

Environmental Statement on the Benefits of Cycling in London

with a Focus on the Gainsborough/Windermere Pathway Connection

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The purpose of this Environmental Statement is to provide supporting data of the benefits of cycling and the infrastructure needed to encourage Londoners to ride a bike for more trips. Financial, social and environmental benefits are highlighted. The details presented are not a complete list of available information.

Setting the Stage

Londoners are being encouraged to use Active Transportation (including walking, cycling, and in-line skating) for more trips to work and to run errands.

Riding a bicycle saves money compared with automobile travel. It does not require the ability to drive a car and so provides benefits for personal mobility for many ages. It also provides individual and societal health benefits from increased physical activity.¹

This document specifically focuses on the individual and community benefits of cycling. This includes using the case of the neighbourhoods around the Medway Valley to illustrate the benefits to health, the environment and personal financial savings that cycling provides.

Shifting Gears

London has an extensive and growing cycling network, including on-road bike lanes and off-road multi-use pathways. As the network grows, the goal is to make efficient connections between all parts of the city.

Bike lanes and pathways can help reduce traffic congestion, accidents, air pollution, and climate change. They can also improve mobility for non-drivers as cyclists can use shortcuts that are not available to drivers.

Cycling in London is a good option both for transportation and for recreation. Cycling one kilometre takes less than five minutes.² That means that on average, it takes 25 minutes to pedal five kilometres, or the distance from Orchard Park to the Thames Valley Parkway. Once on the Thames Valley Parkway, you can enjoy a stress-free ride along the banks of the Thames River, far away from traffic noise and vehicle emissions.

QUICK FACT: A roadway can carry 7 to 12 times as many people per hour by bicycle compared to an automobile at similar speeds in urban areas.³

Cycling is Easy and Quick

For many, a reasonable cycling distance is five kilometres as it takes about half an hour or less to pedal. It is estimated that 5-10 percent of urban automobile trips can reasonably be shifted to non-motorized transport.⁴

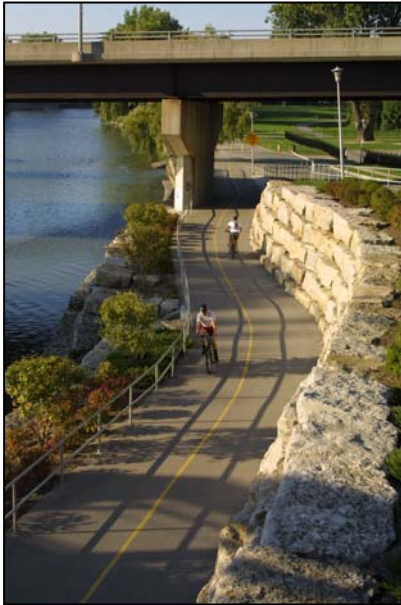
A short cycling trip can replace a longer car trip. When people shift to Active Transportation for more trips, or when households get rid of a car altogether, they reduce their total vehicle mileage by avoiding discretionary trips.⁵ For example, people may choose between cycling to a nearby store or driving to a more distant shopping center.

The number of cars on Canadian roads has increased steadily and people are driving more often and farther distances. Each car travels, on average, 18,000 km/year or about 350 km/week.⁶ Reducing the number of kilometres driven by choosing another mode of transportation is by far the best way to reduce air pollution and climate change.

Cycling also offers an ideal opportunity to increase activity levels among individuals with busy schedules. For example, once the decision is made to incorporate exercise with commuting to work by bike, this simply becomes routine.

London's multi-use pathway system provides safe places free of traffic for children and others to learn cycling skills before graduating to roads. In fact, many cyclists are most comfortable riding on a recreational pathway compared to roads. London's cycling network provides a range of options for cyclists of all skill levels.

Be Fair and Clean the Air



In London, transportation accounts for approximately 37 percent of greenhouse gas emissions.⁷ Bicycles are people powered, so you burn fat instead of gasoline. Ride your bike and you help make London's air cleaner and healthier for all.

Burning one litre of gasoline produces about 2.4 kilograms of carbon dioxide (CO₂). Carbon dioxide is a greenhouse gas that is the largest man-made contributor to climate change. On average, Canadians produce half of their annual five tonnes of greenhouse gas (GHG) emissions from driving.⁸

You can make a difference! Each Canadian makes an average of 2,000 car trips of less than 3 km each year, trips that could be replaced with cycling.⁹

Public transit is also part of the solution. Londoners can integrate cycling with taking the bus. A pilot project to introduce bike racks to buses on routes 10 (Wonderland), 14 (Highbury), 16 (Adelaide) and 17 (Oxford) was launched in the Spring of 2009.

QUICK FACT: According to some estimates, 5-10% of automobile trips can reasonably be shifted to non-motorized transport in a typical urban area.¹⁰

Cycling Cuts Costs

Riding a bicycle is efficient and affordable.

Shifting trips from driving to cycling results in significant savings to the user and to London as a whole. The direct costs of driving, including fuel, maintenance, and tire wear is on average 14¢ per kilometre (based on a 2009 Dodge Grand Caravan SE).¹¹

A good bicycle with accessories typically costs \$500-1,000, or \$50-100 annually over a ten-year operating life, plus \$50-200 annually for maintenance if ridden 3,200 kilometres annually, averaging 3-9¢ per kilometre.¹² Cycling for transportation can substitute for other exercise, saving an individual money (i.e., cycling reduces the need to pay health club dues or medical costs associated with a sedentary lifestyle).¹³

Those who decide to commute by bicycle 10 kilometres to work five months of the year avoid driving 2,000 kilometres annually – the equivalent of \$1,600 annual savings including vehicle depreciation, as well as reduced general wear and tear on the car.¹⁴ It is also a reduction in a person's carbon footprint, with 570 kilograms of greenhouse gas emissions being avoided.

Since car ownership is a large expenditure for the average household, driving less can free up substantial resources for other needs. For example, Joe Smith owns a car. He used to drive 5 days a week to and from work for 48 weeks of the year. Now Joe has parked his car for two days a week and rides his bike to work 9 months of the year. Joe used to pay \$14,600 to drive and park his car. Now he saves \$1,180 a year on gas, parking, and wear and tear on those days he leaves the car at home.

It costs much less to accommodate cyclists and pedestrians than it costs to accommodate cars on London roads. The Ontario Ministry of Transport has estimated that providing paved pathways costs roughly \$250,000 per kilometre and shoulders for cyclists cost between \$50,000 and \$100,000 per kilometre. The cost to widen an urban arterial road to four lanes costs roughly \$1.3 million per kilometre.¹⁵

Pedal to the Metal

Active Transportation provides recreational benefits. Many people enjoy walking and cycling and the healthy exercise they provide. By leaving the car at home, one can get to a destination while being active at the same time!

Canada's Physical Activity Guide recommends that Canadians accumulate 30-60 minutes of moderate physical activity each day to stay healthy or improve health.¹⁶ Cycling for transportation or recreation is a great way to reach the daily recommendation.

A cyclist burns about 20 calories of body fat for every kilometre traveled. In comparison, a driver of a single-occupancy vehicle burns over 1100 calories of fossil fuel energy for every kilometre traveled – and just about 0 pounds of body fat!¹⁷

In a recent survey, Statistics Canada found that 19 percent of cyclists felt that their commutes are the most pleasant activity of the day, whereas only two percent of drivers felt the same way.¹⁸

Shifting from driving to cycling reduces air pollution and its harmful effects. Air pollution can cause or exacerbate a variety of health problems including asthma, heart disease, emphysema, pneumonia, and cancer.¹⁹

Physical activity, like riding a bicycle, helps combat heart disease, diabetes and obesity.²⁰ Choosing to ride a bike for daily trips can be an easy and enjoyable component of an active lifestyle at any age.

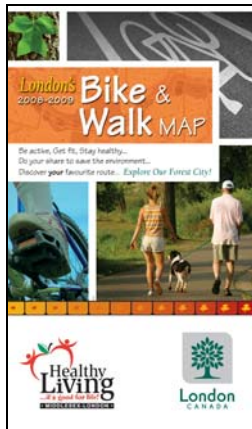
Cycling for a Better Quality of Life

The number of Londoners cycling can be a good indicator of the community's livability. The ability to ride a bike in the city is a reflection of the economic and social vitality of London. Businesses benefit by encouraging cyclists to shop in their store. Employees benefit from being able to ride a bike to work. We all benefit from the social interactions of more people being out and about and the increased tourism potential that cycling can bring into London.

Cycling for recreation and transportation enables interactions between neighbours that can strengthen relationships and contribute to a healthy sense of identity and place.

It should be noted that a large portion of Londoners do not drive, both by choice and by necessity. Supporting bicycle use increases mobility and accessibility for everyone.

Bike & Walk Map



The Bike & Walk Map is a joint effort by the Healthy Living Partnership and the City of London. It details cycling and walking routes throughout the city, including on-road bike lanes, multi-use pathways, and walking trails. The map also features how-to tips, facts and environmental resources.

Take part! Use the map to walk or ride your bike for one trip a week.

We each play a part in addressing our personal health and that of our community. Actively moving around London will help you discover new sights and identify barriers to bring to the attention of local decision-makers.

Pick up a copy of the Bike & Walk Map at your local library branch, City Hall (300 Dufferin Avenue) or Tourism London (696 Wellington Road South or 267 Dundas Street).

Appendix A: Gainsborough/Windermere Pathway Connection

The proposed pathway connection between Gainsborough and Windermere is a key link to facilitate Active Transportation in the Medway Creek area. It will reduce the distances that must be traveled to reach local and city-wide destinations.

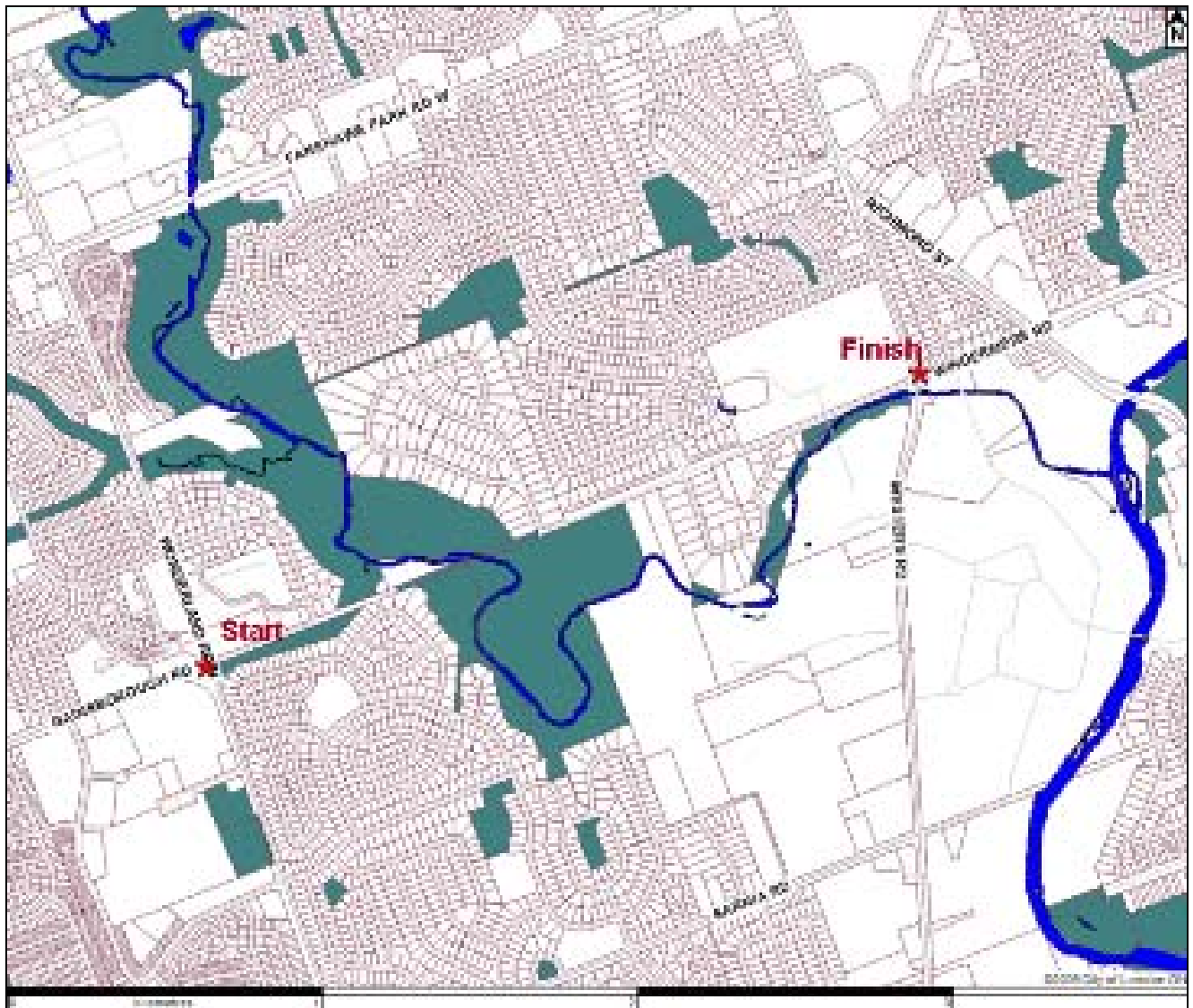
There are several local facilities that draw residents from the area, including schools, parks, and play structures. There are also services that draw residents from both sides of Medway Creek and beyond, including Sherwood Forest Mall, the Aquatic Centre, Medway Arena and Sherwood Library.

There is a great opportunity to shift some of these trips from driving to walking or cycling. Active Transportation benefits all residents in the adjacent neighbourhoods, as it means more “eyes on the street”, less car traffic, less air pollution, and more opportunities for social interactions.

Linking Gainsborough and Windermere by a pathway provides a more direct route for cyclists compared to current options, such as Sarnia Road or Fanshawe Park Road.

The following presents an example start point (Wonderland at Gainsborough) and finish point (Richmond at Windermere) with associated one-way route options.





Route	Distance (km)	Approximate One-Way Cycling Travel Time (minutes)	Outcome: With this new pathway connection, a cyclist would avoid traveling between 1.4 and 2.4 kilometres, or between 8 and 13 minutes each one way trip – almost half the time!
Fanshawe Park	5.1	25	
Sarnia Road	4.1	20	
Ambleside Drive	4.9	24	
Wychwood Park	4.6	23	
Proposed new pathway connection	2.7	12	

Appendix B: Other Examples of Benefits

A. What are the benefits if one person switches one trip per week from driving to cycling?

Example: A Londoner rides her bike instead of drives from Shetland Crescent in Stoneybrook to the Aquatic Centre once a week. Her savings will include:

Benefits	Outcomes
Environmental	<ul style="list-style-type: none"> • 170 kilograms of annual greenhouse gas emissions savings
Health	<ul style="list-style-type: none"> • 1,000 calories burned monthly and 12,000 calories burned annually • over 3 pounds of weight loss in one year assuming no change in her diet²¹
Financial	<ul style="list-style-type: none"> • \$60 annual savings on gas

B. What are the benefits if one person switches two longer trips per week from driving to cycling?

Example: A Londoner rides her bike instead of drives from Laurentian Drive in Fairmont to work at University Hospital twice a week. The majority of her travels are on the Thames Valley Parkway. Her savings will include:

Benefits	Outcomes
Environmental	<ul style="list-style-type: none"> • 800 kilograms of annual greenhouse gas emissions savings
Health	<ul style="list-style-type: none"> • 4,600 calories burned monthly and 55,000 calories burned annually • over 15 pounds of weight loss in one years assuming no change in her diet²¹
Financial	<ul style="list-style-type: none"> • \$280 annual savings on gas

C. What are the benefits if one person switches from driving to cycling 5 days a week?

Example: A Londoner rides his bike to work from the Sherwood Forest neighbourhood to the University of Western Ontario. His savings will include:

Benefits	Outcomes
Environmental	<ul style="list-style-type: none"> • 430 kilograms of annual greenhouse gas emissions savings
Health	<ul style="list-style-type: none"> • 2,500 calories burned monthly and 30,000 calories burned annually • 6 pounds of weight loss in one year assuming no change in his diet²¹
Financial	<ul style="list-style-type: none"> • \$150 annual savings on gas

D. What are the benefits if ten people switch from driving to cycling 5 days a week?

Example: Ten Londoners ride their bikes to work from the Sherwood Forest neighbourhood to the University of Western Ontario. Their total savings will include:

Benefits	Outcomes
Environmental	<ul style="list-style-type: none"> • 4,300 kilograms (4.3 tonnes) of annual greenhouse gas emissions savings
Health	<ul style="list-style-type: none"> • 25,000 calories burned monthly and 300,000 calories burned annually
Financial	<ul style="list-style-type: none"> • \$1,500 annual savings on gas

It should be noted that similar analyses could be done for walking and in-line skating.

APPENDIX C: Key References and Sources of Information

For more information about the benefits of cycling and bicycle infrastructure, please refer to these Canadian and American sources:

Canadian Fitness and Lifestyle Research Institute: www.cflri.ca/eng/active_transportation/index.php

Pedestrian and Bicycle Information Center: www.bicyclinginfo.org/index.cfm

Rails-to-Trails Conservancy: www.railstotrails.org/index.html

Transport Canada: www.tc.gc.ca/programs/environment/utsp/menu.htm

Victoria Transport Policy Institute: www.vtpi.org/

For additional information on cycling, Active Transportation and other efforts to reduce our reliance on the automobile in London, check out these websites:

- Cycling and air quality: www.london.ca (search “Air Quality” or “Cycling” under Environmental Leadership)
- Carpool Zone: www.london.carpoolzone.ca
- Community of London Environmental Awareness Reporting (CLEAR) Network: www.clear.london.ca
- EnergySaver: www.london.ca/EnergySaver

Or contact:

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Sources of Information:

1. www.vtppi.org/tca/tca07.pdf
2. www.phac-aspc.gc.ca/pau-uap/fitness/active_trans.htm
3. Walk and Roll: A Guide to Active Transportation to, from and at the Workplace, Go for Green, 1998
4. www.vtppi.org/nmt-tdm.pdf
5. www.vtppi.org/tdm/tdm63.htm
6. www.caa.ca/documents/DrivingCostsBrochure-jan09-eng-v3.pdf
7. www.london.ca/d.aspx?s=/Environment/Air_Quality_main.htm
8. <http://oee.nrcan-rncan.gc.ca/publications/transportation/fuel-calculator/index.cfm?attr=8>
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14. Assumptions based on \$0.80/litre for fuel and 0.286 kilograms of GHG emissions per kilometre
15. Walk and Roll: A Guide to Active Transportation to, from and at the Workplace, Go for Green, 1998
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