



Children: A Critical Link for Changing Driving Behaviour

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Reports from Transport Canada¹, the National Round Table on the Environment and the Economy², the Centre for Sustainable Transportation³, and many others, have outlined the pressing need to move towards more sustainable transportation.

Outstanding groundwork has been accomplished with excellent recommendations offered. Moving from recommendations to action, and specifically influencing behaviour in the direction of sustainable transportation is critical.

Technology-based solutions are being explored but it is wide-

ly recognized that these cannot offer the immediate solutions required (apart from low technology solutions such as removing barriers to walkable communities and cycling).

Of the options examined, reducing kilometres driven appears to be the only one which could meet both the stabilization and 20 per cent reduction targets (for carbon dioxide emissions) by 2005⁴.

While many technology solutions are welcome, it is important to question whether a sustainable transportation future simply involves a transfer of our auto-dependency to cleaner vehicles. Research

regarding the impacts of cars on children suggests that reducing our car use is also an important goal⁵. Technology that improves air quality will mitigate some of the negative impacts on children. However, we may anticipate that the acceptability of cleaner vehicles will reinforce auto-dependency.

The sedentary lifestyle that children and youth have adopted, the number of traffic fatalities and injuries, restricted independent mobility and impoverishment of childhood experiences are likely to persist. Therefore, our efforts towards technology-

based solutions must be coupled with strategies to influence driver behaviour.

Proposals for more compact, mixed-use communities, increased use of public transit, user fees, and trip reduction are all tied to the need for greater public awareness and education. The Transportation and Climate Change Collaborative⁶ has proposed a number of education and awareness strategies.

The National Round Table on the Environment and the Economy's "The Road to Sustainable Transportation in Canada: State of the Debate"⁷ says the following:

Increasing public awareness is the most significant step needed to lay the groundwork for effective action. As part of a sustainable transportation strategy, public education is needed to:

- *Inform individuals of the risks and costs of current transportation trends.*
- *Educate individuals about steps they can take to contribute to sustainable transportation.*
- *Build public support for the political actions necessary for sustainable transportation.*

A critical question then is how do we educate for sustainable transportation and also influence driver behaviour?

Dr. McKenzie-Mohr has published an on-line Guide for Fostering Sustainable Behaviour⁸. He writes:

Most programs to foster sustainable behaviour rely upon large-scale information campaigns. These campaigns are usually based on one of two perspectives regarding changing behaviour.

The first perspective assumes that changes in behaviour are brought about by increasing public knowledge about an issue, such as decreasing landfill capacity, and by fostering attitudes that are supportive of a desired activity, such as recycling.

Accordingly, programs based on this perspective attempt to alter behaviour by providing information, through media advertising, and frequently the distribution of brochures, flyers and newsletters.

McKenzie-Mohr concludes that "numerous studies document that education alone often has little or no effect upon sustainable behaviour." Changing attitudes and values does not automatically lead to behaviour changes.

McKenzie-Mohr outlines a strategic approach for Fostering Sustainable Behaviour through community-based social marketing which is being incorporated into car trip reduction projects.

The Way To Go! school program⁹ and Active and Safe Routes to School¹⁰ across Canada employ an informal process of community-based social marketing. These programs are now examining methods to formally incorporate the tools and methodology of community-based social marketing.

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David Engwicht¹¹ of Australia, has also postulated that information dissemination alone will not change driving behaviour to the extent required. Building on the work of McKenzie-Mohr and Engwicht, I have been researching the impact of our auto-dependency on children.

My aim is to compile a comprehensive body of literature that can be used to appeal to the value drivers hold for our children. Raising the profile of children's needs and feelings may touch the emotional chord which drivers need to hear. However, as McKenzie-Mohr rightly states, knowing that we should change our behaviour is not enough. Changing norms, providing prompts, obtaining

public commitments identifying and removing barriers are all significant for success.

My preliminary research suggests that parents are deeply concerned when they learn about the impacts of cars on children. However, few are aware of the extensive nature of these impacts.

While public outreach strategies have focussed on convincing people to reduce the number of kilometres they drive, become more physically active, and run more fuel efficient cars, the role of children has often been overlooked.

There is a need to raise the profile of children in sustainable transportation planning and education. The impacts of cars on children as well as the

opportunities to foster sustainable behaviour bear further investigation. We may learn that parents are more receptive to information about child-friendly transportation than sustainable transportation.

A review of the literature on children and transportation indicates that most articles address several impacts of cars on children, including youth. Often the points that are stressed relate to rising levels of obesity, traffic fatalities, risks associated with physical inactivity and air pollution.

The impacts are far more comprehensive and may cause us to explore the responsibility that we as a society may have for putting childhood at risk.

The following is a brief overview of the

impacts of cars on children:

- *Traffic fatalities are the leading cause of death in Canada for children over the age of one year¹².*
- *Fewer than half of Canadian children now walk to school¹³. This figure drops to 10 per cent in the United States¹⁴.*
- *Two out of three Canadian children do not meet average physical activity guidelines to achieve optimum growth and development¹⁵.*
- *More than a quarter of Canadian and American children and youth are overweight¹⁵.*
- *Heavy traffic has reduced the independent mobility of children and youth¹⁶.*
- *Opportunities and locations for spontaneous play are severely restricted by traffic¹⁷.*
- *Children who survive traffic accidents may suffer from emotional distress for a considerable amount of time, unless treated. This may include depression, recurring nightmares, difficulty attending to school-work, fear of cars¹⁸.*
- *There appears to be no threshold for ozone levels that are safe and children are particularly susceptible¹⁹.*
- *Children may be more vulnerable to airborne pollution because their airways are narrower than those of adults¹⁹.*
- *Children have markedly increased needs for oxygen relative to their size. They breathe more*

rapidly and inhale more pollutant per pound of body weight than do adults. In addition, they may spend more time engaged in vigorous outdoor activities than adults¹⁹.

- *Exposure to traffic noise has been linked to reduced reading levels in children (possibly due to reduced auditory discrimination)²⁰.*
- *In Canada, approximately 30 per cent of greenhouse gas emissions come from transportation. These are contributing to global warming which will have long-term impacts on children²¹.*

Parents were presented with this information in both a rural and urban focus group and asked for their response. They were visibly disturbed, and commented that most people are likely unaware of this information.

The points that seemed to be the greatest concern for them centred on the loss of spontaneous play opportunities and restricted independent mobility.

They clearly related the information to their own children and seemed to struggle with the realization that their children are not having the quality of life which they, as parents, are trying to offer.

One parent mentioned that the only real freedom her twin eight year olds ever experience occurs in the summer when they go

camping or when they can get out of the city to hike.

Their children no longer find walking normal, and complain if asked to walk short distances, unless they are in a natural park setting. Parents talked about their fear of allowing their children to move around independently in the neighbourhood.

They wonder at what age it will feel safe to permit this and how their children will develop the skills to deal with their environment alone. One father spoke of his son's need to socialize with his friends, and realized that this is completely dependent on the availability of parents to drive.

When asked if a week-long campaign highlighting the impacts of cars on children would change driving behaviour the focus group participants stated that it would probably change only a few people. They recommend that the information should be presented many times over until it is common knowledge.

The greatest impact, they feel would come if their children asked them to drive less. Parents suggested that children should be learning about sustainable transportation at school and influencing their parents.

It's interesting to note that parents responded to the less tangible, qualitative

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impacts of cars on their children. This is an area that has received little research attention. Cars and the impoverishment of childhood experience has been raised by Sandqvist²².

From children's point of view, cars and traffic in neighbourhoods is deleterious and undesirable. Children lose opportunities to learn from first-hand interaction with the real world and with adults and other children in their neighbourhood. Children increasingly live a world of vicarious experience provided by television and computers.

In Canada, surveys²³ indicate that approximately 50 per cent of children walk to school. Fewer and fewer, then have the experience and memories that go along with walking to school. We are creating more sedentary lifestyles where many children are chauff-

feured from point 'A' to point 'B' in "adult-sized" trips rather than "kid-sized" trips. (Anyone who has tried to coerce a child to walk quickly knows that as adults we tend to be concerned with getting to our destination — kids are more engaged with living along the way.)

What is the significance of this? How important are those lingering, sensory experiences that many of us can remember from our childhood—playing with mud puddles, kicking through piles of autumn leaves, and chatting with buddies along the way to school? While the research in this area is scanty, we do have anecdotal indications.

One retired British teacher has written about the loss of lived experiences of his students. He writes:

I found it increasingly difficult to stimulate children's writing and artwork because there was so little in the way of stored experience for them to use... If I wanted children to write about walking in the rain I had to suggest just about everything because so few of them had walked in the rain... Not one, not one of them had the chance to feel raindrops running down their backs. Had any of them walked in the morning fog? Not one. Had they had the chance to walk into the teeth of a howling wind? Had they felt the full force of a hailstorm? Of course not²⁴.

Fostering Sustainable Transportation Behaviour

Fortunately, we have a tremendous opportunity to learn from a Canadian initiative that is working with parents and children to change driving behaviour. It's the *Way To Go!* school program in British Columbia.

The program begins from the premise that parents and teachers are concerned about traffic safety, particularly at drop off and pick up times at school. Increasing traffic congestion and aggressive drivers have led to the creation of a new term, "parent drop off rage."

The coordinator of *Way To Go!*, Bernadette Kowey, works with Parent Advisory Councils to analyze the nature of their concerns and implement strategies for reducing traffic. Children become involved in neighbourhood mapping and surveys, creating bar charts to indicate transportation patterns.

While each school is free to implement its own strategy, many develop *Walking School Bus* programs, "*Walking Wednesdays*" which invariably lead to *Walking Thursdays*, *Fridays*, and so on.

Parents, teachers and children identify barriers to walking and cycling and develop plans to remove these whenever possible. The process leads to a new community culture — one might say, "a culture for sustainability."



As the program unfolds, schools proudly identify themselves with statements such as, "we're a walking and cycling school."

The results of *Way to Go!* are impressive. Kowey anticipated that the program would be delivered to 300 British Columbia schools during its first year. The demand has been far greater. More than half the schools in British Columbia, 450 schools, have requested the *Way To Go!* kit. Many schools report a 50 per cent increase in the number of children walking.

One school reduced the number of cars dropping off children from 150 to just four. *Way To Go!* is sponsored by the RoadSense Team: Autoplan brokers and Insurance Corporation of British Columbia (ICBC) — partners in road safety.

Way To Go! provides a model for us to learn from and support. Kowey sees it as a stepping stone towards a greater understanding of the impacts of our transportation choices. Her experience with parents verifies that they can be motivated through concerns for their children. She also notes that many impacts of cars on children are not common knowledge for parents.

One of the most striking discoveries parents have reported to Kowey relates to the impoverishment of childhood experiences. Parents are astonished

to learn their children do not know the route home from school, even though this may be only three blocks.

One parent recounted that on a particularly rainy day she was tempted to lapse into the old pattern of picking up her children. She imagined them walking home, becoming cold, miserable and wet. She resisted the urge to pick them up.

To her delight and surprise, the children arrived home singing at the top of their lungs, having thoroughly enjoyed their new experience. "I would have deprived them of that if I had driven," reflected their mother.

Parents in the *Way To Go!* program are beginning to ask the question, "What are we doing to our children?" As the habit of driving gives way to walking and cycling, parents are recognizing that their children have been deprived of many interesting and perhaps critical, experiences.

Both Kowey and parents are asking for more information. They would like to have wider reporting of the impacts of cars on children. They believe that more research is needed to understand the extent of the impoverishment of childhood experiences.

Recommendations for Strategic Directions

Applied research on children and sustainable transportation is needed. The Academy

for Educational Development recently published a literature review on reducing vehicle miles travelled, with a focus on youth. They write,

In the transportation research literature we found little material that pertained to youth and air pollution or VMT. We contacted more than 15 university transportation/environment/engineering departments across the United States, but none were doing research specifically in the field of environmental transportation and youth²⁵.

The York Centre for Applied Sustainability, Moving the Economy, and the Centre for Sustainable Transportation are collaborating to organize a one-day forum in Toronto which will focus on Children and Sustainable Mobility. The Forum will attract academics, policy makers, business representatives, community-based organizations and educators. It is anticipated to take place in February, 2002.

Way to Go! provides an excellent framework for communicating research information that can then be applied to change behaviour. Parents sensitized to links between transportation and their children's health and social development needs are likely to embrace other solutions, including legislation. General public awareness campaigns may also be more effective once par-

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ents and children have become actively engaged in reducing car use.

For example, public transit companies could raise the profile of children's health and safety in their advertising. Corporate sponsors, particularly those associated with children, may be approached from the perspective of promoting sustainable transportation for the sake of children.

A challenging research opportunity exists regarding the *Way To Go!* program. Kowey reports that she repeatedly observes a transition in the schools applying the *Way To Go!* kit. The school cultures shift towards one that views walking and cycling as the norm. Understanding this cultural shift and learning how to extend it throughout the neighbourhood would assist the transition towards sustainable transportation.

Conclusion

Serious attention and substantial funding for programs such as *Way To Go!* and *Active and Safe Routes to School* provide cost effective and sustainable behaviour change in mobility patterns. Their community-based approach, which creates change at both the individual level and community level, may prove to be more efficient than conventional public education and awareness campaigns.

Delivering these pro-

grams also provides additional benefits for children's health and well-being. They may lay the foundation for building a sense of community in which a culture for sustainability will flourish.

Finally, I would like to appeal to those of us engaged in research and implementation strategies regarding sustainable transportation to note the absence of children in our discourse. Very often, reports refer to "moving people and goods," examining mobility patterns, increasing efficiencies, and so on.

The "people" envisioned in many studies and reports are generally adults. Even though the term appears inclusive, youth and child mobility needs and impacts generally go unnoticed. If we attend more to children and youth, we may also find that we communicate more effectively in attempts to foster sustainable transportation.

We need multiple strategies and mechanisms for our transition towards sustainable transportation. Raising the profile of children in transportation discussions is a starting point. Coupling public awareness with social marketing and opportunities for positive action are critical. Expanding our knowledge regarding the impact of cars on children will enhance programs aimed at changing driving behaviour.

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Update...

Dr. O'Brien recently completed two studies of interest to readers:

Ontario Walkability Study: Trip to School: Children's Experiences and Aspirations, May, 2001

Parent Attitudes and Travel Behaviour Regarding the Trip to School: Opportunities for Sustainable Mobility, June 2001

For more information on either study, contact the author at: <Catherine_obrien@cbu.ca>