden, Dan. *Building Communities with Transportation*, 2001. www.lgc.org/freepub/land_use/presentations/burden_01_08_2001.

Chace, Sean. *Thinking Outside the Fare Box*. Vancouver Island Public Interest Research Group (VIPIRG), 2003. www.vipirg.ca/assets/publications/articles/thinking_oustide_fare_box.pdf.

EcoCité on the Canal, www.ecocite.com.

Environment Canada. *Sustainable Communities for a Sustainable Planet: Progress, Challenge, and Opportunity for Canada*, 2002.

FCM-CH2M HILL Sustainable Community Awards, 2002 Best Practices Guide. *City of Calgary's City Hall School.* http://kn.fcm.ca/ev.php?URL_ID=3607&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1110936298

FCM-CH2M HILL Sustainable Community Awards, 2004 Best Practices Guide. *Region of Waterloo, You Can Clear the Air.* http://kn.fcm.ca/ev.php?URL_ID=6241&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1110936298.

EnviroCentre, *Walking the Talk*. www.envirocentre.ca/english/Walking%20the%20talk.htm.

Garrison Woods, www.garrisonwoods.com/en/amenities.htm#schools.

Harvard Medical School, *Inside the Greenhouse: The Impacts of CO_2 and Climate Change on Public Health in the Inner City*, 2004. www.med.harvard.edu/chge/media.html.

Lower Transit Fares are Where it's @, Website that supports Henry Orisini's postcard campaign. http://lowertransitfares.wera.bc.ca.

Ontario Medical Association (OMA), *The Illness Costs of Air Pollution in Ontario*, 2000. www.oma.org/phealth/icap.htm.

Public Health Agency of Canada (PHAC), *Measuring Up: A Health Surveillance Update on Canadian Children and Youth*. www.phac-aspc.gc.ca/publicat/meas-haut/mu_s_e.html.

Safe Routes to School, *Ontario Walkability Study*, www.saferoutestoschool.ca/guide/Walkability%20Study%20Report.pdf.

Transportation Tomorrow Survey (TTS), 2001. *Survey Summary by Wards.* www.jpint.utoronto.ca/ward01/tts01_wards.html.

Transport Canada's Urban Transportation Showcase Program, *Early Transit Phase-In: Promoting Transit in Growing Communities* (Brampton), 2004. www.tc.gc.ca/programs/environment/UTSP/earlytransitphaseinpolicy.htm.

Transport Canada's Urban Transportation Showcase Program, *St. George Street Revitalization: "Road Diets in Toronto,"* reported in *From the Ground Up: Implementing Sustainable Urban Transportation*, December 14, 2004. See the presentations by John Niedra and Daniel Egan. www.tc.gc.ca/programs/environment/UTSP/fromthegroundup.htm.

Tsi Consultants Ltd., *The Costs and Impacts of Transit Improvements on Greenhouse Gas Emissions: A National Perspective.* Unpublished study for Transport Canada, 2005.

Victoria Transport Policy Institute (VTPI), *New Urbanism: Clustered, Mixed-Use, Multi-Modal Neighbourhood Design.* www.vtpi.org/tdm/tdm24.htm

Windmill Developments' *The Currents*. www.windmilldevelopments.com/images/pdf/currents/Currents-Intro.pdf.