

The **Toronto Walking Strategy** is nominated for the **Sustainable Transportation Award**. The Strategy meets the award criteria because it is an effective, successful and highly replicable blueprint for achieving sustainable urban transportation.

1. Development and Enhancement of Sustainable Urban Transportation

A Walking Strategy such as Toronto's is essential to building a sustainable urban transportation system, as it enables more compact built form, better travel choices, and new financial partnerships to build the necessary infrastructure. Approved in 2009 by Council, the Strategy is an inter-divisional action plan spanning physical infrastructure to public engagement, rolled out over 10 years. The Strategy is needed in part to meet targets set by council in the *Climate Change, Clean Air and Sustainable Energy Action Plan (2007)*, which aims to lower greenhouse gas emissions (GHGs) to 80% below 1990 levels by 2050, requiring a cap of around 1.3 million tonnes of GHGs from the passenger sector (tailpipe emissions). Approximately one-third of locally-generated GHGs and a large portion of smog-causing pollutants come from operating motor vehicles.

Building a more walkable Toronto will contribute significantly toward achieving the above sustainability goals. Walkability is increasingly seen as more important than even density in supporting public transit and achieving liveable, sustainable communities. A newly identified concern is "density without walkability", which results in greater vehicular demand and congestion without any of the environmental, social or economic benefits of compact urban form. The Toronto Walking Strategy aims to transform streets, public spaces, and neighbourhoods into places where people (residents, visitors, commuters and employees) want to walk more often. By seamlessly integrating a walkable urban environment with public transit, cycling and other sustainable modes of travel, the city can effectively reduce automobile dependency, thereby improving people-moving capacity and efficiency, and reducing infrastructure and road maintenance costs with fewer vehicle lanes, and less wear-and-tear from motorized vehicles.

As an example of the benefits, in a 2008 downtown study, among those with jobs downtown, 58% walked to work in 2008, up from 44% in 2001. Cycling doubled, from 2 to 4%. Only 6% of residents drove to work in 2008, down from 16%. A more recent 2012 study noted that 77% of Downtown residents work or go to school within five kilometres of their home, representing huge potential for active, sustainable modes of travel. Over 50% of residents in the more suburban North York and Yonge-Eglinton Centres use transit to get to work or school. By continuing to invest in walkability through public and private projects, more of the city's centres and transit hubs will attract and support sustainable travel.

By changing and expanding our view of streets and how they are designed and engineered, the Toronto Walking Strategy ensures that a broader range of sustainable modes can be integrated leading to a healthier more vibrant environment. Streets comprise about 30 per cent of public land in the city (more than parks) and are themselves vital public spaces affecting public health, equity, and society. Walkability fosters public life through building a people-friendly pedestrian realm, and generates more vibrant social and economic activity and local jobs by re-allocating space in the right-of-way for wider sidewalks, street furniture (benches and trees) and retail and commercial spaces such as patios and parklets (converted parking spaces to other curbside uses for seating,

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restaurant patios, or public art/space). Walkable streets 'buy more infrastructure', as three times the length of sidewalk can be built for the cost of adding one lane of road. There are lower 'life cycle', repair, and maintenance costs (less 'wear and tear' on roads) and greater person-trip capacity (transportation efficiency) can be accommodated when trips are taken by foot than by vehicle.

By working with external partners like universities on pedestrian zones, the City saves money on maintenance or programming as these functions are looked after by the partner organization. For the pilot pedestrian zones, the City provides the capital (for planters and furniture) and foregoes some parking revenues. Ongoing operational cost savings result from the university (or other external partner) providing ongoing plantings/materials, landscape maintenance, waste management, security, furniture lock up/maintenance, and programming (e.g., fashion show, farmers market, orientation events, parents/family events, theatre/talent shows, dance troupe, and more). By creating vibrant destinations and streetscapes, walkable streets help revitalize business districts, supporting increased sales with more people shopping locally, and lowering vacancy rates for retail and office space. More walkable and attractive built environments create value for neighbourhoods through increased property values and/or rents.

By prioritizing walking, there will be fewer conflicts with vehicular traffic, reducing collisions and injuries, thereby reducing the costs of congestion, e.g., delays to the flow of people and goods. The Strategy includes creating and re-designing streets and infrastructure to provide "complete streets" that accommodate all road users (e.g. pedestrians, cyclists and transit riders) safely and comfortably regardless of age and ability. The Strategy serves to re-balance the transportation system by providing people with viable alternatives to the automobile and improving services for demographic groups that cannot drive (e.g., youth, elderly, persons with disabilities, low income households, and others). Because the Toronto Walking Strategy improves safety for everyone – since safer streets for pedestrians make it safer for all modes – and more vibrant streets encourage greater use of active modes (walking, biking), the Strategy has secured strong champions in the public health sector, who are concerned about social equity and health promotion. Public health allies view "sustainable transportation as health infrastructure". In 2012, total health care expenditures in Canada are estimated to be \$207 billion and health care costs are expected to rise from 50% of the Ontario government's budgeted expenditures to 80% if the trajectory is not changed. The reason why public health leaders are supporting active, sustainable transportation is because 7 of the top 10 most deadly chronic diseases are linked to physical inactivity treatable by shifting auto trips to walking, cycling and transit.

The Toronto Walking Strategy is a winning approach because it simultaneously influences and affects human health, land development, mobility and access, and quality of life. Everyone benefits. In summary, the Strategy is vital to reduce automobile dependency and its negative social, economic and environmental costs by creating high-quality walkable, mixed-use environments that genuinely integrate and support public transit and cycling.

2. Degree of Innovation

Several aspects of the Toronto Walking Strategy and its implementation are innovative:

- 1) The **creation of an organizational unit**, with cross-divisional oversight, called the Public Realm Section within the City of Toronto's Transportation Services Division is innovative

and continues to foster innovation. Importantly, this new section is within a public works division, in order to ensure that capital planning and programs are coordinated with policy implementation. The new unit brought new knowledge (new people and skills in urban planning, design, landscape architecture, social policy, sustainable transportation planning, business, and civil engineering) to the implementation of public works projects. It also promotes and advances new ways of planning and designing transportation infrastructure and the built environment which are inter-disciplinary and integrated in approach.

- 2) **New financial partnerships and supportive policies** are becoming the new practice for turning ideas and projects into action. These innovative practices include creating new maintenance agreements with external partners, such as universities, developers or business improvement areas (BIAs), to undertake and maintain pedestrian zones, new flexible streets, parklets or enhanced pedestrian realm and streetscapes. While the city coordinates various divisions/agencies, approvals/permits, by-law amendments, and policy and design direction, the external partner provides the financial contributions such as \$300,000 during the pilot phase of the Ryerson and University of Toronto pedestrian zones (and much more for future phases to turn the zones into permanent plazas/squares); \$1 million for re-designing Market Street into a flexible street; and potentially millions for streetscape improvements through Section 37 of the Planning Act (whereby the city secures financial contributions for community benefits from developers in exchange for height or density increases beyond what is permitted).

Each new policy or partnership helps to create a model that can be replicated elsewhere. For example, a maintenance agreement can be modified for different partners; a generic template for "public realm, open space, and streetscape master plans" has been shared with BIAs (developed with City Planning's Urban Design staff), so they can invest in consultants with design expertise to study and provide streetscape improvement plans, that BIAs then fund, generating public-private partnerships to renew the city's sustainable street network. The city can then assist in aligning plans with city objectives, and coordinating necessary approvals to permit construction to proceed. There are now 73 BIAs across the City of Toronto comprising 35,000 businesses and property owners. BIAs have proliferated in part due to a greater appreciation and understanding of the value of streetscapes and the pedestrian realm as important assets to sustain healthy commercial areas.

- 3) **New street design models** have been developed such as "flexible streets" and "parklets" to address competing needs for vehicles, deliveries, parking, pedestrians, patio/retail space and street events. New designs create multi-functional street spaces that accommodate demand for the space from many different groups of users. Sidewalks expand/contract based on the time, day or season using bollards or other means, so space can be used for vehicles (parking/deliveries), economic activity (patios) or bike parking or Bixi (bikesharing) stations. Many internal/external partners (fire, emergency, legal, economic/private developers, traffic planning, road operations, technical services, universal accessibility) are involved. These models are a catalyst for innovative designs across the city and other municipalities. They are vital to managing the use of public spaces, as streets comprise about 30% of public land in the city (more than parks). Streets are both travel routes and destinations / places, and need to meet complex sustainability (social, environmental, and economic) objectives.

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- 4) **New technologies** are being explored and developed, for example, to do automated pedestrian data collection (24-7-365 days a year, in order to monitor seasonal, time of day, and variations in usage patterns of pedestrian infrastructure to facilitate more nuanced data analysis); new pavement markings (new techniques for creating Zebra Crossings that increase the longevity of the vertical painted stripes to increase pedestrian crossing visibility and safety); "shaving" equipment/technology to reduce trip hazards on sidewalks and to reduce costs of repairing/reconstructing sidewalks; new "flat" tree pits that reduce trip hazards on sidewalks and provide mulch to sustain street trees; and new planters/gates for timed pedestrian-only areas.

A Council-adopted **Wayfinding Strategy** in 2012 creates a consistent information system for residents, commuters, and tourists to more easily navigate the city's travel options and places – to increase transit use, walking and cycling, and reduce driving time to find destinations or parking (thereby reducing vehicular congestion and related emissions). The next phases of work include developing a mapping platform with the City of Toronto's Economic Development and Culture Division, and working with external partners to develop and test pilot areas for wayfinding. The strategy is being made public for other agencies and municipalities and has informed work by Waterfront Toronto and the Toronto 2015 Pan Am Games.

- 5) **New data and policy tools** are being developed and applied, such as: *Pedestrian priority mapping* that creates "heat maps" by overlaying geo-spatial data to identify major pedestrian trip generators and also areas with a high concentration of vulnerable pedestrians such as seniors, children or households without access to a car. These new maps can help inform a range of initiatives such as the city's Seniors Strategy, the location of street furniture (benches, public washrooms, lighting) to encourage walking, street lighting level-of-service (our mapping has been shared with Toronto Hydro), and safety measures for vulnerable road users in collision-prone areas. *Visualizations* and new graphics explain and illustrate Leading Pedestrian Intervals, flexible streets, and parklets to politicians, citizens, and other key stakeholders. *New policy updates and criteria for sustainable travel modes* inserted in the terms of reference for Environmental Assessments for major transit projects like the Eglinton Crosstown Light Rail Transit ensure the right-of-way and station areas are walkable, bikeable and mixed-use. Current work to update the *Transportation Impact Study (TIS)* guidelines and the *Toronto Green Standard* will direct what is required as part of land development applications and will help to obtain privately-funded infrastructure for active modes (pedestrian and bicycle infrastructure), and will include updated training for staff to ensure implementation. Ongoing *evaluations for specific projects* (such as the pedestrian zones, pedestrian priority phase signals, leading pedestrian intervals and others) will assess safety, transportation, and economic impacts, and a Walking Habits Survey conducted every 5 years will monitor behaviour change and performance of city services (currently being undertaken).
- 6) **New partnerships** with non-traditional allies such as *Toronto Public Health* on equity issues for vulnerable road users and investing in "sustainable transportation as health infrastructure", as health care costs skyrocket and 7 of the top 10 most deadly chronic diseases are linked to physical inactivity treatable by shifting auto trips to walking, cycling and transit; *developers and business improvement areas (BIAs)* to invest in street improvements; and *academic researchers* on urban freight and illegal curb-side parking to

manage traffic congestion and negative impacts for pedestrian priority phase signals (illegal truck/courier parking reduces lane capacity which can impact signals and their performance), and industrial engineering students to model and estimate mid-block pedestrian volumes where it is too costly to collect site data. A multi-sectoral **Pedestrian Expert Reference Group** to provide input and feedback on the Strategy's implementation and help champion and advance a more walkable, sustainable city. Members are external leaders in urban development, social media, public health, recreation and fitness, environment, transportation engineering, public transit, social equity, and community building.

The Walking Strategy innovatively brings together disparate actions, divisions and disciplines related to walking, ranging from physical infrastructure to public engagement. Its “systems” approach and integrated service delivery enable an organizational and societal “culture shift” to achieve a sustainable transportation system.

3. Transferability to Other Canadian Communities and Organizations

The Toronto Walking Strategy is transferable in numerous ways:

- **Coordinated, Interdivisional Plan:** The Strategy's "systems" approach can be replicated by creating an action plan that spans "hard" infrastructure such as capital works programs and engineering and construction to "soft" infrastructure such as cultural and behavioural change, policy projects, and partnerships. This kind of integrated approach ensures coordination and cross-fertilization among city divisions, disciplines, internal/external partners, and greater effectiveness by simultaneously influencing the physical environment and institutional / cultural / social factors. As an example of informing another order of government, the Office of the Chief Coroner for Ontario released its review of pedestrian deaths in 2012 and recommended that the Province of Ontario develop a Walking Strategy based on the Toronto Walking Strategy that encourages municipalities to develop policies, practices, and plans for safe, convenient pedestrian conditions.
- **Organizational Structure:** Importantly, the Public Realm Section was set up within the Transportation Services Division (public works) with the mandate and responsibility to oversee the Strategy's coordination, implementation and performance tracking. The transferability of the Strategy is not only in the coordinated approach, but the establishment of the oversight function of the Public Realm Section. This new Section has served to expand our view of city streets and how they are designed and engineered, as well as facilitating partnerships to achieve change and results.
- **Innovative Designs / Technologies:** Each of the new innovations in design and technology are transferable, and easy to disseminate and share. Policy templates, design specifications (drawings / schematics), visualizations, and even sample agreements could be shared, learned, and replicated for flexible streets, parklets, shaving sidewalks, flat tree pits, pedestrian priority phase signals, and new paint / thermal plastic materials for zebra pavement markings for crosswalks.

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- **Innovative Policies:** The upcoming revisions to the Transportation Impact Study (TIS) guidelines, and the pedestrian infrastructure section of the Toronto Green Standard will be made public once finalized and approved. The earlier 2003 TIS has already been used by other municipalities, and we anticipate similarly sharing the new version with other municipalities and organizations. The methodology used for the pedestrian priority mapping can also be shared with municipalities, researchers, and other organizations interested in helping to advance the use of geo-spatial tools to support better decision-making for sustainable transportation. We will be sharing our pedestrian priority mapping work with Transportation Research Board sub-committees related to pedestrian initiatives. The city's recently approved Wayfinding framework and Phase 1 work are publicly available online, and have been shared with Waterfront Toronto and the Ontario Ministry of Transportation, and the Toronto 2015 Pan Am Games.
- **Partnerships:** The pedestrian expert reference group is an important and easily transferable initiative for any Canadian community that wishes to lever champions and leaders to help advance a more sustainable, walkable city or town. Likewise, the strong partnerships with public health colleagues can be replicated, and many health networks exist where different municipalities can share ideas, the latest research, and tools to support active, sustainable transportation. The partnerships with business improvement areas (BIAs) is also an important aspect of the Strategy that can be replicated by simply showing local businesses and property owners the examples of other businesses – and this "business case" becomes apparent in the financial benefits of improving one's streetscape and pedestrian realm.
- **Documentation and Dissemination:** The Strategy itself is a public document available online, as well as newsletters, presentations, and other materials. We shared our work with many places such as the Kingston Coalition for Active Transportation and the Town of New Tecumseth. The earlier notes from stakeholder and inter-divisional meetings that helped form the draft and final Strategy have been made available on the city's website, which can help others learn from, and replicate the process and the development of a similar coordinated action plan.
http://www.toronto.ca/transportation/walking/walking_strategy.htm
Staff also organize public forums to engage citizens, decision-makers, and practitioners on the Walking Strategy, and network with organizations across Canada and abroad that develop conferences, training, and new policies to provide input, materials, and/or presentations, such as Walk21 in New York City, the Hague, and Vancouver, TAC conference 2012 (virtual Powerpoint presentation), Ontario Traffic Manual Book 15 committee, AQTR symposium on pedestrians, Ontario Good Roads Association, and others to help disseminate information.

4. Added Value

- **Age-Friendly Communities, Accessibility, and Sustainability:** Demographic trends show the "grey tsunami" approaching, with someone turning 65 years of age every 8 seconds in the United States – about 11,000 people per day. Similarly, in Canada, and in Toronto, there is an increasing demand to consider how we address the changing mobility, access, and housing needs and inclusivity of older adults in our communities.

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- Toronto is about to release its Seniors Strategy (developed from 2011 to 2013), in order to deal with the fact that one out of every 5 Torontonians will be over the age of 65 in the next several years. The Public Realm Section was the coordinating body for the Transportation Services Division's recommendations and input to the Seniors Strategy, and also helped integrate policy directions among City Planning, Toronto Public Health and the Toronto Transit Commission that dealt with transportation, land use planning, and health.
- A sustainable urban transportation system will also need to be universally accessible, in order to ensure that older adults have options for "aging in place" – being able to walk, take transit, and age in their communities without having to rely on driving, and without fear of getting injured, hospitalized or put in long-term care earlier than desired – through traffic collisions, and trips or falls. The public health, social, economic and fiscal costs of dealing with an aging population will become a larger issue for planning, designing and constructing urban transportation systems.
- Once approved and made public, the city's Seniors Strategy contains a set of transportation and built environment recommendations that can be shared and replicated among communities and organizations across Canada.
- In addition, the research that the Public Realm Section has helped collect and has undertaken, for example, for specific issues such as for the visually-impaired and the new Accessibility for Ontarians with Disabilities Act (AODA) legislation on the built environment can also be shared, and already has been shared with the Regional Municipality of Waterloo, which is grappling with accessibility and transportation infrastructure.
- A sustainable urban transportation system must to meet the needs of current generations and future generations, and universal accessibility will improve travel choices for all road users – of all ages and abilities.

Appendix – Toronto Walking Strategy – Supporting Images/Diagrams

"Flexible Street" – Market Street at St Lawrence Market – initiated 2011 with construction in 2013

Image 1: Market Street ("before")



Image 2: Market Street ("after" visualization – what is planned and currently under construction)



Appendix – Toronto Walking Strategy – Supporting Images/Diagrams

Figure 1: Components of Pedestrian Priority "Heat" Maps

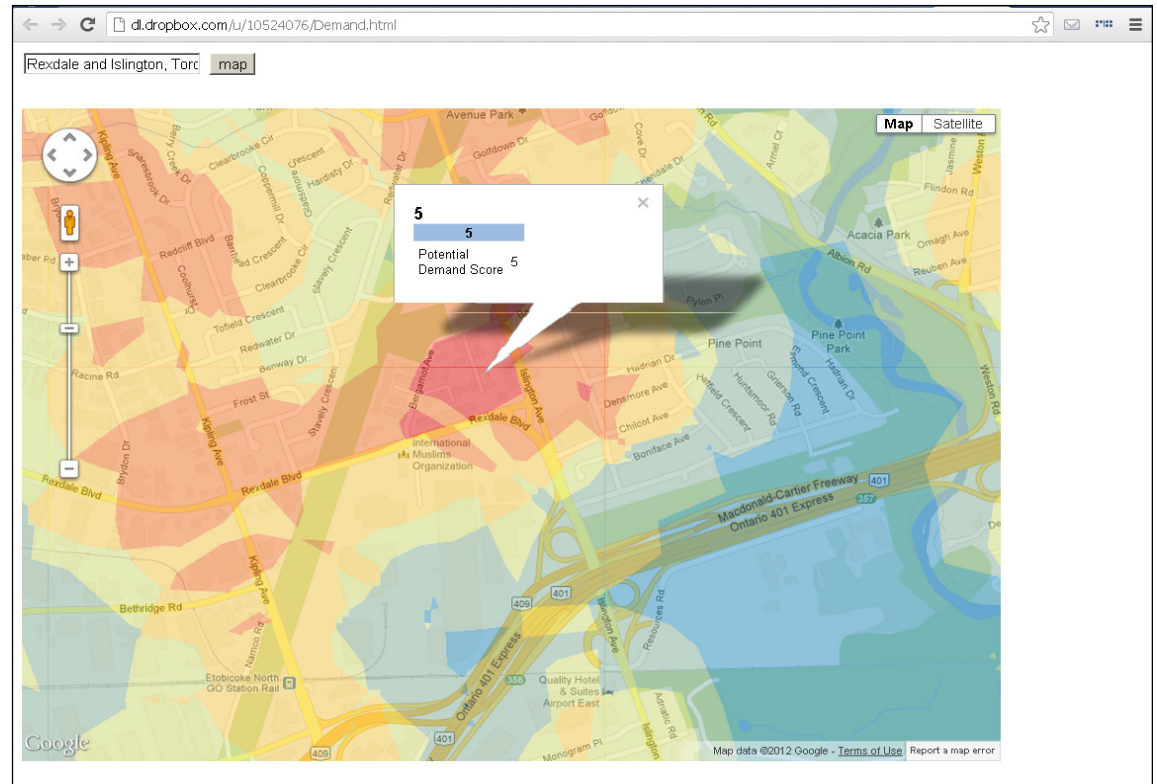
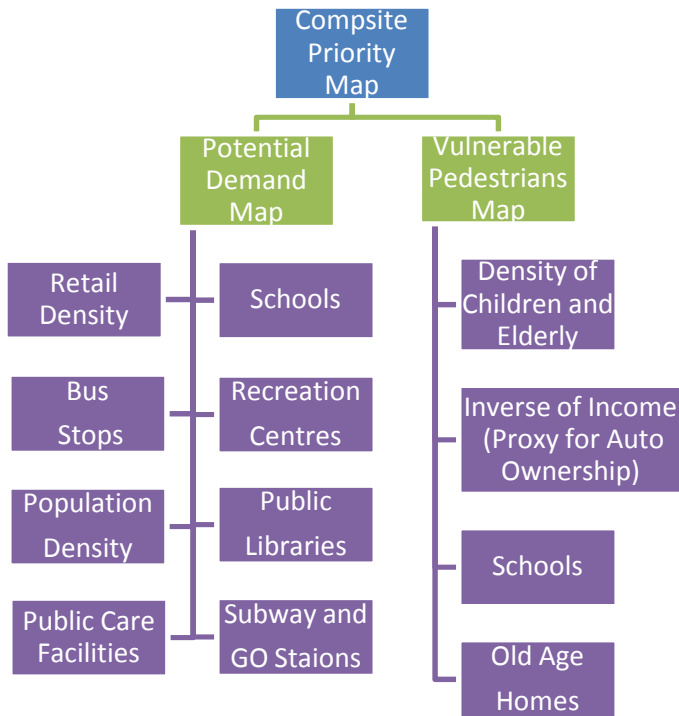
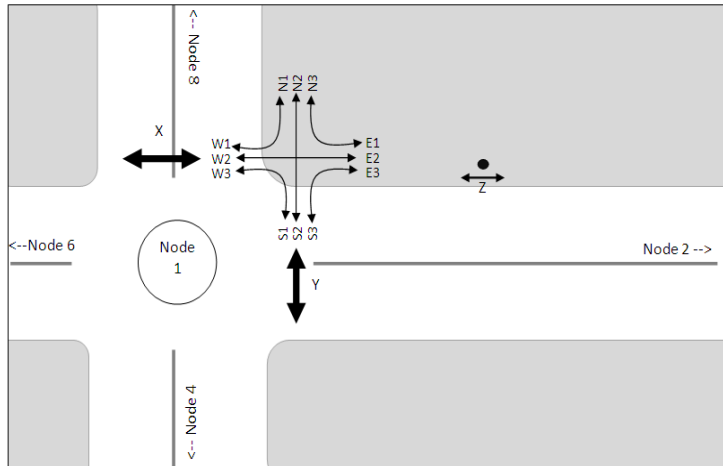


Figure 2 – Screenshot of Pedestrian Demand Map Web-Based Visualization Tool

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Image 3: Preliminary Mid-Block Pedestrian Modelling Work (with Industrial Engineering students)



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1.5 Streetscape & wayfinding

Toronto has a profusion of formal and informal signage and information systems. From humble road signs to interactive booths, all of these contribute to people's understanding of the city with varying levels of success.

ROAD SIGNS	<p>Blue street name plates are consistently positioned at intersections.</p>	<p>Street names provide drivers and pedestrian with predictable locational information.</p>	<p>Blue street names form part of a numbered route system and are signified by blue plates.</p>
	<p>Road signs that direct people to destinations are hard to find.</p>	<p>The low observed copy the colour scheme but without adhering to a standard layout.</p>	
TRADITIONAL STREET NAMES PLATES	<p>A standardisation process is gradually replacing older name plates, including traditional "acorns".</p>	<p>Acorn signs were traditionally personalized to reflect the identities of neighbourhoods and BNs.</p>	<p>Forming part of a coordinated strategy to break district into smaller quarters in its Old Town Toronto.</p>
NEW STREET NAMES PLATES	<p>A new design is being implemented across the city. It shares some characteristics with the coordinated street furniture program and also reflects the City's visual identity.</p>	<p>The new design retains opportunities to personalize the plates.</p>	

Image 4: Street Signs and Wayfinding Elements (examples)

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**Image 5: Pedestrian Priority Phase Signal
(known as the "Scramble" – Yonge and Dundas intersection
evaluation conducted in 2012)**



**Image 6: Pedestrian Safety – tree pits – potential trip hazards, and
using flat tree pits that provide mulch for trees**



Appendix – Toronto Walking Strategy – Supporting Images/Diagrams

Image 7: Leading Pedestrian Interval (diagram to explain to politicians, citizens, and others)

