STEP FORWARD

HAMILTON PEDESTRIAN MOBILITY PLAN

DECEMBER 2012

Prepared by:

G. O’CONNOR CONSULTANTS INC.
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EXECUTIVE SUMMARY

E.1. Vision/Goals

The City of Hamilton’s commitment to improved pedestrian mobility arises from two sources: Provincial legislation and commitments the City has made to the International Charter for Walking. Step Forward: The Hamilton Pedestrian Mobility Plan addresses how the City plans to achieve these legislative and aspirational commitments to healthy, sustainable and complete communities where people choose to walk. The Plan establishes a City-wide, pedestrian framework for the future.

This Pedestrian Mobility Plan employs an evidence based approach to creating safe and interesting pedestrian environments throughout the City by applying public health science and transportation research to the City’s built environments. The Pedestrian Mobility Plan also embeds within City decision making a process called “Routine Accommodation”. Infrastructure development and renewal will address improved pedestrian environments by using appropriate toolbox solutions, together with education, encouragement and enforcement programs. This will be accomplished by focusing decision making through a series of legislative, planning, operational, communications and infrastructure considerations.

This Pedestrian Mobility Plan strives to achieve the following vision:

- Increased inclusive mobility;
- Well designed and managed spaces and places for people;
- Improved integration of networks;
- Supportive land use and spatial planning;
- Reduced road danger;
- Less crime and fear of crime;
- More supportive site planning and engineering standards; and
- A culture of walking.

By employing an evidence based approach, these principles become standards that will be monitored following implementation to measure effectiveness of the Plan and its solutions.
The Pedestrian Mobility Plan goals are to:

- Create healthy, efficient and sustainable communities where people choose to walk.
- Increase the number of people walking in the City.
- Provide a pedestrian environment that improves personal safety and is an attractive and interesting walking environment.
- Increase public health, active transportation and pedestrian links or connections.
- Improve pedestrian movement by focusing on access to community institutions, recreational and leisure opportunities and employment and retail services.
- Create a walkable City to attract new residents and businesses.

E.2. Public Consultation

A key principle for successful Environmental Assessment planning is “consultation with affected parties early in and throughout the process” (Municipal Class Environmental Assessment, 2007). In keeping with this principle, a detailed consultation plan was developed for the preparation and implementation of this Pedestrian Mobility Plan. This consultation plan identifies potentially interested and affected stakeholders and describes methods for meaningful consultation with stakeholders, the public and relevant regulatory agencies during the preparation and implementation of the Pedestrian Mobility Plan.

In addition to meeting the legislative requirements of the Environmental Assessment Act, this Pedestrian Mobility Plan harnesses the communities’ desire to walk by employing their input to better understand opportunities and constraints. City staff were fully engaged in the development of this Plan from all perspectives including legislative,
Numerous public consultation opportunities were provided through:

- The project website (interactive on-line mapping, CommunityWalk website and an on-line electronic public survey);
- Social media using Project twitter and facebook sites;
- A Pedestrian Advisory Committee comprised of Institutional, community and business improvement associations;
- Community booths at pedestrian destinations such as farmers markets, open streets events and a transportation and healthy living fair;
- City staff and council workshops; and a departmental staff steering committee.

Significant public consultation occurred throughout the entire process. Two Public Information Centres were held, P.I.C. #1 at 4 locations and P.I.C. #2 at 2 locations. The interactive “Community Walk Map” had approximately two times the national/USA average/capita (1,643 Community Walk Map views). 478 on-line and paper surveys were submitted. Interactive display boards at six (6) farmer’s market locations were completed and Open Streets Hamilton and the Transportation and Healthy Living Fair were attended. Four (4) meetings were held with the City’s staff team and two (2) workshops were held with City Staff and Councillors.

This Pedestrian Mobility Plan has significant staff and public support.

In summary, the Pedestrian Mobility Plan exceeds the minimum requirements of the Municipal Class Environmental Assessment for public consultation by applying a variety of consultation methods.

E.3. Environmental Assessment (E.A.)

The Pedestrian Mobility Plan follows Phases 1 and 2 of the Municipal Engineers Association Municipal Class Environmental Assessment (October 2000, as amended in 2007). The Municipal Class Environmental Assessment is a planning and design process, approved under the Ontario Environmental Assessment Act, for routine municipal infrastructure and transportation projects. Projects that are subject to the Municipal Class Environmental Assessment have a predictable range of environmental
impacts that can be mitigated. Consideration is given to the potential effects of each project on the natural, social, cultural and economic environments. Projects that are planned in accordance with the Municipal Class Environmental Assessment are approved under the Environmental Assessment Act.

Section A.2.7 and Appendix 4 of the Municipal Class Environmental Assessment document (2007) explains how the planning process can be applied to the Pedestrian Mobility Plan. Appendix 4 of the Municipal Environmental Assessment document recognizes three possible approaches. This Pedestrian Mobility Plan follows Approach #1, which completes Phases 1 and 2 of the Class Environmental Assessment process. The Pedestrian Mobility Plan serves as background for future infrastructure projects which may be subject to larger assessments.

E.4. Routine Accommodation

In the Pedestrian Mobility Plan, routine means “a series of actions regularly followed”, while accommodation means “the process of adapting or adjusting to making pedestrian mobility safer and more interesting” (this is consistent with Complete Streets approach). Routine accommodation occurs when City operational, infrastructure, planning, legislative and communication decisions also improve pedestrian infrastructure when streets, services and roads are maintained and renewed throughout the City. “Routine Accommodation” is a process where changes to improve pedestrian streetscapes utilizing a range of solutions are regularly employed on each and every project as a matter of course. This decision making process is designed to implement changes during reconstruction, ongoing maintenance, streetscape enhancements or other capital projects. Decisions are appropriate, objective, traceable and defensible.

The key improvements incorporated within this Plan that will make this possible include:

- A pedestrian checklist intended to provide City staff background information essential to the application of the design toolbox solutions;
- A context sensitive series of areas in the City that address streetscape
Over a 20 year time span, the Pedestrian Mobility Plan will improve Hamilton’s pedestrian environment and walking will become a more viable mode of transportation meeting increasing functional mobility requirements.

Most pedestrian infrastructure is built when other projects are implemented on City streets. As time passes, the consistent application of toolbox solutions and new City standards will enhance pedestrian mobility throughout the City. These techniques eliminate the need for a specific list of capital projects.

Previously, pedestrian mobility focused on uniform sidewalk and crosswalk standards to be applied across the City on whatever space remained, after vehicular traffic requirements were satisfied. This Pedestrian Mobility Plan will help rebalance vehicular and pedestrian traffic requirements by placing more emphasis on pedestrian needs on an ongoing basis.

E.5. **Pedestrian Mobility Advisory Committee (P.M.A.C.)**

This Plan recommends a Pedestrian Mobility Advisory Committee (P.M.A.C.) be established to assist Hamilton City staff with decision making on pedestrian issues, where additional advice is needed. Two advisory committee models were considered: an advisory committee such as the existing cycling committee; and an advisory committee such as the Clean Air Hamilton Coordinating Committee. The decision to recommend an advisory committee similar to the latter, is based on the Pedestrian Mobility Plan being about more than simply walking. Implementation of this Pedestrian Mobility Plan will also:

differences throughout the City to highlight unique design opportunities while being respectful of the Official Plan including mapping and designations;

- A series of design toolbox solutions, policies and programs intended to improve pedestrian safety and increased pedestrian mobility; and

- A decision process that brings together all the various City Departments and public stakeholders necessary to make decisions on pedestrian mobility improvements.
December 12/12

- improve public health and well being among Hamilton’s residents;
- address Provincial and City targets and policies for energy conservation, public transit usage, green house gas emission reductions, and improved air quality;
- address the economic aspirations of the larger community especially where higher education, the professions, business improvement areas and emerging technologies are concerned; and
- address community needs in the Neighbourhood Development Strategy.

E.6. Implementation

This Pedestrian Mobility Plan will be implemented through Routine Accommodation together with all street maintenance, renewal and capital development projects. A future permanent staff Pedestrian Coordinator, Public Works, Transportation, Energy and Facilities Division, Mobility Programs & Special Projects (Pedestrian Coordinator) appointment is recommended who will be responsible for implementation of the Pedestrian Mobility Plan. This person ideally will be employed in the Infrastructure/Asset Management team, to ensure optimal efficiency of resources between multiple departments.

Among the most important first implementation steps are the following:

1. Train Department staff to apply Routine Accommodation as part of a start-up session to be held at the conclusion of this study, Winter 2013.
2. Appoint a Pedestrian Coordinator (full time appointment) and make the administrative changes necessary to commence implementation of Step Forward.
3. Create a Pedestrian Mobility Advisory Committee (P.M.A.C.) and utilize the committee as a resource to provide advice on the implementation program and specific streetscape improvements.
4. Amend the Engineering Standards, Urban Design Standards and Site Plan Control requirements to include the toolbox solutions, as necessary.
5. **Continue the pedestrian monitoring system that was commenced in 2011 and gather additional pedestrian use data, especially on streets where infrastructure and street improvements are planned for the next five (5) years.**

**E.7. Other Thoughts**

Overall, the objective is to create interesting places for people to walk and increase the amount that people walk.

- Generally, the City is doing a good job on many aspects of pedestrian mobility. Step Forward will assist Staff and Council to improve the situation systematically and cost effectively over a sustained period of time.

- Public support for this work is very strong. Ongoing public outreach through the City project website, social media and the Pedestrian Mobility Advisory Committee will ensure ongoing support and success of the program.
1. INTRODUCTION AND BACKGROUND

The City of Hamilton prepared the Step Forward: Pedestrian Mobility Plan. The Plan establishes a 20-year framework to improve functional pedestrian mobility in the City of Hamilton. This Pedestrian Mobility Plan fulfills commitments made through the International Charter for Walking – signed April 1, 2008 and the City of Hamilton New Official and Transportation Master Plans.

1.1. Purpose of this Plan

The Pedestrian Mobility Plan contains working tools and a decision making process for City Council and staff use. Application of these tools and process are designed to improve pedestrian environments. It also helps achieve the pedestrian goals and objectives of the City’s Transportation Master and Official Plans.

In the Pedestrian Mobility Plan, mobility refers to several transportation modes that use pedestrian facilities including walking, running, strollers, scooters, wheelchairs, and walkers. The term is inclusive to all.

1.2. Project Vision

The Vision of the City of Hamilton is:

- To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.
1.3. **Goals and Objectives**

The Pedestrian Mobility Plan goals are to:

- Create healthy, efficient and sustainable communities where people choose to walk.
- Increase the number of people walking in the City.
- Provide a pedestrian environment that improves personal safety and is an attractive and interesting walking environment.
- Increase public health, active transportation and pedestrian links or connections.
- Improve pedestrian movement by focusing on access to community institutions, recreational and leisure opportunities and employment and retail services.
- Create a walkable City to attract new residents and businesses.

1.4. **Benefits of Walking**

There are numerous benefits associated with walking. The following sections address these benefits.

1.4.1. **Public Health and Sustainable Communities**

In the online publication of The Lancet, two of Hamilton’s McMaster University researchers, Sonia S. Arnand and Salim Yusuf introduce three articles addressing the relationship between global changes in body-mass index (B.M.I.) and increased risks of cardiovascular disease. They observe these “results suggests that overweight affects one in three adults and obesity affects one in nine adults in the...
world.”\textsuperscript{1} “Worldwide, age standardized prevalence of obesity was 9.8\% in men and 13.8\% in women in 2008, which was nearly twice the 1980 prevalences of 4.8\% for men and 7.9\% for women.”\textsuperscript{2}

“In the long term, the most effective means of stemming the tsunami of cardiovascular disease globally is through population level risk factor control. Whereby the population average of a given risk factor is reduced. In high income countries, the reductions in key cardiovascular disease risk factors at the population level are attributable to changes in the food supply (i.e., reduction in animal products and sodium consumption) and through increased physical activity.

“Developing solutions will require novel and as yet unavailable data to shed light on the complex interactions between agricultural and food policies (which affect the costs and promotion of different types of foods), industrialization (the nature of jobs), transportation, urban design and community architecture (which affects the expenditure of energy during utilitarian activity), economic changes, and social and cultural values, all of which ultimately affect cardiovascular disease (and several related chronic diseases). Health related research cannot be separated from research into policies related to agriculture... urban design.”\textsuperscript{3}

This Pedestrian Mobility Plan addresses these community design issues and associated public health risks in order to create an active, healthy, and sustainable City.

The integration of physical activity into daily lives is one of the 10 most important health challenges we face.\textsuperscript{4} “The Canadian Health Measures Survey released by Statistics Canada in January 2010, found that among youth aged 15 to 19, the percentage whose waist circumference put them at an increased or high risk of health problems has more than tripled since 1981. Also, the proportion of teen boys between the ages 15 and 19, classified as overweight or obese, increased from 14 \text% to 25\% during the same time period.”\textsuperscript{5}

\textsuperscript{1} Arnaud, Sonia S., and Salim Yusuf. In www.thelancet.com, published online February 4 2011, pg. 1.
\textsuperscript{3} Ibid, Arnaud, February 4 2011, pg 3.
\textsuperscript{4} Jackson, Richard J., Chris Kochtitzky, Creating a Healthy Environment, Sprawl Watch Clearinghouse Monograph Series, Centres for Disease Control and Prevention.
“Routine physical activity has been engineered out of our daily lives... The result, 70% of Americans do not achieve the goal of 30 minutes of moderately intense activity on five or more days per week as recommended by the Centre for Disease Control (Atlanta).”

“The links between physical activity and health outcomes are well established. At the time of the (US) Surgeon General’s Report on Physical Activity and Health in 1998, hundreds of research studies were amassed providing evidence of these links. Physical inactivity contributes to increased risk of many chronic diseases and conditions including obesity, hypertension, non-insulin dependent diabetes, colon cancer, osteoarthritis, osteoporosis and coronary disease.... One consequence of physical inactivity – obesity – has reached epidemic proportions across age, race/ethnic, and socioeconomic groups.”

“Brisk walking, bicycling, and even gardening qualify as moderate physical activities. Current recommendations are for a half hour of moderate physical activity on at least five days per week....

Moderate physical activity is as beneficial as vigorous exercise in preventing cardiovascular disease, assuming that equivalent levels of energy are expended... Multiple episodes during the day, as short as eight or ten minutes, offer the same benefit. This has implications for built environment design; places designed so that people walk on multiple occasions during the day may go a long way toward helping them reach recommended levels of physical activity.”

The chronic diseases of the 21st century include: cardiovascular disease, diabetes, obesity, some forms of cancer, asthma and depression, all of which respond well to physical activity. This Pedestrian Mobility Plan helps retrofit Hamilton’s neighbourhoods to increase walking opportunities. The built environmental factors that affect personal weight and associated health risks include the lack of sidewalks and appropriately designed sidewalks and walking trails and the lack of the promotion of modes of transportation such as public transit, walking and cycling.

1.4.2. Literature Review / Public Health Best Practice

Recent research into the relationship between chronic diseases and the built

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6 Richard Killingsworth, MPH; JoAnne Earp, PhD; Ralph Moore, Dipl Arch, MCP: ”Supporting Health through Design: Challenges and Opportunities, in the American Journal of Health Promotion, Volume 18, No. 1, September/October 2003, page 2.
7 Reid Ewing, Tom Schmid, Richard Killingsworth, Amy Szlot, Stephen Raudensbush, Relationship between Urban Sprawl and Physical Activity, Obesity and Morbidity, in the American Journal of Health Promotion, Volume 18, Number 1, September/October 2003.
environment and transportation infrastructure has produced a rich literature on pedestrian activity specifically and physical activity more generally. Using “pubmed”, a health science search engine, we undertook a literature review using the following key words: “(built environment or built form) and (public policy) and (physical activity)”. Approximately 50 articles were retrieved and reviewed. These were summarized and findings were noted for use in this Pedestrian Mobility Plan. We have also drawn on previous reviews we conducted of the scientific literature used to help draft other City plans, programs and reports.

Pedestrian standards are being reviewed to address these issues. We maintained an open public planning process in order to capture as much of this discussion as possible. We also compared our findings with those of other Provincial, Municipal and public health jurisdictions such as the British Columbia Urban Public Health Network Authorities, Peel Region Public Health, Toronto Public Health and the Direction de santé publique de Montréal. With these inputs, we used our best judgment to envision what the emerging pedestrian environment will look like in Hamilton.

This literature provides a strong incentive to plan for active communities and general descriptors on what an active community looks like. The following summary of built/transportation environment factors that characterize active communities was developed from the literature:

- Higher residential and employment densities;
- Residential proximity to institutional and retail services (e.g., floor area rations and site coverage appear to be important site design measures, as well as the size and design of parking facilities);
- Street connectivity, block length and higher intersection densities;
- Either proximity to employment and/or proximity to public

This is a rapidly emerging field of investigation with many related important issues. Provincial and municipal governments are re-aligning policy to address energy conservation, climate change adaptation and chronic disease prevention. Public interest and community groups are expressing concern about environmental sustainability, especially where air quality, energy conservation and climate change are concerned.
transportation system stops (light rail and other higher order transit facilities create unique opportunities for stimulating pedestrian movement);  

- Proximity to greenspace with good trail systems;  
- Proximity to facilities that provide for physical activities (i.e., parks, playing fields, commercial fitness and athletic clubs);  
- Socio-economic status including income;  
- Aesthetics both from the perspective of the street and neighbourhood (e.g., sidewalk widths, building setbacks, lot coverage, street furniture, cafes and grocery sidewalk sales, and shading from trees); and  
- Programs and incentives for active community participation such as school walking programs and anti-idling bylaw enforcement).

These built/transportation environment variables apply differently and in different combinations depending on the context area within Hamilton’s built environment and will be an important consideration later when toolbox solutions and context areas are applied in routine accommodation decision making.

Below are six summary measures from this literature that characterize Hamilton’s pedestrian opportunities and constraints and have been used to develop the Pedestrian Mobility Plan. Each measure is used to understand pedestrian needs and design toolbox solutions and programs and policies to improve mobility.

1. **Residential and employment densities:** Generally, higher residential and employment densities foster more pedestrian activity.

2. **Street connectivity, intersection density and block length (i.e., pre and post WWII):** The shortest distance between two points is a straight line. To the extent possible, pedestrians will gravitate towards a straight line. For example, witness pedestrian movement in large campus facilities where pedestrians cross lawns and sometimes gardens, to save steps/distance. The street patterns that provide for the most efficient pedestrian movement are the square and rectangular street pattern grids found in the urban core and surrounding neighbourhoods. Generally, block lengths are short and intersection densities are highest providing for pedestrian travel distances that are as short as possible. The exception to this rule in the downtown is where urban renewal occurred and streets were removed to create larger building blocks i.e., MacNab Street north of King Street. Rectangular street patterns also characterize neighbourhoods built
prior to World War II. Block lengths are somewhat longer, but pedestrian movement is still fairly efficient. There are exceptions to this rule. Westdale Village, designed and built in the 1920’s, used an oval street design focused on a commercial corridor making it an efficient pedestrian environment. Generally, pre-World War II urban environments are more pedestrian oriented and residents often are measurably more physically active.

Suburban neighbourhoods, built following World War II, generally make pedestrian movement less efficient. Curvilinear street patterns make retrofitting these communities for improved pedestrian movement very difficult.

Rural settlements provide both opportunities and constraints for pedestrian movement. Rural hamlets were often rural service centres providing residential opportunities for retired farm families close to the communities where they lived. More recently, these settlements house commuters who drive.

3. **Either proximity to employment or proximity to effective and/or higher order transit:**
   Early Hamilton residential and industrial developments were located in close proximity so workers could walk to/from work and their residences. With the advent of the automobile, employees could live in residential communities well removed from their place of employment. Today, there is evidence that professional workers and their families and younger people generally place a higher premium on being able to walk to work and local shopping and services.

   Where higher order public transit exists, pedestrian activity increases, and body weights decline.

4. **Proximity to green space:**
   Proximity to green space works in two ways. Where linear features such as the Niagara Escarpment or the Red Hill Creek Ravine exist, street connectivity is interrupted and these features become barriers to pedestrian movement. Walking on steep slopes and rugged terrain requires more physical ability than flatter terrain but creates more challenging and inviting pedestrian environments.

   Alternatively, surveys conducted during the preparation of the Confederation Park Master Plan, indicated that many trail users visit by automobile and use the recreational trails on a regular basis to achieve public health physical activity objectives. Where trail systems exist and can be accessed by public transit, walking, cycling and automobiles, these contribute significantly to pedestrian activity. Where these trails are situated in urban communities, often these facilities (i.e., the Rail Trail)
are used for shopping, access to employment and educational facilities.

5. **Proximity to public and private physical activity facilities and parks**: Public recreational centres and commercial gymnasiums contribute substantially to physical activity, especially when accessed by walking. Local parks also contribute to pedestrian activity, especially where play ground facilities are available for young families.

6. **Socio-economic and demographic status**: Socio-economic status can operate in two ways. Where poverty exists, the ability to walk to various services and transit facilities is important. It is also important that access to fresh fruit and vegetables exists. These needs are important access considerations. Alternatively, professional and knowledge workers and younger people generally prefer to live in pedestrian friendly communities with access to the services and commercial opportunities of interest. Westdale Village, Locke Street and Ottawa Street are good examples of the commercial mixes that cater to these urban communities.

Professional and knowledge workers may be selecting downtown residential neighbourhoods built prior to 1949, to live and work in. There is also evidence that people who live in poverty may be migrating to residential neighbourhoods built after 1949 – these newer neighbourhoods are less walkable and less well served by public transit. The practical implications of this migration to the suburbs are ominous.

1.4.3. **Healthy, Complete, Sustainable**

Below is the Pedestrian Mobility Plan’s working understanding of how three words: healthy; complete; and sustainable are used in this Plan to achieve increased pedestrian mobility.

**The Word “Healthy”:**

What constitutes an active healthy built environment varies depending upon where one fits into the cycle of life and where one lives in the City of Hamilton. For children and youth, an active built environment focuses on schools, recreation and parks and the activities so crucial to growing up. Young parents will want access to employment and commercial facilities. An active aging population focuses on the demands of an aging population: access to health care, friends, recreation and appropriate housing and social institutions like libraries. Our challenge is creating an active pedestrian environment that meets the needs of all Hamilton residents irrespective of age or physical ability. Quality of life will also improve in part by increasing pedestrian mobility.

Safety, both perceived and real, especially with respect to public comments on the lack of buffers where buffers between
traffic and sidewalks don’t exist, and the Plan’s collision analysis, is an important related concern. Active transportation needs to be designed to achieve the highest possible safety standards and improve the public’s perception of safety as pedestrian use of City streets increases.

The use of the word “healthy” encompasses the public’s desire for active environments that reduce public health risk and the associated public costs associated with preventable chronic diseases and address safety concerns, now and in the future.

We have addressed this understanding of the word “healthy” in the Pedestrian Mobility Plan by employing context specific streetscapes and problem based decision and design analyses.

The Word: “Complete”:

The word “complete” is used in the recent Provincial Growth Plan. It is also used together with “communities” in the New City of Hamilton Official Plan. “Complete” in the Pedestrian Mobility Plan, means creating a more active pedestrian environment consistent with the policy expectations of the Provincial and City plans and policy and community aspirations.

Presently many of the geometric transportation design and planning manuals in the United States and Canada are being reviewed and rewritten to address “complete” streets legislation in the United States and similar state and provincial initiatives. To the extent possible, this Pedestrian Mobility Plan employs an approach consistent with these reviews so as to anticipate and expedite this transition going forward.

The Word “Sustainable”:

Climate change and energy use are growing public policy issues. The Green Energy Act provides for regulations requiring municipalities to prepare energy conservation and demand management plans. The City of Hamilton is engaged in many programs to conserve energy, reduce green house gases and improve air quality. Active transportation is a valuable means by which these programs are implemented and a “sustainable” community is achieved. This Pedestrian Mobility Plan provides an important foundation upon which Provincial and municipal sustainable policy on energy and environmental can be achieved through increased pedestrian movement.

Resilience is an important measurement of sustainable communities. “Demographics favour walkable places.”10 Evidence exists that cities are experiencing a structural shift associated with issues like aging populations and the ongoing mortgage crisis. Car dependant suburban environments are at a significant disadvantage to walkable urban downtowns and suburban town centres as this shift unfolds. The enhancement of

pedestrian opportunities will help create more resilient communities.

1.5. Plan Organization

Legislative and policy “silos” affect pedestrian decision making. For example, the Planning Act addresses municipal land use planning; the Highway Traffic Act addresses street design and management; the Environmental Assessment Act addresses environmental impacts and the Health Promotions and Protection Act addresses chronic disease risk from physical inactivity. These multiple considerations complicate City decision making on pedestrian mobility and make coordination between municipal departments both cumbersome and difficult.

In order to address coordination, City staff helped create Figure 1 “City Implementation Considerations,” to describe the various considerations that should apply pedestrian decision making. These include:

- Legislative considerations;
- Planning considerations;
- Operational considerations;
- Communications considerations; and
- Infrastructure management considerations.

These themes best address how the City of Hamilton’s administration manage its various commitments among Departments to implement pedestrian infrastructure improvements.

Context area descriptions and pedestrian design solutions (toolbox solutions), policies and programs were then developed to address the goals and objectives of this Pedestrian Mobility Plan. These are used in the routine accommodation decision making to select appropriate designs, policies and programs for application in projects throughout the City. This has been conducted consistent with the Municipal Class Environmental Assessment requirements in the manner described in the following sections.
1.6. Study Team

G. O’Connor Consultants Inc. led the Consulting Team in the preparation of the Pedestrian Mobility Plan. They were responsible for overall project direction, management, design, text, mapping and public meetings. Glenn O’Connor co-lead the project and prepared and edited text. He was assisted by Marianne Mokrycke, Beth Coughlan and Andrew Danielson. CIMA+ provided expertise on transportation planning, traffic engineering and road safety analysis, and environmental assessment. Brian Malone co-lead the project. He was assisted by Sonya Kapusin, Jaime Garcia, Pedram Izadpanah, and Alireza Hadayeghi. McKibbon Wakefield Inc. provided environmental planning expertise and primary report writing, Provincial/Municipal planning issues, and public health and pedestrian research. George McKibbon provided these services. Toole Design Group provided expertise on pedestrian planning and toolbox solutions. Peter Lagerwey, R. J. Eldridge and Michael Hintz provided these services. DMD & Associates Ltd. provided expertise on pedestrian lighting. Don McLean provided this service.

1.7. Acknowledgements

The study team gratefully wishes to acknowledge the valued input from the members of City of Hamilton Council, City staff, stakeholder and advisory groups, and the public who guided, challenged ideas and helped to shape this document. In particular, we wish to acknowledge:

- Steve Molloy, Project Manager, Transportation Master Plan Implementation, City of Hamilton
- Al Kirkpatrick, Manager, Transportation Planning, City of Hamilton
- Hart Solomon, Manager (now retired), Traffic Engineering, City of Hamilton
- Daryl Bender, Project Manager, Alternative Transportation, City of Hamilton

Many members of the public participated in surveys, community walk maps, sent in comments and attended public open houses. These were all carefully documented, reviewed and considered in the preparation of this document.

Any errors or omission are solely the responsibility of the authors.
2. LEGISLATIVE CONSIDERATIONS

2.1. Introduction

We live in challenging times with many apparent conflicting legislative and policy requirements. This and the following sections organize this legislative and policy framework for the purposes of preparing this Pedestrian Mobility Plan.

The Highway Traffic and Planning Acts provide the legislative frameworks whereby pedestrian planning takes place. The City Official Plan provides direction on land use and the infrastructure and public work necessary to accommodate these uses. With the exception of Federal and Provincial facilities, public works, need to be provided for, within an approved Official Plan. The Provincial Policy Statement 2005 sets out Provincial Policy municipal planning decisions have to be consistent with.

The Growth Plan for the Greater Golden Horseshoe prepared under the Places to Grow Act and the Greenbelt Plan, prepared under the Greenbelt Act, also provide policy direction that municipal official plans must conform to. The Niagara Escarpment and Parkway Belt West Plans also require municipal official plan conformity.

The Health Promotion and Protection Act directs Medical Officers of Health to address a variety of Provincial public health concerns including chronic disease protection. The Ontario Public Health Standards 2008 address the scope of research and intervention approaches the Medical Officer of Health is to take in achieving these standards including promoting programming aimed at increasing physical activity among Hamilton residents and commenting on built environment decisions.

The Highway Traffic Act provides the basic framework for the design and operations of streets and highways. Municipalities have limited discretion to vary from the legislation and operational and design policy when considering changes to street design and operation, where pedestrians are concerned. The Highway Traffic Act and its policy manuals are under review and there appears to be some openness to better provide for active transportation, especially pedestrian activity.

Metrolinx prepared a regional transportation plan for the Greater Golden Horseshoe including Hamilton. While this plan has no statutory authority, it is used as a means by which Provincial
public transportation investments are made and needs to be addressed where pedestrian planning is concerned.

Municipal infrastructure requires Environmental Assessment Act approval. The Municipal Class Environmental Assessment enables municipalities to be in compliance with this Act. This has been followed in the development of this Pedestrian Mobility Plan.

Other applicable legislation includes the Green Energy, the Water Improvements, and Environmental Bill of Rights Acts. These establish a framework for the preparation of conservation plans that will include energy conservation, where municipal infrastructure is concerned. While the applicable provisions of this legislation are not fully developed administratively, at some time, the reduction of green house gases and energy conservation will emphasize pedestrian activity as a means of reducing transportation energy consumption and green house gas emissions.

The following two policies are of interest: Ontario’s Action Plan for Healthy Eating and Active Living; and Climate Ready, Ontario’s Adaptation Strategy and Action Plan.

Municipal pedestrian decisions are guided by the Official Plan that provides for municipal infrastructure and land use while the transportation Master Plan provides for the design and operation of the municipal transportation system. This Pedestrian Mobility Plan complements and overlaps this policy framework.

The City of Hamilton signed the International Charter for Walking in 2008. Together with other stakeholders, several studies have been undertaken to assess and improve pedestrian mobility in City neighbourhoods.

In addition, the City of Hamilton has participated with various stakeholders and its citizens in various conversations that have created municipal policy and decisions. For example, Vision 2020, Clean Air Hamilton, and the Bay Area Restoration Council have become forums for municipal and stakeholder decision-making. These provide important opportunities whereby projects involving increased pedestrian mobility and safety are discussed and implemented.

These and other important matters will be addressed in this Pedestrian Mobility Plan. Provincial legislation is described in Section 2.2 while City plans and policies adopted by by-law are described in Section 2.3. In Section 2.4 the manner in which these are used in the Pedestrian Mobility Plan is described.
### Table 1: Provincial Legislation

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<th>Provincial Legislation</th>
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<tr>
<td><strong>The Planning Act</strong></td>
<td>The purpose of the legislation is to: promote sustainable economic development in a healthy natural environment within the policy and by the means provided in this Act” (Section 1.1) The City is to have regard to the following matters of Provincial interest: • The supply, efficient use and conservation of energy and water; • The adequate provision and efficient use of transportation systems; • The orderly development of safe, healthy communities; • The accessibility of persons with disabilities to all facilities, services and matters with which this Act applies; • The adequate provision and distribution of educational, health, social, cultural and recreational facilities; • The protection of public health and safety; and • The promotion of development that is designed to be sustainable, to support public transit and to be oriented to pedestrians.</td>
<td>The recommended toolbox solutions provide design improvements that will improve pedestrian safety. The routine accommodation decision-making process helps select the appropriate solution. Both address to varying degrees all of the purpose of the legislation and the various matters of Provincial interest by focusing attention on measures that will improve pedestrian safety and create more interesting streets.</td>
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<tr>
<td><strong>The Environmental Assessment Act</strong></td>
<td>“The purpose of this Act is the betterment of the people of the whole or part of Ontario by providing for the protection, conservation, and wise management in Ontario of the Environment” “Undertakings are to be assessed using the provisions of the Act and are defined as including: • An enterprise of activity by or on behalf of Her Majesty in right of Ontario, by a public body or public bodies or by a municipality or municipalities.”</td>
<td>By employing the Municipal Class Environmental Assessment, 2007, in the development and analysis of the Pedestrian Mobility Plan, Schedule A and B projects may proceed to implementation. Where recommended toolbox solutions are employed in larger projects, approval will be obtained in the assessment of these larger projects.</td>
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<tr>
<td><strong>The Green Energy Act, the Water Opportunities Act and the</strong></td>
<td>Section 6 of the Green Energy Act makes provision for municipalities to prepare and implement energy conservation and demand management reports at some time in the future. The Water Opportunities Act makes provision for water conservation</td>
<td>Transportation energy conservation will occur with greater attention to vehicle and fuel technology, travel activity and vehicle and system operations. The last two elements rely upon increased functional pedestrian activity. Increased pedestrian usage will be an important component of municipal energy</td>
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### Provincial Legislation

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<tr>
<td>Environmental Bill of Rights</td>
<td>plans to be prepared in conjunction with energy conservation plans. Section 58.1 (1) of the Environmental Bill of Rights requires the Environmental Commissioner to report to the Speaker of the Assembly annually on the progress to reduce transportation fuels among other energy sources.</td>
<td>conservation planning where transportation is concerned. The recommended toolbox solutions and routine accommodation decision-making process will provide transportation energy conservation.</td>
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<tr>
<td>The Highway Traffic Act</td>
<td>The Highway Traffic Act provides for the design, operation and maintenance of highways and roads in the Province of Ontario. The first section advises drivers to exercise care and attention. The second instructs pedestrians, at pedestrian crossovers, to not leave the curb or place of safety and move into the path of an approaching vehicle if the vehicle is so close that the driver will not be able to yield the right of way.</td>
<td>The Highway Traffic Act, its regulations and design guidelines, operate as a complete function, operating largely in isolation from other transportation modes that share the road. This results in uncertainty where the onus for safe travel resides on the pedestrian on and off the sidewalk. This uncertainty conflicts with other Provincial legislation discussed in this table and Provincial policy on land use and public health where pedestrian mobility is concerned.</td>
</tr>
<tr>
<td>The Accessibility for Ontarian’s with Disabilities Act (AODA)</td>
<td>This Act provides for “developing, implementing and enforcing accessibility standards in order to achieve accessibility for Ontarians with disabilities with respect to goods, services, facilities, accommodation, employment, buildings, structures and premises on or before January 1 2015.”</td>
<td>Public health risks in the 20th Century were associated with infectious diseases whereas in the 21st Century, chronic disease risks are associated with physical inactivity and our built environments. Continued public health improvements will be driven by the creation of active built environments.</td>
</tr>
<tr>
<td>The Health Promotion and Protection Act</td>
<td>The purpose of this Act “is to provide for the organization and delivery of public health programs and services, the prevention of the spread of disease and the promotion and protection of the health of the people of Ontario.”</td>
<td>The Ontario Public Health Standards provide the following direction to Medical Officers of Health and Public Health Boards: Boards of Health “shall conduct epidemiology analysis of surveillance data, including monitoring trends over time to address physical activity.” “The Board of Health shall work with municipalities to support healthy public policies and the creation or enhancement of supportive environments in recreational settings and the built environment regarding the following topics: healthy eating; healthy weights; comprehensive tobacco control; physical activity; alcohol use; and exposure to ultraviolet radiation.”</td>
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### 2.3. City Plans/Documents

#### Table 2: City Plans/Documents

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<th>Plans/Documents</th>
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<tr>
<td>International Charter for Walking</td>
<td>The Charter’s intent is to create healthy, efficient and sustainable communities where people choose to walk. Signatories to the Chapter are committed to:</td>
<td>On April 1 2008, the Mayor of Hamilton signed the International Charter for Walking.</td>
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### City Plans/Documents

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<tr>
<td>• Increased inclusive mobility;</td>
<td>Improving safe and interesting pedestrian environments is central to the vision, goals and objectives of Vision 2020. Implementation of the Pedestrian Mobility Plan will provide an important measure to monitor implementation of the Vision.</td>
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<td>• Well designed and managed spaces and places for people;</td>
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<td>• Improved integration of networks;</td>
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<tr>
<td>• Supportive land use and spatial planning; reduced road danger; less crime and fear of crime;</td>
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<td>• More supportive authorities; and a culture of walking.</td>
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### Vision 2020

The Region of Hamilton Wentworth initiated Vision 2020 in the early 1990s. It has been updated and adopted by the City of Hamilton after amalgamation. It has been citizen lead and the Vision addresses sustainability in all its various forms. Annual monitoring occurs to measure progress towards the vision which follows:

“As citizens, businesses and government of the City of Hamilton we accept responsibility for making decisions that lead to a healthy, sustainable future. We celebrate our strengths as a vibrant, diverse City of natural beauty nestled around the Niagara Escarpment and Hamilton Harbour. We are able to achieve our full potential through safe access to clean air and water, food, shelter, education, satisfying employment, spirituality and culture. We weight social/health, economic and environmental costs, benefits and risks equally when making decisions.”

### Growth Related Integrated Development Strategy (GRIDS)

In September 2003, the City of Hamilton provided direction to develop the GRIDS Study Design. From that effort, the new Hamilton Official Plan and various infrastructure and servicing Master Plans were developed.

The relevant directions that apply to the Pedestrian Mobility Plan follow:

- “Direction #6 – Expand transportation options that encourage travel by foot, bike and transit and enhance inter-regional transportation connections.
- Direction #7 – Maximize the use of existing buildings, infrastructure and vacant and abandoned land.
- Direction #8 – Protect ecological systems and improve air, land and water quality.
- Direction #9 – Maintain and create attractive public and private spaces and respect the unique character of existing buildings, neighbourhoods and settlements.”
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<tr>
<td>The Downtown Secondary Plan, Putting People First: The New Land Use Plan for Downtown Hamilton</td>
<td>Putting People First: The New Land Use Plan for Downtown Hamilton is a plan for the downtown core, was approved in 2001. This secondary plan contains goals, actions, policies and implementation measures for the downtown. It presents the community’s vision for the future of the downtown core to guide public and private decision-making. The City also sets priorities for publicly funded initiatives. The Secondary Plan fosters a dynamic mix of urban residential, commercial and institutional activities across the downtown core including comfortable streetscapes, access and safety for pedestrians.</td>
<td>The recommended toolbox solutions provide pedestrian designs and policies that will assist in the achievement of the City’s goals, actions and policies for the downtown core. The routine accommodation decision-making process will help City decision-makers choose designs that address existing circumstances and planned futures while the routine accommodation decision-making process will help integrate pedestrian improvements into downtown streets.</td>
</tr>
<tr>
<td>City of Hamilton Recreational Trails Master Plan</td>
<td>In 2007, the City of Hamilton approved the Recreational Trails Master Plan that provides a comprehensive, multi-purpose off-road recreational trail system to connect natural areas, cultural features and major land uses within the City. This system links to on-road cycling and pedestrian commuter systems and will be fully integrated into a larger network of Regional, Provincial and National recreational trails.</td>
<td>This multipurpose off road recreational trails system complements the development of a pedestrian mobility plan by providing trails that access natural and cultural parks and open spaces, by providing important and interesting links to major employment, shopping and institutional uses and, in the rural area, provides alternative off-road pedestrian environments.</td>
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### City Plans/Documents

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<td>City of Hamilton Cycling Master Plan</td>
<td>In 2009, the City of Hamilton approved the Cycling Master Plan. The Plan’s goal is to have 15% of trips by walking or cycling in 10 years. Presently about 1 – 2% of trips are cycling trips. Within urban context areas another goal is to have cycling infrastructure on 33% of the arterials and collectors within this time frame. Presently about 9% have installed infrastructure. In rural context areas the goal is to have paved shoulders on 25% of the roads.</td>
<td>These scheduled improvements can proceed hand in hand with the recommended toolbox solutions and routine accommodation decision-making process. As increasing numbers of Hamilton citizens will walk and cycle in the future, it will be important to coordinate cycling and pedestrian infrastructure improvements and programming in order to facilitate this transition.</td>
</tr>
<tr>
<td>Downtown Mobility Master Plan</td>
<td>The Hamilton Downtown Mobility Street Master Plan is both a planning and implementation framework document. This Plan identifies strategies to enhance the public realm in the downtown core. Specific streetscape projects are addressed together with an implementation framework. Many of the enhancements are intended to improve the pedestrian and cycling environments.</td>
<td>The recommended toolbox solutions and routine accommodation decision-making process will increase the resources available to City staff to makes decisions in the implementation of the Downtown Mobility Master Plan. These resources will also help ensure consistency throughout the City.</td>
</tr>
<tr>
<td>Hamilton’s Comprehensive Outdoor Lighting Study</td>
<td>In October 2008, a Task Force on cleanliness and security in the downtown core completed a report entitled: “Protecting the Future: A Safety and Security Audit of the Downtown Hamilton Improvement Project Area”. This report concluded that lighting improvements could improve public and pedestrian sense of security and reduce the fear of crime. In 2011, the City produced its Comprehensive Outdoor Lighting Study that provides guidelines for public and pedestrian lighting throughout the City. It addresses “how to light” and “when to light”. From both a safety and personal security standpoint, the study concluded that pedestrian lighting should be provided on all pedestrian facilities downtown and should follow industry practices set forth in the Transportation Association of Canada.</td>
<td>The analysis showed streets and roads meet the acceptable lighting level requirements whereas pedestrian sidewalks failed to meet lighting standards recommended. This results in a less pedestrian friendly environment. City wide improvements will be required to improve pedestrian perceptions of safety. The recommendations can be implemented through routine accommodation.</td>
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<td>Gore Master Plan</td>
<td>The Gore Master Plan creates a pedestrian plaza centred on Gore Park and the surrounding streets. The Plan was approved in September 2009 and is moving to implementation. It will create a public pedestrian plaza that is an important pedestrian focal point in the City of Hamilton that is rich in architectural and historic implications.</td>
<td>The Gore Master Plan will create a pedestrian plaza that will be unique within the City of Hamilton. The experience will be important to document and reflect upon where it might be best duplicated elsewhere within the City of Hamilton.</td>
</tr>
<tr>
<td>Hamilton Waterfalls Study</td>
<td>The City of Hamilton is fortunate to have over 64 waterfalls (and counting) along the Niagara Escarpment within its jurisdiction. Some are privately and some are publicly owned. The publicly owned waterfalls are important tourism and recreational resources.</td>
<td>Proper signage and new or upgraded all-weather trails are required to ensure that year round access to the waterfalls is maintained and safety is of the upmost concern. The Waterfalls and Cascades of Hamilton Report observe these features provide “tremendous opportunities for historic, cultural, natural education as part of an overall public education program. The waterfalls and cascades also offer many opportunities for tourism as the “City of Waterfalls” given the fact that many are, or will be linked to the City-wide trails system as part of an overall eco-tourism potential.” The Hamilton Recreational Trails Master Plan links many of these trails to the trails system and the pedestrian facilities provided by the Pedestrian Mobility Plan.</td>
</tr>
<tr>
<td>Cultural Mapping</td>
<td>As part of a municipal cultural planning effort, known as “Love your City”, the City of Hamilton is mapping its cultural resources. Eight cultural resource categories are being mapped including: cultural industries; cultural occupations; community cultural organizations; cultural facilities and spaces, natural heritage; cultural heritage; cultural events and festivals and features of intangible cultural value.</td>
<td>Attention to detail is essential if interesting pedestrian environments are to be created. Public input highlighted the interest Hamilton’s pedestrian have in the cultural environment and street life. This mapping will be an important resource input into application of the routine accommodation decision-making process.</td>
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<td>Transit Oriented Development Guidelines</td>
<td>The “nodes and corridors” concept is central to the organization of the New City of Hamilton’s Urban Official Plan. The Transit Oriented Development Guidelines provide for redevelopment that reflects the transformative effect light rail and bus rapid transit will have on surrounding land use. The principles sought by implementation include: 1. Promote place making; 2. Ensure a mix of appropriate land uses; 3. Require density and compact urban form; 4. Focus on urban design; 5. Create pedestrian environments; 6. Address parking management; 7. Respect market considerations; 8. Take a comprehensive approach; 9. Plan for transit and promote connections to all modes. The B-Line Opportunities and Challenges Study advances thinking on the transformative effect rapid transit will have and generally sets directions on sidewalk improvements needed to provide station access.</td>
<td>The recommended toolbox solutions provide design improvements that prescribe the varieties of designs available to achieve better pedestrian access. The routine accommodation decision-making process sets out a selection process that assesses existing conditions and takes into consideration planned futures while addressing a range of considerations that may affect detailed design.</td>
</tr>
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</table>
2.4. Legislative Implementation

Each of these documents as documented in Section 2.2 and 2.3 have been considered and addressed in the development of the Pedestrian Mobility Plan. By summarizing the applicable policy, drawing inferences on the application of this policy to pedestrian planning and by developing the toolbox solutions, the routine accommodation decision making process has sufficient flexibility for applicable policies to be addressed.
3. PLANNING CONSIDERATIONS

3.1. Introduction

Planning considerations represent Provincial policy and plans which require municipal plan conformity. City of Hamilton plans and policies direct how that conformity is addressed, together with City aspirations for land uses, civic spaces, built environments and streets. Taken together, these considerations address the design of the City’s public domain.

Section 3.2 addresses Provincial policies and plans to which City plans must be consistent with. Section 3.3 addresses the various City plans and policies that conform to Provincial policy and express the City’s aspirations for land uses, civic spaces, built environments and streets.
### 3.2 Provincial Plans and Policies

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<tr>
<td>Provincial Policy Statement 2005</td>
<td>“The Provincial Policy Statement provides policy direction on matters of provincial interest related to land use planning and development.” “The long term prosperity and social well being of Ontarians depends on maintaining strong communities, a clean and healthy environment and a strong economy.” It states: “strong communities, a clean and healthy environment are inextricably linked. Long term prosperity, environmental health and social well-being should take precedence over short term considerations.” In Section 1.1, Building Strong Communities, “efficient land use and development patterns support strong, liveable and healthy communities, protect the environment and public health and safety, and facilitate economic growth.” In subsection 1.1.1, specific policies address: • “accommodating an appropriate range and mix of residential, employment (including industrial, commercial and institutional uses) recreation and open space uses to meet long term needs, and • avoiding development and land use patterns which may cause environmental or public health and safety concerns.” In subsection 1.5.1, “Healthy active communities should be promoted by: • planning public streets, spaces and facilities that are safe, meet the needs of pedestrians, and facilitate pedestrian and non-motorized movement, including but not limited to, walking and cycling; • providing a full range and equitable distribution of publicly accessible built and natural settings for recreation, including facilities, parklands, open space areas, trails and where practical, water based resources.” Applicable policies that address long term prosperity (Subsection 1.7.1) include • “providing for an efficient, cost effective, reliable multi-modal transportation system that is integrated with adjacent systems and those in other jurisdictions, and is appropriate to address projected needs.” In Section 1.8, Energy and Air Quality, the following policies apply:</td>
<td>These policies provide further direction on how the matters of Provincial interest set out in the Planning Act and summarized on Table 2.2 are to be addressed. Specifically, they also justify the development and implementation of the City of Hamilton Pedestrian Mobility Plan.</td>
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|                          | • “promote compact form and a structure of nodes and corridors;  
• promote the use of public transit and other alternative transportation modes in and between residential, employment (including commercial, industrial and institutional uses) and other areas where these exists or are to be developed;  
• focus major employment, commercial and other travel intensive uses in sites which are well served by public transit, where this exists or is to be developed, or designing these to facilitate the establishment of public transit in the future.” | The recommended toolbox solutions and routine accommodation decision making process will provide an effective means whereby City Departments can make the planning decisions necessary to implement these policies. Two elements are critical to making decisions that implement these policies:  
• integrating decision making between City Departments with input from stakeholders at large and the public; and  
• integrating decision making at all scales, from secondary planning to maintenance decisions.  
The creation of a Pedestrian Mobility Advisory Committee and the application of the routine accommodation decision-making process will address integration between Departments, stakeholders at large and the public. The range of toolbox solutions and routine accommodation process will enable the flexibility to help City staff make decisions that improve pedestrian mobility whether for maintenance or design. |

**Places to Grow**

“Getting around will be easy. An integrated transportation network will allow people choices for easy travel both within and between urban centres throughout the region. Public transit will be fast, convenient, and affordable. Automobiles, while still a significant means of transport, will be only one of a variety of effective and well-used choices for transportation. Walking and cycling will be practical elements of our urban transportation systems.”

“The plan is about building complete communities, whether urban or rural. These are communities that are well designed, offer transportation choices, accommodate people at all stages of life and have the right mix of housing, a good range of jobs, and easy access to stores and services to meet daily needs…. Convenient access to public transportation and options for safe, non-motorized travel is also provided.”

In Subsection 2.2.3.7, intensification, “all intensification areas will be planned and designed to…support transit, walking and cycling for everyday activities.”

Where infrastructure planning is concerned, “the transportation system… will be planned and managed to:  
• offer a balance of transportation choices that reduce reliance upon any single mode and promotes transit, cycling and walking;  
• be sustainable by encouraging the most friendly and environmentally appropriate mode for trip making;  
• provide for the safety of system users.”

Policy 3.2.3.3 states “municipalities will ensure that pedestrian and bicycle networks are integrated into transportation planning to:  
• provide safe, comfortable travel for pedestrians and bicyclists within existing transportation systems…”
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|                          | communities and new development;  
|                          | • provide linkages between intensification areas, adjacent neighbourhoods and transit stations, including dedicated lane space for bicyclists on the major street network where feasible.”  
| The Greenbelt Plan       | “The Greenbelt is a broad band of permanently protected land which provides for a diverse range of economic and social activities associated with rural communities, agriculture, tourism, recreation and resource uses.”  
|                          | Applicable tourism, recreation and cultural goals include:  
|                          | • “provision of a wide range of publicly accessible built and natural settings for recreation including facilities, parklands, open spaces areas, trails and water based/shoreline uses that support hiking, angling and other recreational activities; and  
|                          | • enabling continued opportunities for sustainable tourism development.”  
|                          | With respect to trails, encouragement is provided for “the development of a trail plan and a coordinated approach to trail planning and development in the Greenbelt to enhance key trail networks and to strategically direct more intensive activities away from sensitive landscapes.”  
|                          | With respect to municipal parkland, encouragement is provided to “develop and incorporate strategies (such as community specific levels of provision) into official plans to guide the adequate provision of municipal recreation facilities, parklands, open space areas and trails.”  
|                          | The City of Hamilton Recreational Trails Master Plan provides the trail networks in a sensitive manner.                                                                                                                                 |
| Parkway Belt West Plan   | The Parkway Belt West Plan provides for infrastructure corridor development. While much of the land within the Plan has been transferred to the jurisdiction of the Niagara Escarpment Plan, important lands within the City of Hamilton in the vicinity of Cootes Paradise remain. In addition, public lands acquired for implementation of that plan are being considered for final disposition.  
|                          | The City of Hamilton Recreational Trails Master Plan provides the trail networks in a sensitive manner required by the Parkway Belt West Plan policy. Provided the trails in the Trails Master Plan are linked to pedestrian facilities within the Pedestrian Mobility Plan, the appropriate linkages will be there in a manner that addresses the objectives of the Parkway Belt West Plan.  

The City of Hamilton Recreational Trails Master Plan provides the trail networks in a sensitive manner.
### Provincial Policies/Plans

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<th>Policy Area</th>
<th>Highlighted Policy</th>
<th>Comments/Consideration</th>
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<tr>
<td><strong>Niagara Escarpment Plan</strong></td>
<td>“The purpose of this Plan is to provide for the continuous maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment, and to ensure only such development occurs as is compatible with that natural environment.” The objectives include: • “to provide adequate opportunities for outdoor recreation; • “to provide for adequate public access to the Niagara Escarpment.” Part 1 of the Plan provides for a series of designations: Escarpment Natural, Protection and Rural, all of which provide for recreational trails subject to the application of applicable development criteria in Part 2 of the Plan. Part 3 sets out the Niagara Escarpment Parks and Open Space System that provides for a parks system and the Bruce Trail.</td>
<td>The City of Hamilton Recreational Trails Master plan uses parts 1 and 2 of the Plan as a guide in developing the trail system and many of the parks addressed in the Niagara Escarpment Parks and Open Space System are located on the Niagara Escarpment within the City. Provided the trails in the Trails Master Plan are linked to pedestrian facilities within the Pedestrian Mobility Plan, the appropriate linkages will be there and in a manner that addresses the environmental goal and objectives of the Niagara Escarpment plan and the parent legislation.</td>
</tr>
<tr>
<td><strong>Metrolinx’s Regional Transportation Plan</strong></td>
<td>Metrolinx approved a Regional transportation Plan in November 2008. The Plan contains “over 100 priority actions and supporting policies... The Big Move will help to revitalize our communities into kinds of places where residents can take transit, ride a bicycle or walk to fulfill their day’s activities, and where children can once again walk to school. Over 7,000 kms of new lanes trails and pathways for pedestrians and cyclists will make walking and cycling safe and encourage healthy lifestyles.” “The critical link between land use planning and transportation planning is highlighted throughout the Regional transportation Plan. The primary land use policies for the GTHA are the Province’s Growth Plan for the Golden Horseshoe, 2006, the Greenbelt Plan and the Provincial policy Statement 2005. The Regional Transportation Plan provides the transportation plan that conforms to, and helps implement, these Provincial policy directions. The Regional Transportation Plan also provides additional direction on land use planning that builds on these policies, and ties together the Growth Plan for the Greater Golden Horseshoe’s urban structure policies within the transportation system envisioned by the Regional Transportation Plan.”</td>
<td>This Plan addresses funding commitments the Province made for transportation infrastructure projects and, while the Plan doesn’t have status as a legal document, it represents an understanding of infrastructure development needs that should be addressed when planning and transportation master planning decisions are made. The detailed work being undertaken on the B Line discussed elsewhere in this report is one of the highest priority projects. The Transit Oriented Development Guidelines are intended to guide new development along corridors such as that followed by the B Line, as well as explore pedestrian infrastructure needs. The Plan’s definition of “active transportation” helps frame how pedestrian activity integrates with other means of active transportation and where the necessary infrastructure changes will be needed in order to create a more active built environment. “Active transportation” is “non-motorized travel, including walking, cycling, roller-blading and movements with mobility devices. The active transportation network includes sidewalks, crosswalks, designated road lane and off-road trails to accommodate transportation.”</td>
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**Hamilton PEDESTRIAN MOBILITY PLAN**
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<th>Provincial Policies/Plans</th>
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| Ontario’s Action Plan for Healthy Living | Ontario’s Action Plan for Active Living is Provincial policy that addresses the future health care costs associated with obesity, physical inactivity and the built environment. Specific attention is directed to:  
• developing “an innovative, comprehensive multi-sectoral plan to address healthy weights in partnership with other Ministries;  
• promote active living and safe routes to school;  
• make it easier for children and youth to be physically active; promote healthier urban design;  
• support the implementation of initiatives such as the Growth Plan and the Greenbelt plan; and  
• build partnerships for change.” | This policy creates a framework within which the healthy and complete communities policies described in other Provincial plans and policies can be understood.                                                                                                               |
| Climate Ready: Ontario’s Adaptation Strategy and Action Plan | Ontario’s Adaptation and Action Plan responds to the recommendations of the Report of the Expert Panel on Climate Change Adaptation released in November 2009. It emphasizes increased awareness of land use planning tools where sustainable transportation is concerned. | Increased pedestrian mobility will be an important way to reduce green house gas emissions.              |
3.3. Municipal Plans and Policies

The development of this Official Plan occurred in two phases. The first culminated in the approval of the Rural Hamilton Official Plan in December 2008. The second culminated in the approval of the Urban Official Plan in March 2011. Both were under appeal and before the Ontario Municipal Board. The Rural Official Plan was approved by the O.M.B. March 2011. Within these documents, are policies that create pedestrian oriented places that are: safe, accessible, connected and easy to navigate for people of all abilities.

To reach these goals, as well as an adequate integration of public and private places, several urban design principles are addressed. These include connecting urban areas and infrastructure through a more efficient and safe street network; a street lighting system design that considers pedestrian activities; and the provision of real and perceived safety measures not only for vehicles but all road users into street design.

The Official Plan also recognizes the relationship between transportation and urban planning and the role that an integrated transportation network plays in creating complete communities and improving overall quality of life.

To create these complete communities, specific policies are provided in Chapter C – City Wide Systems and Designations – for the development of an integrated and active transportation network. For example, Subsection 4.2.8 requires all secondary plans and designs for major transit generators allocate zones of higher density near transit stops or stations and make use of adequate land uses and road network configurations to promote modal choice. In Subsections 4.2.9 and 4.3.3 the connection between active transportation and direct access to transit facilities through an adequate sidewalk and walkway designs is highlighted. Subsection 4.3.5 provides for safer pedestrian environments based on separation of road users.

The nodes and corridors concept is central to the organization of the City’s urban policies. The Growth Related Integrated Development Strategy and the Transportation Master Plan set out a nodes and corridors urban structure comprised of potential rapid transit lines shown in Appendix B, Major Transportation Facilities and Routes in the City of Hamilton Official Plan. The Plan provides the policies whereby these transit facilities are implemented. Several of these routes are included within the Regional Transportation Plan. Under the Move Ontario 2020 plan, the Province of Ontario provided funding to address planning, design and engineering

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<tr>
<td>The City of Hamilton New Official Plan</td>
<td>In February 2003, the Hamilton City Council authorized the development of a new Official Plan. The development of this Official Plan occurred in two phases. The first culminated in the approval of the Rural Hamilton Official Plan in December 2008. The second culminated in the approval of the Urban Official Plan in March 2011. Both were under appeal and before the Ontario Municipal Board. The Rural Official Plan was approved by the O.M.B. March 2011. Within these documents, are policies that create pedestrian oriented places that are: safe, accessible, connected and easy to navigate for people of all abilities. To reach these goals, as well as an adequate integration of public and private places, several urban design principles are addressed. These include connecting urban areas and infrastructure through a more efficient and safe street network; a street lighting system design that considers pedestrian activities; and the provision of real and perceived safety measures not only for vehicles but all road users into street design. The Official Plan also recognizes the relationship between transportation and urban planning and the role that an integrated transportation network plays in creating complete communities and improving overall quality of life. To create these complete communities, specific policies are provided in Chapter C – City Wide Systems and Designations – for the development of an integrated and active transportation network. For example, Subsection 4.2.8 requires all secondary plans and designs for major transit generators allocate zones of higher density near transit stops or stations and make use of adequate land uses and road network configurations to promote modal choice. In Subsections 4.2.9 and 4.3.3 the connection between active transportation and direct access to transit facilities through an adequate sidewalk and walkway designs is highlighted. Subsection 4.3.5 provides for safer pedestrian environments based on separation of road users. The nodes and corridors concept is central to the organization of the City’s urban policies. The Growth Related Integrated Development Strategy and the Transportation Master Plan set out a nodes and corridors urban structure comprised of potential rapid transit lines shown in Appendix B, Major Transportation Facilities and Routes in the City of Hamilton Official Plan. The Plan provides the policies whereby these transit facilities are implemented. Several of these routes are included within the Regional Transportation Plan. Under the Move Ontario 2020 plan, the Province of Ontario provided funding to address planning, design and engineering</td>
<td>The functional road classifications and associated policies and standards for rural and urban roads mostly follow standards and best practices that promote and provide support for motorized vehicular traffic. The street classifications and resultant R.O.W. are intended to balance a wide range of competing requirements. While making provisions for an adequate right of way, wide enough to support all modes of transportation reduces the conflict between the different elements of the roadway. These requirements include street furniture, trees, amenities and infrastructure. This will provide more balanced treatment between vehicular, transit, cycling and pedestrian modes. This missing detail on pedestrian improvements would have helped promote the seamless integration between pedestrian infrastructure, transit facilities and the built environment. These not only improve mobility of specific sections of the population with no access to private vehicles (e.g., seniors, children), but also create an environment in which commuters can make use of public transit to reach destinations outside the range of a comfortable walk. Amendments to the Official Plan to include, or modify existing sections to rebalance existing transportation policies (e.g., sidewalk width and pedestrian amenities) are not recommended at this time. Alternatively, use of the context area mapping contained in this Pedestrian Mobility Plan, together with an assessment of neighbourhood and built environment characteristics, such as residential/employment densities; age structure and special needs; connectivity; proximity to jobs and transit; proximity to green space, parks and recreation centres can be integrated into detailed pedestrian planning and design recommended in this pedestrian mobility plan. Pedestrian mobility recommended practices, policies and/or toolbox solutions in this plan can be integrated with site planning standards, operational standards, and engineering design guidelines employed by the City. The new Urban Official Plan has policies related to “Complete Communities” and Complete Streets. When the City undertakes amendments to its Official Plan to implement “complete streets”, amendments to address issues identified above can be considered at that time. The toolbox solutions and recommendations of the Pedestrian Mobility Plan can be incorporated as applicable.</td>
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work on the B Line in order to bring this project closer to implementation. This project is one of the 15 priority projects in the Metrolinx regional Transportation Plan.

The City of Hamilton Transportation Master Plan

With the intention of promoting walking activities in the next phase of detailed planning, the Transportation Master Plan articulated a “high level” plan to improve pedestrian facility conditions through a series of infrastructure improvements and supporting actions.

The goals of this Plan are included within the Pedestrian Network Strategy and are summarized as follows:
- Promote efficient, safe and enjoyable travel for commuters and other pedestrians using on-street pedestrian facilities, and
- Promote recreational walking and active transportation using off-street facilities.

Relevant, are the criteria used to evaluate the strengths and weaknesses of the existing pedestrian infrastructure:
- Extent and continuity,
- Directness,
- Safety and comfort, with comfort described as an overall sense of personal security and enjoyment of the surroundings.

The general policies of the road classification included in the Transportation Master Plan addressed safety and comfort of pedestrian facilities with the addition of a “buffer zone” (1.5 m wide as a minimum) between the pedestrian zone and the roadway for all types of roads; while extent and continuity is provided for with the presence of sidewalks on both sides of the road for all types of roads, with the exception of industrial and local residential roads.

With respect to directness, the Transportation Master Plan relates this concept with street network design and connectivity as a ratio of the actual route distance and straight-line distance. For example, acceptable pedestrian route connectivity conditions are present in a neighbourhood if the walking distance to the nearest elementary school is less than 400m and the pedestrian route distance ratio between the distance on foot and the direct absolute distance is no greater than 1.5 times.

From a pedestrian perspective, the Transportation Master Plan still relies heavily on an auto oriented road classification and the consequent encouragement of street and road design standards that facilitate the use of motor vehicles.

Furthermore, since the characteristics and location of pedestrian facilities are conjoined with road classifications (e.g., arterial, collector, local), the nature of the surrounding neighbourhood and the specific pedestrian environment are not fully considered. Subsection 4.2.8 of the City of Hamilton Official Plan introduces the concept of complete streets into urban design, it is reasonable to expect the use of the toolbox solutions and the application of the context areas contained in this Pedestrian Mobility Plan can be used to help implement this complete streets policy.

The Transportation Master Plan and GRIDS set out the nodes and corridors around which the Official Plan is structured while the B and A Lines are being addressed in Metrolinx’s Regional Transportation Plan.
### 3.4. Public Art

Table 5: Cultural Policy Report and Public Art Master Plan

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<th>City Plans/Documents</th>
<th>Highlighted Policy</th>
<th>Comments/Consideration</th>
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| Cultural Policy Report| The City of Hamilton Cultural Policy was approved unanimously by Council on June 27, 2012. The policy is based on input from more than 2,100 citizens including Cultural Leaders and a Citizen’s Reference Panel. The policy is a high level document which sets the City’s vision for culture and sets the foundation for the more detailed Cultural Plan which will be presented to Council in 2013. Planning and Economic Development, together with the new corporate sponsor for the Cultural Policy, view culture as central to city building, business attraction/investment and quality of life. This signals a new way of thinking and underscores culture’s contribution to economic and community development. In addition, the City of Hamilton formally acknowledges that Culture is the fourth pillar of sustainability (Joining the social, economic and the environment pillars). | Read more about the Cultural Policy report and presentation under Staff Presentations: Item 7.4 [http://www.hamilton.ca/CityDepartments/CorporateServices/Clerks/AgendaMinutes/GeneralIssues/2012/June20GeneralIssuesCommitteeAgenda.htm](http://www.hamilton.ca/CityDepartments/CorporateServices/Clerks/AgendaMinutes/GeneralIssues/2012/June20GeneralIssuesCommitteeAgenda.htm).

Click here to watch a video about the Citizens’ Reference Panel [http://www.youtube.com/watch?v=JOcQcpWJTRo](http://www.youtube.com/watch?v=JOcQcpWJTRo). |
| Public Art Master Plan| The City of Hamilton Public Art Master Plan, final report dated August 2008, is an important tool to help implement the City’s Public Art program. The document will continue to evolve, recognizing changes in urban development and policies. 14 priority sites were identified for public art, which include the downtown, waterfront, former town core areas to name a few. Recommendations for potential types of public art, scale and costs are provided for the 14 sites. | [http://www.hamilton.ca/CultureandRecreation/Arts_Culture_And_Museums/Arts/publicArtMasterPlan.htm](http://www.hamilton.ca/CultureandRecreation/Arts_Culture_And_Museums/Arts/publicArtMasterPlan.htm).

As streetscape, urban renewal and reconstruction projects continue, these projects may be quickly and easily cross referenced against the Public Art Master Plan to determine if any additional requirements apply. |
3.5. Planning, Going Forward

Each of these documents in Section 3.2 and 3.3 have been considered and addressed the development of the Pedestrian Mobility Plan. The applicable policy, has been summarized drawing inferences on the application of this policy to pedestrian planning. The toolbox solutions and routine accommodation decision making process have been developed with sufficient flexibility that the applicable policies can be addressed.
4. OPERATIONAL CONSIDERATIONS

4.1. Introduction

Operational considerations involve matters ranging from snow removal to traffic warrants, designed to assess the justification of matters such as the installation of traffic signals and mid-block crossings. Co-ordination of these matters with municipal planning, legislative, asset management, public works, and communications is essential, if the goals and objectives of this Pedestrian Mobility Plan are to be achieved.

4.2. Operational Policies

**Hamilton Traffic Policy – Pedestrian Related Impact Review**

**Legislative Context:**

The Highway Traffic Act (HTA) is an Ontario law which regulates the licensing of vehicles, classification of traffic offences, administration of loads, classification of vehicles and other transport related issues. First introduced in 1990s, there have been amendments due to changes to driving conditions and new transportation trends. In Ontario, the Ontario Traffic Manual (OTM) series, and policies established by the Province to implement the Highway Traffic Act, provides information and guidance to transportation practitioners to promote uniform traffic control devices and systems across the province. In addition, the OTM provides a set of guidelines consistent with the intent of the Highway Traffic Act and to provide a basis for road authorities to generate or update their own guidelines and standards. The OTM is made up of a number of Books, which are being generated over a period of time, and for which a process of continuous updating is planned. The following books deal with pedestrian crossing control:

- Book 5: Regulatory Signs
- Book 6: Warning Signs
- Book 8: Information Signs
- Book 11: Pavement Markings
- Book 12: Traffic Signals
- Book 15: Pedestrian Crossing Facilities

Book 15 defines two distinct categories of pedestrian crossings as dictated by the *Highway Traffic Act*, OTM Book 15 has only recently become available after the bulk of this Pedestrian Mobility Plan was written. They are:

1. **A controlled crossing**: Where vehicles are required to stop or
yield to traffic legally in the intersection, which includes pedestrians.

2. **An uncontrolled crossing**: Where pedestrians must wait for safe gaps in traffic, sufficient for them to cross the roadway, prior to attempting to enter the roadway.

Hamilton Transportation Master Plan - Warrants Policy Paper

In 2005, a review of traffic policies was undertaken as part of the City-wide Transportation Master Plan. Whereby, it was recommended that the City maintain their existing traffic control device warrants. By maintaining and supporting the City’s existing traffic control device warrants, the following benefits may be realized:

- Provide a relatively consistent application of traffic control;
- Establish priority funding of traffic control devices in a fair and logical approach;
- Reduce cases where traffic control is excessive, which causes additional person-delay and emissions;
- Reduce the potential for road user apathy and non-compliance, which may lead to an increase in collision potential;
- Facilitates the ability to effectively regulate and enforce traffic regulations and by-laws; and
- Provide the development community with a benchmark for establishing appropriate traffic control devices related to their development proposal impact.

Pedestrian Mobility Plan - Traffic Policy Review

As part of the on-going City-wide Pedestrian Mobility Plan, a high-level review of existing Council approved traffic policies was undertaken. Comments from this review are provided in the following policy review matrix. The comments were developed by the study team and City staff. A caveat applies to these comments. In the event that the Highway Traffic Act and Ontario Traffic Manual are revised to address pedestrian, cyclists, complete streets and other mobility devices, revisions to these policies will be required.
### Policy Review Matrix

#### Table 6: Policy Review Matrix

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<tr>
<th>Traffic-Related Policy</th>
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<tr>
<td>Pedestrian Signal Timing (2011 - revised)</td>
<td>The basis of this policy is a standardized walking speed (1.0 m/s). The decision to convert is based on recent research into walking speeds for pedestrians of various ages crossing at traffic signals. The underlying strategy is the universal application of the slower walking speed, recognizing the presence of children and seniors (groups that walk more slowly) at all locations throughout the City.</td>
<td>The recommended speed is less than typical speed recognized in the Ontario Traffic Manual Book (OTM) 12, and is the lowest speed recognized by the OTM. No Further Action – Policy is satisfactory and it is recommended that the content of the policy be linked with the recommendations on accessible pedestrian signals.</td>
</tr>
<tr>
<td>Related Policies: Pedestrian Countdown Signals Accessible Pedestrian Signals</td>
<td><strong>Setting Speed Limits (2009)</strong> Endorses use of Transportation Association of Canada’s “Guidelines for Establishing Posted Speed Limits” for the various roadway classifications. School speed limits relating to roadways that have contiguous school property are considered for a reduced speed limit based on a number of additional factors.</td>
<td>Properly set speed limits promote consistency in the signing of speed limits and thus attempts to maximize the safety of the road network. Road safety may be enhanced through credible posted speed limits that match the expectation of the driver for a given roadway and its surrounding area. The policy also considers City-wide planning objectives, land-use considerations, and prioritizing vulnerable road users. No Further Action – Policy is satisfactory.</td>
</tr>
<tr>
<td>Roundabouts (2008)</td>
<td>Outlines prerequisites, minimum criteria and the selection process for neighbourhood mini-roundabouts on local and minor collector roadways.</td>
<td>The policy needs to be updated to include the provisions in OTM Book 15. Removal of illustrated marked crosswalk on Page 3 of policy. Incorporate other design details identified in the Pedestrian Master Plan toolbox solutions, as appropriate. Additional clarity and distinction is required in the policy between situations where roundabouts are considered as alternatives to signalized intersections and roundabouts as traffic calming measures. Update policy to be consistent with OTM Book 15 and Pedestrian Master Plan toolbox solutions.</td>
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| Full Traffic Signal (2001) | Basis for deciding whether the installation of a full traffic signal is necessary and appropriate be the justifications in the Ontario Traffic Manual, Book 12. Engineering judgement of factors such as the roadway geometry, collision history and local driving characteristics should be applied to modify the decision, as required. | Hamilton’s practice has been to compute the traffic signal warrants based on 7 hours of count information, rather than the 8 hours required in the Ontario Traffic Manual. Since it is often the last hour or two of the count which determine whether or not the warrants are met, eliminating one hour from the count effectively makes it 10-20% easier to achieve. Otherwise, the existing policy follows an approach similar to the one described in OTM Book 12. Need to reconsider provisions where a traffic signal is not warranted, specifically:  
- increase rather than decrease, delay to overall users of the intersection  
In creating a balanced transportation system, delay may be a compromise to achieve improvements to more active modes of travel. Road user safety is recommended to be the determining factor over delay. For example, road users’ safety may imply more green time for left turn movements as well as more pedestrian crossing time. |
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<tr>
<td><strong>Policy Review of 2003 TAC Canadian Warrant</strong></td>
<td><strong>Policy</strong></td>
<td>A Review of 2003 TAC Canadian Warrant did not result in an update of the existing policy. Hamilton is leader among Canadian municipalities in warrant flexibility to accommodate full traffic signal installation. Book 12 is currently under review. Recommend that the City remain consistent with the revised Book 12 and that the City continue to monitor and evaluate existing policy according to emerging trends, as well as any revisions to OTM and TAC documents as appropriate.</td>
</tr>
<tr>
<td><strong>Installation Policy for All-way Stop Control at Intersections (2001)</strong></td>
<td><strong>Outlines the installation criteria for determining when it is appropriate to install all-way stop control at intersections. The policy is applied in two-parts. Part 1:</strong> Defines the prerequisite conditions for all-way stop to be considered. <strong>Part 2:</strong> Identifies justifications for which all-way stop control would be recommended for an intersection.</td>
<td><strong>Part 1:</strong> Conditions are consistent with other municipalities and engineering professional documents. However, does not provide provisions for atypical physical or operational situations. <strong>Part 2:</strong> Calculations of pedestrian volumes needs to be sensitive to vulnerable road users with special needs (i.e., older pedestrians, cyclists or motorists, young pedestrians or cyclists or pedestrians with visual or hearing impairments) The policy also includes provisions that consider atypical situations (e.g., physical constraints, intersection geometry) No Further Action – Policy is satisfactory.</td>
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| **IPS Midblock Signal (2001)**                | **This policy details the installation criteria for determining when it is appropriate to install traffic signals which are exclusively to assist pedestrians crossing the roadway.** | When considering the installation of an intersection or mid-block pedestrian signal, conditions required in all four sections must be achieved before a signal is justified or recommended. They are:  
1 – **Distance to Nearest Protected Crossing:** minimum 215 metres on two-way roadways; and minimum of 140 metres on one-way roadways. **Comment:** Consist with OTM approach and industry best practices.  
2 – **Pedestrian Volume:** 100 pedestrians within 7 hours **Comment:** Significantly less than OTM 200 pedestrians in 8 hours and represents 50% less pedestrian volume required.  
3 – **Justification System:** Considers the volume of pedestrians, delay to pedestrians, age and mobility status of pedestrians, speed of traffic on the main road and distance to the nearest protected crossing as well as the pedestrian safety history. **Comment:** Weighting factors associated with age and mobility status of pedestrians is consistent with Book 12 where seniors, disabled and children volumes are calculated by a multiple of 2. Transit stops are also a consideration, which may naturally increase pedestrian volumes.  
4 – **School Guard Crossing:** If a pedestrian signal is to be installed at locations where school crossing guards are located, based on meeting Parts 1, 2 and 3 of this policy, the adult guard shall be removed after the signal has been installed and a suitable introductory period has concluded. **Comment:** No comment. |
### Traffic-Related Policy | Highlighted Policy | Comments/Consideration
--- | --- | ---
**Traffic Calming** (2007) | Outlines prerequisites, minimum criteria and the selection process for traffic calming or traffic management projects on local and minor collector roadways. There is a clear distinction between “Traffic Calming” and “Traffic Management”. | In addition, if there is a demonstrated pattern of pedestrian collisions, it can supersede the other criteria identified. No Further Action – Policy is satisfactory
Policy does not include any specific design or requirements for pedestrian facilities aside from the need for a “continuous sidewalk” on at least one side of the roadway where traffic calming measures are provided. However, when no sidewalk exists, the policy also considers the provision of a sidewalk on at least one side of the road before implementing any traffic calming measure”.
The Pedestrian Mobility Plan identifies several traffic calming and management toolbox solutions that can be included into this policy.
Review applicable traffic calming measures with similar devices identified in OTM Book 15.
Recommend the policy be updated to include references to OTM Book 15 and the proposed toolbox solutions identified in the Pedestrian Mobility Plan; including but not limited to:
- high visibility crosswalks/ marked crosswalks at controlled intersections (to be used in conjunction with speed humps and raised crosswalks)
- Sidewalks, and sidewalk buffers
- Curb extension/ bulb out

**Barrier-free Design Guidelines** (2006) | Design guidelines for exterior pedestrian routes and signals at crosswalks are provided in order to eliminate barriers that may impede/reduce the mobility of pedestrians with disabilities. | Document provides satisfactory detail to address pedestrian mobility in the International Charter for Walking. The City minimum sidewalk width (1.52m) may not meet the proposed AODA Built Environment Standard (the A.O.D.A. clear zone width is 1.5m). Consideration should also be given to updating design details with the toolbox solutions identified in the Pedestrian Mobility Plan.
Recommend the policy be updated to be consistent with the final AODA Built Environment Standard and Pedestrian Mobility Plan toolbox solutions.

**Transverse Rumble Strip** (2009) | Endorses use of Transportation Association of Canada’s “Best Practice Guidelines for the Design and Application of Traverse Rumble Strips” in rural areas. | Alert drivers of imminent changes in driving conditions such as approaches to intersections. The City intends to limit the use of these devices for approaches to stop controlled intersections only. Based on request/complaint driven basis.
This policy is beneficial to pedestrians at controlled intersections in high-speed roadways rural areas

**Pavement Marking on Rural Roads** (2001) | Outlines conditions whereby pavement markings would be applied on rural roads. | No impact on pedestrian mobility issues.
No Further Action – Policy is satisfactory.
### 4.3. Other Traffic Related Policies

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<tr>
<td>Draft Built Environment Standards (AODA.)</td>
<td>The Accessibility for Ontarian’s with Disabilities Act 2005 is addressed in Section 2.2. The draft Initial Proposed Accessible Built Environment Standard sets out draft standards for the built environment. Of particular interest to the Pedestrian Mobility Plan are: Sections 5.0 Exterior Spaces; Section 6.0 Communications, Elements and Facilities; Section 11.0 recreation Elements and Facilities; and Section 12.0 Transportation Elements.</td>
<td>In principle the toolbox solutions contained in this Pedestrian Mobility Plan will implement many of the improvements contemplated by the Draft Built Environment Standards. The toolbox solutions will need to be reviewed in detail when the final Accessible Built Environment document is issued. Continued meetings between City staff and the City Accessibility Committee are important to ensure a smooth transition from design to implementation of pedestrian projects. This should also include a review of implemented projects to document successes and areas for improvement.</td>
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<tr>
<td>Book 15: Pedestrian Crossing Facilities</td>
<td>Book 15 was released in December, 2011. It addresses the planning, design and operation of pedestrian crossing facilities and is to be used in conjunction with other Ontario Traffic Manual policies to create safe driving behaviour.</td>
<td>Book 15 addresses pedestrian street crossings and as such overlaps some of the toolbox solutions produced in the Pedestrian Mobility Plan. Care will need to be taken in implementation to address these policies when implementing street crossings. Book 15 and the other policies contained in the Ontario Traffic Manual do not address complete streets and will need revision if complete streets policies are to be implemented consistent with other Provincial policy and plans.</td>
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<tr>
<td>City Transportation and Pedestrian Policies</td>
<td>The City of Hamilton Development Engineering Guidelines and Financial Policies 2006 indicate that concrete sidewalks, 1.5 m wide, shall be installed on both sides of the street for arterial roads and minor and major collector roads and on one side of local urban roads. A 3.0 m wide boulevard separating the pedestrian zone from the roadway is required on arterial roads while a 1.75 m wide boulevard is required for minor and major collector roads and local urban roads. Right-of-way allowances of 26 and 18 metres are required for major collector roads and local urban residential streets. Regulations regarding on-street parking are described in By-law 01-218, and in general by the Transportation Master Plan. In the latter, on-street parking along major arterials is generally prohibited or at a minimum restricted in the peak hours. For minor arterials and collector roads on-street parking is only restricted in the peak hours. At the local level, on industrial, commercial and residential roads on-street parking is permitted on one or both sides of the road. With respect to off-street parking the City of Hamilton Site Plan Guidelines provide direction to</td>
<td>The guidelines provide a minimum space to satisfy pedestrian needs but the localized nature of the pedestrian environment is not taken into accommodation and will need to be in the future engineering standards updates. Subsections 3.3.10.1, 3.3.10.5 and 3.3.10.9 of the Hamilton Official Plan take into account parking provisions through a set of principles direction the way the street system, buildings, parking areas and other public spaces are connected. Although best practices recommend the use of on-street parking as a way to increase pedestrian safety by providing a physical barrier between the roadway and the pedestrian zone, this provision is not included as part of the current parking regulations. Similarly measures to improve pedestrian safety and comfort (e.g., dedicated pathways, pedestrian illumination and marked crosswalks) are not fully acknowledged by the Site Plan Guidelines. These are matters that may be addressed with the implementation of this Pedestrian Mobility Plan.</td>
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### December 12/12

#### Highlighted Policy

- Landowners to support the City’s streetscape objectives regarding the proximity to building entrances, connection to the street network, location of parking areas, landscaping and lighting.

#### Comments/Consideration

- With respect to off-street parking, to create safer more interesting pedestrian environments, off-street parking should be located in rear yards. No parking should be provided in front yards between sidewalks and buildings and it is strongly recommended that no parking be permitted in side yards adjoining sidewalks. A continuous building frontage makes for enhanced pedestrian environment.

- Where commercial parking standards exist, these should be reviewed and, where possible the amount of parking space reduced to brings buildings closer to the street and improve pedestrian environments.

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#### Existing Pedestrian and Road Safety Initiatives

- In 2009 the City of Hamilton developed the Hamilton Strategic Road Safety Program that identifies a vision, mission, goals and areas of emphasis for achieving a safe road environment for all users. The primary emphasis areas were vulnerable users, aggressive driving and intersections.

- The Program is documented in two volumes: Rational and Data Analysis; and Action Plan. A steering committee was established to meet quarterly for follow-up on actions recommended in the Plan. Representatives include Public Works, Police Services, Emergency Services, the School Boards, the Ministry of Transportation and other stakeholders.

- In addition the City of Hamilton Public Health and Community Services have an injury prevention program which addresses pedestrian safety. This program educates the general public on how to avoid preventable accidents involving motor vehicles. The program also suggests actions specific to parents, teens, adults and professionals.

- The following programs have been initiated and are available to complement the implementation of the Pedestrian Mobility Plan:
  - Active Safe Routes to School “Stepping it Up” (initiated in 2010)
  - Canadian Walking Master Class (Completed in 2009)
  - Safe Kids Canada Safe Kids Week (held in 2008)
  - Convert Unsignalized Intersections to Roundabouts
  - Identify Main Pedestrian Routes and Ensure Sidewalk Continuity and Crossing Safety at Intersections and Mid-blocks
  - Improving Lighting at Intersections (Lighting Study completed in 2010)
  - Install Pedestrian Countdown Heads (ongoing)
  - Flashing 40 km School Zones (Installed at 6 locations; limited by available funding)
  - Cyclemania
  - Stepping Out Safely
  - “Heads Up” DVD

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#### Railway Crossings/Grade Separation Crossings

- Railway rights-of-way and railway crossings are legislated under the Federal Railway Safety Act and Ontario’s Shortline Railways Act. Standards and guidelines to maintain, access, construct and improve pedestrian crossings are issued by Transport Canada for use by road authorities and railway companies.

- The roles and responsibilities of the railway company and road authority at-grade crossings are:
  - the railway company is responsible for the portion of the road crossing (including any pedestrian infrastructure) inside the limits of the railway tracks up to the elevation of the tracks; and
  - the road authority responsibility starts immediate before and thereafter.

- There are no specific warrants for pedestrian infrastructure at grade separation crossings. For road traffic separation the main deterrent for the implementation of pedestrian infrastructure is cost.
<table>
<thead>
<tr>
<th>Other Policy</th>
<th>Traffic Related</th>
<th>Highlighted Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>The City cannot undertake improvements to the railway crossing without direct railway company and Transport Canada involvement.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Federal Government in collaboration with the Railway Association of Canada is developing a national public information program “Operation Lifesaver”, to increase awareness of the dangers of crossing railways without care as well as funding through the Grade Crossing Improvement Program to conduct safety improvements at crossings. These are available to the municipality.</td>
</tr>
<tr>
<td>Hamilton Street Railway and Rapid Transit</td>
<td></td>
<td>In 2010 an Operational Review of the Hamilton Street Railway was conducted. This review provided a plan to improve and develop public transit services in Hamilton consistent with the Transportation Master Plan and the Official Plan.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In Section 3.2, Review and Assessment of Existing Routes, and in particular the use of walking distance as part of the existing Transit Service Guidelines, the walking distance to bus routes is 400 m for 90% of the population, where permitted by the local street network.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hamilton Street Railway’s preference is to locate the bus stop and sign before intersections to increase safety, convenience, time saving and curb space. Mid-block locations are also common, where travel origins/destinations are located between intersections or where the distances exceed recommended pedestrian walking distances.</td>
</tr>
<tr>
<td>Rapid Transit Corridor – B&amp;A Lines</td>
<td></td>
<td>The Hamilton Transportation Plan recommended three rapid transit corridors: King Street/Main Street between Eastgate Square and McMaster University (currently referred to as the B Line); the James Street/Upper James Street route between downtown and Rymal Road (now referred to as the A Line); and an east west route on Hamilton mountain.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The first two corridors were identified by the Province’s MoveOntario 2020 Plan for rapid transit. Since then Metrolinx has finalized the Regional Transportation Plan in which the B Line Rapid Transit Corridor is among the top 15 priorities. The City of Hamilton has initiated feasibility studies for both the B-Line and A-Line corridors and is undertaking a Phase 3 feasibility assessment for the B-Line.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Pedestrian Mobility Plan will help provide for the planning, design and development of supportive pedestrian facilities.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The future Operational Reviews should be reconsidered with the applicable toolbox solutions contained in this Pedestrian Mobility Plan.</td>
</tr>
</tbody>
</table>
4.4. **Operations Going Forward**

Each of these documents in Section 4.2 and 4.3 have been considered and addressed in the development of the Pedestrian Mobility Plan. The applicable policy, has been summarized drawing inferences on the application of this policy to pedestrian planning. The toolbox solutions and routine accommodation decision making process have been developed with sufficient flexibility that the applicable policies can be addressed.
5. COMMUNICATIONS CONSIDERATIONS

5.1. Introduction

Communication is an essential consideration and component in the preparation of the Pedestrian Mobility Plan. This section addresses communications during preparation of the Plan and communications to be undertaken during implementation of the Plan.

5.2. Preparing the Plan

5.2.1. Public Consultation Plan

One of the key principles for successful Environmental Assessment planning is “consultation with affected parties early in and consistently throughout the process” (Municipal Environmental Assessment, 2007). In keeping with this principle, a consultation plan was developed at the start of the Pedestrian Mobility Plan. Its purpose was to identify potentially interested and affected stakeholders, and describe methods for meaningful consultation with stakeholders, the public and relevant regulatory agencies during the Pedestrian Mobility Plan study.

The overall objectives of the consultation plan were to:

- Inform the public of the Pedestrian Mobility Plan, its progress, and solicit their input.
- Provide opportunities for two-way communications with the public and other stakeholders at key stages of the Pedestrian Mobility Plan.
- Obtain input from relevant agencies to ensure compliance with public policy and regulatory requirements and to secure support from agencies that will implement the Pedestrian Mobility Plan.
- Meet the consultation requirements of the Municipal Class Environmental Assessment for Plans.

The study exceeded the Municipal Class Environmental Assessment minimum requirements for public consultation by applying all of the above consultation methods. The outcome of various methods is described in the following sections of this report.
5.2.2. Pedestrian Advisory Group

The City of Hamilton established a Pedestrian Advisory Group (PAG) to provide the Project Team with guidance and review at key stages of the Pedestrian Mobility Plan study. The role of PAG was to provide the Project Team with insight on relevant community issues and possible solutions. The objectives of PAG were to:

- Advise on matters related to pedestrian mobility;
- Provide guidance and review key aspects of the project;
- Attend and participate in public and PAG meetings; and
- Encourage citizens to participate in the study.

Membership was selected by the City of Hamilton. PAG members attended four (4) pre-scheduled meetings. Detailed notes of each meeting are included in Appendix 4.

The first PAG meeting was held from 2 to 4 pm on February 15, 2011 in Hamilton City Hall. Twenty-seven (27) people were in attendance: sixteen (16) members, seven (7) City of Hamilton Staff, and four (4) representatives of the Consultant Team. The purpose of the first PAG meeting was to introduce the project and confirm the membership and role of the advisory group through a Terms of Reference, and solicit input on Pedestrian Mobility Plan goals and objectives.

The second PAG meeting was held from 1 to 3 pm on March 23, 2011 in Hamilton City Hall. Seventeen (17) people were in attendance: six (6) members, seven (7) City of Hamilton Staff, and four (4) representatives of the Consultant Team. The purpose of the second PAG meeting was to provide an overview of the information panels being prepared for the first round of PICs.

The third PAG meeting was held from 2 to 4 pm on June 21, 2011 in Hamilton City Hall. Fifteen (15) people were in attendance: four (4) members, eight (8) City of Hamilton Staff, and three (3) representatives of the Consultant Team. The purpose of the third PAG meeting was to review the study’s progress and plans for the second round of PICs.

The fourth PAG meeting was held from 2 to 4 pm on August 23, 2011 in Hamilton City Hall. Seventeen (17) people were in attendance: six (6) members, seven (7) City of Hamilton Staff, and four (4) representatives of the Consultant Team. The purpose of the fourth PAG meeting was to provide an overview of the information panels being prepared for the second round of PICs.

5.2.3. Project Website

The City maintained a project website: www.hamilton.ca/PedestrianMP. The project website provided public access to an online survey and web based mapping tool. Toole Design Group (TDG),
developed and managed the online survey and interactive mapping tool using the “CommunityWalk” platform to gather public input on specific issues and conditions related to walking in the City. The public was invited to participate and utilize the project website to respond to the user questionnaire and provide written/graphic input using the interactive mapping. Interactive mapping tool usage was well above capita average, almost twice that of similar sized Cities in the U.S.A.

5.2.3.1. Interactive On-Line Mapping

Members of the public were encouraged to add markers, paths, and descriptive comments to an interactive map in twelve preselected category areas. Between February and April 2011, 453 markers and 149 paths were added. The map was viewed 1,643 times. Table 8 shows a ranking of the category areas placed by map users. Figure 2: Screen shot of the Interactive Map shows a screen shot of the online mapping tool with the markers and paths added by the public.

Figure 2: Screen shot of the Interactive Map
Table 8: Interactive Map Category and Number of Markers

<table>
<thead>
<tr>
<th>Category</th>
<th># of Markers</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Poor sidewalk pavement conditions</td>
<td>64</td>
</tr>
<tr>
<td>9. Route I’d like to see improved for pedestrians</td>
<td>62</td>
</tr>
<tr>
<td>7. Unappealing pedestrian environment</td>
<td>61</td>
</tr>
<tr>
<td>14. Missing connection or crossing</td>
<td>56</td>
</tr>
<tr>
<td>1. Route I use frequently</td>
<td>50</td>
</tr>
<tr>
<td>3. Traffic is uncomfortable</td>
<td>34</td>
</tr>
<tr>
<td>8. Personal safety concerns</td>
<td>32</td>
</tr>
<tr>
<td>4. Difficult intersection</td>
<td>29</td>
</tr>
<tr>
<td>6. Pedestrian-vehicle accident location</td>
<td>21</td>
</tr>
<tr>
<td>11. Long wait time/unresponsive &quot;walk&quot; signal activation</td>
<td>12</td>
</tr>
<tr>
<td>2. I take the bus (on &amp; off points)</td>
<td>12</td>
</tr>
<tr>
<td>12. &quot;Walk&quot; signal does not provide adequate time</td>
<td>8</td>
</tr>
<tr>
<td>10. Bridge improvement needed (existing or new)</td>
<td>7</td>
</tr>
<tr>
<td>13. Better access to transit facility needed</td>
<td>5</td>
</tr>
</tbody>
</table>

Comments that were received were imported through the online mapping tool into ArcGIS for improved display and to assist in analyzing the data. Map 1 shows all the comments that were placed on the interactive map and the density comments using a kernel density method. While comments are dispersed throughout the City, there are distinct areas where there are higher concentrations. Using a computer algorithm, the comments were sorted by density into the following three categories.
Community Walk Survey Results and Comment Density

Summary of Public Comments (Common Themes for Improvement)

**Pedestrian Crossings**
- Pedestrian-activated crossing light
- Longer times to cross at multi-phase pedestrian signals
- Highly visible and clearly marked/defined crosswalks
- Crosswalks that line up safely

**Sidewalks**
- More sidewalks, do not take away from enjoyment of nature
- Wider sidewalks to allow two people to walk side by side
- Level ramps into driveways with room to walk
- Even sidewalk surface
- Slopes at street corners

**Trails and Pathways**
- More marked, trails/paths
- Continuous connections of trails/paths

**Traffic Management**
- All-way stop and stoplight, where needed
- Foot bridge, where needed
- Pedestrian Mall and Traffic Free Zones
- Traffic calming

**Pedestrian Comfort**
- Space for the replanting of shade trees
- Sidewalks, crosswalks and roads ploughed or shoveled in winter
- Facilities for shared use of scooters and bicycles
- Covered bus shelters at all stops, more frequent bus schedule

**Environmental Considerations**
- Maintained cultural heritage
- Enhanced access to natural environments

**Other considerations**
- Promotional materials for walking/hiking trails
- Past and ongoing, relevant Master Plans
The following areas have the highest concentration of comments:

- Intersections of Dundurn Street with Main and King Streets;
- Along James Street between approximately Young Street and Barton Street, with a hotspot occurring at the intersection of James and Colbourne Streets; and
- The intersections of Main and King Street and Ogilvie/Governor’s Road/Main Streets.

The following areas are of medium comment concentration:

- The Downtown core approximately bounded by Charlton Ave (to south), Barton St. (to north), Chedoke (to west), and Wellington St. (to east). This area encompasses the previously mentioned high concentration areas.
- Aberdeen Ave. between Queen St. and approximately Mt. Royal Ave.
- The area bounded by Gage Ave. (to west), Ottawa St. (to east), Main St. (to south), and Cannon St. (to north).
- Broadway Ave. and Main St. W.

Other areas of notable comment concentration include:

- Intersection of Mohawk Rd. and McNiven Rd.;
- Wilson St. E. between Lover’s Lane and Rousseau St.;
- Jerseyville Rd. just west of Fiddlers Green Rd.;
- Main St. W. in the vicinity of McMaster Hospital;
- Wellington St. N. between the railway tracks and Burlington St. E.;
- Wentworth St. N. around the Sherman Access;
- Gage Ave. in the vicinity of Gage Park;
- Gage Ave. in the Fennell Ave. and Queensdale Ave.; and
- Barton St./Lake Ave./Centennial Pkwy.

Predominantly, the comments address areas of the City that are the pre-1949 urban built environment, although there is some overlap into post-1949 urban built environments including the Upper Wentworth and Upper Gage areas; Lake Avenue Area in Stoney Creek, and the areas in Ancaster beyond Wilson Street and around McMaster University.

5.2.3.2. **On-Line Public Survey**

Residents provided feedback on a wide variety of topics, ranging from driver behaviour to locations needing pedestrian improvements.

An online survey was developed in the spring of 2011 with input from the consulting team, City Project Manager, Pedestrian Advisory Group, and the Project Team/City Staff. The survey was available online for approximately two months from March 3rd, 2011, through April 30th, 2011, concurrent with the on-line Community Walk mapping opportunity. The survey and Community
Walk map were publicized through the City of Hamilton website, Public Information Centres, local media coverage, the Notice of Commencement, and a newsletter.

The survey was designed to obtain public input for use in the development of this Pedestrian Mobility Plan. The main purpose of the survey is to broaden the reach of public input. The survey is part of a broader outreach program that includes other strategies. This section addresses the highlights from the survey results. The complete report summarizing the survey and survey results is contained in the appendices.

The survey results are not statistically representative of City of Hamilton residents. Nevertheless, there is a significant wealth of qualitative information in the survey results that can be used in this Pedestrian Mobility Plan. Response rates were significantly higher, approximately two (2) times higher, than response rates generated in other North American Cities where surveys and the Community Walk interactive mapping have been used.

Four hundred and fifty nine (459) of the respondents took the survey online, while nineteen (19) submitted hard copies which the project team entered into the data base for a total of four hundred and seventy-eight (478) surveys. Of the 459 respondents to the online survey, 294 completed the survey. All complete and incomplete survey responses were analyzed.

**Survey Summary:**

- Generally, survey respondents lived in the urban context areas, either constructed before 1949 (52%) or after 1949 (29%) or in suburban communities like Waterdown (13%).
- The remaining respondents lived on farms, rural hamlets and rural residential lots (6%). The five urban and suburban context areas used in this Pedestrian Mobility Plan are well represented in the responses.
- Respondents also identified the wards in which they lived. Generally speaking, most respondents come from Ward 1 (25.9%) followed by Ward 2 (19.9%). Wards 12 and 13, Ancaster and Dundas, are well represented (13.6 and 8.7% respectively). Wards 3, 4, 7, and 8 follow (17, 11, 11, and 14% respectively). The remaining respondents come from the other Wards with the predominantly rural Wards having fewer respondents.
- Good representation for all age cohorts exists. 9% of the respondents were aged 15 to 20; 26% were between 21 and 30; 29% were between 31 and 45; 26% were between 45 and 60; 7% were between 61 and 70; while 3% were over 71. Forty one percent of the respondents were male while 59% were female. Ninety three percent of the respondents have no mobility issues while 7% do.
December 12/12

• Over 80% of the respondents walk in the City of Hamilton. Over 250 respondents indicated they walk for physical exercise, walk to reach destinations for running errands, shopping, or entertainment, or walk for leisure. Where people walk to reach destinations for running errands, shopping or entertainment, they did so between 2 and 5 times a week. Slightly less than 250 respondents walk to the bus stop/transit.

• Ninety percent use the sidewalks where these exist and 93% use the road or shoulder where sidewalks don’t exist. Eighty five percent have recreational trails within 15 minutes walk of their residence and 89% use recreational trails.

• Where respondents were asked to rate Hamilton as a place to walk to work or school using several criteria and a five point scale ranging from “excellent” to “poor”, generally Hamilton appears to be well rated as a place to walk. Using the “excellent” and “poor” ratings, some criteria appear to be outliers that need to be addressed in this Pedestrian Mobility Plan. The criteria addressing the “Niagara Escarpment”, “Lake Ontario and Hamilton Harbour”, “Historic Neighbourhoods” and “Interesting Destinations” received the highest excellent ratings. Alternatively the criteria addressing “Comfortable, safe street crossings” is by far ranked the poorest among the 15 criteria.

• Where respondents were asked to rate Hamilton as a place to walk for leisure or physical activity using several criteria and a five point scale ranging from “excellent” to “poor”, generally, Hamilton is well rated as a place to walk. Using the “excellent” and “poor” ratings some criteria appear to be outliers that need to be addressed in this Pedestrian Mobility Plan.

• Again the criteria addressing “Niagara Escarpment” and “Lake Ontario and Hamilton Harbour” received excellent ratings. These high rankings were followed by “plenty of shade trees”, Historic Neighbourhoods”, Interesting Destinations”, Visually Interesting” and “Parks and Open Spaces.” Conversely, and consistent with the findings where respondents walk to work or school, respondents rated “Comfortable, safe street crossings” poorest by a wide margin.

• Trips made for necessity (work/school) and for leisure appear to be comfortable so long as they route through or close to the following places: the Niagara Escarpment, Lake Ontario and Hamilton Harbour, historic neighbourhoods, visually interesting destinations, streets with plenty of shade trees, and parks and open spaces.

• One hundred and ninety two respondents provided insight into the factors that make it difficult to walk to work or school in the City of Hamilton using a five-point scale ranking 19
criteria. Those criteria ranked “very difficult” included “high speed traffic”, “heavy traffic (volume)”, “perceived dangerous drivers”, “space between the sidewalk and traffic” and “perceived dangerous/difficult road crossings”. These criteria were followed by “insufficient sidewalk width” and “maintenance of the sidewalk surface.” Alternatively, the criteria ranked highest under “not at all” were “travel time (takes too long to reach destination)”, “lack of recreational trails”, and “lack of sidewalks”.

- Two hundred and twenty four respondents rated the criteria that make it difficult/unpleasant to walk for leisure/physical activity in the City of Hamilton using a five-point scale ranging from “very difficult” to “not at all”. Of 19 criteria, “high speed traffic”, heavy traffic volume”, truck traffic”, “perceived dangerous drivers”, “space between sidewalk and traffic”, and “perceived dangerous/difficult road crossings” were ranked most difficult.

- These were followed by “insufficient sidewalk width” and “unattractive/unappealing streets” “(no trees, large parking or vacant lots along sidewalk, long expanses of blank wall or screened windows)”. Alternatively the factors ranked highest as not at all difficult were “travel time (takes too long to reach destination)”, “lack of recreation trails”, “lack of sidewalks”, and “weather/conditions/temperature”.

- Three hundred and twenty six respondents rated the areas needing the most improvement on a five-point scale from “very difficult” to “not at all”. The highest ranked areas were: “near highway interchanges and crossings (e.g., Lincoln M. Alexander Parkway Highway 403, Queen Elizabeth Way); major arterials (e.g., Rymal Road, Twenty Road, Upper James Street)”; “snow and ice removal”; and “near major intersections”. The next grouping of factors needing improvement include “local shopping areas within 20 minutes walk from my home”, “on bridges and overpasses”, and “near bus/transit stops”.

- Alternatively areas not requiring improvements include “local neighbourhood streets”, “local shopping areas within 20 minutes walk of my home”, “near recreation destinations”, “near educational institutions (e.g., Mohawk College, elementary and secondary schools, McMaster University)”, and “near your employment in either industrial areas or office complexes”.

- Two hundred and forty five respondents identified “great places to walk in the City”. Aside from parks and conservation areas and associated recreational trails, the majority of the built environments predate 1949. It appears that parks and trails are comfortable places to walk to in the City. Common responses included the
following: Bayfront Park; Bruce Trail; Chedoke Radial Trail; Confederation Park; Dundas Valley; Locke Street; and Ottawa Street.

- Three hundred and seventy eight respondents identified “specific destinations in the City… that need improvements to make walking safer and more comfortable”. Generally these destinations can be classified in three categories: post-1949 urban built environments; sidewalks along arterials and specifically major arterial intersections in pre- and post-1949 built environments and redevelopment after 1949 in basically pre-1949 built environments.

- Popular “write in” responses for specific destinations in need of improvements included the following: Dundurn Plaza; Fortinos Plaza; Jackson Square; Meadowlands; McMaster; and King Street. Popular “write in” responses for intersections in need of improvements included the following: intersections with King Street; Main Street; Wilson Street; Longwood; and Dundurn.

Respondents were offered the opportunity to provide any additional comments they would like to make and many did. While it is difficult to classify all their comments into broad categories, they tended to fall into some broad general areas as follows:

- Many respondents were concerned that the needs of those with scooters and wheelchairs were not adequately addressed and their concerns continue to exist even with the development of newer transit and sidewalk facilities downtown. Some respondents felt those facilities were not responsive to their needs.

- The pedestrian experience, especially on arterials where traffic volumes and speeds are high and one-way streets are involved, is overwhelmed by vehicular traffic noise, emissions and perceptions of safety. Relief is sought through a number of recommendations ranging from wider sidewalks to use of two-way traffic, buffering pedestrian sidewalks from traffic flows and lower speed limits.

- Sidewalk widths and better crossing facilities in order to better separate traffic from pedestrians and to enable safer street crossings are sought, especially on heavily traveled arteries.

- Some commented on the conflicts cyclists pose when they use sidewalks instead of the right of way. These conflicts also included the use of motorized scooters.

### 5.2.3.3. Farmer’s Market Summary

City Project Manager, Steve Molloy, attended each of the six (6) Farmer’s Market locations during the fall of 2011 and provided preferences for the following pedestrian factors using an interactive panel display:
December 12/12

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>43</td>
<td>8</td>
<td>25</td>
<td>37</td>
<td>40</td>
<td>26</td>
<td>179</td>
</tr>
<tr>
<td>Comfortable, safe sidewalks</td>
<td>12</td>
<td>3</td>
<td>5</td>
<td>9</td>
<td>7</td>
<td>8</td>
<td>44</td>
</tr>
<tr>
<td>Comfortable, safe street crossings (Intersections)</td>
<td>11</td>
<td>0</td>
<td>11</td>
<td>9</td>
<td>12</td>
<td>2</td>
<td>45</td>
</tr>
<tr>
<td>Street trees/shade</td>
<td>14</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>6</td>
<td>7</td>
<td>44</td>
</tr>
<tr>
<td>Visually interesting walk</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>7</td>
<td>7</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Public transit system link</td>
<td>4</td>
<td>1</td>
<td>9</td>
<td>4</td>
<td>12</td>
<td>6</td>
<td>36</td>
</tr>
<tr>
<td>Links to parks and open spaces</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>Links to Niagara Escarpment</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Sidewalk Lighting</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>3</td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td>Continuous network of sidewalks</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>5</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>Links to retail/commercial areas</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Improved wayfinding</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Improved sidewalk design</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>22</td>
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<td>Improved street design</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Pedestrian education</td>
<td>10</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>27</td>
</tr>
</tbody>
</table>

5.2.3.4. Open Streets

Open Streets Hamilton is an annual event in the core of the City\textsuperscript{11}. Hamilton residents and visitors are encouraged to leave their cars behind and walk, ride or roll down James Street North for part of a morning through to late afternoon. James Street North is closed to cars during this time.

\textsuperscript{11}http://openstreetshamilton.ca/
In addition to the second set of PICs, a selected number of panels were presented to the public at two City events held as part of the Car-free Week, to gauge support and obtain input for the Pedestrian Mobility Plan. The Open Streets Hamilton was held on Sunday, September 18th, 2011. Over 75 people visited the Pedestrian Mobility Plan booth to learn more about the study and to provide their comments. The following comments were provided regarding the toolbox solutions identified:

<table>
<thead>
<tr>
<th>Toolbox Solutions</th>
<th>Like</th>
<th>Dislike</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking along the street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved sidewalks, buffered medians, street trees</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Safer driveway, crossings at sidewalks, crossings at access</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Road diets (Reduce no. of lanes), Lane diets (reduced width)</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Roadside parking management, restrictions at intersections, reverse angle parking</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Crossing the street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signals, count down signals, signal timing, mid block signals</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Crossings, high visibility crosswalks, marked crosswalk locations</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Pedestrian lighting at crossings, lighting along street</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Intersection design/geometry reduced crossing widths, better pedestrian wait areas</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>
5.2.3.5. **Transportation and Healthy Living Fair**

As mentioned in Subsection 5.2.3.4 (Open Streets), the second event was the Transportation and Healthy Living Fair held Thursday, September 22, 2011. Over 40 people visited the Pedestrian Mobility Plan booth and provided the following preferences regarding the toolbox solutions:

<table>
<thead>
<tr>
<th>Like</th>
<th>Dislike</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking along the street</td>
<td></td>
</tr>
<tr>
<td>Improved sidewalks, buffered medians, street trees</td>
<td>9</td>
</tr>
<tr>
<td><strong>Like</strong></td>
<td><strong>Dislike</strong></td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Safer driveway, crossings at sidewalks, crossings at access</td>
<td>3</td>
</tr>
<tr>
<td>Road diets (Reduce no. of lanes), Lane diets (reduced width)</td>
<td>8</td>
</tr>
<tr>
<td>Roadside parking management, restrictions at intersections, reverse angle parking</td>
<td>1</td>
</tr>
<tr>
<td><strong>Crossing the street</strong></td>
<td></td>
</tr>
<tr>
<td>Signals, count down signals, signal timing, mid block signals</td>
<td>4</td>
</tr>
<tr>
<td>Crossings, high visibility crosswalks, marked crosswalk locations</td>
<td>3</td>
</tr>
<tr>
<td>Pedestrian lighting at crossings, lighting along street</td>
<td>2</td>
</tr>
<tr>
<td>Intersection design/geometry reduced crossing widths, better pedestrian wait areas</td>
<td>1</td>
</tr>
<tr>
<td>Regulatory, no right on red light</td>
<td>0</td>
</tr>
<tr>
<td><strong>Policies</strong></td>
<td></td>
</tr>
<tr>
<td>Transit stop locations, connections, crosswalk near stop, wider area at stop</td>
<td>0</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
</tr>
<tr>
<td>Increased winter maintenance, on street parking, site plan guidelines, vehicle speed reduction, changes to Highway Traffic Act, etc.</td>
<td>3</td>
</tr>
</tbody>
</table>
Like | Dislike
---|---
Public education and engagement, safe routes to school, etc. | 4 | 0

5.2.3.6. City Staff and Councillor Updates

Staff Project Support Team - The City established a Staff Project Support Team to provide resources and technical input to the study. The Staff Project Support Team participated in four (4) meetings with the Consultant Team and included representation from the following areas of responsibility:

- Transportation Planning
- Traffic Engineering
- Community Planning
- Strategic Planning
- Culture
- Heritage and Urban Design
- Landscape Architectural Services
- Public Health Services
- Parks and Recreation

City Staff Workshop – A workshop was held with City staff on June 14, 2011 from 1 to 3 pm in Hamilton City Hall. Forty-four (44) people signed in to the workshop: three (3) members of the Consultant Team and forty-one (41) City staff primarily representing Planning and Economic Development, Public Health, and Public Works (including Hamilton Police and HSR).

The purpose of the workshop was to update staff on the study, provide information based on staff, advisory group and extensive public input received to date, show alternatives and seek direction. The interactive session involved a “walkabout” of Main Street, Bay Street and Hughson Street, noting where the City is doing well and where areas for improvement in the context of pedestrian mobility can be made.

At the conclusion of the workshop, City of Hamilton staff identified obstacles and opportunities each of them faced in their respective departments when considering implementing a Pedestrian Mobility Plan.

Councillor Workshop - The City’s Project Manager provided City Council with regular project updates. In addition, Councillors were invited to attend a workshop on November 3, 2011 in Hamilton City Hall. The purpose of the workshop was to update Councillors on the study, provide information based on staff, advisory group and extensive public input received to date, walk like a
pedestrian, show alternatives and seek direction.

5.3. Implementing the Plan

5.3.1. Mission Statement

In 2008, the City of Hamilton adopted a Strategic Plan and updated it in 2012. The Pedestrian Mobility Plan helps implement the City Strategic Plan by implementing the following elements of the Vision, Mission, Strategic Themes and addresses many of the Strategic Priorities.

Vision: “To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.

Mission: • We will provide quality public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

Strategic Themes

Image – Changing the perceptions of Hamilton and promoting the City as a great place to live work and play.

Job Creation – Ensuring the City has a thriving and diverse business economy with sustainable jobs and employment for its residents.

Strategic Priorities

The City’s three Strategic Priorities are:

• A prosperous and healthy community
• Valued and sustainable services
• Leadership and Governance

5.3.2. Pedestrian Mobility Advisory Committee (P.M.A.C.)

A Pedestrian Mobility Advisory Committee (P.M.A.C.) is recommended as a commenting body to assist City staff with decision making on pedestrian issues. The intent is to have a committee to help implement the Pedestrian Mobility Plan by providing advice to staff when requested.

Two models were considered for the Pedestrian Mobility Advisory Committee (P.M.A.C.). The first is the model used for the existing cycling advisory committee that focuses on the cycling community primarily. The second is the model used for advisory committees such as Clean Air Hamilton Coordinating Committee.

Implementation of the Pedestrian Mobility Plan will be about much more than simply walking. For example, safe and interesting pedestrian activity will help:

12 City of Hamilton, Strategic Plan, 2012-2015
• **improve the public health and well being of Hamilton’s residents,**
• **address Provincial and Municipal City targets and policies for energy conservation, public transit, green house gas emissions and air quality,**
• **address the economic aspirations of the larger community especially where higher education, the professions, business improvement areas and emerging technologies are concerned,** and
• **address the needs outlined in the Code Red effort.**

There is a great deal more at stake than simply walking. Using an advisory committee model similar to that used for the Clean Air Hamilton Coordinating Committee, with the necessary amendments, the membership can be drawn from the various City efforts underway that have improved pedestrian activity as a strategic goal. This will help build broader implementation support in a collaborative fashion.

### 5.3.3. Pedestrian Coordinator

Coordination between pedestrians, cycling, and road user needs is required. Sometimes, conflicts exist with pedestrians between cyclists and other mobility device users. This is particularly true as more cyclists, pedestrians and those with mobility devices use our streets and sidewalks. The mobility devices and their applicable legislative framework in which they operate, are described in **Table 15.**

A Pedestrian Coordinator position will be required to act as a liaison or point person ensuring the various City Departments and groups are planning, designing and implementing works to address the needs of specific user groups. The Pedestrian Coordinator should be considered an important position. He/she will be involved with many ongoing and upcoming projects.

Given the range of issues to consider as illustrated on **Figure 1, City Implementation Considerations,** the Pedestrian Coordinator will need to be knowledgeable about matters addressing the following City functions: **Infrastructure, Planning Considerations, Legislative, Communications,** and **Operational.**

This Pedestrian Coordinator will also consider education and etiquette programs and policies to mitigate both current and future user conflicts. These conflicts exist today, for example, on multiuse trails. Developing etiquette standards and supporting policies will be important matter when user volumes increase and where cyclists and pedestrians may potentially conflict.

### 5.3.4. Wayfinding

Wayfinding is a particular challenge for pedestrians, because signage, like lighting systems, are primarily designed with
vehicular movement in mind. Two options exist: developing and installing a system of wayfinding and signs oriented to pedestrians; and developing a smart phone application, perhaps based on existing directional applications or newer software utilizing geographic positioning (G.P.S.) information. We are recommending the development of a smart phone application which together, might be used with the air quality health risk information discussed in section 8.6.

Wayfinding, although important, was not identified as a high priority by the public through the consultation process.

Urban Braille is also a form of wayfinding which assists people with visual impairments. The City of Hamilton has an excellent Urban Braille program and this Plan supports and should be consistent with current Urban Braille policies. For additional information, see Appendix 20, City of Hamilton Urban Braille System.

Addressing the wayfinding needs for pedestrians and other active modes (i.e., cycling and transit) can be achieved two-fold. Through the application of web-based technology and through conventional signs at the pedestrian-scale.

The City is currently investigating conducting a pilot project on providing a mobile application for smartphones. The mobile application would have proximity capabilities to provide users with nearby City destinations including transit stops and bicycle parking within a walkable distance range. If successful, this pilot project can be refined and expanded to provide additional interpretive and cultural information to complement the wayfinding capabilities. This initiative represents the future of wayfinding and would be complimentary with traditional, signage based wayfinding. By exploring this mobile application, the City is exhibiting a cost-effective and innovative approach that has minimal operational and maintenance impacts.

The use of a traditional wayfinding system (i.e., signs) will continue to help residents and visitors to navigate through the City, particularly for those who do not have access to smartphones or other similar technology. Historically, wayfinding systems have been focused on automobiles. However, with recent trends in increased investment in transit and pedestrian/bicycle infrastructure, there is an identified need to provide a pedestrian-scaled wayfinding system. General guiding principles have been identified below to provide the City with direction on developing a wayfinding strategy.

- Focus on downtown, BIA locations, as well as key decision point locations along the recreational trail and bicycle network.
- Apply the “3-D” philosophy for wayfinding: **Distance**, **Direction** and **Destination**.
- Uniform signage (or brand) to provide a level of consistency throughout the system, while
maintaining flexibility to unique features within the City (i.e., individual BIAs).

- Integrate wayfinding system into existing transit infrastructure (i.e., stop locations and shelters) since all transit trips begin and end with a walking trip and are located within walking distance to most destinations.

The Ontario Wayfinding Research Study (www.mtc.gov.on.ca/en.publications/OntarioWayFinding) speaks to the need to improve the quality and effectiveness of wayfinding for tourism benefits. This program is targeted at ways Regions across the Province can improve wayfinding in Ontario and be consistent with programs such as tourism-oriented directional signage (T.O.D.S.), which are the blue and white signs located on 400 series Highways in Ontario. Wayfinding includes more than directional signs, it includes print and electronic visitor information (maps, brochures, internet), directional/streetscape/landscaping features (buildings, landmarks, parks) and technology services including G.P.S., handheld devices and interactive visitor kiosks. With the rapid changes occurring in technology, G.P.S. or mobile devices will quickly allow people to perform “Where Am I” functions, find destinations or tourist attractions. In the longer term, a strategy between Tourism, and Rapid Transit should integrate a strategy for wayfinding throughout the City. The City of Hamilton will need to integrate wayfinding using more than only traditional methods and include mobile devices and tourism mapping. This should be considered as part of Tourism and Economic Development programs.
6. INFRASTRUCTURE CONSIDERATIONS

6.1. Introduction
Infrastructure management involves Municipal and Institutional responsibilities associated with the ownership, operation, management, development and renewal of physical assets. These include buildings, parks, streets and infrastructure such as underground utilities (sewers and water). Other services such as hydro, gas, cable and telephone services often are situated within the municipal streets. Life cycle replacement and co-ordination of ongoing maintenance, special projects and municipal capital projects are also often required. The majority of this work is coordinated through the Asset Management Department at the City.

Special and capital projects that involve municipal property and infrastructure, are also within asset management responsibilities. As the owner of property and infrastructure, the municipality is responsible for the safe operation and stewardship of these resources to ensure the municipalities many legal responsibilities are met and various goals and objectives are achieved. Pedestrian mobility needs to be addressed together with these other municipal responsibilities to ensure the safe and efficient use of City streets and/or right of ways.

6.2. Routine Accommodation and Budget Considerations
Pedestrian mobility is critical to achieving the many municipal goals and objectives associated with efforts as far reaching as Vision 2020 and the City’s Mission Statement. Pedestrian Mobility is also critical to meet the requirements of new Official Plan policy, while achieving environmental objectives such as clean air, energy conservation and climate change targets. The achievement of a balance that meets the various municipal responsibilities is essential.

This Pedestrian Mobility Plan documents many community efforts to address walkability within City neighbourhoods. This Pedestrian Mobility Plan could have developed a list of projects with various priorities and costing attached, and recommended these. However, in our opinion, this approach would not achieve the required balance, especially where the future involves change. While it might have been possible to address all the various policy and management concerns...
that exist at the time of plan development, it wouldn't have been possible to address fully emerging and evolving policy concerns that may be quite different than those which exist today. We live in challenging times, financially and environmentally. Extrapolating from existing conditions 20 years into the future is uncertain.

The approach utilized in this Pedestrian Mobility Plan is called Routine Accommodation, which integrates toolbox solutions into each individual project on a routine basis. In this regard, there is not an ever ending “list of projects” and capital requests. Rather, in a proactive, consistent and traceable approach, a series of tools are put in place to allow for a repeatable, defensible decision making process that can be utilized on every project while addressing the City’s many legal and policy concerns. This approach is consistent with the Complete Streets philosophy.

The Provincial Highway Traffic Act provides discretion to municipal transportation planners to innovate provided the municipality is consistent throughout its jurisdiction. Individual community walkability studies advance the need for pedestrian improvements, but implementation of some recommendations may not meet the standard the municipality has to meet City wide. Routine accommodation, conceived in this Pedestrian Mobility Plan, provides a menu of various designs (toolbox solutions) that can be applied systematically across the municipality and in a manner that enables neighbourhood preferences and previous walkability studies to be addressed consistently.

When infrastructure renewal, maintenance, capital or special projects are conceived and implemented, Routine Accommodation recommended in this Pedestrian Mobility Plan provides for streetscape implementation of various pedestrian improvements. It recognizes pedestrian improvements need to be systematically applied across the City in a process that considers site specific conditions. Routine accommodation provides for the selection of appropriate pedestrian toolbox solutions that address each unique streetscape and involves an advisory committee which is populated by the various policies and community interests needed to make decisions on the most suitable pedestrian improvements. It also creates a forum where pedestrian concerns can be rebalanced with vehicular and cycling modes. Overall, a conservative estimate is expected that it will add approximately 5 to 10% to the costs of each project. We expect that over a 20 year period, significant pedestrian improvements will have occurred on most City streets as part of ongoing maintenance and reconstruction work or other ongoing and future City projects.
7. ENVIRONMENTAL ASSESSMENT ACT COMPLIANCE

7.1. Class Environmental Assessment

The planning framework for this study follows Phases 1 and 2 of the Municipal Engineers Association Municipal Class Environmental Assessment (October 2000, as amended in 2007). The Municipal Class Environmental Assessment is a planning and design process, approved under the Ontario Environmental Assessment Act, for routine municipal infrastructure and transportation projects. Projects that are subject to the Municipal Class Environmental Assessment are expected to have a predictable range of environmental impacts that can be mitigated. Consideration is given to the potential effects of each project on the natural, social, cultural and economic environments. As such, projects that are planned in accordance with the Municipal Class Environmental Assessment are approved under the Environmental Assessment Act.

Section A.2.7 and Appendix 4 of the Municipal Class Environmental Assessment document (2007) explains how the planning process can be applied to Master Plans. Appendix 4 of the document recognizes three possible approaches. This Pedestrian Mobility Plan follows Approach #1, which completes Phases 1 and 2 of the Class Environmental Assessment process at a broad level. It serves as a backgrounder for future projects that are recommended as a result of implementing the Pedestrian Mobility Plan. These future projects may be subject to a separate Class Environmental Assessment study, requiring detailed investigations to fulfil Municipal Class Environmental Assessment requirements. For more detailed information, see Appendix 23.

7.2. Problem and Opportunities Statement

Figure 3: Input for the Problem and Opportunities Statement illustrates the various forms of input considered in the development of the Problem and Opportunities statement for this study:

- The Hamilton Transportation Master Plan and new City Official Plan emphasize expanded, safe, and
attractive pedestrian mobility that provides access to community institutions, recreational/leisure opportunities, employment and retail service which support multiple travel mode options.

- The City of Hamilton signed the International Charter for Walking in 2008, which promotes a set of principles to encourage a culture of walking.

- Furthermore, Provincial legislation and policy initiatives emphasize expanded pedestrian mobility to conserve energy, adapt to climate change and to create a healthier, active, built environment/transportation system.

- The draft Problem and Opportunities statement was prepared for Public Information Centre #1. Based on both public input and Advisory Group feedback, it was refined and presented at Public Information Centre #2.

Figure 3: Input for the Problem and Opportunities Statement
The Problem and Opportunities Statement reads as follows:

*The City of Hamilton initiated the Pedestrian Mobility Master Plan to support its commitment to the International Charter for Walking, and develop a plan to achieve the applicable goals and objectives of local and provincial mandate. Improvements to the existing pedestrian environment are needed to create a community where people choose to walk.*

During the first Public Information Centre and in presentations to the Pedestrian Advisory Group, the public and the Group were invited to provide comments on a draft problem statement. Based on the comments received and the analysis conducted in this assessment, we confirmed the problem and opportunities statement set out above.

### 7.3. Existing Conditions

A complete discussion of the existing conditions discussion is included in the Appendices. See Appendix 23.

Walking occurs within the existing land uses and streets. This Pedestrian Mobility Plan explores these inter-relationships in order to enhance safe and interesting pedestrian movement.

Current activity generators and destinations are mapped on Figure 4: Destinations and Generators. A 400m walking radius is a generally accepted distance and was used as an accepted, reasonable walking distance. The destinations include institutional facilities, churches, schools and other public facilities. The density and distribution of these destinations and generators closely coincides with the urban boundary and results of the Community Walk Map. As part of the review of the existing walking environment and network in the City, the existing pedestrian network was mapped. Figure 5: Existing Network includes an inventory of existing sidewalks and recreational trails.
7.3.1. **Review of Best Practices and Lessons Learned**

We followed the definition of “Best Practices” discussed in the 2008 Transportation Association of Canada (TAC) Report titled “Best Practices for the Technical Delivery of Long-Term Planning Studies in Canada” as “Practice proven successful”.

Based on this definition of “Best Practices”, a literature search was conducted in order to identify successful practices related to pedestrian activities and mobility in Canada and around the world. A list of data sources and best practices were ‘matched’ to the various areas of opportunities by means of a matrix since applications of some of these best practices can vary depending on the nature of problems encountered at the location and land use characteristics in proximity to the pedestrian facilities. See **Appendix 2: Summary of Best Practices**, as of Fall 2011.

The most relevant lessons learned from this review are summarized in **Table 8**.

**Table 9: Lessons Learned based on Best Practices related to Pedestrian Activities**

<table>
<thead>
<tr>
<th>Pedestrian Environments</th>
<th>Lessons Learned</th>
</tr>
</thead>
</table>
| **Sidewalk environment** | • minimum sidewalk width of 1.5 m can generally accommodate the needs of two people walking side by side  
• increasing the sidewalk width to at least 1.82 m or greater allows a more comfortable environment for adults carrying children or the safe passage of wheelchairs/walkers  
• the width of the sidewalk should be based not only on the roadway classification but also on the purpose of the surrounding land use, facilities and the expected use of the sidewalk  
• expanding the installation of sidewalks on both sides of the street, especially in new subdivisions, may encourage residents to walk to destinations such as transit stops, schools, recreation centres or other facilities.  
• Sidewalk widths should consider and use the term... |
### Pedestrian Environments

<table>
<thead>
<tr>
<th>Lessons Learned</th>
</tr>
</thead>
<tbody>
<tr>
<td>clear zone rather than width. The clear travel zone width is more critical than the overall width which may have obstructions. A minimum width of 1.8m clear is recommended.</td>
</tr>
</tbody>
</table>

### Buffer areas

- Increasing the physical separation between the pedestrian area and the roadway not only improves the pedestrian level of comfort, but also enhances the perceived level of safety
- A separation of the curb and the sidewalk from 2 to 2.5 m or greater can be designed as a furniture area, buffer zone and space for snow storage during winter
- Shade trees can greatly improve pedestrian comfort and can be planted in the buffer zone. For street trees, a minimum of 3 m buffer zone is preferred.

### Parking

- The use of on-street parking can provide a physical barrier between the pedestrian area and the roadway
- The preferred width of a parallel on-street parking lane is 2.5 m wide on commercial thoroughfares and a minimum 2 m wide on residential thoroughfares
- A minimum width of 1.82 m for secondary pedestrian connections as well as the provision of pedestrian illumination is advisable so that pedestrians are not unnecessarily exposed to safety hazards when traveling to and from off-street parking areas.

### Connectivity

- Block length on urban centers and urban core areas should not be larger than 120 m but preferably between 68 and 90 m to support higher densities and pedestrian activity
- Protected intersection crossings should be located on average between 180 m for lower volumes or 100 m, in high pedestrian volume locations
- In residential environments, considerations for pedestrian sidewalks, pathways or greenways to link...
Pedestrian Environments | Lessons Learned
--- | ---
any cul-de-sac to another street or cul-de-sac within the development should be included as part of the development plans.

### 7.3.2. Collision Analysis

CIMA completed a collision analysis during Phase 1 of the Pedestrian Mobility Plan study. A copy of the collision analysis report is included in Appendix 3. The purpose of the analysis was to understand the characteristics of pedestrian collisions within the City of Hamilton, identify locations with a high frequency of pedestrian collisions, and identify intersections and/or corridors which have the potential for safety improvements.

It is intuitive that improving safety and security encourages people to use more active modes of transportation for a wider range of trip purposes. While the two elements are linked, they are also sometimes confused with each other. To provide clarity, in this study, safety is solely referred to as the expected number of collisions involving pedestrians and security is referred to as the perceived level of personal security, primarily with respect to crimes.

The collision analysis showed that pedestrian collisions constitute 7% of total collisions recorded in the City of Hamilton. From that proportion, the majority of pedestrian collisions (92%) were “injury” collisions. It was also shown that 41% of drivers involved in pedestrian collisions are between the ages 36 to 65. Further, it was shown that 15% of drivers involved in pedestrian collisions are older than 65. These two cohorts could benefit from further educational programs relating to pedestrian safety and should be the focus of such programs in the City.

Regarding location of collisions, sixty-five percent (65%) of collisions occurred at intersections or were intersection related. Of those collisions, 68% occurred at signalized intersections. Based on these findings it was also identified that improving safety at signalized intersections for pedestrians should be a priority in the City of Hamilton.

**Figure 6: Locations of Vehicular Collisions With Pedestrians** shows the location of pedestrian-involved collisions. Based on the analysis, the majority of pedestrian-involved collisions occur in the downtown core. This finding is a reflection of the fact that in the City centre, pedestrian activities are much more prevalent than in suburban areas of the City. In the downtown core, there are relatively high numbers of pedestrians who are exposed to reasonably high traffic volumes. As a result, the finding of higher frequencies of collisions in this area was not unexpected and is similar to other North American Cities.
It is important to distinguish however, that higher collision frequencies in this area do not necessarily mean the location is less safe for pedestrians. Unfortunately, pedestrian volume data was not equally available across the City. As a result it was not possible to provide comparisons that would consider relative volumes for all areas of the city.

The findings do indicate that when larger amounts of pedestrian movements take place in close proximity of relatively high vehicular traffic, the potential for collisions increases. As a result, it is important to consider pedestrian safety where those conditions currently exist or where there is the potential for those conditions to exist once walking activity increases.

The analysis further supported findings that identify where focus should be given to address pedestrian safety and where it is not as critical. One important observation is that most pedestrian-involved collisions occurred on major roads and at intersections associated with major roads and not within neighbourhoods. One possible reason for this observation may be higher pedestrian volumes and crossing demands on major streets. As well, there may be lower pedestrian and fewer vehicular conflicts in the neighbourhoods.

These findings lead to the conclusion that the City should develop plans to facilitate the movement of, and increased safety for, pedestrians on major roads and at intersections. Based on our analysis locations of higher risk, both corridors and intersections are found in the downtown core area.

Finally, the analysis looked at factors that may be contributing to pedestrian collisions along the City of Hamilton’s major corridors and at the City’s major intersections. The findings include a determination that road surface conditions (i.e., snow covered), environmental conditions (i.e., snow), lighting (i.e., dawn/dusk), and time of day (i.e., 01:00 AM – 06:00 AM) are contributing factors. These factors are taken into consideration when developing general behaviour type alternatives that can be delivered more widely across the City of Hamilton.

In this study, safety is referred to as the expected number of collisions per year at each site (intersection or corridor). The expected number of collisions is a long term annual average number of collisions at each site and it is different from the average observed number of collisions during the study period.
Locations of Vehicular Collisions with Pedestrians

Legend:
- Street types:
  - Major Arterial
  - Minor Arterial
  - Proposed Major Arterial
  - Proposed Minor Arterial
  - Urban Boundary
- Collisions density:
  - 0 - 15
  - 15 - 30
  - 30 - 60
  - 60 - 120
  - 120 - 200
  - 200 - 300
  - 300 - 400
  - 400 - 500
  - 500 - 550.5

Notes:
- Collision data is within the street network only.
- Collisions are within the jurisdiction of the City of Hamilton.
- Collisions include collisions with vehicles.
7.3.3. **Mobility Analysis**

Mobility Analysis in this context, means the ability of pedestrians to move as limitless, freely and unimpeded, as possible through Hamilton’s streets. A mobility analysis was completed in Phase 1 of the Pedestrian Mobility Plan to identify the major factors which deter people from walking. Three sources of information were used for this analysis: (1) public comments and input received during Public Information Centre No. 1; (2) comments obtained from the public using the CommunityWalk mapping; and (3) the public survey.

The most frequently cited concerns by the public can be categorized into two major areas: (1) concerns related to perceived comfort and safety and (2) concerns related to accessibility.

**Perceived Comfort and Safety**

Intersections

Intersections with both high vehicular traffic volume and high pedestrian volume are often challenging for pedestrians and drivers alike. Difficulty and/or discomfort crossing at major intersections was one of the major concerns raised by the public. The main challenges associated with crossing intersections are:

- Intersections that did not have marked or controlled pedestrian crossings on all legs of the intersection: It was suggested that kind of intersection can discourage individuals from walking, and perhaps even encourage them to cross illegally.

- Adequate space at intersection corners for pedestrians waiting for their signal: At busy intersections with high pedestrian volumes, especially in the downtown area, pedestrians require enough space at each corner in order to comfortably wait for their signal to cross the intersection. It is important to consider the conflict between the pedestrians waiting to cross and the pedestrian flow which is entering the sidewalk from the perpendicular approach.

- Pedestrian and vehicle conflicts at major intersections: Crossing at major intersections was one of the major concerns raised by the public. High right turning and left turning vehicular volume, high pedestrian volume, and short green time per phase for vehicles are common characteristics of busy intersections in urban areas. These characteristics can lead to aggressiveness of left and right turning vehicles (and often vehicles turning right on red) in order to find a gap among pedestrians on the crosswalks.

- Intersections with channelized right turn lanes: Pedestrians and right turning vehicles can get confused at intersections with channelized right turns which (1) do not provide clear and positive guidance to pedestrians or vehicles or (2) do not have clearly
marked crossings on the channelized lane.

**Corridors**

- **Mid-block Crossings:** One of the concerns raised by the public is the desire to have comfortable and safe mid-block crossings, or intersection crossings at locations where the street is uncontrolled. This concern is heightened at locations where transit stops are present and transit patrons must cross the roadway for one or both legs of their trip. It is noteworthy that the City of Hamilton developed a policy on installation criteria for intersection and mid-block pedestrian signals in January 2001. In certain flow conditions, reasonable distances between crossing opportunities, regardless of numbers using the movement, need to be imposed, otherwise traffic conditions will be barriers to promoting walking interests. If it is too far to walk, people are more likely to drive to cross the road. If flow conditions are widely varied, measures that do not interrupt traffic needlessly should be the best options practiced. Pedestrian initiated devices or a signal are better than the absence of any opportunity on our long blocks.

- **Sidewalk Width:** Sidewalk width is an important factor which contributes to comfort and the perception of safety by pedestrians. Lack of adequate sidewalk width is one of the factors raised by the public as an impediment to walking in some areas of the City.

- **Major Highway Crossings:** Some major highways run through the City of Hamilton. Overpasses to cross these highways often lack wide and comfortable sidewalks as described by public comments. Another challenge associated with the overpasses is a lack of adequate lighting. The City has accommodated bicycle traffic with separate bike lanes on some of the overpasses. Where these facilities were present pedestrians identified that they perceived better safety and comfort for walking.

**Winter Maintenance**

Snow and ice removal for pedestrian facilities were another major concern of the public. Lack of snow clearing and treatment of slippery surfaces was identified as a hindrance to walking in winter. In particular, snow piled at intersections (wind rows) was identified as an issue. The City is undertaking a pilot program to improve snow removal at intersections and will report back to Council. It is worthy of note that while there exist regulations in the City for clearing of snow from sidewalks, based on public comments, the City’s snow and removal bylaws are enforced on a complaint basis.

**Accessibility**

Public concerns with respect to accessibility to pedestrian facilities include
access to major destinations including parks and trails, access to public transit stops, and disconnected sidewalk network especially in suburban and rural areas.

Sidewalks are an integral part of a pedestrian friendly community. In order to promote walking in the City, it is critically important to provide access for pedestrians to major destinations (including parks and trails) within the City. Additionally, pedestrians should have safe and comfortable access to public transit using pedestrian facilities. This will not only encourage people to walk but will also increase mode share of public transit. One of the reasons for collisions along corridors is pedestrian crossings at undesignated crosswalks in order to get access to public transit stops.

The City of Hamilton includes communities which are suburban and rural in nature and are undergoing growth and urbanization. As a result, sidewalks should be proactively introduced into these communities to encourage the residents to walk. One of the examples of such a corridor is Wilson Street in Ancaster.

**Conclusions**

The results of the collision analysis were obtained by a statistical analysis of available collision data. The results of the mobility analysis were obtained primarily from public input gathered at Public Information Centre meetings and through other direct public feedback mechanisms. The overall findings from the two sources are in general agreement with each other and generally consistent with findings in other North American Cities.

The primary safety and mobility challenges for the pedestrians in the City of Hamilton are along major corridors and at major intersections. As described in subsequent sections of this report, a range of alternatives have been developed that will allow the City to provide treatments at locations to address identified concerns. There is no single solution, rather a range of alternatives can be considered to address problems identified and used in conjunction with each other.

### 7.3.4. Urban Transect and Pedestrian Context Areas

The Urban Transect “is a way of locating and understanding a variety of different types of human settlement within a comprehensive web of natural and human habitats.” This Pedestrian Mobility Plan adapts and modifies the urban transect, to characterize pedestrian environments by type of built environment and streetscape throughout the City of Hamilton. See Figure 7: Development Patterns – Context Areas and Figure 8 – Existing Area Maps – Existing Conditions.

This document is to be read in conjunction with the Official Plan, which takes priority.

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The adaptations include adding an “Industrial” context area to address the heavy industry and port facilities associated with Hamilton Harbour and an “Urban Village” context area to address settlements that were enveloped within the urban area that retain some built environment and streetscape characteristics, often historic in nature, of rural villages.

The transect displays aerial photograph plan views of the existing street and intersection pattern and the relationship between buildings, streets and sidewalk. In each zone, a photograph of a typical street scene is shown to characterize the pedestrian environment. Context areas were mapped generally in plan view to differentiate pedestrian environments throughout the City. Attention to detail is essential if safe and interesting pedestrian environments are to be created. The Context Areas provide this necessary level of detail.

The context areas are not intended to be used as planning designations or zones, such as those in the City Official Plan and Zoning Bylaw. Rather, this transect is an instrument providing greater detail and clarity so that toolbox solutions, policies and programs can be developed to create and maintain interesting and safe pedestrian environments throughout the City. This allows for more refined implementation of appropriate toolbox solutions and the context to be considered for these solutions.

In addition, these context solutions should be tied back into the City Official Plan (i.e., if an existing area is designated rural and an area is designated for a more intense urban use, the City Official Plan governs. Good engineering and planning judgement should be used when considering all solutions.

Beginning from the left and working to the right of Figure 7: Development Patterns, Context Zones, the context area descriptions follow:

**Context Area: Natural**

Natural heritage features comprise the natural context area. These include stream and creek valleys such as the Spencer and Chippewa Creeks, the Beverley Swamp and the Niagara Escarpment. Extensive recreations trails exist within these features or rail trails connect them. This trail development represents a significant pedestrian resource for all inhabitants in the City of Hamilton.

**Context Area: Rural**

Scattered rural residential lots created by severance and a regular pattern of active and inactive farms associated with farm clusters exists in the Rural Context Area. Farms are organized around the original township surveys that also made provision for township and county roads. While farm amalgamation and consolidation has rearranged this pattern somewhat, generally the pattern holds, except where natural features, such as Beverley Swamp,
exist. Recreational Trails, where these exist and paved shoulder widening represents opportunities for pedestrian facilities.

Context Area: Village/Hamlets

These villages and hamlets comprise older, agricultural service centres. Historically, community facilities like township municipal buildings and churches were situated in these settlements together with services for the local rural agricultural community. Often retiring farmers moved to these villages. These Villages generally contained collections of historic and newer residences. The service functions they performed in the past have declined, while residential accommodations serve commuters primarily. Sidewalks may or may not exist. Generally development is focused on an intersection with little interior or residential development.

Examples include Millgrove, Jerseyville, Rockton, Freelton and Carlisle.

Context Area: Urban-Village

The Urban Village Context Area generally comprises former rural settlements and villages around which urban growth has occurred, thereby engulfing these communities within the urban fabric. However, the streetscape and buildings within their core areas remain and are often historic in character with buildings with older uses. These represent unique and distinctive potential pedestrian environments.

Street widths and lengths between blocks are variable with underground services in trenches, except in older streets.

The urban core of Dundas is an older community, in many respects older than the former City of Hamilton. The core constitutes a unique collection of residential and commercial buildings and streetscape that is a unique pedestrian environment. The Niagara Escarpment and Spencer Creek frame this core. Both these natural features represent unique trail and pedestrian possibilities.

Ancaster is also an older, historic community, with a mixture of heritage buildings along Wilson Street and older residential neighbourhoods to the east. Balancing the needs of arterial traffic through the village core and the pedestrian and heritage potential of the former village will be a challenge.

Stoney Creek and Waterdown also represent older communities with a mixture of natural features, Stoney and Grindstone Creeks, and historic buildings and sites, Stoney Creek Battleground and streetscapes. Binbrook and Mt. Hope represent more recent developments where planned growth has occurred around their village cores.

One exception exists. Westdale Village is a planned community characterized by an oval street pattern around a commercial core. A park once existed in the commercial village centre together with a rail connection to downtown Hamilton.
Commercial parking and Main Street have replaced the rail connection and park.

**Context Area: Suburban**

Suburban residential neighbourhoods are those neighbourhoods built after 1949. Generally, residential neighbourhoods have been built within a framework of arterials with curvilinear interior street patterns. While sidewalks exist, street and pedestrian connectivity are poor. Street/lane widths are generally greater than downtown and signalized intersections are further apart.

In the former City of Hamilton, a standard neighbourhood template was developed around which commercial and residential neighbourhoods were planned. Residential uses were situated within the block interiors; while commercial uses fronted onto the exterior arterials. Natural features like the Red Hill and Chedoke Creeks were placed underground in storm sewers and removed the natural landform/pattern.

In the former municipalities of Dundas and Ancaster, street patterns were designed to address natural features associated with the Dundas Valley and the Ancaster and Spencer Creeks. In Stoney Creek, a mixture of natural features and neighbourhood templates focused on vehicular traffic.

The results are neighbourhoods with strong reliance on the automobile, poor ability to be serviced by public transit and while sidewalks exist, poor pedestrian connectivity.

**Context Area: Urban General**

These neighbourhoods include a mixture of uses along arterials, while the interior neighbourhoods are primarily residential. Built in the latter part of the 19th century, the street pattern is characterized by longer interior blocks with shorter blocks fronting onto arterial streets. Streets are generally wider with some underground utilities in dedicated trenches.

The street patterns are generally rectangular in character. Less connectivity and lower intersections density exists making for less walkable pedestrian environments. Generally, larger residential lots exist with lower lot coverage and more tree cover both within residential lots and streets. Buildings are set back further from the street and street dimensions are larger than those found in earlier residential neighbourhoods.

**Context Area: Urban Core**

These predominantly residential streets surround the office and commercial downtown. Built prior to 1949, block lengths are regularly and generally equal distant and the intersection densities are high making for excellent street connectivity. Little urban renewal exists.

Street widths are variable, but more consistent with those found downtown. Underground utilities are not as densely placed as the Downtown.
The industrial and residential neighbourhoods closer to the west end of Hamilton Harbour and in Dundas contain the oldest streetscapes in the City. In the residential neighbourhoods, the physical street dimensions, lot sizes and dimensions and setbacks are of a finer scale than older neighbourhoods closer to the Niagara Escarpment in this Zone and elsewhere in the City.

Little or no redevelopment has taken place except where larger lots have been redeveloped for higher density residential development. Mature street trees often line these streets and higher density residential buildings are generally closer to the streets. Mixed uses occur closer to the industrial port.

Eventually, the older industrial areas that line the older port areas will be redeveloped. The Bay Front Park and pedestrian trails to the east and west to Princess Point have re-introduced the public to Hamilton Harbour and are highly valued by pedestrians.

**Context Area: Downtown**

The downtown consists of significant concentrations of office and commercial development and increasingly, residential development. In Hamilton’s downtown, pre-1949 built streets are organized as squares or rectangles with almost equidistant intersections. These short block lengths and dense intersection patterns, provide for efficient pedestrian movement. The exception occurs where urban renewal in the 1950’s removed the existing street fabric and replaced it with large block development such as Jackson Square and other public buildings.

A pedestrian plaza was created above Jackson Square together with elevated passageways across Main Street to the Convention Centre, Art Gallery and the Ellen Fairclough building. These innovations didn’t have the intended effect and are being replaced by street level pedestrian facilities.

Gore Park serves as a pedestrian plaza, while the MacNab Street terminal acts as a transit hub for the Hamilton Street Railway. Together with the GO Station rail and bus terminal, the downtown is well served by public transit.

Streets are served with sidewalks and some street furniture. Street widths are variable from narrow 2-3 lanes, with larger 4-5 lane roads. Signalized intersections are frequent and follow a grid like pattern with relatively short distances between each signal.

There are combinations of one and two way streets. A number of key streets have been targeted for, or converted to 2-way traffic. This greatly assists pedestrian mobility.

Underground utilities in the street are tightly placed given the narrow right of way. Shade trees exist on some streets with new plantings in some other areas. The entrance into International Village and the adjoining streets and sidewalks...
are well equipped for pedestrian movement.

**Context Area: Industrial**

The heavy industrial area adjoining Hamilton Harbour is the City’s heavy industrial and port area and along Burlington Street. Pedestrian environments exist to a limited extent where streets have sidewalks. Goods movement and heavy industrial activities characterize this zone. Aside from public transit facilities, little opportunity exists to enhance this pedestrian environment except in peripheral areas like Windemere Basin where reclamation to environmental and open space is occurring.
7.3.5. **Public Information Centres**

The City of Hamilton, with assistance from the Consultant Team, hosted two rounds of Public Information Centres for the Pedestrian Mobility Plan. The general public were invited to attend the Public Information Centres via notice advertised in the Hamilton Spectator and in the local community newspapers. Notices were also posted to the City’s project website at www.hamilton.ca/PedestrianMP.

In addition, Public Information Centre announcements were provided through the Smart Commute Hamilton Fan pages of Facebook (facebook.com) and Twitter (twitter.com). Agencies and other interest groups represented on the updated study contact list were provided with a copy of the notice by mail. A copy of each Notice is included in Appendix 4.

**Public Information Centre No. 1**

Public Information Centre No. 1 was held in an open house format at four (4) locations during Phase 1 of the study. The four locations were selected to cover the upper (e.g., Hamilton Mountain) and lower (e.g., Stoney Creek, Downtown Hamilton, Dundas) areas of the City. The purpose of the first Public Information Centre was to receive input on the existing conditions within Hamilton, the outlined problem and opportunities statement, draft evaluation criteria and study framework.

A ‘Notice of Study Commencement and Public Information Centre No. 1’ was advertised in the Hamilton Spectator on March 4 and 11, 2011. This first notice introduced the project and announced opportunities for public input, including the availability of an on-line survey, on-line interactive map, and details of the first round of Public Information Centres. Contact information was provided so that the public could obtain additional information or submit comments directly to the Project Team.

The public was invited to attend one of four (4) PIC locations:

- **Monday, March 28, 2011** at Stoney Creek Municipal Service Centre on 777 Highway 8
- **Wednesday, March 30, 2011** at the Hamilton Convention Centre on 1 Summer’s Lane in downtown Hamilton
- **Tuesday, April 5, 2011** at Dundas Baptist Church on 201 Governor’s Road
- **Thursday, April 7, 2011** at the Sackville Senior’s Centre, 780 Upper Wentworth Street on the Hamilton mountain

Each Public Information Centre was held from 6:00 pm to 8:00 pm, with a powerpoint presentation at 6:30 pm followed by a question and answer period. Project information was displayed on 22 boards for viewing throughout the evening. Two additional boards displayed the on-line interactive mapping tool for this project and the International Charter for Walking signed by the City’s Mayor in 2008.
In addition to the information boards and PowerPoint presentation, two roll-out maps of the City of Hamilton were available where participants could stick a dot on places they chose to walk to and/or write comments regarding the pedestrian environment of interest. Mobility Surveys and Comment Sheets were also available so that participants could provide specific feedback or submit their comments in writing. A copy of the Public Information Centre materials is included in Appendix 9.

In total, eighty-two (82) people attended Public Information Centre No. 1. Table 10 shows how many people attended by date.

Table 10: Attendance at Public Information Centre No. 1

<table>
<thead>
<tr>
<th>Date of Public Information Centre (2011)</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 28</td>
<td>11</td>
</tr>
<tr>
<td>March 30</td>
<td>16</td>
</tr>
<tr>
<td>April 5</td>
<td>39</td>
</tr>
<tr>
<td>April 7</td>
<td>16</td>
</tr>
</tbody>
</table>

Fourteen (14) written comments and four (4) mobility surveys were submitted in the comment box. Of the surveys received, three (3) were submitted on April 5 and one (1) was submitted on April 7, 2011. In addition, several locations of interest and comments were recorded on the roll-out maps. Feedback received through the mobility surveys and roll-out maps were reviewed with the results of the electronic surveys and interactive mapping available on-line at www.hamilton.on/PedestrianMP. As such, details and results of the survey and mapping exercise are summarized in separate sections of this report. Appendix 5 provides a summary of verbal comments recorded during the question and answer period of each Public Information Centre, and a copy of all submitted comment sheets. All present at the presentation were encouraged to fill out a comment sheet to ensure their comments were included and accurately recorded. Additional comments were received by regular and electronic mail.

For the purpose of this report, we have summarized and organized the comments under common suggested themes for improvement as outlined in Table 11.
Table 11: Summary of Public Comments (Public Information Centre No. 1)

<table>
<thead>
<tr>
<th>Pedestrian Crossings</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pedestrian activated crossing lights desired</td>
</tr>
<tr>
<td>• Stoplights/pedestrian signals with longer times to cross</td>
</tr>
<tr>
<td>• Crosswalks that are highly visible and clearly marked/defined</td>
</tr>
<tr>
<td>• Crosswalks that line up safely</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sidewalks</th>
</tr>
</thead>
<tbody>
<tr>
<td>• More sidewalks, where they do not take away from enjoyment of nature</td>
</tr>
<tr>
<td>• Wider sidewalks to allow two people to walk side by side</td>
</tr>
<tr>
<td>• Ramps into driveways with room to walk on a level piece of pavement</td>
</tr>
<tr>
<td>• Even sidewalk surface</td>
</tr>
<tr>
<td>• Slopes at street corners</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trails and Pathways</th>
</tr>
</thead>
<tbody>
<tr>
<td>• More marked, trails/paths</td>
</tr>
<tr>
<td>• Continuous connections of trails/paths</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Traffic Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>• All way stop and stoplight, where needed</td>
</tr>
<tr>
<td>• Foot bridge, where needed</td>
</tr>
<tr>
<td>• Pedestrian Mall and Traffic Free Zones</td>
</tr>
<tr>
<td>• Traffic calming</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pedestrian Comfort</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Space for the planting of canopy shade trees</td>
</tr>
<tr>
<td>• Sidewalks, crosswalks and roads ploughed or shovelled in the winter</td>
</tr>
</tbody>
</table>
December 12/12

| Facilities for shared use of scooters and bicycles |
| Covered bus shelters at all stops and more frequent bus schedule |

**Environmental Considerations**

- Maintained cultural heritage
- Enhanced access to natural environments

**Other considerations**

- Promotional materials for walking/hiking trails
- Past and ongoing, relevant Master Plans

**Public Information Centre No. 2**

Public Information Centre No. 2 was held in an open house format at two (2) locations during Phase 2 of the study. The two locations were selected to centralize opportunity for people to gather. The purpose of the second Public Information Centre was to receive input on the assessment of alternative strategies and proposed framework to implement, as appropriate, the toolbox solutions, policies and programs that encourage more people to walk.

A ‘Notice of Public Information Centre No. 2’ was advertised in the Hamilton Spectator on August 25 and September 1, 2011. This second Notice invited public comment on the study and provided details regarding the second round of Public Information Centres. As with the first notice, contact information was provided so that the public could submit comments directly to the Project Team.

The public was invited to attend one of two (2) Public Information Centres:

- **Thursday, September 8, 2011** at the Hamilton Public Library on 55 York Boulevard in downtown Hamilton
- **Saturday, September 10, 2011** at the Turner Park Library on 352 Rymal Road East on the Hamilton Mountain.

The first Public Information Centre was held on September 8, 2011, from 4:00 pm to 7:00 pm, with a powerpoint presentation at 6:00 pm followed by a question and answer period. The second Public Information Centre was held on September 10, 2011, from 12:00 pm to 3:00 pm, with a powerpoint presentation at 2:00 pm.

Project information was displayed on 24 boards for viewing throughout the evening. One additional board displayed the International Charter for Walking.
December 12/12

signed by the City’s Mayor in 2008. In addition to the information boards and powerpoint presentation, Comment Sheets were available so that participants could provide specific feedback or submit their comments in writing. A copy of the Public Information Centre materials is included in Appendix 6.

In total, sixty-three (63) people attended Public Information Centre No. 2. Table 12 shows how many people attended by date.

Table 12: Attendance at Public Information Centre No. 2

<table>
<thead>
<tr>
<th>Date of Public Information Centre (2011)</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 8</td>
<td>37</td>
</tr>
<tr>
<td>September 10</td>
<td>26</td>
</tr>
</tbody>
</table>

Attendance on September 8 included at least one representative from the City’s Public Health Department and one representative from Councillor McHattie’s office. More people attended on September 8 and 10, but did not sign in.

Thirteen (13) written comments were submitted in the comment box. Of the comments received, nine (9) were submitted on September 8, 2011 and four (4) were submitted on September 10, 2011.

Appendix 7 provides a summary of verbal comments recorded during the question and answer period of each Public Information Centre, and a copy of all submitted comment sheets. All present at the presentation were encouraged to fill out a comment sheet to ensure their comments were included and accurately recorded. Additional comments were received from agencies and the public by letter and electronic mail.

For the purpose of this report, we have summarized and organized the comments under common suggested themes for improvement as outlined in Table 13.

Table 13: Summary of Public Comments (Public Information Centre No. 2)

<table>
<thead>
<tr>
<th>Pedestrian Crossings</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Scramble crossings, are they feasible?</td>
</tr>
<tr>
<td>• Marked crossings (painted pavements)</td>
</tr>
<tr>
<td>• Crossing etiquette at unmarked crossings is unclear; do cars or pedestrians get right-of-way?</td>
</tr>
<tr>
<td>• Low physical barrier at corners, to discourage people crossing at unmarked crossings</td>
</tr>
</tbody>
</table>
### Intersection
- Wider crosswalk lines
- Consistent crossing times at major intersections
- Sound control signal on 3 lane road
- Countdown signals; More countdown time for crossings near senior centres
- Push buttons for walk signals do not stay on long enough for seniors to cross safely
- Pedestrian crossing buttons usually not accessible: often too high for wheelchair users, often not on pavement
- Distance between crosswalks is difficult, especially for seniors; Crosswalks on busy four lane roads are too far apart
- Unsafe state of a building on John Street where there is not a crosswalk to the park right in front of it

### Sidewalks
- Need more sidewalks; Provide continuous sidewalks; Separated sidewalks are a great idea as walking in the direction with the traffic is terrifying – too many trucks
- In rural areas, roads are under maintained and narrow, with no shoulders, and are heavily travelled by pedestrians; Shoulders at Ministry of Transportation (MTO) standards are preferred over sidewalks
- Consistent construction standards when building sidewalks: no California curbs, well marked curb cuts, no bevelling of cement joints, no interlocking bricks, flush transfer from sidewalk to roadbed at corners (usually one is higher than the other), ramps at corners often not wide enough for cross walk marking
- Tilted sidewalks (in the winter, half the sidewalk is treacherous, non-useable and too narrow)

### Bicycles, Trails and Pathways
- Bicycles riding on sidewalks is illegal and this needs to be enforced; Stop parking bikes on sidewalks; Provide more E-bikes, bike parking, and bike lanes
- On trails, cyclists ride three abreast and it is difficult for seniors to get out of the way; Trails need to be segregated; there should be a divide in the lane even if it is a
white line to separate walkers from bicycles, skate boarders and roller bladers.

<table>
<thead>
<tr>
<th>Traffic Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Designate Pedestrian Malls</td>
</tr>
<tr>
<td>• Plan for places where pedestrians and cars co-exist</td>
</tr>
<tr>
<td>• No right turn on red</td>
</tr>
<tr>
<td>• More citations should be handed out for cars that don’t come for a full stop at a red light or stop sign</td>
</tr>
<tr>
<td>• Speed is a huge problem</td>
</tr>
<tr>
<td>• One-way versus two-way streets</td>
</tr>
<tr>
<td>• Pave more of the downtown streets</td>
</tr>
<tr>
<td>• Venue signage (wayfinding)</td>
</tr>
<tr>
<td>• Calculating a rate of risk for intersections might provide some further insight for potential high risk intersections that have not been identified because they do not yet have a high pedestrian use</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pedestrian Comfort</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Snow removal, particularly at intersections is very poor; Provide continuous maintenance of sidewalks; Enforce businesses to clear their sidewalks of snow more often</td>
</tr>
<tr>
<td>• The real problem is the crosswalks at the corners. The city snow plows push the snow to the side of the road and block the crosswalk. It is almost impossible for a senior to cross the street yet some do try and usually injure themselves. It is not clear who should clear the snow at the corner to open up the crosswalk.</td>
</tr>
<tr>
<td>• Better Lighting; Enforce businesses to provide lighting in back alleys, back of buildings</td>
</tr>
<tr>
<td>• Replant new trees for shading; Shrubs and bushes/hedges often encouraged on sidewalks; Trees cannot be too close to the corner; When planting trees, trenches have a much greater success rate than a square cutout</td>
</tr>
<tr>
<td>• Every bus stop should have a shelter; Every bus shelter should be in a safe place</td>
</tr>
<tr>
<td>• Consistent safety supervision: Bicycles and skateboards continue to use sidewalks,</td>
</tr>
</tbody>
</table>
many wheelchairs and scooters go on the road, many wheelchairs and scooters go too fast and do not consider pedestrians, there is no rescue program for people who have problems with their mobility devices, often wheelchairs have to wait for several HSR buses before getting necessary transportation to appointments (DARTS wants more disabled people to use HSR buses but the service/reliability is not there), there are few designated shops in the downtown for DARTs passengers to be unloaded (especially Stelco Tower)

- Non-electric scooters are becoming hazardous
- Doors opening onto sidewalks can be problematic
- Downtown streets and sidewalks are ill-kept (littered with cigarette butts and garbage and stains); Need to walk around large gathering of persons that are smoking; to make the downtown more friendly there should be a law that cigarette butts should not be thrown on the sidewalk and no smoking within four metres of the entrance to any building.

**Toolbox Solutions**

- Top five toolbox solutions: (1) Walking along the street - Safer driveway, crossings at sidewalks, crossings at access; (2) Walking along the street - Improved Sidewalks, buffered medians, street trees (3) Policies - Transit stop locations, connections, crosswalk near stop, wider area at stop (4) Crossing the street - Intersection design/geometry, reduced crossing widths, better pedestrian wait areas (5) Walking along the street - Road diets, lane diets.

**Other considerations**

- Age friendly cities
- Integrated transit stop
- Issues regarding eastward transit service
- Better student bus passes (cheaper) for the secondary students (HSR)
- Bus stops in the city need better planning. Many times there are poles, refuse containers or gardens right in front of one of the exit doors from the bus. The curb height needs to be more in line with the bus floor so the step off is not too deep. The bus stops should be on the far side of the intersection, especially for articulated buses. When a stop is before the intersection the back door is too far from the curb and a person has to step down to the road making it very difficult for
seniors

- Park supervisors during the summer
- A Pedestrian Advisory Committee is long overdue; A member of the Seniors Advisory committee should be on the committee
- Routine accommodation is a good foundation
- Laws and regulations should be based on need, common sense, and ‘science’; There is no point in passing regulations if they don’t make sense or are not enforced

During the Public Information Centre, participants were asked to select the top five (5) toolbox solution themes identified on an interactive panel to improve pedestrian mobility in the City. Table 14 summarizes the input received at each Public Information Centre.

*Total Score represents the addition of “like” (positive) and “dislike” (negative). The sum gives an idea of relative importance.*

**Table 14: Public Selection of Toolbox Solution Themes**

<table>
<thead>
<tr>
<th>Walking along the street</th>
<th>Sept. 8/11</th>
<th>Sept. 10/11</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like</td>
<td>Dislike</td>
<td>Like</td>
<td>Dislike</td>
</tr>
<tr>
<td>Improved sidewalks, buffered medians, street trees</td>
<td>+11</td>
<td>-1</td>
<td>+7</td>
</tr>
<tr>
<td>Roadside parking management, restrictions at intersections, reverse angle parking</td>
<td>+4</td>
<td>0</td>
<td>+2</td>
</tr>
<tr>
<td>Road diets (Reduce no. of lanes), Lane diets (reduced width)</td>
<td>+6</td>
<td>0</td>
<td>+2</td>
</tr>
<tr>
<td>Safer driveway, crossings at sidewalks,</td>
<td>+4</td>
<td>-1</td>
<td>+1</td>
</tr>
</tbody>
</table>
In addition, participants were asked to share site specific issues or concerns regarding pedestrian mobility in the city. Issues and concerns were provided either...
by the comment sheets and/or interactive Public Information Centre boards included in Appendix 11.

Other Comments

The City of Hamilton received one letter from the Assembly of First Nations in response to the second Notice of Public Information Centre. The Assembly of First Nations explained that its organization did not have entitlement to the lands referenced in this study and could not comment on behalf of the First Nation communities in the area. The Assembly of First Nations recommended that the City provide project information to First Nation communities in the vicinity of Hamilton. Contact information was provided for the Six Nations of the Grand River and Mississaugas of the New Credit First Nation.

7.3.6. Public Review Period

A final Pedestrian Mobility Plan report will be prepared at the conclusion of this study to document the decision making process that led to the recommended procedure for selecting toolbox solutions and policy changes for the purpose of improving pedestrian mobility in the City of Hamilton. The Pedestrian Mobility Plan report will be placed on the public record for a minimum 30-day review period.

A ‘Notice of Study Completion’ will be advertised in the Hamilton Spectator, and on the City’s website, to announce when and where the report will be available for public review, along with details on how the public can submit questions and/or written comments. The report will be filed with the City Clerk in Hamilton City Hall and made available for review at various Municipal Centres in the City. The Notice will be advertised in the local community newspapers as well as the Hamilton Spectator, and mailed to individuals and agency representatives on the updated study contact list.

As this Pedestrian Mobility Plan does not recommend individual projects, the Class Environmental Assessment provision for a Part II Order does not apply at this stage of the planning process. Environmental Assessment Act approvals will be obtained during future Class Environmental Assessment studies for individual projects, where applicable.

7.4. Alternative Solutions

Below are the alternative solutions identified to address the problem statement:

- Alternative 1: Do Nothing
  - No change to the pedestrian environment

- Alternative 2: Develop and implement toolbox solutions to enhance the pedestrian environment
  The toolbox solutions are designs intended to improve pedestrian environments by giving greater attention
to detailed pedestrian needs. The toolbox solutions comprise three groups:
- Toolbox solutions for Walking along the Street
- Toolbox solutions for Crossing the Street
- Toolbox solutions for Transit Stops
Each group includes a number of designs described in detail in the appendices.

- **Alternative 3:** Develop new and revised policies and standards to address applicable pedestrian environments
  These standards and policies include engineering and site design standards the City applies in development review and other internal reviews intended for traffic decision-making. This alternative is comprised of two groups:
  - New policies and standards applicable to specific pedestrian environments
  - Revised policies and standards applicable to specific pedestrian environments

- **Alternative 4:** Develop new and revised public education, communication and outreach programs. This alternative is comprised of four groups:
  - New education, communication and outreach program
  - Revised education, communication and outreach program
  - Outreach/enforcement
  - Monitoring

### 7.4.1. Evaluation of Alternative Strategies

The Municipal Class Environmental Assessment requires an environmental assessment of the alternatives to the undertaking. **Figure 9: Evaluation of Alternative Strategies** documents the evaluation used in this environmental assessment and recommends preferred alternatives. The analysis assumes the toolbox solutions will be implemented as components of larger projects, including future maintenance and infrastructure replacement. Policies, standards, education, communication and outreach programs will be implemented separately.

This evaluation relies on knowledge generated in this Pedestrian Mobility Plan preparation, expert opinion and municipal staff and public review and comment. Specifically, the analysis draws on:

- the collision and mobility analyses (subsection 7.3.2 and 7.3.3);
- the Pedestrian Advisory Group input (subsection 5.2.2);
- analysis of the Interactive On-Line Mapping (subsection 5.2.3.1);
- analysis of the On-Line Survey (subsection 5.2.3.2);
- public input gathered from Farmer’s Markets (subsection 5.2.3.3);
- public input gathered from Open Streets events (subsection 5.2.3.4);
• public input gathered from the Transportation and Healthy Living Fair (subsection 5.2.3.5);
• public input gathered from the Public Information Centres (subsection 7.3.5); and
• City staff and Councillor Workshops (subsection 5.2.3.6)

The analysis also draws on research undertaken to develop this Pedestrian Mobility Plan including:

• the Legislative Considerations outlined in Section 2;
• Planning Considerations outlined in Section 3;
• Operational Considerations described in Section 4;
• Communications Considerations outlined in Section 5; and
• Infrastructure Considerations described in Section 6.

The existing environment is described in Section 7.3, “Existing Conditions”, and includes: “Review of Best Practices and Lessons Learned” and “the Urban Transect and Context Areas”.

A study contact list was developed and used for prescribed public notices; two sets of public information centres (subsection 7.3.5); and a final public review period (subsection 7.3.6).

The Evaluation Criteria against which these alternatives are evaluated include three general environmental elements: the natural, cultural heritage, and socio-economic environments intended to capture traditional environmental concerns. Each alternative is evaluated against these environmental components.

The evaluation indicates whether the criteria can be met satisfactorily, unsatisfactorily or without effect. Generally, sidewalks exist throughout the City. Infrastructure reconstruction and maintenance may involve their replacement and application of selected toolbox solutions during reconstruction described as “routine accommodation”.

We expect little impact or no effect on natural heritage features. In the event there are potential impacts, these can be addressed in subsequent approvals associated with individual reconstruction projects. The same can be said for potential impacts on the cultural and heritage resources and socio-economic environments. Alternatively, given the available science and municipal commitments to the International Charter for Walking, the “do nothing” alternative does not achieve the improvements sought in this Pedestrian Mobility Plan or those strongly requested by the public.

Four specific criteria indicative of the improvements sought in this Pedestrian Mobility Plan and critical to implementation are also used to measure the alternatives. The “administrative, implementation, operations and maintenance criteria” is intended to address the implementation of new
legislative and policy considerations as well as responding to issues raised in consultations undertaken in the preparation of this Pedestrian Mobility Plan. The recommended procedure, “routine accommodation” will enable the City to address this criteria during subsequent decision making.

The “other modes of transportation” is intended to measure whether the alternatives can be implemented in reasonable harmony with other transportation modes (e.g., the automobile and cycling) and functions (e.g., goods movement). Potential conflicts between vehicular traffic and special functions such as goods movement can be addressed in the design and application of toolbox solutions.

The “emissions” criteria is intended to address “tail pipe” air quality issues, especially along major arterials, and ensure increased public health improvements achieved by increased levels of physical activity are not compromised by transportation emissions. The evaluation assumes by coordinating emissions with City mobile monitoring, measures can be taken to minimize potential impacts by alerting the public of elevated emissions so pedestrians can plan walking trips accordingly.

The “public health” criteria is intended to confirm which alternatives address the public health improvements sought in the reduction of built environment public health risks associated with chronic diseases and the sustainability improvements sought in subsections 1.4.1, “Public Health and Sustainable Communities” and 1.4.2 “Healthy, Complete, Sustainable”.

Alternatively, while the existing pedestrian environment provides a framework upon which to build and develop a safer and more interesting pedestrian environment, it performs poorly when compared to the improvements that can be made. While the “do nothing” alternative is not recommended to be advanced, there may be instances when the recommended routine accommodation process and environmental analysis required for subsequent approvals is undertaken where “do nothing” may be the final decision.

7.4.2. Identification of Preferred Alternative Strategies

This analysis concludes the “do nothing” alternative is not recommended while the application of toolbox solutions, both new and upgraded pedestrian policies and standards, and public education, communication and outreach programs are recommended to be advanced individually or in combination.
## EVALUATION CRITERIA

<table>
<thead>
<tr>
<th>EVALUATION CRITERIA</th>
<th>RECOMMENDATION</th>
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### List of Alternative Strategies

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<tr>
<th>1. Do nothing</th>
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<th>-1</th>
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<th>-1</th>
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<tbody>
<tr>
<td>a. No change to the pedestrian environment</td>
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<td>-1</td>
<td>-1</td>
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2. Develop Toolbox solutions to enhance the pedestrian environment

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<th>a. Toolbox Solutions for Walking along the Street</th>
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<th>+1</th>
<th>+1</th>
<th>+1</th>
<th>0</th>
<th>+1</th>
<th>+1</th>
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</thead>
<tbody>
<tr>
<td>b. Toolbox Solutions for Crossing the Street</td>
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<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
<td>+1</td>
<td>+1</td>
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<tr>
<td>c. Toolbox Solutions for Transit Stops</td>
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<td>+1</td>
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3. Upgrade Pedestrian Policies and Standards

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<th>+1</th>
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<th>+1</th>
<th>+1</th>
<th>+1</th>
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<tbody>
<tr>
<td>b. Revised policies and standards applicable to specific pedestrian environments</td>
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4. Develop Public Education, Communication and Outreach Programs

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<th>+1</th>
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</thead>
<tbody>
<tr>
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<td>+1</td>
<td>0</td>
<td>+1</td>
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<td>+1</td>
<td>+1</td>
</tr>
<tr>
<td>c. Outreach/enforcement</td>
<td>+1</td>
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<td>+1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+1</td>
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<tr>
<td>d. Monitoring</td>
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<td>0</td>
<td>+1</td>
<td>0</td>
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Note: Alternative Strategies may include combinations of any of the above.

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<th>Unsatisfactory</th>
<th>No Effect</th>
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<td>-1</td>
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<td>0</td>
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<td>CONTEXT AREAS</td>
<td>EVALUATION CRITERIA</td>
<td>POLICY CONFORMITY</td>
</tr>
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<td>---------------</td>
<td>---------------------</td>
<td>-------------------</td>
</tr>
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<td>✓</td>
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<tr>
<td>Provide Sidewalk Buffers</td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>Provide Clearance for All Mobility Levels</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Raised Shoulders</td>
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<td>✓</td>
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<td>✓</td>
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<td>✓</td>
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<tr>
<td>Minimize Driveway Width</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Prohibit Driveways at Intersections</td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>Consolidate Driveways, where possible</td>
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<td>✓</td>
</tr>
<tr>
<td>Provide Right-In, right-out access only</td>
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<table>
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<th>Cost Comparison</th>
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<td>-1</td>
<td>Possible Negative Effect</td>
<td>High</td>
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<td>Criteria not applicable (note: Natural, Cultural and Socio-Economic Environment criteria were considered in all cases to meet the intent of the Class FA process)</td>
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* Includes private and public costs
## Toolbox Solutions

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<th>CONTEXT AREAS</th>
<th>EVALUATION CRITERIA</th>
<th>POLICY CONFORMANCE</th>
<th>IMPLEMENTATION</th>
<th>COST</th>
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<td></td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td></td>
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<tr>
<td></td>
<td>Village Hamlet</td>
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<tr>
<td></td>
<td>Urban Village</td>
<td></td>
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<tr>
<td></td>
<td>Natural Habitat</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Urban General</td>
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<td>Urban Core</td>
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<tr>
<td></td>
<td>Downtown</td>
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<tr>
<td></td>
<td>Industrial</td>
<td></td>
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</table>

### Signals

- Pedestrian indicator (count down signal)
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Pedestrian interval timing crossing
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Protecting left turn phase
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Audible Signals
  - Natural: 0 ✓ ✓ ✓ ✓
  - Rural: 0 ✓ ✓ ✓ ✓
  - Village Hamlet: 0 ✓ ✓ ✓ ✓
  - Urban Village: 0 ✓ ✓ ✓ ✓
  - Natural Habitat: 0 ✓ ✓ ✓ ✓
  - Urban General: 0 ✓ ✓ ✓ ✓
  - Urban Core: 0 ✓ ✓ ✓ ✓
  - Downtown: 0 ✓ ✓ ✓ ✓
  - Industrial: 0 ✓ ✓ ✓ ✓
  - Cost: $5

- Half signals I.P.S. (Integrate Pedestrian Signals)
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Mid-block signals I.P.S.
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Automatic pedestrian detection
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Grade Separation
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

### Lighting

- High visibility crosswalks
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Marked crosswalk locations
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Provide Medians
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

### Intersection Geometry

- Modify design of curb side
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Modify design of curb extension/bump out
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Modify design of curb radius
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Design for skewed intersection
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Right turn slip-lane design
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

- Regulatory signs
  - Natural: ✓ ✓ ✓ ✓ ✓
  - Rural: ✓ ✓ ✓ ✓ ✓
  - Village Hamlet: ✓ ✓ ✓ ✓ ✓
  - Urban Village: ✓ ✓ ✓ ✓ ✓
  - Natural Habitat: ✓ ✓ ✓ ✓ ✓
  - Urban General: ✓ ✓ ✓ ✓ ✓
  - Urban Core: ✓ ✓ ✓ ✓ ✓
  - Downtown: ✓ ✓ ✓ ✓ ✓
  - Industrial: ✓ ✓ ✓ ✓ ✓
  - Cost: $5

### Scoring Criteria

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<th>Scoring Criteria</th>
<th>Implementation</th>
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<td>+1</td>
<td>Possible Positive Effect</td>
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<tr>
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<tr>
<td>-1</td>
<td>Possible Negative Effect</td>
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<td>Criteria not applicable (note Natural, Cultural and Socio-Economic Environment criteria were considered in all cases to meet the intent of the Class EA process)</td>
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<td>CONTEXT AREAS</td>
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### Scoring Criteria

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<th>Scoring Criteria</th>
<th>Implementation</th>
<th>Cost Comparison</th>
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<tr>
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<tr>
<td>-1</td>
<td>Possible Negative Effect</td>
<td>Low $</td>
</tr>
</tbody>
</table>

N/A Criteria not applicable (note Natural, Cultural and Socio-Economic Environment criteria were considered in all cases to meet the intent of the Class EA process)
8. STEP FORWARD

8.1. Introduction: Paradigm Shift, A New Pedestrian Approach

This Pedestrian Mobility Plan focuses on rebalancing pedestrian and vehicular mobility on Hamilton's streets by providing for pedestrians needs, while accommodating vehicular traffic within the streetscape. For the past 50 years, transportation geometric design has started at the centre line and moved outwards to the periphery property lines ensuring adequate space for vehicular traffic. The remaining space left over at the edges is used to accommodate pedestrian and cycling needs.

The Pedestrian Mobility Plan implements a paradigm shift from traditional road design by starting with the requirements for pedestrians and cyclists first at the R.O.W. and working to the centre line. In this regard, conventional wisdom was that lane widths were absolute, whatever was left over could accommodate pedestrians or cyclists.

These recommended improvements will be implemented using a process named “routine accommodation”. When streets are reconstructed for infrastructure repair, replacement, or upgrades, and civic streetscape improvements, pedestrian improvements will be implemented as part of the overall project. Over time, this program of “routine accommodation” will recreate a pedestrian environment that is safer and more interesting thereby enabling many more functional pedestrian trips for shopping, work, play and civic life.

The following subsections describe the analysis and principles used to design “routine accommodation”. Subsequently the process is described including: site inventory; review; evaluation; and implementation.

Summary implementation recommendations conclude this section.

8.1.1. Integrating Principles

The following integrating principles were used to analyze the public input, applicable policy and inventory of existing conditions and to draft this Pedestrian Mobility Plan’s routine accommodation planning process.

The Application of Evidence Based Design: McMaster University’s Faculty of Health Sciences innovated the concept of
evidence based health care. Evidence involves taking the evidence on chronic disease risks associated with physical inactivity, and applying it to improve pedestrian environments by carefully considering the streetscape and City decision making environments when based design for pedestrian mobility decisions are made. This approach was adapted for the Pedestrian Mobility Plan by employing context-specific and problem based analyses (see attached Figure 13, Policy and Evidence Based Practice, Policy and Design).

Figure 13: Policy & Evidence Based Practice, Policy & Design
The importance of being Resilient: Pedestrian mobility improvements will increase the economic, social and cultural resilience of Hamilton’s neighbourhoods by making it possible for residents to travel on foot to many more functional destinations. This will help Hamilton’s residents, businesses and institutions address a wide range of economic, social, environmental and public health challenges facing the City now and in the future.

Transportation Planning and Design is Changing: National and international geometric and design standards are changing. The Transportation Association of Canada is in the midst of revising its recommended road geometric designs. The United States Highway Administration is also revising its street and highway design guidelines to address complete streets legislation. The toolbox solutions and selection planning process recommended in this Pedestrian Mobility Plan, support this transition by providing alternative designs for pedestrian movement that can be used now while existing geometric street standards are updated.

The Importance of being Consistent: Several stakeholders and community groups have undertaken studies and made recommendations for neighbourhood pedestrian street improvements. Current City transportation practices don’t enable some of these improvements to be made within a consistent policy framework. The toolbox solutions and “routine accommodation” planning procedure are intended to provide a consistent approach to improving pedestrian mobility.

More attention to Detail is needed: Pedestrians experience the streetscape much more intimately than cyclists or motorists because they are traveling slower and interact much more with the streetscape. Consequently, more attention to detailed design is needed to create interesting pedestrian environments. The context areas developed in this Pedestrian Mobility Plan, are intended to focus attention on this detail and the improvements that are needed for each specific area.

More attention to Safety is needed: The collision analysis contained in subsection 7.3.2 and public comments summarized in section 5, indicates: that pedestrian collision fatalities and injuries occur predominantly at signalized arterial street crossings; that the public considers arterial intersection crossings to be difficult and sidewalks which are not buffered from traffic flows are perceived to be threatening. Pedestrian intersection crossing designs and mid-block crossings need to be improved if the increased pedestrian activity sought in the City Official Plan, Transportation Management Plan (T.M.P.), The Big Move and Provincial Growth Plan and Provincial Policy Statement 2005 is to be achieved safely.

One Size doesn’t fit all: Public Health science on physical activity and the built environment has become a major forum
for assessing built environment improvements. The findings emphasize urban built environments and don’t take into account the variety of streetscapes found throughout Hamilton’s regional setting. The context area analyses and toolbox solutions contained in this Pedestrian Mobility Plan and the “routine accommodation” planning process are intended to apply this science appropriately and consistently throughout the City.

The shortest Distance between two points: The shortest distance between two points is a straight line. However, for a pedestrian, the shortest distance is a function of intersection density and block length. In general, higher intersection densities and shorter block lengths help achieve shorter walking distances from a pedestrian perspective. Pre 1949 built urban context areas, tend to have higher intersection densities and shorter block lengths. Post-1949 suburban neighbourhoods have curvilinear streetscapes, longer block lengths and cul-de-sacs making function walking trips very difficult. These suburban neighbourhoods will be especially difficult to retrofit to pedestrian environments.

The Public Realm is of Crucial Importance: Attention to design detail within the public realm is the most immediate and constructive measure that can be taken to improve pedestrian safety and interest in the near and mid-terms. The City has sole responsibility for the development, maintenance and design of City streets. The toolbox solutions developed in this Pedestrian Mobility Plan, represent a significant innovation and contribution to improving pedestrian mobility and addressing safety and comfort within the pedestrian environment, whether walking along the street, crossing the street or accessing public transit.

Official Plan Designations and Policy are Transformative: The Official Plan is a vision of what the community wants to become in the future. This Pedestrian Mobility Plan is intended to improve existing pedestrian conditions now: while providing many of the tools necessary to implement the Official Plan’s vision in the future. This will be in a manner consistent with its policies as new development and redevelopment occurs.

New Challenges need to be anticipated and addressed: Increased cycling activity and the introduction of newer mobility devices such as e-bikes and scooters represent growing challenges and conflicts with pedestrian mobility. Clarification of the operational standards applicable to each device as well as research and development of appropriate operating standards and education and enforcement policies will be required to limit potential future conflicts.
8.2. **Description of Toolbox Solutions, Policies & Programs**

The improvement of pedestrian mobility in the city requires a series of design solutions and greater attention to detail. This report sets out a systematic method for identification of issues, and alternative solutions using toolbox solutions, policies and/or programs.

The range of solutions presented in *Figures 10 through 12* broadly address three (3) areas of the street. **A) Walking Along The Street**, **B) Walking Across The Street**, and **C) Public Transit**.

These toolbox solutions apply to a wide variety of circumstances which can be applied where appropriate within a City context area on streetscapes that are being renewed, replaced or reconstructed.

Current design standards, throughout the City, are in a state of transition and need to be standardized. Historically, these standards have focused on the requirements for vehicular travel. These standards are now evolving to balance the requirement of vehicles, pedestrians and cyclists together.

The range of toolbox solutions provided in this report, are based on best practices and current solutions from many sources across North America. These toolbox solutions can be utilized individually, but are most effective when combined together within each context area to resolve particular issues/conditions. Various City Departments (i.e., Public Health) or agencies (i.e., Green Venture) implement programs and policies to encourage pedestrian mobility. These efforts need to be better coordinated to provide comprehensive solutions and approaches consistently throughout the City.

8.2.1. **Routine Accommodation**

“Routine Accommodation”, *(Figure 14)*, is a process where changes to improve pedestrian streetscapes utilizing toolbox solutions, are regularly employed on each and every streetscape project as a matter of course. The process comprises four steps: **Site inventory; Review; Evaluation; and Implementation.** The decision making process includes a screening, scoring and selection tool which is employed to implement appropriate toolbox solutions making walking safer and more interesting. This tool will enable staff to make appropriate, objective, and traceable/defensible decisions. Each of these steps are addressed in the following subsections. See Appendix 17, Routine Accommodation and Toolbox Solutions.

8.2.2. **Site Inventory**

Where road and street reconstruction and maintenance projects occur, or where the implementation of civic projects such as the Downtown Mobility Street improvement and the implementation of Rapid Transit or other City initiatives
occur, the responsible staff should apply the adapted Complete Streets Checklist to the street/project.

This checklist, when completed, generates basic streetscape data and assists decision making on the existing pedestrian and vehicular environments providing an important foundation on which candidate toolbox solutions, policies and programs can be evaluated and preferred solutions selected for implementation.

The checklist itemizes a detailed menu on controlled intersections and roadway sections and intersections. Using the basic information on topics such as pavement markings, signalization, sidewalks, known issues to be resolved, public input, etc., together with background information on the context area(s) in which the street is situated, important inventory information will be generated for analysis and selection of appropriate toolbox solutions. The checklist will also help the design team’s analysis and if engaged, Pedestrian Mobility Advisory Committee (P.M.A.C.) to think about the pedestrian streetscape improvements needed.

Context Area descriptions and mapping can be used to provide neighbourhood context and identify local opportunities and constraints that may impact the selection of appropriate pedestrian improvements. Figure 4, Destinations and Generators, will help provide a sense of significance of local destinations, especially those within 400 metres, and potential usage of the local existing sidewalk infrastructure.

Official Plan mapping of City nodes and corridors as well as application of the Transit Oriented Development Guidelines will provide a policy overview within which improvements should be considered. To the extent possible, streetscape projects should incorporate the pedestrian improvements needed to support planned future public transit projects, neighbourhood development strategies and secondary plans.

At the conclusion of the site inventory, the completed documentation can be reviewed with the Pedestrian Coordinator for further consideration and refinement.

8.2.3. Review

Using Figure 1, City Implementation Considerations, the Pedestrian Coordinator will summarize the completed checklist and context area mapping together with a project summary and determine which City Departments need to be involved in the review, evaluation and implementation of pedestrian improvements. The Departments may represent responsibilities ranging from operations, infrastructure, planning, legislative and communications and could include members of the Planning, Public Works and Public Health Department as well as Police Services and the Hamilton Street Railway.

The design of the Departmental team and the Pedestrian Mobility Advisory
Committee (P.M.A.C.) and the development of the Committee’s working procedures would benefit from drawing upon the substantial successful experience of other City committees such as: Clean Air Hamilton and community organizations such as the Bay Area Reclamation Council (B.A.R.C.).

The Pedestrian Coordinator may decide that advice from the Pedestrian Mobility Advisory Committee may or may not be required for individual projects. Many routine projects will not require Advisory Committee input when they are straightforward. However, that involvement should be sought where community stakeholder input i.e., Business Improvement Areas (B.I.A.), or specialized research would assist decision making. A decision to involve the Committee may be made by the Pedestrian Coordinator at the commencement of project review or alternatively, after the Departmental team begins its review if issues arise where advice may be warranted.

8.2.4. **Evaluation**

*Engineering; Equity; Encouragement; Education; Enforcement.*

With guidance from the Pedestrian Coordinator, the evaluation will consider the five “E’s”:

Decisions will balance engineering and appropriate toolbox solutions that address street function requirements. The first “E” is **Engineering.** A consistent set of engineering design standards is to be applied throughout the City considering the local context area. The Pedestrian Mobility Plan’s “toolbox solutions” represent the new pedestrian designs that need to be considered, to achieve the Pedestrian Mobility Plan’s goals and objectives. Some of these solutions are currently used by the City. Consistent application of these solutions on a City-wide basis is important.

**Equity,** address community equity issues such as the mobility requirements of its citizens between the ages of 8 and 80, no matter their abilities.

**Encouragement, Education** and **Enforcement** need to be addressed because the transition being undertaken is not only a design challenge. The transition also involves messaging in terms of **Encouragement:** i.e., walk to school and transportation demand management programming; **Education:** i.e., educating street users, cyclists and motorists, of needs and challenges increased pedestrian mobility poses and providing advice to pedestrians; and **Enforcement:** i.e., the conflicts inherent in the proliferation of different mobility devices that use the sidewalk and street as well as conflicts inherent in increased numbers of cyclists and pedestrian, especially where cyclists use sidewalks will need to be addressed.
More active communities will require greater education and more enforcement on matters such as cycling on sidewalks and sidewalk etiquette, particularly associated with increased electric mobility devices and cycling. Education and enforcement will be important elements to successful implementation of this Pedestrian Mobility Plan and existing programs will need to be enhanced or refined.

Using the Five “E’S”, the Pedestrian Coordinator and the Interdepartmental Review Team and, when engaged, the Pedestrian Mobility Committee, can assign priorities as to how design improvements might be paired with program considerations ranging from public transit to transportation demand management to “walk to school” programs to “proper” etiquette education and enforcement programs.

Using the Five “E’s“ and a series of policy and analytical prompts set out in the evaluation tables, Figures 10, 11 and 12, the Pedestrian Coordinator and the interdepartmental team will analyze the situation and select the toolbox solution(s) to be applied, together with any equity concerns and programming needed to address encouragement, education and enforcement considerations. The evaluation table prompts will raise general substantive considerations, the Pedestrian Coordinator and team member may wish to consider as they make decision.

The toolbox solutions are intended to reclaim the pedestrian environment by addressing:

- *walking along the street*;
- *crossing the street*; and
- *programs and policies*.

Each toolbox solution contains a brief description and image, graphic/diagram or photograph to explain the intent and illustrate the purpose of the solution. When used in combination, these are highly effective tools to improve pedestrian environments.

Official Plan and Provincial policy will also be addressed during the application of the evaluation tables and adjustments will be made to address conformity issues, if applicable, at this time. By considering the site and surround neighbourhood through the use of the checklist, context area descriptions and mapping, the site issues should be clarified for evaluation. By applying the evaluation table prompts, the factors to be considered in selecting countermeasures and supportive policies will be assessed.

The evaluation table prompts are organized on rows grouped in three broad categories: *“toolbox solutions to be applied walking along the street”*; *“toolbox solutions to be applied crossing the street”*; and *“toolbox solutions to be applied to policies”*. “Programs” and “Policies” are addressed separately and complete the rows. Within these broad categories, individual toolbox solutions
are prescribed for items such as “driveways”, “channelization”, “curbside management”, “signals”, “lighting”, “intersection geometry,” and “regulatory signs”. Policies and programs address encouragement, education and enforcement programs that support implementation of the toolbox solutions. The columns address four basic considerations to be addressed where appropriate in decision making:

- **context areas** identify where toolbox solutions are intended to apply;
- **evaluation criteria** to be applied when selecting the appropriate toolbox solution(s);
- **policy conformity** such as the appropriate official plan designation; and
- **implementation costs** provide costing orders of magnitude.

The context area columns provide direction on where toolbox solutions, policies and programs are appropriate and where they are not. Under evaluation criteria, the columns addressing “administrative, implementation, operations and maintenance” concerns address City considerations that need to be considered when solutions are applied.

The intent of these tables is to highlight considerations that will help guide staff and the Pedestrian Mobility Advisory Committee analyze and select solutions.

From this the preferred toolbox solution is selected and applied to the project design and contract documents.

### 8.2.5. Implementation

The project moves from design to implementation in this phase. The Pedestrian Coordinator will coordinate with the appropriate Department staff team responsible for construction /implementation. Monitoring and measurement of improved pedestrian environment is an essential element of this evidence based design approach and the implementation of this Pedestrian Mobility Plan. Preferably, before and after pedestrian activity counts will be monitored to assess the effectiveness of Plan implementation solutions. The Pedestrian Coordinator and the implementing Departments will make provision for an appropriate monitoring program.

Implementation costs are expected to add between 5 and 10% to the costs of each streetscape project. Many of the toolbox solutions are design changes with limited or no cost implications. Some are geometric changes or alternative techniques. When used together, these solutions are proven to resolve issues. Over a 20 year period, significant pedestrian improvements will have occurred on most streets throughout the City. Incremental, long term operating costs for some improvements will need to be considered as well.
Over time, it may be necessary to accelerate implementation of this Pedestrian Mobility Plan more rapidly. In the event this is the case, the planning procedure can be adapted to an advanced capital works implementation and is flexible enough to meet changing needs through additional analysis. In the recommendations subsection, specific programs are identified where coordination between pedestrian improvements and program implementation are addressed. In the event, implementation needs to be accelerated, strategic improvements can be considered where these programs are being implemented.
Figure 14: Routine Accommodation

- **STREET PROJECT**
  - Road reconstruction
  - Downtown Mobility Streets
  - Civic Project
  - Maintenance
  - Rapid Transit
  - Other City Initiatives

- **APPLY CHECKLIST / CONTEXT AREAS**

- **DEPARTMENTS**
  - Planning
  - Public Works
  - Public Health
  - Police
  - Stakeholders

- **PEDESTRIAN MOBILITY ADVISORY COMMITTEE**

- **THE FIVE “E’S”**
  - Engineering
  - Equity
  - Encouragement
  - Education
  - Enforcement

- **EVALUATE COUNTERMEASURES**
  - Consider site conditions
  - Consider site issues
  - Consider pedestrian issues
  - Apply countermeasures

- **SELECT APPLICABLE POLICIES PROGRAM**

- **IMPLEMENT SOLUTIONS**

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**Step Forward**

HAMILTON PEDESTRIAN MOBILITY PLAN

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8.3. Recommended Policies
With respect to the Official Plan and the Transportation Master Plan (T.M.P.), road classifications and standards should be reviewed in the future and amended to include provisions contained in this Pedestrian Mobility Plan. These amendments should be undertaken when the City of Hamilton refines its existing “complete streets” policy. With that policy in place, amendments can also be made to the Cycling and Pedestrian Mobility Plans.

8.4. Recommended Programs
These recommendations will assist in the implementation of existing and new City programs.

1. Pedestrian improvements should support work of the Transportation Management Association (T.M.A.), part of Smart Commute Hamilton, who is working with Sustainable Prosperity to develop a parking management pilot project to test theories and encourage the use of other transportation modes such as walking.

2. To the extent possible, use the "existing conditions checklist" to help analyze the existing pedestrian environment, and street infrastructure. Pedestrian improvements should be coordinated with the implementation of these guidelines and siting criteria and support the Transportation Demand Management Committee work on guidelines for new and existing developments especially large institutional uses and school siting.

3. The 2012 Transportation Summit inaugurated the development of a "complete streets strategy". This strategy will inventory the tools and examples that currently exist in Hamilton to link existing plans and policies together to ensure coordinated implementation. The Pedestrian Mobility Plan and the various analytical and design tools contained in this Plan, should be utilized to the extent possible in this inventory and subsequent implementation.

4. The Pedestrian Mobility Plan should be used to improve pedestrian links/infrastructure with the development of a "public bike share" system to help feed the A and B Line rapid transit corridors. In 2010 a business plan, station location analysis and market analysis were undertaken to ensure coordination with the development of the bike share system.

5. Pedestrian improvements should be linked to the Hamilton Car Share that currently operates downtown and in the west end, its expansion is supported with a small revolving line of credit by the City of Hamilton. Smart Commute Hamilton operates a regional ride-share that has become very popular and well used.

6. Pedestrian infrastructure and improvements should be linked to the Neighbourhood Development Strategy
that is working with community groups in selected neighbourhoods to develop community plans. To the extent possible pedestrian mobility plan should be used to help implement these community plans. Other important secondary planning programs, planning precincts as part of larger redevelopment areas are also underway and planned.

7. **Higher priority** should be given to pedestrian improvements in the **lower City** where pedestrian activity and collisions are higher, along major arterials, especially at intersections where street infrastructure is being improved.

8. Where pedestrian comments/concerns were raised during public consultations. Those were recorded and have been added to the public record and database of the City. Locations within 400 metres of pedestrian generators, pedestrian improvements should receive higher priority when street infrastructure projects are planned.

9. Municipal transportation demand management and “walk to school”, Urban Braille programs as well as programs encouraging walking, cycling and transit use, such as important pedestrian generators, i.e., schools, hospitals, institutions, will be considered during the application of the recommended “routine accommodation”. Where revisions to existing programs are required or where new programs may be needed, the amendment of existing and development of new programs should be co-ordinated with Pedestrian Mobility Plan implementation.

10. With the proliferation of electric bicycles and scooters, greater attention needs to be given to interactions between these devices and cyclists and pedestrians. Active healthy living will result in increased cycling and pedestrian activity. **Table 15** summarizes the vehicle types that utilize Hamilton’s sidewalks and multi-use Recreational Trails. Many vehicles potentially conflict with pedestrian movement and may pose safety concerns. Greater clarity is needed on impacts the growing use of these devices will have. This table is beginning point. **Monitoring is recommended to clarify the requirements and standards needed for these mobility devices and to develop educational, as well as required enforcement measures to ensure safety for all while minimizing potential conflicts with pedestrian movement** (this work needs to be coordinated with M.T.O.).
### Table 15: Vehicle Types, Multi-Use Recreation Trails and Sidewalks

<table>
<thead>
<tr>
<th>Vehicle Types</th>
<th>Human powered?</th>
<th>Permitted on:</th>
<th>Helmets</th>
<th>Operator Qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sidewalk</td>
<td>Multi-Use trail</td>
<td>On-street bike lanes</td>
</tr>
<tr>
<td>Low-speed vehicles (golf cart)</td>
<td>No, battery only</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Pocket Bikes</td>
<td>No, gas only</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Motorcycles/Motor-Tricycles (no pedals)</td>
<td>No, gas only</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>ATV’s</td>
<td>No, gas only</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Limited-speed Motorcycles</td>
<td>No, gas only</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Motor-assisted Bicycles (moped or can look like a typical bike)</td>
<td>Combo with gas</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>e-bikes: with impractical pedals</td>
<td>Combo with battery</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>e-bikes: electric power assist</td>
<td>Combo with battery</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>e-bikes: electric power ASSIST (pedaling required to engage electric power assist)</td>
<td>Combo with battery</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Bicycles</td>
<td>Yes (only)</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>In-line skates</td>
<td>Yes (only)</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Personal Transport (segway)</td>
<td>No, battery only</td>
<td>Yes for disability or letter carrier</td>
<td>Yes for disability or letter carrier</td>
<td>No</td>
</tr>
<tr>
<td>Personal Mobility Devices (wheelchairs)</td>
<td>No, battery only</td>
<td>Yes with 10 km/hr speed regulator</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Electric or Motor Scooters</td>
<td>Combo with gas or battery</td>
<td>Yes for electric (children only)</td>
<td>Yes for electric</td>
<td>No</td>
</tr>
</tbody>
</table>

**General Notes:**
- Rules for the general public, exceptions for service vehicles and police/emergency services
- Bicycles with training wheels treated the same as “Bicycles”
- Trailers/bikes/child-attached-one-wheelers do not change the classifications of the above table
- Toy vehicles are permitted on sidewalks and multi-use Recreational Trails, but are subject to enforcement/banishment if operating in a dangerous manner to the operator or to other users
- Law in place in October (2009) and the law incorporated a max weight of 120kg for e-bikes, this data to be confirmed
- This table represents our best information at this time. As additional information becomes available, revisions and additions will be made.

Source: City of Hamilton, Alternative Transportation, October, 2011.
8.5. **Recommended Guidelines**

8.5.1. **Engineering Standards & Urban Design Guidelines Update**

The existing City of Hamilton Development Engineering and Urban Design Guidelines need to be amended to include provision for the proposed toolbox solutions, especially where design standards do not include all the toolbox solutions. The Urban Design Guidelines and the Barrier-Free Guidelines are found within the Site Plan Guidelines. Both documents are guidelines, not standards. These standards need to integrate complete streets. In addition, greater emphasis on higher intersection densities together with either shorter block lengths and/or provision for mid-block crossings should be provided. These mid block crossings must align the new Book 15 guidelines. Secondary plans and subdivision approvals for greenfield development should also provide for higher intersection densities and shorter block lengths. Pedestrian trail development may be considered where endangered species habitat exists, subject to applicable studies being completed.

Many of the proposed toolbox solutions are utilized currently within the City. An updated, comprehensive set of Engineering Standards is needed to support the consistent application of toolbox solutions.

Public comments made in the CommunityWalk web site and survey responses indicate that residents within the suburban context area are walking. To the extent possible, arterial intersections should be the focus of pedestrian improvements, especially within 400 metres of pedestrian destinations. Connectivity in suburban residential neighbourhoods built after 1949 and especially in the Dundas Valley, along ravines and other natural features is often very limited. These context areas will require more future study.

8.5.2. **Preferred Sidewalk Widths – Context Areas**

Current, City of Hamilton sidewalk standards are applied on a City-wide basis which generally, requires sidewalks of 1.5m in width. The use of Urban Braille is required, consistent with current policies, which includes a 1.5m clear zone, plus two shorelines of .23m for a total width of 1.96m. In general, sidewalk widths should vary to address context areas needs. **Figure 7, Development Patterns – Context Areas** and **Figure 8, Existing Area Maps – Existing Conditions**, illustrate the types and locations of the context areas. Sidewalk widths must vary, based on the
number of users, types of users and adjacent land uses associated with the sidewalk/streetscape precinct. As well, sidewalk widths must vary depending on whether the sidewalk is adjacent to the road or, separated by a buffer/furniture zone. Sidewalks adjacent to arterials require more width for safety/comfort and to accommodate utility poles, lights, snow storage and trees between the clear zone and the curb.

**Figure 7, Development Patterns – Context Areas**, illustrates the gradient of land uses across the City from the natural areas through to the industrial area. In the rural areas, sidewalks may be replaced in function by multi-use recreational trails or widened shoulders with painted markings. By contrast, the downtown and urban core zones have the highest volume of use and most intense cross-section of user groups and/or mobility devices.

Pedestrian mobility is inclusive for walking, running, strollers, scooters, wheelchairs and walkers. In the urban context, the concurrent use will drive the requirement for increased sidewalk widths. City of Hamilton T.O.D. guidelines, suggest sidewalk widths for urban nodes as 1.8m-2.5m wide, up to 4.5m in higher traffic areas, with 3.5m as an ideal width. The City T.O.D. notes that sidewalks within 400m of public transit stops should be increased to accommodate higher user volumes.

This is a reasonable start, however, a number of other factors need to be considered which will assist in refining this guideline in the future to create appropriate sidewalk widths in each context area. Sidewalk widths within a context area can and should vary, depending on adjacent land uses. For example, within each zone, residential housing dominant areas may have a narrower sidewalk width than a commercial or shopping district within the same context area.

Unobstructed, “clear zones” for walking, like those referred to in Urban Braille, require minimum operating clear widths which are free of street furniture, trees, light poles, bus shelters, other obstructions or appurtenances. This is consistent with the A.O.D.A. Built Environment Standards. The area that contains the trees, lights and other items is referred to as the buffer or furniture zone.

Sidewalk widths must also increase in width when a sidewalk is adjacent to the curb, without a buffer zone between users and vehicles as a safety measure.
Sidewalk Corridor
The Zone System

Sidewalk corridor extends from the edge of roadway to the edge of right-of-way:

- Curb zone
- Furniture zone
- Pedestrian zone
- Frontage zone

The Zone System - Summary

Residential street
Additionally, when a sidewalk is adjacent to shopping/retail and restaurants or store front shopping, the sidewalk width should increase to accommodate increased volume, window shopping, street cafes, grocery stands, etc. These factors must also be considered when evaluating, selecting and applying the toolbox solutions contained in this Plan.

Subsection 8.5.4, Physical Improvements, discusses street furniture, trees, etc. These areas and elements must also be considered carefully. Sidewalk widths for the context areas are not a standard to be applied universally across the City, but rather, the sidewalk widths must consider the context area, adjacent uses, destinations and generators of activities, transit stops and retail/commercial areas. Table 16 outlines recommended minimum sidewalk clear zone design widths for each of the context areas. Where sidewalks are adjacent to road edges (no buffer zone), the sidewalk is wider to accommodate roles and provide a safer separation to vehicles. Conversely, where sidewalks have a buffer zone, the width is decreased.
as the safety aspect is increased in the buffer/furniture zone. Sidewalk widths adjacent to commercial, retail/shopping are increased to allow for the frontage zone.
Table 16: Context Area Sensitive – Recommended Sidewalk Clear-Zone Widths

<table>
<thead>
<tr>
<th>Affected Context Areas</th>
<th>Situational Setting</th>
<th>Proposed Clear-Zone Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural</td>
<td>• Multi-use Recreational Trail • Paved Shoulder (where applicable)³</td>
<td>• Minimum 2.0 Metres • As per Cycling Master Plan</td>
</tr>
<tr>
<td>Rural</td>
<td>• Multi-use Recreational Trail • Paved Shoulder (where applicable)³</td>
<td>• Minimum 2.0 Metres • As per Cycling Master Plan</td>
</tr>
<tr>
<td>Village-Hamlet</td>
<td>• Multi-use Recreational Trail • Paved Shoulder (where applicable)³</td>
<td>• Minimum 2.0 Metres • As per Cycling Master Plan</td>
</tr>
<tr>
<td>Urban-Village</td>
<td>• Local, Collector, Arterial Roads • Adjacent to high pedestrian generators³</td>
<td>• Minimum 1.5 Metres • Minimum 2.0 Metres</td>
</tr>
<tr>
<td>Suburban</td>
<td>• Local, Collector, Arterial Roads • Adjacent to high pedestrian generators³</td>
<td>• Minimum 1.5 Metres • Minimum 2.0 Metres</td>
</tr>
<tr>
<td>Urban General</td>
<td>• Local, Collector, Arterial Roads • Adjacent to high pedestrian generators³</td>
<td>• Minimum 1.8 Metres • Minimum 2.5 Metres</td>
</tr>
<tr>
<td>Urban Core</td>
<td>• Local, Collector, Arterial Roads • Adjacent to high pedestrian generators³</td>
<td>• Minimum 2.0 Metres • Minimum 3.5 Metres</td>
</tr>
<tr>
<td>Downtown</td>
<td>• Local, Collector, Arterial Roads • Adjacent to high pedestrian generators³</td>
<td>• Minimum 2.0 Metres • Minimum 3.5 Metres</td>
</tr>
<tr>
<td>Industrial</td>
<td>• Case-by-case basis, includes business parks</td>
<td>• Minimum 1.8 Metres</td>
</tr>
</tbody>
</table>

¹ The recommended sidewalk widths includes the proposed 1.5 metre clear width identified within the AODA guideline.
² Paved shoulders identified within the Hamilton Recreational Trails Master Plan (2007) and the Cycling Master Plan may also serve for pedestrian use.
³ High pedestrian generators include, but are not limited to schools, hospitals, commercial districts (e.g., BIAs, downtown), major employers, etc.
## Table 17: Recommended Sidewalk Width Cost Implications

<table>
<thead>
<tr>
<th>Sidewalk Width</th>
<th>Cost¹ One-side Per KM</th>
<th>Cost¹ Two-sides Per KM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 Metres</td>
<td>$85,000</td>
<td>$170,000</td>
</tr>
<tr>
<td>(existing minimum – includes space for signs and utilities, etc. therefore clear width maybe less than 1.5 metres)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum 2.0 Metres</td>
<td>$114,000</td>
<td>$228,000</td>
</tr>
<tr>
<td>(1.5 Metres clear width, plus space for signs, light poles, utilities, etc., and increase pedestrian demand relating to land use)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum 3.5 Metres</td>
<td>$198,000</td>
<td>$396,000</td>
</tr>
<tr>
<td>(1.5 metre clear width plus space for signs, light poles, utilities, etc., and high pedestrian generators²)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Unit cost based on $85 per square metre – does not include engineering cost (this cost may vary depending on situational setting) – all dollar figures are rounded to 2012.
² High pedestrian generators include, but are not limited to schools, hospitals, commercial districts (e.g., BIAs, downtown), major employers, etc.
Sidewalk widths must fit within the road R.O.W., in some cases, given the existing urban infrastructure, or R.O.W., road lane widths may need to be modified to fit the road and sidewalks within the existing R.O.W.

8.5.3. Pedestrian Lighting

When lighting is designed and installed to nationally recognized standards, safety and security is improved. It is difficult to measure or predict the exact benefits due to the large number of variables. In addition to security benefits, good night time illumination includes benefits such as:

- Enhancement of the City’s image.
- Improved visibility of the Downtown.
- An enhanced feeling of comfort.
- Increased public night usage/enjoyment of the Downtown

When undertaking the design of pedestrian facilities, there is often a disconnect between those who design the lighting and those who design the surrounding environment. For example the surroundings (sidewalks and building surfaces) have reflective properties which impact lighting. Published sidewalk lighting levels do not take in account these reflective properties and can be misleading as the reflective properties of the sidewalks and buildings have an impact on the overall brightness and visibility. Visibility can be improved by using light coloured building finishes which reflect light much better than dark finishes.
Figure 15: Examples of Sidewalk Lighting

Figure 15: Examples of Sidewalk Lighting, shows two examples of how the reflective properties of the sidewalk and buildings can impact visibility. The open sidewalk in the left figure together with the reflective building and sidewalk surfaces, enhance the lighting which aids long range visibility and surveillance creating a feeling of comfort. The open sidewalk in the left figure together with the reflective building and sidewalk surfaces, enhance the lighting which aids long range visibility and surveillance creating a feeling of comfort. The figure on the right illustrates the sidewalk and building are dark and don’t reflect light as well as the lighter surfaces in figure on the left. Though the recommended sidewalk illuminance levels don’t take in account building and sidewalk surface reflectances, they can be a much greater factor with respect to visibility and creating a feeling of comfort than light levels themselves.

Selecting the reflective properties of the building and sidewalk will play a major factor with respect to visibility. The City of Hamilton should encourage architects and developers, to design building and sidewalk with good reflective properties (30% or greater) to enhance the sidewalk lighting and improve visibility. This is significant in the downtown where development is very dense and can have a positive impact on lighting, visibility and safety.

Visibility on the sidewalk can also be reduced where trees block or filter the pedestrian lights. Street trees block light and create shadows which reduce uniformity and visibility. Trees and lighting should be considered together in lighting designs and where required, additional lighting should be added to mitigate light blockage from trees.

Pedestrian lighting should follow the recommendations noted in the City of Hamilton Outdoor Lighting Study. Lighting for pedestrians should be designed specifically for pedestrians, which in some cases, may require a separate lighting system from the roadway in order to meet the required lighting levels. When
designing pedestrian lighting, the designer may consider the back light from the roadway lighting, which will in many cases, will provide a suitable level lighting. In urban areas with high pedestrian activity a separate lighting system may be required with shorter (3.5-5m high) pedestrian scale lighting. Examples of pedestrian scale lighting are shown in Figure 15: Examples of Sidewalk Lighting above. Surface reflectance and potential lighting blockages such as trees and awnings should be considered when undertaking a lighting design as they can greatly impact the results of lighting uniformity.

8.5.4. **Physical Improvements**
(trees, pedestrian amenities, benches, waste receptacles, signs)

As streetscape projects, road improvements, capital works and maintenance are undertaken, the application of toolbox solutions will require modifications to both the Urban Design & City Engineering Standards.

Based on extensive public input, **street trees** and **comfortable, safe sidewalks** were in the top three (3) priorities listed by the public.

Currently, street trees are generally not allocated an adequate space for the amount of soil, width of tree pit or area needed to properly grow a tree. Trenches
3m wide are required along roadsides to adequately accommodate street trees. Soil root zones should be as wide and long as practical to accommodate multiple trees within the furniture(buffer zone. Specific dimensional details need to be reviewed with Urban Forestry Staff.

Adequate street furniture, including benches, waste receptacles, signage and other amenities such as newspaper boxes, notice posts/wayfinding all need to be integrated into the streetscape. Street furniture needs are context area sensitive and must consider the anticipated volume of uses, A.O.D.A. concerns and mobility issues. Specialty areas with sidewalk shopping, window displays, cafes, grocery stands also need to be integrated carefully into final designs.

The intention is to include these elements, including street lights and trees, into a zone which, as a result, maintains the recommended clear sidewalk zones.

8.5.5. Monitoring Plan /Evaluation

Existing pedestrian monitoring data is limited in Hamilton. In 2011, the City acquired pedestrian/cycling counters to monitor pedestrian/cycling use on selected sidewalks and multi-use trails in the City. These mobile monitors can be moved to various locations to obtain baseline data to apply in implementing the Pedestrian Mobility Plan.

Pedestrian monitoring data will benchmark and confirm the net benefit of proposed enhancements. Post construction monitoring will also provide an indication of the effectiveness of different pedestrian designs.

As road/streetscape reconstruction and maintenance projects advance, ongoing monitoring, post construction, will confirm overall changes in pedestrian movements. This benchmark will assist with confirmation that the objectives of this study are being achieved and the toolbox solutions used are successful.

The Transportation Master Plan (T.M.P.) currently incorporates performance measures for numerous transportation indicators including pedestrian activity from available sources. The City-wide Transportation Master Plan identified a target of 15% trips made by walking and bicycle. This target will continue to be monitored as part of that existing program to track changes in the City-wide travel mode splits.

In addition to these existing indicators, the City is also currently engaged in a pilot program to benchmark Active Transportation (i.e., pedestrian and cycling) activity along existing trail corridors. Year-one of this pilot program is currently being reviewed to determine the effectiveness of data collection to input into the various City decision-making processes. An information update will be provided to council regarding this program in early 2013.

In addition, the creation of a Pedestrian Mobility Advisory Committee (P.M.A.C.) as
an advisory committee of City Council is recommended to assist in creating a more walkable City. The mandate of the committee is to aid in providing a safe and accessible pedestrian environment for pedestrians of all ages and level of mobility through improvements to the existing road network for both residents and visitors, and by promoting safe and responsible practices of all modes of travel for commuting and recreation.

8.6. **Next Steps**

Sufficient direction exists in the Official Plan and Transportation Master Plan to provide authorization for implementation of this Pedestrian Mobility Plan. With the approval of this Pedestrian Mobility Plan, Environmental Assessment Act approvals will have been achieved for the recommended “routine accommodation” planning procedure and menu of toolbox solutions. City of Hamilton Engineering Guidelines and Urban Design Guidelines for various areas of the City should be amended as soon as possible, to be consistent with this document and ensure a smooth transition and optimal use of toolbox solutions going forward.

The “Air Quality Health Index” replaced the “Air Quality Index” in the City of Hamilton during the summer of 2011. The new online index, which is found on Environment Canada website, provides guidance as to the overall level of ambient air quality health risk throughout the City of Hamilton.

With this information, individuals are able to make informed decisions on where and when to walk and exercise in order to minimize health risk exposure. Smart phone applications can be used to provide real time public health risk information to Hamilton residents before strenuous walks are undertaken. Further consultation is recommended with Clean Air Hamilton and its stakeholders on the development of means whereby existing and future research on these matters can be made accessible and available for use by Hamilton’s residents.
## 8.7. **Future Studies**

Table 18: Future Studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Guidelines for Developments, Update</td>
<td>Hamilton Council has directed staff to develop an update of the existing engineering guidelines for developments to incorporate the findings and recommendations of the Pedestrian Mobility Plan, as well as updates to recent engineering best practices. This update will guide the development of complete communities and complete streets.</td>
</tr>
<tr>
<td>Site Plan Control Guidelines (various Urban Design Guideline Amendments)</td>
<td>An update of the existing site plan control guidelines and updates to relevant urban design guidelines through “housekeeping” amendments to incorporate the findings and recommendations of the Pedestrian Mobility Plan as well as updates to recent urban design best practices.</td>
</tr>
<tr>
<td>Development Charges By-Law Update</td>
<td>An update of the existing Development Charges By-Law to incorporate AODA requirements and recommended sidewalk widths identified in the Pedestrian Mobility Plan.</td>
</tr>
<tr>
<td>City-wide Wayfinding Strategy</td>
<td>Develop a pedestrian-scaled wayfinding strategy using web-based and conventional methods. Focus on Downtown and BIA areas plus key decision points along recreational trail and bicycle networks. The system is recommended to be integrated within the City’s transit system infrastructure. Phase 1 of this strategy is proposed to be undertaken in 2013 with a capital budget submission by Planning and Economic Development dealing specifically with Downtown and Lower City destinations. Phase 2 is recommended to occur between 2014-2018 to address other parts of the City.</td>
</tr>
<tr>
<td>Coordinated Street-Furniture Strategy</td>
<td>Hamilton Council has directed staff to develop site selection criteria for a coordinated street furniture program. Operations and Waste Management (O&amp;WM) are currently working with a stakeholder group to investigate the possibility of funding this initiative by revenue sharing. The intent is to develop a cohesive style, appropriate for the City of Hamilton that incorporates flexibility for neighbourhood expression. The anticipated completion date for this project is 2014.</td>
</tr>
</tbody>
</table>
8.8. **Conclusions, Recommendations and Directives**

Step Forward, Pedestrian Mobility Plan, presents a comprehensive review of the City of Hamilton pedestrian system. The Pedestrian Mobility Plan provides the City of Hamilton with a comprehensive working tool that will enable appropriate, objective, traceable and defensible pedestrian decisions. The Pedestrian Mobility Plan provides for improved pedestrian mobility. Implementation will strengthen inter-departmental work with the intent to streamline work and potential duplication between departments. The following are recommended first steps towards implementation of the Pedestrian Mobility Plan:

**Recommendations:**

1. **A Pedestrian Mobility Advisory Committee (P.M.A.C.)** should be set up to advise staff on ongoing projects, review, comment and as a resource.

2. **A staff training workshop** should be held following Council approval of this report to ensure a smooth transition from report text to a plan of action.

3. **A Pedestrian Coordinator** should be appointed to oversee implementation and coordination of this Pedestrian Mobility Plan as a single point of contact. **The Pedestrian Coordinator will be a resource person** for City Departments ensuring that all City projects incorporate pedestrian improvements. Secondary plans, site plans and other City streetscape or civil projects should have input from the Pedestrian Coordinator to ensure implementation of the toolbox solutions.

4. **Update Existing Development Engineering Guidelines** as soon as practical and as required to incorporate the recommended toolbox solutions. A.O.D.A. Standards must also be fully integrated into the standards.

5. **Update Other Design Guidelines** – Site Plan Control and Various Urban Design Guidelines

6. **A City-wide Wayfinding Study** should be undertaken to review technologies and methods to enhance wayfinding.

7. **A City-wide coordinated, street furniture program** should look at City-wide Standards applicable to context areas.

8. **Monitoring and pedestrian/cycling data collection**, which commenced in 2011, should continue going forward.
Proposed Study Directives:

- Balancing Competing Priorities
- Multi-departmental Communications
- Rural and Village Hamlet Areas
- Outreach
- Toolbox Solutions

1. **Balance Competing Priorities** in part, by utilizing the objective analysis system in this report and implementing pedestrian enhancements through “Routine Accommodation”.

2. **Multi-departmental communications** need to be improved to ensure that appropriate decisions and improvements are made as outlined in Step Forward.

3. In rural and village hamlet areas, the initiatives of the Hamilton Recreation Trails Master Plan should be aligned with pedestrian enhancements. Painted paved shoulders should be considered.

4. The City should maintain pedestrian updates on the City website as part of ongoing public outreach.

5. As future toolbox solutions become available as a living document, toolbox solutions should be updated, enhanced and support complete streets.
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**STEP FORWARD**

**HAMILTON PEDESTRIAN MOBILITY PLAN**

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Ontario’s Highway Traffic Act (HTA), Section 130 and Section 140(4)


December 12/12

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