



The Social Implications of Sustainable and Active Transportation

Overview

Organizations throughout Canada, including municipalities, are increasingly adopting a planning model that addresses the three pillars of sustainability—economic, environmental, and social—as a way to promote economic growth while protecting the environment and human health.

Many of the Urban Transportation Showcase Program (UTSP) case studies and issue papers deal with two of the three pillars: environmental and economic issues.

The UTSP now turns its attention to the third pillar of sustainability to examine how transportation affects social issues such as accessibility, community livability, and employment.

Selected Resources

1. John Adams. [*The Social Implications of Hypermobility*](#).
2. Victoria Transport Policy Institute. [*Cities Connect: How Urbanity Helps Achieve Social Inclusion Objectives*](#).
3. Kevin M. Leyden. [*Social Capital and the Built Environment: The Importance of Walkable Neighborhoods*](#).

References are found at the end of this issue paper.

Context

Transportation connects communities. Each day, Canadians travel to work, school, shops, recreational facilities, and other common destinations. Increasingly, these trips are being made by car. With respect to commuting, Statistics Canada reports that, in 2005, 86% of Canadians traveled to work in cars as drivers or passengers.

New research is showing that how we travel not only affects our health and the environment, but can also impact a variety of community and social issues.

Social Capital

In *Social Capital and the Built Environment*, social capital is defined as the networks and interactions that inspire trust

and reciprocity among citizens. These networks often support other positive behaviours, such as political engagement and volunteering.

In essence, social capital is central to many of the collective goods we all care about: safe streets, healthy and happy citizens, effective education, responsive democracy, economic development, and children's welfare (Sander, 2002).

Municipalities that provide walking and cycling opportunities can enhance social capital by providing greater opportunities for neighbours to interact. Conversely, social capital can be undermined if there are more single-occupant vehicles on the road and fewer pedestrians, cyclists, public transit users and carpoolers.

Community Livability

What makes a community livable? A livable community provides a mix of uses that meet all the basic needs of its residents—food, shelter, education and medical services—and affords a good quality of life, which includes environmental quality, social and recreational opportunities, and access to affordable transportation.

Sustainable, and hence livable, communities offer homes that are located near all of the daily amenities, such as shops, schools, work and recreational opportunities. Like a village, these places are a pleasant, convenient and safe walk, cycle or bus ride from home.

Municipalities that adopt sustainable planning and development practices help to support these types of mixed-used communities.

The Canadian commute

When it comes to commuting, statistics prove that Canadians are spending more time inside their cars getting to and from work. According to Statistics Canada, in 2005, Canadian commuters spent an average of one hour (63 minutes) each day getting to and from work, up from 54 minutes in 1992.

It stands to reason that if Canadians are spending more time on the daily commute, they are spending less time on

other things, such as time with family or being active in the community.

In *The Social Implications of Hypermobility*, John Adams notes that this could be a troubling trend because communities that are car-oriented can foster anonymity, which in turn can lead to a break down in trust among neighbours, increase opportunities for crime, and decrease community and political involvement.

The benefits of walkable neighbourhoods

In contrast, municipalities where people walk more offer greater opportunities for residents to socialize, to be involved in their communities, and to self-police the neighbourhood.

For example, a study that investigated the relationship between neighbourhood design and individual levels of social capital was conducted in eight Galway, Ireland neighbourhoods. The neighbourhoods were chosen for the study because they had a mix of uses and were designed and built centuries before the automobile.

Results showed that people who lived in the most walkable neighbourhoods felt more connected to their community and more likely to know their neighbours. In addition, they were more likely to trust and have faith in people, more likely to contact elected officials to express concerns, had a higher overall level of political participation, and were more likely to walk to work (Leyden, 2003).

It should, however, be noted that income and education levels were not surveyed in this study. Socio-economic factors, therefore, could be factors in determining individual levels of social capital.

The Walking School Bus is a proven tool that increases walking in municipalities. The program not only supports greater physical activity for children, but also promotes social interaction among children and their parents and caregivers.

The Active and Safe Routes to School program describes the Walking School Bus as: “Families who live on the same block or in the same apartment building walk children to and from school. Everybody walks, sharing responsibility, conversation and building social networks along the way.” The program is outlined in greater detail in UTSP case study #40, *Transportation for Young People*.

By contrast, a study of three residential streets in San Francisco neighbourhoods revealed how traffic levels can negatively affect social networks. As traffic along the residential streets increased, the number of people attempting to cross the street decreased and the number of people who knew their neighbours on the other side of the street also decreased. People living on streets with light traffic—about 2,000 vehicles per day—reported having three friends and six acquaintances in the neighbourhood,

but as traffic increased to 16,000 vehicles per day, the number of friends and acquaintances was cut in half (Adams, 2000).

Crime Prevention

The late author and urban activist, Jane Jacobs, was the first to put forth the theory of “eyes on the street.” In her 1961 book, *The Death and Life of Great American Cities*, she detailed how mixed-use neighborhoods had people watching the streets throughout the day, both from ground-floor shops and mid-rise apartment buildings above those shops.

Ms. Jacobs suggested that more people on the street increased the collective feeling of security and, therefore, reduced opportunities for criminal activity.

Statistics from London, Ontario’s Neighbourhood Watch program offers an illustration of this theory.

London has approximately 147,000 households, of which 40,000 participate in Neighbourhood Watch. London Police tracks break and enters in neighbourhoods where there are Neighbourhood Watch programs and compares the data to neighbourhoods where the program does not exist.

| 2006 Break and Enters | | | |
|-----------------------|--------------------------|--------|-------|
| Month | Neighbourhood Watch (NW) | Non-NW | Total |
| January | 23 | 102 | 125 |
| February | 15 | 117 | 132 |
| March | 23 | 137 | 160 |
| April | 26 | 106 | 132 |
| May | 40 | 174 | 214 |
| June | 24 | 118 | 142 |
| July | 25 | 131 | 156 |
| August | 30 | 153 | 183 |
| September | 25 | 138 | 163 |
| October | 24 | 145 | 169 |
| November | 29 | 120 | 149 |
| December | 32 | 145 | 177 |

In addition, auto thefts decrease dramatically in neighbourhoods where a Neighbourhood Watch program exists, as the table below indicates.

| 2006 Auto Thefts | | | |
|------------------|--------------------------|--------|-------|
| Month | Neighbourhood Watch (NW) | Non-NW | Total |
| January | 23 | 102 | 125 |
| February | 15 | 117 | 132 |
| March | 23 | 137 | 160 |
| April | 26 | 106 | 132 |
| May | 40 | 174 | 214 |
| June | 24 | 118 | 142 |
| July | 25 | 131 | 156 |
| August | 30 | 153 | 183 |
| September | 25 | 138 | 163 |
| October | 24 | 145 | 169 |
| November | 4 | 165 | 169 |
| December | 10 | 122 | 132 |

Source for both tables: Neighbourhood Watch, London.
http://www.nwl.london.ca/Statistics_current.htm

Ms. Jacobs' work also helped to develop a revolutionary way of looking at the built environment. Criminologist C. Ray Jeffery cited Jacobs' research, among other academics, researchers and urban planners, when he developed the Crime Prevention through Environmental Design (CPTED) principles.

Municipalities can apply CPTED principles to any public space, including active and sustainable transportation systems and infrastructure. Basically, CPTED looks at all design elements of the built environment with an eye towards preventing criminal activity from occurring.

Some of the strategies that have been applied to Canadian public transportation systems include adequate lighting, stations that are free of obstacles, closed circuit television monitors, minimal landscaping along pathway areas, and eliminating hidden corners.

For example, Ottawa's public transit authority, OC Transpo, requires a safety audit using the CPTED principles to identify potential oversights in and around existing transit stations. It also ensures that the principles are considered in the design and construction of new stations.

Similar to CPTED, "new urbanist" principles focus on creating human-scale, walkable communities. These principles were applied to the Diggs Town neighbourhood of Norfolk, Virginia, a 1950s-era public housing project that had little common space and which had become a haven for drug dealers.

During the 1990s, Diggs Town was redesigned using new urbanist principles. Front porches were added to houses (to provide eyes on the street), rear yard space was fenced, streets were relaid to facilitate traffic, and a community police officer was assigned to the neighbourhood.

Results were immediate. Yards were better maintained by the individual owners, and calls to the police dropped from 25-30 per day to two or three per day (Sander, 2002).

Social Equity

Social equity is about protecting the fundamental rights of all citizens and ensuring that, regardless of age, income or disability, all Canadians enjoy equal access to all aspects of society.

In Canada, approximately 20% of Canadian households do not own a car. Of these, about 10% are low income and 10% are precluded from driving due to disability (VTPI, 2003). This dichotomy, between those who own cars versus those who do not, can negatively affect a person's ability to find work, access public services or educational institutions, and can limit consumer and recreational opportunities.

Municipalities that promote walking and cycling, on the other hand, afford greater employment, education, recreation, and consumer opportunities that can make these communities more equitable.

Walking provides basic mobility and many people rely on walking to access activities with high social value, such as medical services, essential errands, education and employment. Safe pedestrian access to public transit stops and stations (e.g., well maintained sidewalks) is particularly important for people who are transportation disadvantaged, such as those with disabilities, the elderly, children, and people with low incomes (VTPI, 2004).

Cycling also provides basic mobility and community bicycle programs can help promote social equity by providing inexpensive access to bicycles.

The BikeShare program of Toronto's Community Bicycle Network (CBN) offers a good example. Similar to a car-

sharing program, BikeShare provided members with access to a fleet of bicycles in 16 downtown locations. A season's pass ranged from \$30 for students and low-income earners to \$50 for a regular pass. However, if the \$30 fee was still unaffordable, CBN accepted four hours of volunteer service at any community agency or group.

BikeShare's 2004 annual report stated that the average cost of a monthly transit pass was between \$76.25 and \$90.50, while the purchase price of a safe, used bicycle ranged from \$100 to \$150. The CBN concluded that:

Sustainable and dependable transportation is inaccessible to the poorest of the poor in Toronto. Reduced access to dependable transportation can mean reduced access to services, social isolation, and lower employability for marginalized residents of Toronto. BikeShare has made serving the city's most marginalized communities a priority by opening hubs at three community centres and by conducting workshops with new Canadians on bicycle transportation in Toronto.

Although the BikeShare program was discontinued in 2007 due to a lack of funding, it had more than 2,000 regular members and, at any given time, 65% to 75% of the BikeShare fleet was in use.

Employment Equity

According to Good Jobs First, a U.S.-based resource centre that promotes smart growth policies, access to public transit can expand job opportunities, increase worker satisfaction and productivity by lessening commute times, and cushion the effect of high gasoline costs on working families.

Residents living in municipalities that support greater access to public transit stand to gain these types of social benefits.

Poorly designed or non-existent transit services, on the other hand, can have deleterious effects on those seeking employment.

A 2000 study, for example, examined the movement of companies to Anoka, a suburb of Minneapolis, Minnesota. Anoka had offered free land to companies that wanted to relocate. Twenty-nine companies took advantage of the offer, resulting in 1,600 jobs moving to the suburbs. This moved jobs away from the region's largest concentrations of households receiving public assistance. Before the relocations, 70% of jobs were accessible by transit. In Anoka, these jobs were no longer accessible and this especially harmed inner-city workers who were more likely to rely on public transit (Good Jobs First, 2000).

Access to medical care

Municipalities that provide affordable and convenient public transit allow residents to travel to key community

services such as medical care. For those without access to a vehicle, gaining access to these types of services can be more difficult.

A study conducted in two census areas of Los Angeles, for example, found that drivers had greater access to health care services than transit riders. In both census areas, fewer than 50 transit riders had access to general practitioners, hospitals and clinics within 15 minutes of travel time.

Food equity

Many people take the simple act of going to the grocery store for granted. For those who cannot or do not drive, access to even this basic need may be less than adequate.

The British Medical Association (BMA), for example, noted a marked decrease in the consumption of leafy green-yellow vegetables by low-income families. They attributed the cause to the declining number of local shops and the lack of access by the poor to supermarkets that were increasingly located for the convenience of those with access to a vehicle (BMA, 1997).

Again, municipalities can play a role in providing sustainable transportation infrastructure that allows residents access to this basic social need.

Mental Health Issues

According to the 1999 World Health Organization's (WHO) *Charter on Transport, Environment and Health* "Certain patterns of transport, which are dominated by motorized road transport, have substantial adverse impacts on health." The WHO adds that the effects of these patterns on mental health include increased "risk-taking and aggressive behaviors, depression, and post-traumatic psychological effects of traffic collisions."

High levels of traffic, for example, can cause social isolation and limit interpersonal networks of support, factors that have been found to be associated with higher mortality and morbidity in the elderly. A lack of physical activity is also associated with mental health issues such as depression.

Children's Issues

As society's dependence on the car has increased, children's mobility has decreased. In England in 1971, 80% of seven- and eight-year old children got to school unaccompanied by an adult. By 1990, the percentage had fallen to 9% (Adams, 2000). The fear of collisions was reported by parents as being the main reason for taking children to school by car.

This development hinders children's independence, reduces their opportunities for social contact, and also influences children's attitudes towards car use and personal mobility in adulthood.

On the other hand, the WHO found that children who have the opportunity of playing unhindered by street traffic and without the presence of adults have twice as many social contacts with playmates in the immediate neighbourhood as those who could not leave their residence unaccompanied by adults due to heavy traffic (WHO, 1999).

Furthermore, in its *Physical Activity and Youth* publication, the WHO stated that:

Play, games and other physical activities give young people opportunities for self-expression, building self-confidence, feelings of achievement, social interaction and integration. These positive effects also help counteract the risks and harm caused by the demanding, competitive, stressful and sedentary way of life that is so common in young people's lives today. Involvement in properly guided physical activity and sports can also foster the adoption of other healthy behaviour including avoidance of tobacco, alcohol and drug use and violent behaviour.

Conclusion

Social benefits are often more difficult to quantify than economic or environmental benefits. The available data suggests, however, that access to affordable transportation is a key indicator of a socially equitable society and provides many social benefits to all users, regardless of economic or physical status.

Data from the Organisation for Economic Co-operation and Development's Project on Environmentally Sustainable Transport suggests that municipalities that promote active and sustainable transportation gain the following benefits:

- Disparities between the rich and poor in terms of access to social and economic opportunities are diminished.
- Less traffic promotes street life and more time spent in the neighbourhood promotes conviviality.
- The poor gain better access to healthy food.
- The threat of crime decreases because societies in which people know their neighbours are mostly self-policing.
- Community politics is revived.

Municipalities can play a large role in leveling the social "playing field." By providing safe and affordable active and sustainable transportation, municipalities promote greater access to medical facilities, grocery stores, and other basic social services, encourage greater social interaction for the most vulnerable members of society such as children, the

disabled and the elderly, and reduce the effects of social isolation.

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