

Cycle tracks will abound in Utopia.

– H. G. Wells, *A Modern Utopia*

It's Monday morning. You get your gear on and strap your bag onto your bike. It is cold and raining today, but after just five minutes of riding you can see a glazed on-ramp in the distance. A quick lane change and you pump your way up the ramp. Switching into the slow lane, you can already feel the draft pulling you forward as cyclists in the fast lanes blur past you and into the distance. Once you get your rhythm, your shoulders relax as you let down your defences. No more cars breathing down your neck.

It's strangely quiet as you ride along, looking through the raindrops on the glazing out to the panorama of the urban landscape. In the distance, you can see the cluster of red brake lights on the 404 as you pull into the next lane and gear up. Up ahead, you see a familiar bike trailer and realize it's your friend taking his kids to daycare. Pulling into the slow lane, you say hi to the kids and chat with your friend for a few minutes before they get to their off-ramp.

A few minutes later, the bikeway opens up and widens to six lanes as you pass the GO station. As hundreds of GO riders merge into traffic on their yellow bikes, you are getting warm, so you strap your jacket on the back of your bike. Further on, you notice a hint of fragrance, which quickly grows into a field of odour and colour as you pass through the orchids growing in one of the greenhouses located along your route. Just around the corner, you cross the Don Valley as the sun breaks through the clouds. In no time, you are passing by the market stalls, making a mental note to pick up some organic bananas at the fruit stall on your way home that night. Shifting down, you take the next off-ramp to work. Checking your watch, you notice you are early again.

Welcome to Velo-city.

Velo-city is a viable strategy for helping bikes commute through the city. It is a highway for bikes, a network of elevated bikeways that connect distant parts of the city. The bikeway has three lanes of traffic in either direction, for slow, medium and fast travel. Riding through Velo-city is like riding through a long atrium because the bikeway is enclosed by a glass roof. Each direction of travel in Velo-city has a separate bikeway tube. The separation of direction reduces wind resistance and creates a natural tailwind for cyclists. The reduction of air resistance increases the efficiency of cycling by about 90 percent, allowing for speeds of up to 50 kilometres per hour. Velo-city increases speeds, reduces spent energy and eliminates intersections to produce total travel times that rival any other form of high-speed transit.

Upon initial examination, Velo-city might sound like another expensive public expenditure that no one would use. While it *would* require a dramatic change in lifestyle for many, compared with other transportation options Velo-city has significant and far-ranging economic benefits. Velo-city fits into spaces that trains, subways and roads simply can't fit into due to their size, noise or pollution. And because Velo-city is elevated, it can be located in already existing highways, power and railway corridors; it does not require any additional real estate. Velo-city produces no noise or pollution so it can be built right into, through or beside buildings. On streetcars, buses and subways, riders are effectively controlled and ridership determined by the space of the individual car, but Velo-city users can determine their own speed and level of congestion.

A bicycle takes one-seventh the space of a car on the road. That means that the equivalent width of the bikeways in Velo-city has seven times the capacity of a highway. Velo-city takes no additional space in the city, and





it relieves our transit system and highways of congestion. It also, of course, saves seven times the amount of parking space required at home, work and retail centres. The resulting land savings in the city could be used for more productive and economically advantageous uses. The average bicycle post costs \$250. The average underground parking space costs \$25,000. Reducing parking spaces is essential to reducing the cost of housing. In commercial terms, a typical shopper takes up seventy times his own personal space when he drives and parks a car. More important, fewer parking spots creates a proliferation of active streets, with thriving businesses, cultural activities, restaurants and so on. The real-estate value of the consequent land savings alone would offset the capital cost of building Velo-city. Maintenance costs for Velo-city would also be relatively low. The weight and vibration of bicycles is considerably less than that of automobiles or railways. And because Velo-city is covered, it would be sheltered from weather distress. The staff required to maintain Velo-city would be less than that required for road maintenance or transit use.

Recent studies in Canada show that the average family spends twenty

- 1 Mills, Carmen. *Driving Home the Costs - The Real Price of the Automobile*. Pamphlet. Better Environmentally Sound Transportation. <http://www.best.bc.ca>. Emerald City Communications. 1999.
- 2 World Resources Institute. 1998-1999 *World Resources: A Guide to the Global Environment*. New York: Oxford University Press, 1998.

percent of its income to own and operate just one car.<sup>1</sup> With rising oil prices and the threat of peak oil, we desperately need a more affordable alternative to the motor vehicle. Not only is Velo-city a cheaper form of transport, but it also causes no pollution and requires no energy use. Transportation of all types accounts for more than twenty-five percent of the world's commercial energy use, and motor vehicles account for nearly eighty percent of that.<sup>2</sup>

The Ontario Medical Association estimates that air pollution is responsible for 5,800 premature deaths annually across

- 3 Ontario Medical Association. 2005-2026 *Health & Economic Damage Estimates*. June 2005. [http://www.oma.org/Health/smog/report/ICAP2005\\_Report.pdf](http://www.oma.org/Health/smog/report/ICAP2005_Report.pdf). ISBN 0-919047-54-8.
- 4 Ibid.

Ontario.<sup>3</sup> According to the OMA, such pollution is estimated to cost the province more than \$1 billion a year due to hospital admissions, emergency-room visits and absenteeism. When the costs of pain, suffering and loss of life from polluted air are factored in, the total annual economic loss is estimated to be \$7.8 billion a year. This amount is expected to increase to \$9.8 billion by the year

2015.<sup>4</sup> Ironically, people who exercise outdoors, such as cyclists and runners, as well as children, animals and the elderly, are most susceptible to pollutants. With the real-estate, social, environmental, health, agricultural, tourist and cultural costs of our present auto-oriented society, we can't afford not to build Velo-city.

Toronto is one of the biggest biking cities in North America. The popularity of the bicycle is growing rapidly at the grassroots level. Yet, despite the strong support by the cycling community, the City of Toronto has provided little infrastructure or support beyond bike posts and bike lanes painted on the sides of designated roads. A quick look at a Toronto bike map shows that there are no continuous bike paths that are suitable for long-distance commuting. According to the 1999 Toronto Cycling Survey, cyclists who ride to work number almost 159,000. These cyclists make approximately 573,000 work trips per week.<sup>5</sup> The City of Toronto Bike Plan has the ambitious goal of doubling the number of bicycle trips made in the city by 2011 and reducing the number of bicycle collisions and injuries.<sup>6</sup> However, the rationing of the width of our streets remains a contentious issue, and recent City of Toronto decisions belie the Bike Plan's optimism. The City of Toronto removed the bicycle route designation along Spadina in 1994, and then, in 2004, along St. Clair West and Queen West, rather than trying to physically accommodate bike lanes. A close examination of the Bike Plan's proposed 1,000 kilometres of bicycle routes shows that they are conveniently located along wide streets and open spaces rather than actively creating a strategic commuter network. Velo-city offers an alternative: a parallel infrastructure that acts in support of other modes of transit. The bikeways are connected to the subway, railway, highway and parking lots, thereby offering more commuting choices. Regardless of the law, the most vulnerable vehicle now gets the least protected position in a shared roadway. Velo-city simply gives bicycles the same level of dedicated infrastructure that other modes of transit enjoy. Trains have dedicated corridors, cars have highways and most of the roads, streetcars have tracks, and pedestrians have sidewalks. Velo-city provides the environmental conditions that would allow many more cyclists to bike year-round.

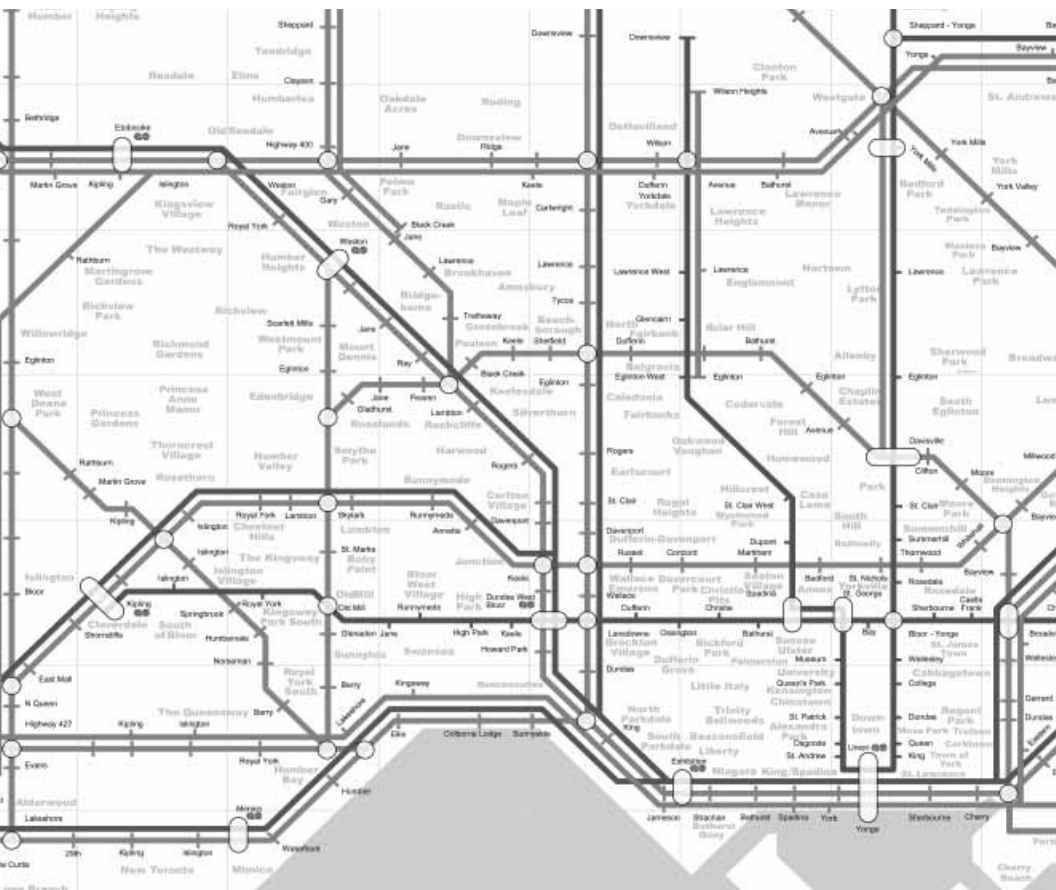
5 Decima Research Inc. City of Toronto 1999 Cycling Study. February 2000.

6 City of Toronto. Toronto Bike Plan. 2001. <http://www.city.toronto.on.ca/cycling/bikeplan/index.htm>

Ironically, bicycle groups were the first civic groups to lobby for good roads. One hundred and twenty years ago, bicycle maps of Toronto show an extensive network of bicycle routes extending in a hundred-mile radius around the City of Toronto. In the late nineteenth century, the Canadian Wheelman's Association created the Good Roads Movement to lobby for the first paved roads to be built in the city for bicycles – long before automobiles were even on the scene.<sup>7</sup>

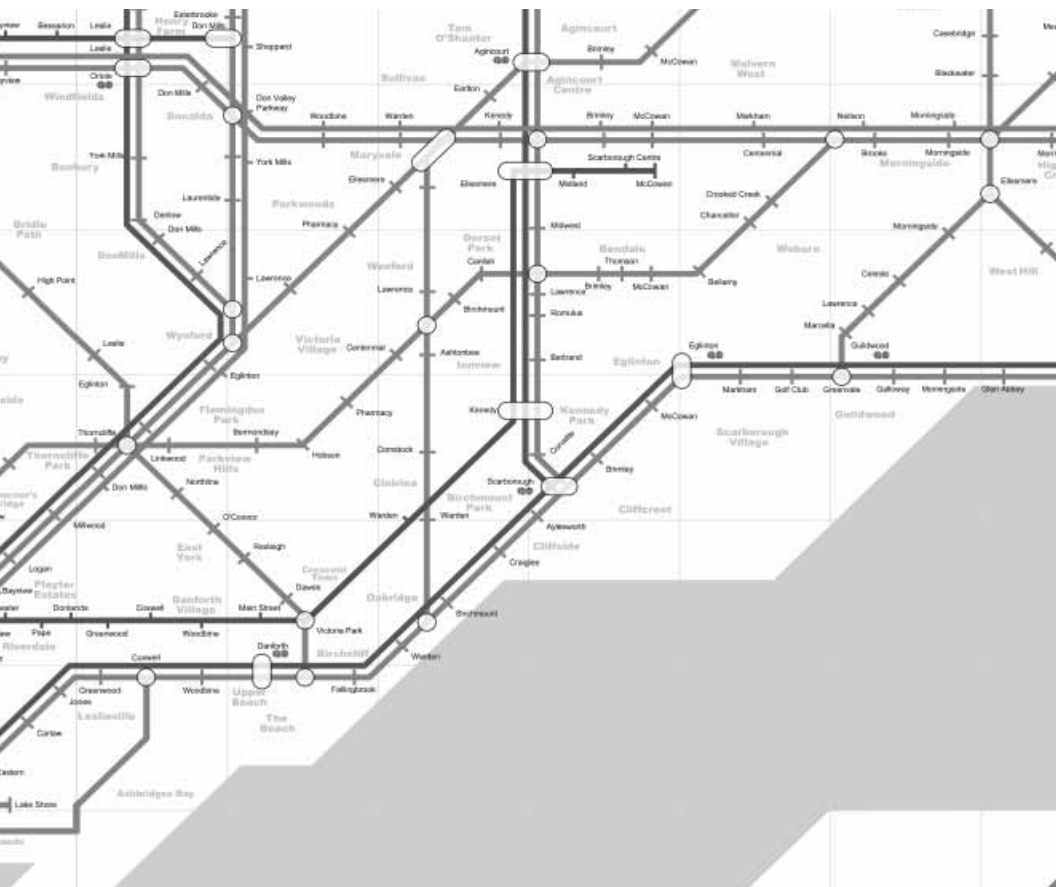
One hundred years ago there was a brief moment in history where the bicycle was seen as the future of transportation. Around this time, H. G. Wells wrote two books that featured the bicycle. In *A Modern Utopia*,

7 Norcliffe, Glenn. *The Ride to Modernity: The Bicycle in Canada, 1869 – 1900*.



Wells describes his vision of a world in which the bicycle was a primary mode of transportation. *The Wheels of Chance* is a quixotic romantic comedy that follows its cyclist hero biking around the villages of southern England in order to save a cycling damsel from a cycling cad. In that novel, Wells uses the bicycle as an illustration of the newly discovered freedom of mobility. This brief period of liberty disappeared as soon as the automobile took over the roads. The bicycle left science fiction and was replaced by cars, flying cars and spaceships.

The culture of a city is often defined by its transportation system: yellow cabs in New York City, bicycles in Beijing, streetcars in San Francisco, highways in Los Angeles, double-decker buses in London, scooters in Taipei, canals in Venice, cyclos in Ho Chi Minh City and the Metro in Paris. Often, transportation systems create interdependent relationships with urban form and culture. Think of the interrelationship between highways and shopping malls, arterial roads and strip malls, subways and skyscrap-



ers, streetcars and main streets, scooters and roadside stalls. Over time, Velo-city will create a cycling culture for Toronto: kiss 'n' rides, shower facilities, velodomes, bike parks, health clubs, cycle-path stalls, repair shops, bike couriers, bike picnics, car-free housing, inter-modal stations and cycling fashions. Above all, it would encourage active, healthier lifestyles and, consequently, better lives for all Torontonians. The more we learn of the environmental harm caused by the automobile, the more we see the fiction of its benefits. Suburban areas that are difficult to traverse by walking or cycling report higher incidents of obesity and heart disease. Urban dwellers, choked by pollution, suffer increased respiratory diseases. All other modern modes of transit are passive – cars, trains, buses, subways and streetcars all take users for a ride. We ride to work and then we ride to work out. Velo-city is like a long gym between your house and your job. Why not just ride to work?

For more information about Velo-city, please visit [www.velo-city.ca](http://www.velo-city.ca).