



APHEO

Association of Public Health Epidemiologists in Ontario

"To advance and promote the discipline and professional practice of epidemiology in Ontario public health units."

www.apheo.on.ca

Investigating Infrastructure Data Sources: A Summary Report

By Kim Bergeron, MHST

March 2009

On behalf of the APHEO-Core Indicators Project Built Environment Sub-group

Financial support provided by the Public Health Agency of Canada

Reference: Bergeron, K. (2009) Investigating Infrastructure Data Sources: A Summary Report. *Association of Public Health Epidemiologists in Ontario*, Toronto, Ontario.

Investigating Infrastructure Data Sources: A Summary Report

INTRODUCTION:

This report is one of three reports¹ commissioned by the APHEO to inform the work of the APHEO-CIP-Built Environment sub-group (CIPBE). In February 2009, the CIPBE was formed based on the outcome of a strategic direction session held in December 2008 by the APHEO- Core Indicators for Public Health in Ontario Project. The purpose of the CIPBE is to develop public health indicators relevant to the built environment.

Purpose of Project:

To identify potential data sources for indicators to evaluate the built environment related to six lifestyle factors: 1) physical activity, 2) healthy eating, 3) healthy weights, 4) tobacco use, 5) alcohol consumption, and 6) exposure to ultraviolet radiation.

Within the scope of this project, the term ‘infrastructure’ refers to physical structures, (such as transit and transportation corridors and facilities) that form the foundation for development.² It also includes community infrastructure, such as land, buildings, and structures

¹ Bergeron, K. (2009). A review of the literature on the effect of the built environment on five chronic disease risk factors for Public Health Professionals interested in surveillance: A Summary Report. *Association of Public Health Epidemiologists in Ontario*, Toronto, Ontario and Bergeron, K (2009) Environmental Scan of Provincial Policies, Position Statements, Briefing Documents and Legislation related to the Built Environment and Six Lifestyle Factors: A Summary Report. *Association of Public Health Epidemiologists in Ontario*, Toronto, Ontario

² Ministry of Municipal Affairs and Housing (2005) Provincial Policy Statement)

that support the quality of life in communities by providing public services for health, education, recreation, socio-cultural activities, security and safety, and affordable housing.³

METHOD:

Method for Collecting Information

1. Based on a conducted literature review and the knowledge held by the investigator, an outline of the proposed method that included a potential list of organizations to be contacted by telephone was provided to the CIPBE. The CIPBE reviewed and approved the method and provided the final list of organizations. When possible, contact names were provided by the CIPBE or the investigator for each organization.
2. The CIPBE developed an Excel spreadsheet that included questions (listed in Appendix A) for collecting information about potential databases. The inclusion criteria for this project were organizations collecting data at the lower level of geography than provincial (i.e. regional, county, and municipality).
3. The investigator contacted each organization by phone and implemented one of the following actions:
 - If a contact name was not provided, the general inquire number was used.
 - If a contact name was provided, the investigator called their telephone extension.

³ Ministry of Energy and Infrastructure (2005) Places to Grow

If the person was not available, a message that included the investigator's name, purpose of their call and their telephone number was left.

If a person answered the phone, the investigator shared the purpose of the project and gathered information by taking notes.

Another method used to gather information was if the investigator had an email address of the contact person, an email message (Appendix A) was sent introducing the project and inviting the person to participate in the project.

4. Each contacted person was also asked to identify other organizations that would be relevant for this study.
5. The investigator thanked each contact person for their participation.

RESULTS AND DISCUSSION:

Information was collected over a five week period (February 20, 2009 to March 25, 2009). All 28 organizations were contacted.

Information was unable to be gathered from the following organizations: Ontario Ministry of Revenue, Ontario Ministry of Finance, Ontario Recreation Facilities Association and the Liquor Control Board of Ontario by contacting their general inquiry line. A person could not be identified for the investigator to speak with.

Organizations contacted that did not return telephone or email messages prior to the writing of this report were:

Federation of Canadian Municipalities, Centre for Addition and Mental Health, Ontario Ministry of Energy and Infrastructure, Ontario Ministry of Transportation, Ontario Ministry of Education, Ontario Professional Planners Institute, and Conservation Ontario, Information was gathered from 17 organizations (61% response rate). The excel constructs didn't appear to fit the kind of information that was available. As this is an emerging field of inquiry (refer to literature review), there appears to be limited available data and if a data set exists, accessibility is an issue. One organization (Ontario Trails Council) was found to house trail data (which has recently become available). Another organization (ICES) has specific municipal data but is finding it difficult to find similar data sets for other urban areas. The Ministry of Municipal Housing and Affairs (MMAH) representative identified that municipal infrastructure data sets may be available in 2010 based on a MMAH requirement municipalities are required to inventory all capital assets but at this time, there is no such standardized data set available. Overall, of those interviewed, most stated that the lack of a standardized data set is a barrier to developing indicators to measure the built environment on health.

Other information relevant to the CIPBE from the conducted interviews was found. Information is presented in a table format below. The sections of the table include: organization/contact name, lifestyle factor, reason for contact (as identified by the CIPBE &/or the investigator) and information found. Organizations identified as potential data sources from those interviewed were not investigated due to the short time frame and need to contact all approved organizations.

Please note: Included in this report are the names and contact information of those that provided the information. The investigator was asked not to publish their contact information, especially email addresses in a pdf document and post on a website (due to spam programs) and to remove specific contact information from all sections. The investigator shared that they would inform CIPBE of this request.

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Ontario Trails Council (OTC)	Physical Activity	Determine the data source used for the maps of trails in Ontario.	<p>The Ontario Trails Network has the latest data on trails available. There are over 2000 trails listed in this inventory. Trails can be searched by region or activity (i.e. hiking, motorized) and selected information can be copied into an Excel spreadsheet. This resource just became available.</p> <p>Future direction for the OTC is to include use patterns of trails and increase their understanding of recreational infrastructure.</p> <p>(This conversation took place while he was on his cell phone and there was not a lot of time for discussion).</p>

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Ontario Ministry of Municipal Affairs and Housing (MMAH)	All	Identify data requirements for municipalities. Are there standard data sources available that the Ministry recommends?	<p>The municipalities currently have to report their operational costs on a standardized form developed by the MMAH. This process and completed information can be found at: http://csconramp.mah.gov.on.ca/fir/FIR2007.htm</p> <p>All municipalities have to complete the required forms. There are 54 indicators and 12 service areas such as local government, council costs, fire, police, roadway (but it doesn't look at bike paths. It is more about maintenance and service costs), transport (cost of transit services, number of people who use this type of transport). The CIPBE may want to review this material in greater detail.</p> <p>Starting January 2009 municipalities are now required to complete a Capital Asset Inventory under the Public Sector Accounting Board. This includes any infrastructure that needs to be maintained and serviced. For example number of transit shelters would be recorded as they are a capital asset. It is believed that most municipalities have been keeping their own inventories but now they are required to report them to the Ministry starting in 2010 (for the 2009 year).</p>

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
St. Michael's Hospital: The Centre for Research on Inner City Health (CRICH) and Institute for Clinical Evaluative Sciences (ICES)	All	Investigate the Diabetes project that measured the built environment; may help identify data sources and databases.	<p>The Atlas ICES project that was conducted in Toronto is being done in different urban centres in Ontario.</p> <p>It has been years to accumulation of data from the Atlas project that started in 2004. Most the data came from different sources such as: City of Toronto, Daily Bread Food Bank, Food Share (data on good food box program in Toronto), Canadian Urban Institute (Ontario Food Terminal), Ministry of Education (data on location of Toronto schools and schoolyards). The team now has to do a lot of “leg work” to find the data for other urban centres included in the study. Their experience is there appears to be limited existing data sources.</p> <p>The research team is developing an Activity Friendly Index (AFI).</p> <p>There is also a spreadsheet with different data sources such as data from Transportation Tomorrow, spatial data and parks data that has been created from the Atlas work</p>

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Green Communities/Safe and Active Routes to School	Physical Activity	Data source on how far students live from schools.	Active and Safe Routes to School (ASRTS) program uses a community-based model and are flexible in the types of information used by each host organization. They have not found a standardized data set.

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
			<p>A data sources for how far students live from school is available at the school board level. Some host organizations have been successful in accessing this data at their local level but it is not accessible from all school boards in Ontario.</p> <p>Another potential source of data (at the municipal level) for CIPBE to consider is from traffic engineers as they are the one's who hear if there are traffic issues near schools and may have statistics on number of complaints or other traffic problems in school zones.</p> <p><i>A School Travel Planning</i> pilot project is being implemented in four provinces and includes rural, suburban and urban schools. Local schools involved are collecting baseline data. Based on the pilot results a “model framework” will be rolled out over the next year.</p> <p>Two professors at the University of Toronto (Ron Buliung and Guy Faulkner) under a Heart and Stroke Research grant on active travel to schools are looking to produce data on the built environment as they couldn't find Canadian data. They are half way through a three year study.</p> <p>Between now and June ASRTS is collecting information on school board policies around active transportation. This includes interviewing a sample of school board stakeholders from rural, suburban and urban schools to gather information on busing students. ASRTS is working to creating a business case for investment in active transport based on a cost/benefits ratio by</p>

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
			comparing it to the current system of busing and infrastructure to support motorized transport. This report will be available after June 30, 2009.

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Alcohol and Gaming Commission of Ontario	Alcohol	Information on liquor licenses for bars and taverns (density)	<p>The AGC collects many types of data but may not necessarily be readily available to the public such as addresses for the manufacturing (u brew) and retail outlets (restaurants) for each municipality as they need to apply for a license to the AGC. It was identified as a good source of potential data that may be available at the municipal level as these applications first have to be applied at the municipal level due to municipal by-laws. Therefore, the CIPBE may want to check out the process of applying to serve alcohol and how the information is stored, All paperwork must be in order at the municipal level prior to applying to the AGC.</p> <p>There are over 17,000 licensed establishments in Ontario. The AGC is able to internally search by postal code to find the location of various outlets. A formal request for data can be submitted to the Alcohol and Gaming Commission of Ontario. The data could be placed in an Excel spreadsheet.</p> <p>Service Ontario deals with who is permitted or not permitted to sell alcohol in Ontario and that most police forces have an officer designated to liquor enforcement and they may be a source for data.</p> <p>The <i>License Line</i> is a quarterly publication that discusses new</p>

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
			<p>policies, liquor license suspensions, new applications, public notices and can be reviewed at the community level.</p> <p>There is the availability of the store search function on the LCBO's website and how it could be used to collect data on the number of liquor stores available in a municipality.</p> <p>Look to see if there was a similar function for Beer Stores. I did and there is a similar function at http://www.thebeerstore.ca/OurStores/Store_finder.asp</p>

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Canadian Index of Well Being	All	National movement that has 8 different domains that they are developing indicators for. One of the domains that they are trying to develop indicators for is Community Vitality and another is Healthy Populations. These two domains may contain some relevant work for the CIPBE.	<p>The Atkinson Foundation is host to this index. http://www.atkinsonfoundation.ca/ciw</p> <p>The index has not been released as of yet. CIPBE members were encouraged to check their website for more information about releasing the index.</p> <p>From the website I found the following description which may be of interest to CIPBE:</p> <p>Although currently a work-in-progress, when the CIW is fully developed, it will chart and provide unique insights into how Canadians' lives are getting better – or worse – in areas that matter: health, standard of living, quality of the environment, time use, education and skills, community vitality, civic engagement, and arts, culture & recreation. Most importantly, the CIW will shine a spotlight on how these important areas are interconnected. How, for example, changes in income are linked to changes in health, or how community engagement and living standards are connected.</p>

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Parks and Recreation Ontario		Data source for parks in Ontario and community gardens and allotment plots.	<p>The data for <i>the Investing in Healthy and Active Ontarians through Parks and Recreation Infrastructure: A Summary Report (2007)</i> is in an Excel spreadsheet format and may be of interest to the CIPBE. Is it not posted for the public, but they can request it if they thought it would be relevant to their project.</p> <p>Facilities Inventory Tracking System (FITS) is new and they are currently updating their website so it is easier to use. There is no data at this time in FITS.</p> <p>They are currently working on a project with the Ontario Professional Planners Institute (OPPI) called “Reconnecting Children and Families with Nature” and have aligned with OPPI’s position paper on healthy communities and land-use planning guidelines for children and youth.</p>

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Metrolinx	Physical Activity		<p>This project focuses on greater Toronto and Hamilton area. They have found that municipalities collect information but it can not be compared from one area to another.</p> <p>They follow the “Greater Golden Horseshoe Transportation Model” developed by the Ministry of Transportation. More information about this model be gathered from the Ministry of Transportation.</p> <p>An area of interest for Metrolinx is information on movement of trucks once they arrive in urban centres. The Canadian Urban Transit Association as another organization to contact.</p>

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Cancer Care Ontario	Tobacco use Exposure to ultraviolet radiation	Sun safety and Tobacco data	<p>1) National Sun Safety Survey (individual behaviour), 2) CCO: Population Studies is mapping available data using CCHS and SES data. The University of Waterloo is conducting a “leisure study” and they may have built environment indicators.</p> <p><i>Overview of Ontario Health Study:</i></p> <p>The Ontario Health Study (OHS) is a large, population-based, longitudinal cohort study that aims to advance knowledge of the major risk factors for cancer, cardiovascular and other chronic diseases, as well to improve our understanding of the causes of the risk factors. The OHS will be a resource used by researchers from across Ontario who although working in diverse areas, with expertise ranging from molecular through to societal levels, share a common vision that chronic disease prevention and screening can be improved. The OHS, which is part of a national initiative, will engage 150,000 Ontarians, between the ages of 35 and 69, who volunteer to provide baseline information and to be followed over the subsequent decades.</p> <p>Participants will be recruited from the community, with information about the OHS being distributed by direct mail to households and to the community through local media and social marketing strategies. The OHS involves the collection of data and biospecimens (e.g., a blood sample) from individual participants when they visit a Study Centre in their community, which is complemented by linking to information available in other sources (e.g., regarding health outcomes, as well as community-level and environmental data). The OHS adheres to rigorous</p>

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
			<p>ethical standards, including that all participants will provide informed consent and that strict rules are applied to protect privacy and maintain confidentiality. The OHS is currently in an early phase that aims to demonstrate and evaluate all procedures by recruiting participants and collecting data at Study Centres in three Ontario communities. The OHS may have a built environment component but no other information can be released at this time.</p> <p>Further information is available at www.ontariohealthstudy.ca.</p>

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Ontario Ministry of Health Promotion (MHP)	Physical Activity Healthy Eating Healthy Weights	Acquire information regarding the “Major Municipal Sport and Recreation Inventory, 2005”	The MHP has agreements with the Ministry of Natural Resource (Land Information Office) to map trails in Ontario and works in collaboration with the Ontario Trails Network (OTN) to have available trail information on designated trails. CIPBE was encouraged to visit the OTN website. MHP also works with the Canadian Fitness and Lifestyle Research Institute regarding physical activity information. The Growth Secretarial was identified as a potential source of data for the abandoned rail lines (which is infrastructure)

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Association for Municipalities in Ontario	All	May be aware of the type of data collected within municipalities. Inquire about the “Municipal Performance Measurement Program data” referring to the amount municipalities spend on the operation of sport and recreation facilities.	It was shared that they don’t collect their own data but use most often the source found at http://www.mah.gov.on.ca/Page1637.aspx . Other possible sources identified were: <ul style="list-style-type: none"> • Ontario Good Roads www.ogra.org. • Rural Ontario Municipal Association (ROMA) • Organization of Small Urban Municipalities • Northwestern Ontario Municipal Association When inquiring about their Municipal Information & Data Analysis System (MIDAS) Deborah’s response was “The” MIDAS does not provide information relevant to your project”.

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Canadian Mortgage and Housing Corporation	Physical Activity	Determine the data sources used to write their reports. They write data reports and I assume they are aware or have access to databases. Data tables for 2008 are available on their website in Excel.	<p>CMHC conducts their own surveys.</p> <ol style="list-style-type: none"> 1. <i>Housing Start Survey</i>: This is collected monthly. They are provided building permit information by municipalities and they send out a numerator to drive by the addresses provided and they identify if the housing is single etc. Informal agreement with municipalities to provide the information. 2. <i>Rental Market Survey</i> 3. <i>Retirement Home Survey</i> regarding vacancy (private retirement homes) 4. <i>Pilot: New Home Sale Survey</i> (phone builders identified through building permits information and ask them the number of homes sold that month) 5. <i>Renovate Survey</i>: Telephone survey on intention to renovate. Self-reported data <p>The data they collect data is in relation to very specific research projects so this work is periodic, time-specific (not re-occurring) and very diffuse. A good option to learn more about what data and or research they have is to call our housing library - CHIC - Canadian Housing Information Centre in Ottawa - call toll-free and explain your needs or ask for CHIC - 1-800-668-2642. You can also search our website. “</p>

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Share the Road Cycling	Physical	Advocacy coalition on	They don't currently collect data. However, the issue of lack of

Coalition	Activity Healthy Weights	cycling may have some good data on cycling and accessibility.	<p>data is a critical one for active transportation planning here in Ontario, one I have highlighted with the government on a number of occasions.”</p> <p>The only people that are routinely collecting this data are: the City of Toronto. Toronto Police publish a yearly executive summary of cycling fatalities and other cycling safety data. Rick Glazier study SMH injury prevention unit Toronto public health published some good articles on how traffic pollution causes hundreds of deaths each year in those with respiratory conditions.</p>
------------------	---------------------------------	---	---

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Ontario Physical and Health Education Association/Physical Activity Resource Centre	Physical Activity Healthy Weights	May have physical activity data source.	The database that PARC currently has would not be relevant for this project as the focus of it is to share physical activity resources, programs and services offered by physical activity promoters in Public Health, Community Health and Recreation sectors across Ontario. Someone like Dr. Larry Frank would be aware of existing community infrastructure databases or the Canadian Fitness and Lifestyle Research Institute.”

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Ontario Healthy Communities Coalition	Physical Activity Healthy	They have some case studies which should have an outline of the indicators that were used.	OHCC does not actively collect data in these areas. The only database they have is the Healthy Communities Built Environment literature review, which is available on their website. It covers a broad range of topics and is not particularly

	Eating Healthy Weights		measurement oriented . But not sure of the value of this information for this group.
--	------------------------------	--	--

Organization/Contact Name	Lifestyle Factor	Reason for Contact	Information Found
Peel Health Department	All	Lead on RRFSS module on perceived and measures of the built environment. Which is the health and urban model.	Under the health and urban design they are only looking at self-reported information such as importance of walking distance or importance of neighborhood characteristics.

Appendix A: Question's from Excel Spreadsheet

- 1) What area/region does the database cover
- 2) What is the current purpose of the database?
- 3) How is the information in the database currently being used and by who (what types of organizations/departments)

- 4) What measures do they routinely collect in order to comply with legislation?
- 5) What are the Policies and procedures related to the database including history of the database;
- 6) How often is the database updated?
- 7) What sources of information used to populate the database?
- 8) Are other organizations such as Public Health Units able to access the database?
- 9) If yes, is there a cost associated with accessing this database?
- 10) How is the data packaged/formatted? (Excel, etc)
- 11) Are there data quality assurance measures in place? If so, what are they?
- 12) Who owns the data
- 13) Do you have a data dictionary?
- 14) Can you provide a list of variables within the database?
- 15) Future plans for the database?
- 16) What information can you share about human and financial resources to maintain the data set?

Appendix B: Email Message

I am contacting provincial organizations on behalf of the Association of Public Health Epidemiologist in Ontario (www.apheo.on.ca) to identify *community infrastructure data sources* such as number of roads, features of residential, industrial, commercial areas, bike lanes, sidewalks, trails number of traffic crashes, number of retail outlets (that sell tobacco,

Within the scope of this project, the term ‘infrastructure’ refers to physical structures, (such as transit and transportation corridors and facilities) that form the foundation for development. It also includes community infrastructure, such as land, buildings, and structures that support the quality of life in communities by providing public services for health, education, recreation, socio-cultural activities, security and safety, and affordable housing.

alcohol, tanning facilities) that measure the built environment in communities across Ontario.

Your organization has been identified as a potential participant to contact.

Public health practitioners, particularly epidemiologists are faced with a challenge to:

- 1) **identify measurement indicators** for physical environment factors relevant to specific chronic disease risk factors (i.e. physical activity, healthy eating, exposure to tobacco, access to alcohol and exposure to ultra violet radiation);
- 2) **identify data sources** that are available at the district or regional or neighborhood level in Ontario and
- 3) standardize indicators so comparisons can be made across public health units in Ontario.

Therefore, I am contacting you to investigate the types of data sources at your organization in order to create an inventory of databases for review by public health professionals.

Below is a list of questions for your consideration. You can answer in a reply email, send as an attachment or share when would be a convenient time for me to contact you by phone. Thank you in advance for your time and consideration.

- 1) Does your organization have a database that could be relevant for this project? Yes or no

If no, thank you for your time. If yes, please continue

- 2) Is the data collected at a lower level of geography than the province?

If no, thank you for your time. If yes, please continue

- 3) At what level (i.e. regional, county, or municipality) is the data collected?

Regional County Municipal Other: Please list

- 4) What area/region does the database cover?

- 5) What is the current purpose of the database?
- 6) How is the information in the database currently being used? and by who? (what types of organizations/departments)
- 7) How is the data packaged/formatted? (i.e. Excel)
- 8) Do you have a data dictionary?
- 9) Can you provide a list of variables within the database?
- 10) What sources of information is used to populate the database?
- 11) Who owns the data?
- 12) How often is the data updated?
- 13) Are there policies and procedures related to the database?
- 14) Are there data quality assurance measures in place? If so, what are they?
- 15) Are other organizations able to access the database?
- 16) If yes, is there a cost associated with accessing the database?
- 17) Future plans for the database?
- 18) What measures do you routinely collect in order to comply with legislation?
- 19) Can you describe the human and financial resources to keep the database current?