



# BEAT

## The Path to Health

FALL 2008

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## Benefits of Investing in Active Transportation

**In the new reality of global warming, high fuel prices and rising obesity rates, the benefits of active transportation continue to increase.**



*A joint initiative of BC Recreation and Parks Association and the Union of BC Municipalities.*

*Photo: John Luton, Vancouver, BC*

Walking and cycling are low cost transportation solutions that provide people with enhanced mobility and improve the livability of communities. The impacts of increasing active transportation can be measured in terms of increased physical health, a cleaner environment and a stronger local economy.

Understanding the rationale for improvements in the physical and environmental health of your community is a first step to supporting active transportation. The Built Environment & Active Transportation (BEAT) initiative is focused on

**Active transportation** describes all human-powered forms of travel, such as walking, cycling, in-line skating, skate boarding, skiing, canoeing etc. Walking and cycling are most popular and can be combined with other modes, such as public transit.

engaging community leaders and decision makers across sectors, to promote community design and transportation planning for active living. Comprehensive cooperative planning benefits citizens, business, government and the environment. ●



# BEAT



Photo: John Luton,  
Gallopig Goose Trail,  
Saanich, BC

## Health & Social Benefits

**The health and wellness of communities can be improved through active transportation planning.**

### Increased Physical Fitness

Inactivity has been shown to contribute to a variety of serious health problems including heart disease, colon cancer, type 2 diabetes, breast cancer, high blood pressure, depression and obesity. According to the Heart & Stroke Foundation of BC & Yukon, people need 30-60 minutes of physical activity each day. In today's busy world, active transportation allows people to incorporate physical activity into their daily routine.

### Increased Safety

Communities designed to facilitate active transportation reduces injury to cyclists, pedestrians and motorists. There is also strong evidence of "safety in numbers"; as the number of cyclists increase, the safety of cycling increases.<sup>1</sup> The risk of serious injury to pedestrians dramatically increases when vehicle speeds are above 30kph.<sup>2</sup> Lower traffic speeds

improve the safety of pedestrians and cyclists and makes roads easier to cross. Traffic calming is one strategy to increase safety for commuters, and can include corner bulges, traffic circles, speed bumps, raised crosswalks, signage and street closures.

**The University of British Columbia *Cycling in Cities*** research program found that both existing cyclists and potential cyclists prefer paths and lanes that are separated from motor vehicle traffic.<sup>3</sup> With such separated facilities, cycling will be attractive to people of all ages and abilities. A large majority of Canadians (82%) supports government spending to create dedicated bicycle facilities.<sup>4</sup> (see photo above.)

### **Increased Mobility and Social Equity**

Active transportation provides people with increased mobility and thus an improved quality of life. In communities where there is little or no access to public transportation, people without access to a motor vehicle likely have reduced access to employment, social opportunities, shopping and key services.<sup>5</sup>

### **Increased Sense of Community and Livability**

Walking and cycling allows for more personal

interaction. Walkers and cyclists are more likely to meet and converse with each other creating a stronger sense of community. Improving active transportation facilities and reducing motorized traffic can help communities become more “livable,” thus increasing property values and retail activity. People walking and cycling also provide extra eyes on the street, helping to decrease crime and improve public safety and enhance feelings of security. ●



Photo: John Luton,  
Victoria, BC

## Local Economic Benefits

**When improvements in active transportation are made, communities win - with lower infrastructure costs, increased retail sales, higher property values, increased tourism and the ability to attract workers and businesses.**

### **Return on Investment**

Money spent on automobiles and fuel usually leaves the local economy, therefore the more people walk and cycle, the more money they have in their pockets to spend at local businesses. In fact, non-automotive expenditures have a regional economic impact that can be \$219,000 per million dollars greater than

automobile expenditures.<sup>6</sup> The recent surge in gas prices has resulted in less consumer spending at many local businesses and a decrease in tourism. The Canadian Automobile Association estimates the cost of owning and operating a car to be \$8,944.50 a year, about \$150 for a bicycle, and virtually no cost for walking.<sup>7</sup>

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# BEAT

## Local Economic Benefits

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### “Pedestrianization” Increases Consumer Spending

Projects that revitalize downtown centres and create attractive retail streets enhance the livability and economy of local communities. Pedestrian-oriented retail streets can provide significant environmental improvements and increases local retail sales.<sup>8</sup>

- Abbotsford, BC (pop 131,000) offers a revitalization tax exemption for developers and businesses that invest in the downtown core.<sup>9</sup>
- Enhancements such as wider sidewalks, trees, gateways and benches in Lodi, California (pop 63,000) played a role in the establishment of 60 new businesses, dropping the vacancy rate from 18% to 6%.<sup>10</sup>

### Walking and Hiking Tourism

- In BC, 12% of non-resident tourists and 9% of BC residents hiked or backpacked during their trip.<sup>11</sup>
- The *Bruce Trail* in Ontario attracts 400,000 people per year spending \$5.6 million. 70% of expenditures were made within 10 km of the trail resulting in a high local economic impact.<sup>12</sup>

### Cycling Tourism

- In 2002, Québec hosted 190,000 bicycle tourists who spent \$112 per day each and stayed an average of 6.5 nights. The annual expenditures linked to *La Route Verte* were \$95.4 million in 2000, and represents 2,000 jobs.<sup>13</sup>
- Each year, 50,000 people visit *Myra Canyon*, part of the *Kettle Valley Railway* generating \$5 million in economic benefits.<sup>14</sup>

### Tourism

Tourist activity spurred by trails and greenways are powerful contributors to the local economy. Instead of paying the high cost of airfare and suffering

through airport, ferry or border lineups, tourists can enjoy and explore the communities they visit in a more pleasant, healthy and adventurous way. The main benefactors are food, beverage, retail and lodging industries. Cycling and walking tourism is likely to increase due to increasing costs of fuel and environmental concerns.

### Lower Infrastructure Costs

Financing new infrastructure and retrofitting existing infrastructure can be incorporated into regular capital improvement programs. Policies can also be developed to require the inclusion of improvements to active transportation infrastructure in road and bridge projects as well as requirements for developers to build or fund active transportation infrastructure. A roadway can carry seven to twelve times as many people per metre of lane per hour by bicycle as compared to by automobile in urban areas. Paths or trails for pedestrians are even more efficient, handling 20 times the volume per hour than roads for cars.<sup>15</sup> A shift to active transportation leads to lower roadway costs for municipalities.

Parking is a considerable cost that is a major subsidy of driving and results in higher taxes and retail prices and lower wages. The cost of building

### Infrastructure Increases Ridership

- The District of Saanich made significant improvements to their cycling and walking networks, including connecting the *Lockside* and *Galloping Goose Trails*. This project added 50km of bike lanes as well as a multi-use trail system. As a result, active transportation increased by 7% between 1996 and 2006.<sup>22</sup>
- The City of Vancouver spent \$6 million between 1990 and 1999 to increase the length of bicycle networks from 8.8 km to 133 km. This resulted in a 225% increase in cycling volumes on the *Adanac Bikeway* from 1992 to 1996.<sup>23</sup>

underground parking or a parkade is between \$16,000 and \$20,000 per stall, with the cost of surface parking roughly \$3000 per stall.<sup>16</sup> Less cars on the road means fewer parking spaces are required. Bicycle parking does not demand the land, construction and operating cost of automobile parking facilities. Walking, of course, requires no parking at all.<sup>17</sup>

**Estimated Benefits:** Shifts from driving to walking or bicycling are estimated to provide roadway facility and traffic service cost savings of 5¢ per mile for urban driving and 3¢ per mile for rural driving.<sup>18</sup>

## Benefits of Accelerating Investment

A small portion of the transportation budget can facilitate high levels of bicycle use. In the Netherlands, only 6% of the money spent on road infrastructure is spent on bicycle facilities, yet the bicycle has a 27% mode share of all journeys and a 9% share of all kilometres traveled.<sup>19</sup> In Munster, Germany (pop 270,000), cycling trips went up from 29% in 1981 to 43% in 1992 with a budget of \$48 million.<sup>20</sup> In Freiburg, Germany (pop 42,500), just 1% of the transportation budget is dedicated to cycling infrastructure yet the cycling mode share is 19%.<sup>21</sup>

Given that providing complete networks increases levels of cycling and walking, the acceleration of the investment in facilities will help maximize the cumulative benefits of the investment.

### Increased Work Productivity

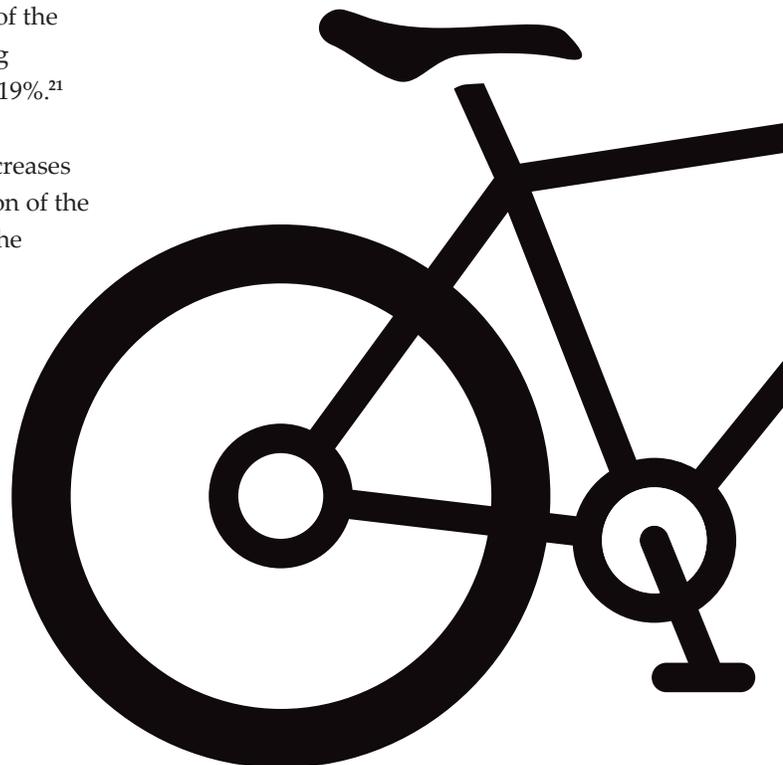
Employees who participate in physical activities miss fewer days due to illness, lower turnover rates, lower healthcare costs and increased productivity which can result in a benefit of \$513 per worker per year.<sup>24</sup> Commuting by active transportation allows the employee to build physical activity into their daily routine.

### Increased Property Values

Properties near trails and neighbourhoods with pedestrian friendly features such as narrow streets, sidewalks, curb bulges and traffic circles are proving to be popular with buyers and will command higher prices. The resulting increases in municipal property taxes can help recover the investment in active transportation infrastructure. ●

#### Greenways Increase Property Values

- In Surrey, when properties bordered a greenway, values increased by as much as 20%.<sup>25</sup>
- The developers of the Shepherd's Vineyard in Apex, North Carolina, increased the price of homes adjacent to a greenway by \$5,000 and those homes were still the first to sell.<sup>26</sup>





# BEAT

## Environmental Benefits

**Our transportation choices directly affect the quality of our air, land and water.**

Photo: Andrea Keen,  
Surrey, BC

### Reduced CO2 Emissions

In BC, 30 % of green house gas emissions are from cars and light-duty trucks, with the average trip distance less than 5km. For these short trips, cycling and walking can play a significant role in combating climate change.

### Reduced Air Pollution

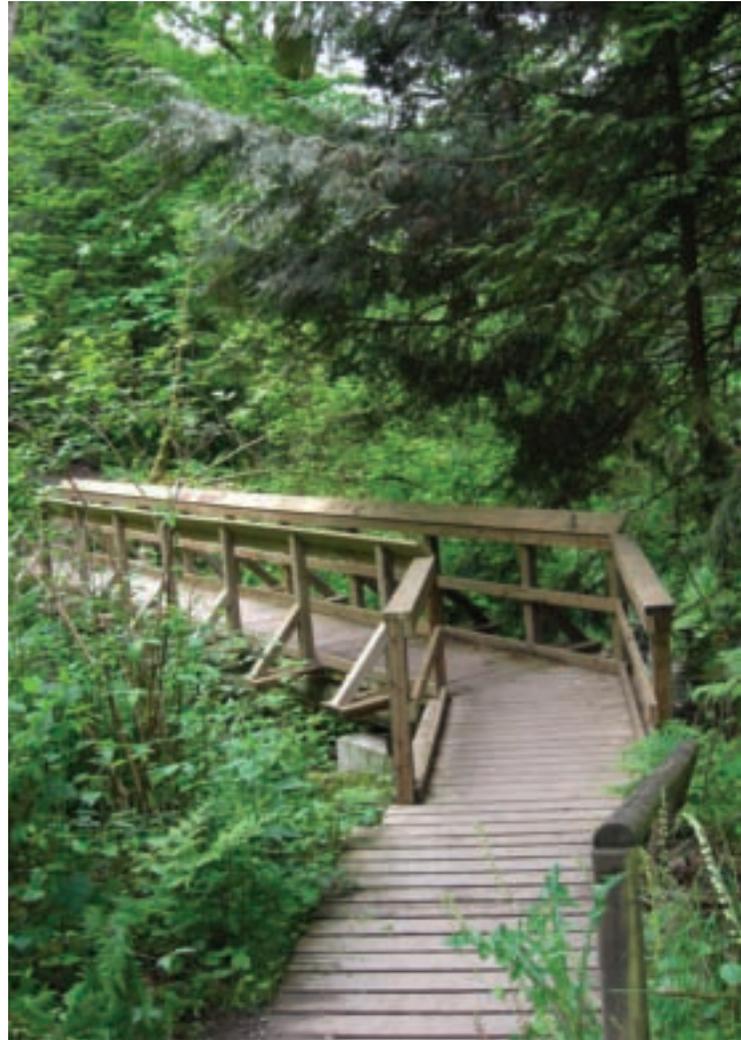
Motor vehicles contribute a significant amount of pollutants into the air which impact human health and the environment. Air pollution can cause or exacerbate a variety of health problems including asthma, heart disease, emphysema, pneumonia and cancer. Substituting walking or cycling for short trips can have a large effect on air quality.

### Improved Water Quality

A major source of water pollution comes from motor vehicles, roadways and parking facilities. A few impacts such as oil run-off, impact of construction and maintenance of roadways, as well as, loss of green space for parking lots and new developments affect water quality.<sup>27</sup>

### Effective Land Use

Urban sprawl contributes to the gradual and persistent destruction of surrounding farmlands and green space. Sprawling communities are automobile dependent and require more land for roads and parking than



compact designed communities. Compact community design (or smart growth) encourages and enables people to walk or cycle to shopping, work and other destinations. *Complete Streets* are roadways that are safe and attractive to all users including cyclists and pedestrians. Features of complete streets include sidewalks, crosswalks, centre medians, separated cycle tracks, bike lanes, corner bulges, lighting, street trees and benches. Such features create a sense of place increasing social interaction and improving the livability and economic vibrancy of a street. ●

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## Rationale for Active Transportation

**We know that communities experience significant growth in the number of people walking and cycling after investments in bicycle and walking infrastructure have been made.**

Make the case in your community for including active transportation considerations in future planning processes. Investing and designing around active transportation can be measured in terms of improved health, a stronger local economy, and a cleaner environment.

According to the Victoria Transportation Policy Institute, it is easy to overlook some of the benefits of active transportation.

- Lower infrastructure costs
- Reduced healthcare spending
- Reduced traffic congestion
- Increased retail sales
- Higher property values
- Increased tourism
- Increased business investments

- Consumer cost savings
- Increased health and fitness
- Reduction in air and noise pollution
- Decreased greenhouse gas emissions
- Improved safety for pedestrians, cyclists and drivers
- More livable communities
- Improved mobility options

### People **Want** to Cycle and Walk

Walking is the easiest and most affordable form of transportation. According to a national survey on active transportation, there is a very high degree of willingness to walk or ride a bike instead of drive. In fact, 82% of Canadians are willing to walk more and 66% are willing to cycle more, given appropriate facilities.<sup>29</sup>

Many automobile trips are of a distance easy to cycle or walk. For distances up to 5km, cycling is the fastest door-to-door mode of travel. In BC, 41% of daily commutes are 5km or under,<sup>28</sup> a distance that can be cycled in 15 minutes. ●





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## Footnotes and Credits

<sup>1</sup> John Pucher & Ralph Buelher, *At the Frontiers of Cycling: Policy Innovations in the Netherlands, Denmark, and Germany*, Eco-Logica Ltd ,2007 p 13.

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<sup>4</sup> EnviroNics, *National Survey on Active Transportation*, Go for Green, 1998.

<sup>5</sup> T. Litman, *Transportation Cost and Benefit Analysis – Transportation Diversity*, 2003, p 5.9-8.

<sup>6</sup> J. Miller, H. Robison and M. Lahr, *Estimating Important Transportation-Related Regional Economic Relationships in Bexar County, Texas*, (<http://www.vtpi.org/modeshft.pdf>), VIA Metropolitan Transit (San Antonio), 1999.

<sup>7</sup> Driving Costs, Canadian Automobile Association, 2008.

<sup>8</sup> City of Toronto, *Economic Benefits of Pedestrianisation for Toronto*, 1999.

<sup>9</sup> City of Abbotsford, *Abbotsford Downtown Revitalization Tax Exemption Bylaw*, 2005.

<sup>10</sup> Local Government Commission Center for Livable Communities (LGC), *The Economic Benefits of Walkable Communities*.

<sup>11</sup> Tourism British Columbia, *B.C. Visitor Study*, 1998.

<sup>12</sup> Ontario Trails Council, *The Importance of Trails*, [www.ontariotrails.on.ca](http://www.ontariotrails.on.ca)

<sup>13</sup> Vélo Québec, *La Route Verte Special Issue*, September 2002.

<sup>14</sup> [http://ww2.ps-sp.gc.ca/publications/news/2004/20040826\\_e.asp](http://ww2.ps-sp.gc.ca/publications/news/2004/20040826_e.asp)

<sup>15</sup> Go for Green, *Active Transportation Community Solutions for Climate Change*, p 12.

<sup>16</sup> The City of Regina, *The Future of Housing in Regina – Laying the Groundwork*, 2000, p. 84

<sup>17</sup> T. Litman, 2003.

<sup>18</sup> T. Litman, *Quantifying the Benefits of Nonmotorized Transportation for Achieving Mobility Management Objectives*, Victoria Transportation Policy Institute, 2004.

<sup>19</sup> Min Verkeer en Waterstaat, Den Haag, *Feiten over hot fietsen in Nederland (Facts about cycling in the Netherlands)*, 1993.

<sup>20</sup> Ibid, p i.

<sup>21</sup> T. Bracher, IVU Berlin, *A least cost approach to transportation planning*, a paper for World Conference on Transport Research WCTRs, Antwerp, 1998.

<sup>22</sup> Transport Canada, *Active Transportation Infrastructure Program*, [www.tc.gc.ca](http://www.tc.gc.ca)

<sup>23</sup> City of Vancouver Engineering Services, *Bicycle Plan 1999: Reviewing the Past, Planning the Future*, 1999, p 20.

<sup>24</sup> World Health Organization, *Economic Benefits of Physical Activity*, 2003.

<sup>25</sup> RealBASE Consulting Inc., *Greenway Proximity Study, 1980-1991*, City of Surrey.

<sup>26</sup> Don Hopey, "Prime Location on the Trail," *Rails-to-Trails*, Fall/Winter 1999, p 18.

<sup>27</sup> T. Litman, *Transportation Cost and Benefit Analysis – Water Pollution*, 1996, p.5 15-1.

<sup>28</sup> 2006 Census, *Commuting Distances*, Statistics Canada, 2006.

<sup>29</sup> EnviroNics, 1998.

**The Built Environment & Active Transportation initiative (BEAT)** is a component of the Physical Activity Strategy.

**BEAT** is working to create more supportive environments for physical activity by addressing community design, policy and transportation planning through a range of connected components:

**Built Environment Summits** bring regions of the province together across sectors of health, planning and recreation to learn current research and identify strategic priorities.

**Planning Grants** are available for communities to develop pathways and active transportation plans. This will result in more connected,

active and walkable communities across the province.

**BEAT** is a joint initiative of the BC Recreation & Parks Association and the Union of BC Municipalities. Funding is provided by the BC Healthy Living Alliance, with support from ActNow BC.



ActNowBC.ca

An initiative of these  
BC Healthy Living Alliance Members

THE  LUNG ASSOCIATION™  
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