National Cycling & Walking Infrastructure Fund Proposal
Walking and cycling are deeply relevant to every Canadian community. Every trip begins and ends with a walking trip and bicycles provide a very efficient form of urban transportation. This proposal recommends an infrastructure investment strategy to increase the development of healthy, active, safe and environmentally-friendly transportation networks across Canada.

Returning human-oriented design to the forefront of our transportation system will require a significant effort. People on bicycles and on foot need access to the same goods, services and destinations as every other transportation network user. Like a road or highway network, cycling and walking networks need to connect people to where they want to go.

Since 1955, the population of Canada has doubled while the number of automobiles has quadrupled. At the same time, the general design approach we’ve taken for infrastructure has remained the same. This has resulted in the simple act of walking and cycling becoming increasingly difficult. The current reach of our cycling infrastructure - compared to the infrastructure that has been built and designed for private automobiles - is still minimal. In fact, most of the transportation-oriented bicycle infrastructure retrofits done in Canada (outside of Montreal) are less than a decade old. Disconnected, minimal bicycle networks are common in Canada and gaps are, unfortunately, the norm.

Our sidewalks need upgrading and improvement to create walkable communities that better prepare urban dwellers who are now interacting with higher numbers of automobiles. A demographic shift towards an older society and a renewed consciousness and understanding

A New Way of Moving

The cycling infrastructure networks of the most successful bike friendly nations are no less complete and extensive than a North American road network. (Open Cycle Map)
of the rights and needs of children and persons with disabilities means that Universal Design retrofits intended to increase accessibility for everyone cannot wait. The need and demand for cycling and walking infrastructure in Canada is urgent.

The current federal government’s election platform as well as environment and infrastructure ministerial mandate letters stated that the government would “shorten commute times, cut air pollution, strengthen our communities, and grow our economy” and that it would “strengthen our communities by investing in the things that make them good places to live.” The Infrastructure Minister was encouraged to ensure “significant new investments in public transit, green infrastructure, and social infrastructure, including...recreational infrastructure.” The Environment Minister was encouraged to support the Infrastructure Minister “in the transition toward more sustainable economic growth by making significant new investments in green infrastructure” and to “work with provinces and territories to set stronger air quality standards, monitor emissions, and provide incentives for investments that lead to cleaner air and healthier communities.”

Many of Canada’s international peers are far ahead. The United States has long provided federal funding support for walking and cycling infrastructure. While countries like the Netherlands started funding and building protected bike lanes in the 1970s, Canada’s largest city only constructed their first more than 40 years later. Denmark’s national government, in a country replete with cycling infrastructure already, offers massive multi-million dollar annual funding for communities that want to build more. The Government of Norway (with a population one sixth that of Canada) moved this year to dedicate more than $1Billion CAD over 14 years towards the construction of bicycle superhighways from suburbs to city centres in its largest cities as part of its climate change mitigation plan.

In Canada, the federal government has yet to put forth a significant package for cycling or walking infrastructure. It has however made a small number of one-time-only investments in walking and cycling specific infrastructure. When it has, it has paid large dividends for recipient communities, giving better transportation options and increasing cycling rates. More than ever, countries around the world are taking serious steps to move on sustainable transportation and communities across Canada are just as ready to do more. We should seek to inspire, support and redouble efforts wherever possible.

“Norway will spend a massive 8 billion Norwegian Kroner ($1.3 billion) creating 10 broad, two-lane, cross-country bike tracks in and near Norway’s nine largest cities, allowing longer-distance cyclists to travel with a speed and safety hitherto impossible.”

City Lab 2016
Replacing short vehicle trips with active transportation could significantly reduce air pollution because emissions are highest when a car is first started. It is estimated that 90% of the emissions in a typical 11-kilometre trip are generated in the first 1.6 kilometres, before the engine warms up. This means that replacing short car trips with active transportation could have a significant effect on reducing emissions. This is not well reflected in measurements such as “vehicle kilometres travelled” or “trip numbers” that don’t record the high impact of short trips.

We believe that the transportation systems of the future should be characterized by much more diversity, efficiency, resilience and fairness than our current mostly automobile-based approach. We need to foster equity, avoid preventable injuries and stave off the harmful effects of climate change. Since it is widely understood that investing in cycling and walking infrastructure helps large numbers of people incorporate safe, sustainable transportation into their lives, we need to do as much as possible now.
Infrastructure is the Key to Modal Shift

The quality and connectivity of a community’s walking and cycling infrastructure has a direct impact on our likelihood of choosing to walk or ride a bicycle. Therefore, our society’s ability to encourage healthy behaviour, reduce environmental impacts and spur modal shift away from exclusive reliance on private automobiles can be traced directly back to the total amount of funding we dedicate to walking and cycling infrastructure projects. A small change in a neighbourhood, especially if it affects a child’s trip to school, can change the behavioural pattern of numerous families. A bicycle on appropriate infrastructure offers a unique alternative to the current dominance of the private automobile due to a bicycle’s ability to quickly and inexpensively cover the average trip distance that a Canadian must currently cover by car. The potential cumulative effect is staggering. A recent study suggested that if safe and comfortable cycling infrastructure was installed throughout the City of Vancouver, half a million people would be prepared to change their behaviour significantly immediately. High cycling and walking rates also maximize investment in other forms of transportation, especially mass transit. Cycling helps bring exponentially more people within convenient reach of a given station, for example. Just making it easier to cross a street in a commercial area makes shopping trips by bus much more desirable for seniors. A mix of walking, cycling and transit therefore helps rival the automobile’s ability to facilitate spontaneous trip of varying distances. It is within this healthy environment that massive modal shift starts to happen.

“In total 31% [those most likely to make a travel behavior shift that could increase cycling mode share] of those contacted fit into this near market. Projected to the adult population of the region, this represents about 500,000 adults [in the City of Vancouver]; changing travel patterns in this population could have sizable health and environmental impacts.”

Factors that Affect Bicycle Ridership: A Case Study of the B-Cycle Bike Share System in Austin, Texas

The relationship between bicycle infrastructure and cycling behavior is additionally supported by the fact that, within typical cities in the United States with populations greater than 250,000, the share of workers commuting via bicycle increases one percentage point for every additional mile of on-street bicycle lanes per square mile (Dill et al., 2003, 121).

The potential is enormous when considering that typically more than half of all urban trips around the world are less than 10 kilometers and can be potentially be done by bike.

Institute for Transportation Development and Policy
Proposed Funding Structure

Many communities across Canada have long lists of projects that are shovel ready. Some have demonstrated an ability to roll out infrastructure quite quickly. Others, recognizing the opportunity created by a federal fund, will have strong incentive to ramp up as soon as the fund is announced. We can expect a flurry of action leading to positive outcomes. Just how much is possible?

The calculation below is the result of a review of numerous capital and operating budgets, interviews with city councillors and Mayors, reviews of recent media stories and announcements and a review of municipal and provincial active transportation plans across the country. As per the next section (Funding Parameters and Eligibility), key concepts include an emphasis on network development, integrated planning and rewarding leadership. The proposed funding structure below offers low estimates and high estimates representing what we believe the federal government should make available as matching funds. The fund would be for separate projects than those deemed eligible for inclusion in federal public transit infrastructure fund applications (which we believe should continue to exist, but be entirely separate; see Appendix A for further details).

<table>
<thead>
<tr>
<th>Funds for Population Range</th>
<th>Annual federal contribution per community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Urban Centres 1,000-29,999</td>
<td>High $250,000 Low $100,000 # of communities 857 Total High $214,250,000 Total Low $85,700,000</td>
</tr>
<tr>
<td>Medium Urban Centres 30,000-99,999</td>
<td>High $1,000,000 Low $325,000 # of communities 54 Total High $54,000,000 Total Low $17,550,000</td>
</tr>
<tr>
<td>Large Urban Centres 100,000-499,999</td>
<td>High $5,000,000 Low $2,000,000 # of communities 22 Total High $110,000,000 Total Low $44,000,000</td>
</tr>
<tr>
<td>Metropolitan areas 500,000+</td>
<td>High $20,000,000 Low $6,000,000 # of communities 9 Total High $180,000,000 Total Low $54,000,000</td>
</tr>
<tr>
<td>Infrastructure as part of Provincially managed HWYs and ROWs 34,000,000 (all Canada)</td>
<td>High $136,000,000 Low $68,000,000 # of communities n/a Total High $136,000,000 Total Low $68,000,000</td>
</tr>
</tbody>
</table>

**Fund Value** $694,250,000

Target annual federal contribution **$694 M**

[N]ew federal money [would] help offset the cost of the city’s existing 15-year, $70 million pedestrian and cycling plans. ... Instead of taking 15 years to implement all the projects, [Ottawa City Councillor and former strategic advisor to the Deputy City Manager Catherine] McKenney said federal funding could reduce their timeline to just four years.

CTV Ottawa

[The backbone of [Ontario’s four year] strategy to cut emissions to 15 per cent below 1990 levels by 2020 [includes] $200-million to build more cycling infrastructure, including curb-separated bike lanes and bike parking at GO stations.

The Globe and Mail, May 2016
In July 2015 the Ministry of Transportation (MTO) established the $10 million Ontario Municipal Cycling Infrastructure Program, to help municipalities build new and improve existing cycling infrastructure. **There was a great deal of interest from across the province, with almost 150 municipalities submitting expressions of interest (EOIs).** Municipalities were eligible to apply for funding for up to 50% of the total eligible costs of a cycling infrastructure project to a maximum amount of $325,000. Applications were evaluated and 37 projects in municipalities across the province were approved for funding.

Ministry of Transportation Ontario

We’re already spending at least $6 Million a year on biking and walking infrastructure but $334 million walking and cycling strategies call for much more than that. **With federal help, we could be building $20 Million a year.**

Councillor Janice Lukes, Winnipeg Chair of Standing Policy Committee on Infrastructure Renewal and Public Works; Acting Deputy Mayor

When you look at it, it seems like a fair amount of money but compared to roads, **the new Massey Tunnel replacement bridge is $3.5 billion and that’s one project.**

Richard Campbell Executive Director, British Columbia Cycling Coalition

In many local governments . . . **new, dedicated funds are the only means by which larger-scale active transportation projects will be implemented.**

Built Environment & Active Transportation Community Planning Grant Program Final Report

Active Transportation Plan for the City Terrace, B.C. 2009

[Figure 24: Bicycle Network Map]
Funding Parameters and Eligibility

1. Keep the list of what an applicant may build open and simple. The list of eligible facilities types should be comprehensive and as non-prohibitive as possible. It should include planning, consultation and evaluation. It should include all amenities associated with cycling and walking - from protected bikeways to wayfinding signage, bicycle share systems to lighting upgrades, multi-million dollar bridges to benches and even landscaping.

2. Prioritize focused applicants who intend to establish, upgrade and extend minimum grid cycling networks. Reward applications that demonstrate cohesive network development and multiple projects functioning as a system as these systems have strong potential to encourage modal shift. Allow applicants to apply for support for the portion of regularly scheduled bridge or roadway rehabilitation work that is intended to add capacity for cycling and walking trips.

3. Prioritize applicants who demonstrate that bicycle and walking guides their approach to transport planning. The fund requirements could do this by asking for proposed networks that emphasize infrastructure gaps in a given region’s most densely populated areas first and/or ask that applicants develop plans aimed at maximizing modal shift (see #10).

4. Prioritize applicants who demonstrate a strong understanding of multi-modal transportation systems. Applicants that have well-integrated walking, cycling and transit plans should be encouraged. One possible course of action would be to reward communities that are also applying for walking and cycling funding as part of a public transit infrastructure application.

5. Allow applicants to develop longterm internal capacity. Knowledge is priceless. Consider allowing applicants to include incremental increases in salary and/or bridge funding of new staff positions while projects are being implemented. Consider allowing modest professional development and upfront training costs to be eligible. This allows applicants to learn best practices from outside consultants that may be relied upon to help with short term project implementation.

Municipalities may lack the staffing resources to focus on implementing active transportation initiatives, illustrated by a recent survey conducted by the TAC, which found only 26 municipalities with at least one full-time equivalent staff member focused on planning and implementing active transportation initiatives.

Transport Canada (2013)

An analysis of the 40 largest U.S. cities shows that cities with larger staff, both in count and per capita, have higher levels of bicycling than cities with smaller staffs.

Urban Systems
6. Avoid unnecessary caps on progress, let some communities lead. Expect an initial period characterized by uneven implementation timelines. Although all will be interested, some cities, towns and provinces will come more prepared than others. Others will be able to mobilize more quickly. Reward preparedness and strategies for quick implementation. This may mean that some cities and towns may initially receive much more funding than others.

7. Consider rural and/or regional construction/maintenance realities. In isolated or cold centres, construction and maintenance conditions can be more challenging. Planning and implementation can be more expensive with less access to staff. In these communities, be as flexible as possible with eligibility and cost sharing calculations to lessen any burden posed by the prospect of building, maintaining and operating new facilities.

8. Set ambitious first year targets. Relative to most other capital infrastructure projects, cycling and walking infrastructure projects are de facto “shovel ready” projects. Lists of known priorities can be designed and built in a single season. Entire networks can be planned and implemented in a few years. Think big and expect big results.

9. Keep the maximum fund amount open and available over multiple years as communities ramp up. Some communities will require additional time to prepare plans and budgets, but be able to ramp up implementation quickly by the second or third year. A flexible maximum amount will allow communities that start later to ramp up quickly in subsequent years.

10. Avoid overly-complicated metrics other than usage. The link between sustainable transportation and reduced pollution, health, productivity, and human powered transportation is clear. It is particularly important not to overly burden smaller communities with complicated reporting structures, especially those without the staff available to do the monitoring. Focus primarily on plans that get more people walking, riding bikes and taking transit.

11. It is not just a city issue. Some communities, especially smaller rural communities with fewer bureaucratic mechanisms, can build long-awaited walking and cycling infrastructure very efficiently. It is in the interest of small communities to create age-friendly environments so that elderly residents can continue to live in their communities and not be forced to relocate to larger urban centres when they are no longer able to drive. Similarly, walk and bike friendly infrastructure help small communities attract and keep businesses, employees, tourists and young people.

12. Emphasize new projects and reward those cities that are leading the way. Communities who already have robust walking and cycling budgets should be rewarded. There is also a risk that a dedicated fund for bicycle and walking infrastructure would simply be used in some communities to supplement existing plans for bike and walkways - leaving leftover funding for roadway projects that do not meet federal targets. Allow communities with dedicated walking/cycling budgets and/or project plans to use their existing commitments to help reach their required matching funding. This will provide a strong incentive for municipalities to double their existing construction rate while sparking action in communities who have yet to begin.
Appendix A - Funding Rationale

Federal Funding to Address Canada’s Active Transportation Deficit
Canada has a vast active transportation infrastructure deficit but the Government of Canada has yet to establish a funding program designed to address it. In contrast, US federal contributions to walking and cycling projects amounted to about US$800M ($1.1B CAD), equivalent to US$2.50 ($3.30) per capita in 2015. In Europe, countries intent on either expanding well-established networks or catalysing rapid mode shift tend to invest heavily. The Netherlands - despite having nearly ubiquitous protected bike lane networks - still invests around €29 per capita ($42 CAD per capita per year) in cycling improvements. In the United Kingdom, where current rates of bicycle use (and infrastructure) are more comparable to Canada, the national government has recently been investing as much as £10 ($17) per capita per year in cycling infrastructure in selected cities, with an average of £1.23 ($2.12) per capita. Norway recently announced a $1.2B fund ($17 per capita) towards cycling infrastructure in major urban centres as part of its national transit plan.

Opportunity to Leverage Provincial Funding
Canada’s more populous provinces have begun establishing programs to increase active transportation. These include but are not limited to the following:

- Ontario has announced a new Climate Change Action Plan with $200M for cycling infrastructure over four years ($3.68 per capita per year), building on the successful Ontario Municipal Cycling Infrastructure Program - set to target certain communities with $10M over two years. The highest per capita contribution being to Temiscaming Shores ($33 per capita).
- Québec’s Véloce II provided $7M for cycling in 2014/15 ($0.85 per capita per year).
- British Columbia’s BikeBC program is set provide $18M over three years ($1.30 per capita per year) for new cycling infrastructure projects.

Opportunity to Leverage Municipal Funding
A new program must be both inspiring and realistic. To better understand the potential scope of a new federal funding program, it is helpful to start by examining current per capita spending levels in municipalities. Some municipalities have an annual budget that combines walking and cycling. Examples include:

- Canmore, AB: $17 per capita
- Halifax, NS: $17 per capita
- Laval, QC: $22 per capita
- Vancouver, BC: $46 per capita
- Victoria, BC: $72 per capita
- Winnipeg, MB: $15 per capita

Some have annual budgets for cycling infrastructure only. Examples include:

- Toronto, ON: $16M/year ($6 per capita) for cycling network plan implementation program
- Ottawa, ON: $6.7M/year ($8 per capita) incl. $1M/year ($5 per capita) for network development program $2.7M/year ($3 per capita) for major structures program in 2016
- Montreal, QC: $20M/year ($11 per capita) for cycling network development and protection program
- Calgary, AB: $12M/year ($11 per capita) for cycling network development

The above survey shows municipalities spending in a range of $6 to $72 per capita on active transportation infrastructure programs, not including other mechanisms by which such projects may be built.

Program Cost
Where they exist, active transportation program budgets have the potential to grow rapidly and where they do not exist, there is additional incentive to get started. Overall, we recommend an annual federal contribution ranging between $269.3M and $694.3M. This translates into a fund of between $8 and $20 per capita per annum. We estimate annual contributions to any given community of between $100K and $20M. The breakdown is based on population centre size and capacity, and what we believe could reasonably be expected to spur action and be implemented within the 3 year timeframe. The funds would be matched by
either newly proposed funding or ongoing efforts towards the building of cycling and walking networks. We offer per capita figures for context only, and recommend avoiding strict per capita calculations to set caps as communities face differing challenges and opportunities. Instead, we believe the fund should be structured to harness and expand existing momentum and to spur growth everywhere. Please read the “Funding Parameters and Eligibility” section of the document for further detail on how the fund itself would work.

5. These figures represent infrastructure programs aimed specifically at cycling. These figures do not include funding already provided to municipalities, walking/cycling improvements done as part of other projects like provincially owned road and bridge rehabilitation or construction, or numerous instances of provincial governments investing significantly in walking and cycling projects on case by case basis.
10. The above survey shows municipalities spending in a range of $6 to $72 per capita on active transportation infrastructure programs, not including other
16. Winnipeg, MB carefully identifies both the amount spent on cycling and walking standalone projects as well as that which gets integrated into regular roadway building/rehabilitations: $6.125M/$9 per capita) on bike/walk
22. Historically, some communities have been able to implement a significant number of projects adding up to a much larger per capita initiative. Small communities can easily spend hundreds per capita in one year to connect
23. Ontario example: http://www.cyclist.ca/active-transportation-plan-scan-cac/
24. We expect that all communities in Canada within each given population centre bracket would be interested in accessing the fund with some having more projects ready to go within the timeframe than others. The numbers are expressed as a range to reflect the high and low estimates of what communities in this bracket are likely to be able to match annually. For smaller urban population centres (1000 and 29,999 people), we envision investments between $100K and $325K per year. We believe a floor of $100K for funding will help make the fund worthwhile for smaller communities. (It is worth noting that the smallest population centre bracket is weighted more towards communities on the smaller spectrum. If one uses a range of $25K and $100K for these communities instead, it brings the small community portion in line with the proportion of the Canadian population it represents. The ensuing calculation for the overall fund would then reflect a $205M-$566M contribution. An example of why these calculations are a guide only. For medium-sized urban population centres (30,000-99,999 people), between $325K and $1M per year. For large-sized urban populations (100,000 and 499,999 people) between $2M and $5M per year. For metropolitan communities (+500,000) between $6M and $20M per year. For provincially-owned facilities, we believe the federal government should plan to contribute between $68M and $136M (a per capita figure between $2.42 and $4.83 per year).
For more information, contact Anders Swanson at info@canadabikes.org or 204-797-1962.