Transportation Association of Canada

Active Transportation – Making It Work in Canadian Communities

November 2010

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OTHER ACTIVE TRANSPORTATION TAC PUBLICATIONS

DOCUMENTS CURRENTLY AVAILABLE FROM THE TAC BOOKSTORE (FOR FREE OR FOR PURCHASE):

Best Practices for the Technical Delivery of Long-Term Planning Studies in Canada (2008)

- English: www.tac-atc.ca/english/resourcecentre/readingroom/pdf/best-practice.pdf
- French: www.tac-atc.ca/francais/centredesressources/salledelecture/pdf/bonnespratiques-planification.pdf

Strategies for Sustainable Transportation Planning Briefing (2007)

- English: www.tac-atc.ca/english/resourcecentre/readingroom/pdf/sustainable-english.pdf
- French: www.tac-atc.ca/francais/centredesressources/salledelecture/pdf/transportsdurable.pdf

School and Playground Areas and Zones: Guidelines for Application and Implementation (2006)

- Available through the bookstore: www.tac-atc.ca/english/bookstore/

COMPLETED PROJECTS TO BE PUBLISHED IN 2010:

Bikeway Traffic Control Guidelines for Canada, Second Edition

Transit Lanes Conspicuity through Surface Treatments

The Safe Accommodation of Vulnerable Road Users and Large Commercial Vehicles in Urban Areas

PROJECTS IN PROGRESS:

Pedestrian Crossing Control Manual Update

Guidelines for Application and Display of Transit Signals

Guidelines for Planning and Implementing Transit Priority Measures in Urban Areas

Effective Strategies for Influencing Travel Behaviour

GLOSSARY

AT
[Active transportation]

Active transportation essentially refers to any form of human-powered transportation, such as walking, cycling, wheeling, in-line skating, skateboarding, ice skating or canoeing/rowing. In the context of urban transportation planning, the term is often used to refer to cycling and walking only.

CAN-BIKE

A program of nationally-standardized cycling training courses.

CMA
[Census metropolitan area]

Regions defined by Statistics Canada which delimit large contiguous urban areas with at least 100,000 residents.

CPTED
[Crime Prevention Through Environmental Design]

Using features of the built environment, CPTED design strategies aim to deter criminal acts by essentially increasing a potential offender's perceived risk of being caught.

GTHA
[Greater Toronto and Hamilton Area]

An urban region in southern Ontario that comprises 26 municipalities, which, as of 2006, total over 6 million residents.

MTO
[The Ontario Ministry of Transportation]

The ministry of transportation for the province of Ontario.

MTQ
[Ministère des Transports du Québec]

The ministry of transportation for the province of Québec.

PAGMTAA
[Programme d'aide gouvernementale aux modes de transport alternatifs à l'automobile]

A Québec government assistance program for alternative transportation, in effect from 2007 to 2011.

Safety

Freedom from the threat or occurrence of non-violent injury.

Security

Freedom from the threat or occurrence of violent crime.

TAC
[Transportation Association of Canada]

TDM
[Transportation Demand Management]

The application of strategies and policies to manage the growth of and shifts in travel demand.

TransLink

The public transit authority for Metro Vancouver, British Columbia, formerly the Greater Vancouver Transportation Authority.

TMP
[Transportation master plan]

BIXI

A public bicycle sharing system, currently in Montreal, Québec.

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Photo by Richard Drdul

EXECUTIVE SUMMARY

With growing concern over issues such as climate change and public health, there is considerable interest in addressing active transportation (AT) needs in Canadian communities. In a survey of TAC member municipalities, respondents enthusiastically identified many upcoming initiatives and works-in-progress. Measures of success, however, were more difficult to find. This report is an attempt to uncover these relatively undocumented success stories that are developing throughout Canada to assist local, regional, provincial and federal Canadian governments in understanding the critical factors for successful implementation of active transportation strategies.

The basic questions and lessons learned that are discussed in this report span the following topics:

Leadership – How have communities found and supported leaders with a sincere interest in active transportation? These leaders may emerge from municipal staff, credible local advocates, community leaders or politicians, and the influence of media is critical.

Partnerships – Active transportation is a multi-disciplinary issue requiring a multi-disciplinary approach. In what ways have communities improved collaboration within and across departments, as well as with other stakeholders, such as health, education, transit, and NGOs to accelerate progress?

Public Involvement – What non-traditional approaches have communities had success with to involve the general public and diverse stakeholders, while ensuring that consultation remains focused and interesting?

Financial and human resources – How have Canadian communities dealt with financial and staffing resource limitations through creative solutions and strong partnerships, as well as alternative approaches to budgeting that better reflect the benefits of active transportation?

Knowledge and skills – What walking and cycling training programs for staff and stakeholders have been effective at building knowledge and skills? Where has this successfully been supported by improvements in monitoring active transportation travel behaviour and safety?

Policy and planning – How have land use and transportation planning policies been successfully adapted to support active transportation more effectively and provide a better understanding of the implications of land use decisions on active transportation?

Travel facilities – Which strategies have been effective at supporting the implementation of travel facilities that provide safe, comfortable and direct facilities for walking and cycling?

Improving safety and security – Where have communities observed safety benefits through active transportation initiatives and how have some addressed concerns regarding crime and personal security?

Influencing individual travel choices – How have some communities successfully effected a cultural shift? Have some community, school, and workplace initiatives been successful at encouraging people to make walking or cycling a regular daily activity?

The report is not intended to be a design manual or a comprehensive inventory of potential actions and recommendations. Instead, it is an exploration of experiences based on interviews and focus group discussions with practitioners in the field, as well as a survey of TAC member municipalities.

Drawing on this extensive material, the study team articulated 11 principles for consideration by those working to improve active transportation in Canadian cities. More details on each principle, including lessons learned and related comments from active transportation practitioners who participated in the study are presented in Chapters 4 – 7. This is a working report that documents the experience of many in the active transportation field so that others working to improve active transportation in their neighbourhoods, towns, and cities across Canada can draw on this collective experience.

STRENGTHENING FOUNDATIONS FOR EFFECTIVE ACTION (CHAPTER 4)

Principle 1 – Leadership: Successful AT programs require leaders with a sincere interest in active transportation. These leaders may emerge from municipal staff, credible local advocates, community leaders or politicians. Leaders may be motivated by many different factors including the environment, cost savings, tourism or health benefits; so getting them to see how active transportation is linked to these benefits is key.

Principle 2 – Partnerships: Active transportation is a multi-disciplinary issue requiring a multi-disciplinary approach. Working across departments and jurisdictions can greatly accelerate progress.

Principle 3 – Public involvement: Involve members of the public through non-traditional approaches, target multiple stakeholders, and ensure that consultation remains focused and interesting. For larger municipalities, divide public engagement efforts into smaller neighbourhoods.

Principle 4 – Financial and Human Resources: Address financial and staffing resource limitations through creative solutions and strong partnerships, as well as alternative approaches to budgeting that better reflect the benefits of active transportation.

Principle 5 – Knowledge and Skills: Build knowledge and skills through AT-specific training for staff and other stakeholders. Gain valuable understanding and experience through data collection and pilot projects.

PROVIDING SUPPORTIVE ENVIRONMENTS AND SYSTEMS (CHAPTER 5)

Principle 6 – Policy and Planning: Identify and promote an understanding of the implications of land use decisions on active transportation. Opportunities to tailor decisions to better support active transportation exist at every level from overall growth management planning to detailed road design standards.

Principle 7 – Travel Facilities: Identify and pursue opportunities to provide safe, comfortable and direct facilities for walking and cycling. Opportunities can be identified through the preparation of a network master plan, but must also be carried through to design, construction, operation and maintenance processes. Existing standards and conventions need not be a barrier and can be overcome through innovation.

IMPROVING SAFETY AND SECURITY (CHAPTER 6)

Principle 8 – Road Safety: Adopt practices and programs which explicitly address safety issues for pedestrians and cyclists as well as perceived concerns about weather and personal comfort.

Principle 9 – Crime and Personal Security: Foster a culture of knowledge, understanding and action to overcome real and perceived concerns about personal security and bicycle theft.

INFLUENCING INDIVIDUAL TRAVEL CHOICES (CHAPTER 7)

Principle 10 – Affecting a Culture: Attitudes and Perceptions: Encourage people to try walking or cycling in different environments with the goal to make active transportation a regular daily activity for all segments of the population. Planners and other decision makers who regularly commute by active transportation are most likely to identify needs and gaps as well as understand the importance of developing facilities geared to all experience levels.

Principle 11 – Outreach to Encourage Active Choices: Work directly with employers, schools, community groups and households to broaden the impact and uptake of active transportation initiatives.

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PART ONE:
OVERVIEW

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Photo by John Luton

1. INTRODUCTION

Walking and cycling are fundamental to healthy lifestyles and more sustainable urban and rural transportation systems. These modes of active transportation (AT) are the least polluting, most equitable and most affordable ways of getting around communities. Safe and attractive conditions for walking, cycling, and other non motorized forms of travel are critical to shifting demand away from the automobile, and to achieving the social, environmental, and economic benefits of a less auto-dependent society. Principal among these benefits is reduced GHG emissions and TAC has established a climate change task force in recognition of the gravity of this issue. Active transportation will be crucial in dealing with the recent Copenhagen Accord and any future climate change-related emission reduction targets.

Over the last decade, public awareness of active transportation's environmental, health, social and economic benefits has grown. The plans and policies of many Canadian communities have provided stronger support for active modes. However, communities have achieved mixed success in taking action to improve conditions and enhance participation.

1.1 Study Purpose

The purpose of this study is to assist Canadian local, regional, provincial and federal governments in understanding critical factors for successful implementation of active transportation strategies. The report is intended to provide advice to Canadian communities on all aspects of active transportation strategies and initiatives including:

- Actions ranging from policy to design to programs
- Strategies that work, and those that have not been so successful
- The nuance of different Canadian contexts, such as rural or suburban communities

The report is not intended to be a design manual or a comprehensive inventory of potential actions. Instead, it is an exploration of experiences based on a survey of TAC member municipalities, as well as interviews and focus groups with practitioners in this field. Even with extensive data, it will always be challenging to pinpoint precisely the intervention(s) responsible for vibrant walking or cycling environments – the issues involved are too

complex. Nonetheless, there are many relatively undocumented success stories developing throughout Canada and this report is the result of speaking directly with practitioners and decision makers to focus on what they feel has worked in their communities. It is not a rigorous presentation of empirical results, but an exploration of the opinions of those with experience on the ground, who are getting things done.

1.2 Project Participants

This study was initiated and approved by the TAC Urban Transportation Council. It was led by a Project Steering Committee whose members generously contributed their time to direct the research and report recommendations:

- Katherine Forster, Transport Canada (Co-chair)
- Roxane MacInnis, Halifax Regional Municipality (Co-chair)
- Melissa Ashman and Reena Kokotailo, Transport Canada
- Eric Chan and Margie Chung, Regional Municipality of Peel
- Robert Dolezel and Charles O'Hara, Ministry of Transportation Ontario
- Peter Dzikowski, Alberta Transportation
- Audra Jones, City of Edmonton
- Alan Kirkpatrick, City of Hamilton
- Elizabeth Allingham and Jessica Mankowski, Federation of Canadian Municipalities
- Marc Panneton, Ministère des Transports du Québec
- Kelly Thornton, Metrolinx

The study was administered under the leadership of Katarina Cvetkovic, TAC Secretariat and Sandra Majkic, TAC Project Manager.

TAC retained a team lead by IBI Group to undertake the study and key contributors include:

- Brian Hollingworth, IBI Group
- Norma Moores, IBI Group
- Dylan Passmore, IBI Group
- Geoff Noxon, Noxon Associates
- Marc Jolicoeur, Vélo Québec
- Jacky Kennedy, Green Communities Canada

The study would not have progressed without the cooperation of the many individuals from communities across Canada who gave of their time, knowledge and expertise to complete the survey, and participate in the interviews and focus groups.

1.3 Report Outline

Following this introduction, the report contains seven chapters. Chapter 2 provides an overview of the results of the main tools used to gather information and insights for this study and how they were executed. Chapter 3 summarizes the state of play with regard to active transportation in Canadian communities including observations on key successes and challenges. The remaining four chapters present a summary of the key points drawn from the study organized under the following major headings:

- Strengthening Foundations for Effective Actions (Chapter 4)
- Providing Supportive Environments and Systems (Chapter 5)
- Improving Safety and Security (Chapter 6)
- Influencing Individual Travel Choices (Chapter 7)

Several brief case studies are also provided throughout the report to highlight specific themes.

2. METHODOLOGY

The synthesis of effective active transportation practices in Canadian communities is based on four primary sources of information:

- A web-based survey of TAC member municipalities
- Interviews with experts and practitioners who have made progress in supporting active transportation in Canadian communities
- Peer review of the preliminary recommendations through focus groups involving experts in active transportation
  - Experience and insights from the Project Steering Committee and consulting team

Initial tasks of the study also included literature and trends reviews. The literature review was used to investigate the structure and conclusions of similar work in jurisdictions outside Canada, focusing on the US, Europe, Australia, New Zealand and, to some extent, South America. The review of trends in active transportation was undertaken in order to gain an understanding of the state of walking and cycling in Canada and where data is available or deficient in understanding progress.

2.1 Literature Review

The literature review included 60 international references and 28 active transportation plans from Canadian communities. A complete listing is provided in Appendix B. Findings that informed this study are as follows:

1. In North America the overriding goal of active transportation planning for the most part is a modal shift, from private automobiles to active modes. There is also considerable concern about issues of safety, particularly in reference to pedestrians.

2. There are more planning manuals available dealing exclusively with cycling issues compared to pedestrian issues. There are grounds for distinguishing pedestrian planning from cyclist planning based on different needs; however, three commonalities were acknowledged in some references: federal funding issues, lack of data and performance measures, and issues of context sensitive development (i.e. issues of place). Since both modes have traditionally been overlooked by municipal institutional structures in North America, implementation issues might be best

served by discussing both cycling and walking collectively.

3. Most active transportation "planning manuals" tend to focus on three main categories of guidance and many cover only the first two:

   I. **Infrastructure Design** (e.g. signage; street furniture; pavement markings; lane widths; building setbacks; and design principles – accessibility, connectivity, aesthetics, comfort, continuity, and safety)

   II. **Programs** (e.g. cyclist & motorist safety, education, promotion, enforcement)

   III. **Policy** (e.g. official plans, developing master plans)

   Walking and cycling academic literature tends to focus on design and safety issues, while active transportation plans typically span both design and programs (for example, the four E's of cycling – Engineering, Encouragement, Enforcement, Education), with some discussing policy at a high level, but a fourth area of guidance is notably missing: there is little advice available on how to move from progressive policy that supports active transportation to actually installing infrastructure to change the environment. The challenges of getting to the construction stages tend to be institutional, political and/or financial in nature, and are largely undocumented. This gap in the literature, although challenging to explore, offers the most potential to add value to the existing body of literature and provide insight to municipalities struggling to execute active transportation projects. As success in implementing AT facilities relates strongly to local institutions, politics and financial circumstances, including such a focus in this study offers a unique opportunity to draw on and benefit a Canadian audience.

2.2 Trends Review

The review of Canadian trends in walking and cycling centred on trying to answer the following questions from existing studies:

1. How is the rate of AT changing?
2. How is the proportion of trips that are shorter than 5 km changing?
3. How is the safety (crashes, injuries / fatalities) of AT changing?
4. How is the use of AT for commuter travel changing?
5. How are public attitudes toward AT changing?
6. How are obesity, or chronic diseases that are related to physical activity levels changing?
7. How is the use of AT for school travel changing? (proportion of school trips by AT)
8. How is government investment in AT changing?
9. How does urban form (land use type and mix, density, development patterns, etc.) affect AT?
10. How is the provision of AT infrastructure (bike lanes, sidewalks, trails) changing?
11. How is the rate of bicycle ownership changing?
12. How are benefits (e.g. tourism revenues, air quality, real estate values) of AT changing?

Selected outcomes of the trends analysis are presented in Section 3.1 while Appendix C presents a detailed analysis of the data collected to help answer these questions. In general, interest in active transportation policy is a relatively recent phenomenon, as is interest in collecting relevant data. There are very few longitudinal datasets, complicating trend analyses and attempts to understand causalities.

One of the findings of the trends analysis is that measuring progress of active transportation is difficult at a regional scale since, at that level, cycling represents only a small proportion of total trips, while pedestrian issues are very sensitive to the local context. In many municipalities, however, there are some positive emerging trends at the neighbourhood level, some of which are highlighted in this report.

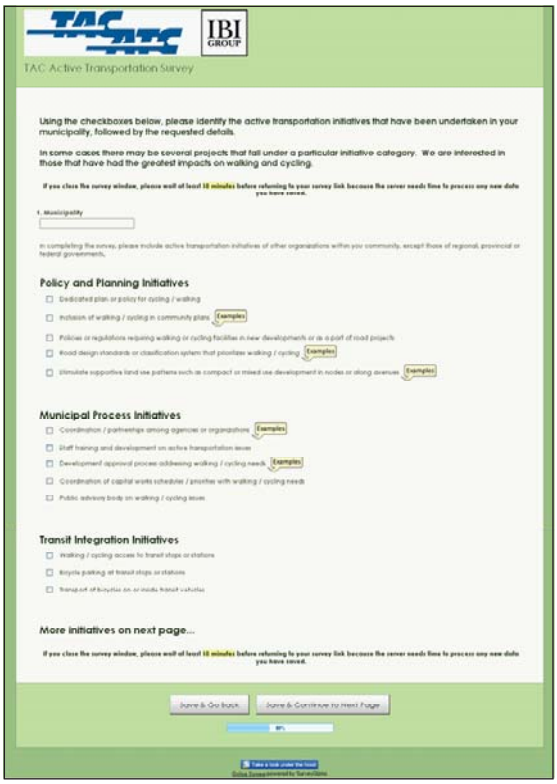
2.3 Survey of Municipalities

A web-based survey of active transportation initiatives was launched to discover who is getting things done and what has been effective. The survey focused on identifying notable active transportation initiatives, implementation efforts and outcomes.

2.3.1. SURVEY CONTENT

A copy of the survey form is provided in Appendix D. Respondents were requested in the survey to provide information on notable initiatives that support AT, including:

- Program name
- Funding resources, if required, and source
- Municipal departments involved
- Amount of staff time required
- Other partners and how involved
- How successful was the initiative considered
- Measures of success—increase in trips by AT, increase in safety (lower rates or severity of incidents), increase in public interest or support, other
- Barriers or challenges—securing resources (funds and staff), lack of qualified staff, lack of leadership, poor co-ordination / communication between departments, conflicting priorities, influence of special interest groups, other



The following categories of initiatives (with some explanatory examples) were used to organize the survey input:

- **Planning—** high-level community plans, community AT plan/strategy, AT included in neighbourhood or area plans, land-use designation includes compact mixed-use developments
- **Public involvement—** AT advisory committees, community AT organizations
- **Development—**Explicit consideration of AT in impact studies of new developments, AT site design guidelines, zoning by-law requirements for bicycle parking, shower or change facilities
- **Streets—**Design guidelines for improving streets for AT; design guidelines for improving the streetscapes or public realm for AT; building bikeway infrastructure

The AT survey was sent to 283 TAC municipal members with 64 responses indicating generally:

- A lack of internal training
- Fewer than half have full-time staff dealing with AT
- About half have a cycling plan or policy
- No pedestrian plans or sidewalk priority plans were reported
- Off-street paths were viewed as good for promoting cycling
- Measuring progress is absent or weak

(designated bike lanes, wide shared lanes, traffic calmed or bicycle priority streets, etc.); implementing signage/way-finding for bicycle routes; implementing pedestrian infrastructure (sidewalks, walkways, traffic calming, etc.); providing AT infrastructure repairs (hazard removals, patching, resurfacing, etc.); providing AT infrastructure seasonal maintenance (litter clean-up, sweeping, snow-clearing, etc.); co-ordination of capital works projects with AT needs

- **Intersections—** improving pedestrian crossings (high visibility crosswalks, countdown signals, median refuges, mid-block crossings, detection, etc.); upgrading crossings to be accessible (curb ramps, detectable warning devices, accessible / audible pedestrian signals, pushbutton location adjustments, etc.); improving bicyclist crossings (bike boxes, advanced stop bars, bicycle only signals, bicyclist only turn lanes, intersection pavement markings, signage, turning exemptions, detection, etc.)
- **Multi-use trail or pathway—**Creating new multi-use trail / pathway corridors; creating new multi-use trails / pathways in existing corridors; dedicated AT facilities across major barriers (rivers, railways, freeways, etc.); implementing signage/wayfinding for trail users; providing AT infrastructure repairs (hazard removals, patching, resurfacing, etc.); providing AT infrastructure seasonal maintenance (litter clean-up, sweeping, snow-clearing, etc.)
- **End-of-trip facilities—**Public bicycle parking racks within street right-of-way; off-street public bicycle parking racks (i.e., lots or garages); secure bicycle storage at destinations (workplaces, educational institutions, community centres, multi-family residences, etc.); shower and change facilities at destinations ((workplaces, educational institutions, community centres, etc.)
- **Transit integration—**Improved AT access to transit stops and stations; bicycle parking at transit stops and/or stations (racks or secure parking); transport of bicycles on transit vehicles (racks or separate designated area); transport of bicycles in transit vehicles (no area)
- **Education—**Cycling skills education for children or adults; motorist education campaigns; school-based AT safety and education programs
- **Enforcement—**Police bicycle or foot patrols; pro-active AT safety enforcement (on-going or specific campaigns); pro-active enforcement of motorist infractions affecting AT safety (on-going or specific campaigns); efforts to update / modify rules of the road or street user codes / by-laws; media focus on AT safety
- **Promotion—**Promotion of AT at destinations (workplaces, schools, community centres, etc.); promotion of AT at origins (seniors' homes; special events for AT (one-off, annual, monthly, weekly, etc.); individualized AT marketing campaigns; maps showing AT network or routes; AT information kiosks/ booths; AT information/assistance service; awards for contributions to AT; active tourism promotion, programs or services; media focus on AT promotion
- **Measurement—**AT counts (dedicated or within regular traffic count programs); opinion or attitude surveys on AT issues and needs; collision or incident data gathering and analysis
- **Other—**Public bike sharing programs; bicycle rentals available in community; bicycle ownership programs; financial incentives for AT

Respondents were requested in the survey to indicate the influence of several other factors on active transportation, including the role of elected

officials, senior government staff, community groups/taxpayer associations, business sector, tourism sector, media, prominent individuals, professional associations, and advocacy groups. They were asked to provide information on government funding, staffing and partnerships; and provide some contextual information on civic identity or culture, topography, development patterns (density, connectivity), and climate. They were also asked to indicate public awareness on related issues including climate change and other environmental issues, energy price or supply issues, physical activity and health, and other issues.

2.3.2. SURVEY CIRCULATION AND RESPONSE

Three versions of the survey were developed. The English language survey was launched on March 26, 2009, the French language survey was released on April 29, 2009, and a slightly altered version of the survey was also distributed to Federal, Provincial, and Regional levels of government on May 6, 2009. The survey was sent to 283 TAC member municipalities, about 40 members of the Association québécoise du transport et des routes (AQTR), and 21 representatives of federal, provincial and regional agencies.

Sixty-four municipalities partially or fully responded to the survey, six of which were regional municipalities. This represents a response rate of approximately 23%, which is considered reasonable. The greatest number of responding municipalities are in Ontario, but several are in Alberta and British Columbia, with 10% in the Atlantic provinces but none from Québec[1]. Seven surveys were received from federal, provincial and regional agencies (British Columbia's Ministry of Transportation and Infrastructure, the Ministère des Transports du Québec, TransLink, Transport Canada, Environment Canada – National Capital Region, the Ontario Ministry of Transportation, and the Public Health Agency of Canada), representing a response rate of approximately 33%.

2.3.3. OVERVIEW OF SURVEY RESULTS

It appears that across Canada there is considerable interest in addressing active transportation needs but a general lack of experience on how best to move forward. Respondents were generally excited to list many upcoming initiatives and works in-progress; however, in many cases it was too early to evaluate which have been successful and explore lessons learned. Respondents offered views on whether particular initiatives significantly improved active transportation or not; however there was not much evidence provided in terms of specific measures of success, suggesting that evaluation frameworks are the exception. Where evidence was provided, it was almost always a loosely correlated qualitative assessment, for example, an overall increase in a neighbourhood's active transportation mode share. Many respondents appeared reluctant to cite success in the absence of rigorous quantitative evidence.

Generally the survey indicated that work on active transportation strategies is so new that it is difficult to capture thorough and complete data. There are many gaps in the work that is being done, particularly regarding measurement of effectiveness. Defining a baseline for measuring success is problematic, yet some communities are clearly out-performing others in terms of both effort and outcomes. Despite pitfalls in the survey and responses, the results have informed the observations and recommendations of this report. In addition, the survey assisted with identifying people to interview or include in the focus group peer- review of the principles and related lessons learned identified in the study.

1 Note, however, that a very high level of participation from Québec practitioners in the subsequent interviews and focus groups.

Table 1: Communities Represented by Interviews	
Urban Area Population	**Municipality/Region**
Less than 100K	Beloeil, QC
	Moncton, NB
	Peterborough, ON
	Rimouski, QC
100K to 500K	Guelph, ON
	Halifax Region, NS
	Kelowna, BC
	Thunder Bay, ON
	Trois-Rivières, QC
	Victoria, BC
	Waterloo Region, ON
	York Region, ON
Over 500K	Edmonton, AB
	Greater Toronto and Hamilton Area, ON
	Montréal, QC
	Ottawa, ON
	Vancouver , BC

2.4 Interviews

Interviews were conducted with seventeen experts and practitioners from coast to coast, in municipalities ranging from those with small populations (less than 100,000) to large (more than one million) and along a spectrum of limited experience (less than four years) to significant experience (more than 25 years) in active transportation. Interviewees were selected for their level of experience in implementing active transportation. Most interviewees had more than five years of municipal experience, often with preceding and continuing recreational, political or community involvement in active transportation. The interviewees represented the communities in Table 1.

Overall, the interviews provided significant insights into how municipalities are approaching active transportation. Although approaches differ across Canada, some key principles for promoting and implementing active transportation emerged, as described in later chapters.

Seventeen interviews were conducted and generally indicated:

- Progress on AT is linked to the duration of involvement and local circumstances
- Impediments to AT include auto-oriented land use and lack of political champions
- Success factors for AT include policy and standards, political champions, reconstruction opportunities, collaboration, promotion and transit
- Challenges to AT include funding; lack of data; land constraints; diverse participation; and staff, politician, and public perceptions

2.5 Focus Groups

Two English language webinars with 26 invited participants and a French language videoconference with 19 participants were held to peer-review the study findings and a set of principles for improving active transportation programs across Canada. These principles were developed by the study team, drawing on findings from the survey and interviews, to help emphasize the major points being made by AT practitioners from across Canada. The principles and related findings were presented in PowerPoint format prior to the focus groups. Participants represented various communities and sectors as summarized in Exhibit 2.

Participants were provided with a brief background of the study and results of the survey and interviews. They were then asked if the findings and principles articulated by the study team were congruent with their experience and insights, and specifically:

Table 2: Representation in the Peer-Review Focus Groups

Sectors	Communities
· Municipal and regional transit authority · Municipal and regional transportation demand management co-ordination · Municipal, regional, and provincial transportation / infrastructure planning · Municipal engineering · Municipal active transportation · Municipal politician · District public health unit · Provincial parks and recreation · National transport · Consulting · Walking and cycling advocacy group · Sustainable transportation / environment advocacy groups · Healthy communities group	Beauharnois, QC Beloeil, QC Bois-des-filion, QC Chambly, QC Coaticook, QC Coteau-du-lac, QC Haliburton, ON Halifax, NS Hamilton, ON Kinmount, ON London, ON Longueuil, QC Markham, ON Montréal, QC Québec, QC Rosemere, QC Surrey, BC Toronto, ON Thunder Bay, ON Valleyfield, QC Vancouver, BC Victoria, BC Waterloo, ON York Region, ON

- What are the biggest obstacles?
- What are the most effective solutions?
- Has anything crucial been missed?

Discussions occurred during the focus groups and comments were submitted by email afterward. The focus groups added a significant amount of insight to the study and findings.

2.6 Representation by Province

Exhibit 1 summarizes the number of municipalities and communities by province whose AT experiences and comments were captured by the survey, interviews and focus groups as described in Sections 2.3, 2.4 and 2.5 above.

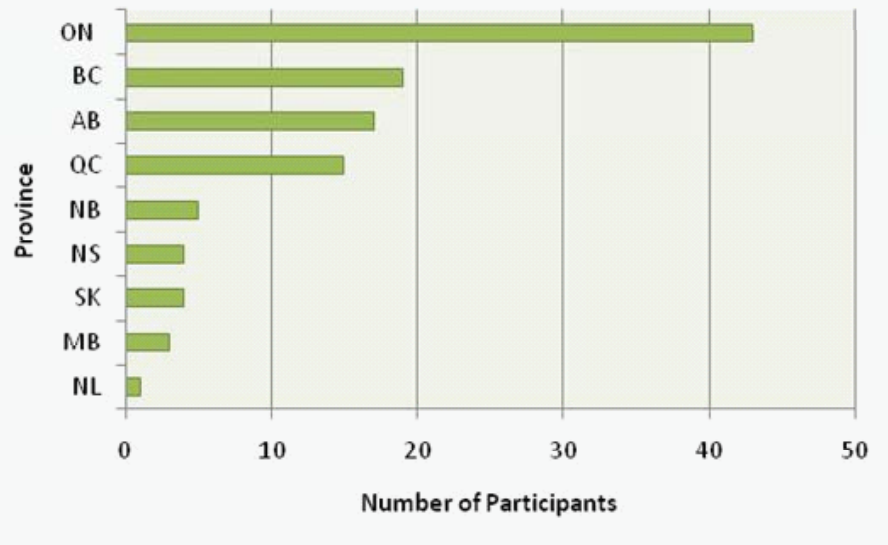


Exhibit 1: Number of Municipalities and Communities by Province Represented in the Survey, Interviews and Focus Groups

Photo: Richard Drdul

3. ACTIVE TRANSPORTATION IN CANADIAN COMMUNITIES

3.1 Current Status

From the survey of TAC member municipalities it is clear that there is considerable interest in addressing active transportation needs, but there is a general lack of experience on how best to move forward. Respondents were generally happy to list many upcoming initiatives and works-in-progress, but those with proven track records from which to draw lessons were harder to find. Overall, few municipalities were able to provide concrete results that measured their successes, suggesting evaluation frameworks are the exception. Indeed, a review of active transportation trends conducted earlier in the study concluded that longitudinal studies are few and far between throughout Canada.

By and large, clear trends in active transportation are difficult to discern due to absent or deficient data sources. There appears to be no consistent nation-wide tracking of walking and cycling modal shares for a wide array of trip purposes and ages, government spending on active transportation, local air quality conditions[2], and rates of serious cyclist and pedestrian injuries. A pair of surveys by Go for Green in 1998 and 2004 provide the only nation-wide insights into trends in school travel and changing public attitudes toward active transportation.

Despite the lack of data sources and robust analysis, there are some important discernable trends that can be extracted from existing sources (for further detail, see Appendix B).

- Since 1996, Statistics Canada expanded the national census to include the primary transportation mode for only work trips and this represents the only consistent nation-wide indicator for rates of walking and cycling over time. Generally, both walking and cycling appear to be increasing very slowly at the aggregate level; however, trends for urban areas in Canadian cities deviate considerably from this generalized picture. For example,

2 This may soon change with Environment Canada's new Air Quality Health Index (AQHI).

data from Statistics Canada shows that several central districts are now (2006) reaching double-digit cycling commute mode shares, such as 17% around Toronto's Harbord Street corridor, up from 6% in 2001. In fact, a handful of dissemination areas in Toronto's west end even exceed 25% bicycle commuting mode share. Walking and cycling in most CMAs appears to be increasing, with Victoria showing an exceptionally high cycling commute mode share of 5.8%, compared to the national level (1.3% in 2006). Those who walk to work continue to outnumber those who cycle by five to one.[3]

- The rate of children's cycling trips to school appears to be decreasing, whereas those walking has been steady. Long trip distances continue to be the main deterrent, with safety being a significant concern for parents with respect to cycling.
- GHG emissions from all transportation modes appear to be rising in almost all large Canadian municipalities, although some show per capita decreases. Victoria residents continue to show the lowest per capita transportation-related CO_2 emissions, followed closely by Vancouver and Montreal. GHG emissions continue to pose a major challenge for smaller municipalities, which continue show the highest per capita emissions.
- Municipalities are expanding their cycling networks and, in some cases, at increasing rates. However, the nature of these networks is not consistently described, making it difficult to compare progress between municipalities and also changes in the quality of these networks. There generally appears to be more progress expanding off-road multi-use trails than on-road bikeways. The same and even greater challenges exist for tracking changes in the pedestrian realm, such as a scarce supply of sidewalk infill data.
- Limited data on bicycle ownership trends suggest there has been little change, although there appears to have been a recent spike in bicycle sales.
- Public attitudes toward walking and cycling have changed little, with the main motivation being health and helping the environment, and the main barriers being weather, distance, and accident hazards. A Greater Toronto and Hamilton Area study suggests cyclist satisfaction with their commute in recent years is increasing significantly.
- In the GTHA, the proportion of trips that are shorter than 5km has changed little since 1991, which tends to be between 45% and 55%. Median commute distances are increasing and the fraction of those living within a short distance of a routine destination is decreasing, but Greater Toronto and Hamilton Area data suggests residents are increasingly opting to walk or bike for short trips.
- Although obesity rates vary significantly by region, with municipalities in Québec and British Columbia having among the lowest, the average rate among adults in Canada is unquestionably increasing.
- For the first time since the Montreal O/D survey began in 1970, the results show a ***decrease*** in auto trips of 1% for 2003/2008 (compared to 7% and 15% ***increases*** in 2003/1998 and 1998/1993 respectively). Correspondingly, the recent survey also showed a sharp increase in active

3 Statistics Canada defines the "primary mode" as that which is used most often. For those who use more than one mode on a given trip, respondents are asked to identify that which is used for most of the travel distance. Thus, for example, the resulting data does not include public transit access trips nor walking access to/from transit or auto trips. Given that walking and cycling trips tend to be the shortest (although perhaps the most time consuming) in multi-modal trips, they are underrepresented. Seasonal variations also remain ambiguous.

transportation and transit trips of 10% and 15% respectively.

Although progress seems slow or uncertain to many study participants, they agree that, despite occasional setbacks, the situation today is broadly an improvement over 10 years ago. For example, they cited increased cycling and walking in Vancouver, Kelowna, and Ottawa; improved political support in Halifax; better public awareness and understanding in Ottawa and Peterborough; increased participation in AT events in Kelowna; more facilities and services today in Peterborough; greater grassroots interest in Halifax; improved internal capacity and coordination in Peterborough; and more children walking and cycling to school in Kelowna.

3.2 Observations

Interview and focus group participants provided substantial insight, beyond that collected in the survey, on active transportation progress, successes and challenges, as documented in the following sections.

3.2.1. OVERALL PROGRESS

Progress is distributed along a spectrum of change—Progress has been and continues to be made in active transportation but most municipalities acknowledge progress is slow. Progress could be described along a spectrum of change/adoption within the municipality and the community itself. At one end of the spectrum (i.e. in the early stages of change) is progress related to institutional processes and knowledge / awareness-building within government and the general public. At the other end (i.e. in the later stages of change) is the systematic and coordinated implementation of active transportation improvements supported by internal and external resources and processes. It appears that some municipalities are at the early stages, while several may be approaching the later stages of change. However, most municipalities appear to sit between these two ends and are making moderate progress.

Progress is linked to duration of effort, specific advantages and other factors, not community size—The adoption of active transportation in municipalities seems not to relate to the size of the community but rather the duration of their involvement in active transportation, specific advantages or a combination of other factors. Those who have been engaged in it the longest are making the most progress. Kelowna for example, has made significant strides in implementing active transportation in large part because they began working on cycling facilities 25 years ago influenced by the town's German residents who sought to change public policy and standards for road design. Victoria-area municipalities also began 30 years ago, using their trails as a base from which to improve on-road linkages to destinations and neighbourhoods. Simultaneously, they focused on promoting active transportation to non-users by matching programs to support behaviour shifts.

Municipalities in the earlier stages of change tended to highlight their progress by identifying:

- The creation of an active transportation staff position
- Amount of awareness raised internally and externally, e.g., in engineering and transportation departments, council and the public
- The development of educational programs
- Public participation in active transportation-related events
- A few built facilities

In Québec, smaller municipalities like Beloeil and Rimouski seemed to be actively engaged in AT just as in the largest municipality, Montréal, simply on a different scale. All participants identified two provincial policies—the Family Policy and the Sustainable Development Policy—that not only

have political and public support, but seem to be effectively and concretely encouraging efforts to support active transportation.

Progress is impeded by auto-oriented society / communities, lack of champions, and public perceptions—Almost all participants identified automobile-oriented planning, dispersed and segregated land-use patterns with a corresponding "car culture," the lack of some kind of champion, as well as general perceptions about risks and weather as major barriers to progress. Frustration with existing land-use conditions, inadequate intermodal connections, and a realization that progress was slower than hoped was typically expressed by those in the earlier stages of progress.

Walking is often overlooked—Most participants discussed cycling when asked about active transportation despite walking being ranked in many surveys as a popular activity across Canada. According to one participant, walking is not only "completely overlooked" but municipalities' having not identified a department or champion for pedestrian issues means a lack of ownership and subsequently a lack of progress. Efforts by municipalities even with an active transportation coordinator or transportation demand management planner responsible for both walking and cycling seem cycling-oriented with a growing interest in other active modes such as in-line skating.

Although participants did not offer theories on this systemic oversight of pedestrianism, it is likely the result of several factors:

- Compared to other modes, pedestrian planning tends to be more entrenched in a wider variety of city planning and management processes, such as urban design, parks and recreation, emergency services, policy planning, public transit, business improvement areas, traffic management, development approvals, streetscaping, street furniture and lighting, landscaping, and community planning. This makes it harder to harder to isolate the issues and target improvements
- The pedestrian network is harder to define as it includes space outside of the right-of-way, which further complicates inter-departmental and inter-governmental coordination.
- Pedestrian trips tend to be overlooked as they are not thought of as transportation.
- Everyone is a pedestrian to varying degrees therefore many may seldom identify themselves as such and take ownership over pedestrian issues. Pedestrians have been walking since they were more or less 2 years old, thus for many walking likely does not stand out as a major event of the day.
- Pedestrians are particularly adaptable to changes in their environment, which is both a blessing and a curse. This perhaps results in less of a priority on improving problem areas that are technically "walkable" despite offering poor pedestrian conditions.

3.2.2. OBSERVED SUCCESSES

A number of success factors were identified as being integral to progress in supporting active transportation. The following factors were mentioned by most if not all participants and those previously or currently lacking these factors pointed to their significance and need for them.

Supportive policies and guidelines are necessary to make a difference—Most participants suggested that having policies supportive of active transportation was a necessary precondition to systematically and routinely plan for cyclists and pedestrians without a dispute over their inclusion in individual projects. Typically, policies for active transportation are developed in pieces and later,

as awareness of active transportation grows, policies are revisited with a goal of aligning and coordinating efforts. Communities may approach policy development in various ways: e.g. through cycling or trails strategies, active transportation master plans, and/or changes to their official plans. The experience of working on active transportation policies in pieces raised frustration but, with the associated attitudinal shifts, participants highlighted it as the way of making beneficial change in small steps.

Pedestrian- and bicycle-friendly development standards and design guidelines were seen as important policy pieces to satisfy the public, direct/guide developers, make substantial and lasting changes as well as change the development pattern or rebalance the transportation system; e.g., bike parking standards and pedestrian-friendly urban design guidelines. Municipalities with these policies cited them as making a significant difference to implementation; those lacking these kinds of policy interventions highlighted their importance. "Everyone references them now, even developers," stated one participant. Clearly, without such supportive policies, bylaws and standards there is no reference point for the community.

Long-term and consistent dedication is key—It is no surprise that, although many of the major successes often seem like recent initiatives (aided by the political interests behind their promotion), when we dig further, we often find that they have a long history and have required significant dedication over the years. Walking and cycling initiatives typically take several years to plan and engineer, which can be very difficult if annual budgets are not relatively predictable. For example, planning for Québec's Route verte started in the 1980's by Velo Québec and has only been able to reach its current status of largest North American regional cycling network as a result of consistent and sizeable investment from MTQ since 1995. Similarly, Victoria's successes have come through initiatives dating back to 1997, when planning for the Galloping Goose Trail began. This obvious, but important message, is also echoed in other research, such as a recent substantial literature review prepared for the Australian government.

Champions and leadership make a substantial difference—Leadership from political champions, municipal staff or managers, issue champions and community members or groups was seen as a requirement for significant progress on active transportation. A lack of municipal leadership or champion(s) was deemed to seriously impede progress.

Political champions can reinforce a mutually beneficial democratic cycle. First they can raise the profile of cycling and walking. Since their base of community support is dependent on demonstrable accomplishments, it can therefore be expanded by doing more on active transportation. Finally, more walkers and cyclists mean more demand and support for change on active transportation.

Leadership inside municipal organizations was also recognized as being important for success. Having a leader managing the transportation and engineering department was identified as particularly helpful because they change attitudes of all the engineering staff. This means that active transportation is taken more seriously when opportunities in road construction arise. Like any emerging discipline, active transportation is not always understood, and staff involved in projects may be resistant to change, inconsistent in their approach, or in need of training. It was also observed that younger professionals who are more likely walking and cycling themselves can help build knowledge and understanding from the bottom up.

Infrastructure renewal provides opportunities for active transportation improvements—All participants identified a lack of funding for active transportation staff, infrastructure and programs/events. Municipalities who were

successful in implementing active transportation improvements used infrastructure renewal to their advantage. This approach had three benefits. First, improvements were tied to projects that were in the process of being implemented, so change was being made without too much aggravation (although one community reported that active transportation improvements within larger road projects are vulnerable to delays), Second, this approach engages engineering and transportation departments proactively, raising their level of expertise. Thirdly, cost efficiencies can be realized, resulting in saving money or residual resources that can be spent on other active transportation projects.

Collaboration internally and externally is key, and a regional outlook is helpful—Coordinating and collaborating inter-governmentally, intra-governmentally, inter-sectorally and externally with the public were all identified as keys to success.

Working across municipal departments contributed substantially to progress. Collaboration between transportation, engineering, planning, transit, public health, maintenance, recreation and even communications meant the difference between getting things done or not. A number of participants suggested that after collaborating with transportation and engineering staff, coordinating the schedule for road redesign and reconstruction to benefit walking and cycling became their primary objective. The following examples were based on collaborative efforts:

- Bike racks on buses
- Bike lanes incorporated into road redesign and reconstruction
- Elementary school participation via Active and Safe Routes to School programs (usually led by public health)
- Promoting sustainable transportation with anti-idling campaigns (jointly led by active transportation and public health sectors),
- Snow cleared more systematically in bike lanes
- Expert social marketing advice and messaging on active transportation provided in their communities

Collaborating with schools individually or at a district level was critical to boosting walking and cycling at schools. Some municipalities seem to direct efforts towards elementary schools and use school-based measures to influence households, e.g., zones and campaigns for "kiss and drive" and family travel planning. School boards rarely assessed the implications of their internal decisions on the potential to impact active transportation, e.g., locations of new schools.

Although some degree of public collaboration was identified by all participants, some felt it had significant benefits and that some aspects of active transportation should be community-based. Cycling and pedestrian advisory committees with significant citizen representation (e.g., ward based) were commonly highlighted as must-haves. In some cases, direct collaboration and support for active transportation coalitions was cited as highly beneficial. In these cases, staff and councillors had the ability to implement active transportation projects while these coalitions served to raise the profile of active transportation and counterbalance any negative media attention.

Having a regional perspective has helped municipalities plan for network connectivity, intervene in areas under regional jurisdiction, e.g., bikeways and signage on regional roads, and make intermodal links with transit. Uniting local interests at a regional level helped municipalities attract provincial and federal support and funding.

Participants from Québec specifically mentioned success in integration and collaboration through a history of support for active transportation initiatives and groups by public health; linking AT to Universal Accessibility which covers public spaces, transit, buildings, etc.; and coordination with neighboring municipalities on La Route verte and for regional bicycle networks.

Encouraging individuals to try active transportation is essential—Events, campaigns and programs were cited as integral to supporting change across communities, culturally, politically, within households and for individuals. Most municipalities recognized that promotion and facility development must be paired to achieve changes in awareness, behaviour, and political and institutional support, though one emphasized a promotional approach more than providing infrastructure. Explaining what active transportation is and where it is, and encouraging people to try it, gain experience and learn skills requires a suite of promotional efforts and collaboration with public health, schools, workplaces and community groups. Some communities noticed that without greater public awareness and demand, councillors were reluctant to support projects and thus changed their approach to the less contentious areas of awareness and education instead of supplying infrastructure.

Active transportation and transit are mutually supportive—A few participants discussed modal integration in terms of both pedestrians and cyclists. Guelph and the Region of Waterloo highlighted regular use of bike racks on buses and a correlation between higher transit frequencies and walking rates. Kelowna observed that transit ridership jumps in the fall and winter when cyclists are hindered more by weather, and that transit is now considered part of the active transportation spectrum. Unless transit is recognized and planned as both a generator and beneficiary of cycling and walking trips, many municipalities are missing important opportunities in both fields.

Provincial direction plays a role—In Québec, provincial policies (i.e. Family Policy and Sustainable Transportation/Development Policy) and provincial funding for municipalities (i.e. La Route verte program, PAGMTAA, regional health agencies) have contributed to success in improving conditions for active transportation. MTQ Bicycle Policy has provided over $100 M in bicycle facility investments since 1995.

3.2.3. OBSERVED CHALLENGES

Many challenges were identified by participants. Tangible barriers to active transportation ranged from weather, accident risks and topography, to land use and development, trip distances, road right-of-way constraints, lack of transit, and lack of data. Less tangible challenges included institutional and political support, financial resources, awareness and education, pedestrian-cycling tradeoffs, individual perceptions, "extreme" cyclists or lifestyle approaches and lack of cooperation. The most frequently cited challenges are outlined below.

Funding—Lack of financial resources was the most cited challenge and identified by several participants. Although many found creative ways to implement active transportation (e.g. through co-ordination with road reconstruction projects), active modes of transportation appear to be undervalued. This is typically reflected in a reliance on small, separate budgets outside of traditional transportation budgets. Some cycling facilities and freeway or river crossings are key components of active transportation networks that require millions of dollars and must often be funded over and above existing municipal budgets.

Data—Most municipalities lack even basic information on active transportation users, active transportation trip purposes, use of active transportation facilities, and motivations for choosing active modes in the first place. Outcomes are therefore hard to measure and the ability to justify, plan, and attract investments suffers.

Land use—Existing land uses and roadway space allocations were deemed to be major barriers to implementing active transportation. While older urban areas with their compact form mean shorter distances to amenities and school/work, competition for the use of the narrow road rights-of-way among conventional road users restricts practical opportunities for active transportation facilities.

Newer or more suburban areas are more dispersed with single land-uses that often make walking and cycling for utilitarian purposes largely impractical. The high reliance on the automobile and the demand for capacity has restricted what is provided for active transportation even within wider road rights-of-way.

Diversity in cycling culture—Several participants raised concerns over "extreme cyclists" or "lifestyle cyclists" as discouraging less experienced or less committed cyclists and even attracting negative media attention. With a view that the cycling movement is maturing, some spoke of the need to broaden consultation to include non-active transportation users but did not necessarily know how.

Perception—Notions about cycling's difficulty (terrain), comfort (in poor weather) and safety were seen as major barriers though possible to change. This challenge was cited as widespread amongst the public, councillors and municipal staff. Educational and promotional programs were geared to the public and in some cases aimed at municipal staff, but there is an absence of similar efforts to change the perceptions of elected officials.

Urban Design—City planning and engineering in many cities have not placed a strong emphasis on urban design and place-making. Rather, institutional structures, municipal services, and development practices have tended to support neighbourhood unit planning, segregated land uses, guaranteeing abundant parking, and minimizing impacts on the flow and capacity of motorized traffic. Even where there is a will, municipalities are finding it very difficult to change these structures, which pose significant challenges to improving community design.

Weather—Québec participants described snow and wind as significant challenges. The practice of snow clearing along bikeways occurs in a limited manner in Montréal. Snow clearing on sidewalks was routine in Rimouski and in Beloeil, but many communities are reluctant to clear snow on more complex active transportation facilities if it requires more than routine operations and equipment.

Physical Geography—The topographies of Québec municipalities were seen as major challenges. Some of the elements identified included vast (windy) stretches along the Gulf of Saint Lawrence, rivers that divide areas of cities, the deterrence of climbing hills, and downhill grades that affect safety.

Institutional issues—Many participants explained how institutional characteristics can affect their ability to coordinate with others and implement active transportation improvements. Some key institutional issues include:

- Limited municipal staff capacity to raise the political profile of active transportation among elected officials
- Many municipal amalgamations and/or de-amalgamations have created overlapping jurisdictions and complex project approval and funding processes
- Lack of support from school boards in some communities
- Overlapping provincial-municipal responsibilities for streets that are also highways but not given priority for active transportation by the province.

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PART TWO:
PRINCIPLES AND LESSONS LEARNED

The study team distilled a set of 11 principles from the extensive experience/ and advisory comments received from AT practitioners, to help highlight the most important of these and provide a structure for presenting study findings. These principles, and related comments on lesson learned, are presented in Part II. Chapter 4 lists and discusses five principles dealing with strengthening foundations for effective action; Chapter 5 describes two principles dealing with providing supportive environments and systems; Chapter 6 presents two principles dealing with improving safety and security; and Chapter 7 lists two principles dealing with influencing individual travel choices. Several case studies are also presented to illustrate AT examples and success factors.

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Photo by John Luton

4. STRENGTHENING FOUNDATIONS FOR EFFECTIVE ACTION

4.1 Leadership

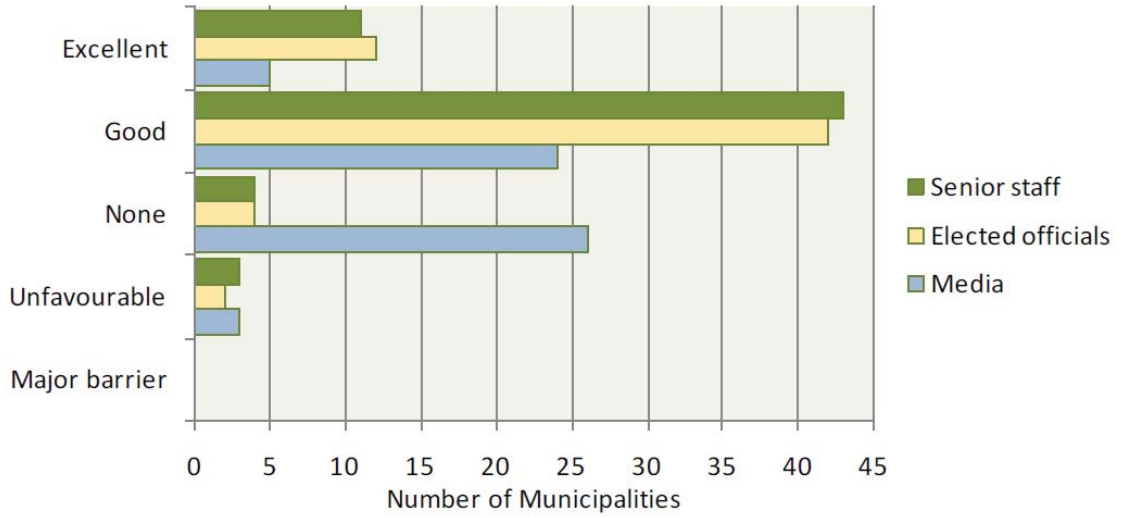
Successful AT programs require leaders with a sincere interest in active transportation. These leaders may emerge from municipal staff, credible local advocates, community leaders or politicians. Leaders may be motivated by many different factors including the environment, cost savings, tourism or health benefits; so getting them to see how active transportation is linked to these benefits is key.

4.1.1. FINDING AND SUPPORTING LEADERS

There was broad agreement among study participants that leadership is a critical but elusive contributor to the success of active transportation. Its intangible nature makes it difficult to control, and therefore a great challenge.

Leadership can, and does, have many different origins—from citizens or community groups to business leaders, professional practitioners, local elected officials and even different orders of government. These are all important places to look for both individual champions and organizational commitment. Once found, leadership may need to be nurtured, supported and rewarded in order to endure and thrive. Different leaders offer their own strengths and weaknesses, and partnerships are a good way to create a strong sense of collective leadership when one strong, central leader is lacking.

Exhibit 2: Web-survey results indicating influence of those in leadership roles on implementing active transportation initiatives



Developing supporting platform for leadership through "hot button" issues, such as child and senior safety, school access, and neighbourhood economic development

Most study participants and many instances of anecdotal evidence reveal the perception that the most effective leadership comes from local councils and/or mayors. The reason for this is that those same officials are the ones who vote for or against implementing the policies, programs and projects that make active transportation improvements a reality. In a world of competing priorities, generating leadership from elected officials can be a challenge—but they can be very responsive (i.e. keen to lead) when community "hot buttons" such as child and senior safety, school transportation and neighbourhood economic development are involved.

Gaining upper level government commitment to help validate tough decisions at the local level

Numerous participants noted the ability of regional, provincial and federal governments to lead by motivating, maintaining and rewarding active transportation at the local level. One visible example of this is the effectiveness of provincial and federal funding programs to leverage local investment, while another less obvious but still potent example is the "thought leadership" provided by regional or provincial governments when they adopt progressive policies or new standards for their own transportation facilities. Actions like these can validate the sometimes difficult decisions by local councils that lead to real change, such as the redirection of road budgets to cycling or walking projects, or the adoption of new health-based programs to promote active living among vulnerable populations. Participants cited the Ministère des Transports du Québec (MTQ) for its particularly effective ***long-term*** leadership in adopting a provincial Bicycle Policy in 1995, followed by a recent update in 2008, and for providing financial support for local initiatives.

Achieving long-term commitment essential for long-lasting results

4.1.2. LEADERSHIP FROM ELECTED OFFICIALS

Political support is vital to the eventual realization of plans and proposals that emerge from staff, community groups or other local stakeholders. Obtaining that support requires the case for active transportation to extend beyond those elected officials who happen to have made it part of their election platform. This can be achieved by framing the benefits of walking and cycling to reflect the broad and varied interests of politicians and voters. Active transportation is not an end in itself but a contributor to many other objectives, and in many cases elected officials may be looking for the evidence that can justify their support.

When identifying potential political leaders, it is important to be aware of the broader interests that allow them to become and remain engaged. Several participants from Québec pointed out that elected representatives are much more effective at selling active transportation solutions to voters and other politicians if they themselves are convinced. Illustrative experiences were reported by participants from two major cities: one where a shift in position effectively branded a previously unsupportive politician as an active transportation leader and another where a number of councillors had warmed to active transportation issues and made possible a range of progressive new initiatives. Other participants from mid-sized communities reported that political leadership was required to convince staff to update conventional engineering standards based on new guidelines that favour walking and cycling.

Some participants suggested that the development of an active transportation plan is a good opportunity to identify and nurture champions at the political level. Although active transportation should be framed as a routine component of a community's overall transportation system, council approval of a freestanding active transportation (or walking, or cycling) plan can be an important catalyst for emerging leadership within council, staff and community groups.

One cautionary lesson offered by participants is to not rely on a single champion among councillors, because election losses and shifting organizational priorities can lead to the sudden loss of any given champion. By making the issue an attractive one (through supportive media and public opinion) and continuously supporting champions, the cultivation of leaders becomes an ongoing process. The existence of multiple strong leaders, whether due to luck or careful cultivation, is a valuable opportunity for quick movement on key issues.

4.1.3. LEADERSHIP FROM MUNICIPAL STAFF

While recognizing the importance of leadership from elected officials, commitment from staff also makes a big difference. Participants cited several situations where a lagging active transportation agenda was revived by the arrival of new, committed staff members. In one instance, a TDM coordinator in Guelph took the initiative of seeking out early involvement in development and construction projects, rather than waiting for a plan or design to be circulated for review and comment. In another instance, Toronto's Pedestrian Charter was driven forward by committed staff members who were given a loose mandate by elected officials.

Being cognizant of politicians' needs and helping to create safe opportunities for their support

Some experienced participants emphasized the importance of a long-term perspective. They noted that a generational shift may be responsible for recent growth in active transportation's profile among municipal staff members in many communities. For example, Victoria was mentioned, where pressure from elected officials and community groups led to engineering staff changes. In other communities, younger professionals who are more likely to have active lifestyles are moving up the ladder and gradually taking responsibility for major engineering and planning decisions. Many transportation professionals in Vancouver cycle to work, and are also willing to demonstrate new approaches to cycling infrastructure such as bike boxes. The involvement of students and young professionals in special events like Bike to Work Week may be influencing their views on the role of active transportation, and accelerating the pace of change. One participant added that this enthusiasm and natural leadership from younger staff still requires a more tolerant and supportive corporate culture in order to thrive.

Using the development of a plan as catalyst for political support

Establishing diverse leadership to avoid setbacks from short election cycles or shifting priorities

Devoting the necessary long term effort to build leadership

4.1.4. LEADERSHIP FROM NON-GOVERNMENTAL ORGANIZATIONS

Many Canadian cities have a long history of a healthy and active civil society, which can have a powerful influence on public opinion and the political agenda. It is therefore important for government agencies to engage and even collaborate with groups having a leadership role in active transportation (with such partnerships discussed further in Section 4.2). Non-governmental organizations (NGOs) can act as counterweights to conservative government perspectives and as valuable accelerators to more constructive government actions.

Nurturing an active civil society, while maintaining independence

NGOs play an important role as champions of active transportation, whether or not similar champions exist in government. Recognizing this, at least one municipality has actively supported the creation and growth of an active transportation interest group where none existed previously, in order to have a community partner that could both contribute to public debate and facilitate communication with residents and other stakeholder groups.

Recognizing that AT practitioners are not necessarily the best at leading public relations campaigns

Respondents cautioned against relying too heavily on non-governmental organizations for sustained long-term leadership. They often struggle to maintain stable funding and may lack organizational experience, thus introducing an element of risk to any role they might play. Government programs and policies may support a diverse and stable civil society, but shifting economic priorities limit the long-term reliability of NGO capacity.

4.1.5. THE ROLE OF THE MEDIA

Participants underscored the potential for media to significantly help or hinder active transportation, and noted that its influence on officials and the general public should not be underestimated. For example, Montréal's BIXI Program received considerable positive media attention that contributed to the program's popularity. Another key message is that strategic relationships with important media players should be established early, and that active transportation practitioners may not be the best suited to lead this effort. In Guelph, for example, the involvement of municipal communications and transit marketing staff has been valuable in the promotion of active transportation.

One interesting complement to the role of traditional media was noted in the Victoria region, where bloggers have forged an important role as opinion leaders and information disseminators. Their capacity, responsiveness and market reach are rapidly increasing compared to conventional media, albeit without the accountability or checks and balances of a newsroom.

CASE STUDY: City of Montréal, Québec
2006 Population (CMA): 3,635,571
Metropolis makes cycling au courant

Montreal has demonstrated that a surge in support for cycling can bring rapid benefits, even in the face of complex governance structures, the physical constraints of an older city, and a hostile winter environment. Of course, balancing these challenges is Montreal's underlying advantage of a densely populated, vibrant and highly walkable central area. But political determination, creative innovation and stakeholder persistence have all played important roles in this story.

Dealing with multiple jurisdictions. Transportation issues in Montreal can involve public agencies at the borough, city, regional and provincial levels, and necessitate effective coordination between overlapping interests and multiple approvals. The Québec government has a positive role, especially through its significant financial support for infrastructure improvements. The City of Montreal is able to provide effective leadership, in part because all three municipal political parties are pushing in the same direction, but also because of the adoption of a new Transportation Plan in 2008 established active transportation as a priority in all road projects rather than as an issue to be dealt with on a case-by-case basis.

Expanding the cycling network. Montreal's 500-km network of cycling facilities grew by 70 km between 2002 and 2007, then by 50 km in each of 2008 and 2009. City plans call for the network to reach 800 km by 2015. The new off-road facilities include a trail linking the Old Port to the Lachine Canal that is used by a million cyclists annually. New on-road facilities include the addition of a physically separated on-road cycle track along busy de Maisonneuve Boulevard, which required the removal of a regular traffic lane. Montreal has also helped pioneer the use of bicycle-only signals in Canadian cities, and although the city receives an average of 200 cm of snow each year, its on-road bicycle routes include 35 km designated as a *Réseau blanc* (White Network) that is maintained for cycling through the winter.

Going green with BIXI. Montreal has received worldwide recognition for its city-led public bike sharing program. Using solar power and wireless communications to minimize infrastructure needs and maximize flexibility, BIXI technology is now being exported to countries around the world. On the streets of Montreal, the program has given cycling a popular and fast-forward image, attracting more than 1 million trips in 2009. One important aspect of BIXI is the pricing structure that encourages shorter, utilitarian rides rather than long recreational trips.

Photo by Norma Moores

Exhibit 3: Bixi station in Montreal, Québec

Engaging the public through promotion and partnerships. Montreal's cycling culture is celebrated every year through major events that include a week-long Bike Fest, the Tour de l'Île when 30,000 cyclists circle the island, and a Car-free Day that closes several downtown streets to traffic for a celebration of active transportation. With partial support from the City and in partnership with MTQ, the Vélo Québec Association plays an important role in organizing special events, training practitioners in pedestrian and cycling facility design and safety issues, and promoting active transportation in schools through its *Mon école à pied, à vélo!* Program, a program that has spread to 300 schools outside of Montreal.

4.2 Partnerships

Active transportation is a multi-disciplinary issue requiring a multi-disciplinary approach. Working across departments and jurisdictions can greatly accelerate progress.

4.2.1. PARTNERSHIPS WITHIN GOVERNMENTS

Coordination within governments is a challenge for active transportation due to the range of affected interests, and due to the "silo" structure that is typical of government organizations. In small municipalities, close contact among stakeholders makes internal coordination relatively straightforward and often informal, but in larger institutions it can be very complicated. Pedestrian planning, for example, involves coordination between municipal stakeholders with roles as diverse as traffic management, community planning, fire services, transit agencies, business improvement areas, urban design, transportation planning, parks and recreation, street furniture of all sorts, and advertising.

Facilitating efficient coordination and use of resources through internal committees

A frequent approach to dealing with these complexities is to establish diverse multidisciplinary committees of government stakeholders. Study participants from Edmonton reflected that this should be done as early as possible, having recently established an internal active transportation committee and believing that doing so earlier would have aided their efforts significantly. Due to pedestrian issues' being intertwined with so many government activities, the City of Hamilton has proposed an interdepartmental working group of staff from planning, design, maintenance and rehabilitation of sidewalks, and multi-use paths. It is hoped this will lead to a review of the roles and responsibilities of all aspects of pedestrian infrastructure to enable better coordination and avoid any duplication of effort. With respect to cycling, the City of Ottawa has had success with its Cycling Round Table, a diverse committee of internal stakeholders, which helped different departments combine resources and coordinate effective promotion. Participants also felt that the City of Winnipeg's Active Transportation Advisory Committee (ATAC), although recent, has been a success in bridging between departments and "forging a collaborative spirit." Of note, ATAC members have made a special effort to give cycling and walking issues equal attention.

4.2.2. PARTNERSHIPS BETWEEN GOVERNMENTS

Coordination between municipal governments appears to arise primarily in the planning of inter-municipal regional facilities. This has been the case with Québec's regional initiative, La Route verte[1], which acted as a vehicle for better active transportation coordination between several neighbouring municipalities. Aside from this type of initiative and occasional conferences, there appear to be few established channels for municipalities to share information and experiences

Regional facilities as a vehicle for raising the bar among neighbouring municipalities

Coordination between different levels of government is a significant challenge for all municipalities, large or small. In fact, many study participants pointed out that the main streets in most smaller municipalities tend to be highways or arterials under the jurisdiction of upper levels of government, for whom pedestrian and cycling issues are generally not dominant priorities. Experience in Ajax, Ontario highlights the challenge of inter-governmental coordination: GO Transit is interested in improving access to their station

1 La Route verte is a 4,000 km network of bikeways (planned to be 4,300 km when completed) throughout the Province of Québec which includes a wide variety of bikeway types (e.g. bike lanes, multi-use trails, and paved shoulders). The network was officially launched in 1995, but planning began as far back as the 1980's. It forms an important backbone of rural Quebec's tourism sector and much of the funding for the network has come through cost-sharing agreements with local municipalities.

Photo by Marc Panneton

Exhibit 6: Route verte in Warwick, Québec – population 4,804

Photo by Marc Panneton

Exhibit 7: Route verte in Princeville, QC – population 5,575

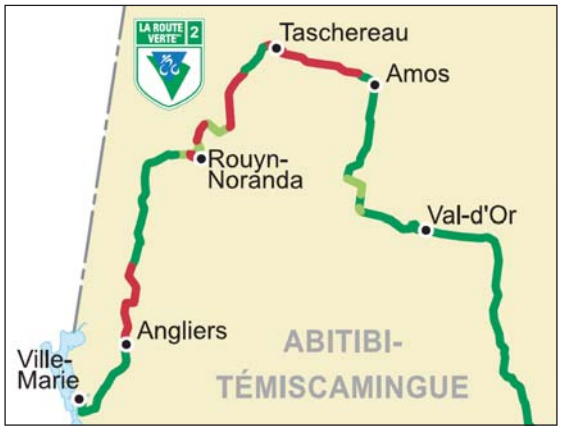


Exhibit 4: Route verte connections between small communities in Québec

Exhibit 5: Dedicated bicycle-only traffic signal in Montreal, QC

through an intersection owned by MTO, with sidewalks managed by the Town, and street lighting by the Region. Each has their own approval process, budget timelines, and priorities, making it hard to avoid delays. Post-amalgamation, Montreal has similar challenges dealing with overlapping jurisdiction between boroughs, municipalities, and the region, even with over 15 full-time staff working exclusively on active transportation. Several participants also pointed out barriers caused by conflicting policies or legislation that are slow to change—for example, provincial legislation prevents the City of Vancouver from installing bicycle-only traffic signals, and York Region has difficulty fitting bike lanes into local roads at intersections with provincial highways due to a provincial requirement that all lanes at such intersections be at least 3.5 m wide.

Although political structures involving multiple local municipalities (or municipal and regional governments) can be frustrating, some respondents felt they can make it easier to implement active transportation projects. Participants felt this has been the experience in Vancouver, Victoria, and Montreal, in contrast to larger consolidated (or "unicity") municipalities where localized active transportation interests, often most prominent in central areas, may be undermined by the more auto-oriented

Addressing the challenges of building consensus around progressive policies in large political structures

constituencies that are typically less in favour of such initiatives.

4.2.3. PARTNERSHIPS WITH HEALTH SERVICES

Building investment in research and promoting initiatives through health services

Health services are critical partners—a point underscored by numerous participants and particularly those from Québec. Although health departments are somewhat new to issues of active transportation and land use planning, they are strong supporters. They are typically effective in helping with promotion and research, as illustrated by successful partnerships in Edmonton and Region of Waterloo. It was also pointed out that health stakeholders tend to be very effective at marshalling resources around issues, and internally promoting supportive reforms at the provincial level. This latter result has occurred in Nova Scotia, where the Office of Health Promotion and Protection's involvement has helped to kickstart progressive changes within the Department of Transportation.

A role for health units in small communities

Many participants strongly agreed that health services can play a particularly important role in smaller communities. For example, Ontario Health Services has played an important leadership role in small rural Ontario municipalities, encouraging active transportation engagement from the outside in. In Nova Scotia, AT promotion efforts by the Department of Health Protection and Promotion have also resulted in small communities following suit. Thunder Bay has similarly had tremendous success working with their local health unit because they have been able to assemble significant funding for active transportation promotion. Furthermore, health services can have a significant direct impact in small communities simply because as an institution it tends to be a large employer in such communities.

4.2.4. PARTNERSHIPS WITH SCHOOLS

Focusing school initiatives on access

Many participants emphasized that schools are key partners in active transportation. Victoria's Active and Safe Routes to Schools program has been working directly with staff at individual schools, but finding it difficult to move school boards beyond fears of liability. It has been hard to convince schools to make changes on school property where their liability begins, such as curb ramp retrofits or bicycle parking. As a result, many improvements have had to focus on the adjacent right-of-way, such as street crossing improvements. Despite this limitation, participants felt this program has been successful.

Study participants from Port Coquitlam, B.C., reported their success in establishing effective staff liaisons with the local school board.

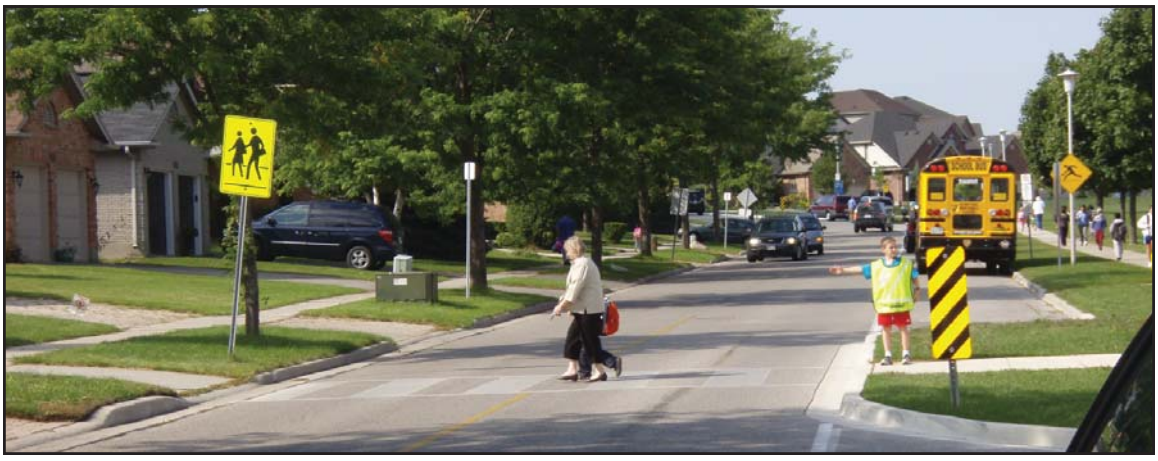


Exhibit 8: A curb extension at a public school in London, ON

4.2.5. PARTNERSHIPS WITH ACCESSIBILITY STAKEHOLDERS

In terms of pedestrian initiatives, Québec respondents emphasized the strength of partnering with groups or departments pushing for universal accessibility. Accessibility can be the basis of a powerful argument for changes to design standards as well as additional funding, and the benefits extend beyond just the population with mobility impairments. In Ontario, the Accessibility for Ontarians with Disabilities Act (AODA) makes these arguments even stronger, with many municipalities' working hard to ensure they are compliant with this law.

4.2.6. PARTNERSHIPS WITH TRANSIT AGENCIES

Some study participants suggested that transit agencies should clearly reframe their role to one of moving people, as opposed to just moving transit vehicles, and therefore take more responsibility for improving the pedestrian and cycling environments that provide access to their facilities. However, few concrete examples of this approach were cited. In the Greater Toronto and Hamilton area, Metrolinx is planning significant light rail transit investments that will include on-road and off-road walking and cycling facilities. Gatineau's Rapibus project was pointed out as an excellent example of integrating public transit and active transportation planning, where stakeholders worked together to develop creative and effective solutions such as the inclusion of a bike path in the Rapibus corridor.

Exhibit 9: Bus bike racks in London, ON

Opportunities through AODA conformance requirements

4.2.7. PARTNERSHIPS FOR COMMUNITY EVENTS

Several respondents commented on the potential for large community events to contribute to long-lasting collaboration between organizations, municipal departments and individuals. For example, respondents from Victoria highlighted the success of Bike to Work Week, which is run twice a year (spring and fall) and growing quickly. It is also now at the point where it has led to significant partnerships with the media and the resulting extensive media coverage has attracted corporate sponsors. One participant made the interesting point that the key to such diverse collaboration around the event was to "depoliticize" it—while the event is organized by advocates, its goal is simply to get wide participation and many people cycling to work (to paraphrase, "It doesn't matter why you ride a bike, just get on one and ride it to work."). Organizers are careful to keep the agendas of collaborators from entering the agenda of the event (for example, environmental messages or lobbying for bike lanes). This means that for organizations to support the event, they do not have to buy into the messages of other supporters or organizers. This is particularly important to encourage participation from the business community, and also means that City staff are able to participate.

Transit = Active Transportation

Long lasting behaviour shifts through 'Bike to Work Week'

"De-politicizing" to encourage broader participation and financial support

Some participants felt that Toronto's Bike Summit, which has run for two years, has been a success at bringing together different departments from municipalities around Greater Toronto to share best

CASE STUDY: Greater Victoria, British Columbia
2006 Population (CMA): 330,088
A collaborative effort to make cycling work

The region of Greater Victoria, B.C., boasts the greatest proportion of bicycle commuters in Canada—5.6 percent of working adults according to the 2006 Census, more than double the rate of the next-highest rated metropolitan regions (Kingston, ON and Saskatoon at 2.4 percent each). It's true that the area boasts a favourable year-round climate for active transportation, but the full story is much richer than that. The City of Victoria and a dozen surrounding municipalities have done a number of things right to make cycling the mode of choice for so many residents.

Leveraging a supportive community form. Over recent decades, Greater Victoria governments have resisted the development of urban freeways that can divide communities and pose barriers to walking and cycling. The legacy of this decision is a system of neighbourhoods that remain adaptable to the needs of pedestrians and cyclists. By minimizing the number of large barriers between communities, actions to remove localized barriers can have maximum impact.

Focusing on a comprehensive trail system. Since the early 1990s, area municipalities have developed a coordinated system of regional trails. A number of abandoned rail corridors linking downtown to other parts of the community were an essential asset, and their conversion to trails offered cyclists a high degree of comfortable and convenient access to key destinations. The regional government (Capital Regional District) has coordinated growth of the trail system, with projects undertaken by different municipalities that gradually enhance its overall connectivity. On-road cycling facilities are also being developed, but trails remain the backbone of the regional cycling network.

Finding the money. While regional planning efforts identify some priority projects, area municipalities also identify their own needs and have competed with each other for financial support from higher orders of government. This competition has helped raise the profile of cycling infrastructure projects across the region, and has attracted stakeholders to support individual projects that may not have become involved in a more centralized and orderly planning process. Area governments do realize that a unified approach can be more effective in attracting provincial and federal funding, and are strategically joining forces where it is needed to succeed.

Building participation. For more than 15 years, Greater Victoria has been home to Canada's largest bicycle commuting event. From its local origins, Bike to Work Week has become a province-wide program with over 20,000 participants (of whom almost three in ten are new to bicycle commuting) in 15 communities. In 2009, the Greater Victoria event involved 622 workplace teams and 7,233 individuals. The event encourages recreational cyclists to try commuting by bike in a supportive atmosphere, and focuses event messaging on the ease and enjoyment of cycling—rather than on issue-based benefits that can divert attention and obscure the emphasis on cycling for its own sake.

Photo by Randy Storey

Exhibit 10: The Galloping Goose Regional Trail's iconic trestle in Victoria, BC

Photo by John Luton

Photo by John Luton

Photo by Dylan Passmore

Exhibit 11: Cyclists on Victoria, BC's famous Galloping Goose Regional Trail.

Photos by John Luton

Exhibit 12: Bike to work week in Victoria, BC

practices. The focus of the event has been on the practitioner, but has involved local and international activists and academics. The event has been organized by a non-profit charitable organization, the Toronto Coalition for Active Transportation, which has aimed to provide a balanced forum on active transportation rather than play an activist role. This has likely helped the organization bring diverse participants to the summit, which is set to broaden its scope in 2010 to cover complete streets.

4.2.8. PARTNERSHIPS WITH NON-GOVERNMENTAL ORGANIZATIONS

Expanding capacity through NGO support

Strong engagement with NGOs not only represents an opportunity to involve the public and develop an informed dialogue (as discussed in the previous section), but can effectively expand the capacity of government if the NGOs in question have access to sufficient resources to effectively organize. See section 4.3.3 for further information.

4.3 Public involvement

Involve members of the public through non-traditional approaches, target multiple stakeholders, and ensure that consultation remains focused and interesting. For larger municipalities, divide public engagement efforts into smaller neighbourhoods.

4.3.1. THE IMPORTANCE OF LOCAL PERSPECTIVE

Successes with public consultation through a neighbourhood-based approach

Participants felt that there is a stronger audience for engagement concerning pedestrian matters in smaller communities, perhaps due to the scale of walking trips. Neighbourhood-based consultations tend to bring out more people because the specific concerns of individuals are more relevant, and solutions are easier to conceptualize, at a local level. Larger communities can therefore address walking issues more effectively at a neighbourhood scale. This decentralized consultation approach was used in establishing neighbourhood development plans in Québec City and yielded very interesting results. It has also been successfully taken with the WalkON

project, which was regional in scope but was broken into community-scale components and consulted the public about local issues such as transit hub access. Although this is a potentially more expensive approach, organizers felt that it worked well because the public related to the issues and it gave them a stronger sense of ownership.

4.3.2. WARMING UP FOR CONSULTATION

Consultation can start early in local active transportation projects that have a clear audience and defined context. For larger-scale master planning activities, it may be better to delay consultation to permit the development of a concrete framework that the public can respond to. Québec municipalities also commented on their success with an initial "information phase" before embarking on consultation for active transportation projects—since, for the most part, understanding walking and cycling as transportation is a new concept to most people. This emphasis on utilitarian walking and cycling is important, but requires the public to consider a lot of information. The public must be aware of the practical and economic aspects of walking and cycling before planners can build a true constituency.

4.3.3. GROUP MECHANISMS FOR PUBLIC ENGAGEMENT

Early, ongoing public engagement can help active transportation projects maintain momentum and minimize backlash. Open public meetings hosted by a municipality are not always cost effective and may need to be complemented by other means of engagement and attracting feedback. Study participants generally agreed that NGOs and interest groups are a good alternative mechanism for engaging the public. Some communities, including Kelowna, have offered resources to help active transportation interest groups establish themselves—helping to organize initial meetings, providing meeting space, and attending meetings as observers. The benefit for Kelowna has been a well informed voice in public discussions over project prioritization and public needs. In the City of Winnipeg most public engagement around active transportation, particularly related to cycling routes and local treatments, has been through advocacy and community groups. Their biggest challenge has been reaching beyond the small group of keen individuals that consistently attend events, to ensure that no single group dominates the agenda. Supporting a diverse range of interest groups will help.

Table 3: Scope of reported public advisory bodies

Municipality	Type of Advisory Body
Calgary	Cycling
Mississauga	Cycling
North Vancouver	Cycling
Ottawa	Cycling
Saskatoon	Cycling
Guelph	Cycling, Walking*
Toronto	Cycling, Walking*
Prince George	Walking
Edmonton	Active Transportation
Fredericton	Active Transportation
Halifax	Active Transportation
Vancouver	Active Transportation
Waterloo	Active Transportation
Winnipeg	Active Transportation

*separate bodies

In some cases, communities have established advisory committees with a variety of stakeholders such as seniors, health representatives and NGOs. In these cases, the diversity of representation is typically mandated. These committees do not play the same role as interest groups—rather, they provide a forum for discussion. Respondents cited experience in Moncton, N.B., where a staff-led active transportation agenda was progressing slowly

Introducing new concepts to the public up front

Keeping discussions balanced and well informed by supporting a diverse civil society

Empowering advisory committees

due to resource constraints and the City therefore decided to expand its active transportation committee to include citizen participation from every ward in order to get a better sense of needs and priorities. Some advisory groups appear to be more integrated with the internal activities of municipal staff than others. Some study participants felt that Vancouver's active transportation committee, which includes citizens who participate in the review of infrastructure and development projects, has been relatively successful. Interestingly, the study survey showed that cycling advisory bodies appear to be more common than those addressing pedestrian issues (see Table 3).

Whatever the mechanism for public engagement, respondents stressed that it must be clear and transparent, but that the process itself cannot be overwhelming to the point where the advisory body becomes a bottleneck.

4.3.4. CREATIVE, EVENT-DRIVEN APPROACHES TO PUBLIC ENGAGEMENT

Web-based communication as a tool for maintaining community engagement

Respondents emphasized the value of creative and diverse public engagement tools, from recreational rides to public meetings. Active transportation professionals are not necessarily expert communicators, and should work with communications professionals to get the message out. Such specialists are generally good at coming up with creative approaches that don't involve participants sitting around a table. Events benefit when participants have a fun reason to come out and participate, as in the case of neighbourhood walkabouts or bikeabouts that offer cookies and refreshments.

Engaging wider and more diverse participation through creative events

Larger events such as festivals and cyclovias (the temporary closure of street networks for community cycling events) tend to be family-oriented in their appeal, which can help extend active transportation issues beyond core stakeholders and avoid the perception of walking and cycling as a marginal issue. Similar to Victoria's experience with Bike to Work Week, Gatineau's Réseau vélo-boulot (Bike to Work Network) has amplified the credibility of cycling to a wider audience and respondents felt it has helped the City reach far more than just the small fraction of the population who currently cycle to work. Note that the event runs for 16 weeks, which respondents felt has helped to instil longer-term habits in participants. As well, Victoria ran a very effective interactive parks planning process that involved children, asking them to draw on maps and play with things they had picked up in the parks.

There is much interest around the potential for new technologies to aid public involvement, such as social networking sites or blogs. The consensus was that these are excellent tools for maintaining involvement, but not necessarily for initially engaging people. One exception might be organizing events through online sites that have a significant following, such as the Spacing Wire, which covers public space issues in Toronto, Montreal, Ottawa and the Atlantic provinces. Ultimately, choosing an effective means of engagement will depend on the community. The Town of Golden, B.C., recently set up a table outside a local coffee shop to survey residents, and the Town of Armstrong (population 4,000) did the same at the local library, which is a common destination for residents.

CASE STUDY: Cape Breton Regional Municipality, Nova Scotia
2006 Population: 105,968
Walking and cycling towards healthy and connected communities

The Cape Breton Regional Municipality (CBRM) was formed in 1995 through an amalgamation of eight municipalities, boards, and agencies within the County of Cape Breton, Nova Scotia. Anchored by its largest City, Sydney, this municipality consists of more than 100 individual and distinct communities located along the beautiful coastlines of the Atlantic Ocean and Bras d'Or Lakes. Despite its natural beauty, the Region has been hard hit economically with its major industry, coal mining, now completely shut down after more than 100 years of operation. For various reasons, including an aging population, the health of CBRM's citizens is a major concern – 49% of the population are physically inactive and 40% are technically overweight. Promoting active transportation is seen as a way to change this.

Active transportation as a catalyst for change. In 2007, CBRM launched a project to develop an active transportation plan. The guiding vision set out for this plan was to "improve the health of the citizens of CBRM by creating opportunities to connect this "community of communities" through walking, rolling and cycling in a manner that will sustain social, economic and environmental benefits." This Vision served to motivate all those involved in the development of the plan, including politicians and community leaders.

Bringing together multiple stakeholders. One of the key success stories in CBRM is the number of diverse stakeholder involved in the development and on-going implementation of the active transportation plan. The CBRM Active Transportation Committee was formed in 2007 and consists of a partnership of CBRM, Public Health Services, Province of Nova Scotia, the Cape Breton Victoria District School Board, Membertou First Nation, Atlantic Coastal Action Program Cape Breton, Velo Cape Breton, the Sydney and Area Chamber of Commerce, and Cape Breton University). This committee remains active today and each organization is taking on different elements of the plan.

Building on existing community efforts. At the start of the AT plan, a number of on-going community projects were identified as having been started, but stalled through a lack of support, motivation or funding. These included a community heritage trail, a project to make an abandon rail line a legacy for the coal mining industry and a community walking loop. However, when viewed through the eyes of promoting active transportation, these projects seemed to take on new meaning for citizens, and many have now been advanced to the next stage of implementation. These projects were complemented by a number of other "signature projects" which served to leverage funding other levels of government, engage community interest, highlight and resolve design challenges and provide visible actions.

A different way of looking at funding. CBRM's active transportation identified some $20 million in infrastructure improvements and supporting initiatives, or about $1 million per year. At first this was viewed as an unrealistic target given the level of existing debt carried by the municipality. However, when compared to the massive cost of healthcare and other community initiatives such as the tar ponds rehabilitation project, the costs are in fact quite reasonable. One astute stakeholder also pointed to the numerous road expansion projects being considered by the community and rightfully ask "why are we spending money to widen roads when the population is declining."

4.4 Financial and human resources

Address financial and staffing resource limitations through creative solutions and strong partnerships, as well as alternative approaches to budgeting that better reflect the benefits of active transportation.

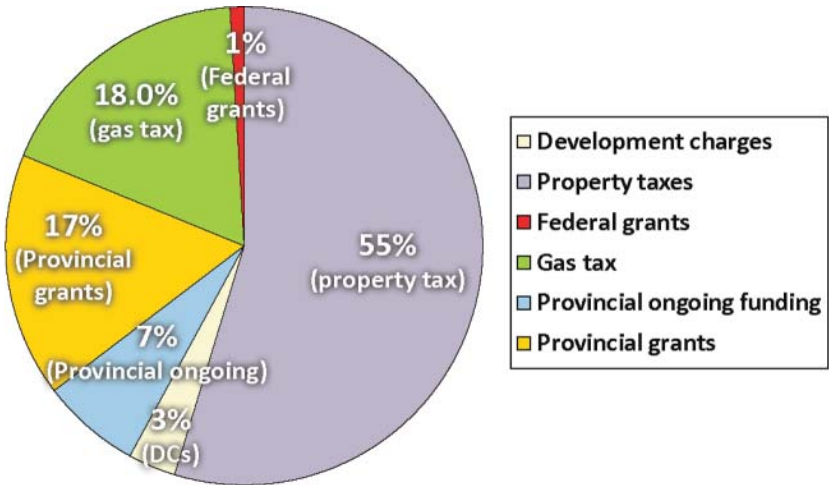
4.4.1. STAFF RESOURCES

Requiring additional staff resources to get things done

Tying walking and cycling budgets to overall transportation budgets

Fewer than half of the municipalities responding to the study survey reported having more than one full-time equivalent staff member dedicated to planning and implementing active transportation initiatives. Finding staff capacity to undertake active transportation projects is a significant challenge, particularly for smaller and medium-sized communities. Respondents noted that typically when a municipality does manage to secure active transportation funding, the work will be done by consultants from outside the community. It should be no surprise that Vancouver, with its long list of recent active transportation initiatives, cited a long list of staff who deal with active transportation in everything they do, although it may not be their exclusive role.

Exhibit 13: Sources of Municipal Funding Dedicated to Active Transportation



4.4.2. LOCAL FUNDING

There was a sense among participants that walking and cycling are still perceived as recreational activities in some communities, and that this can translate into reduced and less dependable budgets. Some participants suggested that including active transportation in overall transportation budgets can create more dependable funding. Edmonton's approach, as municipal staff have advised council, is to set an active transportation budget as a fixed proportion of the overall transportation capital budget, which is expected to increase over time [2].

To fund active transportation projects, study participants reported a combination of relying on dedicated active transportation budgets, and funding active transportation improvements from other capital project budgets when those improvements are integral to the larger projects. Respondents felt that municipalities should not choose exclusively between these two approaches, and that both are necessary. "Piggybacking" on larger projects is effective at getting the work done efficiently, and may create less resistance by representing a small portion of a larger budget. Respondents cited numerous examples of municipalities employing this strategy successfully, but under this approach, priorities are set (at least in part) by the needs of other modes. Another caution was highlighted by York Region, where cycling projects have been delayed by resistance to a larger road reconstruction project for reasons unrelated to cycling. There was consensus among participants that dedicated active transportation budgets are necessary to ensure some flexibility

2 The active transportation component of Edmonton's transportation budget was 0.8% in 2009 and is projected to be 1.5% by 2012 and 5% ($35 M) by 2015, which were originally planned to be 1% and 2%, respectively, at the time this report was initiated.

Photo by Mike

Exhibit 14: Construction of the Carrall Street Greenway revitalization initiative in Vancouver, BC includes a cycletrack

in meeting walking and cycling priorities, and to project an image of municipal commitment to active transportation. To fund walking and cycling programs, some municipalities maintain separate dedicated budgets for each mode while others (such as Edmonton) combine them into a single budget that provides greater flexibility in setting annual project priorities.

Interestingly, participants cited that a substantial portion of recent trail projects in Peterborough have been funded by philanthropic donors. Naturally, the challenge has been that these generous individuals influence when and where trails are built, which may not coincide with local government priorities. Although not ideal, the City has welcomed the contributions and then has to work to integrate these projects within the larger network.

While survey participants reported that the primary source of funds for municipal active transportation budgets is property taxes (see Exhibit 13), some respondents suggested that Canadian communities should adopt innovative transportation pricing mechanisms. A few municipal governments have access to such mechanisms, which are generally used to generate revenue from automobile users. No instances of using such approaches to fund active transportation were reported. The recent Urban Transportation Indicators study published by TAC shows that road pricing initiatives were a very low priority among Canadian governments in 2006 [3] – likely because they face significant political resistance. Participants in this study suggested that transportation user fees might be a more dependable source of funding than project contributions by higher orders of government, and that they can also encourage desirable shifts in travel behaviour.

Identifying opportunities in public works schedules, but still establishing dedicated active transportation budgets

4.4.3. FUNDING FROM OTHER ORDERS OF GOVERNMENT

Survey respondents reported that provincial grants and gas tax transfers each provided just under 20% of their active transportation funding for 2008. No municipality cited the use of on-going federal funds dedicated to active transportation in 2008. Municipalities that channelled significant gas tax revenues to active transportation included

User fees to encourage travel behaviour changes and generate dependable revenue

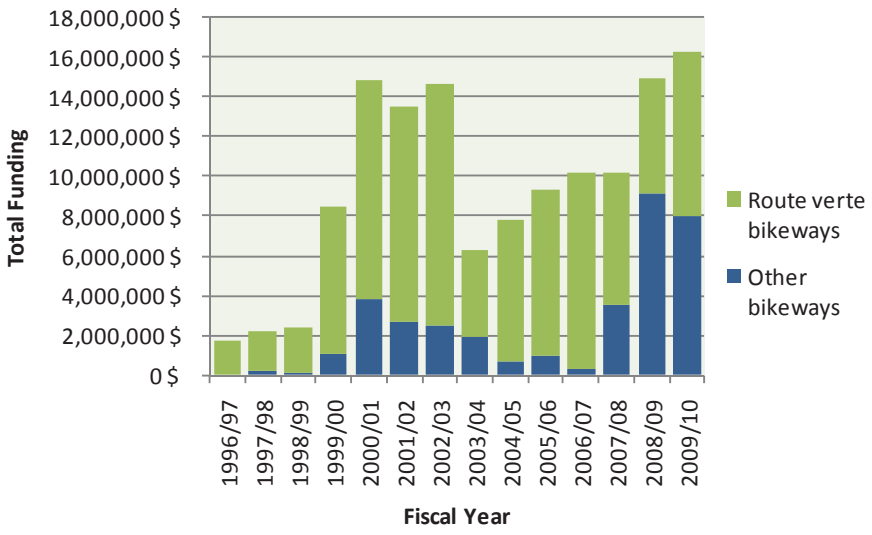
3 Transportation Association of Canada (2010) Urban Transportation Indicators, 4th Edition.

Table 4: Active transportation cost-sharing programs of regional or provincial governments	
Government Body	**Funding Programs**
TransLink, B.C.	Contributing $6M and $2M to municipal cycling and walking initiatives respectively in 2008. These include: · Cost-sharing programs for bike routes that connect to transit stations · Cost-sharing construction of designated municipal cycling routes has produced roughly 50 km of new routes annually since 2003
Ministry of Transportation and Infrastructure, B.C.	BikeBC program is contributing approximately $10.3M per year to bike infrastructure for over 3 years
	Cycling Infrastructure Partnerships Program has been contributing approximately $2M per year since 2004
Ministère des Transports du Québec	"Alternative Mode to the Automobile" program provides $8M per year to cover 50% of bike and pedestrian infrastructure costs around major destinations (e.g. transit stops and stations)
	25% cost-sharing for Route verte construction (amounting to approximately $2 M to $3 M annually)
	50% cost-sharing for Route verte maintenance (amounting to approximately $1.8 M annually)

Abbotsford and Kelowna, B.C., which dedicated $1M and $2.9M respectively and their relatively long list of successful AT initiatives suggests this is having a major impact.

Responses from provincial contacts showed that TransLink and BC's Ministry of Transportation and Infrastructure, as well as the Ministère des Transports du Québec all stood out for having dedicated significant funds to active transportation. Respondents in Québec repeatedly cited this commitment as a major contributor to their successes. For over a decade, the Ministère des Transports du Québec has consistently dedicated several million dollars annually to the construction of bikeways, especially along La Route verte (see Exhibit 15). Although not explicitly dedicated to active transportation, Québec municipalities also receive funding from MTQ through the PAGMTAA program (Programme d'aide gouvernementale aux modes de transport alternatifs à l'automobile). Some in Québec cautioned that money from upper levels of government, although important and always welcome, tends to focus on "regional" routes or roadways within the jurisdiction of the funding body. As a result, they can often miss the immediate needs of the local community.

Exhibit 15: Funding by MTQ for bikeway construction



CASE STUDY: City of Winnipeg, Manitoba
2006 Population (CMA): 694,668
Accelerating financial and political investment in active transportation

In contrast to other Canadian communities that take a "slow and steady" approach to improving active transportation, the City of Winnipeg is devoting unprecedented resources to active transportation in a very rapid timeframe. The level of financial investment is one key indicator of commitment—in 2005 the city's annual budget for active transportation was $300,000, but in 2009 its council voted to spend about $20 million (shared equally by local, provincial and federal governments) over the next year on active transportation infrastructure. This decision was made possible only by the emergence of key champions among the city's elected officials and within the community at large.

Building on a landmark project. In 2004 an aging road bridge connecting The Forks area in central Winnipeg to the St. Boniface community across the Red River, was replaced by two new parallel bridges—one for cyclists and motorized vehicles, and one for pedestrians only. The iconic Esplanade Riel pedestrian bridge is visually distinctive, with a plaza and restaurant located at the pylon in the middle of its span, and offers a five-metre wide deck with peaceful views of the river and Winnipeg's skyline. The success of this landmark, and the improvement in conditions for pedestrians and cyclists in crossing the Red River, lent momentum to active transportation as an issue worth supporting.

Recognizing the power of people. In 2007, one year after Council approved Winnipeg's first Active Transportation Study, the city hired a full-time Active Transportation Coordinator to create the capacity for meaningful action. It also created a new Active Transportation Advisory Committee as a mechanism to integrate the wisdom and viewpoints of key stakeholders. In general, the city's efforts on active transportation have benefited immeasurably from the support of key champions including the Mayor, other members of council, and community groups.

Photo by Hélène Villeneuve

Photo by Kieran 2009

Exhibit 16: Winnipeg's new iconic Esplanade Riel pedestrian bridge

Public transit as an avenue to encourage funding from upper levels of government

Getting a quick start. The 2007 implementation plan identified timelines and responsibilities for building a community-wide active transportation network. In 2009, the City unveiled its Active Transportation Infrastructure Stimulus Project—an ambitious $20-million design and construction program comprising 35 projects that will add 100 km of new routes by the end of 2010. The new facilities will range from multi-use pathways to bike boulevards. The concurrent implementation of so many projects would not be feasible using conventional project management approaches, so Winnipeg innovated by assigning projects to seven local engineering firms under the direction of a central consultant that coordinated information gathering and distribution, stakeholder involvement and the development of facility design guidelines.

Understanding and building demand. Winnipeg understands that facilities are not the only answer to boosting active transportation use. It has introduced a new cycling map for residents, added secure bike "corrals" at two downtown parkades, and supported a growing Bike to Work Day event. The city is also a partner in the OttoCYCLE research project of the Centre for Sustainable Transportation at the University of Winnipeg, which used GPS technology to track the origin, destination, length, time, route and speed of trips made by volunteer cyclists.

Participants familiar with British Columbia and particularly Québec were quick to point out the significant positive impact that provincial funding has had on cycling initiatives. Typically, these are in the form of cost-sharing programs (see Table 4) and among these, transit access appears to be a common theme. Public transit was repeatedly mentioned as an important avenue for encouraging upper levels of government to assume some responsibility for active transportation and, hence, potential funding for implementation. It is important to reiterate that cost sharing programs are seen as excellent tools to support active transportation champions, but this arrangement can be a major barrier for municipalities that are struggling economically and may be looking to capital project investments, such as active transportation, to help kick start development.

Some study participants cautioned against over-reliance on federal funding sources because they tend to be more political in nature and tend to lack performance measurement criteria that would allow municipalities to conduct long-term project planning around such financing. Another caution from Québec was to be wary of multi-partner project funding arrangements because they can be completely derailed if one partner withdraws. If possible, a more sustainable solution would be the inclusion of reliable, predictable and adequate funding for active transportation within existing transportation budgets.

Lobbying for upper level funding through collaboration with regional governments

Participants highlighted another challenge with funding from higher orders of government, namely that these sources tend to focus on cycling. Vancouver has had the experience of aiming to do a complete street reconstruction but having to determine how much of the street is related to cycling in order to apply for corresponding funding. The experience of respondents suggests that the pedestrian realm does not figure into this equation, and the interpretation of cycling needs is also limited. Participants did note some

success in lobbying for funding from higher orders of government based on an analysis of active transportation impacts—for example, Vancouver has successfully secured funding from the provincial public auto insurance corporation (ICBC) based on collision reduction estimates. Others noted that in Kelowna, a regional partnership has effectively attracted funding from higher orders of government. Victoria is currently embarking on a similar strategy of teaming with the Capital Region District to pursue funding for regional priority projects that Victoria was unable to independently fund through federal infrastructure programs. In Ontario there was a peculiar situation of York Region having established an annual $500,000 TDM budget to support local municipal initiatives, but not receiving enough applications to fully use the available funds in 2009—demand was high, but local municipalities either could not match the funds or did not have the staff resources to implement additional projects.

4.5 Knowledge and skills

Build knowledge and skills through AT-specific training for staff and other stakeholders. Gain valuable understanding and experience through data collection and pilot projects.

4.5.1. STAFF TRAINING AND PROFESSIONAL DEVELOPMENT

Most of the practitioner training initiatives cited by study participants involved professional development through conferences and workshops. Edmonton's experience is that the Pro-Walk/Pro-Bike and Walk21 events have been very effective. Some participants mentioned the City of Winnipeg's interest in bringing engineers from Québec to provide workshops through ITE Manitoba because Québec engineers "understand winter". Similarly, almost all Québec respondents cited positive experiences with staff training programs by Vélo Québec, which include training on pedestrian planning in some cases. As well, Vélo Québec mentioned training sessions to accompany the release of its active transportation guide, a recent replacement for the Vélo Québec bikeway design handbook[4]. Participants also mentioned that the City of Ottawa has offered internal training for active transportation staff, which helped on development approval issues.

Training initiatives for a broader range of internal staff (e.g. road designers or land use planners) are less common, despite inadequate staff training being frequently cited as a barrier (e.g. highway operators in York Region being concerned with the liability impacts of new bike facilities). Vancouver was the only participating municipality to cite ongoing training on active transportation issues (in particular, the Vulnerable Road Users course) for staff across a broad range of departments, from design to operations to maintenance.

4.5.2. MONITORING ACTIVITY AND SAFETY

Few survey participants were able to cite quantitative evidence of success for active transportation initiatives, suggesting that municipalities generally lack performance measurement frameworks and/or the resources to undertake them. The routine production of progress reports and public opinion surveys, and the routine collection of data on active transportation counts and collisions remain the exception. For the most part, surveys cited by municipalities are typically conducted to support the development of one-off active transportation plans and are not repeated over time to enable evaluating progress.

On-going staff training across a broad range of departments

MTQ's recurring "State of Bicycling in Québec" survey appears to be the most significant data

4 The English title for the guide has not yet been decided. The French title is "Aménagements en faveur des piétons et des cyclistes".

Including data collection in project definitions

collection effort cited. Unfortunately, participants felt that despite the high level of detail in this data source, it is not yet being used to its full potential. MTQ is also building 40 permanent counting stations along the Route verte (20 permanent counters have been installed at the time of this report). Montreal has had permanent traffic counters in place for a few years on several bikeways, and they have helped document fluctuations in cycling usage and identify priorities for network improvements. Similarly, TransLink has installed automated counters on its Central Valley Greenway. The City of Vancouver has started to identify resources for data collection as part of specific projects (e.g. installation of bicycle counters), because they have found it expensive and labour intensive to manage and collect data after the fact. Ottawa uses a unique Cycling Activity Index as a means of tracking community-wide and neighbourhood-level bicycle volume trends, using cyclist data collected as part of the city's regular intersection count program. Edmonton conducts pedestrian counts at all signalized intersections every three years, and Abbotsford reported conducting pedestrian and cyclist counts before and after infrastructure improvements. TransLink also mentioned conducting regular attitude surveys.

Finding ways to improve AT data collection through existing frameworks

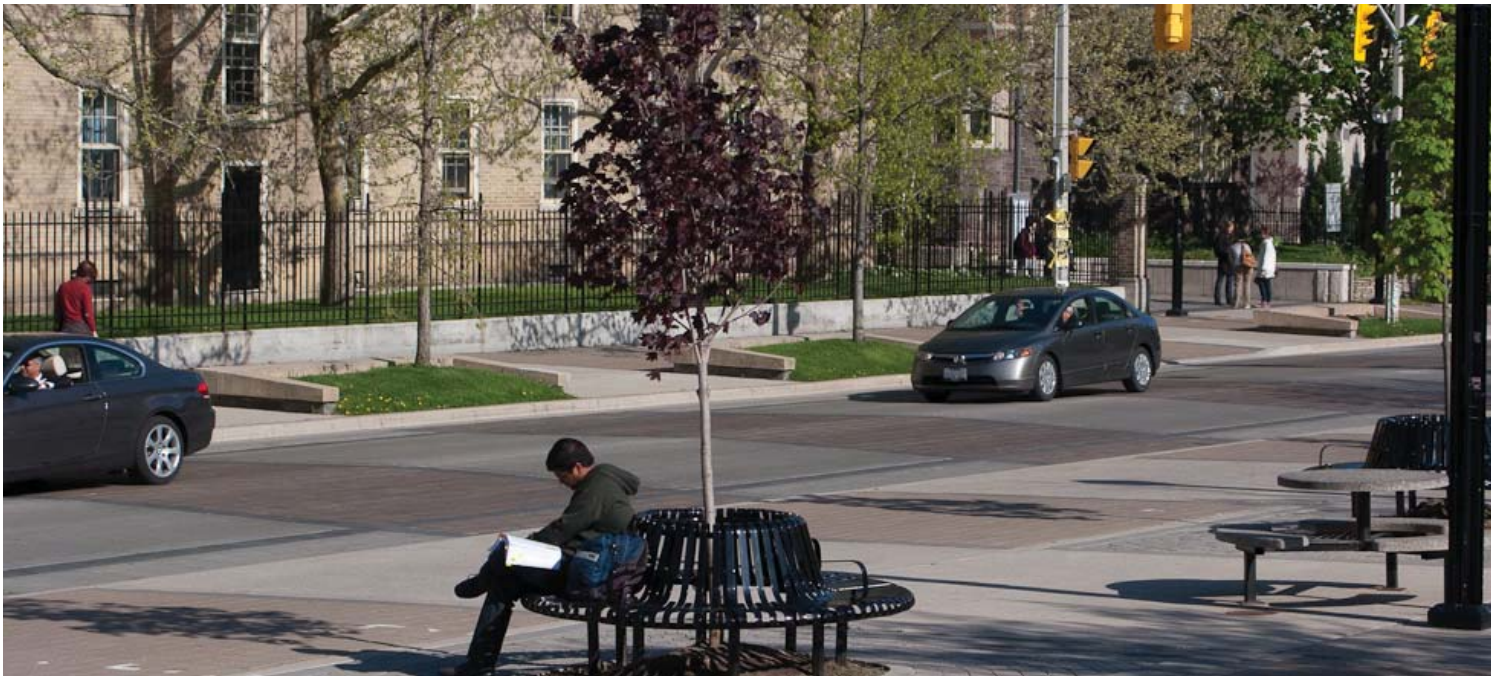
Photo by Velo Québec

Exhibit 17: Installing a permanent cyclist counting station in Montreal, QC

Outside Québec, it is generally recognized that existing travel surveys (e.g. origin-destination studies) do not adequately describe walking and cycling activity (see Appendix C for more details). Participants suggested that current broad surveys should be improved, but that dedicated active transportation surveys are also required to more fully understand the choices, barriers and opportunities that are unique to pedestrians and cyclists. Participants suggested that there are many ways to improve existing surveys in ways that do not compromise comparability to data from previous years, such as by better defining transit access trips. Such has been the experience at MTQ, which respondents felt has successfully retrofitted many of its survey methods. Despite the methodological problems with existing surveys, participants felt that more results could be drawn from these existing data sources, particularly in Québec, such as a more in-depth examination of commute distance and mode share data from the Canadian Census. Even where active transportation data exists currently, participants felt it is often overlooked in summary reports.

Given the unique nature of cycling and walking trips, participants noted the value of surveys dedicated solely to active transportation. MTQ was the only survey respondent that cited evaluating progress on cycling initiatives, but it has no comparable framework for walking. Participants also mentioned that funding from the British Columbia provincial government requires municipalities to conduct before and after counts for retrofit projects, and that while the framework is not well developed, to an extent it has helped establish trends and identify effective treatments.

Participants from Québec noted that better active transportation data, and more thorough analysis of active transportation's quantitative benefits (e.g. greenhouse gas reductions), could strengthen the case for greater funding from higher orders of government.



5. PROVIDING SUPPORTIVE ENVIRONMENTS AND SYSTEMS

5.1 Policy and planning

Identify and promote an understanding of the implications of land use decisions on active transportation. Opportunities to tailor decisions to better support active transportation exist at every level from overall growth management planning to detailed road design standards.

5.1.1. WALKING AND CYCLING PLANS

Of the 64 municipalities that responded to the study survey, 28 (44%) reported having developed a walking or cycling plan, with cycling being addressed more frequently on its own (see Table 2). Central Saanich, Waterloo, and Brantford reported their adoption of Pedestrian Charters. At the regional and provincial scale, TransLink and the MTQ both reported having bike plans. Interestingly, the MTQ's Programme d'aide gouvernementale aux modes de transport alternatifs à l'automobile (Alternative Transportation Support Program) offers funding for municipalities to develop active transportation master plans, and participants mentioned that Longeuil and six other municipalities are now undertaking such plans.

Participants noted the City of Edmonton's completion of a Sidewalk Strategy, a Walkability Strategy, a Bicycle Transportation Plan, and a Multi-use Trail Corridor Plan; they suggested that these plans are good individually but do not represent a cohesive whole. Edmonton is now looking at developing an integrated active transportation plan, which may be divided into smaller manageable components but should provide a more integrated and coherent vision for council. Still, participants from Edmonton

Starting with distinct plans before integration

believe that it had been beneficial to undertake distinct issue-based planning efforts before integrating them. Participants noted that Prince George, B.C. has followed a similar process, with its active transportation plan being a consolidation of its pedestrian network plan, cycling network plan, transit system studies and a trail master plan.

Developing a clear and feasible implementation strategy

Halifax Regional Municipality's Active Transportation Plan has become a central policy piece that leaders rely on. It has a high degree of recognition and credibility with the public and the media, and staff often use it as a reference for presentations and reports. Critical to the plan's success has been a well structured implementation strategy that identified a $100M price tag over 20 years, but also showed that $4.5M was available annually to support implementation through existing annual budgets for sidewalks, bikeways, trails and roadways. This confirmed the plan's feasibility and countered fears that it might be unaffordable.

Clear connections with existing policies

Participants held varying views on whether communities are better to develop distinct active transportation plans or to address walking and cycling within overall transportation plans. However, there was consensus that local opportunities are the key factor in this decision. As mentioned in section 4.1, some felt that the development of active transportation plans can accelerate interest in walking and cycling issues. The Halifax experience shows that, even following this approach, it is critical to maintain a close link to existing policies, programs and projects. On the other hand, the Region of Waterloo was able to attract significant involvement by councillors in its ongoing Transportation Master Plan update, which has helped to build momentum. From a pragmatic point of view, experience in Peterborough suggests that the City's inclusion of the bikeway network in its TMP helped to ensure bikeways were included in road projects as a matter of course. In Ottawa, the inclusion of key aspects of the City's Cycling Plan in its Official Plan and Transportation Master Plan has been effective in leveraging invest-

Table 5: Scope of active transportation plans

Municipality	Type of Plan (*Denotes separate plans)
Abbotsford	Cycling
Beloeil	Cycling
Cambridge	Cycling
Chilliwack	Cycling
Fredericton	Cycling
Guelph	Cycling
Kelowna	Cycling
Halton Hills	Cycling
Mississauga	Cycling
Surrey	Cycling
Winkler	Cycling
Saskatoon	Cycling
Red Deer	Cycling
Vancouver	Cycling
Region of Waterloo	Cycling
Whistler	Cycling
Calgary	Cycling, Walking*
Edmonton	Cycling, Walking*
North Vancouver	Cycling, Walking*
Ottawa	Cycling, Walking*
Toronto	Cycling, Walking*
Prince George	Cycling, Walking, Active Transportation*
Surrey	Walking
Winnipeg	Active Transportation
Port Coquitlam	Active Transportation
Halifax	Active Transportation
Thunder Bay	Active Transportation
Port Hope	Active Transportation
Oakville	Active Transportation
MTQ	Cycling
TransLink	Cycling

Photo by Ryan Flores

CASE STUDY: City of Toronto, Ontario
2006 Population (CMA): 5,113,149
Putting pedestrians a step ahead

Exhibit 18: Toronto's new scramble intersection at Yonge–Dundas Square

In less than a decade, the City of Toronto has turned walking from an everyday act into a public mission for liveability and sustainability. The municipality has launched substantial programs and projects that honour the vision of the late Jane Jacobs, renowned urbanist and a long-time resident. By working to seamlessly integrate walking with other travel modes, notably transit and cycling, Toronto has set its sights on a future that will bring tangible environmental, health and social benefits for the city's residents, businesses and visitors.

Photo by Damien D.

Demonstrating leadership. In 2002, at a City Council meeting attended by Jane Jacobs, Toronto became the first municipality anywhere to approve its own Pedestrian Charter. The charter sets out six key principles to guide actions that will make walking a safe and convenient mode of travel. Five years later, in 2007, the City of Toronto partnered with Green Communities Canada to co-host Walk21, the leading international conference on walking, which brought experts from around the world to share their wisdom and experiences and has served as a catalyst for walking initiatives in Toronto and across Canada.

Using plans and policies to support walking. Toronto's 2002 Official Plan highlighted the important role of walking in maximizing quality of life, and committed to improving pedestrian facilities and environments. By 2009, those concepts had been transformed and expanded into the Toronto Walking Strategy, a detailed 10-year action plan that aims to create a physical and cultural environment that supports and encourages walking.

Building capacity for action. As it works to make walking more practical and popular, Toronto has placed a priority on understanding public needs and involving a range of individuals and organizations. It 2008 the city undertook a comprehensive public survey of walking habits and attitudes to identify public perspectives and inform future initiatives. The city also supports an 18-member Toronto Pedestrian Committee that advises staff and elected officials on all aspects of walking. Recently, the city created a new Public Realm Section within its Transportation Services Division to lead an inter-divisional team that will coordinate and monitor implementation of the Toronto Walking Strategy, and to help tackle the interdisciplinary challenge of improving pedestrian infrastructure and streetscaping.

Building a more walkable environment. Toronto's reputation as a walkable city has been cultivated over decades through initiatives like the PATH underground walkway system and early neighbourhood traffic calming projects. The city is now building on that legacy through innovations such as scramble phases at two of the busiest downtown intersections(allowing concurrent all-way pedestrian crossing), piloting pedestrian lead intervals, and a new program to install coordinated street furniture (e.g. transit shelters, benches, waste and recycling bins, information pillars) to make streets more pedestrian-friendly and promote a positive civic identity. Looking to the future, the City aims to include Woonerf-inspired street designs in the massive West Don Lands development and Toronto's ambitious plans for seven new street-level light rail corridors will make the combination of walking and transit a more powerful alternative to cars for daily travel in the city.

ment by political and engineering stakeholders, and in improving cooperation between staff and private developers who now take cycling more seriously.

Setting neighbourhood based targets

Respondents noted that Vancouver, Montreal, Ottawa, Waterloo Region and a few municipalities in Québec have set active transportation mode share targets, but that such targets are most meaningful when applied at the neighbourhood level. For example, Vancouver's 1997 TMP set a downtown mode share target of 18% for walking and cycling by 2021, and by 2004 they had already reached 30%. This paints a much more meaningful and powerful picture than the corresponding increase in walking and cycling of less than 1% across the urban area.

5.1.2. INTEGRATION WITH DEVELOPMENT

Many discussions were indirectly related to land use, such as problems with the pedestrian environments around big box development. However, perhaps because Official Plans, greenbelt policy, secondary plans, and the like are not explicitly framed as affecting active transportation, participants did not discuss many initiatives in these areas. Many respondents emphasized that land use and urban design policy is especially critical to improving walking conditions, given the sensitivity of pedestrians to their environment.

Guaranteeing walking and cycling needs in development approval and impact study processes

In the GTHA, the Province of Ontario's Places to Grow policy has been effective at encouraging land use intensification policy at the municipal level, and may be leading to more compact development. Vancouver has successfully incorporated walking and cycling issues into its development approval and impact study processes, which now require explicit consideration of walking, cycling, and transit needs. When a development application is received by the City of Vancouver, it is immediately reviewed for pedestrian and cyclist requirements. It was also pointed out that York Region plans to instil the same process with their new Official Plan, so that staff will (for example) consider the impacts of driveways on all modes.

Table 6: Noteworthy regulations requiring walking or cycling facilities as a part of new roadway projects

Municipality	Initiative(s)
Abbotsford	Bicycle travel is accommodated on all new road construction. Either shared curb lanes or marked bike lanes are part of all new collector and arterial roads.
Edmonton	All new roadways in the City (whether built by the city or developers) must include sidewalk and cycling facilities ranging from multi-use trails to on-street bike accommodations.
Kelowna	As regulated by Development Servicing and Subdivision Bylaw, new roads and upgraded roads require bike lanes as per network plan.
Saskatoon	Introduced a new standard for arterial roads, which will now include a 2.5 m multi-use trail on at least one side instead of a 1.5m sidewalk.
Surrey	Zoning and subdivision by-laws are enforcing connections between cul-de-sacs
TransLink	All major capital projects funded in whole or in part by TransLink are reviewed for their potential to facilitate greater cycling, including the provision of cycle paths.

5.1.3. ROAD INFRASTRUCTURE

Interest in institutional reorganization such that all travel modes are considered in all roadway planning and engineering efforts is a key aspect of

the "complete streets" model, which has gained considerable momentum in the U.S. and more recently in Canada. The complete streets approach was mentioned by participants as an important concept and brand, with excellent potential to yield positive change. Respondents suggest that this approach was essentially adopted by Montreal in its 2008 transportation plan, and that the subsequent implementation of 100 km of on-street bikeways suggests it has been successful.

Several study participants reported regulations that require the inclusion of walking or cycling facilities in new developments or road projects. A major challenge noted by some is that fast-growing municipalities, like those in York Region, have difficulty finding resources to thoroughly review all development approvals. Kelowna, Saskatoon, Abbotsford, and Edmonton cited new standards that require cycling facilities on new and reconstructed roads—Edmonton and Abbotsford require them for all new collector and arterial roads, while Kelowna's requirements are coordinated with the City's network plan (see Table 3). Several municipalities including Beloeil, Saanich and Kelowna also noted success with new by-laws requiring bicycle parking and other end-of-trip amenities.

5.2 Travel facilities

Identify and pursue opportunities to provide safe, comfortable and direct facilities for walking and cycling. Opportunities can be identified through the preparation of a network master plan, but must also be carried through to design, construction, operation and maintenance processes. Existing standards and conventions need not be a barrier and can be overcome through innovation.

5.2.1. THE VALUE OF A "BACKBONE"

Participants from several successful municipalities pointed to the value of a "backbone" facility—that is, a corridor or node that is well-used in practice but also symbolic to elected officials and the general public. The "demonstration effect" of such visible facilities can have a dramatic cultural impact. Respondents cited several examples, such as Toronto's Yonge Dundas Square, the linear park in Trois-Rivières, Vancouver's bicycle boulevard network, the Galloping Goose Trail in Victoria, and the Route verte corridors traversing Québec municipalities (e.g. Rimouski's waterfront trail). Such facilities are unique to each community and can take time to develop. For example, Victoria has been developing the Galloping Goose Trail for over a decade by using abandoned rail corridors that link key destinations including downtown. The trail is now likely the most recognized facility in the City's network.

Mandating AT facilities in new developments and road projects

Although the focus of this study is on the Canadian experience, recent developments in New York City were mentioned many times by study participants. While New York has a very different political, physical, and social context than most Canadian communities, some participants felt that New

Dramatic cultural impact of highly visible and symbolic projects

Photo by Jose Oquendo

Exhibit 19: New York City's Times Square with Broadway pedestrianized

Photo by Padraic

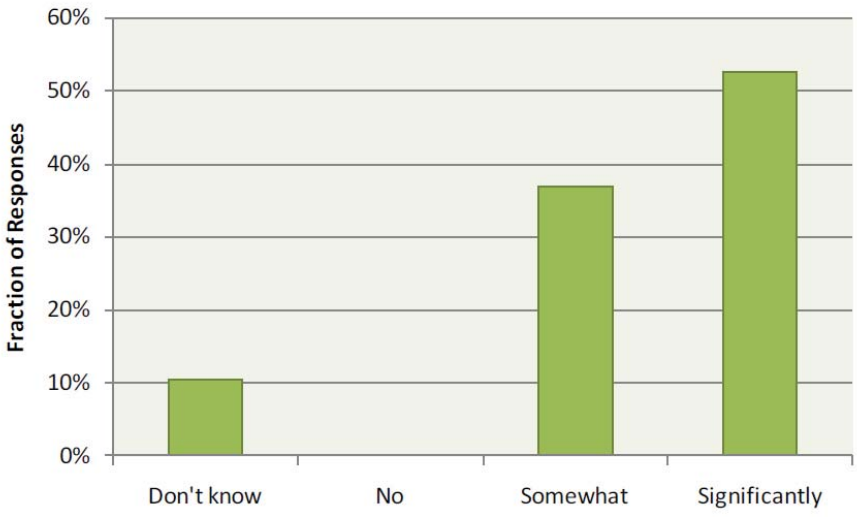
Exhibit 21: The new Corktown pedestrian and cyclist bridge over the Rideau Canal in Ottawa, ON

York's overall strategy of quickly and inexpensively implementing many large-scale public space pilot projects in key locations (including the partial pedestrianization of Times Square) has effectively created a cultural shift in the way that staff, politicians and individuals view the role of streets.

5.2.2. GETTING PAST PHYSICAL BARRIERS

In the survey of municipalities, the creation of facilities allowing active transportation users to cross physical barriers were rated the most effective, by far, of all initiatives at improving walking and/or cycling (see Exhibit 20). Some examples include Vancouver's Greenways, Toronto and Renfrew's rail corridors, and cycling-supportive bridges across freeways in Brantford, Surrey, Mississauga, Caledon, Prince George and Edmonton (see Table 7). Ottawa's Corktown bridge that allows pedestrians and cyclists to cross the Rideau Canal has not only served a substantial demand, but helped establish the legitimacy of several similar projects that are now in various stages of planning.

Exhibit 20: Have initiatives for building facilities (bridges, tunnels) for walking / cycling across physical barriers improved active transportation?



With many rail corridors, waterways, major arterial roads and freeways lying in the domain of regional, provincial and federal governments, those higher orders of government bear significant responsibility in this area. British Columbia's Ministry of Transportation and Infrastructure cited a policy that requires all new and upgraded highways (including bridges) to accommodate cycling whenever possible. Due to coordination between levels of government and the degree of engineering involved in such projects, they can take time to implement. Respondents cited recent experience in Ontario, where a pedestrian bridge over Highway 10 required a two-year year approval process.

5.2.3. NETWORK DEVELOPMENT

This study's survey of municipalities showed that the development of off-street paths is very popular, a finding confirmed by the latest TAC UTI survey[5], and is also widely considered to significantly improve conditions for active transportation. This result may

5 Transportation Association of Canada (2010) TAC Urban Transportation Indicators – Fourth Survey.

reflect the significant socio-political and institutional barriers that face efforts to reallocate scarce road space in favour of pedestrians and cyclists. Some respondents underscored that municipalities find it difficult to improve accessibility for active transportation users in built-up areas, where a coherent network of off-street facilities typically cannot be accommodated. This circumstance is illustrated by Calgary's formidable 635-km network of off-street trails (the largest in Canada), which has trouble connecting key destinations.

Respondents highlighted that many small and medium-sized communities in British Columbia focus on developing off-street bikeways because those communities have frequently developed around highways that are fundamentally hostile to active transportation. Such major thoroughfares pose significant barriers to developing well connected active transportation networks, a reality that is exacerbated by the fact that they often lie outside municipal jurisdiction.

Table 7: Noteworthy initiatives to develop facilities (bridges, tunnels) for walking / cycling across physical barriers

Municipality	Initiative(s)
Brantford	Highway 403 & CN bridge crossings.
Caledon	Trailway Bridge over Highway 10, which cost approximately $1M.
Edmonton	Pedestrians and cyclists are accommodated on most bridges. The City also has a number of exclusive pedestrian and cyclist bridges, including the new "underpass" to the Belgravia – McKernan LRT Station.
Guelph	Various pedestrian/cyclist bridges throughout Guelph to cross rivers.
Mississauga	The Confederation Parkway Bridge (2008) includes a physically separated pedestrian walkway and an on-road bike lane over Highway 403, providing cycling and pedestrian access to the Mississauga City Centre from the north.
Ottawa	Long-awaited pedestrian bridge over the canal (Corktown Bridge) has been a great success.
Peterborough	Pedestrian bridge across the river was widened and improved, such as better lighting.
Prince George	Built a trail link under a four-lane urban highway, which cost approximately $900k.
Renfrew	Additional width provided on bridge decks to facilitate cycling and seasonal recreation activities.
Slave Lake	Have provided walk bridges across creeks and drainage ditches.
Surrey	Built pedestrian and cyclist bridges over freeways and rivers.
Whistler	A bridge was recently built over a river as part of the Valley Trail network, so that cyclists and pedestrians no longer had to go to the highway to cross the river.
MTI (BC)	Cycling Policy – all new and upgraded highways (including bridges) must accommodate for cycling whenever possible.
MTO	Pedestrian bridges to reduce pedestrian travel time and increase safety have been implemented at/near several GO Stations.
Translink	As part of the construction of the Canada SkyTrain Line a pedestrian/cyclist bridge was constructed over the Fraser river linking Vancouver and Richmond. The bridge opened in conjunction with the opening of the SkyTrain line.

Increasing opportunities to cross arterial streets

The study survey found that many large municipalities are experimenting with different facilities to support cyclists at street crossings, and that these projects are generally considered to significantly improve active transportation. Kelowna's significant success in building bike lanes, which now total 250 km in length, has led to councillors' acceptance of the importance of accommodating cyclists on municipal roads. For a suburban community, Surrey appears to have a notably diverse set of bikeway facilities. Vancouver also cited a wide range of measures along its bikeway boulevards, Central Valley Greenway and other facilities, including:

- cyclist pushbuttons
- bike boxes
- ongoing removal of right-turn channelization
- bicycle hook turn refuges
- bikeway markings through intersections
- extensive traffic calming along bike boulevards

"Following the pavers" to complement active transportation planning

Respondents noted that Vancouver's facilities not only improve comfort, convenience, and safety for cyclists, but also remind drivers that cyclists have a right to share the road—particularly in mixed traffic at busy intersections.

Photo by Richard Drdul

Exhibit 22: Dedicated cyclist push buttons in Vancouver, BC

Despite many reported municipal projects related to streetscaping, street furniture installation, road diets and traffic calming, respondents often interpreted the issue of physical improvements for pedestrians as being limited to sidewalk infill. A few initiatives targeting improvements to the quality of the existing pedestrian realm were cited, such as Peterborough's installation of mid-block pedestrian signals to provide more frequent crossing opportunities along arterial roads, particularly near key destinations such as parks, schools, and churches.

Some noted the challenges of coordinating design initiatives between levels of government on main streets which are often highways or arterials outside municipal jurisdiction. These streets are often home to major destinations including retail, residential, institutional and office land uses.

5.2.4. SYNERGIES WITH ROAD PROJECTS

An efficient way to develop active transportation networks is to methodically integrate new walking and cycling facilities in road rehabilitation and reconstruction projects—a "follow the pavers" approach.

Edmonton has actively pursued this approach, reviewing every road reconstruction project for opportunities to include missing sidewalk links, transit access facilities, bikeways, pavement markings and wide curb lanes. The roads group brings projects to the active transportation group, which does the preliminary planning. While the roads group may ultimately take over this planning responsibility, the City does not yet have approved design guidelines—and, in any case, experience shows that reconstruction projects are difficult circumstances in which to apply standard guidelines. Respondents from Edmonton noted that their approach has accomplished a lot for

active transportation by using road budgets (rather those dedicated to active transportation). In Halifax, road projects include wide curb lanes or bike lanes as a matter of course. Similarly, Ottawa specifies the inclusion of cycling facilities in road and bridge construction projects.

As pointed out in section 4.4.2, however, a reliance on this opportunistic approach to developing active transportation facilities may not meet the priorities of active transportation users, and risks project delays for any number of reasons. Respondents emphasized that this strategy is a complement to, not a replacement for, active transportation-specific planning that informs the development of capital works schedules rather than piggy-backing on other priorities. Only the Region of Waterloo was mentioned by participants for its efforts to consider active transportation priorities when setting road reconstruction schedules.

5.2.5. SYNERGIES WITH TRANSIT PROJECTS

One way to leverage transit developments for the benefit of active transportation users is the development of linear walking and cycling facilities in new rapid transit corridors. York Region plans to use rapid transit construction as an opportunity to install 55 km of bikeways by 2014. Respondents also noted that Vancouver and Translink are implementing cycling corridors in new rapid transit routes that are not in their Cycling Plan. Specifically, participants mentioned cycling links to the new Canada Line as well as the developing Central Valley Greenway that connects to stations along the Millenium SkyTrain line. TransLink feels that cycling trips along this Central Valley Greenway are increasing and that growth may be due to users' enhanced feeling of safety arising from fewer at-grade intersections and greater separation from traffic.

Incorporating AT considerations in public works scheduling

More frequently, the link between transit and active transportation is one of improving access to transit stops and stations for pedestrians and cyclists. Connectivity to transit is an issue that can raise the profile of and potential funding for active transportation linkages, and the need for transit catchment areas to provide excellent levels of service for walking and cycling can be a persuasive argument.

Securing space and funding through rapid transit projects

Halifax has explicitly brought active transportation planning into its transit planning process by ensuring that new MetroLink transit stations have walking and cycling connections to nearby communities. Respondents also pointed to Kelowna for creating walking networks in new suburban areas that focus on connecting residential areas to transit and carpool facilities.

A third synergy between transit and active transportation involves bicycle parking at transit stations. GO Transit mentioned installing 100 bicycle shelters with 16 to 20 bicycles spaces each, and TransLink noted having installed 300 bike lockers since 2000 which have seen rising levels of use. The benefits of more secure bike parking solutions (e.g. lockers) are particularly prominent in suburban locations such as commuter rail stations, where bikes are typically left for longer periods of time.

Photo by Flickr account 'waferboard'

Exhibit 23: The Central Valley Greenway's new Winston Overpass, which links to the Sperling Skytrain Station in Burnaby, BC

Exhibit 25: Bicycle parking demand quickly exceeded supply at GO Transit's first new bike shelter in Ajax and prompted the construction of a second shelter.

Creating space by removing or narrowing motorized vehicle lanes

5.2.6. TRADEOFFS BETWEEN ROAD USERS

Study participants noted that cities reluctant to reduce the number or width of motor vehicle lanes are forced to make trade-offs between pedestrian and cyclist needs when allocating the remaining right-of-way. Kelowna mentioned that the inclusion of bike lanes on some roads has required the elimination of sidewalk buffer zones. Increasingly, communities are removing traffic lanes (i.e. road diets) or accepting reduced widths for traffic lanes (with a minimum of 3 m becoming more common) as one way to avoid undesirable tradeoffs between pedestrian and cyclist needs.

Several study participants cited road diet projects that doubled as active transportation initiatives. Abbotsford, Calgary, Montreal, Prince George, Ottawa, Toronto and Vancouver reported removing motorized traffic lanes to expand the pedestrian realm or add on-street cycling facilities. Difficult decisions on retrofitting like this could have been avoided through the integration of a "complete streets" philosophy into the initial road design. While no Canadian experience with complete streets was cited, some progressive road design guidelines in Canadian communities may achieve the same objectives (see the following section).

Encouraging active transportation initiatives to be implemented as a matter of course

Photo by Dylan Passmore

Exhibit 24: On-street parking space used to extend a patio in Niagara Falls, ON

5.2.7. DESIGN GUIDELINES FOR WALKING AND CYCLING FACILITIES

Although this report deals collectively with active transportation, it is important to keep in mind that the design requirements for pedestrians and cyclists are quite different.

The City of Ottawa incorporated cycling facility design guidelines into their cycling plan, and has found that this approach helps to resolve many design issues quickly and with a minimum of debate. In Halifax, the experience has been similar, with respondents indicating that a design standards manual has led to quality cycling facilities being implemented as a matter of course. Halifax's active transportation staff had to spend a couple of years educating other city staff and advocating the use of the guidelines, but have now succeeded in limiting debate to projects with extraordinary circumstances. The Region of Waterloo is developing road design guidelines that incorporate active transportation needs into cross-sections for new or retrofitted regional roads, with the central goal of routinely considering equitable treatment of all transportation modes. Ottawa has already adopted design guidelines for urban arterial, urban

collector and rural roads that explicitly address the needs of pedestrians and cyclists.

5.2.8. MAINTENANCE REQUIREMENTS

Initiatives to ensure proper maintenance of walking and cycling facilities appear to have a low profile in most municipalities, although a few safety-oriented winter maintenance initiatives were mentioned by study participants. Snow and ice removal is particularly important in small municipalities, since low levels of transit service offer few alternatives to walking and cycling in bad weather. Peterborough mentioned that bike lanes are now swept as the first priority in the spring and Calgary, Caledon, Fort St. John, and Rimouski mentioned significant snow removal efforts. Montreal maintains 35 km of its cycling network (the "White Network") to high standards throughout the winter, and has found that the resulting usage justifies the cost. It is interesting to note that initial efforts to maintain affected cycling routes to a higher standard than adjacent sidewalks and roadways led to complaints from other road users, and practices have been adjusted.

Study participants also noted that concerns over future maintenance can be a barrier to the addition of new facilities. Public works staff may be reluctant to support the creation of active transportation facilities that increase the complexity or extent of their activities (e.g. snow removal, road sweeping and repainting) if their operating budgets are not increased when capital expenditures are approved.

Prioritizing snow removal corridors

Photo by D'Arcy Norman

Exhibit 26: Trail snow removal practices on Tuscany Boulevard in Calgary, AB

6. IMPROVING SAFETY AND SECURITY

6.1 Road safety

Adopt practices and programs which explicitly address safety issues for pedestrians and cyclists as well as perceived concerns about weather and personal comfort.

Establishing working groups to identify and improve problem locations

Participants had a long list of needs related to active transportation safety, but few specific initiatives were cited in the survey and during interviews, other than the implied road safety benefits associated with improved active transportation travel facilities and a few education and enforcement programs. Municipalities are somewhat limited in the programs they are able to implement since driver training and licensing is a provincial responsibility. Some respondents cited a need for provincial reform, but no such examples were mentioned other than some participants lamenting the Province of Québec's recent decision to allow right-hand turns at red lights and Nova Scotia's decision to allow pedestrian fines for starting to cross against a flashing hand signal.

Safety data collection is generally inadequate

Safety initiatives at the municipal level are typically limited to the occasional police blitzes to encourage safe behaviour. Although focused on injury prevention rather than accident prevention, Guelph cited a positive reinforcement program where police issue Dairy Queen coupons to children wearing their helmets. Respondents also mentioned TV ads that have been running in Halifax for several years, which target improved awareness for all road users. Many municipalities also promote CAN-BIKE training. Some participants from Québec suggested that a working group on pedestrian and cycling safety with strong community and stakeholder representation is an excellent way for a municipality to gather comments and suggestions to improve problem locations and overall roadway safety.

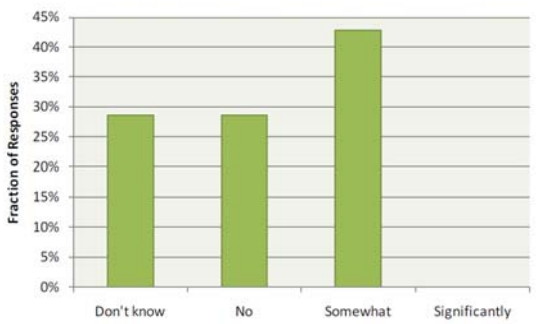
Respondents to this study's survey rated the collection of safety data as the least effective class of initiative in terms of improving active transportation (see Exhibit 27). This could reflect the quality of safety data typically collected, or perhaps the lack of follow-up analysis to generate constructive solutions to the problems identified. Participants also

pointed out that there is significant variation in serious injury data collection methods and information on unsafe conditions experienced by all users (e.g. accidents avoided and incidents not requiring hospitalization) is essentially undocumented. Furthermore, with regards to cycling, statistical analyses often suffer from small samples, making it difficult to draw statistically significant conclusions.

The concept of "shared space" roadways (increasingly common throughout Europe), where all street signs, markings, and signals have been removed, has received some recent attention in Canadian media. European experience suggests that the resulting uncertainty in how to behave in such spaces tends to slow down speeds and increase driver awareness, thus dramatically reduce accident rates. Some respondents were keen to discuss the idea, but we are only beginning to understand the implications of these environments and there are not yet any formal Canadian examples to draw from, although a few have been planned.

With these issues in mind, some respondents also pointed out that the perceived safety in some situations can be very different from the actual safety, and raised the important relationship between perceived safety, comfort and mode choice. Environments that are perceived as unsafe will not be comfortable to ride on or walk in, regardless of accident rates – such as walking mid-block on the sidewalk of a suburban arterial. This will inevitably impact one's decision to walk or bike in the first place. Due to the well established "safety in numbers" effect, this in turn does lead to reduced safety, and the spiral continues. Perhaps due to insufficient data, respondents did not cite experience with this correlation.

Exhibit 27: Have initiatives for collecting and analyzing active transportation safety data improved active transportation?



6.2 Crime and personal security

Foster a culture of knowledge, understanding and action to overcome real and perceived concerns about personal security and bicycle theft.

6.2.1. CRIME AND PERSONAL SECURITY

In Halifax, new off-road facilities must go through Crime Prevention Through Environmental Design (CPTED) audits[6]. Although CPTED principles apply broadly to all public space, participants cited specific experience with CPTED audited multi-use trails on which users feel more secure.

In terms of policing, few initiatives were cited. Ottawa's experience with police officers patrolling on bikes has been positive, and participants viewed it as having raised the local profile of utilitarian cycling. Port Coquitlam also noted significant success through its staff liaison with the local RCMP detachment, who meet bi-weekly on a transportation and solution committee.

Improving the sense of security through CPTED credits

6.2.2. BICYCLE THEFT REDUCTION

Governments have had a difficult time addressing bicycle theft at the municipal level. While there is no nation-wide tracking system for stolen bicycles, Whistler and Toronto have embarked on "bait bike" programs that have yielded success, whereby police quickly charge or arrest anyone caught steeling one of their bait bicycle, which they monitor closely.

6 Through features of the built environment, CPTED design strategies aim to deter criminal acts by essentially increasing a potential offender's perceived risk of being caught.

CASE STUDY: City of Whitehorse, Yukon
2006 Population: 20,461
Reshaping active transportation in a small northern community

The City of Whitehorse is proving that active transportation can be practical and popular in smaller communities with a challenging climate and topography. Whitehorse has a population of about 21,000 people, and a compact form that means 90 percent of workers have short commutes they could tackle by foot or bike. Since 2002, Whitehorse and several partners have worked to remove barriers to walking and cycling, educate and inform its citizens about active transportation, and to promote its use. In just a few years, the city has given a boost to active commuting, improved public attitudes toward active transportation options, and built support for walking and cycling within government agencies. Whitehorse residents' opinions of trails and paths to downtown improved from 48 percent positive in 2004 to 76 percent positive in 2006, with 30 percent thinking that cycling had become safer, and a 10 percent increase in the number of households with one member who walked or cycled downtown.

Transforming civic identity. Until the last few years, Whitehorse residents had not been asked to think about active transportation as a means of getting around. But the community has challenged its car-dependent mindset with strong leadership and promotion, participatory events like the Wheel 2 Work Whitehorse campaign, and the addition of high-profile facilities including a new bridge for walking and cycling across the Yukon River. These actions legitimized travel choices that may have seemed unusual before, and shifted civic identity towards one that clearly values walking, cycling and public transit. They have also reinforced the desire of elected officials to continue supporting active transportation through projects like a new Trail Plan.

Photo by Flickr account 'seagullrock'

Photo by Flickr account 'cyclopaedic'

Exhibit 28: Creative short-term bike parking at City Hall and on First Ave in Whitehorse, YK

Serving demand by removing physical barriers. Whitehorse residents who may have wanted to walk or bike downtown used to be discouraged by gaps in trail and on-road cycling networks, significant elevation changes, and challenging downtown traffic conditions. Many of these barriers have now been removed or reduced: new trail segments fill in missing links, a lighted outdoor staircase helps commuters cross a ravine, a new bridge over the Yukon River, bike lanes encourage cycling in the downtown core, and traffic calming features such as a downtown road diet and new roundabout make active transportation more pleasant and convenient.

Building awareness and understanding. To prepare the community for changes like road narrowings, bicycle lanes and a new roundabout, the City held public meetings and workshops, distributed brochures, arranged newspaper articles, placed advertisements in the media, staffed booths at trade shows, and created new cycling and walking maps. It worked with stakeholders including law enforcement officers, truck and transit drivers, maintenance crews and the media. These efforts helped Whitehorse to identify problems, design effective solutions, build acceptance, and enable safe and proper use of new facilities.

Leveraging community resources. Whitehorse built strong partnerships with local business, different levels of government, and a range of community groups and citizens. These partners provided many of the financial resources and social capital required to bring projects to fruition. They were actively involved in planning and implementing active transportation improvements, and have increased their capacity to offer continued support in the future.

7. INFLUENCING INDIVIDUAL TRAVEL CHOICES

7.1 Affecting a culture: attitudes and perceptions

Encourage people to try walking or cycling in different environments with the goal to make active transportation a regular daily activity for all segments of the population. Planners and other decision makers who regularly commute by active transportation are most likely to identify needs and gaps as well as understand the importance of developing facilities geared to all experience levels.

Study participants generally agreed that public interest in cycling is restrained by a number of misconceptions. For example, that it is a recreational activity or only a temporary means to be used by low-income households and students until they are able to afford a car. Those who are interested in cycling still often perceive that it is difficult or unsafe, leading to reduced demand, and some felt that media messages contribute to this situation. Respondents noted that Edmonton has had a difficult time with local media portraying active transportation negatively and promoting critical commentary.

However, respondents noted a feeling that a growing part of the population thinks that walking and cycling for transportation are becoming trendy, fashionable, cool, green, etc. This was underscored in Montreal, where BIXI and Vélo Québec's Féria du vélo (bike fest) are successfully marketing cycling with images of a more utilitarian user, as opposed to the image of either the spandex-wearing athlete or the counter-culture bike courier that many Canadians still envision.

As discussed in section 4.1, social media such as blogging and twittering (both by individuals and the City) has helped in Edmonton to somewhat balance out the debate and support individual champions. Similar experiences were cited for Victoria. As

Reframing walking and cycling to encourage broader participation

mentioned previously, several respondents emphasized the value of working with health services due to their experience using public and media relations to shape attitudes around issues like smoking and seatbelt use. Some worried that health efforts can sometimes focus heavily on injury prevention (e.g. helmet use) as opposed to accident prevention and the personal health benefits of active transportation.

Building public and political support for a cycling network via bicycle boulevards

Respondents noted an interesting phenomenon in Vancouver, where the City's 128 km of bicycle boulevards[7] were so popular with local residents for their effects on neighbourhood liveability and road safety that they ended up building significant public and political support for further implementation of the cycling network. More generally, however, respondents felt that a "build it and they will come" approach is an insufficient promotion strategy—the first Big Mac certainly did not sell itself on merit alone. Supply-side and demand-side strategies are best developed and implemented concurrently.

Neighbourhood walking tours that encourage rethinking the role of streets as also being social spaces

One of the more significant promotional events noted by study participants was Ottawa's successful Sunday Bike Day, which entails closing down 65 km of National Capital Commission parkways for part of every Sunday during the summer. Winnipeg also organized a one-day "ciclovia" in 2009, led by downtown businesses and community groups. The event was considered a big success, having drawn significant crowds and received positive feedback. Although these events are framed as cycling events, they also tend to enjoy significant participation by pedestrians, in-line skaters and other non-motorized users.

Many of the walking events cited by respondents tended to focus on health and recreation, such as the Peterborough Walks campaign. The walking-only events that were cited also tended to be smaller in scale. One notable exception would be

Photo by Flickr account 'Valerie27'

Exhibit 29: A Jane's Walk tour through the Annex neighbourhood in Toronto, ON

Jane's Walk – a large two-day event organized in honour of Jane Jacobs, which comprises themed neighbourhood walking tours and, by 2009, had spread to 24 Canadian municipalities [8]. Jane's Walk has been a remarkably successful promotion of a place-based perspective on urban landscapes through the experience of walking in small groups. Tours have a diverse range of themes, volunteer leaders and participants.

There was a strong sense among Québec participants that the concept of converting streets to pedestrian-only use would be a powerful tool for helping the general public re-imagine the role of streets as public space. Canada has few examples to draw from other than the older cases of Sparks Street in Ottawa and Prince-Arthur Street in Montréal. Interest in the topic, as well as related concepts such as transit malls and shared space or "naked streets" has been growing in some sectors, but there is no recent Canadian experience with such conversions.

7 Traffic-calmed streets that have been optimized for bicycle through traffic, but discourage non-local motorized traffic.

8 Brant County, Burlington, Calgary, Cambridge, Guelph, Halifax, Hamilton, Kitchener, Markham, Mississauga, Montreal, Newmarket, Ottawa, Penticton, Regina, Sudbury, Thornbury – Clarksburg, Thornhill, Toronto, Vancouver, Victoria, Waterloo, Windsor, and Winnipeg.

7.2 Outreach to encourage active choices

Work directly with employers, schools, community groups and households to broaden the impact and uptake of active transportation initiatives.

7.2.1. COMMUNITY INITIATIVES

Among the more successful initiatives in encouraging individuals to choose active transportation are neighbourhood-based social marketing projects, such as TransLink's TravelSmart program in Metro Vancouver. Pilot projects measured an average 8% increase in walking and cycling by residents of urban and suburban neighbourhoods. Winnipeg also cited a successful individualized marketing project that decreased drive-alone travel by 12% and GHG emissions from travel by 18% for participating households.

As discussed in section 4.1, some municipalities have had good success with special events that focus on utilitarian trips, such as Bike to Work Week in Victoria and Kelowna. These types of events tend to have more potential to encourage lasting behaviour changes than those that focus on purely recreational activities. Kelowna has collected statistics on overall event participation and the significant number of first-time cycling commuters since 2003 (note that as of 2009 the province-wide event is coordinated by Bike to Work BC). Participants also noted the success of Gatineau's 16-week long Réseau vélo-boulot (Bike to Work Network) in encouraging longer-term cycling habits in participants due to an extended duration and broad audience reach.

7.2.2. INITIATIVES IN SCHOOLS AND WORKPLACES

A number of governments reported leading by example and implementing measures that support their own employees in walking and cycling to work. The City of Edmonton has conducted complete walking and cycling assessments of its worksites, and may develop guidelines for other employers who have been asking for assistance.

Active and Safe Routes to School (ASRTS) programs are being undertaken in many Canadian communities (e.g. Brantford, Guelph, Halifax, the Ministère des Transports du Québec, Ottawa, Peterborough and the Region of Peel as noted in the survey), and with some degree of success. It was pointed out that there are ASRTS tools available at www.SafeRoutesToSchool.ca, and active pilot projects in six provinces and one territory. Surrey, B.C., indicated that it has had significant success in promoting walking and cycling to schools by employing a full suite of programs including a Walk-to-School Challenge, Walking School Bus, Bike-to-Work/School Week, Bike-to-School Train, and the City of Surrey Safe and Active Schools program. Participants from Peterborough noted that local programs have offered school travel maps and a few other programs at selected schools but with only limited impacts, and are now gearing up to promote a monthly car-free day at all schools. Some participants noted that schools can be challenging to work with due to their liability concerns, although these are being overcome. Some respondents recommended coordinating school walking and cycling programs through public health, as they tend to already have strong relationships with school boards.

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APPENDIX A:
LIST OF MUNICIPALITIES PARTICIPATING IN WEB-SURVEY

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Participating TAC Member Municipalities

Table 8: Participating TAC Member Municipalities

Municipality	Province	Municipality	Province
Abbotsford	BC	Mississauga	ON
Airdrie	AB	Moncton	NB
Amherst	NS	Moose Jaw	SK
Blackfalds	AB	Oakville	ON
Brandon	MB	Parkland County	AB
Brantford	ON	Peterborough	ON
Caledon	ON	Port Coquitlam	BC
Calgary	AB	Port Hope	ON
Cambridge	ON	Prince Albert	SK
Campbell River	BC	Prince George	BC
Central Saanich	BC	Quispamsis	NB
County of Lethbridge	AB	Red Deer	AB
County of Renfrew	ON	Region of Peel	ON
County of Simcoe	ON	Region of Waterloo	ON
Edmonton	AB	Regional Municipality of Springfield	MB
Essex County	ON	Regional Municipality of Wood Buffalo	AB
Estevan	SK	Richmond Hill	ON
Fort Macleod	AB	Rothesay	NB
Fort St. John	BC	Saskatoon	SK
Fredericton	NB	Slave Lake	AB
Gander	NL	Smiths Falls	ON
Grand Bay-Westfield	NB	Spruce Grove	AB
Grande Prairie	AB	Surrey	BC
Guelph	ON	United Counties of Stormont, Dundas, & Glengarry	ON
Haliburton County	ON	Thunder Bay	ON
Halifax Regional Municipality	NS	Toronto	ON
Halton Hills	ON	Truro	NS
Kelowna	BC	Vancouver	BC
Leduc	AB	Whistler	BC
London	ON	Winkler	MB
Medicine Hat	AB	Winnipeg	MB
Ottawa	ON		

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APPENDIX B:
LIST OF DOCUMENTS REVIEWED

Papers Reviewed

ADEME (2004) Vers une pratique quotidienne du vélo en ville. Au delà de la piste cyclable, comment favoriser le choix individuel pour le vélo [Promoting Bicycle Use in Cities: Encouraging Individuals to Move Beyond the Bicycle Path and Choose Cycling as a Practical Transportation Alternative]

Agence de la santé et des services sociaux de Montréal (2006) Urban Transportation, a Question of Health: 2006 Annual Report on the Health of the population.

ASTUTE website (Advancing Sustainable Transport in Urban Areas to Promote Energy Efficiency) [http://www.astute-eu.org/index.php]

Austroads (2005) The Australian National Cycling Strategy 2005–2010

Australian National Public Health Partnership (2001) Promoting Active Transport: An intervention portfolio to increase physical activity as a means of transport

Bicycle Federation of America & Campaign to Make America Walkable (1998) Creating Walkable Communities: A Guide for Local Governments

Clean Air Partnership (2008) The State of Active Transportation: Greater Toronto, Hamilton and Beyond

Canadian Fitness and Lifestyle Research Institute (2001) Increasing physical activity: Enhancing municipal opportunities

Cerreño & Nguyen-Novotny (2006) Pedestrian and Bicyclist Standards and Innovations in Large Central Cities

Conseil national des transports (2004) Une voirie pour tous. Sécurité et cohabitation sur la voie publique au-delà des conflits [A road system for all. Safety and coexistence on the public highway beyond conflicts of use]

Danish Road Directorate (1998) Best practice to promote cycling and walking: Analysis and Development Of New Insight into Substitution of Short Car Trips ADONIS.

Danish Road Directorate (2000) Collection of Cycle Concepts

Department for Transport (2008) Building Sustainable Transport into New Developments: A Menu of Options for Growth Points and Eco-towns

Department for Transport (2005) Encouraging walking and cycling: success stories

Department for Transport (2007) Manual for Streets

Department for Transport (2000) Encouraging walking: advice to local authorities

Department for Transport (2004) On the move: by foot

European Commission (1999) cycling: the way ahead for towns and cities

Federation of Canadian Municipalities (2008) Communities in Motion: Brining Active Transportation to Life

FHWA (2008) Guide to Promoting Bicycling on Federal Lands

Fiets Vélo, Pascal Smet, Ministre de la mobilité et des travaux publics (unknown) Plan Directeur [Master Plan]

Fiets Beraad (2006) Continuous and integral: The cycling policies of Groningen and other European cycling cities.

Gehl, Jan and Gemzoee, Lars (1996) Public Spaces Public Life, Copenhagen

Giles-Corti, Billie and Salmon, J. (2007) Encouraging children and adolescents to be more active

Giles-Corti, Billie (2007) The impact of urban form on public health

Giles-Corti, Billie and Donovan, Robert J. (2003) Relative Influences of Individual, Social Environmental, and Physical Environmental Correlates of Walking

Go For Green and Canadian Institute for Planners (2004) Community Cycling Manual: A Planning and Design Guide

Go for Green (1995) Retrofitting Communities for Sustainable and Healthy Active Transportation

Go for Green (1995) Developing Communities for Active Transportation

Gouvernement Suisse (2001) Pojet de Plan directeur de la locomotion douce [Proposed Master Plan for Active Transportation]

Government of New South Wales (2001) Action for Bikes: BikePlan 2010

Institut Belge pour la sécurité routière et Service public fédéral mobilité et transports (2005) Le code de la rue...la rue pour tous [Rules of the Street... Road Access for All].

Land Transport New Zealand (2005) New Zealand walking and cycling strategies – best practice

Lewis & Lane (2008) Public Outreach in Pedestrian Plan for Durham, North Carolina: Effectiveness in a Diverse Community

Mobycon, Fiets Beraad, Ligtermoet and Partners (2004) Cycling in the Netherlands

National Center for Bicycling & Walking, Washington (2002) Increasing Physical Activity Through Community Design: A Guide for Public Health Practitioners

New Zealand Ministry of Transport (2005) Getting there — on foot, by cycle: A strategy to advance walking and cycling in New Zealand transport

Neumann (2008, M.Sc. Thesis) Shifting Gears or Stalling? An Analysis of Bike Lane Planning and Building in Toronto.

OCDE (2004) La mise en oeuvre des politiques de transports urbains durables: aller de l'avant. Pollitiques nationales en faveur du vélo [Implementing Sustainable Urban Travel Policies: Moving Ahead. National Policies to Promote Cycling]

Pucher and Buehler (2007) At the Frontiers of Cycling: Policy Innovations in the Netherlands, Denmark, and Germany

Pro vélo asbl. (2000) Code de bonnes pratiques des aménagements cyclables (Bikeways Best Practices Code)

Ramblers' Association (2008) Travel actively, walking and cycling for health and well-being: Annual Review 2008

Safe guide Canada (2004) La sécurité des piétons: en faire une réalité [Pedestrian and Child Safety].

Translink (2008) Long Range Bicycle Master Plan Background Study

Transportation Alternatives (2008) Streets to Live By: How livable street design can bring economic, health and quality-of-life benefits to New York City

TRB (2005) Transit Cooperative Research Program (TCRP) Synthesis 62: Integration of Bicycles and Transit

TRB (2005) Does the built environment influence physical activity: examining the evidence

UK Heart Foundation, Living Streets, and CABE (2007) Creating and enhancing places for healthy, active lives: What needs to be done

Velo-city Munich (2007) Bicycle traffic in Munich

Victoria Transport Policy Institute (2009 – living document) Pedestrian and Bicycle Planning: A Guide to Best Practices

Active Transportation Plans Reviewed

Cape Breton Regional Municipality Active Transportation Plan, 2008

City of Surrey GO for 20 – Active City Community Action Plan, 2008-2010

City of Winnipeg Active Transportation Plan, 2008

Town of Bridgewater Active Transportation and Connectivity Plan, 2008

Beecher Bay First Nations, Lil'wat Nation, Barriere, and District of Tumbler Ridge Active Communities Plans, 2008

Armstrong / Spallumcheen's Active Community Plan Walk the Walk – With the Overlanders, 2007

Halifax Regional Municipality Active Transportation Plan, 2006

The Communities in Action Committee (NGO): An Active Transportation Plan for Minden, 2008

City of Vaughan Pedestrian and Bicycle Master Plan Study, 2007

York Region Pedestrian and Cycling Master Plan, 2006

City of Moncton Active Transportation Plan, 2002

City of Ottawa Pedestrian Plan, 2009 [Draft]

City of Victoria Pedestrian Master Plan, 2008, and Kelowna Sidewalk Master Plan

City of Kamloops Pedestrian Master Plan, 2002

District of Sooke Preliminary Pedestrian Plan

City of Prince George Pedestrian Network Study

City of Toronto Existing Pedestrian Policies, Programs and Actions

City of Edmonton Bicycle Transportation Plan Update, 2009

City of Cambridge Bikeway Network Plan, 2008

Haliburton Highlands Cycling Coalition (NGO) Cycling Master Plan, 2008

City of Prince George Transportation Study, Cycling Network Plan

City of Fredericton Trails / Bikeways Master Plan, 2007

The City of Sault Ste. Marie Cycling Master Plan, 2007

Town of Markham Draft Cycling Master Plan, 2007

District of North Vancouver Bicycle Master Plan, 2006

City of London Bicycle Master Plan, 2005

Region of Waterloo Cycling Master Plan, 2004

City of Abbotsford Bicycle Master Plan, 2003

The Regional Municipality of Niagara Bicycle Master Plan, 2003

City of Kingston Cycling and Pathways Study, 2003

City of Toronto Bike Plan: Shifting Gears, June 2001

City of Windsor Bicycle Use Master Plan, April 2001

City of Victoria Bicycle Master Plan 1995

Metrolinx Draft Regional Transportation Plan: The Big Move, 2009

TransLink 2008 Transportation and Financial Plan—Cycling

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APPENDIX C:
TRENDS ANALYSIS

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The following memo is a brief snapshot of what we presently know about active transportation trends across Canada, organized around 12 central questions. Interest in active transportation policy is a relatively recent phenomenon and, as such, so is interest in collecting relevant data. There are very few longitudinal datasets, complicating trend analyses.

C.1 How is the rate of active transportation changing?

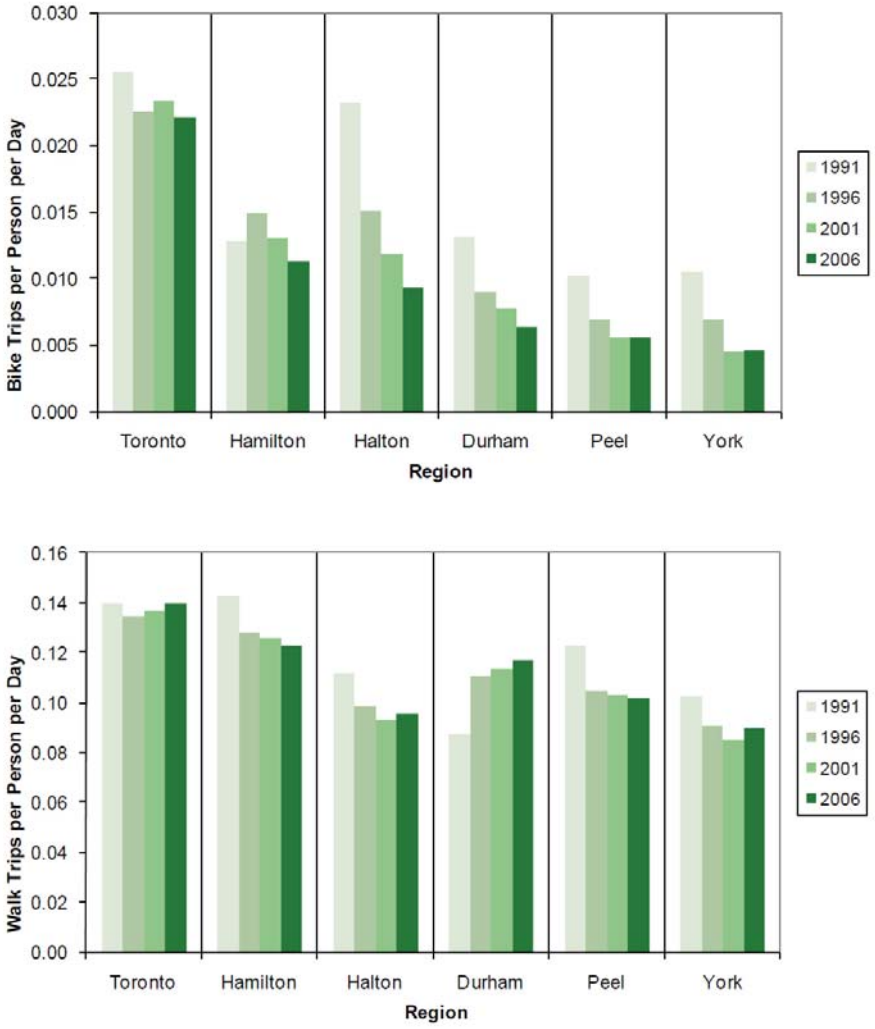
Most medium to large municipalities in Canada have travel survey data. However, few of these surveys are conducted at regular intervals and intrazonal travel [1] is not well accounted for. Active transportation also does not figure prominently in any of these surveys and, as such, their resulting active transportation data must always be accompanied with numerous caveats that vary from survey to survey, such as the Transportation Tomorrow Survey's excluding discretionary walk and cycle trips, trips by children under 11, and weekend travel as well as methodological issues causing under representation of apartment households and teenagers. For more details on the nuances of each dataset, please refer to the source references indicated.

Since 1996, Statistics Canada has expanded the national census to include the primary transportation mode for work trips and this represents the only consistent nation-wide indicator for rates of walking and cycling over time. Generally, both walking and cycling appear to be increasing very slowly at an aggregate level. Ignoring methodological issues, from 2003 to 2008, a Winnipeg survey also found that although 17% of respondents reported cycling more, 34% reported cycling less. The decrease in cycling was particularly pronounced for those between 18 and 24 in age, with 54% claiming they cycle less. Similarly, all regions across the Greater Golden Horseshoe (GGH) show rapidly decreasing cycling rates, while only Toronto and Durham show slightly increasing walking rates (see Exhibit 10).

As always, it depends where you look and who you ask. Trends in central urban areas are less clear – for example, census data shows that Toronto's Parkdale neighbourhood saw an increase in bicycle commuting from 5% to 14% between 2001 and 2006, and near U of T it is now as high as 17%, up from 6% in 2001. From 1994 to 2005, Edmonton saw overall decreases in walking person-km (particularly among children), but for those between 16 and 64 years of age, they increased. Cycling person-km increased across all age groups; however the absolute numbers are still very small. In the GGH, only Mississauga City Centre showed a clear decrease in walking in 2006, while at the same time it was the only central area to show an increase in cycling mode share over the same time period. From 1995 to 2004, Ottawa's inner area cordon data shows decreasing cycling mode share and the City's cycling index dropped. Since the brief 2008 spike in gasoline prices, there is good reason to suspect cycling and walking rates have increased significantly; clues range from the anecdotal, to a collapsing North American auto industry trying to re-invent itself, to reports of record breaking nation-wide bicycle sales. We are unaware of any dataset that has yet captured this recent time period to highlight any such potential impacts of higher fuel costs.

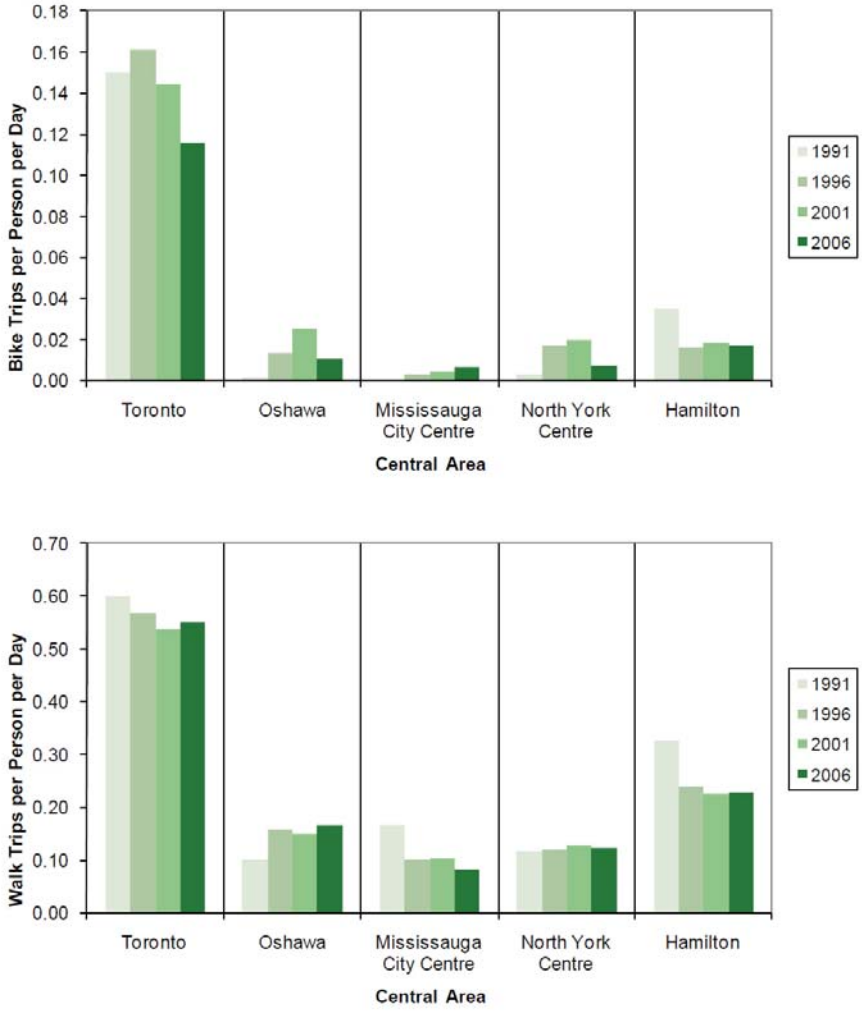
1 Travel that occurs within a zone

Exhibit 30: Walking and cycling rates in the Greater Golden Horseshoe



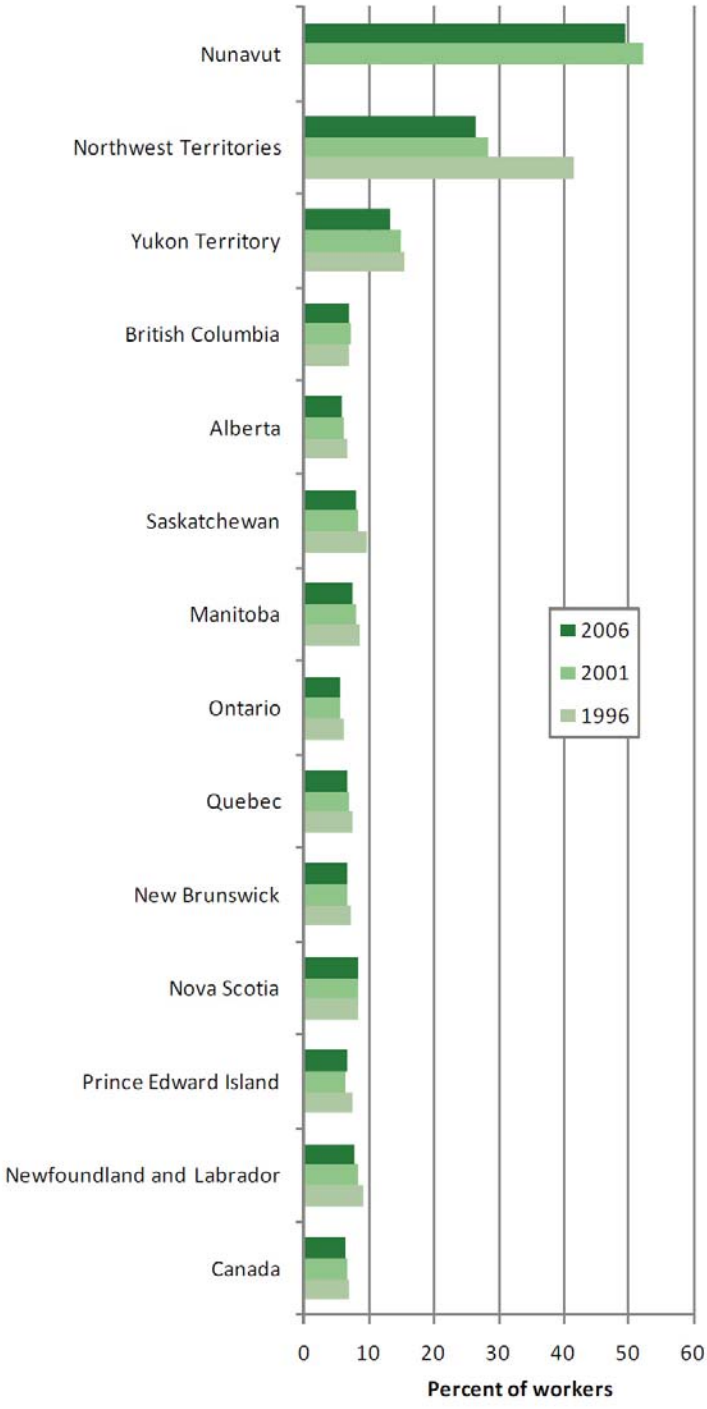
Source Data: IBI Group, Transportation Tomorrow Survey

Exhibit 31: Walking and cycling rates in central areas of the Greater Golden Horseshoe



Source Data: IBI Group, Transportation Tomorrow Survey

Exhibit 32: Journey to work walking rates by province



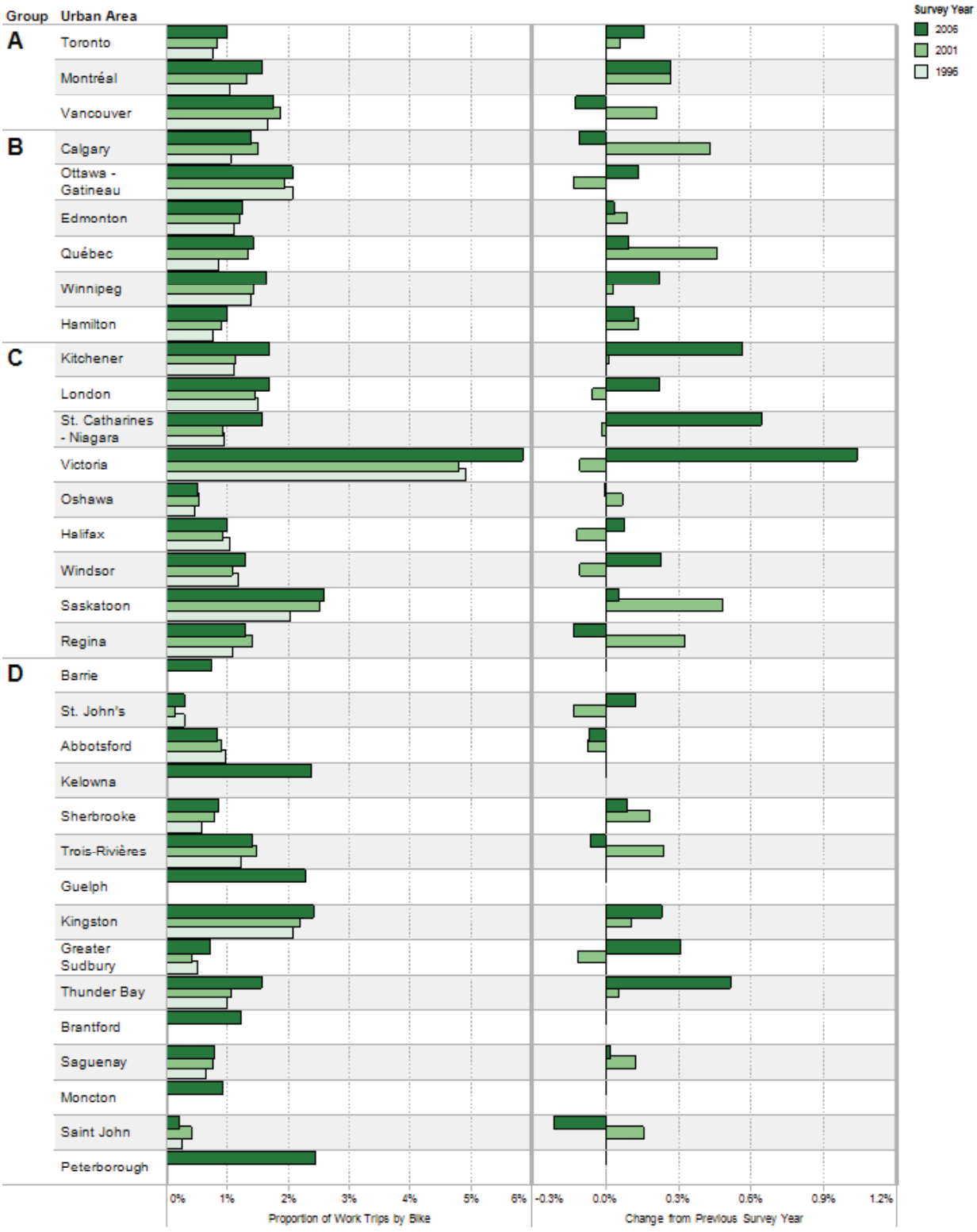
Source Data: Statistics Canada, Census of Canada

C.2 How is the use of active transportation for commuter travel changing?

Statistics Canada reports that in every province, the proportion of those who walk to work is decreasing except for those between 25 and 34 years of age. The trend for cycling has been the opposite, with the nation-wide average steadily increasing, although those walking to work in 2006 still outnumber those who cycle by 5 to 1. The only age cohort not showing this steady increase in cycling rates was for those 15 to 24 years old.

Cycling and walking in most CMAs appears to be increasing. Victoria shows the highest cycling rate for work trips at 5.8% in 2006, which is a significant increase over the 2001 level of 4.8% (see Exhibit 13). St. Catharines-Niagara, Kitchener, and Thunder Bay also show considerable increases in 2006. Walking to work rates show a similar upward trend from 2001 to 2006 after declining rates were observed from 1996 to 2001. Nearly every municipality that saw a drop in the mode share of walking commute trips in 2001 saw the trend reverse in 2006. The only two municipalities that continued to show declining rates of walking are Windsor and Saguenay (see Exhibit 14). The proportion of those walking to work in Victoria continued to grow, reaching as high as 11 percent in 2006, followed closely by two other university towns: Kingston and Halifax.

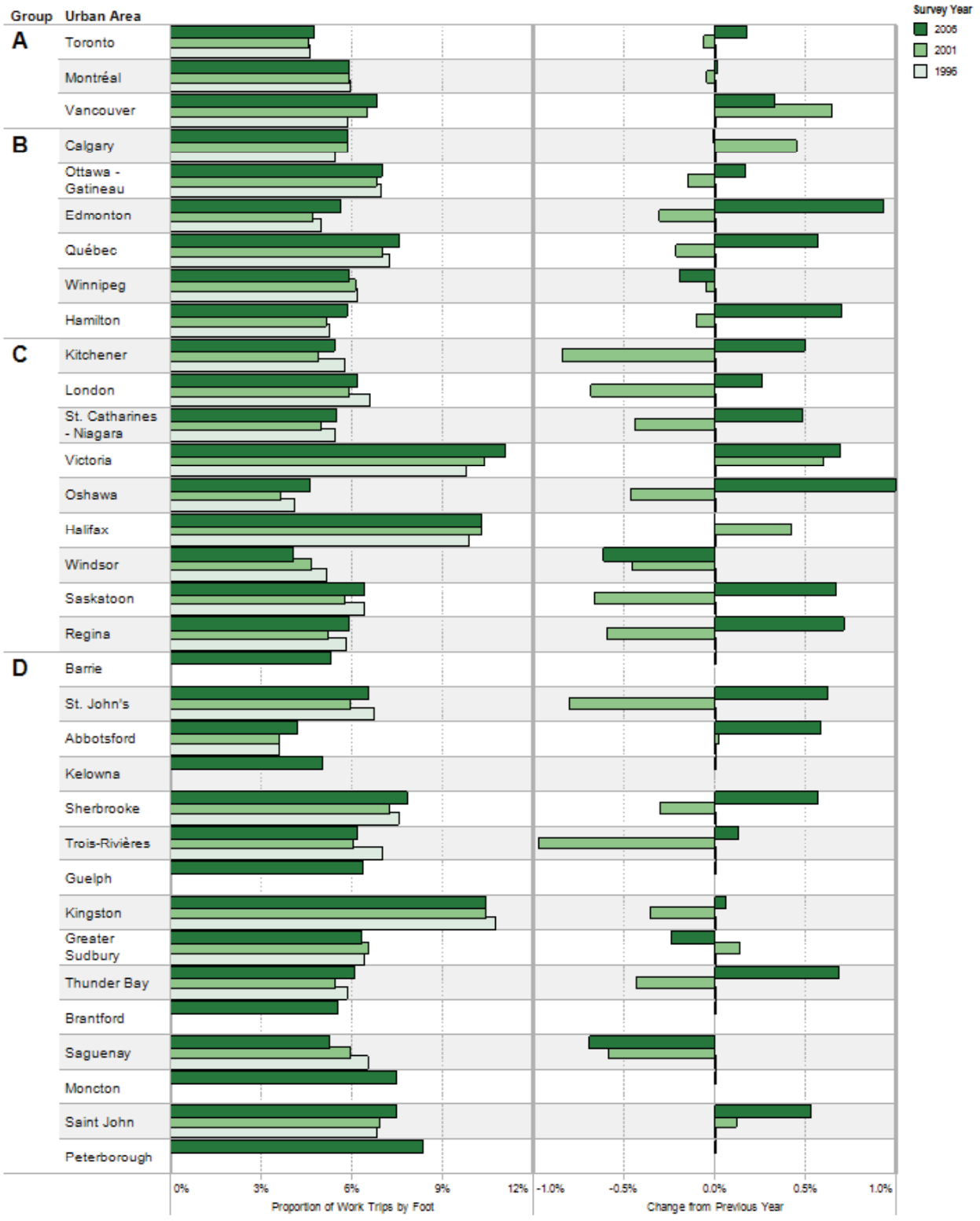
Exhibit 33: Cycling Mode Share for Work Trips, 1996–2006



Source Data: Statistics Canada (2006) 2006 Census of Canada.

Note: Barrie, Brantford, Guelph, Kelowna, Moncton, Peterborough were not CMAs in 2001 & 1996.

Exhibit 34: Walking Mode Share for Work Trips, 1996–2006



Source Data: Statistics Canada (2006) 2006 Census of Canada.

Note: Barrie, Brantford, Guelph, Kelowna, Moncton, Peterborough were not CMAs in 2001 & 1996.

C.3 How is the use of active transportation for school travel changing?

A 2004 Go for Green report suggests little changed between 1998 and 2004 [2]. In both survey years, approximately 50% of children never walk to school and only 6% always walk to school, with most parents reporting that their children do not walk to school because it is too far; safety was not a major concern among parents. Cycling behaviour did change slightly between the two surveys, with 75% of children never using their bikes to get to school in 2004, up from 64% in 1998. As with walking, parents cited travel distance as the primary deterrent, but traffic safety was also a predominant issue for cycling, with 20% of parents citing it as their main concern.

C.4 How are public attitudes toward AT changing?

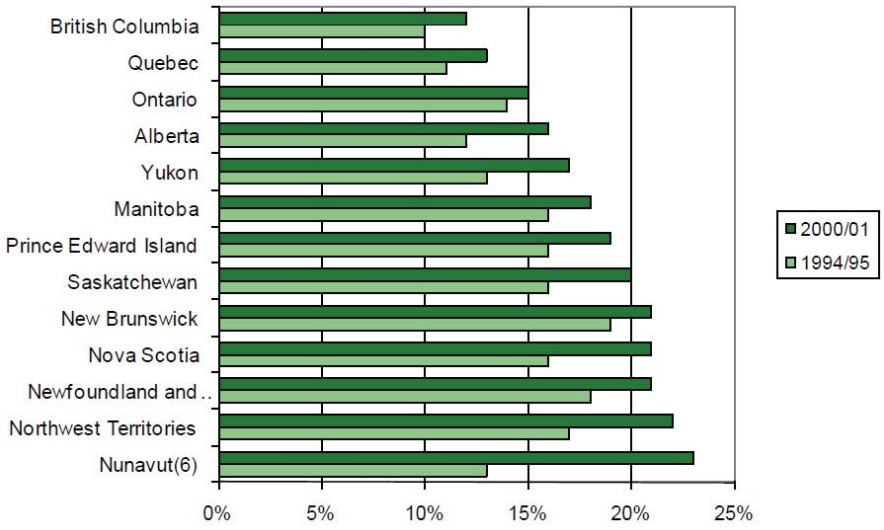
The same Go for Green report suggests that little changed in public attitudes between 1998 and 2004[3]. For both surveys, the main reason for choosing to walk or cycle as a form of transportation was clearly health (61% and 69% respectively) and the main barriers to walking were distance and the environment (42%), while the main barriers to cycling were split between weather (29%) and distance or the environment (28%). Very similar results are highlighted in a travel behaviour and attitude survey conducted for the City of Ottawa both in 1992 and 2002 [4].

In the GTHA, a Smart Commute study suggests pedestrians and cyclists are by far the most satisfied with their commute. Between 2005 and 2008 pedestrian satisfaction was more or less constant, but cyclist satisfaction appears to have increased significantly.

C.5 How is obesity or chronic disease that are related to physical activity levels changing?

Although absolute obesity rates vary significantly by region, with municipalities in Québec and British Columbia among the lowest, average obesity rates among adults in Canada are unquestionably increasing (see Exhibit 15). A clear correlation between obesity rates and activity levels has been established, but longitudinal research establishing causality between obesity and active transportation modes remains tenuous.

Exhibit 35: Obesity rates by province



2 Go for Green (2004) National Active Transportation Survey.
3 Go for Green (2004) National Active Transportation Survey.

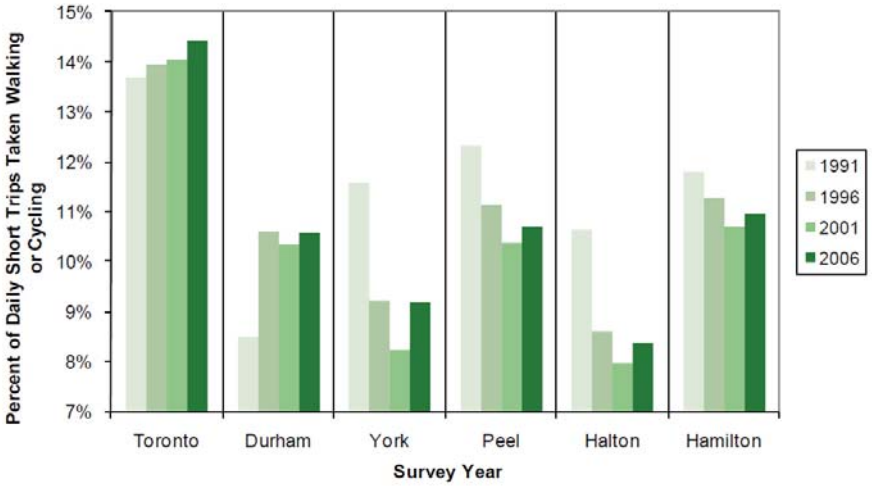
4 City of Ottawa – 2002 Commuter Travel Behaviour and Attitude Survey (Decima Research); Ottawa Cycling Advisory Group – Commuter Cycling in Ottawa-Carleton: A Survey, June 1992

C.6 How is the proportion of short trips (< 5 km) changing?

TTS data suggests that since 2001, residents are increasingly taking advantage of options to walk or bike short trips (see Exhibit 16). Interestingly, this positive trend has been steady in Toronto since 1991. Other regions may also exhibit this trend, but in many cases it may be undone by a decrease in the number of short trips taken. For example, from 1998 to 2004 the percent of those who live within 2.5km of at least one routine destination unfortunately decreased from 64% to 54%. As well, from 1996 to 2006, Census data shows median commute distances increased or did not change for all provinces except New Brunswick. The UTI survey shows that this trend is essentially identical in urban regions, except in Vancouver and Saint John, where average commute distances have decreased. Comparing different types of trips, from 1994 to 2005 Edmonton found that average trip lengths are increasing or constant for all types, particularly home-based school trips, which increased by 33%.

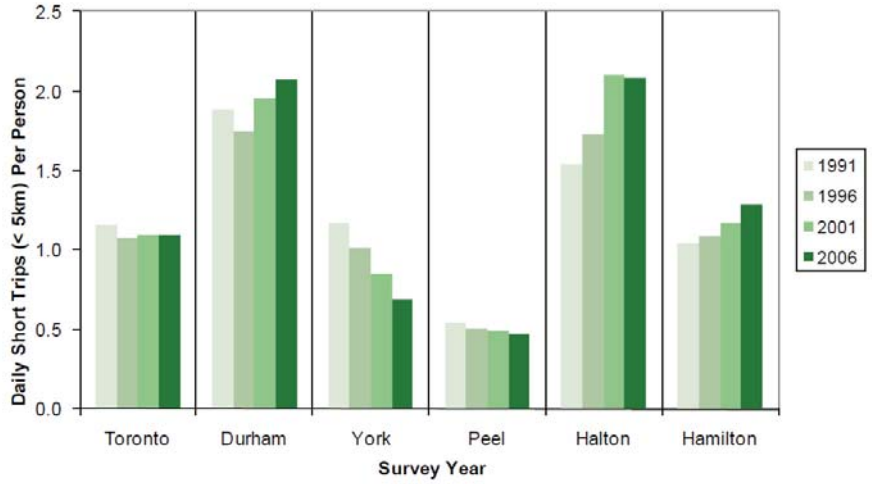
Using the TTS survey to compare short trip rates, data suggests trends vary significantly by region. There is a growing market for walking and cycling in several regions of the GGH since, from 1991 to 2006, the number of short trips per person either did not change or increased for all regions except Peel and York, which have by far been the fastest growing and arguably most "suburban" regions of the six. Note that in York, the decrease in short trips per capita was consistent and rapid, with the number of short trips per capita in 2006 being approximately 60% of 1991 levels (see Exhibit 17).

Exhibit 36: Short trips taken by active modes in the Greater Golden Horseshoe



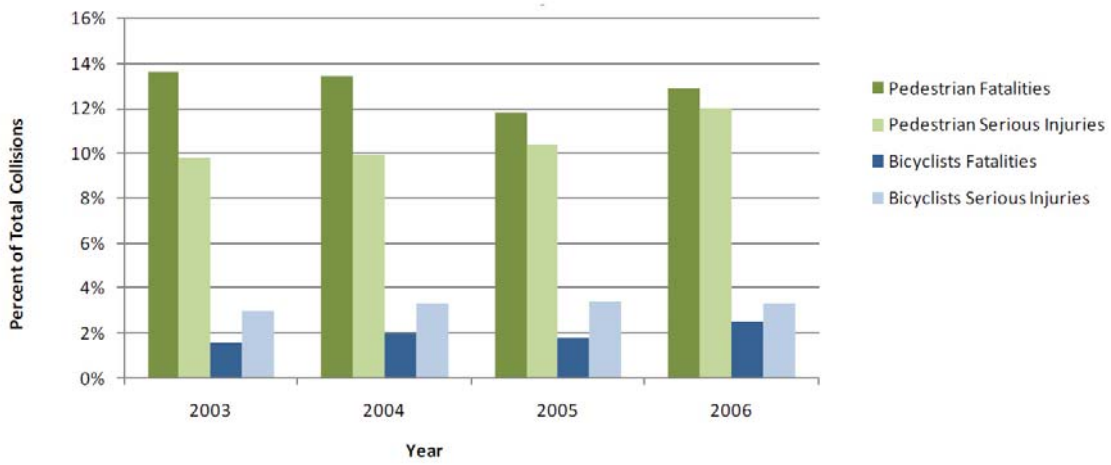
Source Data: IBI Group, Transportation Tomorrow Survey

Exhibit 37: Short trips per capita in the Greater Golden Horseshoe



Source Data: IBI Group, Transportation Tomorrow Survey

Exhibit 38: Fatalities and serious injuries in Canada by road user class, 2003–2006



Source Data: Transport Canada, Canadian Motor Vehicle Traffic Collision Statistics.

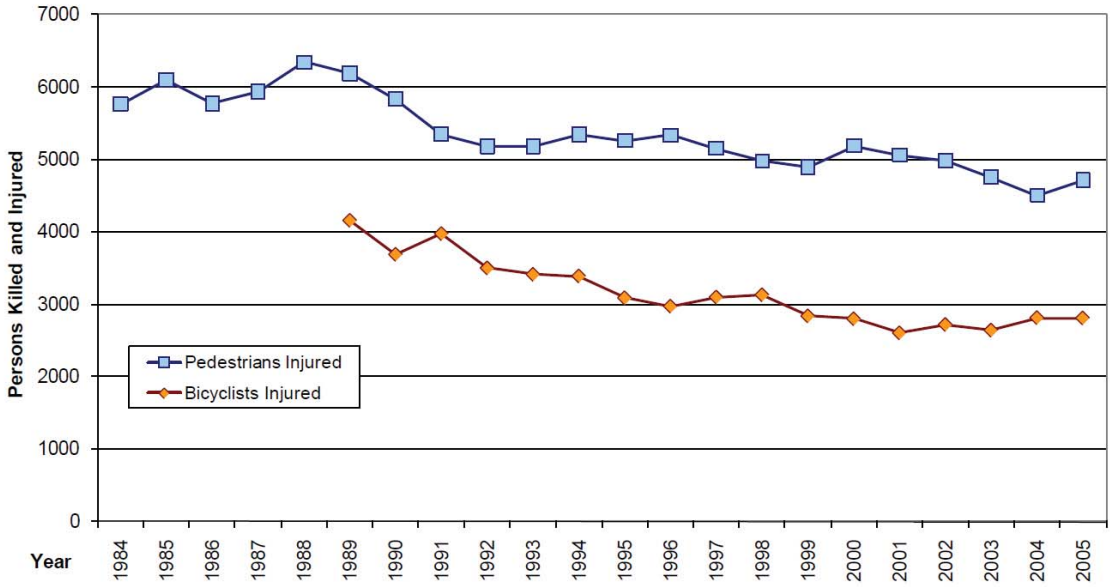
C.7 How is the safety of active transportation changing?

The overall trend is a slight decrease in collision fatalities and injuries with time, however trends are inconclusive for cyclists and pedestrians (see Exhibit 18). Nova Scotia's pedestrian and cyclist serious injury data from 1999 to 2006 and Alberta's from 1998 to 2007 are also inconclusive. British Columbia's pedestrian injury levels from 1995 to 2006 appear relatively constant, while Ontario's injury data from 1984 to 2005 shows cyclist injuries tended to decline, although in recent years the trend is less clear (see Exhibit 19). Despite the availability of comprehensive national statistics on the absolute number of pedestrian and cyclist injuries, little can be said about the safety trends of these two modes since there is no equivalent national measure of exposure rates, particularly for cycling. Furthermore, methodological differences between the provinces in collecting traffic accident data complicates comparisons between regions.

In Canada, average annual pedestrian and cyclist fatalities from 1999 to 2006 were approximately 370 and 60 respectively. From 1999 to 2006, Transport Canada data shows no clear trend in Canada–wide cyclist or pedestrian fatality rates. The same is true of Nova Scotia data from 1998 to 2006. From 1989 to 2006, Ontario's bicyclist fatalities tended to be decline, but, again, the trend is less clear in recent years (see Exhibit 19). Although data on fatalities is less susceptible to methodological discrepancies across regions, they are, thankfully, too infrequent to provide significant data.

One of the better studies on safety trends is the often cited comprehensive research by Jacobsen, which examines longitudinal data in numerous American and European cities, and suggests that a motorist is less likely to collide with a person walking and bicycling when there are more people walking and bicycling. There is no reason to suspect this relationship would be any different in Canada.

Exhibit 39: Persons Injured in Ontario, 1984–2005



Source Data: Ministry of Transportation, Ontario Road Safety Annual Reports 1993 to 2006 [available online: http://www.mto.gov.on.ca/english/safety/orsar/]. Injuries include all categories of severity (minimal, minor, and major)

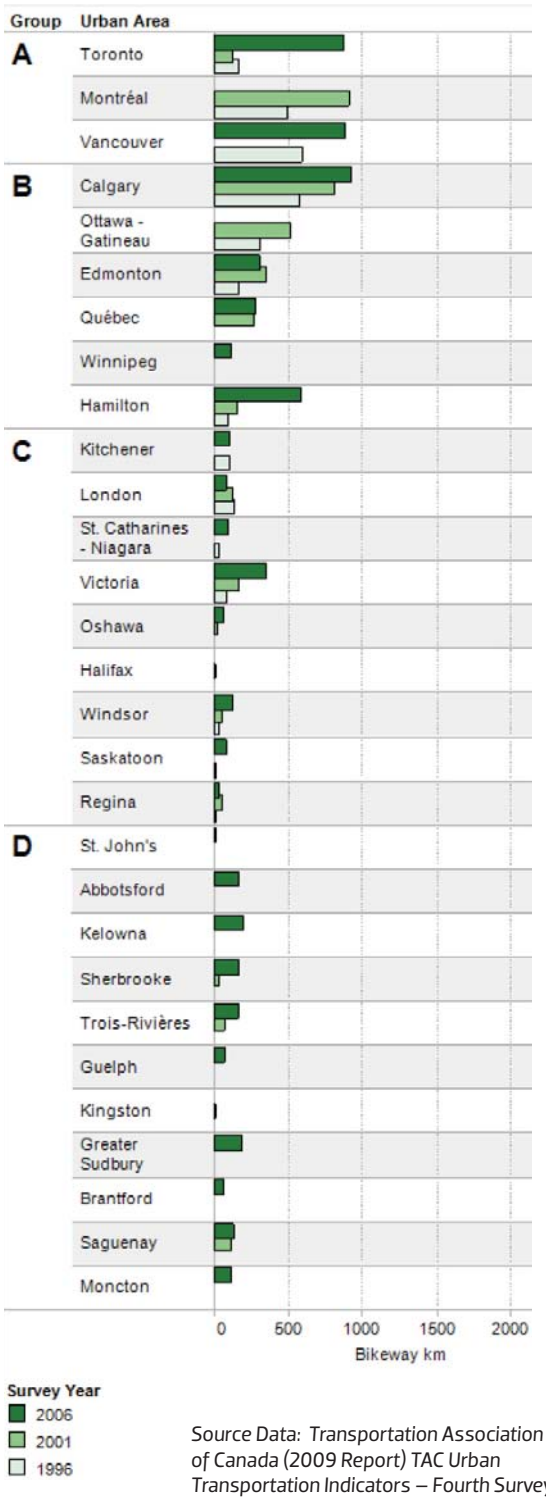
C.8 How is the provision of active transportation infrastructure changing?

Municipalities are certainly expanding their bikeway facilities and in some cases, such as Victoria, Sherbrooke, and Hamilton, the expansion appears to be speeding up (see Exhibit 20). However, comparing their progress is very challenging. The challenge comes from a history of not collecting this data and relatively undeveloped reporting standards and practices compared to other modes of transportation. For example, many municipalities in Québec have been significantly expanding their bicycle networks, but these advancements are essentially unregistered. The wide variety of facility types complicates any such effort, particularly when trying to quantitatively capture the pedestrian realm.

Sparse results from the latest TAC Urban Transportation Indicators project suggest some of the smaller urban areas have been very aggressive in dedicating road space to cyclists, reaching as much as 11% and 8% percent of roadway lane-km in Abbotsford and Sherbrooke respectively (see Exhibit 21). Hamilton and Victoria stand out among mid-sized urban areas, each reaching 5% of roadway lane-km. Unfortunately, among the larger urban areas, only Vancouver was able to provide this information for 2006. In terms of trends, Québec, Hamilton, Sherbrooke, and Trois-Rivières stand out for quickly expanding their networks since 2001. Oddly, Edmonton, Windsor, and Regina appear to have regressed.

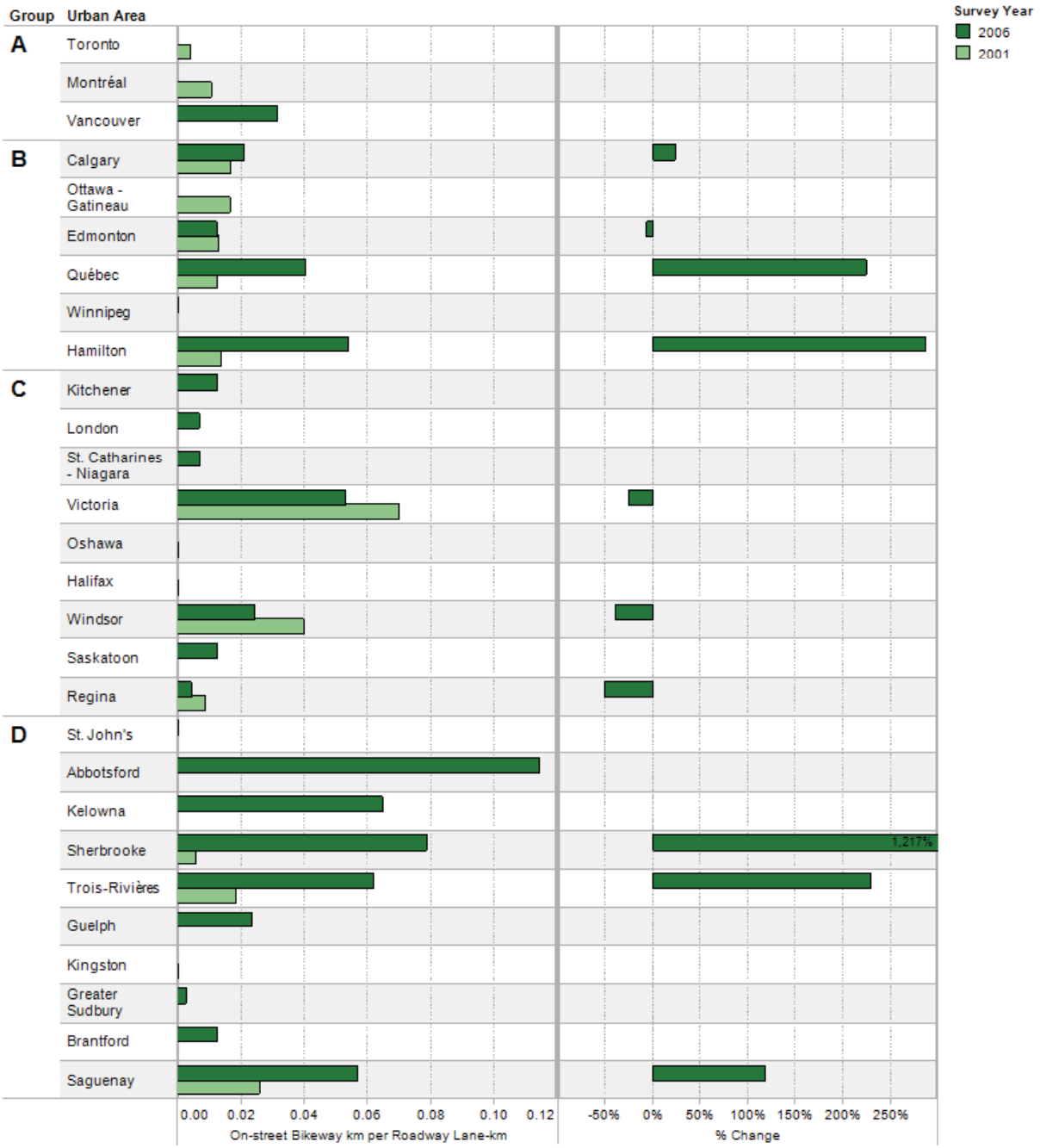
Calgary's extensive multi-use trail network is still by far the densest off-street network among all municipalities (see Exhibit 22). As with on-street bikeways, several of the smaller municipalities also stand out for having high densities of off-street facilities but we cannot yet say how this has changed. Overall, the number of municipalities showing a significant increase in their density of off-street bikeways over 2001 levels is very encouraging. Hamilton, Oshawa, Windsor and Sherbrooke all show remarkable increases over their 2001 densities of off-street bikeways. This positive picture for off-street bikeways (such as multi-use trails) may be the result of growing interest in providing cycling facilities, and may also result from reduced socio-political and institutional barriers exist to reallocating precious road space.

Exhibit 40: Total Bikeway Kilometres in Existing Urban Areas, 1996-2006



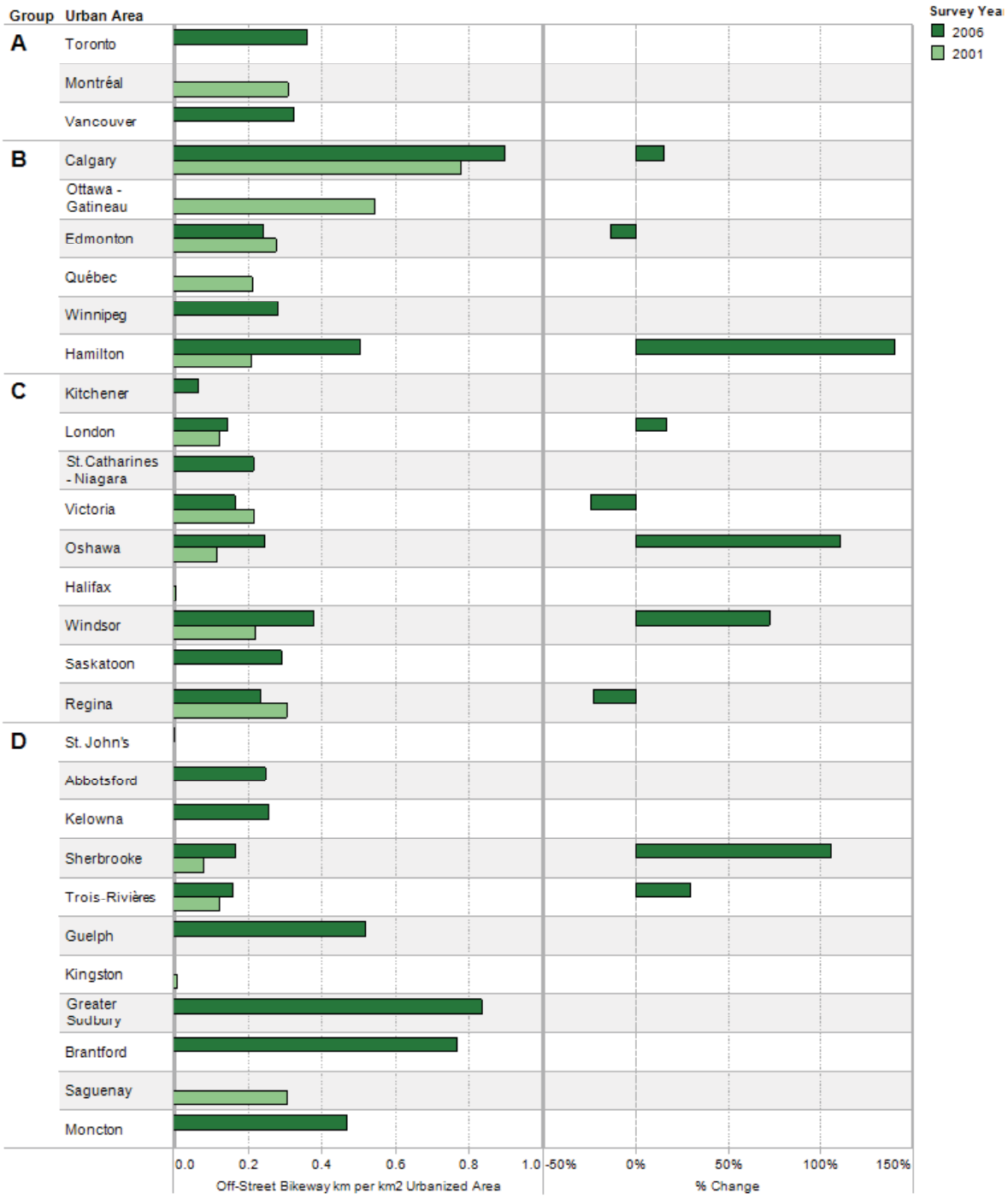
Source Data: Transportation Association of Canada (2009 Report) TAC Urban Transportation Indicators – Fourth Survey.

Exhibit 41: Route-km of On-Street Bikeways per Roadway Lane-km in Existing Urban Areas, 1996-2006



Source Data: Transportation Association of Canada (2009 Report) TAC Urban Transportation Indicators – Fourth Survey.

Exhibit 42: Off-Street Bikeway Path-km per km2 Urbanized Land Area, 2001-2006



Source Data: Transportation Association of Canada (2009 Report) TAC Urban Transportation Indicators – Fourth Survey.

Exhibit 43: Bicycle sales across Canada

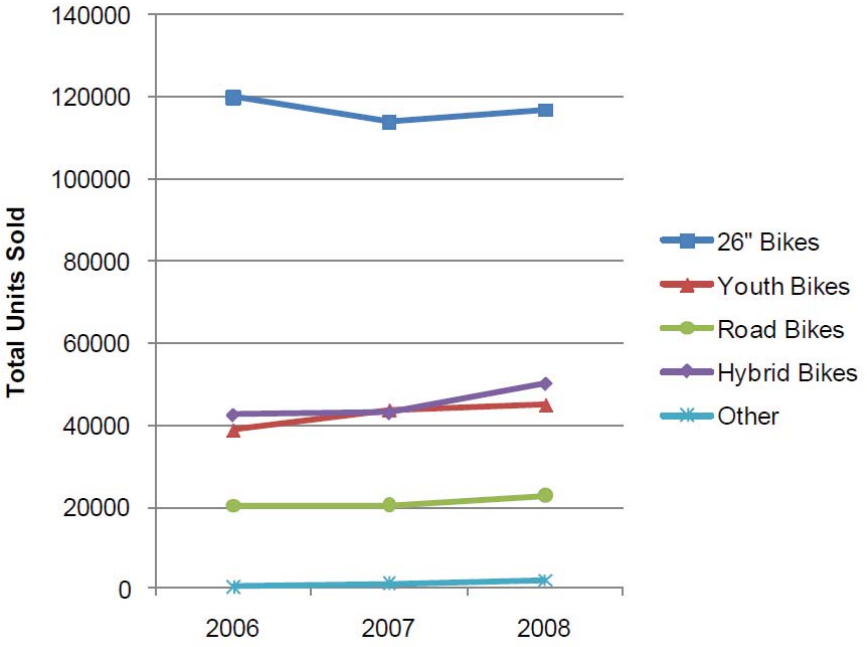
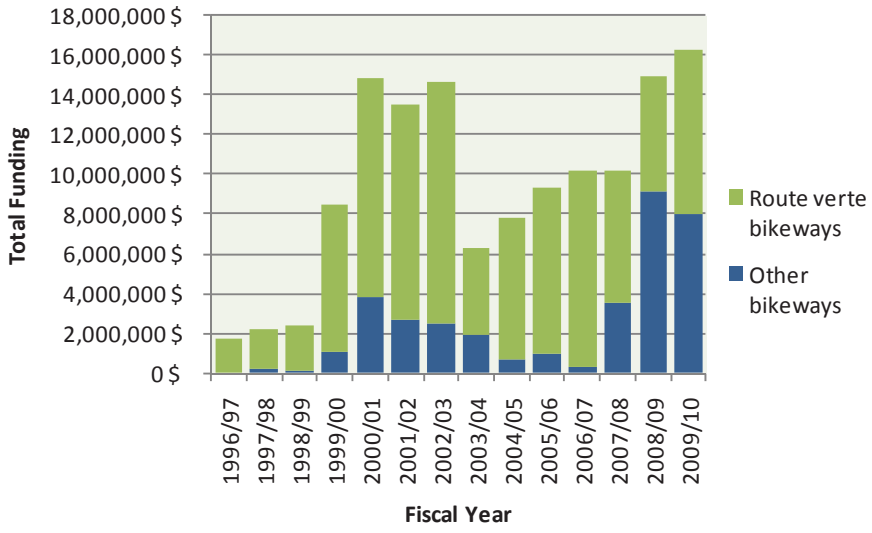


Exhibit 44: Ministère des Transports du Québec funding for bikeway construction



C.9 How is the rate of bicycle ownership changing?

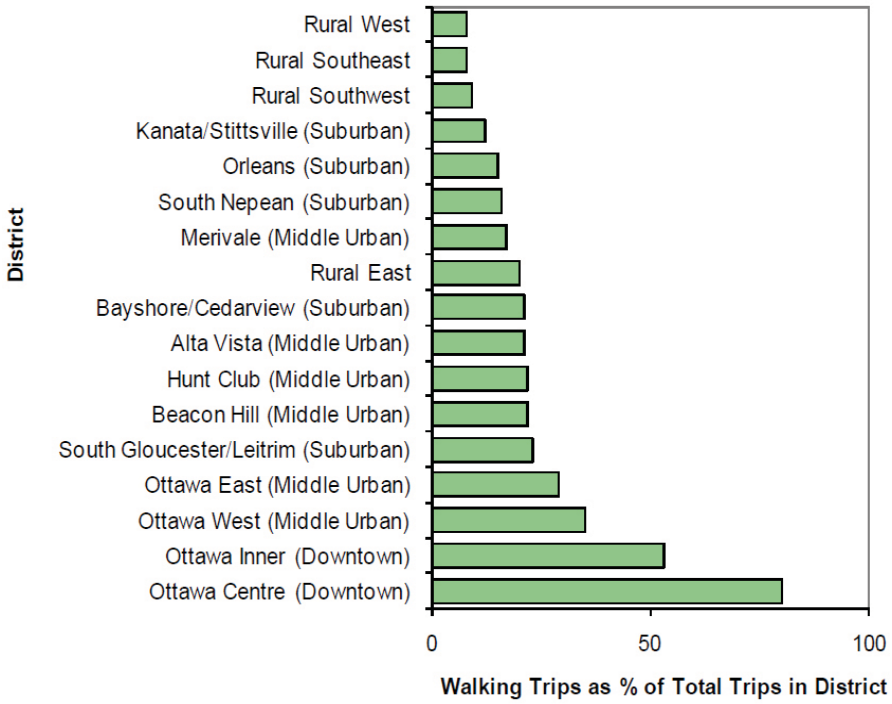
Very little is known about bicycle ownership rates across the country, let alone how they might be changing. A recent Go for Green report found that between 1998 and 2004, bicycle ownership rates among children appear to have changed very little and remain extremely high, dropping only slightly from 91% to 88%. The authors also noted no correlation with household income. In terms of sales, the Bicycle Trade Association of Canada reports a large 6.5% jump in bicycle unit sales and a 9.3% increase in dollar sales from 2007 to 2008, with a double digit rise in hybrid bike sales (see Exhibit 43). This is in contrast to the U.S. market where both have been dropping.

C.10 How is government investment in active transportation changing?

Government funding, particularly capital funding, tends to come and go in spurts and government programs are perpetually in flux with the shifting political winds. Thus, it is difficult to discern trends when looking at narrow timeframes. To date, we know of no effort to track government spending on active transportation and can only site a handful of ongoing funding sources at regional and provincial levels of government; e.g. the Ministère des Transports du Québec's (MTQ) $1.7M in annual funding to maintain La Route verte, Translink's annual bicycle program budget of $6M, and $700k per year for the Ontario Trails Strategy. The Ontario Trails Strategy was provided with $3.5 million to support its first five years of implementation starting in 2005/06. Of this $700k per year, $440k was devoted to the Trails for Life provincial grant program from 2005/2006 to 2008/2009[5]. MTQ total bikeway annual funding levels on average

5 Trails in the Ontario Trails program include a wide variety of facilities, such as footpaths, multi-use trails, on-road bicycle routes, boardwalks, and sidewalks.

Exhibit 45: Walking mode share in Ottawa by district



appear to be increasing while also shifting away from Route verte bikeways toward, presumably, more utilitarian facilities (see Exhibit 23 Exhibit 24).

C.11 How does urban form affect active transportation?

As a loose proxy for urban form, the draft Ottawa pedestrian plan characterizes a number of the City's neighbourhoods as either downtown, middle urban, suburban, or rural. The downtown neighbourhoods, for example, comprise narrower streets, shorter blocks, and more mixed use development than the middle urban neighbourhoods and so on. As expected, the more "urban" a neighbourhood, the more walking is observed (see Exhibit 45). However, many such aggregate relationships are often criticized for loose definitions of urban form, demographic biases, and not accounting for self-selection phenomena – that is, do more people walk downtown simply because downtown environments attract people who like to walk?

Exploring how urban form can change travel behaviour thus requires longitudinal data and a means of characterizing urban form at a scale relevant to active transportation modes in order to account for conflicting influences and isolate exactly what it is about a neighbourhood that encourages or discourages active transportation. Possible relationships with active transportation include the effect of a grid vs. curvilinear street network, block size, sidewalk continuity, street width, park space distribution, and an appropriate land use mix. An interesting study in the U.S. by Krizek shows that for Central Puget Sound households that moved to more accessible neighbourhoods, vehicle miles travelled did in fact decrease[6]. No such research exists in Canada that we know of, let alone similar research that specifically explores active transportation effects.

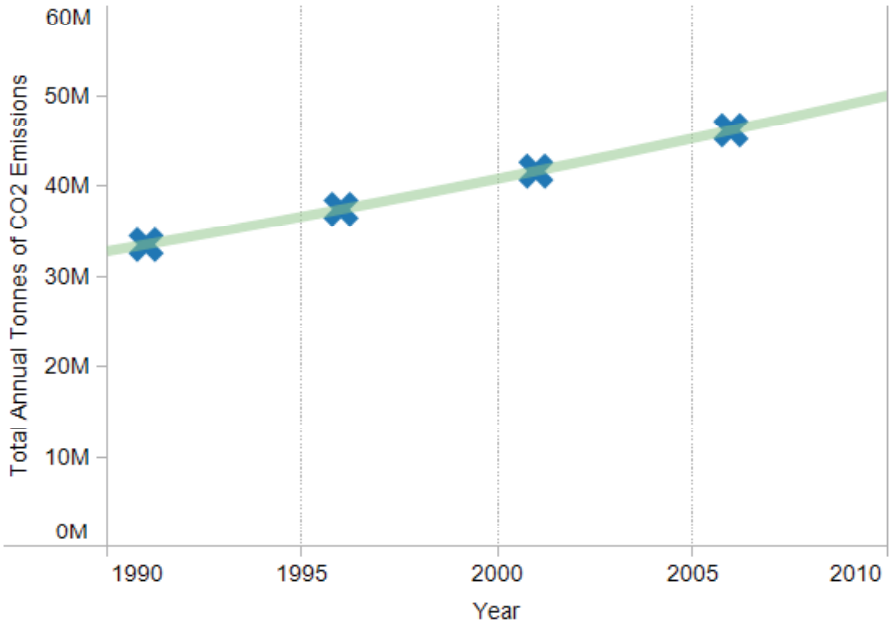
6 Krizek (2003) Changes in Urban Travel: Does neighbourhood-scale urban form matter?

C.12 How are the benefits of active transportation changing?

GHG emissions are unquestionably rising. From 1990 to 2005, all provinces saw their GHG emissions increase, except for the Yukon, and 25% of these emissions come from the transportation sector[7].

The UTI survey uses Kent Marketing data on fuel sales to track energy consumption in the transportation sector, which is well correlated with CO_2 emissions – by far the most significant of the transportation sector's greenhouse gases. Although, light vehicle engine efficiencies have improved significantly, the popularity of sport utility vehicles, just-in-time delivery by heavy-duty trucks, and increasing average horsepower per private vehicle have worked to offset this gain and overall CO_2 emissions continue to rise, as shown in Exhibit 46.

Exhibit 46: Total Transportation-Related CO_2 Emissions



Comparing municipalities, most municipalities show steadily increasing transportation-related CO_2 emissions, however several did see a decrease in 2006: Calgary, Edmonton, Hamilton, Regina, Victoria, Kingston, Saint John, and Thunder Bay. Emissions per capita in Saguenay, Halifax, Sherbrooke, and London appear to have increased sharply while Regina and Kingston show notable decreases. The relative emissions of the various urban areas have not changed much since the 2001 survey, with Victoria residents still showing the lowest per capita annual transportation-related CO_2 emissions at 1.7 metric tonnes, followed closely by Vancouver and Montreal residents. Residents of smaller municipalities such as Abbotsford, Peterborough, and Sudbury again tended to have the highest per capita emissions at 4.4, 3.6, and 3.6 metric tonnes respectively.

In terms of air quality, this is a very localized issue and hard to generalize across large geographic areas. There is no clear trend in fine particulate matter as trend data is scarce due to improvements in monitoring techniques. Based on data from 1980 to 2000, NO_2, SO_2, and CO suspended particulates appear to all be decreasing steadily. Over the same timeframe, there is no clear trend in ground-level ozone, although recent data suggests a steady increase in southern Ontario and southern Québec. Volatile organic compound levels held constant from 1990 to 2000[8]. Environment Canada's Air Quality Health Index (AQHI) is in its pilot phase.

7 Statistics Canada (2008) Human Activity and the Environment

8 National Air Pollution Surveillance Network

APPENDIX D:
WEB SURVEY FORM

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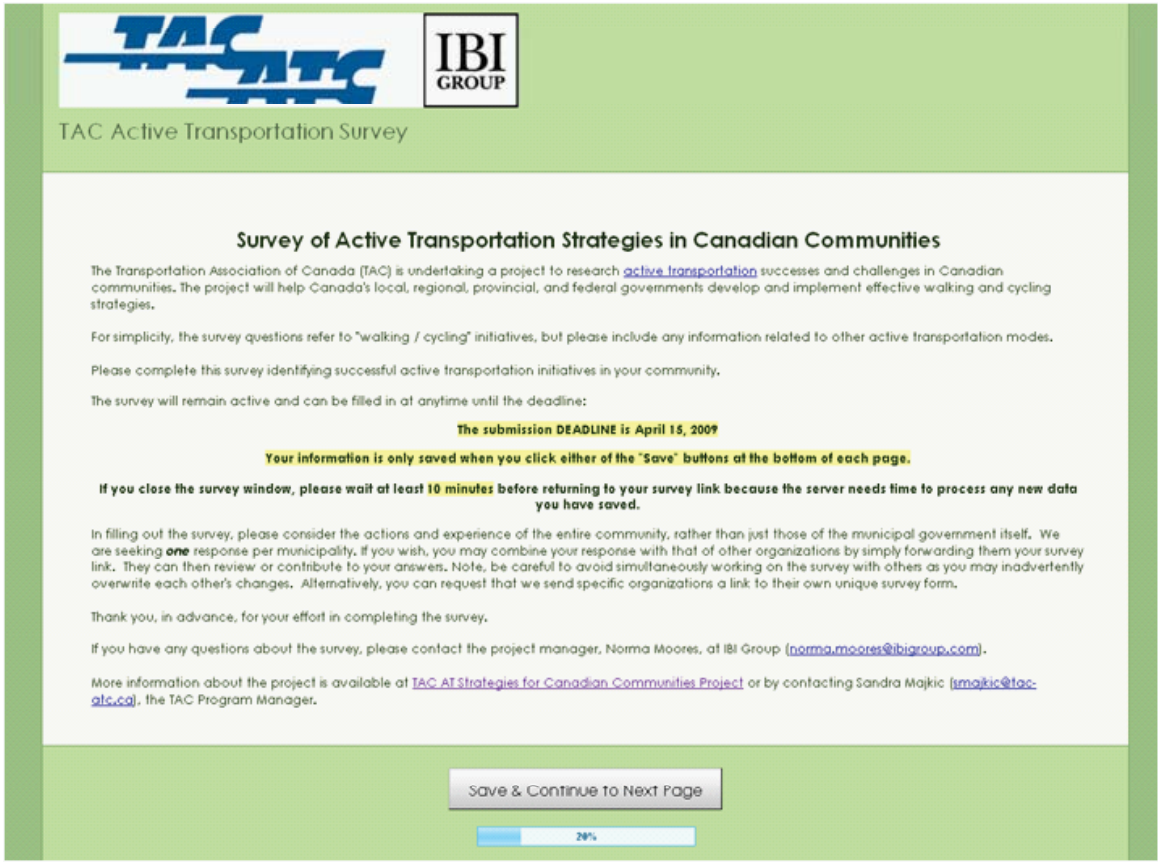
Web-survey screen captures



TAC Active Transportation Survey

Survey of Active Transportation Strategies in Canadian Communities

The Transportation Association of Canada (TAC) is undertaking a project to research active transportation successes and challenges in Canadian communities. The project will help Canada's local, regional, provincial, and federal governments develop and implement effective walking and cycling strategies.

For simplicity, the survey questions refer to "walking / cycling" initiatives, but please include any information related to other active transportation modes.

Please complete this survey identifying successful active transportation initiatives in your community.

The survey will remain active and can be filled in at anytime until the deadline:

The submission DEADLINE is April 15, 2009

Your information is only saved when you click either of the "Save" buttons at the bottom of each page.

If you close the survey window, please wait at least 10 minutes before returning to your survey link because the server needs time to process any new data you have saved.

In filling out the survey, please consider the actions and experience of the entire community, rather than just those of the municipal government itself. We are seeking ***one*** response per municipality. If you wish, you may combine your response with that of other organizations by simply forwarding them your survey link. They can then review or contribute to your answers. Note, be careful to avoid simultaneously working on the survey with others as you may inadvertently overwrite each other's changes. Alternatively, you can request that we send specific organizations a link to their own unique survey form.

Thank you, in advance, for your effort in completing the survey.

If you have any questions about the survey, please contact the project manager, Norma Moores, at IBI Group (norma.moores@ibigroup.com).

More information about the project is available at TAC AT Strategies for Canadian Communities Project or by contacting Sandra Majkic (smajkic@tac-atc.ca), the TAC Program Manager.

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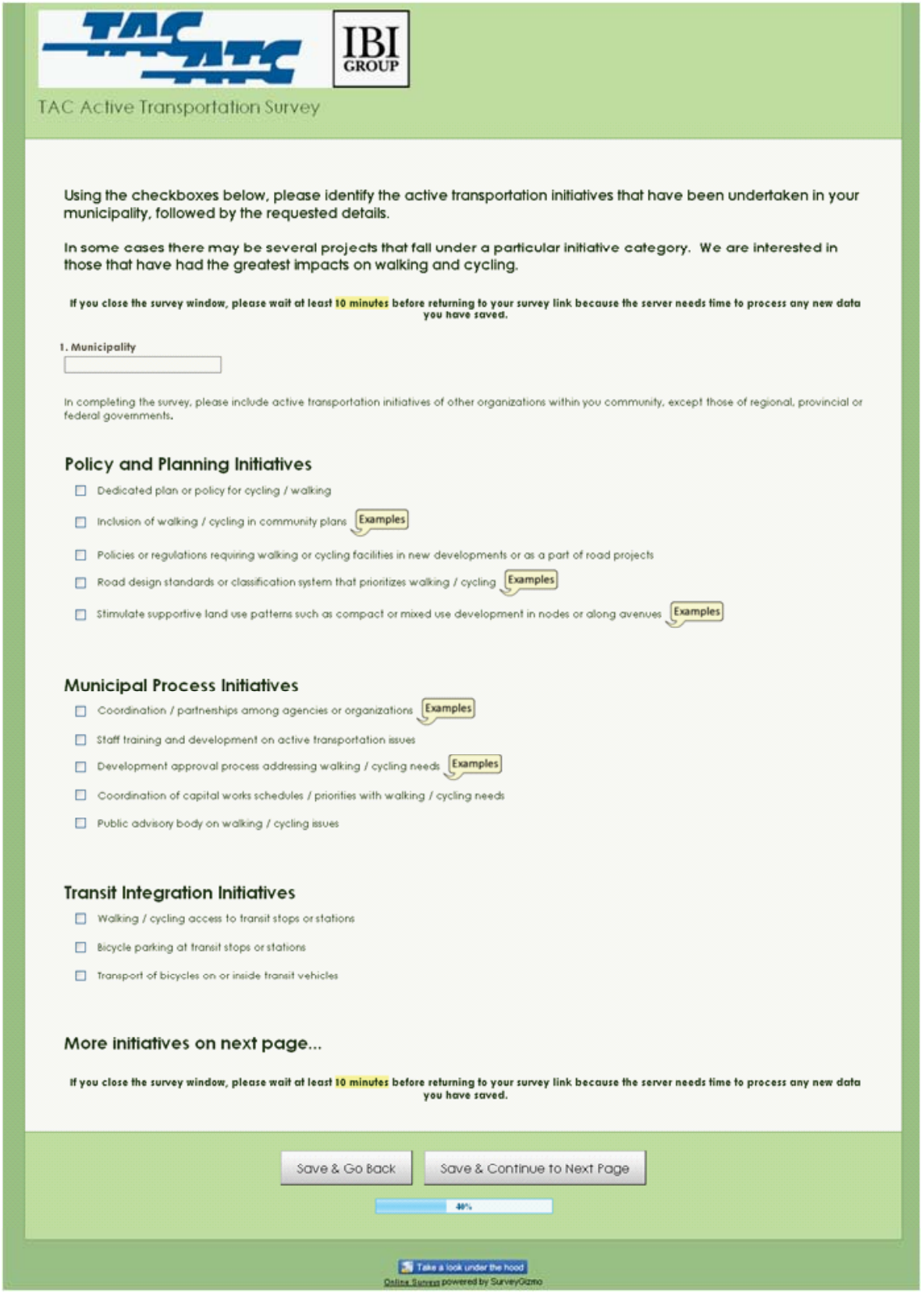

TAC Active Transportation Survey

Using the checkboxes below, please identify the active transportation initiatives that have been undertaken in your municipality, followed by the requested details.

In some cases there may be several projects that fall under a particular initiative category. We are interested in those that have had the greatest impacts on walking and cycling.

If you close the survey window, please wait at least 10 minutes before returning to your survey link because the server needs time to process any new data you have saved.

1. Municipality

In completing the survey, please include active transportation initiatives of other organizations within you community, except those of regional, provincial or federal governments.

Policy and Planning Initiatives

- ☐ Dedicated plan or policy for cycling / walking
- ☐ Inclusion of walking / cycling in community plans Examples
- ☐ Policies or regulations requiring walking or cycling facilities in new developments or as a part of road projects
- ☐ Road design standards or classification system that prioritizes walking / cycling Examples
- ☐ Stimulate supportive land use patterns such as compact or mixed use development in nodes or along avenues Examples

Municipal Process Initiatives

- ☐ Coordination / partnerships among agencies or organizations Examples
- ☐ Staff training and development on active transportation issues
- ☐ Development approval process addressing walking / cycling needs Examples
- ☐ Coordination of capital works schedules / priorities with walking / cycling needs
- ☐ Public advisory body on walking / cycling issues

Transit Integration Initiatives

- ☐ Walking / cycling access to transit stops or stations
- ☐ Bicycle parking at transit stops or stations
- ☐ Transport of bicycles on or inside transit vehicles

More initiatives on next page...

If you close the survey window, please wait at least 10 minutes before returning to your survey link because the server needs time to process any new data you have saved.

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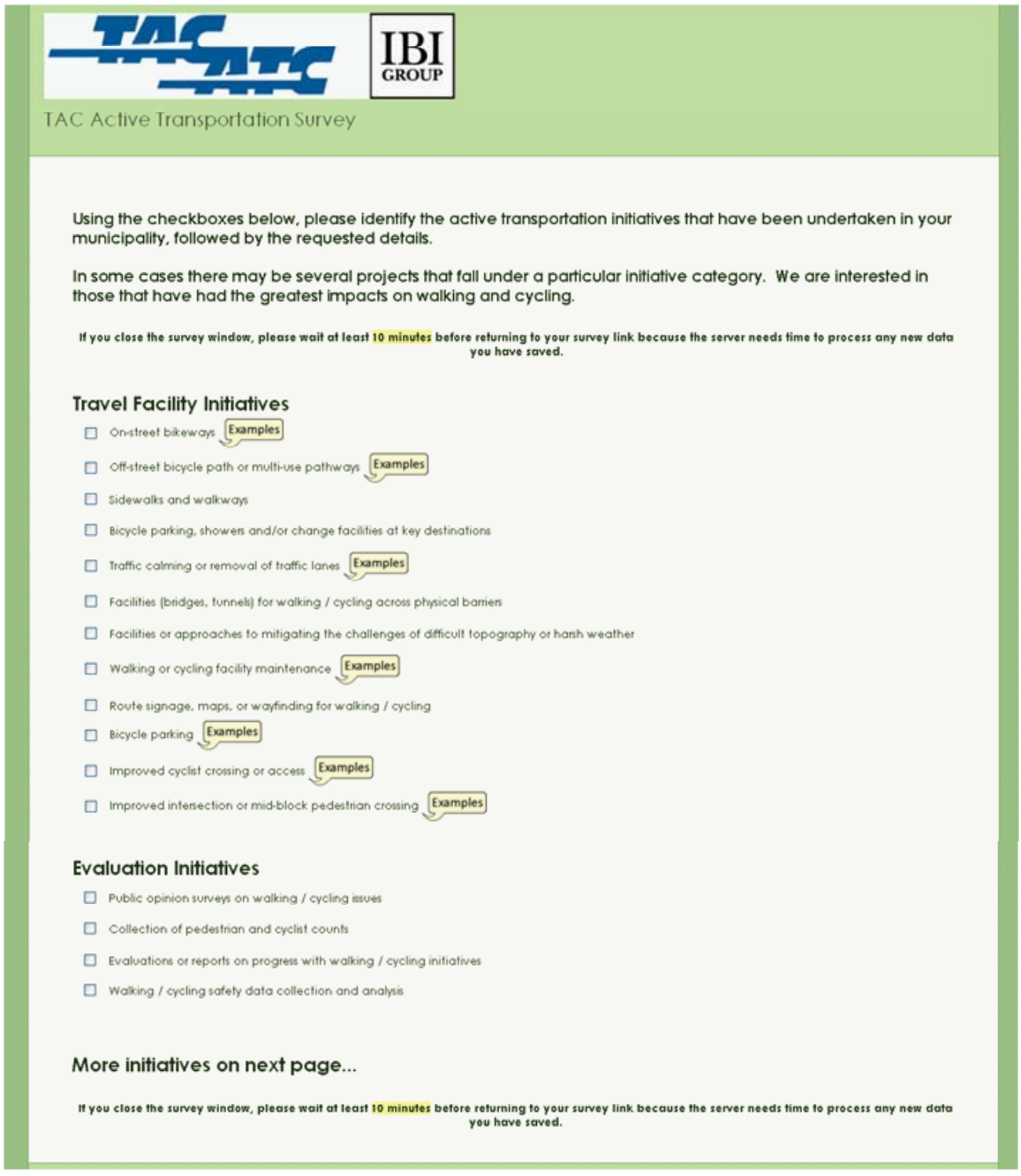
Take a look under the hood

Online Survey powered by SurveyGizmo



TAC Active Transportation Survey

Using the checkboxes below, please identify the active transportation initiatives that have been undertaken in your municipality, followed by the requested details.

In some cases there may be several projects that fall under a particular initiative category. We are interested in those that have had the greatest impacts on walking and cycling.

If you close the survey window, please wait at least 10 minutes before returning to your survey link because the server needs time to process any new data you have saved.

Travel Facility Initiatives

- ☐ On-street bikeways Examples
- ☐ Off-street bicycle path or multi-use pathways Examples
- ☐ Sidewalks and walkways
- ☐ Bicycle parking, showers and/or change facilities at key destinations
- ☐ Traffic calming or removal of traffic lanes Examples
- ☐ Facilities (bridges, tunnels) for walking / cycling across physical barriers
- ☐ Facilities or approaches to mitigating the challenges of difficult topography or harsh weather
- ☐ Walking or cycling facility maintenance Examples
- ☐ Route signage, maps, or wayfinding for walking / cycling
- ☐ Bicycle parking Examples
- ☐ Improved cyclist crossing or access Examples
- ☐ Improved intersection or mid-block pedestrian crossing Examples

Evaluation Initiatives

- ☐ Public opinion surveys on walking / cycling issues
- ☐ Collection of pedestrian and cyclist counts
- ☐ Evaluations or reports on progress with walking / cycling initiatives
- ☐ Walking / cycling safety data collection and analysis

More initiatives on next page...

If you close the survey window, please wait at least 10 minutes before returning to your survey link because the server needs time to process any new data you have saved.

TAC Active Transportation Survey

Using the checkboxes below, please identify the active transportation initiatives that have been undertaken in your municipality, followed by the requested details.

In some cases there may be several projects that fall under a particular initiative category. We are interested in those that have had the greatest impacts on walking and cycling.

If you close the survey window, please wait at least 10 minutes before returning to your survey link because the server needs time to process any new data you have saved.

Education and Promotion Initiatives

- ☐ Education or promotion of walking / cycling in schools
- ☐ Education or promotion of walking / cycling elsewhere in the community Examples
- ☐ Support for special walking / cycling events Examples
- ☐ Information centres or social marketing for walking / cycling
- ☐ Recognition or award programs
- ☐ Walking / cycling tourism promotion or services
- ☐ Training and development for practitioners on active transportation issues
- ☐ Safety communication targeting motorists, cyclists, and pedestrians
- ☐ Initiatives with the police department

Other Initiatives

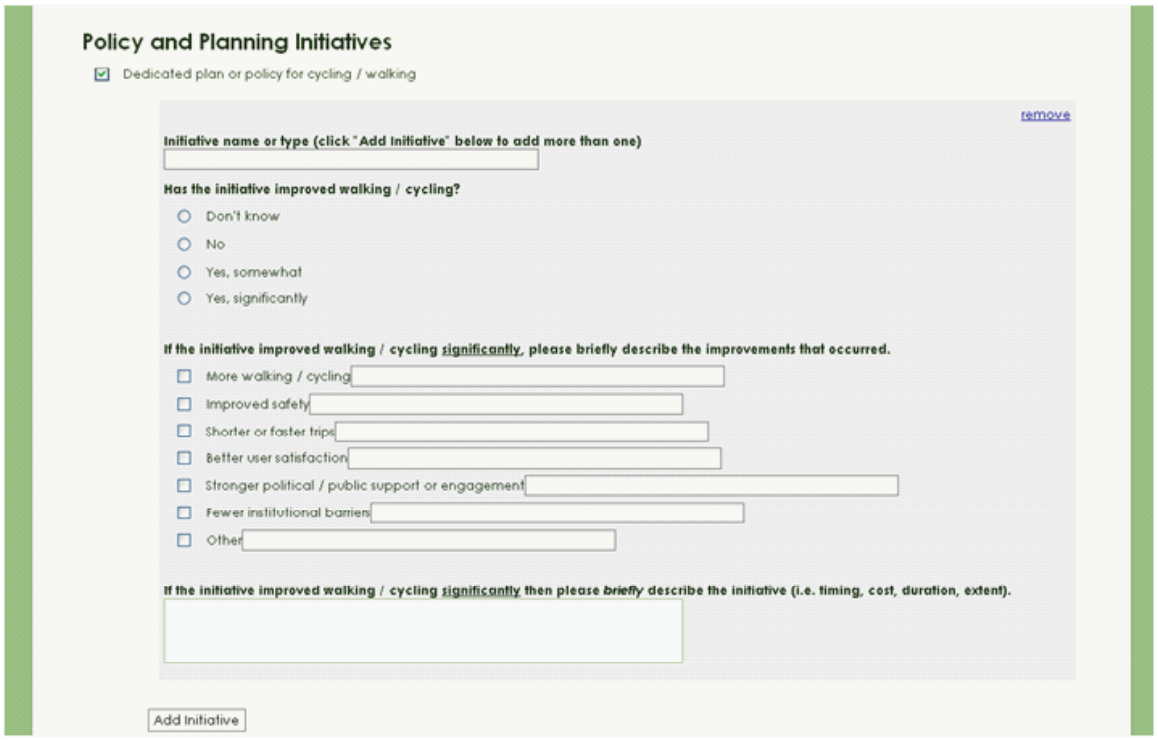
If there are any other important active transportation initiatives we have missed, please use the space below to provide details.

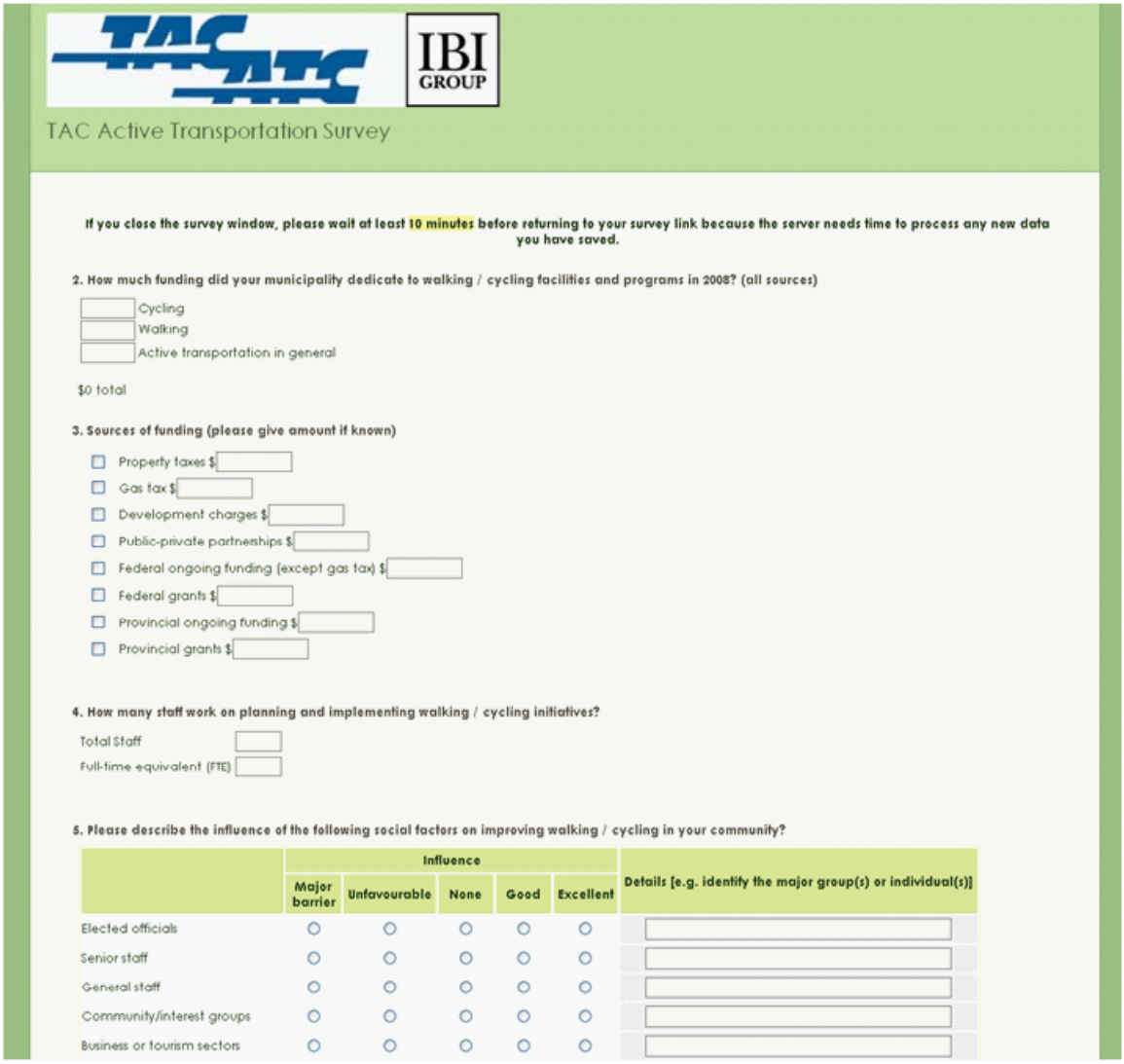
- ☐ Other 1
- ☐ Other 2
- ☐ Other 3
- ☐ Other 4
- ☐ Other 5

More initiatives on next page...

If you close the survey window, please wait at least 10 minutes before returning to your survey link because the server needs time to process any new data you have saved.

For each initiative that was checked, the following questions would appear:





TAC Active Transportation Survey

If you close the survey window, please wait at least 10 minutes before returning to your survey link because the server needs time to process any new data you have saved.

2. How much funding did your municipality dedicate to walking / cycling facilities and programs in 2008? (all sources)

- Cycling
- Walking
- Active transportation in general

$0 total

3. Sources of funding (please give amount if known)

- Property taxes $
- Gas tax $
- Development charges $
- Public-private partnerships $
- Federal ongoing funding (except gas tax) $
- Federal grants $
- Provincial ongoing funding $
- Provincial grants $

4. How many staff work on planning and implementing walking / cycling initiatives?

- Total Staff
- Full-time equivalent (FTE)

5. Please describe the influence of the following social factors on improving walking / cycling in your community?

	Influence					Details [e.g. identify the major group(s) or individual(s)]
	Major barrier	Unfavourable	None	Good	Excellent	
Elected officials						
Senior staff						
General staff						
Community/interest groups						
Business or tourism sectors						

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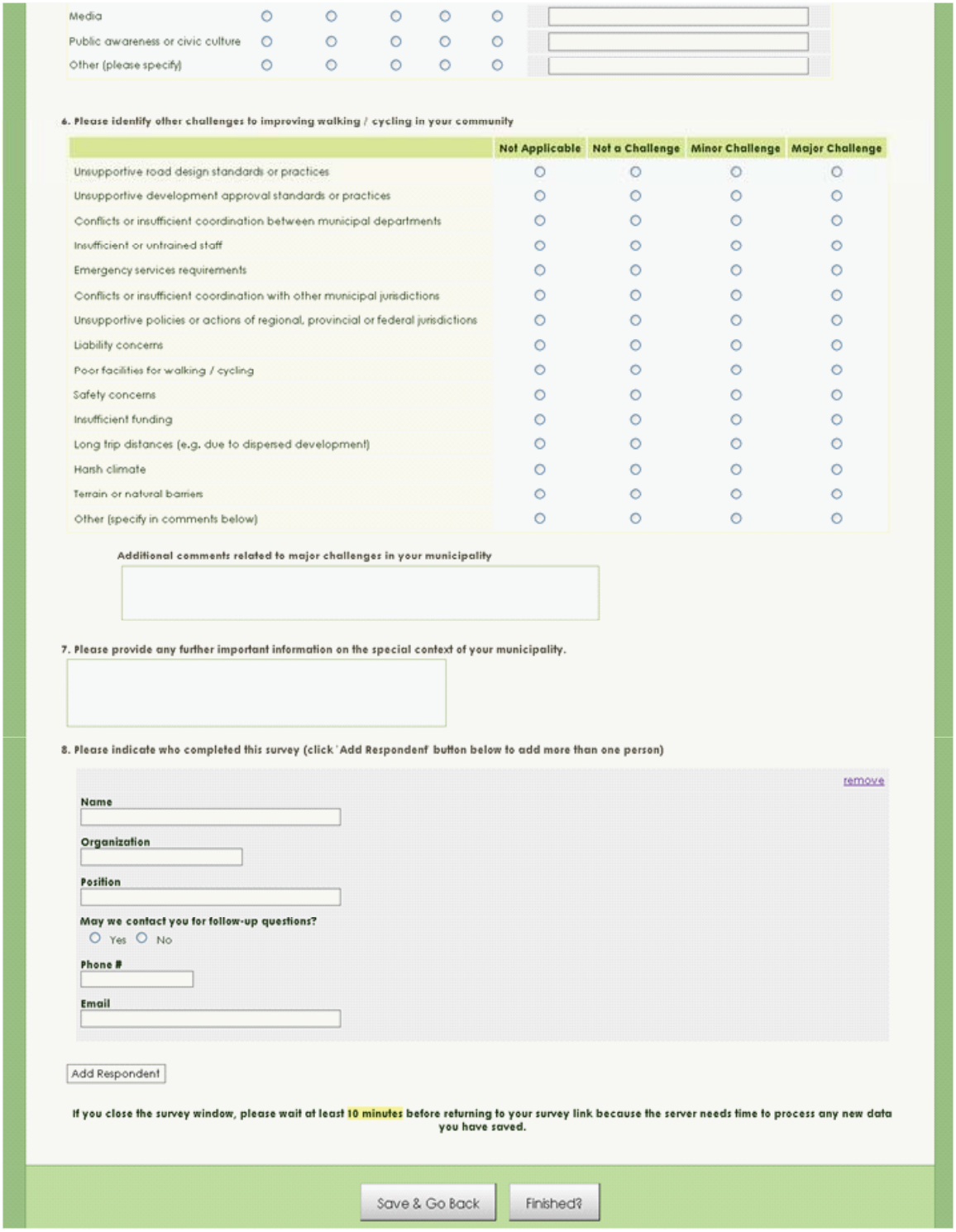

Media	○	○	○	○	○	
Public awareness or civic culture	○	○	○	○	○	
Other (please specify)	○	○	○	○	○	

6. Please identify other challenges to improving walking / cycling in your community

	Not Applicable	Not a Challenge	Minor Challenge	Major Challenge
Unsupportive road design standards or practices	○	○	○	○
Unsupportive development approval standards or practices	○	○	○	○
Conflicts or insufficient coordination between municipal departments	○	○	○	○
Insufficient or untrained staff	○	○	○	○
Emergency services requirements	○	○	○	○
Conflicts or insufficient coordination with other municipal jurisdictions	○	○	○	○
Unsupportive policies or actions of regional, provincial or federal jurisdictions	○	○	○	○
Liability concerns	○	○	○	○
Poor facilities for walking / cycling	○	○	○	○
Safety concerns	○	○	○	○
Insufficient funding	○	○	○	○
Long trip distances (e.g. due to dispersed development)	○	○	○	○
Harsh climate	○	○	○	○
Terrain or natural barriers	○	○	○	○
Other (specify in comments below)	○	○	○	○

Additional comments related to major challenges in your municipality

7. Please provide any further important information on the special context of your municipality.

8. Please indicate who completed this survey (click 'Add Respondent' button below to add more than one person)

remove

Name

Organization

Position

May we contact you for follow-up questions?

○ Yes ○ No

Phone #

Email

Add Respondent

If you close the survey window, please wait at least 10 minutes before returning to your survey link because the server needs time to process any new data you have saved.

Save & Go Back | Finished?