Two Way Street

Public Health and Transportation Working Together on Active Transportation:

Findings from a stakeholder consultation

White Paper

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Built Environment Working Group

Ontario Public Health Association

OPHA
Ontario Public Health Association

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SUMMARY

Increasingly, transportation and public health professionals work together in the common interest of promoting active transportation. However, challenges remain in understanding ways to maximize partnership opportunities across public health and transportation. This white paper describes results from a stakeholder consultation conducted with the objective of better understanding challenges and opportunities to further strengthening collaboration between public health and transportation professionals. The project was conducted by members of the Built Environment Workgroup (BEWG) of the Ontario Public Health Association (OPHA), and it combined: a scan of documents; scan and stakeholder mapping; and in-depth semi-structured interviews with select transportation professionals.

The findings highlight challenges in promoting active transportation and building the infrastructure it requires. Examples include:

1. Balancing the need for provincial leadership and local autonomy
2. obtaining exclusive and predictable active transportation funding
3. Gaining public and elected official support
4. The role of technical guidelines and regulations
5. Information gaps
6. Limited land use policy tools for changing existing built forms
7. Diversity in professional approaches within transportation and public health fields
8. Coordination across jurisdictions

Many of these findings are consistent with earlier reports and speak to long term tensions that require attention. More importantly, the findings also identify key areas in which public health and transportation could support each other and maximize collaboration. This includes ways in which public health expertise could be leveraged in transportation planning, such as:

1. Harness additional policy and funding support locally, provincially or federally
2. Contribute to promoting mutual understanding and knowledge of opportunities for collaboration between transportation and public health
3. Contribute with more data and evidence supporting active transportation
4. Contribute to public outreach and education efforts
5. Advance active transportation and safety perspectives in key scenarios such as environmental assessment studies

This report is a discussion document with the purpose of promoting dialogue and to further strengthen partnerships between health and transportation stakeholders, with the ultimate goal of supporting each other and further promoting cycling and active transportation across Ontario.

CONTENTS

1. INTRODUCTION

The promotion of active transportation, defined as any form of human-powered transportation such as walking and/or cycling, is a key element of a healthy and sustainable transportation system. This white paper summarizes results from consultations with transportation professionals, in order to better understand opportunities and challenges in their efforts to promote active transportation, and to identify scenarios to strengthen collaboration between public health and transportation professionals in Ontario.

Increasingly, transportation and public health professionals work together in their common interest of promoting active transportation. This shared interest is based on the multiple mobility and health benefits of active transportation. [1, 2] However, as in other inter-sectorial efforts, challenges remain in understanding ways to maximize partnership opportunities and collaboration across public health and transportation sectors. Examples of challenges include issues such as differences in skills, objectives, and scenarios of practice. Hence, there is a need for a systematic analysis about ways to maximize public health and transportation collaboration in active transportation. This white paper intends to be a conversation starter to advance in this direction by providing elements for further dialogue.

This consultation was conducted by members of the Ontario Public Health Association (OPHA) Built Environment Working Group (BEWG). OPHA is a member-based not-for-profit organization that provides leadership on issues affecting the public's health. It works to strengthen the impact of people who work on public health across Ontario. OPHA's work includes advocacy, building strategic partnerships with multiple sectors, surveillance and analysis of public health issues, and capacity building. As part of the OPHA, the Built Environment Working Group's purpose is to work on issues that affect public health as it is impacted by the built environment. Collaboration with multiple organizations and agencies is central to its work.[3]

1.1. METHODS

This project combined three complementary approaches to data collection: first, a search and scan of relevant literature and policy initiatives; second, a scan of transportation stakeholders; and third, in-depth semi-structured interviews with transportation professionals.

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[1] Mueller, N., Rojas-Rueda, D., Cole-Hunter, T., de Nazelle, … Nieuwenhuijsen, M. (2015). Health impact assessment of active transportation: A systematic review. Preventive Medicine, 76(0), 103–114.

[2] Transportation Association of Canada, & IBI Group. (2012). Primer on Active Transportation: Making it work in Canadian communities. Transportation Association of Canada (TAC).

[3] OPHA's Built Environment Workgroup. (2013). Retrieved December 7, 2015, from http://opha.on.ca/What-We-Do/Workgroups/Built-Environment.aspx

First, a web search and document review was conducted to identify transportation policies, regulations and technical guidelines relevant to the promotion of active transportation. This background information helped to inform questions for subsequent key informant interviews.

Second, a web search of provincial and some federal organizations relevant to transportation professionals was conducted. Keywords included terms such as transportation, active transportation, cycling, walking, and Ontario. Organizations were selected if they had previous work on active transportation or were relevant to the transportation profession. The list was classified according to their level of action (e.g. national, provincial, etc.); and organization type (crown, independent crown, professional, interest group, etc.). A list summarizing key organizations is provided in Appendix 1: key transportation organizations and institutions identified in the process. The scan helped inform stakeholder mapping and potential subjects for interviews.

Third, in-depth semi-structured interviews were conducted with key transportation stakeholders. The selection of interviewees combined purposive and snowballing sampling, both of which are common to in qualitative research.[4] Purposive sampling identified contacts according to their previous experience in the promotion of active transportation at either municipal, consulting, academic or professional organizations in Ontario. Snowball sampling was used when participants were asked to suggest other potential contacts of interest. The informed consent form and interview question guide are available in Appendices 2 and 3 respectively. Sample size (a total of 7 interviews) was determined by saturation criteria, reached when responses became repetitious. All potential personal identifiers were removed from the data to ensure anonymity and confidentiality.

All data collection and analysis was conducted by OPHA Built Environment Workgroup members. Two interviewers were always present to facilitate note taking and standardization according to a predefined protocol. An initial round of data coding and analysis was conducted in a team workshop, followed by complementary analysis by one team member. Subsequent team meetings were held to discuss the draft findings and discussion points. A draft version of this document was shared with interviewees to identify any misrepresentation of the data or any potential breach of confidentiality.

1.2. DEFINING TRANSPORTATION AND PUBLIC HEALTH PROFESSIONALS

In this project, a transportation professional is broadly defined to include individuals from a variety of professional and technical backgrounds who work in the planning, design, construction, or operation of transportation systems or any of its components. Although

[4] Given, L .(Ed.). (2008). The Sage Encyclopedia of Qualitative Research Methods. Sage. Pp.697-8, 815-6.

this consultation's focus is on active transportation, there are several overlapping and complementary work areas such as transit and transportation demand management. The notion of transportation professionals evolved during this consultation. Some of the initial questions focused on transportation engineering. However, it was clear from very early feedback that there are a diverse number of professional designations working in the development and operation of transportation systems at different levels: consulting agencies, federal, provincial or municipal government, academia or professional organizations. This includes for instance transportation technologists and professional planners across Ontario, all of whom have also assumed clear leadership roles at all levels in the promotion of active transportation. As expressed by one of the respondents,

> *"Transportation planning as an overarching statement is everything- transportation planners, designers, transportation operations people, policy makers (which is probably part of the planning side). Some focus on active transportation, others on the road, and others on transit, etc. There are people who look at traffic. Another group is transportation construction, etc." (Interviewee A)*

This diversity is perhaps parallel to the public health professionals in Ontario, which also include a variety of backgrounds and roles such as health promoters, epidemiologists, public health nurses, public health inspectors, policy analysts and other health professionals. Locally, Ontario's public health units are accountable to Boards of Health, which are mandated by the Ontario Public Health Standards to assess, plan, deliver, manage, and evaluate a variety of public health programs and services that address multiple health needs, as well as the contexts in which these needs occur. The requirements include assessment and surveillance, health promotion and policy development, disease and injury prevention, and health protection.[5] At a provincial level, the public health sector includes the Ministry of Health and Long Term care and a number of Crown agencies such as Public Health Ontario.

1.3. ABOUT THIS DOCUMENT

In the following pages, key findings are summarized with supporting evidence from the interview transcripts. Section 2.1 describes challenges in the task of further promoting active transportation in Ontario. These challenges are based on the authors' interpretation of the participants' perspective. Next, section 0 focuses on opportunities for collaboration between public health and transportation as identified in the analysis. Conclusions are not final, and readers are encouraged to contact the authors to provide further input.

[5] MOHLTC. (2009). Ontario Public Health Standards - Programs and Services - Health Care Professionals. Retrieved June 17, 2013, from http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/

2. KEY FINDINGS

2.1. PERCEIVED CHALLENGES IN FURTHER PROMOTING ACTIVE TRANSPORTATION INFRASTRUCTURE

At many levels, transportation practitioners are already actively promoting active transportation infrastructure and active transportation in general. However, their efforts are sometimes hindered by many challenges, some of which are unique to the transportation practice, while others are common to public health practitioners as well. Overcoming these barriers is central to continuing the promotion of active transportation. Some of the main challenges identified by participants include:

2.1.1. ACHIEVING A BALANCE BETWEEN THE NEED FOR PROVINCIAL LEADERSHIP AND LOCAL AUTONOMY

The leadership of Canadian provinces is important in the promotion of active transportation infrastructure. In Ontario, for instance, the launch of the Ontario Cycling Strategy (#CycleON)[6] and the release of Ontario Traffic Manuals such as Book 18 (Cycling Facilities)[7] have given great support to local efforts and initiatives. Some other promising and potentially applicable examples from other jurisdictions that were identified by interviewees are listed in Table 1.

Table 1. Examples of initiatives from Canadian provinces

- Ontario's Cycling Strategy, #CycleON (2013), which identifies actions to make Ontario a more cycling-friendly province
- Nova Scotia's Respecting Innovative Transportation Act (2013), which allows municipalities to do trials and evaluation on road infrastructure.
- British Columbia has a relatively large proportion of projects in active transportation enabling partnership between the province and municipalities.
- Manitoba has a very robust and integrated framework to work across ministries, involving health, environment, local governments, and transportation.

However, some interviewees also described a tension between the importance of provincial leadership and the protection of local jurisdiction decision making autonomy. As expressed by an interviewee:

> *"There is a reluctance from locals to get provincial intervention- [however] sometimes [this] is the most important step to move forward- sometimes despite the locals not being completely onboard- We did this locally with asset management funding – if you really*

[6] MTO (2013). Ontario Cycling Strategy. Ministry of Transportation, Ontario.
[7] MTO. (2013). Ontario Traffic Manual - Book 18 - Cycling facilities. Ministry of Transportation, Ontario.

want this to be done- you need the province to get compliance from the municipalities because they were not on board- In these cases- the province picks up the tab- accountability was needed to access the funds." (Interviewee B)

To some extent, the discrepancies between provincial and municipal jurisdictions may reflect conflicting interests, even among competing provincial objectives. For instance, provincial highways focus on long distance travel needs and high volume of vehicles, while local roads serve the communities in different ways. An emblematic example referred to by several interviewees was the case of interchanges between local and provincial transportation corridors, as described in following quote:

"For example, some roads cross Regional and Provincial boundaries. How do we work with MTO to address ramp terminals and ramp exits, as well as crossing 400 series interchanges? Continuous networks are needed to cross 400 series highways. There are definitely design element issues between jurisdictions that need to be addressed. Municipalities are also required to pay for infrastructure changes to crossing bridge structures but MTO standards may not conform to the Region's standards, for example the Provincial CycleON program to expand cycling networks in Ontario towns and cities is not yet reflected in the design of new provincial projects." (Interviewee C)

To sum up, provincial leadership is central to the promotion of active transportation infrastructure. Already, the Province of Ontario has shown great leadership on initiatives such as the Ontario Cycling Strategy (#CycleON). Nonetheless, this leadership needs to be accompanied with proper consultation and mechanisms so that local municipal interests are recognized and incorporated. In this context, dedicated active transportation staffs are also central to the improvement of active transportation networks.

2.1.2. OBTAINING EXCLUSIVE AND PREDICTABLE ACTIVE TRANSPORTATION FUNDING

Funding sources for active transportation infrastructure seem to have improved in recent years both municipally and provincially. For example, in terms of cycling, the Ontario Cycling Strategy (#CycleON) identifies strategic directions to develop a funding partnership with municipalities and the federal government to build provincial and municipal cycling routes, and fund provincial and municipal cycling infrastructure pilot projects to test new ideas and gather data.[8] These and other efforts were acknowledged by the stakeholders consulted for this project.

However, interviewees also identified that there is still an important funding gap to building and maintaining cycling infrastructure. Funding challenges were identified for both on-road and off-road active transportation infrastructure. For instance, one of the interviewees referenced a separate bike trail that took approximately two decades to

[8] MTO (2013). Ontario Cycling Strategy. Ministry of Transportation, Ontario

complete due to a lack of funding. Eligible budgets have remained relatively static while the demands have increased:

> *"Municipal staff are being asked to do more with less -or the same." (Interviewee B).*

In addition to more financial resources, the availability of exclusive and predictable active transportation funding was identified as central to making active transportation a priority amidst competition with other perceived priorities.

> *"Need more dedicated funds specifically for AT project. E.g. MTO separate pot of money to help pay to build cycling facilities. Then wouldn't have AT projects competing with other road projects; makes it easier to support these kinds of projects. Need investment from Feds too, to further cost share capital expenses." (Interviewee D)*

The need for additional funding goes beyond construction to include maintenance costs, which may be an important deterrent to building new active transportation infrastructure. The potential cost of maintaining facilities to a specified standard could also be a barrier to building facilities. As expressed by one of the interviewees:

> *"Minimum maintenance standards could be a barrier to building facilities – long term cost of maintaining, repairing and replacing infrastructure may make municipality reluctant to build it in the first place." (Interviewee D).*

At least one stakeholder expressed this funding gap as part of broader challenges to redefine government revenue options for sustainable transportation. For instance, long term trends of car efficiency and electric vehicles may impact the revenue collected through programs such as the Federal Gas Tax. Some municipalities have development charges bylaws that allow the use of a portion of development charges for growth in existing built up areas that are seeing intensification or require enhancements to tie into adjacent "new" growth areas. However, development charges revenue is also likely to shift as the availability of greenfield lands declines in already urbanized areas.

In this context, active transportation projects can be under prioritized, particularly standalone projects that could fill gaps in a cycling network. In some scenarios, road resurfacing projects can help retrofit cycling facilities at a faster speed. However, active transportation projects have to compete for funding against other transportation priorities. The business case is not always understood by decision making. This opens opportunities for public health stakeholders to support the business case for active transportation, a point that will be described with more detail below in this document.

To sum up, the availability of additional predictable and dedicated funding is strongly acknowledged as a necessary factor to further promote and build active transportation infrastructure.

2.1.3. SUPPORT FROM ELECTED OFFICIALS AND RESIDENTS

Having support from elected officials is central to the development of active transportation initiatives. This is not an easy process because it entails the setting of priorities in the midst of many competing interests for the use of tax-payers' dollars. In this competition among important issues, active transportation is just starting to establish itself as a key priority. Furthermore, even within the transportation field, the political dimension of setting active transportation as a priority can be illustrated by issues such as the relocation of road space for a different use (i.e., change parking space into other more pedestrian-friendly uses).

In this context, leadership by elected officials can make the difference between promoting or stalling active transportation infrastructure and programs. Elected officials can stop or make active transportation projects happen. In an example discussed by one of the participants, a Canadian municipality found mixed ridership results after initial segments of cycling infrastructure were installed. However, a local elected official was central to promote additional infrastructure by highlighting the need to complete an active transportation network so that the benefits could really be evaluated. In other examples, local elected officials had a major influence in stopping or delaying infrastructure.

On some situations, support from elected officials is perceived as more important than technical information; having a solid technical case is not necessarily enough. As expressed by one of the interviewees:

> *"There is a tension that needs to be acknowledged between political considerations or direction with standards- example- what happens when you have competing outcomes?– political conversation with objectives that are completely unrealistic…- we have seen it with snow removal (there is that tension there)- on the one hand transportation engineers are looking to provide conditions- sometimes they are prevented from doing so." [Interviewee B]*

An elected official's position is perceived as to be highly intertwined with the influence of residents and community stakeholders. To some interviewees, the public, stakeholders and elected officials were part of the same political influence sphere. In general, pressure from the general public or community stakeholders was described as having a high level of influence on elected officials. When asked to review some factors that may influence decisions on active transportation, one of the interviewees answered:

> *"Probably the public is an influence that is missing- some members of the public are more influential (than decision makers). The general public is a major influencer – financial contributors to any campaign may be even a stronger influence." (Interviewee E)*

Summarizing, support from the public and elected officials are two complementary factors that can support or derail active transportation initiatives. While this is not

exclusive for active transportation, there seems to be a tension between some of the technical information and public perception and support for active transportation. Addressing these tensions is a challenging area for which there are no easy solutions. Building upon the interviewees' input, section 3 of this document will describe some opportunities in the specific context of public health and transportation collaboration. However, a complete exploration of options is beyond the scope of this document and remains an area of focus for future initiatives.

2.1.4. ANYTHING THAT WOULD BE SEEN AS OUTSIDE OF GUIDELINES AND STANDARDS IS MORE DIFFICULT TO IMPLEMENT

Having good technical regulations, policies, standards and guidelines is central to supporting the development of active transportation infrastructure. A standard is something a professional has to follow. By contrast, guidelines are more flexible and understood as suggestions to dir ect practice. The reality however is that most guidelines are treated as professional standards. As expressed by an interviewee:

> *"Standards and guidelines - It comes all the time- at the end of the day many municipalities follow guidelines as standards- they have more flexibility- but they still direct- if you deviate from the OTM [Ontario Traffic Manual]- for instance, you would need to justify deviations from guidelines." (Interviewee E)*

Participants identified several reasons why technical guidelines and standards are important to the promotion of active transportation infrastructure. Examples of key technical regulations, policies, standards and guidelines identified through a web scan and suggestions by some of the interviewees are listed in Appendix 1.

In general, technical regulations, policies, standards and guidelines are tools to achieve the duty that transportation professionals have to care for the public. Some of the key benefits identified are listed in **Table 2**. The importance of guidelines in summarizing good research and best practices is so central that in some circumstances international documents are used. For instance, one interviewee referred to the United States National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide. Although it is not Canadian, it is frequently quoted. Cases of use in other places are part of the best practices.

In addition to supporting the application of best practices, technical regulations, standards and guidelines provide some protection against liability resulting from injury. Liability can be the institutional or personal, depending on who signs off on a particular design or project. It was described as a central concern when developing innovative solutions. However, existing policy and guidelines are not enough. The fear of being liable remains an important issue that negatively impacts implementation. Provincial level leadership may be central to improve consistency in technical information, and explore other options such as easy access to a third party legal opinion.

Table 2. Some of the benefits of technical regulations, standards and guidelines in transportation professional practice	
Technical regulations, standards and guidelines can provide: **1- Good research and best practices.** **2- Professional requirements of transportation practitioners' licensing.** **3- A tool to address unrealistic expectations.** **4- A base from which to defend decisions that may be subject to litigation or legal challenges.** **5- Standardization of practices across jurisdictions.**	*" Liability is probably the forefront- we have standards and guidelines to ensure best practices- all of them adhere to empirical evidence- it is not easy to deviate from them where there is not enough information" (Interviewee A)*
Source: key informant interviews (several)	

Because of the multiple benefits of guidelines and standards, any proposal that would be seen as outside of their scope is very difficult to implement. This can present a challenge for cases in which the standards and guidelines are not regularly updated according to new evidence, or in contexts in which alternative approaches are required. For instance, some design innovations for active transportation have been developed in Europe, but are only slowly being adopted in North America.

> *"Introducing anything that would be seen as outside of Ontario guidelines. If not been seen in North America before, that becomes difficult too." (Interviewee F)*

There is, however, potential for innovation and creativity. This includes the adaptation of guidelines and standards through a 'design exception,' by which standards can be relaxed if accredited professionals and authorities sign off on the proposed modifications. An option typically used by municipalities is the implementation of "Pilot Projects" that include monitoring and evaluation to inform future application and possible addition to future guideline updates. Design exceptions can include consultation with provincial authorities, and requires a more bureaucratic process. Transportation practitioners have to have a very strong rationale to deviate from guidelines. Key to this process is the documentation of the standards that are being modified, with sufficient evidence to support the decision. Any design is approved by the road authority (e.g. the municipality), which can make some of these judgments.

Speaking about professional engineers, for instance, one of the interviewees expressed the extent to which creativity was central to transportation practice:

> *"Engineering is built in concrete- there is little flexibility- but the reality is that when presented with cases for changing standards- they enjoy creating the standards- what we have found is that when presented with issues social/political- they come onboard to create solutions – this is part of the profession and role offer professional recognition." (Interviewee B)*

To recapitulate, technical regulations, policies, standards and guidelines are fundamental to the practice of transportation practitioners for a number of important reasons summarized in **Table 2** above. However, there appears to be some room for flexibility if the context and need are clearly defined.

2.1.5. DIFFERENCES BETWEEN JURISDICTIONS

Inter-jurisdictional issues of responsibility over portions of infrastructure and diverse standards and guidelines were among the major barriers or challenges identified by interviewees. Coordination between the province and municipalities is a prime example, as illustrated by the tensions emerging when provincial highway infrastructure has crossed municipalities (discussed above on page 8). Another frequent source of tensions is between upper tier and local municipalities regarding the function of regional roads and the portions of the road each municipality is responsible for. As described by one of the participants:

> *"The Region is currently responsible for the asphalt portion of the roadway from curb to curb while the local municipality is responsible for the zone in the ROW from the curb to property line. These different priorities result in a gap in the network." (Interviewee C)*

Depending on the jurisdiction, there may be competing interests. For instance, long distance travel and truck traffic needs may not always align with active transportation and short distance travel opportunities. These inter-jurisdictional issues usually overlap with two other interconnected problems: discrepancy in standards and guidelines, and funding expectations. They are interconnected because when an active transportation project requires improvements to traditional designs, the question of which jurisdiction(s) pays and maintains becomes important.

2.1.6. CONSTRAINTS OF AN EXISTING BUILT ENVIRONMENT WITH LIMITED LAND USE POLICY TOOLS FOR PROMOTING CHANGE

Many Ontario communities were built in times when active transportation facilities were not the priority. Simultaneously, built areas tend to have a high demand for active transportation as they concentrate many points of interest for residents. Retrofitting roads and facilities to accommodate active transportation amidst increasing demands for motor vehicle infrastructure becomes a technical, financial and political challenge, as identified by several interviewees:

> *"Working in a constrained space – e.g., designing an intersection or road right of way, the challenge is trying to squeeze everything they want into the space available to them."(Interviewee G)*

Limitations in the provincial land use planning framework were identified as one of the barriers for promoting further change in the built environment. Policies such as the Provincial Policy Statement or the Ontario Planning Act require stronger language and tools. Currently, despite some positive language, provincial land use policies provide limited room to direct the changes in land use development that would be required to fully integrate active transportation infrastructure in new or already established communities. An example from one of the interviewees reads:

> *"Amendments to the Ontario Planning Act (OPA) with regard to site control – new development to go in – OPA is very auto heavy – i.e. parking but not multiuse trail or on-site shower – specific for what you can ask- there is nothing to decide on at infrastructure- very shallow on what you can require." (Interviewee E)*

The provision of additional policy tools to support land use and transportation planning in areas that are already developed is another area in which provincial level leadership can help support active transportation efforts.

2.1.7. INFORMATION GAPS ABOUT ACTIVE TRANSPORTATION AND SOME OF ITS DIMENSIONS

Although the evidence base and data on active transportation has increased in recent years, there are still many areas for which better information is needed to inform decision making. Examples of areas in which the participants felt additional information may benefit active transportation planning. These include, but are not limited to the items summarized in **Table 3**:

Table 3. Examples in which additional information or data can help support active transportation

- In some regions, there is just not enough data about active transportation trends
- A public health perspective can complement ongoing work to assess safety and identify opportunities for injury prevention
- Public perception and broader behavioural changes which promote active transportation are not fully understood. Although some international information is available, little is understood in local contexts (e.g. what motivates segments of the population to use active transportation).
- Broader societal issues (e.g. aging communities and opportunities to promote active transportation).
- Benefits relative to costs associated with investments in active transportation.

Source: several interviews.

2.1.8. DIVERSITY IN PROFESSIONAL APPROACHES WITHIN THE TRANSPORTATION FIELD (ALTHOUGH SOME CONSENSUS EMERGES)

According to interviewees, there is still a great deal of diversity among transportation professionals in their knowledge, approach and expertise about active transportation facilities and active transportation in general. This can become a challenge when consensus is required or new approaches need to be implemented on a particular project.

Several of the factors that were potentially associated with this diversity include: 1- location of practice, with different focus in rural and urban locations; 2- professional experience, gained through having worked on active transportation projects; 3- a generational shift, as the adoption of active transportation content in college and university curricula has been slow in some programs. The following quotes illustrate some of these points:

> *"There is an appetite- they are interested- what their interests are is driven by location – in rural places trails are more important- in Toronto, reconfiguration of road right of ways." (Interviewee B)*

> *"It is just a matter of time [that members gain more expertise on active transportation] - it could be a generational thing - more and more schools are including AT [active transportation] in their curriculum." (Interviewee E)*

> *"Some learning as they go, but have a strong expertise within their large group of people working in this field." (Interviewee G)*

Several interviewees coincided in the perception that the level of awareness and knowledge about active transportation projects and infrastructure has increased in recent years. The combination of curriculum changes, increased professional exposure to active transportation projects and different rural and urban applications was seen as contributing to this shift. In addition, the offer of continuing education options on active transportation seems to be also increasing.

2.2. SOME PROMISING AREAS IN WHICH PUBLIC HEALTH AND TRANSPORTATION COULD SUPPORT EACH OTHER

This section summarizes some opportunities for collaboration between public health and transportation. The scenarios hereby described are potential areas of work as identified by the transportation professional interviewees. They do not represent therefore the full extent of action and collaboration between public health and transportation sectors. As noted by several of the interviewees, public health units are already working in many of the paths of action listed below. In the light of some of the challenges identified in the previous section, the summary below identifies valuable insights to further promote dialogue and action on active transportation and health.

2.2.1. HARNESS ADDITIONAL POLICY AND FUNDING SUPPORT LOCALLY, PROVINCIALLY OR FEDERALLY

Public health practitioners may be in a good position to harness additional local and provincial capacity in the development of active transportation supportive policies and initiatives. This is particularly relevant for some of the challenges described above: Achieving a balance between the need for provincial leadership and local autonomy (item 2.1.1) and Obtaining exclusive and predictable active transportation funding (item 2.1.2).

For instance, in terms of funding, the public health perspective could provide additional information for decision-makers assessing funding for particular initiatives. As illustrated,

> *"Opportunities for future engagement for transportation engineers to engage with public health may lie with finding funding for future transportation initiatives as engineers are finding it a struggle to find these funds. Public health can provide the preventative health angle which is important to the funders. One example is with how public health can help with the actual infrastructure decisions thereby helping to remove barriers. Therefore, one big role is for public health to help with the funding process and the two professions can invest together in future transportation initiatives." (Interviewee C)*

In terms of providing additional support for supportive policy and funding decisions, there seem to be many scenarios and areas of common interest in which public health and transportation sectors can leverage collaboration. For instance, when asked about the Municipal Class Environmental Assessments and a potential role for public health, one of the interviewees answered:

> *"Yes – especially with AT – supporting work of [transportation professionals], helping provide opinion that would influence political and public views of a project. Help reach out to different segments of population for input. Help with messaging about why it's important to support AT initiatives i.e. active lifestyles." (Interviewee F)*

It is important to note that there were a number of examples in which this level of collaboration had started to occur.

2.2.2. CONTRIBUTE TO PROMOTING MUTUAL UNDERSTANDING AND KNOWLEDGE OF OPPORTUNITIES FOR COLLABORATION BETWEEN TRANSPORTATION AND PUBLIC HEALTH

The interviewees generally concur that the level of interest and collaboration between transportation and public health has increased over the last few years. However, several of them also described a great level of diversity in the transportation profession's familiarity with the public health sector and what it can contribute. The public health team working on this project discussed that the same level of diversity in awareness of the transportation sector is present among public health practitioners. The following quote may illustrate this gap in understanding of each other's sectors:

> *"A disconnect exists with the language and the jargon between the two professions. Public health needs to show how they can help in the building and design process. It is not easy for public health staff to deal with engineers as engineers are used to traditional practices and this collaboration will take more time in the process." (Interviewee C)*

> *"Need to plan more forums to initiate frank discussions between the two professions to better understand how to better engage each other. Workshops are another way to help build awareness or consider developing an education tool to increase knowledge." (Interviewee C)*

This gap in knowledge makes collaboration more difficult. Both public health and transportation professionals come from different practices and traditions. Transportation professionals for instance rely on quantitative parameters to make decisions about design; these estimates do not tend to include considerations of public health. There is the potential for misunderstanding about public health's contributions to this process, particularly when discussing technical aspects of a facility type. However, in other areas such as the rationale to support active transportation or development of public communication strategies, public health seems to have more credibility.

It is important for public health practitioners to become familiar with transportation practice and transportation decision making processes, many of which are regulated at a provincial level. As expressed by one of the interviewees:

> *"[transportation professionals]… are all busy, and can be negative or seen as 'one more thing to do' (Interviewee G)*

In today's professional busy lives, if public health practitioners are perceived as not familiar with transportation practice, there may be more resistance and barriers to collaboration.

2.2.3. CONTRIBUTE WITH MORE DATA AND EVIDENCE ON ACTIVE TRANSPORTATION

Information gaps about active transportation and some of its dimensions were identified previously among the challenges for promoting active transportation (item 2.1.7). In particular, a number of public health reports have already helped to identify the

intersections between transportation and health. Beyond this, context specific data or information tends to be even more valued at some levels. This may be captured by the following quote:

> *"…we all hear the reports- the relationship with health is very well established- it is about going beyond this so that we think how we maintain what we have today to include all holistic components without compromise on level of service ([a local municipality] can accept level of service F- other municipalities would not agree with that)". (Interviewee E)*

In this context however, it is important to discuss that what constitutes evidence may have different meanings for transportation and public health professionals. For instance, a recent review of international road injury reports from transportation and health sources found key differences in the definition of evidence used in these two sectors.[9] Transportation reports tended to focus on government technical documents and practitioner experience in the implementation of systems. By contrast, health reports emphasized peer-reviewed research and systematic assessment of literature that weighted evidence according to research design and strength, consistent with biomedical and epidemiological traditions. However, the same review found that reports tended to support similar general policy recommendations regardless of whether they were authored by transportation or health professionals. It also recommended knowledge translation strategies to bridge disciplinary gaps and maximize mutual collaboration.

2.2.4. CONTRIBUTE TO PUBLIC OUTREACH AND EDUCATION EFFORTS

Support from elected officials and residents has been identified as a challenge for further promoting active transportation (item 2.1.3 above). Public outreach and education efforts remain a challenge for transportation planners; one in which public health has expertise and could provide additional support. One of the interviewees described that they had been able to identify funds from their local budget to support public education efforts. However, such funds were often used to retain external contractors because transportation professionals tended to focus on other tasks. Public health practitioners could be a valuable partner with expertise in the area of public communication and engagement to add value to these efforts.

An area of public outreach that may require special mention is the exploration of opportunities to improve physical literacy for cycling among the general public. Public perception of the risk of cycling and the use of diverse types of cycling infrastructure is not well aligned with the evidence on collisions and injury risks, a point that has been

[9] Bao, J., Bhalla, K., & Bennett, S. (2015). Evidence to inform intersectoral policies: a comparison of health and transport sector evidence in support of road traffic injury prevention. Health Research Policy and Systems, 13(1), 19.

described in research literature.[10] This gap between perception and evidence can be a factor generating public resistance to cycling and cycling infrastructure.

2.2.5. ADVANCE ACTIVE TRANSPORTATION AND SAFETY PERSPECTIVE IN KEY SCENARIOS SUCH AS ENVIRONMENTAL ASSESSMENT STUDIES

Participants were asked about some of specific scenarios in which public health action may have a high opportunity for achieving impact and adding value. In particular, Environmental Assessment Studies were identified by several stakeholders as a key scenario (local or provincial) for public health to engage with (with some public health units already doing this locally). Another scenario raised was through the Ontario Municipal Board, although opportunities for engagement and impact are less clear and need to be better understood.

2.2.5.1. ENVIRONMENTAL ASSESSMENT STUDIES

In Ontario, municipalities follow the Municipal Class Environmental Assessment process under the Ontario Environmental Assessment Act to complete an Environmental Assessment (EA) for most transportation projects.[11] Transportation professionals often represent the municipality in Municipal Class EA in their jurisdiction. In this role, they 1- deal with stakeholders; 2- provide technical support; 3- evaluate proposals, alternatives, impacts or functional design. In transportation Class EA's, some of the recommendations for active transportation infrastructure on roads are typically now assessed and identified. In 2015, the Ontario Minister of the Environment and Climate Change approved a Municipal Engineers Association (MEA) proposed amendment to its Municipal Class EA, which enable municipalities to expedite bicycle infrastructure projects. [12]

In order to effectively engage and contribute, it is important that public health professionals familiarize themselves with the Municipal Class EA. The Municipal

[10] Winters, M., Babul, S., Becker, J., Brubacher, J., & Chipman, M. (2012). Safe Cycling: How Do Risk Perceptions Compare With Observed Risk? Canadian Journal of Public Health, 103(S. 3), S42–47.
[11] Municipal Engineers Association (2012). 2011 Version of MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT. October 2000, as amended in 2007 & 2011.
[12] Government of Ontario. (2015). Class EA for Municipal Infrastructure Projects | Ontario.ca. Retrieved February 1, 2016, from https://www.ontario.ca/page/class-ea-municipal-infrastructure-projects

Engineers Association has training modules available online.[13] This need is captured by the following quote:

> *"What type of role for public health- probably the best time to be involved- probably – are there sufficient alternatives to motor vehicle? Are there enough? - to ensure that you are not dismissed as the public health folk – connect with the transportation professional off line so that you engage in the process and understand the process- so that you are not perceived as (here they are again)." (Interviewee E)*

In the quote above, the interviewee also makes reference to the importance of identifying scenarios of communication that are private and do not interfere with the public sessions that are provided for residents as part of an EA. This needs to be highlighted. For instance, in many cases, additional technical stakeholder meetings held for agencies such as other government departments may be more appropriate for public health engagement than public information sessions.

2.2.5.2. ONTARIO MUNICIPAL BOARD

Transportation engineers may participate through Ontario Municipal Board hearings providing advice on impacts on the transportation system, providing expert witness, and by representing a municipality or developer, or to defend facility design. However, often the transportation professional may not be involved, depending on the type of case and evidence required. This process is triggered by demand, which is assessed by the Board.

3. DISCUSSION

Many of the findings described in this report were consistent among several interviewees as well as other sources. This is particularly true for the challenges and opportunities faced by transportation professionals in promoting active transportation. For example, the need for exclusive and predictable active transportation infrastructure funding has also been highlighted by several earlier reports that support our stakeholders' perspective. The Chief Coroner for Ontario's Pedestrian Death Review (2012) recommended that Infrastructure Canada and Infrastructure Ontario should identify funding specific to pedestrian facilities within municipal infrastructure and stimulus funding programs.[14] Other reports have also highlighted this need for predictable, permanent funding for active transportation infrastructure construction and

[13] Municipal Engineers Association. (2012). Training Modules Municipal Class Environmental Assessment. Retrieved February 1, 2016, from http://www.municipalclassea.ca/training/training-modules.html

[14] Office of the Chief Coroner for Ontario. (2012). Pedestrian Death Review. Retrieved from http://news.ontario.ca/mcscs/en/2012/09/chief-coroner-releases-pedestrian-death-review.html

maintenance.[15] To this extent, the findings in this consultation document support other reports, while identifying some additional angles with focus on the intersections between public health and transportation.

The findings of this consultation need to be understood in the context of a number of limitations that are common to the type of qualitative analysis undertaken. First, the findings of this report are based on a relatively small sample of interviewees intentionally selected according to purposive and snow sampling criteria. The participants are therefore not necessarily representative of the universe of transportation professionals in Ontario. Second, the analysis of responses is qualitative, which is interpretative in nature. Hence, the summary of findings reflects the most reasonable interpretation, supported by relevant quality assurance strategies for qualitative research (e.g. peer to peer feedback). Other interpretations of the same set of responses may be possible. Third, this report is intended to be a live document whose main findings and recommendations may be modified based on subsequent consultations and feedback.

Despite limitations common to this type of data, this report points to important opportunities for future collaboration between public health and transportation professionals. For many areas, action has already started to take place and could be further strengthened with increased coordination with transportation stakeholders. For instance, public health agencies and organizations have increasingly advocated and supported efforts to harness policy and funding support locally, provincially or federally. In another illustration, examples of coordinated public outreach and education efforts by transportation and health sectors are increasing in settings such as schools or workplaces.

Several areas of work and collaboration will require further analysis and exploration. For instance, the opportunity to create learning resources to bridge interdisciplinary gaps between health and transportation requires further exploration. This is an area the Ontario Public Health Association Built Environment Work Group has starting to explore, building on previous work with cross disciplinary learning modules between health and land use planning. Some other illustrations of areas of future collaboration include the generation of additional information to better understand active transportation travel behaviour and its context. Table 3 provides examples of key areas in which additional local or provincial data can help advance active transportation. At a policy level, this document summarizes some areas where health and transportation can support each other. It includes for instance the importance of liability concerns for some local decision makers, an area were a combination of local and provincial action could provide great progress.

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[15] Hess, P., & Lea, N. S. (2014). Identifying and Overcoming Barriers to the - TAC_IdentifyingAndOvercomingBarriers.pdf. Presented at the Conference of the Transportation Association of Canada. Retrieved from http://www.tcat.ca/sites/all/files/TAC_IdentifyingAndOvercomingBarriers.pdf

4. CONCLUSION

The opportunities for collaboration identified in this report can become more important overtime as general public interest for active transportation increases. As identified by several of the interviewees, there is enough reason to believe that active transportation use is likely to increase over time:

> *"It is coming whether you like it or not- if you do not embrace it will be a problem – they become less competitive to attract people and business. More broadly speaking- there are more people doing it (AT) the numbers are up- more people are aware of it." (Interviewee B)*

In this context, collaboration between public health and transportation sectors maximize the impact of efforts to promote active transportation and its multiple benefits. The following list provides a summary of some of the key collaboration opportunities identified in this report.

1. Harness additional policy and funding support locally, provincially or federally
2. Contribute to promoting mutual understanding and knowledge of opportunities for collaboration between transportation and public health
3. Contribute with more data and evidence supporting active transportation
4. Contribute to public outreach and education efforts
5. Advance active transportation and safety perspectives in key scenarios such as environmental assessment studies

This list however is not exhaustive. Already, public health and transportation professionals are working to gain mutual understanding and identify new opportunities to leverage efforts to promote active transportation in their communities.

APPENDIX 1: KEY TRANSPORTATION ORGANIZATIONS AND INSTITUTIONS IDENTIFIED IN THE PROCESS

Notes

- Description: taken from the website (extraction date: December 2014).
- Level: categorized in municipal, regional, provincial, federal, other
- Type: crown, independent crown, professional (certifying or not certifying), interest group/coalition, other
- Relevant notes: references to previous work/reports relevant to public health interests (some keyword term search used as noted)

Organization (alphabetical order)	Description	Level	Type
Association for Commuter Transportation of Canada (ACT Canada) http://www.actcanada.com/	"The Association for Commuter Transportation of Canada (ACT Canada) is the Canadian national association that was created to meet the needs of TDM professionals in Canada." The mission statement identifies the promotion of resources, partnerships and integration of land use, transportation, built environment and heath practices	National	Professional (interest- not certifying) more of a planning background vs engineering (email notes)
Association of Consulting Engineering Companies of Canada http://www.acec.ca/. E.g. connect with private engineering consultants such as MMM/AECOM/Golder Associates/ Stantec/BA Group involved with TDM; active transportation; sustainability; ped & cycling master plans; EA's	The Association of Consulting Engineering Companies (ACEC) is a not-for profit organization that has been the voice of Canadian consulting engineering companies since it was founded in 1925. We represent the commercial interests of businesses that provide professional engineering services, to both the public and the private sector.	National	Interest (business focus)
Association of Pedestrian and Bicycle Professionals (Canadian Chapter) **http://www.apbp.org/group/Canada**	It includes 1,300 members in the United States and Canada. APBP members work at all levels of government, in manufacturing, and as consultants, advocates, researchers, and students in a wide range of disciplines: transportation planning and engineering, urban design, landscape architecture, public health, active living, and Safe Routes to School. APBP offers technical training and resources to build capacity for sustainable transportation, including a monthly webinar series, the biennial Professional Development Seminar, Complete Streets and pedestrian accessibility workshops, and the respected Bicycle Parking Guidelines, 2nd Edition.	National (International)	Professional/ non-for profit
Association of Ontario Road Supervisors	The Association of Ontario Road Supervisors (AORS) is a Provincial professional	Provincial	Professional (Region, County and

Organization (alphabetical order)	Description	Level	Type
http://www.aors.on.ca/	association of individuals dedicated to providing high quality public services through certification, educational programs and interaction amongst its members. The objectives of the Association shall be as follows: - to acquire and disseminate information concerning public works to municipalities throughout Ontario - to stimulate interest in the subject of public works - to promote training and development of experienced, reliable and efficient personnel for public works in Ontario - to establish standards of professionalism and to grant certification to those certified road supervisors who meet the requirements as indicated in the Association of Ontario Road Superintendents Act, 1996 - to promote legislative and other measures that will result in improved public works practices.		District Associations made up of public works employees engaged in a supervisory capacity as well as associate members and suppliers. Municipal public works employee engaged in a supervisory capacity). It is devided between AORS and Supplier members
Canada Green Building Council http://www.cagbc.org/: Green building and green infrastructure development	The Canada Green Building Council is a not-for-profit, national organization that has been working since 2002 to advance green building and sustainable community development practices in Canada. Together with our membership of over 1600 industry organizations involved in designing, building and operating buildings, homes and communities, the Council has made excellent inroads toward achieving our mission of reducing the environmental impact of the built environment. Over the past decade, we have successfully advocated for green building policies with all levels of governments and the private sector across Canada	National/ Greater Toronto and Ottawa Chapters	Interest coalition
Canadian Institute of Transportation Engineers http://www.cite7.org/	The Canadian Institute of Transportation Engineers (CITE) membership is composed of over 2,000 transportation engineers, planners, technologists and students across Canada. CITE is an integral part of the Institute of Transportation Engineers (ITE). The focus is on the promotion of professional development, education and training opportunities, and the stimulation and communication of research and best	Canadian	Professional (no accreditation) transportation engineers, planners and technologists

Organization (alphabetical order)	Description	Level	Type
	practices.		
Centre for Sustainable Transportation http://cst.uwinnipeg.ca/about.html	The Centre started work in 1996 and is a federally chartered, non-profit organization. The Centre is governed by a Board of Directors, and has a secretariat based in Winnipeg, Manitoba. The Mission of The Centre for Sustainable Transportation is to work proactively in achieving the sustainable transportation of persons and goods in Canada. We do this through: . Co-operative partnerships we undertake . Relevant and timely research . Projects . The communication and dissemination of balanced information . The monitoring and supporting of sustainable transportation activities.	National (based in Manitoba)	Interest (research and knowledge translation centre)- University of Manitoba
Clean Air Partnership http://www.cleanairpartnership.org/: Networking; Research; Collaboration related to the following areas: Active Transportation, Complete Streets, Climate Change, Air Quality	Clean Air Partnership (CAP) is a registered charity launched in June, 2000. CAP's mission is to work with partners to achieve clean air, facilitate the exchange of ideas, advance change and promote and coordinate implementation of actions that improve local air quality.	Ontario and GTAH	Interest
Consulting Engineers of Ontario http://www.ceo.on.ca/index.html	For nearly 40 years Consulting Engineers of Ontario has been the non-profit association of engineering firms in the province. A branch of PEO.	Provincial	Advocacy, gov't relations, member service, client relations, communication
Engineers Canada http://www.engineerscanada.ca/e/: partnering opportunities; education; raise awareness	Engineers Canada is the national organization of the 12 provincial and territorial associations that regulate the practice of engineering in Canada and license the country's more than 260,000 members of the engineering profession. Engineers Canada serves the associations, which are its constituent and sole members, by delivering national programs that ensure	National	Professional Engineers Ontario is the constituent organization, regulatory for Ontario- It is limited in advocacy (for advocacy, see OSPE)

Organization (alphabetical order)	Description	Level	Type
	the highest standards of engineering education, professional qualifications and professional practice.		
Green Communities/ Active & Safe Routes to School: School Travel Planning http://www.saferoutestoschool.ca/	To be detailed later depending on team discussion		
Green Infrastructure Foundation: Green building and green infrastructure development http://www.greeninfrastructurefoundation.org/	The Green Infrastructure Foundation (GIF) was founded in 2007 to respond to the need for greater awareness and resources to promote green infrastructure in local communities. GIF is a tax-exempt, charitable organization affiliated with Green Roofs for Healthy Cities (GRHC), a membership based industry association and the leading entity for promoting the Green Roof and Wall industry in the U.S. and Canada Green infrastructure is defined as natural vegetation and vegetative technologies that collectively provide society with a broad array of products and services for healthy living	USA?	Interest coalition
Green Infrastructure Ontario Coalition: Green building and green infrastructure development; advocacy; raise awareness http://www.greeninfrastructureontario.org/	Green Infrastructure Ontario Coalition is an alliance of organizations that share a common vision for a healthy, green Ontario where the economic, social, environmental and health benefits of green infrastructure are fully realized	Provincial	Interest coalition
Metrolinx http://www.metrolinx.com/en/: Active Transportation; School Travel Planning; Public transit	Metrolinx, an agency of the Government of Ontario under the Metrolinx Act, 2006, was created to improve the coordination and integration of all modes of transportation in the Greater Toronto and Hamilton Area.	Regional (GTAH)	Independent Crown agency (provincial)
Municipal Engineers Association http://www.municipalengineers.on.ca/	The Ontario Municipal Engineers Association (MEA) is an association of public sector Professional Engineers in the full time employment of municipalities performing the various functions that comprise the field of municipal engineering. The mission is to provide unity and focus for licensed engineers employed by Ontario's municipalities through addressing issues of common concern and by facilitating the sharing of knowledge and information	Ontario	Represents over 630 municipal engineers employed by over 100 municipalities across Ontario (licensed under the PE Act)
Ontario Good Roads Association (OGRA)	OGRA's mandate identifies advocacy as one of the five business objectives that	Provincial	Need to check (municipal agencies

Organization (alphabetical order)	Description	Level	Type
http://www.ogra.org/	will be pursued on behalf of the membership. The mandate states, in part, that OGRA shall advocate the collective interests of municipal transportation and works departments through policy analysis, assessment of legislation and consultation with partners and stakeholders. The advocacy role is supported by a policy and research function that provides analysis and assessment of various initiatives affecting municipal transportation.		are members) "OGRA is led by 15 Directors drawn from member municipalities across Ontario. Directors are either elected municipal representatives or municipal staff officials. Collectively they represent several areas of municipal expertise."
Ontario Public Transit Association http://www.octa.on.ca/	The Ontario Public Transit Association (OPTA) is the Provincial forum for public transportation, representing the views of the membership to governments and other agencies. OPTA contributes to regulatory, policy issues and programs prior to their implementation and has strong relationships with provincial government ministries and associations that affect the delivery of transit and public transportation services. Mission To strengthen and improve public transit through advocacy and information sharing.	Provincial	Interest (Members represent public transit systems, health and social service agency transportation providers, suppliers to the industry, consultants and government representatives)
Ontario Public Works Association *www.opwa.ca*	The Ontario Public Works Association (OPWA) promotes professional excellence and public awareness through education, advocacy and the exchange of knowledge regarding public works in Ontario. It is the Ontario Chapter of the Canadian Public Works Association (CPWA) and the American Public Works Association (APWA). Our membership consists of approximately 630 public works practitioners employed by the Federal and Provincial governments, municipalities, consulting engineers, utility companies, contractors and suppliers.	Provincial	Professional (public works practitioners)
Ontario Society of Professional Engineers http://www.ospe.on.ca/ **Canadian Society for Professional Engineers**: partnering opportunities; education, raise awarenesshttp://www.cspe.ca/CSPE/Main_Pag	The Canadian Society of/for Professional Engineers (CSPE) is an umbrella organization for provincial and territorial advocacy and member services societies of Canada's professional engineers. It is a non-profit, federally-registered corporation since 1983. The Ontario Society of Professional Engineers (OSPE) is a member-interest, advocacy organization, created jointly by Professional Engineers Ontario (PEO) and the Canadian Society of Professional Engineers (CSPE). The Society is the result of a two-year process to separate regulatory and non-regulatory affairs for the profession, culminating in a referendum of PEO members that found 80	Provincial/ National	Professional (advocacy focus- no certifying body) PEO, a regulatory body that exists mainly to protect the public interest, is quite limited in what it can do in terms of advocacy, particularly on economic or 'turf' issues

Organization (alphabetical order)	Description	Level	Type
e.html	percent support for starting a separate advocacy organization.		
Ontario Traffic Council **http://www.otc.org**	The Ontario Traffic Council was formed in 1950 by a small group of municipal officials, who saw the need for a co-ordinated effort to improve traffic management in Ontario, by drawing together the knowledge and expertise of those in the field of Enforcement, Engineering and Education. The OTC mission statement is "OTC is the voice for enhancing the engineering, education and enforcement sectors of the traffic management sector in Ontario	Provincial	Professional (representative of The OTC is a unique organization in that it draws its members from elected representatives, police services, traffic/transportation engineers, parking, industry and individuals in related fields)
Professional Engineers Ontario (PEO) http://www.peo.on.ca/	Established on June 14, 1922, Professional Engineers Ontario (PEO) is the licensing and regulating body for engineering in the province. It fulfills the same role for engineers as the College of Physicians and Surgeons for doctors or the Law Society of Upper Canada for lawyers.	Provincial	Professional licensing and regulatory body
Provincial Ministries (MTO http://www.mto.gov.on.ca/english/; Infrastructure http://www.moi.gov.on.ca/en/; MMAH http://www.mah.gov.on.ca/Page11.aspx; MOE http://www.ene.gov.on.ca/environment): Advocacy; Legislation, education, etc	To review later- after team discussion (likely to be contacted only after a clear communication goal is defined)		
The Ontario Association of Certified Engineering Technicians and Technologists https://www.oacett.org/	The Ontario Association of Certified Engineering Technicians and Technologists (OACETT) is a non-profit, self-governing, professional association of over 24,000 members. OACETT is Ontario's independent certifying body for engineering and applied	Ontario	Professional (certifying body)- non transportation specific

Organization (alphabetical order)	Description	Level	Type
	science technicians and technologists and confers the designations C.Tech. (Certified Technician) and C.E.T. (Certified Engineering Technologist).		
The Share the Road Cycling Coalition **http://www.sharetheroad.ca**	The Share the Road Cycling Coalition is a provincial cycling advocacy organization working to build a bicycle-friendly Ontario. . Programs, events and advocacy efforts across the province, include: • Bicycle-Friendly Communities program • 7th Annual Ontario Bike Summit (March 31 & April 1, 2015 in Toronto) • Greg's Ride (September 2015 in Milton) • OntarioCAN and our Advocacy Toolkit	Ontario	Non-for profit organization
Toronto Centre for Active Transportation http://www.tcat.ca/: Complete Streets Forums; Bike Summits; Resources/References such as their Complete Streets by Design Guide http://www.tcat.ca/completestreetsbydesign	The Toronto Centre for Active Transportation (TCAT) was formed in 2006 to give a unified voice to the many groups working for a better cycling and pedestrian environment in Toronto. TCAT has worked closely with the Clean Air Partnership (CAP) since its inception, became a project of CAP in 2008, and now guides the active transportation programming at CAP. Since becoming a project of CAP, TCAT evolved from a grassroots advocacy group into a research and education organization. As a result, in 2011 TCAT celebrated its fifth birthday by changing its name from the Toronto Coalition for Active Transportation to the Toronto Centre for Active Transportation.	Toronto and GTAH	Interest coalition- centre
Transport Futures http://www.transportfutures.ca/about-us	Established in 2008, Transport Futures is a series of learning events coordinated by Healthy Transport Consulting. Working with our valued advisors, partners, sponsors and speakers, we are the only Ontario-based organization facilitating a rational dialogue on a range of challenging TDM measures and infrastructure funding mechanisms	Provincial	Interest (knowledge translation and events)

APPENDIX 2: CONSENT FORM

CONSENT TO PARTICIPATE IN KEY INFORMANT INTERVIEW

Purpose: You have been invited to participate in a key informant interview as the first stage of a project to identify ways that public health professionals and transportation engineers can collaborate to create transportation systems that safely accommodate all modes of travel. This project is being led by a taskgroup of the Ontario Public Health Association's (OPHA) Built Environment Workgroup (BEWG).

Procedures involved in the research: Key informants from transportation engineering are being asked to take part in an interview lasting 30 - 60 minutes, to be conducted over the telephone or in-person at the convenience of participants. A team of two members of the BEWG will conduct the interview. One person will be the interviewer and one will be the transcriber. Participants will be asked questions about transportation (in particular, active transportation) and health, the role of both in their work, and experiences working on projects dealing with both. Responses will be transcribed by hand.

Participation benefits and risks: The results of the interviews will be used to help develop a strategy for future collaboration between public health and transportation engineers that will facilitate implementation of active transportation initiatives. The intention is for both professions to benefit from increased understanding of each other's skills, knowledge and expertise. The decision to participate will be kept confidential therefore there are no known risks associated.

Confidentiality: The choice to participate as a key informant will be kept completely confidential. The data will be aggregated so as not to identify key informants. Moreover, participant perspectives will be kept confidential by using general terms such as "engineer" or "public health specialist" or "policy-maker" in any presentation or publication based on the findings. The only form with participants' full name will be this consent form, which will be stored in a locked cabinet until the project is complete. All transcripts will also be securely stored and destroyed after the final report has been completed.

Participation: Participation as a key informant is voluntary. You may withdraw you participation and/or consent to participate at any time without penalty or consequences of any kind. You may also choose not to answer certain questions and still continue with the interview. If you choose to withdraw part way through the interview, you may request that your earlier data be omitted. With

your permission, we would like to use anonymous quotes from your interview in future reports and publications.

Information about key informant interview findings: Findings from the interviews will be compiled and sorted. A summary report will be created, which will be shared with interested participants. Any direct quotes will be verified prior to inclusion in the report.

Information about participating as a key informant: If you have questions or require more

information about this project and/or the interview process, please contact Sue Shikaze sshikaze@hkpr.on.ca or Fabio Cabarcas fabio.cabarcas@halton.ca

CONSENT

I have read the information provided above about a study being conducted by the Built Environment Workgroup of the OPHA. My questions have been answered to my satisfaction. I understand that I may withdraw my participation at any time, if I choose to do so. I have been given a copy of this form.

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

☐ YES ☐ NO

I agree to the use of anonymous quotations in any report, publication or presentation that comes of this research.

☐ YES ☐ NO

Participant Name: _____(Please print)

Participant Signature: _____Or verbal assent given _____

Witness Name: _____ (Please print)

Witness Signature: _____

Date: _____

APPENDIX 3: INTERVIEW GUIDING QUESTIONS

Public Health Engaging with Transportation professional

Interview Questions

Intro:

The Built Environment Workgroup of the Ontario Public Health Association (OPHA) is conducting Key Informant Interviews with individuals from transportation professional organizations and associations. This is the first step in a project to identify ways that public health professionals and transportation engineers can collaborate to create transportation systems that safely accommodate all modes of travel, in particular active transportation.

The OPHA is a member-based not-for-profit organization that provides leadership on issues affecting the public's health and works to strengthen the impact of people who work in public health across Ontario. OPHA work includes advocacy, building strategic partnerships with multiple sectors, surveillance and analysis of public health issues, and capacity building. OPHA's workgroups eight are engaged in a variety of advocacy and capacity building activities designed to bring about changes in government policy, regulation or social practice.

In public health we have an interest in transportation planning and design because the availability of a range of transportation options impacts health in terms of air quality, climate change, physical activity, injury prevention, health equity and healthy community design.

The purpose of this interview is to gather information about the factors of influence on the work transportation engineers. Questions will be asked around the following themes: context and scope of work; standards and guidelines that direct/influence work; and collaboration with other professions, including public health.

For the purposes of this interview, the definition of active transportation is: all human-powered forms of transportation, in particular walking and cycling. It is any trip made for the purposes of getting to a particular destination - to work, to school, to the store or to visit friends. (Transport Canada)

1) **Understanding your organization (for organizational representatives only)**
   a) What is the purpose/mandate of your organization? (Prompts: organization type, structure, scope of action, level of action – municipal/provincial/national/other, membership)
   b) What is the scope of work of the members of your organization? (meaning – what do they do? Who do they work for?)
   c) What (if any) involvement or engagement does your organization have with the provincial government? For example:
      i) Training of staff?
      ii) Any current initiatives?
      iii) Development of provincial transportation policies or standards?
   d) What kind of training or education (if any) does your organization offer to transportation engineers on designing active transportation systems?

2) **Understanding your role**
   a) Please describe your role/job in your municipality/firm
   b) What is your background/education/training?
   c) How long have you been working in transportation?
   d) How long/how much work have you done on active transportation planning and design? (maybe get brief description)

3) **Professional Practice, standards, guidelines, policies**
   a) What are the different roles and types (i.e. specialty) of engineers in transportation planning?
   b) **What are the professional and accountability requirements** of transportation engineers?
   c) What are the main **organizations/associations** that oversee your profession?
   d) **What municipal and provincial legislation, policies, standards and guidelines** guide the work of transportation engineers? What is the difference between standards and guidelines?Have the list (prepared by Jackie, Fabio and Nicole) on hand as they answer and note what is mentioned and what is missing.
   e) How much flexibility do engineers have to deviate from recommended standards/guidelines for road design – for example, when considering the inclusion of active transportation of infrastructure while designing/reconstructing roads?
   f) What are barriers or challenges that transportation engineers face in creating innovative solutions for active transportation?
   g) What new provincial or municipal legislation, policies or plans would make it easier for active transportation to be included in the design of transportation facilities?
   h) In your estimation, what is the level of expertise among your members with respect to designing active transportation facilities?
   i) From whom or where do you receive training on designing active transportation systems? Briefly describe.
   j) What is the difference between a professional engineer and a CET? What is the extent of a CET's role in transportation planning and facility design?

4) Processes
   a) What is the role of transportation engineers in OMB hearing process? In the EA process?
   b) How do the **local municipal council and community stakeholders** influence designs for active transportation facilities?
   c) What kind of role could you see public health play in the EA process?

5) Engaging with Public Health
   a) What do you think is the present level of understanding in your field of the relationship between public health and transportation?
   b) What is the level of interest for transportation engineers to engage with public health?
   c) What are challenges that exist for transportation engineers to engage with public health? Opportunities?
   d) In your observation, do you think transportation engineers and public health professionals engage with each other frequently enough during the planning process?

e) What would you suggest as useful steps for public health to take in order to build awareness and relationships to work with transportation engineers?
f) What are the factors of influence that impact the work of transportation engineers? (see Figure 1)

6) Do you and/or your organization **work with other professions** with respect to active transportation? If yes, please describe.

7) Who else do you recommend we talk to?

Figure 1 – Factors of Influence