

3.0 BENEFITS OF WALKING, CYCLING AND ACTIVE TRANSPORTATION

Walking and cycling provide significant environmental, transportation, health and economic benefits. Municipalities in southern Ontario and throughout North America are implementing initiatives to promote and encourage walking and cycling as feasible alternatives to the private automobile for short-distance trips and as a method of promoting a more active and healthy lifestyle.

3.1 RECREATION, HEALTH AND FITNESS BENEFITS

Walking and cycling provide an enjoyable, convenient and affordable means of exercise and recreation. The most effective fitness routines are moderate in intensity, individualized and incorporated into our daily activities.

In 2001, approximately \$2.8 billion was spent on health care due to physical inactivity in Canada, which could be reduced by \$280 million if physical activity was increased by 10%¹. Our health system is shifting from protecting people from hazards in the environment to developing healthy environments in which people can live. Evidence suggests that improved cycling facilities leads to increased bicycle use. Increased physical activity such as walking, cycling and other trail related activities could help to reduce the risk of coronary heart disease, premature death, high blood pressure, obesity, adult-onset diabetes, depression and colon cancer. A more active population can reduce the cost of medical care, decrease workplace absenteeism, and maintain the independence of older adults.

Sedentary lifestyles have serious consequences for public health. The most visible is the sharp rise in obesity across Canada in recent years. Almost half of Canadians, ages 12 and over, report being physically inactive and 26% of youth between the age of 2 and 17 years old are overweight or obese (Statistics Canada 2005). In Canada, the prevalence of obesity has more than doubled in the last 20 years (Katzmarzyk & Mason, 2006).

Obesity is not simply a cosmetic issue, but is associated with serious health conditions: notably increased risks of diabetes and cardiovascular diseases (CVD). Physical inactivity contributes substantially to the global burden of disease, death and disability. Increasing walking and cycling and reducing Canadians reliance on cars and can increase physical activity levels, lower the risk of obesity, lower the risk of hospitalizations from asthma and address other health conditions such as heart disease, some cancers and type 2 diabetes caused by inactivity.

- The ability to walk or cycle safely in neighborhoods is integral to being physically active, maintaining a healthy body weight, and increasing social interaction (Heart and Stroke Foundation of Canada, 2006).
- Heart disease, some cancers, type 2 diabetes and chronic respiratory diseases account for a significant portion of morbidity and mortality among Canadians (Canadian Cancer Society, 2005). All these can be significantly reduced by regular physical activity, such as walking and cycling.

¹ The Business Case for Active Transportation, The Economic Benefits of Walking and Cycling; Section 4.7.2; Go for Green, March 2004.



- Exercise and health is seen by Canadians as the main benefit to walking and cycling. Practicality and convenience, and pleasure are also frequently cited benefits (Go for Green National Active Transportation Survey 2005).
- A 5% increase in the walkability of a residential neighbourhood was associated with 32 more minutes of physically active travel per day and a 0.23% reduction in Body Mass Index (BMI). (Frank, 2006a)
- Policy changes at the local level have the potential to encourage increased physical activity over the long term by making active transportation an easier choice for residents (World Health Organization, 2006).
- One study has estimated that 40% of chronic illness could be prevented by regular physical activity and suggested that urban planning could offer opportunities for increased physical activity by creating walking and cycling alternatives, such as trails, to motorized transportation (Heart & Stroke Foundation of NS, 2004).

There are other health benefits in addition to the physical fitness gains. Cycling can enhance one's mental outlook and well-being, improve self-image, social relationships and increase self-reliance by instilling a sense of independence and freedom. These can contribute to healthier and happier personal relationships, and improve work and school productivity.

Improving active transportation methods such as walking and cycling and reducing automobile traffic can help make communities more livable by creating an environment that is pleasant and safe without noise and pollution, such as greenhouse gases. This can help to encourage more social interaction within a neighbourhood and create a stronger sense of community. Cycling can provide a form of mobility for people who do not have regular access to an automobile and live in communities with limited transportation alternatives.

On and off-road trail projects can help to foster partnerships among individuals, government, local business and interest groups. There are many examples of successful private and public-sector partnerships that have developed as a result of the development of trails across the country, such as the Chrysler Greenway through Essex County, near the City of Windsor and the Oak Ridges Moraine Trail that passes through York Region.

Making an investment to include active transportation modes such as walking and cycling into daily commuting habits and errands can help to promote a healthy and active lifestyle for Town of Oakville residents.

3.2 TRANSPORTATION BENEFITS

Walking and cycling are both popular recreational activities and a means of transportation that are efficient, affordable and accessible. They are the most energy efficient mode of transportation and generate no pollution. The transportation benefits of walking and cycling include reduced road congestion and maintenance costs, less costly infrastructure, increased road safety and decreased user costs. For distances up to 10 km in urban areas, cycling is the fastest of all modes from door to door.

Canadians make an average of 2,000 car trips per year over distances less than 3 km. Surveys show that 66% of Canadians would like to cycle more than they presently do. Seven in ten Canadians say they would cycle to work if there "were a dedicated lane which would take me to my workplace in less than 30

minutes at a comfortable pace”². These facts clearly demonstrate the potential for increasing the number of trips by bicycle.

In Edmonton, a survey of 2400 cyclists in 1989 found that 75% of reported bicycle trips were for utilitarian reasons. Almost 20% of the cyclists surveyed rode all year round, indicating that winter cycling is viable.

There is strong evidence that given complete networks of high-quality cycling routes, a significant number of people will cycle. The value of such complete networks is demonstrated in Davis, California and Boulder, Colorado. With 20% of trips by bicycle, these communities have the highest levels of bicycle usage in North America. This high level of cycling is facilitated by mature networks, which include bike lanes on almost all of their arterial roads and extensive off-road commuter bicycle paths. Residents can simply get on their bicycles with confidence knowing there will always be a safe route to their destination (British Columbia Cycling Coalition Budget Submission, 2007).

The addition of even a small volume of traffic to a congested road can create enormous delays for all users. In fact, at capacity conditions, increasing traffic by 5% can reduce speeds by up to 25%. Congestion costs in Ontario were estimated to be \$6.4 billion annually and could grow by an additional \$7 billion annually by 2021 without increased investment in alternative modes of transportation³. Shifting a little traffic off busy roads can create substantial time savings for individuals as well as for time-sensitive commercial vehicles⁴.

It has been estimated that due to rising gasoline prices, more than 10 million cars – mostly belonging to low income families – will disappear from families in the US in the next five years, and a similar trend is expected in Canada (CIBC World Markets, 2008). Providing safe options for bicycle and pedestrian travel is going to become increasingly important for all communities, including the Town of Oakville.

Typical roadway funding requirements include maintenance costs, safety and enhancement costs plus the addition of roadway capacity through lane widenings or additions. Furthermore, the costs for road construction, reconstruction and maintenance are usually paid for by road users through property and gas taxes. An emphasis on walking, cycling and other active transportation modes can result in a reduction in roadway costs. For example, bicycles are lightweight vehicles that take up little space and cause little wear and tear on a road surface.

Road improvements to increase the safety of pedestrians and cyclists can and should enhance the safety of other road users. The U.S. Federal Highway Administration reports that paved shoulders on two-lane, rural roads have been shown to reduce run-off-the-road, head-on and sideswipe collisions by 30 to 40%. In addition, many municipalities have found that paved shoulders reduce maintenance costs related to shoulder deterioration, grading and snow ploughing.

² Ontario Trails Strategy, Ministry of Health Promotion, 2005, Province of Ontario.

³ Transportation Demand Management Strategy, City of Ottawa.

⁴ Transportation Demand Management Strategy, City of Ottawa, Travelwise, Transportation, Utilities and Public Works, April 2003.



A roadway can carry 7 to 12 times as many people per lane per hour by bicycle compared to that of motor vehicles in urban areas operating at similar speeds. It is also much cheaper to provide paved shoulders on a road for cyclists than to provide two additional motor vehicle travel lanes. A small portion of a municipality's transportation budget can be used to facilitate high levels of bicycle use.

Another benefit of reduced car use is a decrease in the amount of parking spaces required. Parking is a significant cost of operating an automobile. Encouraging more people to walk and cycle to work could lead to a reduction in the number of parking spaces required at a place of employment. Bicycle parking facilities could be provided in an existing surface or underground parking lot with no additional parking lot expansion required.

3.3 ENVIRONMENTAL BENEFITS

Walking and cycling are energy-efficient, non-polluting modes of travel. Short distance, motor vehicle trips are the least fuel efficient and generate the most pollution per kilometre. These trips have the greatest potential of being replaced by walking or cycling trips and integrated walking-transit and cycling-transit trips. Shifting to these modes can mitigate global climate change, local air pollution, photochemical smog, acid rain, water pollution and hydrologic disruptions, land use and noise pollution.

Reducing the amount of vehicles on the road reduces the number of pollutants that are emitted into the atmosphere by motor vehicles. Climate change is another problem that can be mitigated by encouraging drivers to use other modes, or to travel outside rush hours. Motor vehicles, roads and parking facilities are major sources of water pollution and hydrologic disruptions due to such factors as road de-icing, air pollution settlement, roadside herbicides, road construction along shorelines, and increased impervious surfaces.

Noise refers to unwanted sound and vibration. Motor vehicles generate various types of unwanted noise that cause disturbance and discomfort to residents. This includes engine acceleration, tire/road contact, braking, horns and vehicle theft alarms. Bicycles make little or no noise, and are not disruptive to communities from a noise perspective. Automobile dependent communities require more land for road rights-of-way and parking than communities that are not as reliant on the automobile. Making communities less auto-dependant by providing infrastructure for alternative transportation modes, such as walking and cycling, can reduce the amount of land required to construct new communities, thus creating more compact subdivisions that are easier to manage from a transportation perspective.

3.4 ECONOMIC BENEFITS

A study published by Go for Green in March of 2004 establishes a convincing Business Case for Active Transportation in the report entitled "The Economic Benefits of Walking and Cycling"⁵. These benefits include a reduction in:

- Road construction, repair and maintenance costs;
- Costs due to air pollutants and greenhouse gas emissions;

⁵ The Business Case for Active Transportation, Go for Green, Better Environmentally Sound Transportation - BEST, March 2004.

- Health care costs due to increased physical activity and reduced respiratory and cardiac disease;
- Fuel, repair and maintenance costs to users;
- Costs due to increased road safety;
- External costs due to traffic congestion;
- Parking subsidies;
- Costs due to air pollution; and
- Costs due to water pollution.

Benefits also include:

- The positive economic impact of bicycle tourism;
- The positive economic impact of bicycle sales and manufacturing;
- Increased property values along greenways and trails and in pedestrian and cycling friendly neighbourhoods; and
- Increased productivity and a reduction of sick days and injuries in the workplace.

There is ample evidence that on and off-road trails provide significant economic benefits for adjacent landowners and local businesses. Trails provide benefits to the local economy during both construction and operation. Trail construction results in direct benefits such as jobs, including the supply and installation of materials.

Following construction, benefits emerge in the form of expenditures by trail users. A few examples include:

- The Adanac Bikeway in Vancouver was completed in 1993 and bicycle volumes increased 225% during the period from 1992 to 1996;
- Trails in New Brunswick employ around 1500 people for an average of six months per year;
- 70% of Bruce Trail users cite the trail as the main reason for visiting the area, and they spend an average of about \$20.00 per user per visit within a 10 km corridor on either side of the trail;
- Annual expenditures linked to La Route Verte rose to \$95.4 million in 2000, representing 2,000 jobs and \$15.1 million and \$11.9 million for the governments of Quebec and Canada, respectively;
- In 2002, Quebec hosted 190,000 bicycle tourists who spend an average of \$112 per day and an average of 6.5 nights compared to \$52 per day and an average of 3.1 nights spent by other tourists; and
- In Ontario, the Eastern Ontario Trails Alliance estimated that at the end of a ten year build-out period, 320 km of their system, constructed at a cost of \$5.4 million, will generate approximately \$36 million in annual economic benefits in the communities through which it passes, and create/sustain over 1,100 jobs.



On and off-road trails systems can have varied levels of attraction for tourists. They can be travel destinations in themselves, encouraging visitors to extend their stay in the area or enhancing business and pleasure visits. By increasing the level of tourist draw, travelers can be expected to stay longer, resulting in an additional night's lodging and meals, a major direct new benefit to local businesses. A 1997 survey of Canadian tourists active in the outdoors showed that 30% of Ontario tourists cycled on at least one occasion while on vacation. The Ontario Ministry of Transportation reported that touring cyclists spend an average of \$130 per day in Ontario, and bicycle retail and tourist industry contributes to a minimum of \$150 million a year to the Ontario economy. Bed and breakfast operators between Ottawa and Kingston report that the majority of their business is from touring cyclists. Cyclists in Vermont spend an average of \$180 U.S. per day, the same amount of someone traveling by car.

Bicycle manufacture, sales and repairs, as well as bicycle tourism, recreation and delivery services contribute to the economy with little to no public investment or subsidy. In 2002, Canadian households spend an average of \$42 on bicycles, parts and accessories for a total of approximately \$500 million^{6, 12}

As outlined in this Chapter, there is clear evidence of benefits associated with designing pedestrian and cycling friendly communities and encouraging people to walk and bike more often for both recreation and utilitarian purposes. Nearly every sector of our society and economy stands to gain by embracing and promoting walking and cycling. The health sector knows that choosing an active form of transportation can help alleviate obesity and disease and contribute to overall health. Research has shown that exercising moderately for only 30 minutes a day reduces the risk of many different illnesses, including heart disease, cancer, and diabetes. The energy sector understands that using human power helps retain our planet's precious non-renewable resources. The environmental movement is committed to cutting emissions from cars to slow down global warming and make our air safer to breathe. Municipal planners and engineers are investigating ways to cut down on traffic congestion and maintain green space in our cities. In addition, we all care about greater safety and security while commuting or while moving around our communities.

Promoting walking and cycling, especially through the development of an integrated on and off-road trail system that provides transportation and recreation options is a simple and obvious answer to these problems. Providing options that will encourage people to reduce their use of their personal automobile by walking and cycling more has the possibility of cutting health care costs, enabling Canada to meet our Kyoto obligations, and create sustainable, more liveable communities. Over the last ten years, the concept of community trail networks and Active Transportation has been gaining popularity because the health, social, environmental, and economic benefits are so substantial.

⁶ The Business Case for Active Transportation, Better Environmentally Sound Transportation - BEST, Go for Green, March 2004. Section 4.5.4, pg. 24.