

Information for Educators



The Centre for
Sustainable
Transportation

Le Centre pour un
transport durable

CHILDREN, YOUTH, AND TRANSPORT

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This booklet can help teachers, education planners, and administrators reflect on the many impacts of transport on the health and well-being of children and youth. **Superscript numbers** point to where sources are detailed in a more comprehensive document *Child- and Youth-Friendly Land-Use and Transport Planning Guidelines*, available at the Centre's Web site.

If we can build a successful city for children we will have a successful city for all people.

Enrique Peñalosa, former mayor of Bogotá, Colombia¹

EDUCATION AND TRANSPORT

Teachers, principals, trustees, school planners, and student transport planners adopt policies and make decisions that have short- and long-term effects on children's health. The policies and decisions concern matters such as selection of school sites, parking facilities, student drop-off points, and the transport of students to and from school.

School planners develop plans with the perspective that enrolment numbers may vary dramatically over a school's life. Parking and drop-off plans are often designed to deal with a maximum number of cars and school buses. Private schools, special schools, and school closures also contribute to the specific transport patterns of students, parents, and staff.

Rising transport costs and funding cutbacks have caused many school boards to reduce transport services, and even to think of getting out of the transport business. Cutbacks can lead to more active transport, i.e., more walking or cycling to school. They can also cause parents to drive children who were previously bused, resulting in more vehicles on the road, especially near schools, and greater possible harm to children's health.

Principals and teachers can have strong influences on the travel habits of children and their parents through encouraging and teaching active transport and discouraging the unnecessary use of cars. Many parts of the curriculum could allow children to learn how transport affects their health and the environment.

With the exception of the family, schools have more influence on the lives of children and youth than any other social institution. Canada's schools form the 'work-place' of 20 per cent of our population, including five million students and over 400,000 employees. Another 30 per cent of the population (parents) has a direct stake in schools through their children. Consequently, the school is a key site within the community for promoting health.

Doug McCall⁷⁶





CHECKLIST FOR EDUCATORS

“Does the School Board encourage employees’ use of sustainable transport modes to reduce adverse health impacts on children and youth and provide good examples?”

- ✓ Do current student transport plans encourage children to walk, cycle or use other modes of active transport?
- ✓ Are all the schools in the district participating in a Safe Routes to School program?
- ✓ Does the School Board encourage employees’ use of sustainable transport modes to reduce adverse health impacts on children and youth and provide good examples?
- ✓ If your school has a drop-off location, what might be the best way to discourage use of cars to move students to and from school?
- ✓ Does your school have adequate bicycle parking facilities?
- ✓ Have you considered how active transport can be incorporated into the school curriculum?
- ✓ If your school is near a busy road, or an airport or railroad, have noise reduction measures been implemented?
- ✓ If you operate a day care centre, have you informed parents about transport’s health impacts; and do you encourage active transport to and from the centre?
- ✓ Is a ‘no idling rule’ followed by cars and school buses?
- ✓ What policy or planning changes could reduce the amount of time children spend on school buses?
- ✓ Are there sidewalks throughout the neighbourhoods served by your school?
- ✓ Are there crossing guards at all intersections on pedestrian and bicycle routes to your school?
- ✓ As new schools are sited and school closures planned, is the impact of transport on health considered?

HOW TRANSPORT AFFECTS CHILDREN'S HEALTH

We are now living in 'obesogenic' environments: communities, workplaces, schools and homes that actually promote or encourage obesity.

Dr. Sheela Basrur, Ontario's Chief Medical Officer of Health²

References to children and youth as society's 'canaries' are not exaggerated when we consider the harm that motorized transport can have on their developmentally vulnerable bodies. As with many environmental health factors, children are especially susceptible to exposure to poor air quality, high noise levels, insufficient active transport (walking and cycling), and high risk of injury or death in traffic. They are developing emotionally, learning about their neighbourhoods, establishing habits, and discovering whether the world is a safe place in which they can be confident and independent.

Transport, physical activity, and obesity

Poor nutrition and sedentary lifestyles that revolve around television and video games have been blamed for children's reduced physical activity and rising average body weights.⁴² Recent evidence from Canada,⁴³ the United States,⁴⁴ and the United Kingdom⁴⁵ suggests that dependence on automobiles to transport children to school and leisure activities may also be a factor.

The following data are relevant:

- Less than half of Canadian children walk to school.⁴⁶ (Most children who live within three kilometres of school walk to school. But, enough children live farther from their schools to bring the average who walk down to less than half.)
- Less than half of Canadian children and youth are active enough to ensure proper growth and development. Among teenagers, perhaps less than 20 per cent do sufficient exercise, although the amount of physical activity by teenagers may have been increasing recently.⁴⁷
- In 1998/99, 37 per cent of children aged 2-11 were overweight, up from 34 per cent in 1994/95. These included the 18 per cent of children in this age group who were obese in 1998/99, up

from 16 per cent in 1994/95.⁴⁸

- A UK study demonstrated that children who walk to school burn more calories than those who are driven. The number of calories burned weekly by walking to school is the equivalent of two hour-long classes of physical education.⁴⁹

Effects of traffic-related poor air quality, including poor in-vehicle air quality

Road traffic is the main cause of poor air quality in most urban areas of the world and many rural areas, including in Canada. There is considerable evidence that this poor air quality harms children, including the following:

- The World Health Organization found that children may be more vulnerable to airborne pollution because their airways are narrower than those of adults.¹³
- The same work for WHO indicated that there appears to be no threshold for ozone levels that are safe, and children are particularly susceptible.¹⁴
- Work in Denver, Colorado, found that children who live near high-traffic areas (20,000 cars per day) may be six times more likely to develop childhood leukemia and other cancers.¹⁷
- Children living in areas of Europe and California with poor air quality have been found to have reduced lung function growth that places them at risk for future respiratory illness.¹⁸

According to one report,

Elevated in-car pollution concentrations particularly endanger children, the elderly, and people with asthma and other respiratory conditions. While it receives little attention, in-car air pollution may pose one of the greatest modern threats to human health.²⁰

Other work on this topic includes the following:

- A study of children's exposure to diesel exhaust on school buses in the United States showed that concentrations of fine particulates were often 5-10 times higher than at fixed-site monitoring stations.²¹

"Less than half of Canadian children and youth are active enough to ensure proper growth and development."



“... children who live near high-traffic areas ... may be six times more likely to develop childhood leukemia and other cancers.”

- Another such study, conducted in California, found that

A child riding inside of a diesel school bus may be exposed to as much as four times the level of toxic diesel exhaust as someone riding in a car ahead of it. ... these exposures pose as much as 23 to 46 times the cancer risk level considered significant under federal law. What’s more, these troubling results suggest that diesel exhaust on school buses could contribute to respiratory problems among sensitive children, such as asthmatics.²²

Traffic-related fatalities and injuries

The rates of traffic-related injury and fatality are generally lower for children than for adults. Nevertheless, the following should be considered:

- Road traffic crashes are the leading cause of injury death in Canada for children over the age of one year.²⁶
- The risk of harm to a child from traffic is very much higher than the risk of harm from a stranger.²⁷
- A study in the UK found that one third of children who survive traffic crashes may suffer from post-traumatic stress disorder. Symptoms include depression, recurring nightmares, difficulty attending to school work, and fear of cars.²⁸



Keeping Children Safe in Traffic,³¹ a recent report by the Organization for Economic Cooperation and Development, outlines current risks for children in traffic, progress made towards creating safer environments, and the best practices of countries that have made concerted efforts to reduce the risk to children from traffic. Some of the best practices include measures to reduce traffic speed, and public education for children, parents and drivers.

Effects on emotional and behavioural development

A road traffic crash can have an extreme impact on a child’s development, even if the child is not directly injured. There are more subtle effects from being in an automobile and from the effects of road traffic generally, including the effects of traffic noise. Some relevant findings include the following:

- An Australian study found that heavy traffic reduces the independent mobility of children and youth.³²
- An investigation in the UK found that opportunities and locations for spontaneous, non-structured play can be severely restricted by traffic.³³
- An Austrian study found that low-level but chronic noise of moderate traffic can stress children and raise their blood pressure, heart rate, and levels of stress hormones.³⁴
- There is some evidence from work in Austria that young people who walk to school are emotionally healthier than children who travel by motorized means.³⁷
- A Swiss study found that half of five-year-old children who lived on an “inadequate” street “where traffic is a nuisance and menace to children at play” never played outside, and only 10 per cent played outside for more than two hours a day, mostly in playgrounds. All five-year-olds who lived on an “adequate” street played outside, most for more than two hours a day.³⁸
- A report on a California Department of Education study suggested that physically fit students performed better academically.⁴⁰

HOW EDUCATORS CAN HELP

Taken together, the above findings suggest that more attention should be given to transport's impacts on the health of children and youth. Educators can contribute to efforts that reduce the dependence of both adults and children on motorized transport. Here are some suggestions:

Collaboration with parents can be particularly effective. This could be done in connection with the Safe Routes to School (SRTS) programs (contact information below). The support of teachers and principals helps ensure the success of these programs.

School closures are always a volatile issue. When arguments are presented by parents and school boards, children's health and well-being are not always at the forefront. In part this is because education budgets

and health budgets are not linked, even though education decisions influence the health of children and youth. Opportunities for active transport are often reduced by school closures. If students are then transported by bus, involving long journeys, they may also lose opportunities for extra-curricular activities and time for physical activity.

School policies and practices can encourage active transport. Secure bicycle facilities can help students who wish to cycle. Busing policies that allow students to walk in fair weather can enable students who are eligible for busing to walk more often. The U.S. Environmental Protection Agency has a program to help School Boards reduce student exposure to pollution from school buses.⁷³

“There is some evidence from work in Austria that young people who walk to school are emotionally healthier than children who travel by motorized means.”

INITIATIVES AND RESOURCES

Addressing the health issues outlined above requires an integrated and committed effort by many sectors: transport and land-use planners, educators, health professionals, parents, transit authorities, and all levels of government. Solutions range from removing barriers to active transport for all people to creating incentives and opportunities for reducing society's dependence on the automobile. A detailed account of barriers and recommended actions is in The Centre's *Child- and Youth-Friendly Land-use and Transport Planning Guidelines* at <http://www.cstctd.org>.

Programs

Safe Routes to School. Green Communities' Active and Safe Routes to School program, designed for schools in Ontario, is a comprehensive and adaptable program that engages community partners in finding solutions. Visit the Web site, which also has information about programs for youth: www.saferoutestoschool.ca.

The international Web site for walk-to-school initiatives is at <http://iwalktoschool.org>.

Active School Program. The Ontario Physical Health Education Association (OPHEA) promotes a program designed to involve

schools, parents, and students in programs for more active living. According to OPHEA's Web site, “Directly linked to the Active Participation Strand of the Ontario H&PE Curriculum, the six-level Active Schools program assists school communities in adopting, implementing and maintaining physical activity programs that support the capacity for children and youth to lead healthy lifestyles” (<http://www.ophea.net/ActiveSchools.cfm>).

Ontario Healthy Schools Coalition. The OHSC works with schools, parents, students and community agencies to foster health-promoting social and physical environments (<http://www.ppha.on.ca/ohsc/>).

OffRamp for Youth. A program for high school students that helps youth support sustainable transport choices and create more opportunities for active transport. It is managed by the Vancouver-based organization Better Environmentally Sound Transportation (<http://www.best.bc.ca>).

“... physically fit students performed better academically.”



“The present booklet for educators is one of five being prepared by The Centre for Sustainable Transportation.”

Other organizations

The Centre for Sustainable Transportation. More information about the organization responsible for the present booklet is available at <http://www.cstctd.org>.

Safe Kids Canada. This organization provides information about how to keep children safe. Its web site includes safety tips, resources for teachers, and suggestions for advocacy (<http://www.safekidscanada.ca>).

Child Friendly Cities. UNICEF’s Child Friendly Cities initiative is at the forefront of efforts to consider children’s needs and aspirations in an urban environment (<http://www.childfriendlycities.org>).

Books

David Driskell, *Creating better cities with children and youth—A manual for participation*. Earthscan Publications, 2002.

Louise Chawla (ed), *Growing up in an urbanising world*. Earthscan Publications, 2002.

Other documents

Kids on the Move, European Commission.³⁰

Catherine O’Brien, Richard Gilbert, *Kids on the Move in Halton and Peel*. The Centre for Sustainable.³

This booklet for teachers, education planners, and administrators is one of five prepared for The Centre for Sustainable Transportation by Catherine O’Brien, Research Associate, and Richard Gilbert, Research Director. The other four are for health and recreation professionals, municipal officials, parents, and youth.

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A walking school bus in Toronto



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