



Hamilton

Final

TDM for Development



Prepared for City of Hamilton
by IBI Group

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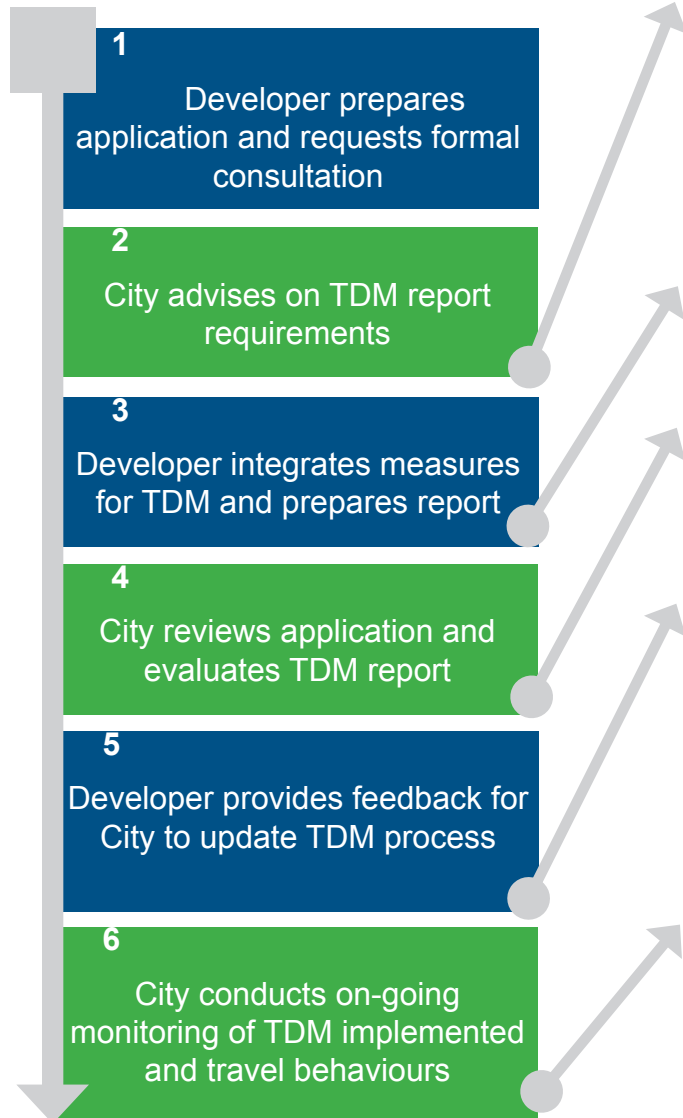
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A Partnership Approach to Travel Demand Management

The City of Hamilton is actively engaging the development community to integrate Travel Demand Management (TDM) in all current and future development applications. This guidelines was created as a tool for developers and City staff to include TDM initiatives into the development approvals process. A partnership approach is demonstrated below.



This guidelines contains information about ways to integrate TDM into new development, redevelopment and existing buildings. It also provides a framework for documenting these efforts. The guide is structured as follows:

- Chapter 1 is an overview of TDM and its role in development within the City of Hamilton.
- Chapter 2 outlines reporting requirements based on the type of development, and is to be determined in consultation with City staff. Low impact sites may have few opportunities for TDM and less reporting requirements, while large-scale developments may require more detailed information and analysis.
- Chapter 3 outlines a variety of TDM measures based on different types of land use. Appropriate measures will depend on the type, location and context of each site.
- Chapter 4 outlines how the City can evaluate the TDM initiatives for a proposed site

Implementation of the TDM guidelines is an evolving process that requires a partnership approach between the City and the development community. The response from developers and other stakeholders will influence further refinements to the process.

Iterative improvements to the process will depend on the outcomes of previous sites and the TDM measures that are implemented. Many TDM measures presented in the guide represent best practices in Ontario and Canada. Some may require changes to policy, by-laws or other legislative tools. It is the intent of this guide to progress the City towards best practices while staying within the Hamilton context. On-going monitoring will be essential.

1. Introduction

What is TDM and why is it important?

Transportation Demand Management (TDM) manages the demands placed on transportation infrastructure. It is the use of policies, programs, infrastructure improvements, and/or services to influence travel behaviour. TDM encourages sustainable travel choices by supporting alternatives options over the convention of frequently driving alone. It encompasses a wide range of strategies including:

- shifting travel modes (e.g. walking, cycling, taking transit or carpooling instead of driving alone);
- reducing the number of trips people must make (e.g. destinations and activities such as work and shopping, near each other); and,
- travelling more efficiently (e.g. making trips outside of peak hours).

TDM plays a vital role in the design of urban environments and its influence on travel choices. Some of the outcomes that the City aims to achieve by integrating TDM and development are:

- more attractive streetscapes that are inclusive and inviting for everyone: motorists, pedestrians and cyclists;
- development of neighbourhoods and districts with a variety of uses that allow people to live and work in closer proximity;
- preserving streets and public space for a more balanced transportation system with
 - more and better pedestrian and cycling infrastructure (bike lanes, sidewalks, crosswalks)
 - more efficient and integrated transit; and,
- promoting public health and active lifestyles.

TDM and development

The development community has an important role and influence over the urban environment. There is a growing understanding that TDM can be more effectively pursued and implemented when it is incorporated into new developments during the initial planning and design stage, as well as during construction. Some TDM strategies are supported by city-led initiatives and transportation management association (TMAs): community programs, educational and promotional campaigns such as Hamilton Bike Month and Smart Commute. However, this guide focuses on the TDM initiatives within the realm of the development community.

By integrating TDM into development applications, both the development community and City can influence travel behaviour for all residents, employees and visitors.

Benefits for developers

There are many potential benefits to pursuing TDM within development projects. These benefits will vary by type of development, location, and context, but in simple terms may include:

- opportunities to build at higher densities, as sustainable modes maximize the use of existing infrastructure;
- lower development costs by reducing parking requirements and the number of driveway entrances to be built;
- using space that would be directed to additional parking to supply additional units and building amenities;
- access to changing markets and customers who desire transportation alternatives; and,
- support for LEED accreditation (building or neighbourhood level).

TDM and the City of Hamilton

Both the City of Hamilton's Official Plan and Transportation Master Plan identify TDM as an essential part of creating an integrated, sustainable transportation network and support the inclusion of TDM within the planning and development process:

“Transportation demand management measures shall be evaluated in all transportation related studies, master plans, environmental assessments, neighbourhood traffic management plans and new development plans including the degree to which it can help achieve transportation goals...” (Official Plan, Policy C4.2.4)

“Apply travel demand management strategies as an essential part of land use controls and the provision of transportation infrastructure and services, in pursuit of a more sustainable transportation system.” (Transportation Master Plan, TDM Policy Paper)

“Actively consider TDM as a component of other initiatives intended to increase walking, cycling, transit use and carpooling...” (Transportation Master Plan, TDM Policy Paper) ⁱ.

The integration of TDM into City policies and processes is an important way for the City to support the development of compact, healthy and complete communities. Promoting active transportation and supporting a shift to more sustainable modes also contributes to the City's initiatives on integrated mobility, sustainability, and public health objectives (social, economic, and physical well being).

Several other area-specific secondary plans and studies call for TDM. As a city-wide guide, additional city-wide policy support for TDM can

ⁱ An implementation initiative under this recommendation is the explicit consideration of TDM in all municipal transportation plans and studies (e.g. Class EA projects and Neighbourhood Traffic Management Plans)

be found in Appendix 2.

Using this document

The City currently supports the integration of TDM measures in new development by working with developers to find appropriate solutions for their location and context. For example, during the development approvals process, the City may allow reduced parking requirements through minor variances to zoning and the existing cash-in lieu of parking program, where it is feasible and appropriate.

Building off existing policies and practices, the City of Hamilton has developed this document to consistently encourage the incorporation of TDM measures within new developments.

This document is not a bylaw or formal design guideline. It is intended to supplement existing guidelines by highlighting opportunities for developers to support TDM in a way that is relevant to their project. It is not intended to be prescriptive or replace legislative or zoning requirements.

As part of the City's approach to integrating TDM into the development approvals process, developers may be asked to prepare a TDM memo or report as part of a complete application regarding a Plan of Subdivision, Site Plan, or Official Plan Amendment/Rezoning. The scope of the TDM memo/report will be determined by City staff during the formal consultation process based on the location, context, and characteristics of the development. Sample outlines and tables of contents for the TDM memo/report are provided in Section 3.

City staff will evaluate TDM reports using a standard checklist (Section 4) and identify additional TDM opportunities that developers may wish to explore. A larger discussion of how TDM can be incorporated in the City of Hamilton's land use and development planning processes is provided in a separate implementation strategy document.

2. TDM Report Requirements

The scope of each TDM memo/report will be determined by City staff during the formal consultation process based on the location, context, and characteristics of the development.

The thresholds for each report are based on estimated trip generation rates. The thresholds are intended to reflect that even smaller developments (e.g. 40 unit residential developments) can be used to support TDM city-wide.

In general, the report requirements outlined below, will be followed:

TDM Memo

Application

Developments which generate 20-50 new peak hour trips, unless located on a rapid transit line (see standard report requirements).

Requirement

A one-page document outlining TDM initiatives that will be incorporated into the development project. This 1-2 page document should be included with development application materials and address the following topics:

1. Existing TDM opportunities near the development site (e.g. proximity to existing or planned transit or active transportation networks) with relevant materials such as maps, schedules, program information etc.
2. Proposed TDM measures to be implemented on the site with relevant materials such as maps, schedule, program information etc.

Standard TDM Report

Application

Developments which generate >50 new peak hour trips; Development located in special study areas, or which require additional attention due to their impact on the surrounding community, or where the application is seeking a reduction from the parking requirements in the zoning by-law.

Requirement

A separate TDM Plan or additional chapter within the Traffic Impact Study report (if warranted) which outlines TDM initiatives that will be incorporated into the development project. Projected reductions in trips through TDM initiatives should be well documented (e.g. X transit passes provided to tenants by developer = reduction in Y trips).

Sample Table of Contents

1. Area/Site Description
 - a. Location
 - b. Project description (land uses)
2. Existing TDM Opportunities
 - a. Proximity to transit or active transportation networks (current or planned)
 - b. Surrounding density and built form
 - c. Other
3. Proposed TDM Measures
 - a. Planning and Design
 - b. Walking and Cycling
 - c. Transit
 - d. Parking
 - e. Carshare/Bikeshare
 - f. Wayfinding and Trip planning
 - g. Education/Promotion
4. Projected trip reductions for TDM measures
 - a. Reference material (reports, studies)
5. Site Plan showing proposed TDM measures

Detailed TDM Report

Application

Large development projects including new subdivisions, large shopping centres or office buildings, elementary and secondary schools, institutions, and public buildings, or where the application is seeking a significant reduction from the parking requirements in the zoning by-law.

Requirement

A separate TDM Plan to be submitted as part of a complete development application. The Plan should outline TDM initiatives that will be incorporated into the development project, projected reductions in trips through TDM initiatives (including supporting documentation), and proposed steps towards future monitoring and evaluation.

Sample Table of Contents

1. Area/Site Description
 - a. Location
 - b. Project description (land uses)
 2. Existing TDM Opportunities
 - a. Proximity to transit or active transportation networks (current or planned)
 - b. Surrounding density and built form
 - c. Other
 3. Proposed TDM Measures for the site
 - a. Planning and Design
 - i. Increased density and compact site design
 - ii. Site design elements (active frontages, reduced driveway entrances, location of parking)
 - b. Walking and Cycling
 - i. Sidewalks and pathways
 - ii. Bicycle Parking (long and short-term)
 - iii. End of trip facilities (lockers, showers)
 - iv. Other
 4. Projected trip reductions for TDM measures
 - a. Reference material (reports, studies)
 5. Site Plan that incorporates TDM measures/strategies
 6. Proposed monitoring and evaluation of TDM measures
 - a. Working with future tenants/end users to complete monitoring and surveys
- c. Transit
 - i. Direct connections to transit
 - ii. Weather protected waiting areas
 - iii. Other
 - d. Parking
 - i. Opportunities for reduced parking requirements (proximity to transit, cash-in-lieu)
 - ii. Unbundle Parking
 - iii. Paid Parking
 - iv. Carpool Parking
 - v. Shared Parking
 - vi. Other
 - e. Carshare/Bikeshare
 - i. On-site carshare vehicle(s) and parking spot(s)
 - ii. On-site bikeshare
 - f. Wayfinding and Travel planning
 - i. Wayfinding signage
 - ii. Travel planning tools
 - iii. Support for development of a School Travel Plan (if applicable)
 - g. Education/Promotion and incentives
 - i. TDM branding
 - ii. Membership in Transportation Management Association/Smart Commute (if applicable)
 - iii. Opportunities for transit passes, carshare memberships, or bikeshare memberships
 - iv. Other

3. Guide for Development

* This section is designed to be used as a reference and is not intended to be read sequentially. Turn to the section that is relevant to your development.

This section highlights best practices, measures, and strategies that can be used to support TDM within development projects. These measures are presented by category of land use, which are generally based on common land uses and categories within the Zoning By-Law (i.e. exact terminology may differ). City staff and developers should work together to identify the appropriate category according to the guidelines. Measures are organized by different TDM strategies:

1. Accommodations to increase access and convenience for pedestrians and cyclists
2. Support for transit users
3. Parking management strategies
4. Promoting carpooling
5. Support for services such as carsharing and bikesharing
6. Wayfinding and trip planning strategies
7. TDM education and promotion

While some strategies, such as education and promotion, may seem less relevant during the development process, developers can work with end users (tenants, home owners, office managers, etc.) to support long-term adoption of TDM and promote sustainable travel behaviours.

Strategies and measures that are relevant to each development should be included in the TDM memo or report that developers will submit as part of their development application (see Chapter 2).

A number of the TDM measures identified in this document are not currently supported through the City of Hamilton Zoning By-law (e.g. bicycle parking requirements, parking reductions for the provision of carshare spaces). However, it is important to identify these measures as they may

be useful for some development projects. Future updates to the Zoning By-law may provide more guidance on these measures. Developers are encouraged to discuss these measures with City Planning Staff to determine what is feasible and appropriate for their site.

In addition to the specific initiatives highlighted for each land use, good site design is a key strategy to support sustainable transportation choices for all types of development. The City of Hamilton's Site Plan Guidelines provide direction with respect to site layout and design that supports sustainable transportation and TDM, as well as ensuring user safety and universal accessibility (e.g. Hamilton's Urban Braille System, Accessibility for Ontarians with Disabilities Act). Overarching site design strategies that support TDM for all land uses include:

- front lotting buildings and orienting buildings to the street;
- locating parking lots away from major street frontages, and behind buildings;
- reducing the number of driveway access points to a site;
- minimizing potential conflicts between modes (vehicles, cyclists, pedestrians); and,
- providing safe pedestrian walkways through large sites and parking areas with appropriate public and private street lighting.

Where possible, developers and City staff should also pursue an "integrated mobility" approach to TDM within new developments. This can be done by supporting multi-modal transportation opportunities and linkages between modes that help to create a seamless transportation system.

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3.A Residential

Category	TDM Initiative	Single family home development	Multiple family (low-medium density)	Multiple family (high density)
Cycling	Visible, well-lit, short-term bicycle parking for visitors (above minimum provisions or recommendations)	●	●	●
	Secure, indoor bicycle parking storage spaces for tenants/residents	-	●	●
	Ensure development connects to bicycle network	●	-	-
Walking	Safe, attractive and direct walkways for pedestrians linking building entrances with public sidewalks and with key destinations such as schools	●	●	●
	Enhanced pedestrian amenities on-site (benches, landscaping, lighting)	●	●	●
Transit	Enhance walking routes between main building entrance(s) and transit stops/stations	-	●	●
	Provide weather-protected waiting areas	○	●	●
	Bicycle parking located at or near transit stops	○	●	●
	Provision of transit information on-site and adjacent to stops/stations	●	●	●
	Implement transit priority measures (queue jump lanes, traffic signal priority, bus only lanes)	●	-	-
Parking	Provide no more than the minimum number of required spaces for residents and visitors	●	●	●
	Reduced minimum parking requirements based on proximity to transit	-	●	●
	Cash-in-lieu of parking to fund public parking or fund sustainable transportation	-	○	●
	Shared parking with nearby developments or on-street spaces	-	○	●
	Reduced minimum parking requirements based on provision of dedicated carshare vehicle parking spaces	-	●	●
	Unbundle parking costs from unit costs	-	○	●
Carshare/ Bikeshare	On-site carshare vehicle(s)	○	●	●
	On-site bikeshare facility	○	●	●
Wayfinding and Travel Planning	Travel planning resources for residents (individualized marketing, active transportation maps, community resources)	●	●	●
	Wayfinding signage to major destinations such as schools, public amenities, and commercial areas	●	○	○
Education/ Promotion, Incentives	Contribute to building a strong TDM brand	-	●	●
	Include transit and active transportation maps, annual transit passes, carshare memberships, and/or bikeshare memberships with new home/condo purchase	●	●	●

Legend: ○ Low Priority ● High Priority

3.A Residential

Why it's important/relevant?

- Reduce auto ownership levels, therefore reducing private vehicle trips and congestion.
- Create safe and attractive environments that encourage travel by walking, cycling and transit over auto.
- Support the development of healthy communities

Guidelines and Best Practices

Cycling

Focus: Encourage cycling as a mode choice for visitors and residents/tenants

- Convenient, secure location(s) for bicycle parking ^{1, 2 (p12)}:
 - » Near building entrance for visitors
 - » Near elevator/stairs for tenants/residents
 - » Generally on ground floor or first floor in below grade vehicle parking
 - » At established grade (avoid access with steps or steep incline)
- Consult with City staff to determine appropriate bicycle parking requirements; draft standards are available at this time. Typical number of bicycle parking spaces:
 - » Long-term range: 0.5 - 1.25 spaces/unit ^{3, 4 (p12)}
 - » Short-term range: 0.05 - 0.2 spaces/unit ^{3, 4 (p12)}
- Potential to negotiate a reduction in number of vehicle parking spaces in exchange for additional bicycle parking spaces

Walking

Focus: Encourage walking by providing safe and attractive environments for all pedestrians.

- Support pedestrian mobility through routine accommodation and design solutions ^{6 (p12)}
- Adopt pedestrian-friendly site design standards ^{1, 2 (p12)}:
 - » Well-lit sidewalks and walkways throughout building(s) (e.g. avoid dark alleys, hallways, stairwells)
 - » Direct connections to/from streets and main entrances

- » Weather protection by main entrances and on adjacent sidewalks
- Accommodate pedestrians in residential subdivisions by providing:
 - » interconnected streets and blocks (also encourages more efficient transit service);
 - » sidewalks on both sides of the street; and,
 - » safety features at intersections and crossings (e.g. refuge islands, curb extensions) ^{2 (p12)}.



Pedestrian-friendly environment with direct access to townhouses (credit: Dylan Passmore)

Transit

Focus: Prioritize connections and access to transit. Encourage transit as a desirable mode choice.

- Design direct and convenient connections to transit stations/stops:
 - » Well-lit walkways
 - » Weather protected waiting area (e.g. overhang, awning)
 - » Barrier free access including connecting sidewalks to bus stops
 - » Bike parking near stops

3.A Residential (continued)

- Consult with HSR to enhance nearby bus stops (e.g. provide for benches, shelters)
- Incorporate displays or kiosks into design of common areas (e.g. lobby) or near entrances to display transit information, such as schedules of nearby routes
- Allow for efficient transit service and for transit priority measures at key intersections:
 - » Interconnected network and block pattern to maximize routing (e.g. avoid cul-de-sacs and dead ends)
 - » Reserve enough curb space for current or future implementation (e.g. queue jump lanes, bus stop).

Parking

Focus: Reduce auto ownership, oversupply of parking, and private vehicle trips.

- Supply only the minimum number of required parking spaces as outlined in the zoning bylaw ^{7 (p12)}
 - » Reducing parking spaces should not exacerbate any current parking issues
- Explore potential to reduce parking requirements due to proximity to transit corridors with increased service levels (e.g. 0.75-1.2 spaces per unit) ^{13, 14 (p12)}
 - » Development Planning staff will work with development community to determine if reductions are feasible based on site context
 - » Benefits: lower automobile ownership rates; more residents and visitors take transit
- Explore opportunities to apply for cash-in-lieu of parking provisions ⁹
 - » Typical range: \$5,000–\$7,000 per space
- Explore potential to meet parking requirements through shared parking, depending on context and proximity to developments with complimentary uses ^{10 (p12)}
 - » Residential land uses have lower occupancy rates during daytime weekdays, while offices have higher occupancy rates during this same time and lower occupancy rates on evening periods and the weekends).
- Carshare parking can encourage lower automobile ownership rates, and therefore parking requirements:



Dedicated carshare spaces as part of residential complex (credit: Dylan Passmore)

- » Requires coordination with providers (see “Carshare/ Bikeshare”)
- » Typical range: 1 carshare space = 1–4 parking spaces ¹¹
- Unbundling the purchase of parking spaces from the rental/sale cost of residential units:
 - » Generally for buildings with multiple units (> 10 units) ^{12 (p12)}
 - » Benefits: more efficient use of parking, and lower auto ownership rates (resident does not feel need to own a car because of unused space)
 - » Requires parking management of excess parking spaces (sell or lease) and measures to prevent sale of multiple spaces to single buyer (avoid monopoly)

Carshare/Bikeshare

Focus: Encouraging more sustainable travel by residents/tenants and community members by providing alternatives to car ownership.

- Consult/discuss with carshare providers to provide vehicle(s) and dedicated parking stall(s) on-site
- Consult/discuss with bikeshare providers to provide a docking station and bikes on-site where appropriate
- Benefits residents as well as nearby residents and businesses (community at large) where suitable

3.A Residential (continued)

Wayfinding and Travel Planning

Focus: Increase awareness of sustainable transportation opportunities for residents/tenants, visitors, and community members.

- Install kiosks with information on nearby transit routes and schedules, where applicable
- Install wayfinding signage directing residents and visitors to active transportation facilities (pedestrian pathways, bike network, trails), where applicable
- Work with building owner/management company to support travel planning resources for residents/tenants
 - » Provide transit and active transportation maps to new residents as part of “welcome package”
- Support the development of an individualized marketing program for residential developments to address resident concerns about available travel options.

Education/Promotion and Incentives

Focus: Promote early adoption of sustainable transportation modes by residents/tenants.

- Brand or highlight TDM elements in sale and rental marketing materials: proximity to transit, cycling facilities, carshare/bikeshare facilities, inclusion of annual passes or memberships to transit/carsharing/bikesharing, etc.
- Purchase annual transit passes or carshare/bikeshare membership with new home/condo purchase. Benefits:
 - » Encourage sustainable mode of travel;
 - » Reduce automobile ownership and parking requirements; and,
 - » Great marketing tool for developer/builder.



Promoting WalkScore™ and rail connections for new development in Downtown Kitchener, ON (Photo credit: ArrowLofts.com)

Resources

1. City of Hamilton. 2003. Site Plan Guidelines. Site Context (s 2.2, 2.5, 2.6), Site Design (s 3.2).
2. Institute for Transportation Engineers (ITE). 2010. Promoting sustainable transportation through site design.
3. City of Richmond Zoning Bylaw 8500 (Section 7, Parking and Loading).
4. Association of Pedestrian and Bicycle Professionals (APBP). 2010. Bicycle Parking Guidelines, 2nd Ed.
5. City of Toronto. 2013. Zoning By-Law 569-2013. Parking Rates (200.5.10).
6. City of Hamilton. 2013. Pedestrian Mobility Plan.
7. City of Hamilton. 2005. Zoning By-Law 05-200. Parking Regulations (s 5.6).
8. City of Edmonton. Zoning By-Law 12800. Parking, Loading and Passenger Drop-off (s 54.2).
9. City of Hamilton Cash-in-lieu of Parking Program and Application.
10. Smith, M.S. 2005. Shared parking 2nd Ed. Washington, DC. ULI - the Urban Land Institute and the International Council of Shopping Centres.
11. IBI Group. 2009. Parking standards review: Examination of potential options and impacts of car share programs on parking standards.
12. Nelson-Nygaard. 2011. Getting more with less: Managing residential parking in urban developments with carsharing and unbundling.
13. City of Hamilton. 2012. B-Line Background Information Report.
14. City of Hamilton 2010. Transit-Oriented Development Guidelines

3.B Commercial Office

Category	TDM Initiative	Single tenant		Multiple tenant	
		Low density	High density	Low density	High density
Cycling	Visible, well-lit, short-term bicycle parking for visitors (above minimum provisions or recommendations)	●	●	●	●
	Provide end-of-trip amenities for tenants/employees (e.g. showers, change rooms, lockers)	-	●	○	●
	Secure, indoor bicycle parking storage spaces for tenants/employees	-	●	○	●
Walking	Safe and attractive walkways for pedestrians linking building entrances with public sidewalks	○	●	○	●
	Enhanced pedestrian amenities on-site (e.g., benches, landscaping, lighting)	○	●	○	●
Transit	Enhance walking routes between main building entrance(s) and transit stops/stations	●	●	●	●
	Provide weather-protected waiting areas	●	●	●	●
	Bicycle parking located at or near transit stops	●	●	●	●
	Provision of transit information on-site and adjacent to stops/stations	○	●	○	●
	Allow for transit priority measures (based on location of development)	-	○	○	○
Parking	Provide no more than the minimum number of required spaces for tenants/employees	●	●	●	●
	Reduced minimum parking requirements based on proximity to transit	●	●	●	●
	Shared parking with nearby developments or on-street spaces	○	●	●	●
	Implementation of paid parking for tenants/employees	○	●	○	●
	Reduced minimum parking requirements based on provision of dedicated carshare vehicle parking spaces	-	●	○	●
	Cash-in-lieu of parking to fund public parking or fund sustainable transportation	-	●	-	●
Carpool	Preferential carpool parking spaces for tenants/employees	●	●	●	●
Carshare/ Bikeshare	On-site carshare vehicle(s)		●	○	●
	On-site bikeshare facility	○	●	○	●
Wayfinding and Travel Planning	Travel planning resources for employees and customers (individualized marketing, trip planning tools, active transportation maps, information resources)	○	●	○	●
	Wayfinding signage	-	●	○	●
Education/ Promotion, Incentives	Membership in a Transportation Management Association (TMAs defined under "Education/Promotion and Incentives)	●	●	●	●
	Contribute to building a strong TDM brand	-	●	●	●
	Provide discounted transit passes, carshare memberships, and/or bikeshare memberships for tenants/employees	○	●	○	●

Legend: ○ Low Priority ● High Priority

3.B Commercial Office

Why it's important/relevant?

- Give commuters resources and incentives to reduce their automobile trips
- Lower building/lease costs and increase efficient use of property (more space to be allocated for amenities and/or office spaces).
- Provide amenities that encourage efficient and sustainable commuting trends by tenants/employees and clients/visitors.
- Encourage customers and visitors to linger.

Guidelines and Best Practices

Cycling

Focus: Encourage tenants/employees to cycle for their commute

- Convenient, secure location(s) for bicycle parking ^{1, 2 (p16)}:
 - » Near building entrance for visitors
 - » Near elevator/stairs for tenants/employees
- Secure bicycle parking and end-of trip amenities for employees:
 - » Parking near elevator/stairs for tenants/employees
 - » Locate parking on ground floor or first floor in below grade vehicle parking, and at established grade (avoid access with steps or steep incline)
 - » Provide employees with a place to shower, change and/or store clothes (commuters who cycle may often arrive wet, dirty or sweaty).
- Consult with City staff to determine appropriate bicycle parking requirements; draft standards are available at this time. Typical number of bicycle parking spaces:
 - » Long-term range: 0.11 - 0.27 spaces/100 m² (1,076 ft²) of gross leasable/interior floor area (min 2 spaces) ^{3, 4, 5 (p16)}
 - » Short-term range: 0.4 - 1 (+) 0.2 spaces/100.0 m² (1,076 ft²) of gross leasable/interior floor area (min 2 spaces) ^{3, 4, 5 (p16)}
- Potential to negotiate a reduction in number of vehicle parking spaces in exchange for additional bicycle parking spaces



Secure indoor bike parking for employees (credit: Dylan Passmore)

Walking

Focus: Encourage walking by providing safe and attractive environments for all pedestrians.

- Support pedestrian mobility through routine accommodation and design solutions ^{8 (p16)}
- Adopt pedestrian-friendly site design standards ^{1, 2 (p16)}:
 - » Well-lit sidewalks and walkways throughout building(s) (e.g. avoid dark alleys, hallways, stairwells)
 - » Direct connections to/from streets and main entrances
 - » Weather protection by main entrances and on adjacent sidewalks
- Amenities such as benches, pedestrian-scale lighting and street trees, help create/define public spaces that prioritize pedestrians
 - » However, amenities should not create physical barriers and diminish accessibility

Transit

Focus: Prioritize connections and access to transit. Encourage transit as a desirable mode choice.

- Design direct and convenient connections to transit stations/stops:
 - » Well-lit walkways

3.B Commercial Office (cont'd)

- » Weather protected waiting area (e.g. overhang, awning)
- » Barrier free access including connecting sidewalks to bus stops
- » Bike parking near stops
- Consult with HSR to enhance nearby bus stops (e.g. provide for benches, shelters)
- Encourage large-scale employers to participate in transit pass program
- Incorporate displays or kiosks into design of common areas (e.g. lobby) or near entrances to display transit information, such as schedules of nearby routes
- If development is along major roadway or at key intersection, reserve enough curb space for current or future implementation of transit priority measure (e.g. queue jump lanes, bus stops)
- » Implementation and pricing must be in line with surrounding parking supply (i.e., not suitable where free public parking is offered nearby)
- » Benefits: encourages tenants/employees to find alternative travel modes, and recovers parking facility or management costs
- Carshare parking encourage employees to leave their vehicle at home and use carsharing for infrequent/short business vehicle trips, and therefore reduce overall parking requirements:
 - » Requires coordination with providers (see “Carshare/ Bikeshare”)
 - » Typical: 2% parking reduction for providing carshare spaces for 2% of building occupants ^{10 (p16)}
- Explore opportunities to apply for cash-in-lieu of parking provisions ^{12 (p16)}
 - » Typical range: \$5,000–\$7,000 per space

Parking

Focus: Reduce single occupant vehicle commuting patterns, reduce oversupply of parking.

- Supply only the minimum number of required parking spaces as outlined in the zoning bylaw ^{9 (p16)}
 - » Reducing parking spaces should not exacerbate any current parking issues
- Explore potential to reduce parking requirements due to proximity to transit corridors with increased service levels (e.g. 1-5% parking reduction for development within ~400-600m of transit), ^{10, 13, 14 (p16)}
 - » Development Planning staff will work with applicant to determine if reductions are feasible based on site context
 - » Encourage employees and visitors to take transit
- Explore potential to meet parking requirements through shared parking, depending on context and proximity to developments with complimentary uses ^{11 (p16)}
 - » Office uses have higher occupancy rates during daytime weekdays, while entertainment and restaurants have lower occupancy rates during these times and higher occupancy on evenings and weekends
- Encourage building owner to implement paid parking:

Carpool

Focus: Provide incentives to employees who carpool to work.

- Reserve premium parking spaces for carpool vehicles:
 - » At ground level or close to entrances/elevators
 - » Wider or more easily maneuverable spaces
 - » Typical: ~5% of employee spaces ^{10 (p16)}
- Clearly mark spaces and establish enforcement



Secure outdoor bike parking at Mohawk College (credit: Smart Commute)

3.B Commercial Office (cont'd)

Carshare/Bikeshare

Focus: Providing alternatives for employees/tenants and community members.

- Encourage more sustainable travel for infrequent/short business trips by employees
- Consult/discuss with carshare providers to provide vehicle(s) and dedicated parking stall(s) on-site
- Consult/discuss with bikeshare providers to provide a docking station and bikes on-site where appropriate
- Benefits employees as well as nearby residents and businesses (community at large) where suitable

Wayfinding and Travel Planning

Focus: Increase awareness of sustainable transportation opportunities for employees/tenants, visitors, and community members.

- Work with building owner/property manager to support travel planning resources (see Education/Promotion)
 - » Encourage clients/customers to take transit when visiting by providing transit information on website or on-site (e.g., “Directions by Transit” information on tenants’ websites)
 - » Provide transit and active transportation maps to new employees as part of “welcome package”
- Install kiosks with information on nearby transit routes and schedules, bicycle routes and pedestrian walkways, where applicable
- Install wayfinding signage directing employees and visitors to transit and active transportation facilities, where applicable
- Support the development of an individualized marketing program for employees to customize routes to work.

Education/Promotion and Incentives

Focus: Promote early adoption of sustainable transportation modes by employers, employees and tenants.

- Encourage building owner and/or tenants to join Smart Commute or other transportation management association (TMA) that promotes sustainable choices for employers/employees, monitors progress, develops incentive programs, and provides online tools.

- Fund initial TMA membership (1-2 years).
- Brand or highlight TDM elements in sale or rental marketing materials: proximity to transit, cycling facilities, carshare/bikeshare facilities, etc.
- Utilize Smart Commute’s basic or enhanced service package to provide discounted transit passes.
- Benefits of providing transit passes or carshare/bikeshare membership with office space agreement:
 - » Encourage sustainable mode of travel;
 - » Reduce parking requirements; and,
 - » Great marketing tool for developer/builder/property manager

Resources

1. City of Hamilton. 2003. Site Plan Guidelines. Site Context (s 2.2, 2.5, 2.6), Site Design (s 3.2).
2. Institute for Transportation Engineers (ITE). 2010. Promoting sustainable transportation through site design.
3. City of Richmond Zoning Bylaw 8500 (Section 7, Parking and Loading).
4. City of Toronto Zoning Bylaw 569-2013 (230.5.10 Bicycle Parking Rates All Zones).
5. Association of Pedestrian and Bicycle Professionals (APBP). 2010. Bicycle Parking Guidelines, 2nd Ed.
6. City of Vancouver. 2013. Parking By-law. 6059 Off-street Bicycle Parking Regulations.
7. City of Toronto. 2013. Zoning By-Law 569-2013. Parking Rates (200.5.10).
8. City of Hamilton. 2013. Pedestrian Mobility Plan.
9. City of Hamilton. 2005. Zoning By-Law 05-200. Parking Regulations (s 5.6).
10. Region of Waterloo. 2013. TDM parking and trip reduction strategy. TDM Checklist.
11. Smith, M.S. 2005. Shared parking 2nd Ed. Washington, DC. ULI - the Urban Land Institute and the International Council of Shopping Centres.
12. City of Hamilton Cash-in-lieu of Parking Program and Application.
13. City of Hamilton. 2012. B-Line Background Information Report.
14. City of Hamilton 2010. Transit-Oriented Development

3.C Commercial Retail

Category	TDM Initiative	Single tenant		Multiple tenant	
		Small-med	Large	Small plaza	Large plaza/retail centre
Cycling	Visible, well-lit, short-term bicycle parking for shoppers, customers and other visitors (above minimum provisions or recommendations)	●	●	●	●
	Provide end-of-trip amenities for employees (e.g. showers, change rooms, lockers)	-	●	○	●
	Secure, indoor bicycle parking storage spaces for employees	-	●	○	●
Walking	Safe and attractive walkways for pedestrians linking building entrances with public sidewalks	○	●	○	●
	Enhanced pedestrian amenities on-site (benches, landscaping, lighting)	○	●	○	●
Transit	Provide weather-protected waiting areas	●	●	●	●
	Bicycle parking located at or near transit stops	●	●	●	●
	Enhance walking routes between main building entrance(s) and transit stops/stations	○	●	●	●
	Provision of transit information on-site and adjacent to stops/stations	○	●	●	●
	Allow for transit priority measures (based on location of development)	-	○	○	○
Parking	Provide no more than the minimum number of required spaces for employees and visitors	●	●	●	●
	Reduced minimum parking requirements based on proximity to transit	●	●	●	●
	Cash-in-lieu of parking to fund public parking or fund sustainable transportation	●	●	●	●
	Shared parking with nearby developments or on-street spaces	○	●	●	●
	Implementation of paid parking for employees and customers	○	●	●	●
	Reduced minimum parking requirements for dedicated car share vehicle parking spaces	-	●	●	●
Carpool	Preferential carpool parking spaces for employees or customers	●	●	●	●
Carshare/ Bikeshare	On-site carshare vehicle(s)		●	●	●
	On-site bikeshare facility	○	●	●	●
Wayfinding and Travel Planning	Travel planning resources for employees (individualized marketing, trip planning tools, active transportation maps, information resources)	○	●	●	●
	Wayfinding signage	-	●	○	●
Education/ Promotion, Incentives	Membership in a Transportation Management Association (TMAs defined under "Education/Promotion and Incentives)	●	●	●	●
	Contribute to building a strong TDM brand	-	●	●	●
	Include discounted transit passes, carshare memberships, and/or bikeshare memberships for tenants/employees	○	●	○	●

Legend: ○ Low Priority ● High Priority

3.C Commercial Retail

Why it's important/relevant?

- Reduce commuter and shopping trips by single occupant vehicles.
- Lower building/lease costs and increase efficient use of property (more space to be allocated for retail and/or amenities).
- Provide amenities that encourage efficient and sustainable travel by tenants/employees and shoppers.
- Encourage vibrant commercial centres that promote diverse range of business and retail activity (satisfy shopping/service needs in one area; avoid need to drive to multiple destinations).
- Encourage customers, visitors, and tourists to linger.

Guidelines and Best Practices

Cycling

Focus: Encourage cycling as a viable option for commuting (tenants/employees) and shopping.

- Convenient, secure, and readily accessible short-term parking:
 - » Within 15 m (~50 ft) of building entrances (if multiple entrances, distribute to all main entrances)
 - » Avoid conflicts with pedestrians and vehicles
- Secure bicycle parking and end-of trip amenities for employees:
 - » Parking near elevator/stairs for tenants/employees
 - » Locate parking on ground floor or first floor in below grade vehicle parking, and at established grade (avoid access with steps or steep incline)
 - » Provide employees with a place to shower, change and/or store clothes (commuters who cycle may often arrive wet, dirty or sweaty).
- Consult with City staff to determine appropriate bicycle parking requirements; draft standards are available at this time. Typical number of bicycle parking spaces:
 - » Long-term range: 0.09 - 0.27 spaces/100 m² (1,076 ft²) of gross leasable/interior floor area (min 2 spaces)^{1,2,3 (p20)}
 - » Short-term range: 0.2 - 3 (+) 0.3 spaces/100 m²

(1,076 ft²) of gross leasable/interior floor area (min 2 spaces)^{1,2,3 (p20)}

- Potential to negotiate a reduction in number of vehicle parking spaces in exchange for additional bicycle parking spaces:
 - » E.g. 5 bike parking spaces above minimum requirement = 1 parking space (max 1 space/300m² of gross floor area⁴ or up to 20% reduction⁵)

Walking

Focus: Encourage walking by providing safe and attractive environments for all pedestrians.

- Support pedestrian mobility through routine accommodation and design solutions⁶
- Develop a pleasant storefront environment, with greenery, shade and amenities^{7,8 (p20)}
 - » Well-lit sidewalks and walkways throughout building(s) (e.g. avoid dark alleys, hallways, stairwells)
 - » Direct connections to/from streets and main entrances
 - » Weather protection by main entrances and on adjacent sidewalks
- Amenities such as benches, pedestrian-scale lighting and street trees, help create/define public spaces that prioritize pedestrians
 - » However, amenities should not create physical barriers and diminish accessibility

Transit

Focus: Prioritize connections and access to transit. Encourage transit as a desirable mode choice.

- Design direct and convenient connections to transit stations/stops:
 - » Well-lit walkways
 - » Weather protected waiting area (e.g. overhang, awning)
 - » Barrier free access including connecting sidewalks to bus stops
 - » Bike parking near stops

3.C Commercial Retail (cont'd)

- Consult with HSR to enhance nearby bus stops (e.g. provide for benches, shelters)
- Incorporate displays or kiosks into design of common areas (e.g. lobby) or near entrances to display transit information, such as schedules of nearby routes
- If development is along major roadway or at key intersection, reserve enough curb space for current or future implementation of transit priority measure (e.g. queue jump lanes, bus stops)

Parking

Focus: Reduce single occupant vehicle commuting patterns, reduce oversupply of parking, support trip-chaining.

- Supply only the minimum number of required parking spaces as outlined in the zoning bylaw ^{9 (p20)}
 - » Reducing parking spaces should not exacerbate any current parking issues
- Explore potential to reduce parking requirements due to proximity to transit corridors with increased service levels (e.g. 1-5% parking reduction for development within ~400-600m of transit) ^{10, 13, 14 (p20)}
 - » Development Planning staff will work with applicant to determine if reductions are feasible based on site context
 - » Encourage employees and customers to take transit
- Explore opportunities to apply for cash-in-lieu of parking provisions ^{11 (p20)}
 - » Typical range: \$5,000–\$7,000 per space
- Explore potential to meet parking requirements through shared parking, depending on context and proximity to developments with complimentary uses ^{12 (p20)}
 - » Retail uses may have higher occupancy rates during evenings and weekends, while offices have lower occupancy rates during these times and higher occupancy on daytime weekends
- Encourage building owner to implement paid parking:
 - » Implementation and pricing must be in line with surrounding parking supply (i.e. not suitable where free public parking is offered nearby)
 - » Benefits: encourages employees and customers to find alternative travel modes, and recovers parking facility or management costs

- Carshare parking encourages sustainable modes of transportation - employees, customers and community at large
 - » Requires coordination with providers (see “Carshare/ Bikeshare”)
 - » Typical: 2% parking reduction for providing carshare spaces for 2% of building occupants ^{10 (p20)}

Carpool

Focus: Provide incentives to employees and/or customers who carpool.

- Reserve premium parking spaces for carpool vehicles:
 - » At ground level or close to entrances/elevators
 - » Wider or more easily maneuverable spaces
 - » Typical: ~5% of employee spaces ^{10 (p20)}
- Clearly mark spaces and establish enforcement



Smart Parking spaces at Vaughan Mills
(credit: Smart Commute North Toronto Vaughan)

Carshare/Bikeshare

Focus: Providing alternatives for employees, customers and community members.

- Consult/discuss with carshare providers to provide vehicle(s) and dedicated parking stall(s) on-site
- Consult/discuss with bikeshare providers to provide a docking station and bikes on-site where appropriate
- Benefits retail employees and customers, as well as nearby residents and businesses (community at large) where suitable

3.C Commercial Retail (cont'd)



Bikeshare station in front of restaurant (credit: Dylan Passmore)

Wayfinding and Travel Planning

Focus: Increase awareness of sustainable transportation opportunities for employees/tenants, visitors, and community members.

- Work with building owner/property manager to support travel planning resources (see Education/Promotion)
 - » Encourage customers to take transit when visiting by providing transit information on website or on-site
 - » Provide transit and active transportation maps to employees and customers (coordinate with HSR and active transportation groups to obtain/distribute)
- Install kiosks with information on nearby transit routes and schedules, bicycle routes and pedestrian walkways, where applicable
- Install wayfinding signage directing employees and visitors to transit and active transportation facilities, where applicable
- Support the development of an individualized marketing program for employees to customize routes to work

Education/Promotion and Incentives

Focus: Promote early adoption of sustainable transportation modes by employers, employees and tenants.

- Encourage building owner and/or tenants to join Smart Commute or other transportation management association (TMA) that promotes sustainable choices, monitors progress, develops incentive programs, and provides online tools.

- Utilize Smart Commute's basic or enhanced service package to provide discounted transit passes.
- Brand or highlight TDM elements in sale or rental marketing materials: proximity to transit, cycling facilities, carshare/bikeshare facilities, etc.
- Benefits of providing transit passes or carshare/bikeshare membership with commercial space rental agreement:
 - » Encourage sustainable modes of travel;
 - » Reduce parking requirements; and,
 - » Great marketing tool for developer/property manager

Resources

1. City of Richmond Zoning Bylaw 8500 (Section 7, Parking and Loading).
2. City of Toronto Zoning Bylaw 569-2013 (230.5.10 Bicycle Parking Rates All Zones).
3. Association of Pedestrian and Bicycle Professionals (APBP). 2010. Bicycle Parking Guidelines, 2nd Ed.
4. City of Vancouver. 2013. Parking By-law. 6059 Off-street Bicycle Parking Regulations.
5. City of Toronto. 2013. Zoning By-Law 569-2013. Parking Rates (200.5.10).
6. City of Hamilton. 2013. Pedestrian Mobility Plan.
7. City of Hamilton. 2003. Site Plan Guidelines. Site Context (s 2.2, 2.5, 2.6), Site Design (s 3.2).
8. Institute for Transportation Engineers (ITE). 2010. Promoting sustainable transportation through site design.
9. City of Hamilton. 2005. Zoning By-Law 05-200. Parking Regulations (s 5.6).
10. Region of Waterloo. 2013. TDM parking and trip reduction strategy. TDM Checklist.
11. City of Hamilton Cash-in-lieu of Parking Program and Application.
12. Smith, M.S. 2005. Shared parking 2nd Ed. Washington, DC. ULI - the Urban Land Institute and the International Council of Shopping Centres.
13. City of Hamilton 2010. Transit-Oriented Development Guidelines

3.D Mixed Use (Residential and Commercial)

Category	TDM Initiative	Low density residential, commercial frontage	High density residential, commercial frontage	High density residential, large commercial
Cycling	Visible, well-lit, short-term bicycle parking for visitors and customers (above minimum provisions or recommendations)	●	●	●
	Secure, indoor bicycle parking storage spaces for residents and employees	○	●	●
	Provide end-of-trip amenities for employees (e.g. showers, change rooms, lockers)	○	○	●
Walking	Safe and attractive walkways for pedestrians linking building entrances with public sidewalks	●	●	●
	Enhanced pedestrian amenities on-site (benches, landscaping, lighting)	●	●	●
Transit	Enhance walking routes between main building entrance(s) and transit stops/stations	●	●	●
	Provide weather-protected waiting areas	●	●	●
	Bicycle parking located at or near transit stops	●	●	●
	Provision of transit information on-site and adjacent to stops/stations	●	●	●
Parking	Provide no more than the minimum number of required spaces for residents, employees, and visitors	●	●	●
	Reduced minimum parking requirements based on proximity to transit	●	●	●
	Implement paid parking for employees and visitors	●	●	●
	Unbundle parking costs from residential unit costs	●	●	●
	Shared parking with nearby developments or on-street spaces	○	●	●
	Cash-in-lieu of parking to fund public parking or fund sustainable transportation	-	●	●
Carpool	Reduced minimum parking requirements for dedicated car share vehicle parking spaces	-	●	●
	Preferential carpool parking spaces for employees	○	○	●
Carshare/ Bikeshare	On-site carshare vehicle(s)	-	●	●
	On-site bikeshare facility	-	●	●
Wayfinding and Travel Planning	Travel planning resources for residents and employees (individualized marketing, trip planning tools, active transportation maps, information resources)	-	●	●
	Wayfinding signage	-	●	●
Education/ Promotion, Incentives	Include discounted transit passes, carshare memberships, and/ or bikeshare memberships with new home/condo purchase or commercial space purchase/rental	●	●	●
	Membership in a Transportation Management Association (TMAs defined under "Education/Promotion and Incentives)	○	○	●
	Contribute to building a strong TDM brand	-	●	●

Legend: ○ Low Priority ● High Priority

3.D Mixed Use

Why it's important/relevant?

- Reduce commuter and shopping trips by auto.
- Lower building/lease costs and increase efficient use of property (more space to be allocated for retail and/or amenities).
- Provide amenities that encourage efficient and sustainable travel by tenants (employees and residents) and visitors/shoppers.
- Encourage vibrant commercial centres that promote a live-work-play environment and diverse range of business and retail activity (satisfy shopping/service needs in one area).
- Encourage customers, visitors, and residents to linger.

Guidelines and Best Practices

Cycling

Focus: Encourage cycling as a viable option for commuting (residents and commercial tenants) and shopping.

- Convenient, secure, and readily accessible short-term parking:
 - » Within 50 ft of building entrances (if multiple entrances, distribute to all main entrances)
 - » Avoid conflicts with pedestrians and vehicles
- Secure bicycle parking for long-term users:
 - » Parking near elevator/stairs
 - » Locate parking on ground floor or first floor in below grade vehicle parking, and at established grade (avoid access with steps or steep incline)
 - » Provide employees with a place to shower, change and/or store clothes (commuters who cycle may often arrive wet, dirty or sweaty).
- Typical number of bicycle parking spaces:
 - » Long-term: 1.25 per dwelling unit ^{1 (p24)}
 - » Short-term: 0.2 per dwelling unit ^{1 (p24)}
 - » Total spaces: 0.5 per dwelling unit or 5–20% of auto spaces (min. 5, max. 50) ^{2,3 (p24)}; cumulative total of all bicycle parking spaces required for each use on the lot ^{4,5}

- Potential to negotiate a reduction in number of vehicle parking spaces in exchange for additional bicycle parking spaces:
 - » E.g. 5 bike parking spaces above minimum requirement = 1 parking space (up to 20% reduction for residential ^{6 (p24)}; or max 1 space/300m² of gross floor area ^{7 (p24)})

Walking

Focus: Encourage walking by providing safe and attractive environments for all pedestrians.

- Support pedestrian mobility through routine accommodation and design solutions ^{8 (p24)}
- Develop a pleasant storefront environment, with greenery, shade and amenities ^{9, 10 (p24)}
 - » Well-lit sidewalks and walkways throughout building(s) (e.g. avoid dark alleys, hallways, stairwells)
 - » Direct connections to/from streets and main entrances
 - » Weather protection by main entrances and on adjacent sidewalks
- Amenities such as benches, pedestrian-scale lighting and street trees, help create/define public spaces that prioritize pedestrians
 - » However, amenities should not create physical barriers and diminish accessibility

Transit

Focus: Prioritize connections and access to transit. Encourage transit as a desirable mode choice.

- Design direct and convenient connections to transit stations/stops:
 - » Well-lit
 - » Weather protected waiting area (e.g. overhang, awning)
 - » Barrier free access including connecting sidewalks to bus stops
 - » Bike parking near stops
- Consult with HSR to enhance nearby bus stops (e.g., provide for benches, shelters)

3.D Mixed Use (continued)

- Incorporate displays or kiosks into design of common areas (e.g., lobby) or near entrances to display transit information, such as schedules of nearby routes.

Parking

Focus: Reduce auto ownership, reduce oversupply of parking, and private vehicle trips, reduce single occupant vehicle commuting patterns.

- Supply only the minimum number of required parking spaces as outlined in the zoning bylaw ^{11 (p24)}
 - » Reducing parking spaces should not exacerbate any current parking issues
- Explore potential to reduce parking requirements due to proximity to transit corridors with increased service levels (e.g. 1-5% parking reduction for development within ~400-600m of transit) ^{12, 16, 17(p24)}:
 - » Development Planning staff will work with development community to determine if reductions are feasible based on site context
 - » Encourage employees and shoppers to take transit
- Explore opportunities to apply for cash-in-lieu of parking provisions ¹³
 - » Typical range: \$5,000–\$7,000 per space
- Explore potential to meet parking requirements through shared parking, depending on context and proximity to developments with complimentary uses ^{14 (p24)}:
 - » Residential land uses have lower occupancy rates during daytime weekdays, while offices have higher occupancy rates during this same time and lower occupancy rates on evening periods and the weekends.
- Encourage building owner to implement paid parking:
 - » Implementation and pricing must be in line with surrounding parking supply (i.e., not suitable where free public parking is offered nearby)
 - » Benefits: encourages employees and customers to find alternative travel modes, and recovers parking facility or management costs
- Carshare parking encourages sustainable modes of transportation - employees, customers and community at large
 - » Requires coordination with providers (see “Carshare/ Bikeshare”)

- » Typical: 2% parking reduction for providing carshare spaces for 2% of building occupants ¹²
- Unbundling the purchase of parking spaces from the rental/sale cost of residential units:
 - » Generally for buildings with multiple units (> 10 units) ¹⁵
 - » Benefits: more efficient use of parking, and lower auto ownership rates (resident does not feel need to own a car because of unused space)
 - » Requires parking management of excess parking spaces (sell or lease) and measures to prevent sale of multiple spaces to single buyer (avoid monopoly)
 - » Additional monitoring and regulation to avoid spillover to public on- and off-street parking supply

Carpool

Focus: Provide incentives to employees and/or customers who carpool.

- Reserve premium parking spaces for carpool vehicles:
 - » At ground level or close to entrances/elevators
 - » Wider or more easily maneuverable spaces
 - » Typical: ~5% of employee spaces ^{12 (p24)}
- Clearly mark spaces and establish enforcement

Carshare/Bikeshare

Focus: Providing alternatives for employees, customers and community members.

- Encourage more sustainable travel and lower auto ownership levels by residents
- Consult/discuss with carshare providers to provide vehicle(s) and dedicated parking stall(s) on-site
- Consult/discuss with bikeshare providers to provide a docking station and bikes on-site where appropriate
- Benefits residents and employees of building, as well as nearby residents and businesses (community at large) by providing easy access to carshare where suitable

3.D Mixed Use (continued)

Wayfinding and Travel Planning

Focus: Increase awareness of sustainable transportation opportunities for residents/tenant employees, visitors, and community members.

- Install kiosks with information on nearby transit routes and schedules, bicycle routes and pedestrian walkways, where applicable
- Install wayfinding signage directing residents, employees and visitors to transit and active transportation facilities, where applicable
- Work with building owner/property manager/tenant to support travel planning resources (see Education/Promotion)
 - » Provide transit and active transportation maps to new residents, employees and customers (coordinate with HSR and active transportation groups to obtain/distribute)
 - » Encourage visitors/customers to take transit when visiting by providing transit information on website or on-site (e.g., “Directions by Transit” information on retailers’ websites)
- Support the development of an individualized marketing program for tenants and employees to customize travel routes (e.g. to work, school, etc)

Education/Promotion and Incentives

Focus: Promote early adoption of sustainable transportation modes by residents and tenants.

- Encourage building owner and/or commercial tenants to join Smart Commute or other transportation management association (TMA) that promotes sustainable choices, monitors progress, develops incentive programs, and provides online tools.
- Brand or highlight TDM elements in sale or rental marketing materials: proximity to transit, cycling facilities, carshare/bikeshare facilities, etc.
- Utilize Smart Commute’s basic or enhanced service package to provide discounted transit passes for employment uses.
- Benefits of purchasing transit passes or carshare/bikeshare membership with new home/condo purchase, or office space rental agreement:
 - » Encourage sustainable mode of travel;

- » Reduce parking requirements; and,
- » Great marketing tool for developer/builder/property manager

Resources

1. City of Richmond Zoning Bylaw 8500 (Section 7, Parking and Loading).
2. City of Ottawa Zoning By-law 2008-250 (Part 4).
3. City of Edmonton Zoning Bylaw 12800 (Section 54.3, Schedule 2).
4. City of Toronto Zoning Bylaw 569-2013 (230.5.10 Bicycle Parking Rates All Zones).
5. Association of Pedestrian and Bicycle Professionals (APBP). 2010. Bicycle Parking Guidelines, 2nd Ed.
6. City of Toronto. 2013. Zoning By-Law 569-2013. Parking Rates (200.5.10).
7. City of Vancouver. 2013. Parking By-law. 6059 Off-street Bicycle Parking Regulations.
8. City of Hamilton. 2013. Pedestrian Mobility Plan.
9. City of Hamilton. 2003. Site Plan Guidelines. Site Context (s 2.2, 2.5, 2.6), Site Design (s 3.2).
10. Institute for Transportation Engineers (ITE). 2010. Promoting sustainable transportation through site design.
11. City of Hamilton. 2005. Zoning By-Law 05-200. Parking Regulations (s 5.6).
12. Region of Waterloo. 2013. TDM parking and trip reduction strategy. TDM Checklist.
13. City of Hamilton Cash-in-lieu of Parking Program and Application.
14. Smith, M.S. 2005. Shared parking 2nd Ed. Washington, DC. ULI - the Urban Land Institute and the International Council of Shopping Centres.
15. Nelson-Nygaard. 2011. Getting more with less: Managing residential parking in urban developments with carsharing and unbundling.
16. City of Hamilton. 2012. B-Line Background Information Report.
17. City of Hamilton 2010. Transit-Oriented Development Guidelines.

3.E Institutional

Category	TDM Initiative	Municipal Building	Hospital, Health Services	Place of Worship	College/ University
Cycling	Visible, well-lit, short-term bicycle parking for visitors and employees/students (above minimum provisions or recommendations)	●	●	●	●
	Provide end-of-trip amenities for employees (e.g. showers, change rooms, lockers)	●	●	-	●
	Secure, indoor bicycle parking storage spaces for employees and students	●	●	-	●
Walking	Safe and attractive walkways for pedestrians linking building entrances with public sidewalks	●	●	●	●
	Enhanced pedestrian amenities on-site (benches, landscaping, lighting)	●	●	●	●
Transit	Enhance walking routes between main building entrance(s) and transit stops/stations	●	●	●	●
	Provide weather-protected waiting areas	●	●	●	●
	Bicycle parking located at or near transit stops	●	●	○	●
	Provision of transit information on-site and adjacent to stops/stations	●	●	○	●
Parking	Provide no more than the minimum number of required spaces	●	●	●	●
	Reduced minimum parking requirements based on proximity to transit	●	●	●	●
	Cash-in-lieu of parking to fund public parking or fund sustainable transportation	○	●	○	●
	Shared parking with nearby developments or on-street spaces	●	○	●	○
	Implementation of paid parking for employees, students and visitors	○	●	○	●
	Reduced minimum parking requirements for dedicated carshare vehicle parking spaces	○	○	○	●
Carpool	Preferential carpool parking spaces for employees, students and visitors	●	●	○	●
Carshare/ Bikeshare	On-site carshare vehicle(s)	●	●	-	●
	On-site bikeshare facility	●	●	-	●
Wayfinding and Travel Planning	Wayfinding signage	●	●	○	●
	Travel planning resources (individualized marketing, trip planning tools, active transportation maps, information resources)	●	●	-	●
Education/ Promotion, Incentives	Contribute to building a strong TDM brand	●	●	-	●
	Membership in a Transportation Management Association (TMAs defined under "Education/Promotion and Incentives), or have TDM office/coordinator	●	●	-	●

Legend: ○ Low Priority ● High Priority

3.E Institutional

Why it's important/relevant?

- Great opportunity to promote sustainable travel given high levels of trip activity and public accessibility.
- Provide amenities that encourage efficient and sustainable travel by all users.

Guidelines and Best Practices

Cycling

Focus: Encourage cycling as a viable option for commute (employees, students) and visitors.

- Convenient, secure, and readily accessible short-term parking:
 - » Within 15 m (~50 ft) of building entrances (if multiple entrances, distribute to all main entrances)
 - » Avoid conflicts with pedestrians and vehicles
- Secure bicycle parking for long-term users:
 - » Parking near elevator/stairs
 - » Locate parking on ground floor or first floor in below grade vehicle parking, and at established grade (avoid access with steps or steep incline)
- Provide employees and students with a place to shower, change and/or store clothes (commuters who cycle may often arrive wet, dirty or sweaty).
- Consult with City staff to determine appropriate bicycle parking requirements; draft standards are available at this time. Typical number of bicycle parking spaces:
 - » Long-term ranges: 0.06-0.15 spaces/100m² of interior floor area (health service) ^{1 (p28)}, 1 space/4 staff members and 1 space/10 students (college, university) ^{2 (p28)}, 0.27 spaces/100m² gross floor area (place of worship) ^{2 (p28)}, 1 space/10 employees (library, government office) ^{3 (p28)}
 - » Short-term ranges: 3 (+) 0.06-0.15 spaces/100m² of interior floor area (health service) ^{1 (p28)}, 1 space/10 students (college, university) ^{2 (p28)}, 0.78 spaces/100m² gross floor area (place of worship) ^{2(p28)}, 1 space/10,000sqft (library, government office) ^{3(p28)}
- Potential to negotiate a reduction in number of vehicle parking spaces in exchange for additional bicycle parking spaces



Bike storage for employees and students (credit: Michael Coghlan)

Walking

Focus: Encourage walking by providing safe and attractive environments for all pedestrians.

- Support pedestrian mobility through routine accommodation and design solutions ^{5 (p28)}
- Adopt pedestrian-friendly site design standards ^{6, 7(p28)}
 - » Well-lit sidewalks and walkways throughout building(s) (e.g. avoid dark alleys, hallways, stairwells)
 - » Direct connections to/from streets and main entrances
 - » Weather protection by main entrances and on adjacent sidewalks
- Amenities such as benches, pedestrian-scale lighting and street trees, help create/define public spaces that prioritizes pedestrians
 - » However, amenities should not create physical barriers and diminish accessibility
- Locating parking and pick-up/drop-off areas away from main pedestrian connections (e.g., not in front main entrance) reduces pedestrian-vehicle conflicts and improves safety

Transit

Focus: Prioritize connections and access to transit. Encourage transit as a desirable mode choice.

- Design direct and convenient connections to transit stations/stops:

3.E Institutional (continued)

- » Well-lit
- » Weather protected waiting area (e.g. overhang, awning)
- » Barrier free access including connecting sidewalks to bus stops
- » Bike parking near stops
- Consult with HSR to enhance nearby bus stops (e.g., provide for benches, shelters)
- Encourage large-scale employers to participate in transit pass program
- Incorporate displays or kiosks into design of common areas (e.g. lobby) or near entrances to display transit information, such as schedules of nearby routes

Parking

Focus: Reduce single occupant vehicle commuting patterns, reduce oversupply of parking.

- Supply only the minimum number of required parking spaces as outlined in the zoning bylaw ^{8 (p28)}
 - » Reducing parking spaces should not exacerbate any current parking issues
- Explore potential to reduce parking requirements due to proximity to transit corridors with increased service levels ^{11, 12 (p28)}:
 - » Development Planning staff will work with applicant to determine if reductions are feasible based on site context
 - » Encourage employees and shoppers to take transit
- Explore opportunities to apply for cash-in-lieu of parking provisions ^{9 (p28)}
 - » Typical range: \$5,000–\$7,000 per space
- Explore potential to meet parking requirements through shared parking, depending on context and proximity to developments with complimentary uses ^{10 (p28)}
 - » Municipal services and colleges/universities have higher occupancy rates during daytime weekdays, while commercial entertainment (e.g., movie theaters, restaurants) have lower utilization rates during this same time and higher occupancy rates on evening periods and the weekends.
- Encourage building owner/tenant to implement paid

parking:

- » Implementation and pricing must be in line with surrounding parking supply (i.e., not suitable where free public parking is offered nearby)
- » Benefits: encourages employees and customers to find alternative travel modes, and recovers parking facility or management costs
- Carshare parking encourages sustainable modes of transportation - employees, customers and community at large
 - » Requires coordination with providers (see “Carshare/ Bikeshare”)

Carpool

Focus: Provide incentives to employees, students and/or visitors who carpool.

- Reserve premium parking spaces for carpool vehicles:
 - » At ground level or close to entrances/elevators
 - » Wider or more easily maneuverable spaces
- Clearly mark spaces and establish enforcement

Carshare/Bikeshare

Focus: Providing alternatives for employees, students and community members.

- Consult/discuss with carshare providers to provide vehicle(s) and dedicated parking stall(s) on-site



Campus bus stop with wayfinding map (credit: Laura Cham)

3.E Institutional (continued)

- Consult/discuss with bikeshare providers to provide a docking station and bikes on-site where appropriate
- Benefits employees and students, as well as nearby residents and businesses (community at large) by providing easy access to carshare/bikeshare

Wayfinding and Travel Planning

Focus: Increase awareness of sustainable transportation opportunities for employees, students, visitors and community members.

- Install kiosks with information on nearby transit routes and schedules, bicycle routes and pedestrian walkways, where applicable
- Install wayfinding signage directing employees, students and visitors to transit and active transportation facilities, where applicable
- Work with building owner/property manager to support travel planning resources (see Education/Promotion)
 - » Provide transit and active transportation maps to employees and customers (coordinate with HSR and active transportation groups to obtain/distribute)
 - » Encourages visitors to take transit by providing transit information on website or on-site (e.g., “Directions by Transit” information on owner/municipal service/school websites)
- Support the development of an individualized marketing program for employees/students to customize travel routes (e.g. to work, to school)



U-pass brochures (credit: GRT, Snow Conrad)

Education/Promotion and Incentives

Focus: Promote early adoption of sustainable transportation modes.

- Encourage tenant, owner and/or manager to actively promote TDM:
 - » Join Smart Commute or other transportation management association (TMA) that promotes sustainable choices and TDM programs, monitors progress, develops incentive programs, and provides online tools by funding initial TMA membership (1-2 years)
 - » Brand or highlight TDM elements in marketing materials: proximity to transit, cycling facilities, carshare/bikeshare facilities, etc.
 - » Utilize Smart Commute’s basic or enhanced service packages to provide discounted transit passes.
 - » Provide carshare/bikeshare memberships to employees and/or students

Resources

1. City of Toronto Zoning Bylaw 569-2013 (230.5.10 Bicycle Parking Rates All Zones).
2. City of Richmond Zoning Bylaw 8500 (Section 7).
3. Association of Pedestrian and Bicycle Professionals (APBP). 2010. Bicycle Parking Guidelines, 2nd Ed.
4. City of Vancouver. 2013. Parking By-law. 6059 Off-street Bicycle Parking Regulations.
5. City of Hamilton. 2013. Pedestrian Mobility Plan.
6. City of Hamilton. 2003. Site Plan Guidelines. Site Context (s 2.2, 2.5, 2.6), Site Design (s 3.2).
7. Institute for Transportation Engineers (ITE). 2010. Promoting sustainable transportation through site design.
8. City of Hamilton. 2005. Zoning By-Law 05-200. Parking Regulations (s 5.6).
9. City of Hamilton Cash-in-lieu of Parking Program and Application.
10. Smith, M.S. 2005. Shared parking 2nd Ed. Washington, DC. ULI - the Urban Land Institute and the International Council of Shopping Centres.
11. City of Hamilton. 2012. B-Line Background Report.
12. City of Hamilton 2010. Transit-Oriented Development Guidelines.

3.F Schools

Category	TDM Initiative	Elementary School	High School
Cycling	Visible, well-lit bicycle parking for students and staff, as well as visitors (above minimum provisions or recommendations)	●	●
	Cycling paths to connect school ground with surrounding neighbourhood (bicycle network implementation)	●	●
	Provide end-of-trip amenities for staff (e.g. showers, change rooms, lockers)	●	●
Walking	Safe and attractive walkways for pedestrians linking building entrances with public sidewalks	●	●
	Enhanced pedestrian amenities on-site (benches, landscaping, lighting)	●	●
	Locating pick-up/drop-off areas away from main building entrance(s)	●	●
	Walking paths to connect school ground with surrounding neighbourhood	●	●
Transit	Enhance walking routes between main building entrance(s) and school bus/transit stops	●	●
	Provide weather-protected waiting areas	●	●
	Bicycle parking located at or near transit stops	○	●
	Provision of transit information on-site and adjacent to stops/stations	○	●
	Implement transit priority measures (e.g. queue jump lanes, traffic signal priority)	○	●
Parking	Provide no more than the minimum number of required spaces for staff, visitors, and students	●	●
	Reduced minimum parking requirements based on proximity to transit	●	●
	Implementation of paid parking for staff and high school students	●	●
	Cash-in-lieu of parking to fund sustainable transportation	●	●
	Reduced minimum parking requirements for dedicated car share vehicle parking spaces	○	○
	Shared parking with nearby developments or on-street spaces	○	○
Carpool	Preferential carpool parking spaces for staff and high school students	●	●
Carshare/ Bikeshare	On-site carshare vehicle(s)	-	○
	On-site bikeshare facility	-	●
Wayfinding and Travel Planning	Support development of a school travel plan for staff, students, and community members	●	●
	Travel planning resources for staff and students (individualized marketing, trip planning tools, active transportation maps, information resources)	○	●
	Wayfinding signage	○	●
Education/ Promotion, Incentives	Contribute to building a strong TDM brand	●	●

Legend: ○ Low Priority ● High Priority

3.F Schools

Why it's important/relevant?

- Promotes sustainable travel given high levels of trip activity and public accessibility.
- Encourages parents, students and staff to reduce weekly automobile trips and promote physical activity behaviour early in life.
- Increase safety by reducing traffic and parking problems around neighbourhood.
- Efficient use of property spaces (less space allocated for parking allows for more playground space).
- Can influence travel behaviour by incorporating School Travel Planning into site selection and site design.

Guidelines and Best Practices

Cycling

Focus: Encourage more students and staff who cycle to school by increasing safety and opportunities

- Convenient, secure, and readily accessible bicycle parking:
 - » Within 15 m (~50 ft) of building entrances (if multiple entrances, distribute to all main entrances)
 - » Avoid conflicts with pedestrians and vehicles
 - » At established grade (avoid access with steps or steep incline)
- Provide staff/teachers with a place to shower, change and/or store clothes (commuters who cycle may often arrive wet, dirty or sweaty).
- Safe and direct connections to bicycle network in surrounding neighbourhoods:
 - » Connect to existing cycling paths, or consult with City of Hamilton to create/assign new cycling infrastructure (greater accessibility to school grounds)
 - » Support traffic safety improvements along cycling routes
 - » Implement bicycle safety audits
- Consult with City staff to determine appropriate bicycle parking requirements; draft standards are available at this time. Typical number of bicycle parking spaces:
 - » Long-term range: 1 space/3-10 employees and 1 space/20 students (min 2 spaces) ^{1,2 (p32)} or 0.06-0.1 spaces/100m² of interior floor area ^{3 (p32)}
 - » Short-term range: 0.5 - 3 spaces/10 students (min 2 spaces) ^{1,2 (p32)} or 3 (+) 0.06-0.1 spaces/100m² of interior floor area ^{3 (p32)}
- Potential to negotiate a reduction in number of vehicle parking spaces in exchange for additional bicycle parking spaces

Walking

Focus: Encourage walking by providing safe and attractive environments for all pedestrians.

- Support pedestrian mobility through routine accommodation and design solutions ^{5 (p32)}
- Adopt pedestrian-friendly site design standards ^{6,7 (p32)}
 - » Well-lit sidewalks and walkways throughout building(s) (e.g. avoid dark alleys, hallways, stairwells)
 - » Direct connections to/from streets and main entrances
 - » Weather protection by main entrances and on adjacent sidewalks
- Amenities such as benches, pedestrian-scale lighting and street trees, help create/define public spaces that prioritizes pedestrians
 - » However, amenities should not create physical barriers and diminish accessibility
- Provide or help fund (contribute to costs) pedestrian infrastructure improvements:
 - » Shortcuts between residential streets and school
 - » Trail access
 - » Traffic safety improvements (e.g., pedestrian-controlled traffic signals and/or mid-block crossings; lower speed limits)
 - » Pedestrian safety audits
- Locating parking and pick-up/drop-off areas away from main pedestrians connections (e.g., not in front main entrance) reduces pedestrian-vehicle conflicts and improves safety

3.F Schools (continued)

Transit

Focus: Prioritize connections and access to transit. Encourage transit as a desirable mode choice.

- Design direct and convenient connections to transit stations/stops:
 - » Well-lit walkways
 - » Weather protected waiting area (e.g. overhang, awning)
 - » Barrier free access including connecting sidewalks to bus stops
 - » Bike parking near stops
- Consult/work with the school boards and HSR to identify nearby bus stops and reasonable amenities including, shelters or road enhancements to make the stops safer for children
- Incorporate displays or kiosks into design of main entrances to display transit information, such as schedules of nearby routes
- If school is along major roadway or at key intersection, design should account for current or future implementation of transit infrastructure (e.g., queue jump lanes, enhanced bus stops)

Parking

Focus: Reduce oversupply of parking and private vehicle trips.

- Supply only the minimum number of required parking spaces as outlined in the zoning bylaw ^{9 (p32)}
 - » Reducing parking spaces should not exacerbate any current parking issues
- Explore potential to reduce parking requirements due to proximity to transit corridors with increased service levels ^{11,12 (p32)}:
 - » Development Planning staff will work with applicant to determine if reductions are feasible based on site context
 - » Encourage staff, students, and parents to take transit
- Work with school boards/administrators to implement paid parking (i.e., paid-permit parking only):
 - » Implementation and pricing must be in line with surrounding parking supply (i.e., not suitable where



Pedestrian crossing at elementary school entrance (credit: Michael Hicks)

- free public parking is offered nearby)
 - » Even if not paid, implement a permit-parking system that requires application/registration (process emphasizes limited parking and discourages casual auto trips)
 - » Benefits: encourages teachers, staff and students to find alternative travel modes, and can recover parking facility or management costs
- Explore opportunities to apply for cash-in-lieu of parking provisions ^{9 (p32)}
 - » Typical range: \$5,000–\$7,000 per space
- Explore potential to meet parking requirements through shared parking, depending on context and proximity to developments with complimentary uses ^{10 (p32)}:
 - » Schools have higher occupancy rates during daytime weekdays, while commercial entertainment (e.g., movie theaters, restaurants) have lower utilization rates during this same time and higher occupancy rates on evening periods and the weekends.
- Carshare parking encourages sustainable modes of transportation - staff, students and community at large
 - » Requires coordination with providers (see “Carshare/ Bikeshare”)

Carpool

Focus: Provide incentives to staff, teachers, students and/or visitors who carpool.

- Reserve premium parking spaces for carpool vehicles:
 - » At ground level or close to entrances/elevators
 - » Wider or more easily maneuverable spaces

3.F Schools (continued)

- » Preferential access to premium spaces for carpool vehicles with multiples students or multiple families
- Clearly mark spaces and establish enforcement

Carshare/Bikeshare

Focus: Providing alternatives for employees, students and community members.

- Consult/discuss with carshare providers to provide vehicle(s) and dedicated parking stall(s) on-site
- Consult/discuss with bikeshare providers to provide a docking station and bikes on-site where appropriate
- Benefits staff, teachers and students, as well as nearby residents and businesses (community at large) by providing easy access to carshare/bikeshare systems

Wayfinding and Travel Planning

Focus: Increase awareness of sustainable transportation opportunities for employees, students, visitors and community members.

- Support School Board and City Staff to develop School Travel Plan for staff, students, and parents (should also be incorporated in site selection and site design)
- Support the development of an individualized marketing program for employees/students to customize travel routes (e.g. to work, to school)
- Install kiosks with information on nearby transit routes and schedules, bicycle routes and pedestrian walkways, where applicable
- Install wayfinding signage directing travellers to transit and active transportation facilities, where applicable
- Work with school district/administrators to support travel planning resources (see Education/Promotion)
 - » Provide transit and active transportation maps to students, parents and staff every year as part of “welcome package”
 - » Encourages visitors to take transit by providing transit information on website or on-site

Education/Promotion and Incentives

Focus: Promote early adoption of sustainable transportation modes.

- Encourage school district/administrators to actively promote TDM:
 - » Join Smart Commute or other transportation management association (TMA) that promotes sustainable choices and TDM programs, monitors progress, develops incentive programs, and provides online tools.
 - » Brand or highlight TDM elements in marketing materials: proximity to transit, cycling facilities, carshare/bikeshare facilities, etc.
 - » Utilize Smart Commute’s basic or enhanced service packages to provide discounted transit passes.
 - » Provide carshare/bikeshare memberships to employees and/or students

Resources

1. City of Richmond Zoning Bylaw 8500 (Section 7, Parking and Loading).
2. City of Vancouver. 2013. Parking By-law. 6059 Off-street Bicycle Parking Regulations.
3. City of Toronto Zoning Bylaw 569-2013 (230.5.10 Bicycle Parking Rates All Zones).
4. Association of Pedestrian and Bicycle Professionals (APBP). 2010. Bicycle Parking Guidelines, 2nd Ed.
5. City of Hamilton. 2013. Pedestrian Mobility Plan.
6. City of Hamilton. 2003. Site Plan Guidelines. Site Context (s 2.2, 2.5, 2.6), Site Design (s 3.2).
7. Institute for Transportation Engineers (ITE). 2010. Promoting sustainable transportation through site design.
8. City of Hamilton. 2005. Zoning By-Law 05-200. Parking Regulations (s 5.6).
9. City of Hamilton Cash-in-lieu of Parking Program and Application.
10. Smith, M.S. 2005. Shared parking 2nd Ed. Washington, DC. ULI - the Urban Land Institute and the International Council of Shopping Centres.
11. City of Hamilton. 2012. B-Line Background Information Report.
12. City of Hamilton 2010. Transit-Oriented Development Guidelines.

3.G Industrial

Category	TDM Initiative	Light Industrial		Heavy Industrial	
		Small	Large	Small	Large
Cycling	Visible, well-lit, short-term bicycle parking for visitors (above minimum provisions or recommendations)	●	○	○	○
	Provide end-of-trip amenities for employees (e.g. showers, change rooms, lockers)	-	●	-	●
	Secure, indoor bicycle parking storage spaces for employees	○	●	○	●
Walking	Safe and attractive walkways for pedestrians linking building entrances with public sidewalks	●	●	●	●
	Enhanced pedestrian amenities on-site (benches, landscaping, lighting)	○	●	○	●
Transit	Enhance walking routes between main building entrance(s) and transit stops/stations	●	●	●	●
	Provide weather-protected waiting areas	●	●	●	●
	Bicycle parking located at or near transit stops	●	●	●	●
	Provision of transit information on-site and adjacent to stops/stations	○	●	○	●
Parking	Providing no more than the minimum number of required spaces for employees and visitors	●	●	●	●
	Reduced minimum parking requirements based on proximity to transit	●	●	●	●
	Cash-in-lieu of parking to fund public parking or fund sustainable transportation	○	●	○	●
	Implementation of paid parking for employees	○	●	○	●
	Shared parking with nearby developments or on-street spaces	●	○	●	○
Carpool	Preferential carpool parking spaces for employees	●	●	●	●
Wayfinding and Travel Planning	Travel planning resources for employees (individualized marketing, trip planning tools, active transportation maps, information resources)	○	●	○	●
	Wayfinding signage	○	○	○	○
Education/Promotion, Incentives	Membership in a Transportation Management Association (TMAs defined under "Education/Promotion and Incentives) for employees	●	●	●	●
	Contribute to building a strong TDM brand	-	●	-	●

Legend: ○ Low Priority ● High Priority

3.G Industrial

Why it's important/relevant?

- Give commuters resources and incentives to reduce their automobile trips
- Lower building/lease costs and efficient use of property spaces (more space to be allocated for work/industrial areas).
- Provide amenities that encourage efficient and sustainable commuting trends by tenants/employees and clients/visitors.

Guidelines and Best Practices

Cycling

Focus: Encourage tenants/employees to cycle for their commute

- Secure bicycle parking and end-of trip amenities for employees:
 - » Parking near elevator/stairs for tenants/employees
 - » Locate parking on ground floor or first floor in below grade vehicle parking, and at established grade (avoid access with steps or steep incline)
 - » Provide employees with a place to shower, change and/or store clothes (commuters who cycle may often arrive wet, dirty or sweaty).
- Convenient and readily accessible short-term parking:
 - » Within 50 ft of building entrances (if multiple entrances, distribute to all main entrances)
 - » Avoid conflicts with pedestrians and vehicles
- Consult with City staff to determine appropriate bicycle parking requirements; draft standards are available at this time. Typical number of bicycle parking spaces:
 - » Long-term range: 0.07 - 0.27 spaces/100m² (1,076 ft²) of gross leasable floor area (min 2 spaces)^{1,2}
 - » Short-term range: 0.27 spaces/100m² of gross leasable floor area^{1 (p36)} or 2 spaces at each public building entrance^{2 (p36)}
- Potential to negotiate a reduction in number of vehicle parking spaces in exchange for additional bicycle parking spaces:
 - » E.g. 5 bike parking spaces above minimum requirement = 1 parking space (max bike spaces

used for reduction can not exceed 1 space/10 employees^{3 (p36)}

Walking

Focus: Encourage walking by providing safe and attractive environments for all pedestrians.

- Support pedestrian mobility through routine accommodation and design solutions^{4 (p36)}
- Adopt pedestrian-friendly design standards^{5,6 (p36)}
 - » Well-lit sidewalks and walkways throughout building(s) (e.g. avoid dark alleys, hallways, stairwells)
 - » Direct connections to/from streets and main entrances
 - » Weather protection by main entrances and on adjacent sidewalks
- Amenities such as benches, pedestrian-scale lighting and street trees, help create/define public spaces that prioritizes pedestrians
 - » However, amenities should not create physical barriers and diminish accessibility

Transit

Focus: Prioritize connections and access to transit. Encourage transit as a desirable mode choice.

- Design direct and convenient connections to transit stations/stops:
 - » Well-lit walkways
 - » Weather protected waiting area (e.g. overhang, awning)
 - » Barrier free access including connecting sidewalks to bus stops
 - » Bike parking near stops
- Consult with HSR to enhance nearby bus stops (e.g., provide for benches, shelters)
- Encourage large-scale employers to participate in transit pass program
- Incorporate displays or kiosks into design of common areas (e.g., lobby) or near entrances to display transit information, such as schedules of nearby routes

3.G Industrial (continued)

Parking

Focus: Reduce single occupant vehicle commuting patterns, reduce oversupply of parking.

- Supply only the minimum number of required parking spaces as outlined in the zoning bylaw ^{7 (p36)}
 - » Reducing parking spaces should not exacerbate any current parking issues
- Explore potential to reduce parking requirements due to proximity to transit corridors with increased service levels ^{10, 11}:
 - » Development Planning staff will work with applicant to determine if reductions are feasible based on site context
 - » Encourage employees and visitors to take transit
- Explore opportunities to apply for cash-in-lieu of parking provisions ⁸
 - » Typical range: \$5,000–\$7,000 per space
- Encourage building owner to implement paid parking:
 - » Implementation and pricing must be in line with surrounding parking supply (i.e., not suitable where free public parking is offered nearby)
 - » Benefits: encourages tenants/employees to find alternative travel modes, and recovers parking facility or management costs
- Explore potential to meet parking requirements through shared parking, depending on context and proximity to developments with complimentary uses ^{9 (p36)}
 - » Industrial employment and manufacturing uses have higher occupancy rates during daytime weekdays, while entertainment and restaurants have lower occupancy rates during these times and higher occupancy on evenings and weekends

Carpool

Focus: Provide incentives to employees who carpool to work.

- Reserve premium parking spaces for carpool vehicles:
 - » At ground level or close to entrances/elevators
 - » Wider or more easily maneuverable spaces
- Clearly mark spaces and establish enforcement



Reserved parking spaces for carpool vehicles (credit: Laura Cham)



Kiosk with transit information (credit: Oran Viriyincy)

3.G Industrial (continued)

Wayfinding and Travel Planning

Focus: Increase awareness of sustainable transportation opportunities for employees/tenants, visitors, and community members.

- Work with building owner/tenant to support travel planning resources (see Education/Promotion)
 - » Provide employees with transit and active transportation maps
 - » Encourages visitors to take transit by providing transit information on website or on-site (e.g., “Directions by Transit” information on school’s websites)
- Install kiosks with information on nearby transit routes and schedules, bicycle routes and pedestrian walkways, where applicable
- Install wayfinding signage directing travellers to transit and active transportation facilities, where applicable

Education/Promotion and Incentives

Focus: Promote early adoption of sustainable transportation modes by employers, employees and tenants.

- Encourage building owner and/or tenants to join Smart Commute or other transportation management association (TMA) that promotes sustainable choices for employers/employees, monitors progress, develops incentive programs, and provides online tools.
 - » Fund initial TMA membership (1-2 years)
- Brand or highlight TDM elements in marketing materials: proximity to transit, cycling facilities, carshare/bikeshare facilities, etc.
- Support the development of an individualized marketing program for employees to customize travel routes to work

Resources

1. City of Richmond Zoning Bylaw 8500 (Section 7, Parking and Loading).
2. Association of Pedestrian and Bicycle Professionals (APBP). 2010. Bicycle Parking Guidelines, 2nd Ed.
3. City of Vancouver. 2013. Parking By-law. 6059 Off-street Bicycle Parking Regulations.
4. City of Hamilton. 2013. Pedestrian Mobility Plan.
5. City of Hamilton. 2003. Site Plan Guidelines. Site Context (s 2.2, 2.5, 2.6), Site Design (s 3.2).
6. Institute for Transportation Engineers (ITE). 2010. Promoting sustainable transportation through site design.
7. City of Hamilton. 2005. Zoning By-Law 05-200. Parking Regulations (s 5.6).
8. City of Hamilton Cash-in-lieu of Parking Program and Application.
9. Smith, M.S. 2005. Shared parking 2nd Ed. Washington, DC. ULI - the Urban Land Institute and the International Council of Shopping Centres.
10. City of Hamilton. 2012. B-Line Background Information Report.
11. City of Hamilton 2010. Transit-Oriented Development Guidelines

4. Report Evaluation

City staff will use a checklist to evaluate development applications and track which TDM measures are being incorporated into developments.

A copy of the staff checklist is provided in the Appendix.

Appendices

1. Staff Evaluation Checklist
2. Support for TDM in City of Hamilton documents

Staff Evaluation

Project Name: _____

Land Use: _____

Property Address: _____

Application Type: _____

Applicant Name: _____

Located on existing transit or AT network? **Y** **N**

Use the following checklist to assess how well each TDM initiative is addressed in the development application (note instances where initiatives are not applicable). For each category, initiatives are listed from “high” to “low” TDM impact.

Category	TDM Initiative	Not Applicable	Modest* level of provision	High* level of provision
Cycling	Bicycle network implementation			
	Secure, indoor bicycle parking			
	End-of-trip amenities (e.g. showers, change rooms)			
	Visible, well-lit, short-term bicycle parking (above minimum)			
Walking	Safe and attractive walkways			
	Pedestrian amenities on-site (benches, landscaping, lighting)			
	Pathway connections between school and neighbourhood			
	Student pick-up/drop-off away from main entrances			
Transit	Implement transit priority measures			
	Weather-protected waiting areas			
	Enhanced walking routes to transit			
	Bicycle parking at or near transit stops			
	On-site transit information			
Parking	No more than the minimum required spaces			
	Paid parking/Unbundle parking			
	Shared parking (nearby development, on-street)			
	Reduced parking for car share vehicle parking			
	Cash-in-lieu of parking			
	Reduced parking based on proximity to transit			
Carpool	Preferential carpool parking spaces			
Carshare/ Bikeshare	On-site carshare vehicle(s)			
	On-site bikeshare facility			
Wayfinding and Travel Planning	Travel planning resources			
	Wayfinding signage			
	Support development of School Travel Plans			
Education/ Promotion, Incentives	Membership in a TMA/Smart Commute			
	Subsidized transit passes, carshare memberships, and/or bikeshare memberships			
	Contributing to building TDM brand			

*Definitions for “Modest” and “High” are relative to a typical development of the same type and will be further bench marked through annual review. **Staff comments to be provided on the following page.

Project Name: _____

Checklist evaluation:

# measures N/A: _____	< 50% modest provision = below average *
# measures modest provision: _____	> 50% modest provision = average *
# measures high provision: _____	> 10% high provision = above average *

Staff comments:

- 1) Do the initiatives included in this application meet the objectives of the City, as outlined in the 'TDM for Development' document?
- 2) Are there additional opportunities for this development to take advantage of the benefits of TDM?

Support for TDM in City of Hamilton documents

1. Official Community Plan

The Official Plan identifies TDM as an essential part of creating an integrated and sustainable transportation network and supports the inclusion of TDM within planning and development processes. In particular, Policy C4.2.4 states:

“Transportation demand management measures shall be evaluated in all transportation related studies, master plans, environmental assessments, neighbourhood traffic management plans and new development plans including the degree to which it can help achieve transportation goals in accordance with Section C.4.1 - Policy Goals.”

The Official Plan refers to the Zoning By-law, Site Design Guidelines and the Transportation Master Plan for further recommendations, regulations, and tools for implementation of policies.

2. Transportation Master Plan

The Transportation Master Plan for Hamilton outlines transportation network policies and strategies for the next 30 years. A TDM policy paper developed as part of the TMP included seven recommended TDM policies, two of which are related to development, including initial actions or initiatives to employ:

1. “Apply travel demand management strategies as an essential part of land use controls and the provision of transportation infrastructure and services, in pursuit of a more sustainable transportation system.” Implementation initiatives included the creation and staffing of a TDM coordinator, responsible for leading and managing the City’s implementation of TDM policies.
2. “Actively consider TDM as a component of other initiatives intended to increase walking, cycling, transit use and carpooling, particularly to and from major travel destinations including the downtown core and McMaster University”. An implementation initiative under this recommendation is the explicit consideration of TDM in all municipal transportation plans and studies (e.g. Class EA projects and Neighbourhood Traffic Management Plans)

The Walking and Cycling policy paper developed as part of the TMP also included a recommended policy that is directly associated with using the development process to enhance active transportation. Implementation initiatives recommended for consideration under this policy include:

- Requiring new developments to provide safe and convenient pedestrian and cycling environments and access through site design and facilities;
- Encouraging secure bicycle parking (for multiple dwelling residential land uses) and end-of-trip cycling amenities (for larger non-residential land uses);
- Working with developers to provide enhanced pedestrian facilities (e.g., benches, parks); and,
- Creating a cash-in-lieu program to fund non-motorized infrastructure if facilities are unreasonable.

3. Transit-Oriented Development Guidelines

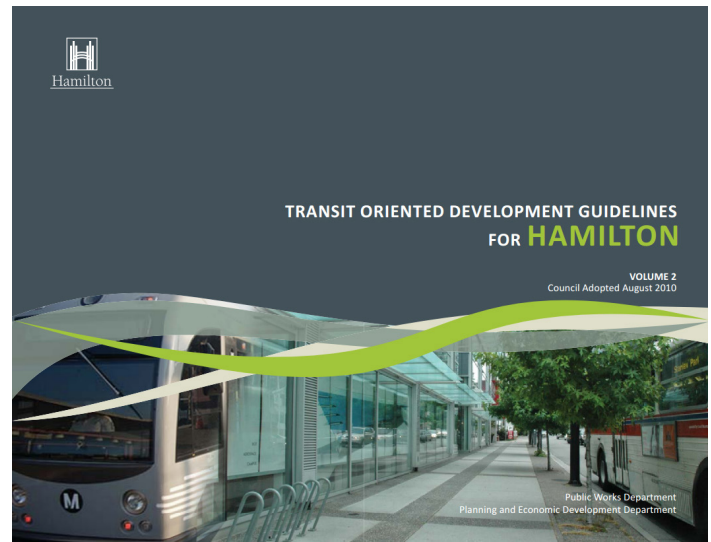
The Transit Oriented Development (TOD) Guidelines for Hamilton (2010) “can be used as a tool to guide development that recognizes the important relationship between land use and transportation planning”. The guidelines are meant to refine Official Plan policies with regards to land use and transit.

The TOD Guidelines have been framed within Hamilton’s context, and can be used by developers to “design projects that take advantage of a transit presence; meet policy objectives of the Official Plan and other planning requirements; work with the City on potential public/private projects; and be used as a marketing tool for transit-oriented projects.”

The guidelines are set out within a set of ten TOD principles:

- 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 to planning;
- 9) plan for transit and promote connections for all modes; and,
- 10) promote partnerships and innovative implementation.

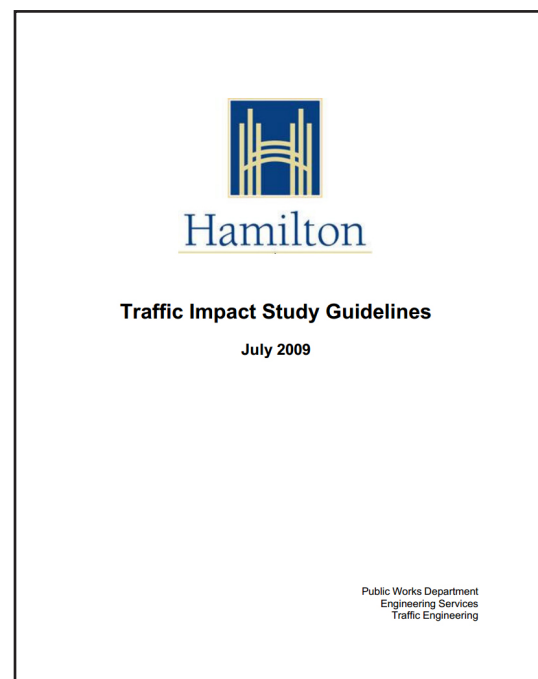
The TOD Guidelines are in line with many transit, parking, and planning and design TDM initiatives, particularly improving connectivity to transit, and encouraging high quality urban forms that attract pedestrians, cyclists and transit users.



4. Traffic Impact Study Guidelines

The Hamilton Traffic Impact Study (TIS) Guidelines (2009) provide consistency and standardization in the preparation and assessment of traffic impact studies as part of the development application process.

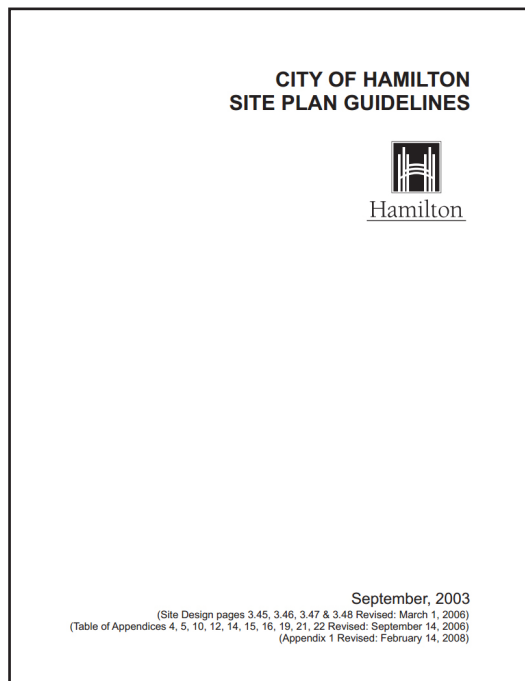
Though they do not provide discussion of relevant TDM measures for development, Hamilton’s TIS Guidelines recognize the role of TDM in reducing single-occupancy vehicle trips and allows for the reduction of projected trips generated by the new development if TDM measures are implemented.



5. Hamilton Site Plan Guidelines

The Site Plan Guidelines, developed by the City in 2003 (with revisions in subsequent years), presents design preferences and expectations to encourage high-quality, attractive and functional buildings and spaces in the city. The document is intended to assist designers, developers/builders and agencies involved in the site planning process. Section 3 of the Guidelines covers public space design, including elements with respect to pedestrian and vehicular movements.

Exhibit 2 (Appendix) shows that the Site Plan Guidelines include TDM elements for bicycle parking and pedestrian facilities around transit stations. The Guidelines also include recommendations for number of bicycle parking spaces by common land use (both indoor and outdoor spaces). It discusses parking in terms of location, circulation, and landscaping; however, it refers to the parking requirements prescribed in the zoning by-law and does not cover other potential TDM-related measures related to parking such as reduced parking requirements or shared parking.



6. Zoning By-law

The City's current Zoning By-law, 05-200, has been in place since May 2005 and outlines requirements for parking by land use type. The By-law includes two parking schedules: one for all downtown zones, and one for all other zones. Parking requirements in downtown zones are generally lower than those for the rest of the city. These reduced requirements for downtown areas are a good TDM-supportive measure for new developments, but are currently the only provisions in the Zoning by-law for reduced minimum parking standards.

Additional TDM-supportive features that could be implemented through zoning requirements include provisions for bicycle parking, parking maximums, and allowable exemptions or provisions for reductions such as cash-in-lieu, shared parking, off-site parking, and/or TDM measures. Cash-in-lieu of parking, shared parking, and provision of bicycle parking are currently encouraged within the Official Plan; however, the City's Zoning by-law has not yet incorporated such measures.