

Building Healthy Communities Together: Active and alternative transportation to support healthy living in Grey Bruce

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December 23, 2009



Executive Summary

A healthy community ensures that each person in the community has the opportunity to live to his or her fullest potential. There are many different components to building healthy communities; the purpose of this paper is to highlight the effects of transportation on health and make recommendations to improve health.

A transportation system which aims to increase active and alternative modes of transportation while decreasing the use of personal automobiles can help to improve mental health and physical activity levels, maintain air quality and water quality, reduce motor vehicle crash risk, and increase accessibility to employment, schools, recreation and other essential services. By implementing a variety of healthy public policies to support active and alternative transportation, all people in the community will have the opportunity to enjoy a high quality of life.

Introduction

The leading causes of death in Grey Bruce are cardiovascular disease, cancers, injury and poisoning (Leffley, 2008). In 2004, cardiovascular disease alone accounted for 37% of deaths, equivalent to over 300 deaths a year (Leffley, 2008). Cancer accounted for 28% of deaths in 2004 (Leffley, 2008). In 2001, there was nearly double the number of falls in comparison to Ontario, totalling 889 falls. Falls were significantly higher in number for all ages, and there is a prominent difference between Grey Bruce and Ontario for adults 65 and older (Leffley, 2008).

In Grey Bruce, motor vehicle crashes (MVCs) are the number one preventable cause of injury and death in children and particularly youth (Ministry of Health Promotion, 2007). MVCs accounted for 79% of deaths amongst youth in Grey Bruce, 31% higher than both the provincial and national averages (Ministry of Health Promotion, 2007).

These major health concerns all have multiple risk factors and require multi-faceted approaches to improve quality of life and reduce the burden of death and disease in Grey Bruce. Individual and community health is affected by the environments in which we live, work, play, and learn. “It is unreasonable to expect large proportions of the population to make individual behaviour changes that are discouraged by the existing environment and social norms” (Schmid, Pratt & Howze, 1995, p.1207). Modifying and creating a healthy built environment can support positive health outcomes in our community. A healthy built environment encourages and enables people to walk and cycle more often, use their automobile less, and create opportunities for social interaction.

Physical Activity

Physical activity is linked with better health. It reduces the risk of cardiovascular disease, cancers, and falls. Physical activity contributes to well-being and reductions of depression. While many people know that physical activity is good for their health and well-being, only 53 per cent of residents report being physically active in their leisure time (Leffley, 2009). Individual choices and behaviours, like physical activity, are often shaped by broad social and environmental factors including the location of housing, employment, and other services, the design of transportation systems and the ease with which people can access places to be active (Labonle, Muhajarine, Winqvist & Quail, 2009).

Designing and retrofitting the built environment to have higher residential densities, connected streets, and a mixture of land uses has shown that people walk and cycle more (Brownson, Haire-Joshu & Luke, 2006). People walking to and from public transit can accumulate a substantial amount of physical activity. In a study by Besser & Dannenberg (2005), 29% of transit walkers achieved more than 30 minutes of activity solely getting to and from transit. To further emphasize the need to get out of our cars and be physically active, research

indicates the risk of obesity can decline 5% for each additional kilometre walked per day. In comparison, the risk of obesity can increase by 6% for each hour spent in a car per day (Frank, Andresen & Schmid, 2004).

Safety

MVCs are more than two times higher in Grey Bruce than that of Ontario. Collisions were significantly higher in all ages with the greatest difference seen in the 15-24 age group (Leffley, 2008). In a report examining the amount people travel and crash risk, it was found that “strategies that reduce per capita vehicle travel tend to reduce overall crash risk” (Litman & Fitzroy, 2009).

Motor Vehicle Dependence

Motorized vehicles are essential in Grey and Bruce due to our large geographic area. This has created an auto-oriented culture where motorized vehicles are perceived as the principle mode of transportation to get to and from work, access retail and social services, and recreate. Most children are driven to school either by bus or car (Manske, 2007). Eighty eight percent of the Grey Bruce labour force drives to work either by car, truck, van or passenger (Statistics Canada, 2007). Our dependence on motorized vehicles will only continue to rise unless alternative means of transportation are developed and supported locally. Increasing and supporting opportunities for public and alternative transportation to employment, schools, services, recreation and other amenities may decrease the number of motor vehicle crashes and increase people's physical activity levels.

Mental Health

The growing use of motor vehicles has a direct impact on the mental health and quality of life for residents in Grey Bruce. The more time one spends in the vehicle is less time spent with family and friends, less time for oneself and less time to engage in community activities. As a result, people who do a substantial amount of driving may not have a strong sense of belonging, trust or social ties with their community which puts them at risk for poor mental and physical health (Ontario College of Family Physicians, 2005). The limited ability to enjoy nature and have meaningful interaction with others contributes to feelings of powerlessness and lack of belonging (Young, 2009). According to the Ontario College of Physicians (2005), carpooling, cycling, walking or taking public transit can help improve mental health and counteract the negative effects of driving. It has been shown that thriving societies emphasize centrality and easy access to services (City of Toronto & City of Hamilton, 2008).

Accessibility

Not all members of our community have access to a vehicle. Those with the financial means to own and operate a personal vehicle must realize that they are only able to drive temporarily on the basis of age and financial, physical, and cognitive ability.

Automobiles are expensive to operate, where it is estimated that the cost of owning and operating a car is about \$8441 per year¹ (Canadian Automobile Association, 2009). With few other transportation options, this expense may force people with lower incomes to spend large portions of their budget on transportation leaving little left over for healthy food choices, educational opportunities, and other essentials for daily living. For other families, it may mean no, or limited, access to a vehicle.

There are many people who are simply unable to drive or hold a drivers licence, regardless of financial position. Children under the age of 16, people with various physical and cognitive impairments, and many seniors are unable to operate an automobile. Many of these people become isolated and have limited access to social services and programs that they need (Ontario College of Family Physicians, 2005).

In areas with limited public transportation, people must live with limited access to employment, social and recreation opportunities, shopping and other services (Campbell & Wittgens, 2004; Brownson, 2006; Papas, 2007). “Active transportation can provide people with increased mobility and thus improved quality of life” (Campbell & Wittgens, 2004). For many people, walking and bicycling can offer a low cost alternative for making short trips. To improve accessibility for all residents, a greater emphasis is needed on safe, affordable, and sustainable transportation, such as walking, cycling, and public/mass transit.

Air Quality

Rural Ontario remains dependent on motorized vehicles to sustain industry, agriculture, business, schools, workplaces, recreation and pleasure. However, automobile emissions are a major contributor to poor air quality and pollution in Ontario and the transportation sector is one of the main emission sources in Ontario. Road vehicles contribute 33% of nitrogen oxides and 18% of volatile organic compounds emitted into the air, both of which contribute to the formation of ozone (Ontario Ministry of Environment, 2002; Bray, Vakil & Elliot, 2005).

Vehicle dependency is consistently identified as a major contributor to ill health in low density areas due to poor air quality and reduced motivation for physical activity (Association of Public Health Epidemiologists of Ontario, 2004). The health impacts from smog range from itchy eyes and sore throats to respiratory illnesses such as asthma, cardiac illnesses, cancers and even premature death. People that are especially sensitive to the adverse health effects of air pollution include children, older adults, and those with pre-existing cardiac or respiratory diseases.

The Ontario Medical Association’s Illness Cost of Air Pollution Model calculates the number of premature smog deaths that occur in a census area. In 2005, 93

¹ based on Cobalt LT driven 18,000 km per year.

premature smog related deaths were identified in Grey Bruce (Ontario Medical Association, 2005). These numbers reinforce that the problem of smog is not confined to cities but that rural areas can be equally, and sometimes even more affected by smog than larger cities (Bray, Vakil, & Elliott, 2005). While automobiles contribute largely to air pollution, walking and cycling produce virtually no air pollution.

Water Quality

Water quality and quantity is generally excellent in Grey and Bruce Counties. However, land use decisions can influence water quality. “Any disruption to a watershed, even at very minor levels, has relatively large impacts,” which in turn, degrades water quality (Frank, Kavage & Litman, 2005, p 31).

Impervious asphalt parking lots, roadways, driveways and rooftops constrict the amount of water that gets absorbed into the ground. Run-off water that collects on these surfaces impacts surface water sources, is largely unfiltered, and contains pollutants, chemicals and other contaminants that have accumulated in it.

Waterborne-related contamination can have negative health effects on healthy people, but it particularly can affect the fetus, children, older adults and those who are immuno-compromised (Williams & Wright, 2007). The impact of the built environment on water quality is significant. Sprawled communities, lack of green space, paved surfaces and the automobile are all contributors to contaminated runoff and degradation of watersheds and watercourses (Williams & Wright, 2007).

Recommendations

Building healthy communities requires a commitment from regional and local governments, community organizations, private sector businesses, and individuals to advocate for, implement and make use of healthy public policy that supports making healthy choices easier. Creating an environment where all people can choose to walk, cycle or use alternative transportation is one way to build a healthy community. No one single recommendation will completely change a community overnight, rather it will be the collection of healthy public policies over time that will help the community achieve a high quality of life for all citizens.

Municipalities are of primary importance as they are responsible for developing and implementing policy for many components of healthy communities. In developing and reviewing policy at the municipal level, the following is recommended:

1. Upper and lower tier municipalities should incorporate healthy public policy into official and master plans, bylaws, and land use planning

- approvals which supports increasing active and alternative transportation while reducing motor vehicle dependency
2. Policies should be made and reviewed with special attention paid to creating access and equity for all residents, especially children, youth, and older adults, people with low or limited income and others who may be at a disadvantage
 3. Increase active and alternative transportation and decrease motor vehicle dependency, this may be accomplished by, but not limited to:
 - a. Providing opportunities for and promoting intensification of residential and employment areas (Brownson et al., 2006; Williams and Wright, 2007)
 - b. Providing opportunities for a mix of land uses where homes are in proximity to workplaces, shopping, entertainment, and daily amenities (Brownson et al., 2006; Heath et al., 2006)
 - c. Increasing the connectivity of and options for alternative transportation including public/mass transit, car pooling, walking, cycling, etc., both within and between municipalities and regions; and, where appropriate, improve accessibility to necessary amenities (e.g. bicycle racks and storage in safe well-lit areas) (Williams and Wright, 2007)
 - d. Increasing walking and cycling opportunities through the development of a connected trail network and improving existing trail accessibility (Brownson et al., 2006; Heath et al., 2006)
 - e. Improving sidewalk quality and connectivity throughout communities (Health et al., 2006)
 - f. Improving safety and providing aesthetically pleasing built and natural environments for alternative transportation. This might be accomplished by creating or modifying playgrounds, implementing traffic calming measures, creating bike lanes and retro-fitting existing infrastructure. (Health et al., 2006)
 - g. Improving pedestrian safety by requiring sidewalks in all development areas including residential, commercial, and industrial, creating raised pedestrian islands to ease street crossings, using pedestrian friendly traffic signals, reducing the widths of roads, driveways, and intersections, separating pedestrians from vehicles with curbs and street trees, and reducing vehicle speed (Ewing, Frank, & Krutzy, 2006; Frank & Engelke, 2006).

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