



PUBLIC TRANSIT: BUILDING HEALTHY COMMUNITIES



As a science, public health came of age in the 19th century when cities battled epidemics of cholera, typhoid and tuberculosis. New understanding of these issues would lead to new ways of planning and building cities, which yielded dramatic improvements in quality of life.

Today, Canadian communities are facing 21st-century epidemics. Inactivity and obesity contribute to rising rates of chronic “lifestyle” illnesses such as diabetes, cardiovascular disease and cancer. Unsafe roads and driving habits lead to thousands of deaths and serious injuries each year. Air pollution aggravates respiratory ailments and, through climate change, threatens us with tropical diseases and weather-related disasters. Social isolation and economic hardships make it hard for many people to access medical care, education, employment and healthy food.

Cities are working vigorously to solve these health challenges, and public transit is emerging as a key player in all of them. This issue paper highlights transit’s many roles in improving public health by supporting physical activity, clean air, safer roads and more equitable communities.

TRANSIT PROMOTES PHYSICAL ACTIVITY

Cities across Canada are investing heavily in walking and cycling infrastructure, due in part to the benefits for public health and health care costs. New research has shown that even short walking or cycling trips, like those to bus stops and rapid transit stations, can have significant benefits.

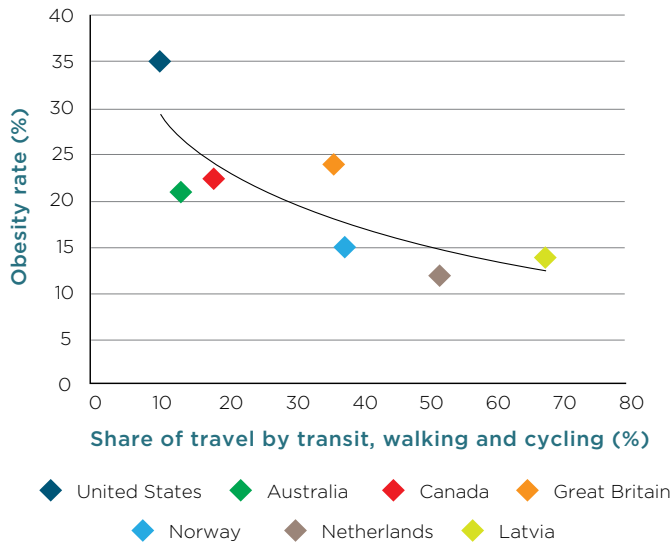
Public transit is increasingly recognized as a key to the success of active transportation. After all, in many large cities transit trips outnumber those made exclusively by walking or cycling. Evidence from recent studies includes:

- In the Greater Toronto and Hamilton Area, modelling has shown that implementing Metrolinx’s regional transportation plan *The Big Move* would see more than 335,000 people increase their transit-related walking by 15 minutes each day in 2031, preventing 170 annual deaths and yielding \$1.1 billion in economic benefits.^a
- In Montreal, the average round trip by transit includes 2,500 steps, or 25% of the recommended daily physical activity for individuals.^b

- A comparison of obesity rates to transit and active transportation use in several countries found a clear correlation between sustainable travel mode shares and reduced obesity (see Figure 1).

Across Canada, cities are making it easier to combine transit with walking and cycling. They are building sidewalks and bike lanes around transit hubs, collaborating with bikeshare companies, installing bike parking at transit stops and stations, and providing bike racks on buses and trains.

Figure 1: Relationship between national travel mode shares and obesity rates^c



TRANSIT FIGHTS AIR POLLUTION AND CLIMATE CHANGE

While cars are cleaner and more efficient than in past decades, readings of ground-level ozone have not dropped in many Canadian communities. Ozone and other air pollutants contribute to asthma, heart disease, stroke, lung cancer and other ailments, and children are particularly vulnerable. Cars also emit greenhouse gases that contribute to climate change, which is expected to spread tropical diseases and increase extreme weather events.

Transit has a major role in reducing air pollution from cars, particularly nitrogen oxides and volatile organic compounds that combine to form ozone. Transit also fights greenhouse gas emissions by being more energy-efficient than single-occupant vehicles, by reducing congestion and vehicle idling, and by supporting denser forms of development that lead to shorter trips and greater use of sustainable modes.

To illustrate these benefits, a recent study for the Société de transport de Montréal (STM) quantified transit's climate change impacts due to reduced car use and congestion, and greater urban densification.^d It showed that transit prevents 3.9 million tonnes of greenhouse gas emissions each year in the region, which is more than half of actual motor vehicle emissions. It also estimated that, on balance, every tonne of greenhouse gases from transit vehicles enables a reduction of 20 tonnes of greenhouse gases from other vehicles.

Montréal, Quebec

TRANSIT AND BIKESHARE: A GROWING PARTNERSHIP

Montréal's renowned BIXI bikeshare system has 540 stations and 6,200 bikes in Montréal, Longueuil and Westmount. In 2016, BIXI bikes were used more than four million times.

The Société de transport de Montréal (STM) and BIXI have maintained a working partnership since 2008. The STM sits on BIXI's board of directors, BIXI enjoys prime locations near STM Metro stations, and customers of both services receive annual discounts. And beginning in 2017, STM riders will be able to rent a BIXI bike using their Opus fare card.



St. Albert, Alberta; Nanaimo and Kamloops, B.C.

GREENER PROPULSION FOR HEALTHIER CITIES

Canadian transit systems have worked hard to reduce air pollution from their operations for many years. They were early and ambitious adopters of hybrid and fuel cell buses, cleaner fuel options like natural gas and biodiesel, and electrification for buses and trains.

In 2016, the City of St. Albert purchased Canada's first long-range battery electric transit buses. The 10.7-metre buses will be cleaner and quieter than the diesel buses they replace.

BC Transit is also working to reduce its carbon footprint by acquiring compressed natural gas (CNG) buses for the Regional District of Nanaimo and the City of Kamloops. According to FortisBC, CNG is less costly than diesel fuel and can reduce greenhouse gas emissions by 15% to 25%.

TRANSIT BOOSTS ROADS SAFETY

The number of Canadians who die from road collisions each year has dropped 33% over the last decade. Still, with more than 1,800 fatalities and 9,600 serious injuries reported in 2014, we need to make our streets much safer.

While new concepts like Vision Zero are reshaping traditional approaches to road safety, transit has been a major contributor to road safety for decades. A study for CUTA found that the fatality rate of transit customers in Canada was only 5% of the fatality rate of urban automobile users. In other words, the chance of dying in a collision while taking transit was 95% less than using a car for the same trip.^e

In a recent paper, the American Public Transportation Association (APTA) observed that transit in the United States has less than one-tenth the rate of injury or death of automobile travel per passenger-kilometre.^f It also found that traffic collision rates decline as transit grows more popular—in fact, cities with more than 50 annual transit trips per capita have about half the average traffic fatality rate of cities with fewer than 20 annual transit trips per capita. Overall, APTA concluded that:

- Transit investments are a cost-effective way to boost traffic safety.
- Small increases in transit travel can provide disproportionately large road safety benefits.
- Strategies to reduce high-risk driving are more effective when implemented along with transit improvements.

In Canada, a 2016 study by Université de Montréal researchers looked at ten major roads to compare injury rates for car and bus users, as well as for pedestrians and cyclists due to collisions with cars and buses.^g On all ten roads, they found that the rate of injury for car users was more than three times greater than for bus users. Plus, they found that pedestrians and cyclists were injured by cars more often than by buses, given the same exposure. They concluded that transit buses are safer than car travel—not only for bus passengers, but also for pedestrians and cyclists on the same road—and that a shift from car use to transit could greatly improve safety for all road users.

TRANSIT MAKES CITIES MORE EQUITABLE

Access to opportunity, financial well-being and social inclusion are critical to the health of individuals. Without them, many people will struggle to achieve and maintain good health. Fortunately, Canadian transit systems deliver on all three.

After decades of research and advocacy in the United States, the role of transit in protecting social equity has begun to attract serious attention in Canada. This is a broad issue that includes topics such as:

- Access to opportunity—the ability of individuals to reach jobs, education, shopping, social interactions and health care by transit
- Affordability—the cost of transit, particularly for low-income families and individuals
- Accessibility—the ease and dignity of using transit for persons with disabilities

Canada's transit systems have worked hard to make their conventional services accessible, to offer discounts for low-income users, to operate community routes linking seniors homes to local destinations, to help new Canadians learn how to take transit, and more.



Credit: Réseau de transport de Longueuil

*Strathcona County, Alberta; Prince Albert, Saskatchewan;
Whitehorse, Yukon*

FEDERAL FUNDING LEADS TO FULL ACCESSIBILITY

In 2016, Strathcona County Transit achieved 100% fleet accessibility two years ahead of schedule, thanks to \$2.5 million from Phase I of the federal Public Transit Infrastructure Fund (PTIF), matched by the Province of Alberta. Prince Albert Transit also used PTIF funds to improve accessibility, and will boast a 100% low-floor bus fleet by the end of 2017.

In Whitehorse, the public transit fleet has been 100% accessible since 2010, when the municipality used funding from the federal gas tax fund to purchase additional low-floor buses.

York Region, Ontario

TRAVEL TRAINING BUILDS ACCESS TO OPPORTUNITY

York Region Transit offers travel training to recent immigrants, people entering the workforce, seniors and persons with disabilities. The program uses presentations and in-person training to help customers get more familiar and comfortable with YRT's conventional service. Assistance at transfer points is a key focus area; YRT employees guide customers as they transfer between services, and arrange extra help from transit operators.

Ottawa, Ontario & Calgary, Alberta

NEW APPROACHES TO HELPING LOW-INCOME RIDERS

After a grassroots campaign supported by 50 local organizations, \$2.2 million in funding from the City of Ottawa allowed OC Transpo to launch a low-income transit pass in April, 2017. The EquiPass is available to residents whose family incomes are below the federal poverty threshold. The new pass costs \$57 a month, about half the cost of a regular monthly adult pass—meaning that eligible users can save about \$680 each year for housing, groceries or other needs.

In Calgary, a new cost structure for low-income transit passes will use a sliding scale. Customers with a family income 50% below the poverty line will pay just \$5.05 to take Calgary Transit each month, and other low-income pass users will pay either \$35.35 or \$50.50. About 45,000 Calgarians bought low-income passes in the last year, and about 20,000 of them could be eligible for the deepest discount in the new price structure.

TOWARD A HEALTHIER FUTURE

This paper has shown several ways—some highly visible, and others less so—that transit systems are good for the health of Canadian communities. Provinces and municipalities continue to place strategic priority on public health when funding new infrastructure and programs—and as elected officials increasingly recognize transit's health benefits, CUTA expects that its members will be called on to address public health outcomes in the planning, delivery and evaluation of transit services.

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The Canadian Urban Transit Association (CUTA) is the voice of Canada's public transit industry. For additional information including research reports, industry updates, news bulletins and more, please contact us or visit our website.



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