Attachment 1

TORONTO

TORONTO COMPLETE STREETS GUIDELINES

MAKING STREETS FOR PEOPLE, PLACEMAKING AND PROSPERITY.









SLEEMAN



STREETS ARE VITAL PLACES IN TORONTO.

HOW OUR STREETS ARE DESIGNED SHOULD IMPROVE SAFETY AND ACCESSIBILITY FOR ALL.

ACKNOWLEDGEMENTS

Toronto's Complete Streets Guidelines represent a collaborative effort from policy makers, City and agency staff, community groups and residents, advocates, researchers, and professionals.

In 2013, Toronto City Council requested staff to report back on an approach to developing Complete Streets Guidelines. Since that time, participants have been involved in workshops, public meetings, online surveys, photo contests, walkshops and bike tours, to examine international best practices, assess current strengths and gaps in Toronto's street design approach, evaluate recent projects, and explore innovative street design practices. These Guidelines are the product of this collaboration and hard work.

CITY OF TORONTO STAFF

TRANSPORTATION SERVICES

- Steve Buckley
- Elyse Parker
- Fiona Chapman
- Janet Lo
- Adam Popper
- Christina Bouchard
- David Kuperman
- Marko Oinonen

CITY PLANNING

- Harold Madi
- Alka Lukatela
- James Perttula
- Kristina Reinders
- David Hunter
- Leo Desorcy
- Sheila Boudreau

TORONTO URBAN FELLOWS

Emma Feltes, Jeremy Kloet, Samira Behrooz, Laura Pfeifer, Tamara Augsten, Victoria Wood, Claire Nelischer

ENGINEERING AND CONSTRUCTION SERVICES

Shirley Wilson
Penelope Palmer

TECHNICAL ADVISORY COMMITTEE (DIVISION & AGENCY LEADS)

- Build Toronto – Carlo Bonanni & Aaron Cameron
- City Planning – representatives from all Districts and Sections
- Economic Development and Culture – Rajashree Kumar & Antonella Nicaso
- Engineering and Construction Services – Charlyne Elep & Robert Klimas
- Environment and Energy – Mark Bekkering
- Equity, Diversity & Human Rights – Nicole Cormier
- Fire Services – Colin Booth
- Metrolinx – Elana Horowitz & Naren Garg
- Municipal Licencing and Standards – Carleton Grant
- Parks, Forestry and Recreation – Brian L. Mercer and Carol Walker
- Solid Waste Management Services – Rob Orpin
- Toronto Hydro – Elias Lyberogiannis
- Toronto Paramedic Services – Dawn Ainsworth
- Toronto Parking Authority – Ann Marie Chung & Ian Maher
- Toronto Police – Brett Moore
- Toronto Public Health – Monica Campbell & Carol Mee
- Toronto Transit Commission – Mary-Ann George & Rob Gillard
- Toronto Water – Patrick Cheung & Weng Yau Liang
- Transportation Services – representatives from all Districts and Sections

This list is not exhaustive as space does not permit including many others who participated in developing the Guidelines.

STAKEHOLDER ADVISORY GROUP

- Alliance for Equality for Blind Canadians – Ruth Brown
- Building, Industry, and Land Development – Danielle Chin
- Canadian Automobile Association – Raymond Chan
- Code Red TO – Rishi Lukka
- CNIB – Yin Brown
- Cycle Toronto – Jared Kolb
- David Suzuki Foundation – Kara Garcia
- Green Communities Canada – Kate Hall
- Harbord Village Residents Association – Carolee Ormee & Gord Brown
- METRAC – Linda Frempong
- North American Native Plant Society – Harold Smith
- Ontario Association of Landscape Architects – Victor Ford & Raj Mohabeer
- Park People – Jake Tobin Garrett
- Public Space Workshop – Paul Young
- Smart Commute (Metrolinx) – Jennifer McGowan
- The Laneway Project – Michelle Senayah
- Toronto Association of BIAs – John Kiru
- Toronto Centre for Active Transportation – Nancy Smith Lea
- Toronto Electric Riders Association – Doug Beatty
- Toronto and Region Conservation Authority Tim Van Seters, Rehana Rajabali, & Cameron Richardson
- Toronto Skateboarding Committee – Ariel Stagni
- Toronto Women's City Alliance – Reggie Modlich
- TTC Riders – Dane Grgas
- Urban+Digital – Gabe Sawnhey
- Walk Toronto – Dylan Reid

Over 80 organizations were invited to participate in the Stakeholder Advisory Group. The list above represents the most active participants.

CONSULTANTS & CONTRIBUTORS

DTAH, Nelson\Nygaard, and WSP/MMM Group

Document template designed by HM&E Inc. Layout and graphics by DTAH, except where noted.

Stakeholder and public engagement support provided by Swerhun Facilitation and Decision Support and the City's Public Consultation Unit.

OFFICIAL REFERENCE / CITATION

Toronto Complete Streets Guidelines Edition 1. Volume 1. 2017

All photographs are property of the City of Toronto, except where noted.

Document Typeface: Avenir

CONTENTS


4186
504 BROADVIEW STN VIA KING

c. Nicola Betts

Toronto's Complete Streets Guidelines help implement the City's Official Plan vision for complete streets and other city building objectives.

This chapter outlines that vision for streets, its supporting goals and how these guidelines should be applied.

1.0 INTRODUCTION, VISION AND GOALS

1.1

OVERVIEW

Streets are vital places in Toronto. They are the common space where our city comes together. Streets are where children learn to ride bicycles, neighbours meet and couples stroll. Streets are the front door of our businesses, homes, parks and institutions. They reflect the values of our city and, at their best, are a source of pride for the residents and visitors alike. Streets also form essential networks that move people and goods safely and efficiently in our growing city.

How our streets are designed reflect our city's values. How our streets look, feel and function should demonstrate how we want our city to be shaped.

This document outlines a refined approach for street design—a 'complete streets' approach which considers different and competing roles. This 'complete streets' approach reinforces that streets should safely accommodate all users – pedestrians, cyclists, transit services and motor vehicles – and also support and enhance local neighbourhood context and character. It's about making streets that are safe, beautiful and vibrant places with efficient links in a multi-modal transportation network.

LIABILITY STATEMENT

Toronto's Complete Streets Guidelines are based on recent experiences designing and constructing streets and extensive consultation with City divisions, Agencies, Board and Commissions, the public, Councillors, industry and community stakeholders, as well as best practices from local, provincial, national and international sources. It integrates and builds upon the latest available City policies, standards and guidelines. It is consistent with other provincial, federal and nongovernmental organizations, including the Ontario Traffic Council (OTC), Transportation Association of Canada (TAC), Institute of Transportation Engineers (ITE), National Association of City Transportation Officials (NACTO) and other sources. These Guidelines also work within existing Provincial and Federal legislation pertaining the street design and operations, such as the Ontario Highway Traffic Act and Accessibility for Ontarians with Disabilities Act.

The Guidelines are based on the principle that all streets are different, and that no single design solution exists. A street's design will be tailored for the particular needs and opportunities created by local context, existing and future uses and users and dimensions of each street.

Street design is an evolving practice. In the coming years, design strategies used elsewhere, and technologies that do not yet readily exist in Toronto, will affect how we design our streets. Street designers should stay up-to-date on the latest best practices.

TORONTO'S COMPLETE STREETS GUIDELINES

- Assist in implementing the vision for Toronto's streets set out in the City's Official Plan.
- Provide a clear street design process that enhances collaboration on city street projects.
- Encourage the use of every opportunity to apply the Complete Streets Guidelines.
- Integrate adopted City policies, standards and bylaws as they relate to street design.
- Provide City and agency staff, consultants, private developers and community groups with information on how to design streets that meet city-wide objectives.

1.2

APPLICABILITY OF GUIDELINES

Toronto's Complete Streets Guidelines should be considered in all street design projects in the City of Toronto. They are most applicable in the planning and preliminary design project phases, though they may be useful to later phases in some street design projects.

The City of Toronto carries out a wide range of street projects. Large projects, like full street reconstructions or the construction of new streets, tend to have higher budgets, broader scopes and longer timelines. Smaller projects, resurfacing or utility cut repairs have lower budgets, more constrained scopes and often shorter timelines.

Large and small projects – and all in between – offer different opportunities to make streets more complete. In each instance, practitioners are encouraged to apply their best professional design judgement and to work collaboratively to develop suitable and creative designs. They should endeavour to make all streets as complete as possible within the boundaries of budget, scope, timelines and maintenance considerations. The range of street projects includes:

PLANS

- Area Plans, Secondary Plans, Precinct Plans, Context Plans, Transportation Master Plans
- Avenue and Corridor Studies

MAJOR STREET PROJECTS

- New construction
- Reconstruction or revitalization, major resurfacing
- Environmental Assessments for new and existing streets
- Business Improvement Area projects
- Highway interchanges and grade separated crossings

MEDIUM TO SMALLER SCALE PROJECTS

- Development applications
- New sidewalks or other pedestrian links
- New bicycle infrastructure or facilities
- Transportation Safety and Local Improvement Projects (TSLIP)
- Streetscape improvements (such as: trees, landscaping, street furniture, beautification, public art, wayfinding)
- Short-term or temporary interventions for evaluation
- Signs, signal installations, lighting
- Utility cut repairs (where it affects a street segment)

1.3

STRUCTURE OF THE GUIDE

The Guidelines document is organized in ten chapters that relate to the various steps of the street design and development process. Although the Guidelines document informs the entire process, it provides a particular focus on the planning and design phases where the majority of critical decisions take place.

Chapter 1: Introduction, Vision and Goals provides an overview of complete streets for Toronto and the use of this guide, and outlines Toronto's vision and goals for complete streets. These provide the lens through which project design should proceed.

Chapter 2: Street Types describes the various types of streets in the city, the type of place they aspire to become and the transportation function they must serve.

Chapter 3: Steps to Street Design and Decision Making outlines the steps to designing streets and the decision-making framework.

Chapters 4 through 9 provide an overview of design principles and considerations for the six key components and functions on the street. Links to further resources are also provided.

- Chapter 4: Street Design for Pedestrians
- Chapter 5: Street Design for Cycling
- Chapter 6: Street Design for Transit
- Chapter 7: Street Design for Green Infrastructure
- Chapter 8: Street Design for Roadways
- Chapter 9: Street Design for Intersections

The **Conclusion** summarizes the overall process to deliver street projects.

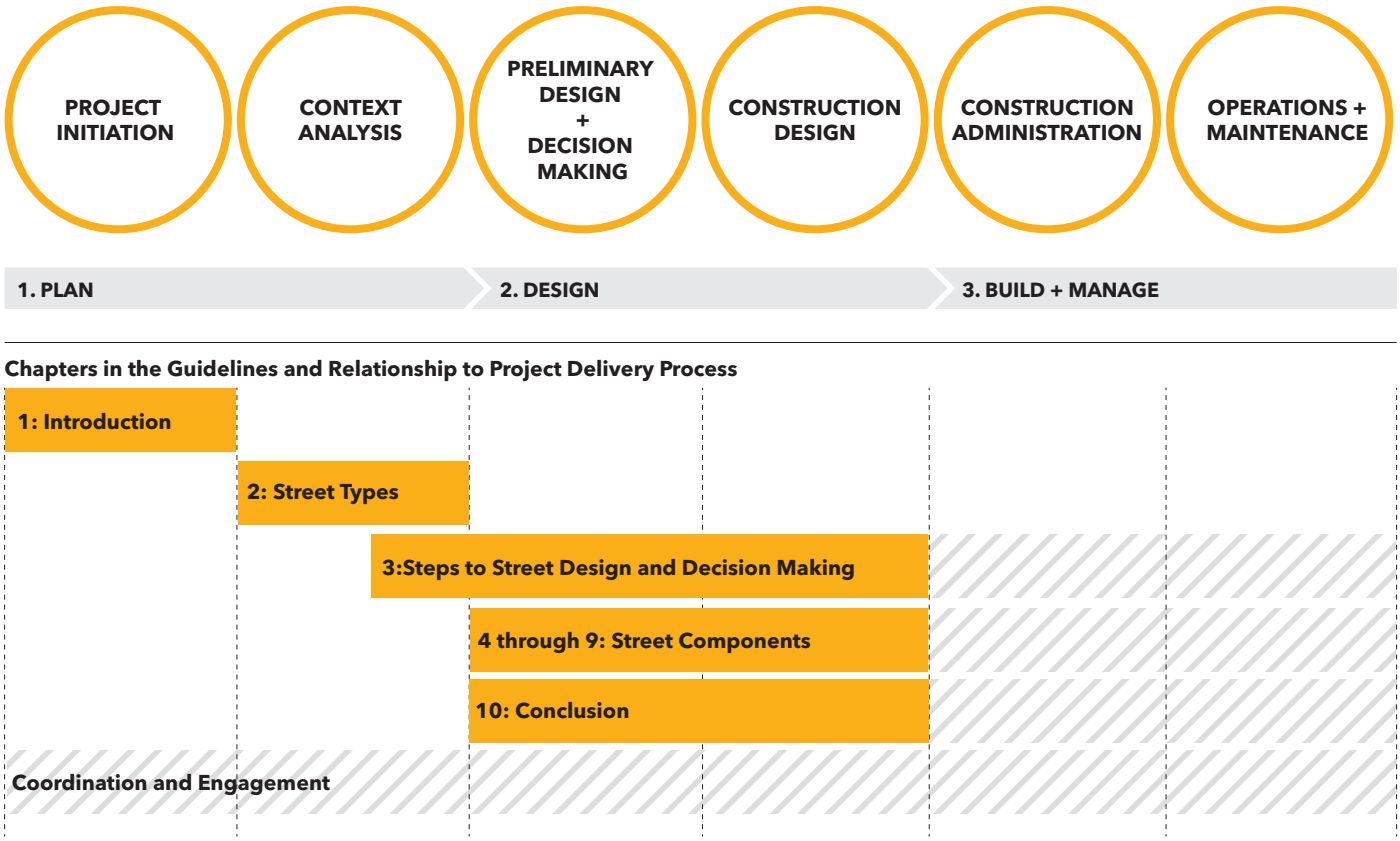
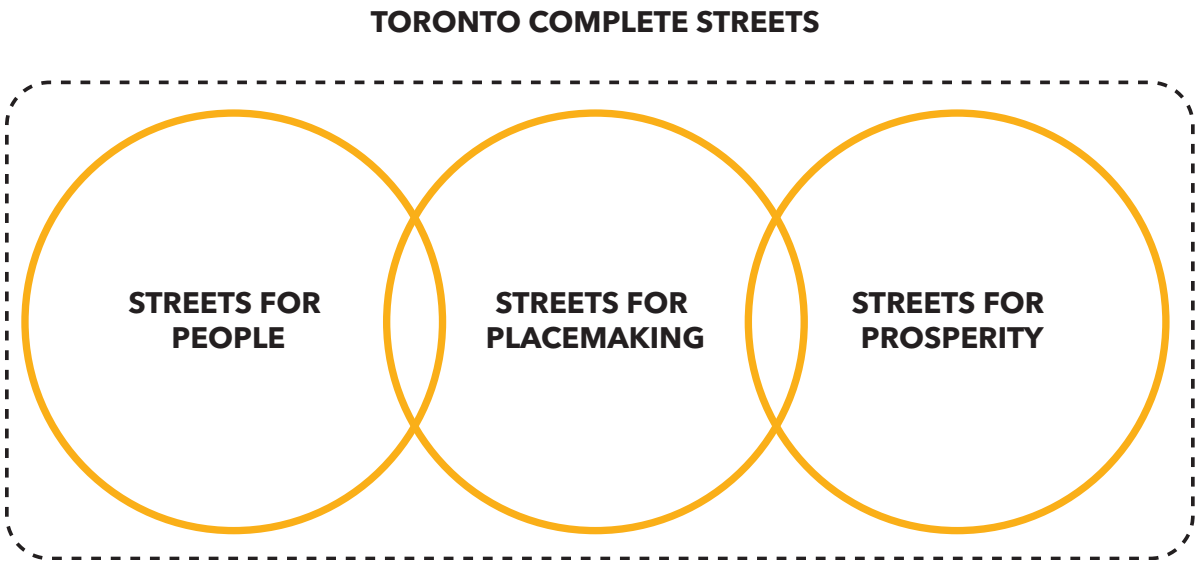


Figure 1-1: Toronto Complete Streets Guidelines Structure

1.4

VISION FOR COMPLETE STREETS

Toronto's vision for complete streets is built on the vision for streets in the City's Official Plan. There is a deep interdependence between how we design our streets and the people of the city, the health of our communities and the strength of our economy. Toronto's streets must serve a multitude of roles, functions and users. Complete streets should be designed for people, for placemaking and for prosperity.



Complete Streets for Toronto will help to satisfy several goals

STREETS FOR PEOPLE

Safe, Accessible, Choices, Transportation, Networks, Connectivity, Healthy, Resilient

Safety for all road users is a key priority and Toronto is committed to minimizing traffic injuries and fatalities. Streets are places where everyone should feel safe, comfortable and connected.

Streets should enhance human and environmental health by providing a range of safe, inviting and attractive choices for mobility and integrate all modes into a seamless network.

Streets should provide accessible sidewalk facilities that include clear, direct, unobstructed and continuous paths of context-sensitive width for all road users—regardless of physical ability or age.

STREETS FOR PLACEMAKING

Vibrant, Beautiful, Context Sensitive, Sustainable

Streets are more than just corridors for movement, they are also important public spaces, occupying more than a quarter of the city's land area. Streets are places where people meet, linger and socialize, creating communities and shaping people's experiences of their city. This important placemaking role for streets should be considered in tandem with their transportation roles.

Streets should reflect the existing and planned function, scale and character of the neighbourhoods and communities that surround them, responding and respecting the local context and character, as well as their civic role in the city.

Streets should also help minimize impacts on climate and the environment, such as by providing a generous tree canopy, and should strive to incorporate innovative stormwater management features.

STREETS FOR PROSPERITY

Economic Vitality, Social Equity, Flexible, Cost Effective

Streets are vital to the economy and our shared prosperity. People use streets to access their jobs, schools and places to shop for goods and services. Streets are the front door to many businesses that use streets to help deliver their goods and services.

The quality of a street's environment can affect its economic vitality. Toronto's streets must also be inclusive—people of all incomes, races, ages, genders and abilities should be able to safely access and benefit from functions provided by our streets.

Streets should also be flexible and have the ability to change over time, adapting to needs, preferences and technologies. Streets are not static, and should be cost effective to build, operate and maintain in all seasons.

Official Plan Sidebar: *The 'Complete Streets' approach recognizes that there is no single way in which to make a street 'complete'. It depends on numerous factors whose relative importance varies according to the character and context of each particular street. While it may not be viable or appropriate to accommodate every type of user or use on every street, the overall objective is to create a well-functioning street network that is planned and designed to provide safe access and efficient operation for all street activities and functions. Guidelines for applying the 'Complete Streets' approach will be developed to assist in resolving and balancing the competing demands placed upon the use of street rights-of-way and applied when streets are constructed, reconstructed, or otherwise improved.*

CITY OF TORONTO OFFICIAL PLAN COMPLETE STREETS POLICY

In August 2014, City Council adopted a 'complete streets' Official Plan policy that recognized that although streets may have varying priorities, all new and existing streets should accommodate a variety of modes of transportation in a way that is safe and inviting for people of all ages and abilities. The policy emphasized that streets are for more than just transportation and required that they also be designed as unique public spaces that reflect community identity and support social and economic activity. Finally the policies required that while streets must efficiently serve their role in linking places, they must also be recognized as distinct places themselves.

Toronto's Complete Streets Guidelines align with and integrate adopted City policies, standards and bylaws as they relate to street design.

City of Toronto Official Plan Policy 3.1.1(5):
"City streets are significant public open spaces which connect people and places and support the development of sustainable, economically vibrant and complete communities. New and existing City streets will incorporate a 'Complete Streets' approach and be designed to perform their diverse roles by:

a) balancing the needs and priorities of the various users and uses within the right-of-way, including provision for:
i. the safe and efficient movement of pedestrians of all ages and abilities, cyclists, transit vehicles and users, goods and services vehicles, emergency vehicles, and motorists across the network; and
ii. space for other street elements, such as utilities and services, trees and landscaping, green infrastructure, snow and stormwater management, wayfinding, boulevard cafés, marketing and vending, and street furniture;
iii. ensuring the safety of vulnerable groups such as women, children, seniors and people with disabilities by implementing the Toronto Safer City Guidelines, or an updated version thereof.
b) improving the quality and convenience of active transportation options within all communities by giving full consideration to the needs of pedestrians, cyclists, and public transit users;
c) reflecting differences in local context and character;
d) providing building access and address, as well as amenities such as view corridors, sky view, and sunlight; and
e) serving community destinations and public gathering places."

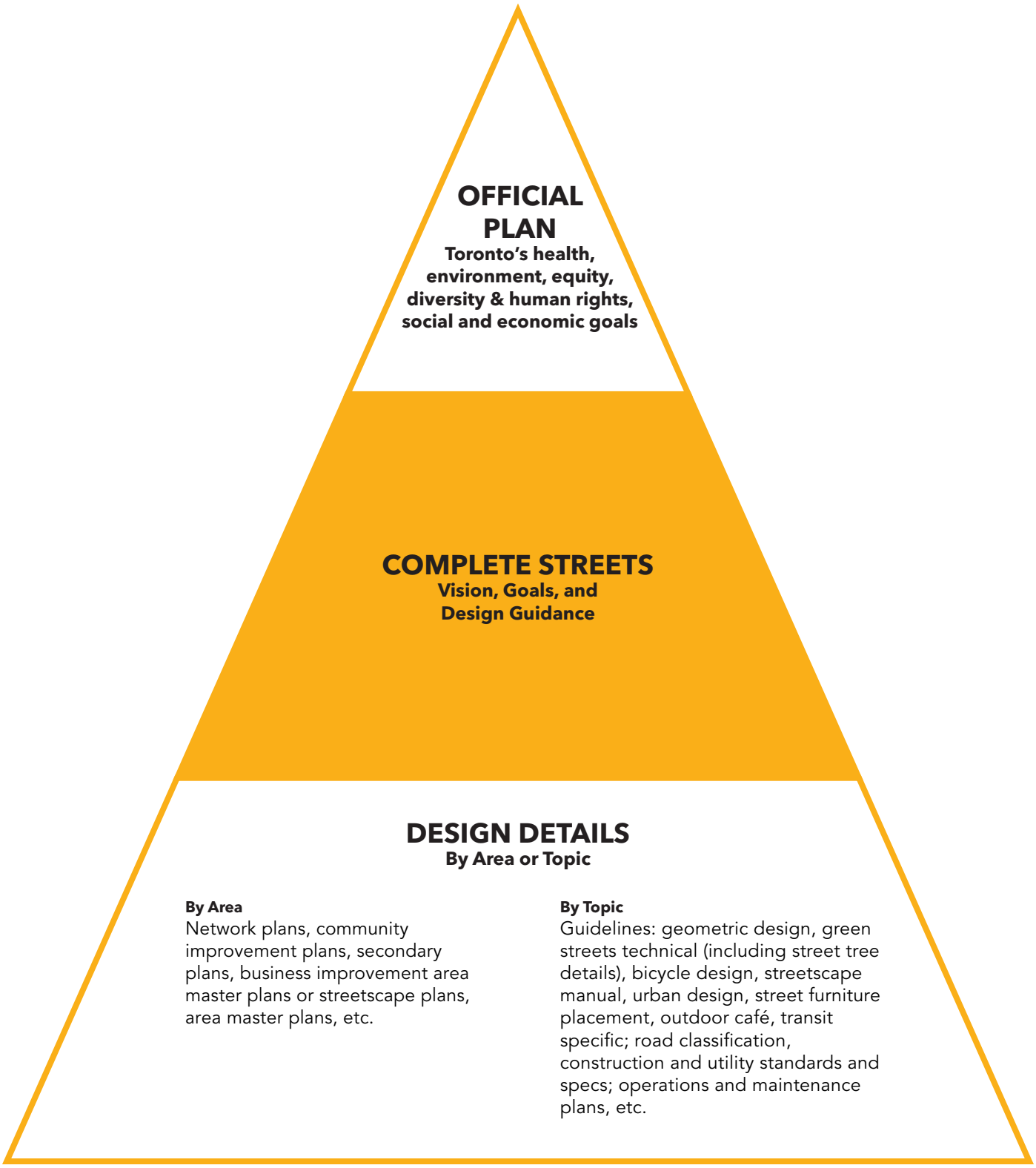
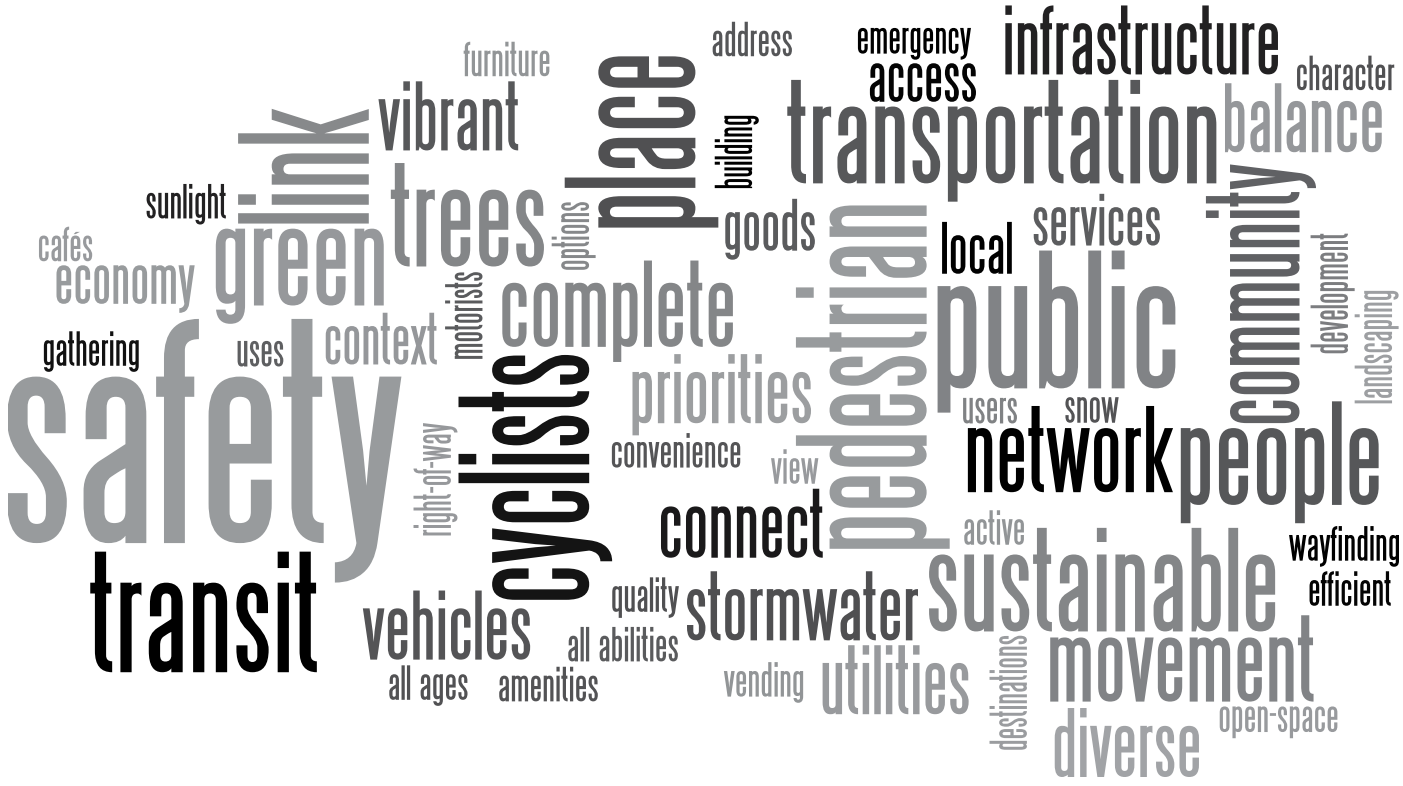


Figure 1-2: Toronto Complete Streets Policy Context

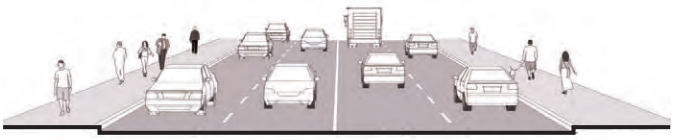
1.5

GOALS

The goals for Toronto's Complete Streets Guidelines reflect, reinforce and build on the vision for streets in the City's Official Plan. These goals are used throughout this document to inform the complete street design approach as the overall organizing framework for setting priorities, making decisions and evaluating alternative designs for Toronto street projects.

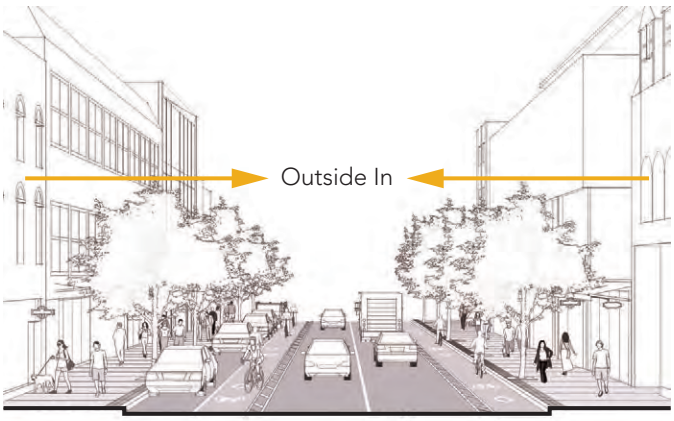


OUR DESIGN GOALS HAVE CHANGED



THEN

Auto-Mobility
Automobile Safety



NOW

Multi-modal Mobility + Access
Public Health/Safety
Economic Development
Environmental Quality
Livability/Quality of Life
Equity

c: Tom McGuire, NYC DOT/SFMTA; adapted from Boston Complete Streets Guidelines

1.5.1

STREETS FOR PEOPLE

Cities are built by and for people. Complete streets are safe and inviting, provide a range of attractive choices for mobility and integrate all modes into a seamless network. Complete streets enhance human and environmental health by providing an environment that enables and encourages active transportation. Complete streets are places where people feel comfortable and connected.

IMPROVE SAFETY & ACCESSIBILITY

Streets should be safe and accessible for people of all ages, genders and abilities, especially the most vulnerable—children, older adults and people with disabilities.

Key design objectives:

- Prioritize vulnerable users
- Design for desired target vehicle travel speed
- Minimize exposure risk for pedestrians
- Provide visible, predictable design
- Consider Crime Prevention Through Environmental Design (CPTED) strategies
- Research, pilot and evaluate innovative safety treatments, especially those successfully adopted in other cities

GIVE PEOPLE CHOICES & CONNECTED NETWORKS

Streets should be designed to create connected networks for a variety of travel modes and give people choices for how they move around the city, whether on food, bicycle, on transit or in a motor vehicle.

Key design objectives:

- Design and allocate space to move people more efficiently and enhance connectivity
- Design for person-throughput and mobility
- Understand and accommodate "desire lines" (typical paths to destinations for pedestrians and cyclists)
- Serve key community destinations and public gathering places
- Engage with stakeholders and advocates to help identify network priorities
- Accommodate emergency vehicles

PROMOTE HEALTHY AND ACTIVE LIVING

Streets should help promote healthy and active lifestyles by making streets more comfortable and inviting people to walk and bicycle and be physically active.

Key design objectives:

- Design to encourage people to walk and cycle, as well as other active modes
- Design for people to be active on streets in all seasons
- Design streets to be inviting to all ages and to encourage social interaction

Improve Safety and Accessibility

c: DTAH

Give People Choices and Connected Networks

Promote Healthy and Active Living

1.5.2

STREETS FOR PLACEMAKING

Streets are more than just corridors for movement. They shape the experience and memory of a city and they are, themselves, unique places in which to linger and enjoy. Streets should respect and respond to their existing and planned local context, physical characteristics and civic role in the city as a whole. They should be designed to encourage people to linger. Streets should help support objectives for an environmentally sustainable and resilient city.

RESPECT LOCAL CONTEXT

Streets should respond to the local area context, current and future land uses and relationships with adjacent buildings. There is no one-size-fits-all design approach. Streets should fit comfortably within the built and natural environment and reflect local identity and priorities.

Key design objectives:

- Respect and respond to existing and planned land uses, scale of buildings and setbacks
- Support a range of desired activities
- Help define and support adjacent buildings
- Serve key community destinations and public gathering places
- Engage with residents and community groups to understand the neighbourhood and its priorities
- Support and emphasize BIA identity

CREATE VIBRANT & ATTRACTIVE PUBLIC SPACES

Streets should strive to be vibrant and attractive public spaces where people want to spend time engaging in social, civic and recreational activities. Streets should be beautiful, attractive and inviting spaces that encourage investment and promote a sense of civic pride. Streets should help create a setting for daily city life and also accommodate special events. Streets should be well designed, with attention to landscaping, materials and maintenance so they remain attractive over time and in all seasons.

Key design objectives:

- Design streets for public uses
- Design to encourage gathering and social interaction
- Design for all-day 24/7 use
- Use attractive, durable materials
- Include space for street furniture
- Design green infrastructure to create aesthetically pleasing environments that also perform ecological and hydrological functions

IMPROVE ENVIRONMENTAL SUSTAINABILITY

Streets should improve the city's environmental sustainability by enhancing the tree canopy and landscaping, reducing urban heat island effects, reducing stormwater runoff, reducing energy consumption and reducing greenhouse gas emissions.

Key design objectives:

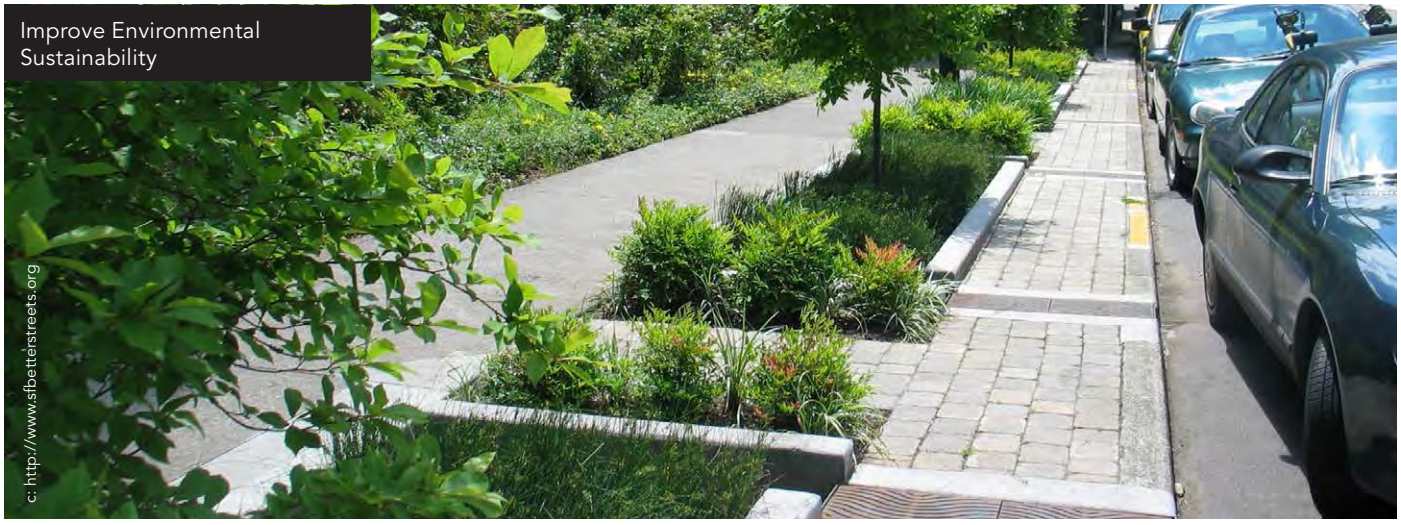
- Identify space for street trees or landscaping
- Minimize impermeable hard surfaces
- Prioritize sustainable transportation modes to reduce auto-dependency and improve air quality
- Design streets to complement adjacent parks, ravines and naturalized areas
- Design streets to use rainwater as a resource
- Protect and enhance natural heritage and environmentally sensitive areas

Respect Local Context

Create Vibrant and Attractive Public Spaces

c: DTAH

Improve Environmental Sustainability



c: http://www.sfbetterstreets.org

1.5.3

STREETS FOR PROSPERITY

Streets are places of economic and social exchange. They are where we shop and work, meet friends and family and interact with other residents and visitors. To ensure a prosperous city, streets should support the local and regional economy, be equitable to all people and designed in a flexible and cost-effective manner to accommodate change over time.

SUPPORT ECONOMIC VITALITY

Streets should support the city's economic vitality by helping move people and goods efficiently and by supporting local shopping areas. The quality and vitality of a street influences and reflects the quality and vitality of economic activity along it. Design streets to invite patrons to retail and shopping districts. Streets should create environments that attract and leverage public and private investment. Streets should provide a range of transportation options to provide access for employees, residents and tourists as well as goods movement.

Key design objectives:

- Design to support retail and shopping
- Accommodate goods movement, delivery and loading
- Engage and partner with local businesses and BIAs
- Leverage public and private investment
- Accommodate space for utilities

ENHANCE SOCIAL EQUITY

Streets should be developed to remove barriers to people of all incomes, races, ages, genders and abilities can safely use and benefits from Toronto's streets. Toronto's streets should be inclusive for everyone and help provide people with opportunities to thrive.

Key design objectives:

- Design inclusive streets for people who walk, cycle or take transit
- Create connected and safe routes to support travel to employment and community services
- Engage and partner with local community and social service agencies to better understand social equity issues
- Incorporate neighbourhood socio-economic context, issues and priorities

BE FLEXIBLE & COST EFFECTIVE

Streets should be able to adapt to the city's changing needs and priorities over time. The design of complete streets should consider economic, social and environmental benefits and costs, as well as construction, operations and maintenance. Complete streets should be designed with the full lifetime of the street in mind. Complete streets recognize seasonal variations, accommodating the need for snow clearance and storage, dramatic temperature variations and the increasing incidence of major climatic events. Complete streets build resiliency in their networks, materials and the modes of travel they accommodate.

Key design objectives:

- Allow for incremental change over time, phasing and interim conditions
- Understand and account for the total lifetime cost
- Design streets to be resilient to extreme weather events
- Select durable materials

Support Economic Vitality

Enhance Social Equity

c: Katherine Childs

Be Flexible and Cost Effective

c: http://completestreetsforcanada.ca

Understanding the roles and relationships of a street with its surrounding context is a critical step in the complete streets design approach. This chapter identifies a range of aspirational street types for Toronto, some key steps in determining street types, and some early design objectives for each that will help set priorities and guide decision making.

Street types should be used to establish a starting point in the complete streets design approach. The street type and its key objectives should be referenced when documenting how and why street design decisions are made. These street types can also help communities and other groups better identify and understand the variety of types of streets in the city, and can offer inspiration for how these streets could be improved.

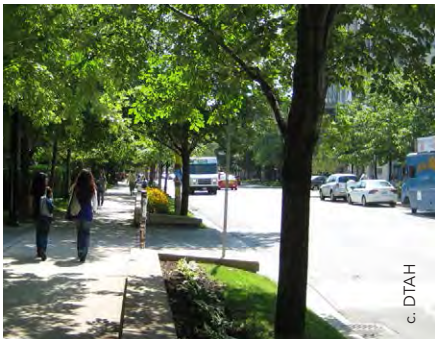
Not every street will fit neatly within a specific Street Type. Some streets could be combinations of two or more Street Types. A street's type may change along its length, as different segments have different land uses and contexts. And a street's type may evolve over time.

2.0 STREET TYPES

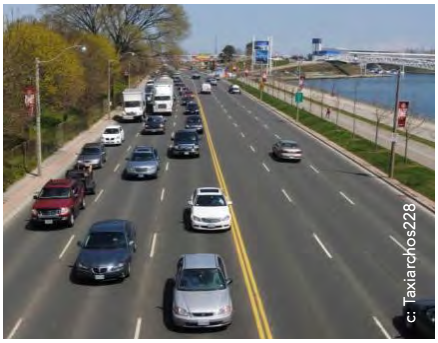
2.1

UNDERSTANDING STREET TYPE

Streets have many different roles, characters, and functions that depend on their context – whether in a busy, dense downtown environment, in a quiet low-rise residential neighbourhood, a retail shopping area, near parkland, or in an industrial area. Streets type is determined by examining the two most fundamental roles of the streets: movement and placemaking. A street's design objectives begin to emerge from a greater understanding and analysis of these roles.



Streets have a role in placemaking.



Streets have a movement role.

1. Understanding a street's place-making role:

To understand the placemaking role of a street, it is important to consider:

- The current and future context from a physical and social perspective, the City's official plan, the role of the street in the city's urban structure, which identifies where growth and what kind of growth should be directed (e.g., Downtown and Centres, Avenues and Employment Areas), as well as which areas should remain more stable (e.g., Neighbourhoods and Green Space System) in the Official Plan's chapters 2, 3 and Map 2 – Urban Structure.
- Adjacent land uses along the street, such as whether housing, stores, offices and industry or a mix of uses is desired based on the Official Plan's chapter 4 and land use designations in its maps.
- The physical built environment and public space, that people on the street interact with and that enable social and civic life, such as employees eating lunch outside, community festivals and parades. City policies about the public realm include the Official Plan chapter 3, Streetscape Manual, Vibrant Streets Guidelines and Walking Strategy.
- The potential of the street to accommodate green infrastructure, including stormwater control measures. The Green Streets Technical Guidelines (anticipated 2017) will help to assess the feasibility of green infrastructure.

Figure 2-1: Many factors inform the understanding and identification of street type(s).

2. Understanding a street's movement role:
Several factors inform the transportation roles of the street. The City's Official Plan outlines the foundation of Toronto's street network, including the planned right-of-way widths (Map 3, and Schedules 1 and 2) that should be protected. The Official Plan also identifies networks of rapid transit and surface transit priority routes (Maps 4 and 5). The City's Road Classification System is an important road management tool that identifies various existing operational characteristics for each street in the city, but is not intended as a tool for aspirational planning. The City's Cycling Network Plan provides important information about which streets in the city have been identified and prioritized as part of the cycling network.

In addition to network information, it is important to take into account other data, or overlays, to develop a profile of the transportation role of a street (see next page). These overlays include existing and forecasted growth in pedestrians, cyclists, transit riders, and major vehicles, as well as trip generators, demographics and safety data and analysis.

2.2

USE OF OVERLAYS

Overlay is a term for information or data that may be considered on its own, or in relation to other data. Often, overlays are geographical information provided in a map that can be layered on top of one another, such as combining several maps into one composite map. These layers of information help provide a full picture of the context for a street.

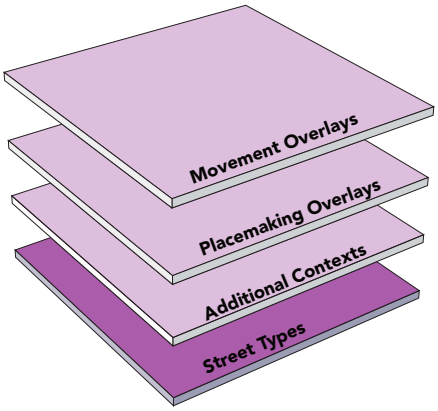


Figure 2-2: Relationship of Overlays to Street Types

Overlays may provide information on existing context (such as historical collisions or counts for pedestrians, cyclists, transit ridership, and motorized vehicles), or future conditions (such as planned land uses and infrastructure networks). Overlays may have been developed using extensive analysis such as the feasibility analysis that went into the Ten-Year Cycling Network Plan. Overlays may be special designations – such as streets identified as Business Improvement Areas or Heritage Conservation Districts.

Examples of overlays (data in a map) include:

- Lines – such as the Cycling Network, Surface Transit Priority Network or truck routes;
- Areas – such as Heritage Conservation Districts or Character Areas; or
- Points – such as historical collisions, school zones, parks or transit stops.

The use of overlays can be applied at many stages of the street design and decision-making process. Overlays can provide information that helps inform a street's placemaking and movement roles and informs the project's objectives and priorities.

Applying overlays may also help suggest which stakeholders should be invited to participate in the project. Different stakeholders will highlight the importance of their overlays, issues and feedback, so it is important to be familiar with this information when engaging them.

2.3

TORONTO STREET TYPES

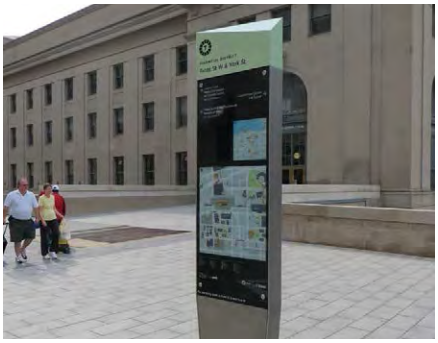
The Complete Streets Guidelines present a series of distinct street types that attempt to best reflect a range of existing and planned contexts in Toronto. They are based on recent experiences designing and constructing streets in Toronto. This is not an exhaustive list of every type of possible street that could exist in Toronto, but is intended as a starting point in the complete streets design approach.

Each street type includes a brief description, a series of key design objectives, and an aspirational example rendering to help illustrate what such a street could look like. It is important to remember that the renderings show one visual illustration of how a street of this type could be designed. The renderings do not depict exactly how every street of that type must be designed.

2.3.1

CIVIC STREET

Civic Streets are streets with symbolic, cultural or ceremonial importance in Toronto, often distinguished by their landmark quality, and unique role in the civic life and identity of the city. These streets are destinations typically lined with clusters of civic, institutional, government, cultural buildings, significant open spaces or other public landmarks.



Some Civic Streets have wayfinding totems.

Some Civic Streets have planters and unit paving.

Civic Streets are typically found in the older historic parts of the city, such as University Avenue in the Downtown, where they are often used for special city-wide events, parades, and public demonstrations.

Civic Streets can also be found in local neighbourhoods, lined with important neighbourhood civic buildings and destinations, including schools, libraries, and community centers, as well as neighbourhood public parks and open spaces. On-street parking is sometimes provided on Civic Streets.

While they share many similar design objectives, 'local neighbourhood' Civic Streets are different from more 'city-wide' Civic Streets. They have fewer visitors from outside the city and other neighbourhoods, host fewer special events, and have a less distinctive quality of materials and furnishings.

For illustrative purposes.

DESIGN OBJECTIVES

- Seek ways to enhance the views, connectivity and experiences of adjacent civic buildings and public spaces like plazas and green space.
- Provide wide sidewalks and boulevards to attract and support high levels of pedestrian activity and special events.
- Provide pedestrian amenities such as benches/seating, lighting, and wayfinding.
- Provide convenient and attractive transit options to access important destinations.
- Provide convenient and attractive bikeway design options and bicycle parking.
- Seek ways to integrate green infrastructure, including tree plantings and other landscaping treatments, to meet environmental objectives.
- Use high-quality and distinctive materials, furnishings and public art to create a sense of character and identity, especially for Civic Streets of city-wide importance.
- Consider ways to reduce sidewalk obstacles and clutter such as by using building setbacks and burying overhead utilities.
- Provide appropriately located off-street parking and access such as side streets parking lots, garages, lanes and parking at the back of buildings to augment parking supply, accommodate loading and minimize driveways, curb cuts and conflicts especially where space is constrained on the street itself. Time-of-day parking restrictions may be used for on-street parking.

2.3.2

DOWNTOWN & CENTRES MAIN STREET

Downtown & Centres Main Streets are vibrant mixed-use streets located in the city's higher-density growth areas. They support a wide range of land uses, activities, and are often home to prominent commercial, retail and mixed-use buildings. These streets are often surface transit priority routes in the City's Official Plan and in the Downtown, and many have busy streetcar routes.

Downtown and Centres Main Streets have sidewalks to accommodate many people walking, like this one in North York.

A busy sidewalk with pedestrians and window shoppers on a Downtown and Centres Main Street.

Downtown & Centres Main Streets are often routes that lead directly to rapid transit stations. These streets are often lined with taller buildings with wide frontages and active ground-floor uses. Sidewalks are typically adjacent to the curb with existing buildings at or near the street right-of-way. These streets are often supported by a Business Improvement Area.

Downtown & Centres Main Streets are typically major streets in the transportation network with a large number of competing demands on available street space, especially on the narrower rights-of-way in the Downtown. They typically connect significant regional and city-wide attractions and destinations and serve a wide variety of different people from across, and even outside the city: residents, workers, shoppers and visitors.

DESIGN OBJECTIVES

- Provide wide sidewalks and boulevards with high-quality pedestrian-scale streetscapes and amenities to encourage walking, lingering, dining and shopping.
- Use building setbacks, curb extensions or parklets to expand the space for adequate sidewalks, outdoor seating, cafés patios, plantings, trees and street furnishings.
- Prioritize safe movement of pedestrians, cyclists, and surface transit and design for slower but consistent, motor vehicle travel speeds.
- Provide frequent and safe opportunities for pedestrians to cross the street, with wide and prominent pavement markings at intersections. Also, explore using curb extensions on side streets to expand the pedestrian realm along the Main Street, shorten crossing distances, and reduce motor vehicle turning speeds.

For illustrative purposes - may include a mix of permanent/temporary materials.

- Provide generous amounts of public bicycle parking that should be coordinated with bicycle parking provided by any adjacent public spaces and buildings.
- Support healthy street tree growth on streets where sufficient space exists to achieve required pedestrian clearways and where growing conditions can be optimized. Where space is constrained, consider covered tree pits with Silva Cells and adequate soil volumes to ensure growth.
- Consider creative ways to optimize and manage curb-side space for integrating a variety of uses, e.g., parklets, on-street bicycle parking, loading areas, and accessible vehicle boarding.
- Provide appropriately located off-street parking and access such as side streets, parking lots, garages, lanes and parking at the back of buildings to augment parking supply, accommodate loading and minimize driveways, curb cuts and conflicts, especially where space is constrained on the street itself.
- Work with local Business Improvement Areas and neighbourhood groups on ways to support placemaking, local economic development, and neighbourhood identity.
- To reduce clutter, consider burying overhead utilities if possible or coordinate with other infrastructure, like sharing hydro and streetcar poles, for example.

2.3.3

AVENUE & NEIGHBOURHOOD MAIN STREET

Avenue & Neighbourhood Main Streets are vibrant streets that serve as a local focus for Toronto's many neighbourhoods. These Main Streets typically follow busy surface transit routes with a mix of uses and especially retail at street level.

Straight and direct sidewalk on an Avenue and Neighbourhood Main Street in Etobicoke-York.

Avenue and Neighbourhood Main Streets sidewalks often have greening, trees, transit, cafes, sidewalks and more.

Many of these streets have an Avenue designation in the Official Plan, which means they are important corridors where incremental change, and often growth, is intended to occur. These streets are often lined with mid-rise or low-rise buildings of a more modest scale than the tall buildings found on Downtown & Centres Main Streets. In some parts of the city, the street right-of-way is often wider that those in the Downtown or Centres.

Avenue & Neighbourhood Main Streets are important places in the local community, helping support local businesses and services that serve the immediate neighbourhood, but can also attract visitors from outside the area. These streets are often supported by a local Business Improvement Area. These Main Streets typically include cafés, street trees and other plantings as important pedestrian amenities that make the street a vibrant, comfortable, and appealing place. Sidewalks are typically adjacent to the curb or separated from the roadway by a boulevard, and buildings are sometimes set back from the street to help provide more sidewalk space.

Avenue & Neighbourhood Main Streets are major streets in the transportation network for several different travel modes, often all competing for space and prioritization in the street. They are important for the delivery of transit service and for goods delivery to businesses and shops.

DESIGN OBJECTIVES

- Provide wide sidewalk and boulevard space to support high to moderate levels of pedestrian movement.
- Encourage people to linger with active ground floor uses, quality pedestrian-scale streetscapes and amenities like greening/trees, benches, parklets and café patios.

For illustrative purposes - may include a mix of permanent/temporary materials.

- Prioritize safe movement of pedestrians, cyclists and surface transit and design for moderate motor vehicle travel speeds.
- Provide frequent and safe opportunities for pedestrians to cross the streets. Also explore using curb extensions on side streets to expand the pedestrian realm along the Main Street, shorten crossing distances, and reduce motor vehicle turning speeds.
- Provide adequate and safe bicycle facilities and generous bicycle parking to encourage cycling trips.
- Locate vehicle driveways, goods deliveries and loading on side streets or rear lanes where possible to minimize curb cuts and areas of conflict along the street. On some Main Streets, on-street parking can be provided, but look for suitable replacement parking at off-street locations to minimize on-street conflicts.
- Work with local Business Improvement Areas and neighbourhood groups to help emphasize neighbourhood identity.
- Support healthy street tree growth with open tree pits and planters on streets where sufficient space exists to achieve pedestrian clearway requirements. Where space is constrained, consider covered tree pits.
- To reduce clutter and visual impacts, consider burying utilities if possible or coordinate with other infrastructure, and in consultation with the BIA.

2.3.4

DOWNTOWN & CENTRES RESIDENTIAL STREET

These streets are found in the Downtown and Centres and support primarily higher-density residential neighbourhood uses, with taller buildings and higher levels of pedestrian activity than the other residential streets.

New buildings are often set back on Downtown and Centres Residential Streets to provide adequate sidewalk and amenity space.

Downtown and Centres Residential Streets often have wider sidewalks than other residential streets due to the volume of pedestrians they carry.

Buildings on these streets typically range from mid-rise to tall – either independently or as part of a larger building complex – and are sometimes set back a small distance from the street right-of-way, with tree plantings or landscaping. Ground level retail, office, grade related apartments or amenities are sometimes located within the base of the buildings.

Downtown and Centres Residential Streets are important links in the city's transportation network, with high levels of pedestrian and cycling activity and moderate levels of vehicular traffic.

There are typically little to no transit services provided on these streets, although significant transit services are usually found close by. Sidewalks are often located next to the curb, though ideally separated by a buffer from moving traffic.

Downtown and Centres Residential Streets have a moderate number of competing demands on available street space, especially on the narrower rights-of-way in the Downtown.

For illustrative purposes.

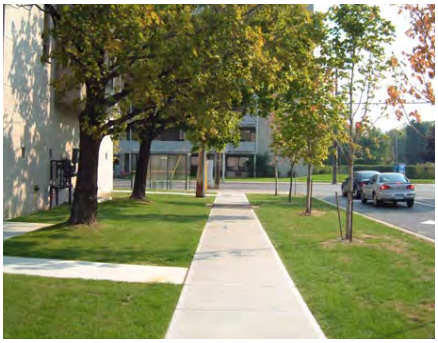
DESIGN OBJECTIVES

- Accommodate a high level of pedestrian activity with wide sidewalks. New buildings should be set back to create sidewalk and amenity space.
- Prioritize the safe movement of pedestrians and cyclists and design for modest motor vehicle volumes and speeds.
- Provide ample bicycle parking for visitors and residents to encourage cycling.
- Plant street trees in the frontage zone if boulevard space is limited.
- Manage speed by rightsizing lanes and corners, and providing chicanes, mid-block crossings and on-street parking.
- Provide driveways and servicing through shared access lanes and on side streets to minimize conflicts on busy residential streets.
- On-street vehicle parking may sometimes be provided on at least one side of the street.
- Minimize freight transport that is not servicing local properties.

2.3.5

APARTMENT NEIGHBOURHOOD RESIDENTIAL STREET

Apartment Neighbourhood Residential Streets are found throughout the city and are typically lined with a range of residential buildings: townhouses, walkups, mid-rise buildings, and tall buildings.



Apartment Neighbourhood Residential Streets have sidewalks that connect to buildings.

Example of an Apartment Neighbourhood Residential Streets with a bike parking shelter.

Traditional Apartment Neighbourhood streets have a range of scales of apartments with shallow front yards and entrances organized like a house. Mid-century 'tower-in-the-park' apartment complexes, found in all parts of the city, have large lots with few public streets and large buildings placed in the middle of the lot. They are typically set back from the front property line and landscaped. Street frontages on larger lots include auto drop-offs and parking entrances and may have private short term parking.

Apartment Neighbourhood Residential Streets may sometimes play a major role in the city-wide transportation network, especially where they act as key transit routes. Because of their higher density, they often have higher levels of pedestrian use than on Neighbourhood Streets.

Apartment Neighbourhood Residential Streets are typically located on or near transit and many trips are accomplished by walking, cycling or taking transit. Moderate levels of vehicular traffic are typical, and some may have surface transit routes present.

Some Apartment Neighbourhood Residential Streets are strong candidates to introduce stormwater management features. This is because Apartment Neighbourhood Residential Streets typically have available space due to large building setbacks, few driveways and low on-street parking demand.

For illustrative purposes.

DESIGN OBJECTIVES

- Provide wide sidewalks that connect buildings to the pedestrian network to support a high level of pedestrian activity.
- Promote socializing, interaction and activities along the street, including community events, such as street parties, yard sales, or children playing.
- Enhance safety and comfort of transit waiting areas, and transit operations priority where transit service is provided.
- Adequate bicycle parking should be provided outside residential buildings to supplement bicycle parking provided inside buildings.
- Maintain low motor vehicle speeds to help ensure the street is safe for everyone, and inviting for novice bicyclists and more vulnerable pedestrians. Consider complete streets elements, such as mid-block curb extensions or chicanes to reduce speeds.
- Provide green space such as a continuous canopy of trees, and stormwater management in curb extensions.
- Minimize conflict between motor vehicles and cyclists and pedestrians, especially at driveways and vehicular drop-off areas in front of buildings.
- Include lighting that illuminates street and sidewalk but prevents light pollution into the sky and adjacent residences.

2.3.6

NEIGHBOURHOOD RESIDENTIAL STREET

Neighbourhood Residential Streets are found throughout Toronto in areas designated as 'Neighbourhoods' in the City's Official Plan, which are generally considered as physically stable areas. A range of building types under four storeys in height are permitted in Neighbourhoods, including single family residential and multi-family residential properties.

Neighbourhood Residential Streets sidewalks often have parents walking with children to school.

Neighbourhood Residential Streets commonly have multiple users, trees, and low vehicle speeds.

Neighbourhood Residential Streets provide access for buildings and usually provide people with direct pedestrian access to their front door. These streets provide the setting for a range of local neighbourhood gatherings and informal interactions, such as yard sales, festivals and block parties. They are streets where children often play after school or on weekends. They primarily serve local movement needs and have relatively low volumes of motor vehicle traffic. Pedestrian and cyclist safety is a high priority. Transit service is less often provided on this type of street. All Neighbourhood Residential Streets should have sidewalks.

Neighbourhood Residential Streets are not intended to play a major role in serving city-wide traffic movement.

Neighbourhood Residential Streets have potential to introduce pedestrian improvements, such as intersection curb extensions, as well as greening, landscaping, and stormwater management features.

There are generally two different sub-types of Neighbourhood Residential Streets in Toronto, distinguished by the era they were originally planned or developed: pre-1950s construction and post-1950s construction (see pages 36 and 37).

For illustrative purposes.

DESIGN OBJECTIVES

- Emphasize safety and connectivity for pedestrians and cyclists of all ages and abilities.
- Provide green space and landscaping and promote a robust canopy of trees. Consider the opportunity to manage stormwater at source as much as possible to reduce stress on sewers and promote natural water infiltration.
- Promote social and community interaction and activities, both across and along the street, including accommodating community events, such as street parties, yard sales, or children playing.
- Maintain low motor vehicle speeds to help ensure street is safe for everyone, and inviting for novice bicyclists and more vulnerable pedestrians.
- Accommodate neighbourhood vehicle access and circulation needs while deterring through traffic.
- Provide driveway access to private properties, accommodating curb cuts as necessary, but design to prioritize pedestrians where driveways meet the sidewalk and street.
- Provide connectivity to local destinations particularly for pedestrian access.
- Include lighting that illuminates street and sidewalk but prevents light pollution into the sky and adjacent residences.

SUB-TYPE: NEIGHBOURHOOD RESIDENTIAL STREET (BUILT CIRCA PRE-1950s)

For illustrative purposes.

Neighbourhood Residential Streets built before 1950 typically have sidewalks against the curb.

Neighbourhood Residential Streets may include features to encourage pedestrians and cyclists by reducing vehicles speeds and volumes.

These Neighbourhood Residential Streets were typically built prior to 1950, in the period before the automobile became a primary consideration in neighbourhood planning and street design. These neighbourhood streets are usually arranged in a grid pattern, typically with right-of-way widths of 20m or less.

Sidewalks are typically on both sides of the street, usually located next to the curb, with a boulevard between the sidewalk and property line. There is sometimes a planting zone between the sidewalk and the curb. These streets tend to have shallow building setbacks and porches at or near the property line.

Driveways and curb cuts are uncommon on pre-1950s Neighbourhood Residential Streets, and motor vehicle access and parking is sometimes accommodated through rear lanes. On-street parking is often permitted and some streets have also allowed curb cuts for front yard parking. These streets are often one-way for motor vehicle traffic and have narrower pavement widths. Some of these streets also have traffic calming and diversions. There exists a moderate opportunity for implementing green infrastructure.

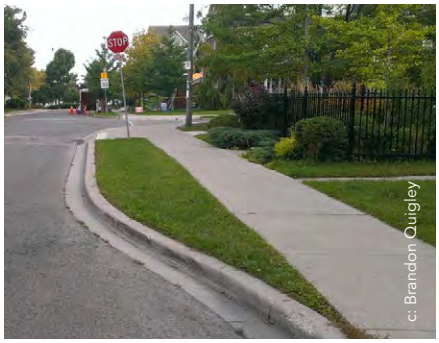
ADDITIONAL DESIGN OBJECTIVES

- Trees or landscaping should be provided between the sidewalk and buildings.
- Allow for on-street parking on at least one side of the street where space permits.
- Consider designated routes for cyclists of all ages and abilities.
- Front-yard parking pads are discouraged to reduce impermeable surfaces and to provide parking on-street.
- Avoid unnecessarily widening the street in reconstructions.

SUB-TYPE: NEIGHBOURHOODS RESIDENTIAL STREET (BUILT CIRCA POST-1950s)

For illustrative purposes.

Neighbourhood Residential Streets built after 1950 typically have buildings set back from the street and landscape strips between the curb and sidewalk.



Curb extensions may including landscaping or green infrastructure on Neighbourhood Residential Streets.

Primarily planned and constructed during or after the 1950s, these Neighbourhood Residential Streets were designed mainly to facilitate car movement, but based on principles that discouraged through traffic.

They were often designed to promote local walking and cycling toward the centre of a neighbourhood, where parks and schools were located.

Cul-de-sacs, loop crescents, and a curvilinear street network were created instead of the traditional grid-style street network present in pre-1950s Toronto. Typically, the post-1950's Neighbourhood Residential Street includes buildings that are set farther back from the property line and have driveways with curb cuts. Long-term curbside parking is usually not permitted and rear lanes are rare.

Sidewalks are often separated from the curb by grass or treed areas, but sometimes there are no sidewalks at all. A significant opportunity for green infrastructure exists in this type of Neighbourhood Residential Street.

ADDITIONAL DESIGN OBJECTIVES

- Rightsize the street through on-street parking, and curb extensions or chicanes.
- Provide a sidewalk on at least one side of the street for universal accessibility and pedestrian safety.
- Integrate streetscapes with landscaping through setbacks and open space.
- Integrate stormwater control measures to improve the natural and aesthetic environment.

2.3.7

MIXED-USE CONNECTOR STREET

Mixed Use Connector Streets are found throughout the city, but more often outside of the downtown and central neighbourhoods. These streets are often longer and more continuous, providing direct travel routes for people and goods that span and connect several neighbouring communities and areas.

Some Mixed-Use Connector Streets have trees in a median.

Pedestrians and transit are common on Mixed Use Connector Streets.

These streets typically have a mix of different land uses and building types along them with a variety of physical configurations and relationships with the street: sometimes buildings are located further away from the street with landscaping or a parking lot in between, while other times buildings are much closer, with their front entrances at the street.

Mixed-Use Connectors play a significant role in the City's transportation network. They are important travel routes for all modes, but often have higher volumes of motor vehicles and lower volumes of pedestrians and cyclists. Given the higher motor vehicle speeds and volumes, separated bicycle facilities are recommended. These streets also often have important city-wide transit routes and should be designed to give transit priority, where applicable. They are also usually important streets for moving goods.
While Mixed Use Connectors play a role in enabling longer-distance travel and movement in the city, it is important that these streets be gradually and incrementally improved to help create a more safe and inviting street for people walking and cycling. These streets are often found in areas of the city with longer distances between signalized intersections and higher motor vehicle speeds, so additional care is needed to ensure streets and intersections are designed to be safe for the most vulnerable people walking and cycling. While efficient motor vehicle travel is a priority on these streets, ensuring safety for people walking is critical, with sidewalks sized for a medium volume of pedestrians and intersections designed with clear and well-marked crossing features.

Wide landscape strips with trees should be provided on boulevards, as well as transit shelters and other street furniture at stops. Buildings should be set back to enhance street character and increase comfort for pedestrians. These streets are candidates to introduce stormwater control measures in the planting zone

For illustrative purposes.

between curb and sidewalk, and where applicable, in the frontage zone. Mixed Use Connectors typically do not have on-street parking.

DESIGN OBJECTIVES

- Emphasize movement between destinations via a variety of modes and support commercial activity.
- Provide sidewalks and safe, controlled crossings to connect destinations and especially to transit stops or stations.
- Enhance transit amenities (e.g., benches/shelters) and transit operations priority where transit service is provided.
- Provide dedicated cycling facilities if part of the cycling network.
- Improve safety and visibility at intersections and crossings for pedestrians and cyclists.
- Use shared access management to reduce the frequency of access points and conflicts to help manage traffic flow and safety.
- Facilitate the efficient movement of larger volumes of motor vehicle traffic, especially freight and service vehicles.
- Include a wide planting zone, especially using frontage zones, to support a continuous tree canopy and to integrate stormwater control measures.

2.3.8

RESIDENTIAL CONNECTOR STREET

Residential Connector Streets are similar to Mixed Use Connector Streets – their primarily role is to facilitate transportation for all modes – but they provide travel routes and connectivity within and through mainly residential areas of the city.

Residential Connector Streets often have a sidewalk between a row of trees and the curb, and sometimes run along the back of properties.

Residential Connector Streets may have transit shelters and cycling infrastructure between the curb and buildings.

Residential Connectors are typically lined with a variety of residential buildings that face the street, often set back with well-established front yards, gardens, and driveways. Sometimes there are occasional businesses or stretches of rear-facing residential lots and backyard fences along the street.

While Residential Connectors play a role in enabling longer-distance travel and movement in the city, it is important that these streets be gradually and incrementally improved to help create a safer and more inviting street for people walking and cycling. Residential Connectors are often found in areas of the city with longer distances between signalized intersections and higher motor vehicle speeds, so additional care is needed to ensure streets and intersections are designed to be safe for the most vulnerable people walking and cycling. Although safe and efficient motor vehicle travel is a priority on these streets, safety for people walking is critical, with sidewalks sized for low to medium volumes of pedestrians and intersections designed with clear and well-marked crossing features.

Wide landscape strips with trees should be provided on boulevards, as well as transit shelters and other street furniture at stops. Buildings should be set back to enhance street character and increase comfort for pedestrians. Residential Connectors can sometimes have some on-street parking. Residential Connectors are candidates to introduce stormwater control measures in the planting zone between curb and sidewalk, and where applicable, in the frontage zone.

For illustrative purposes.

DESIGN OBJECTIVES

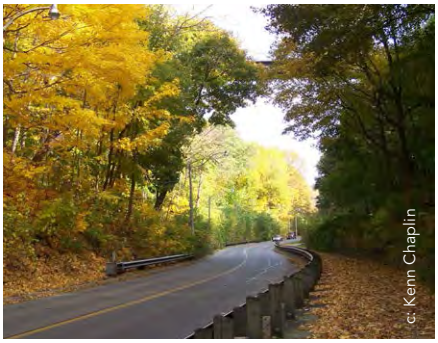
- Emphasize movement between destinations via a variety of modes.
- Improve safety and visibility at intersections and crossings for pedestrians and cyclists.
- Provide sidewalks and safe controlled crossings to connect destinations, especially to transit stops or stations and major neighbourhood destinations.
- Enhance amenities (e.g., benches/shelters) and transit operations priority where transit service is present.
- Provide dedicated cycling facilities if part of the cycling network.
- Include a wide planting zone, especially using the frontage zone, to support a continuous tree canopy and to integrate stormwater control measures.

2.3.9

SCENIC STREET

Scenic Streets are found throughout the city where there is a strong relationship with natural features like ravines and the waterfront, or with significant parks and green spaces.

Scenic Streets often run along parks or natural features.



Scenic Streets often have separated paths for pedestrians and cyclists.

Scenic Streets are primarily characterized by their 'park-like' setting and adjacency with nature. Scenic Streets are also often meandering or winding, following the city's natural topography.

Scenic Streets can play a variety of roles in the transportation network. Demand for walking or cycling is often high, as these streets follow, or are adjacent to, areas of high demands for recreational use. Motor vehicle volumes can be high during peak hours, but much lower at other times of the day. While separating pedestrians and cyclists is always preferred in areas with higher recreational use, shared-use paths may be considered in lieu of sidewalks to separate pedestrians and bicyclists from other traffic. Scenic Streets may also be surface transit routes. There are usually few crossings on these streets but, where present, they must be carefully designed to safely allow connectivity and crossings for recreational path users. There is typically no on-street parking on Scenic Streets.

Scenic Streets often have large and healthy trees that together create a substantial canopy. The adjacent open spaces present many opportunities to introduce storm water control measures.

For illustrative purposes.

DESIGN OBJECTIVES

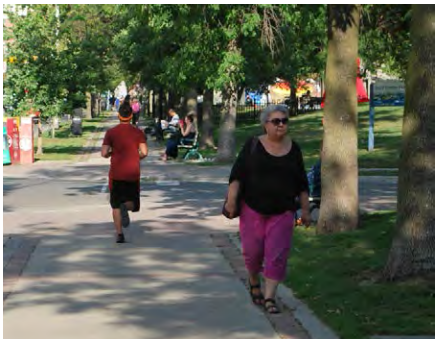
- Emphasize and highlight natural landscape character and features.
- Preserve and protect scenic views and vistas.
- Enhance environmental quality by protecting and enhancing tree canopy and incorporating naturalized stormwater control measures.
- Support medium to high volumes of pedestrian and bicycle activity for both recreation and transportation.
- Enhance transit operations priority where transit service is provided.
- Provide sidewalk on both sides and separated bicycle facilities on at least one side of the street where appropriate. Ensure adequate space for pedestrians and cyclists with a physical delineator between pedestrians and cyclists for safety and universal accessibility.
- Integrate street and boulevard design with adjacent areas such as landscapes.
- Design to accommodate both weekday rush hour commuter activity as well as off-peak (e.g. weekend) recreational use.

2.3.10

PARK STREET

Park Streets are streets found within, adjacent to, or leading to city parks. They provide local neighbourhood connections and access to park facilities. Park Streets are primarily intended to support and complement parks and recreation uses.

Park Streets are often lined with trees and separated walkways.



Park Streets should be designed to accommodate different types of pedestrians and cyclists.

These streets typically play a minor transportation role for motor vehicles and transit, but a significant role for pedestrians and cyclists. Street design,landscaping and features should help create an environment that naturally encourages lower vehicle speeds and provides park-like experiences on foot or on a bicycle. Cycling and walking is prevalent, and should be welcomed, prioritized and safe, especially for the most vulnerable. Cyclists may have a separate facility such as a lane or path, but may also mix in the general use of the street. In areas with higher recreational use, cyclists and pedestrians should be separated to improve safety, accessibility and enjoyment. Bus transit may be provided within larger parks during park hours but are generally not high-frequency routes. There is sometimes on-street parking provided. Park Streets within parks are sometimes closed during the evenings with the same hours of access as the park itself, and some may even be gated.

Given they are in parks, adjacent to, or leading to parks, these streets should have large and healthy trees that together create a substantial canopy to complement and add to the tree canopy in the park itself. These streets present many opportunities to introduce stormwater control measures.

Streets adjacent to parks, or that lead to and connect with parks can extend the park amenity and character into the surrounding neighbourhoods, providing improved access to parks for pedestrians, cyclists and wildlife.

For illustrative purposes.

DESIGN OBJECTIVES

- Complement and enhance the park's environmental and natural qualities.
- Provide attractive walking and cycling routes between the park and the local neighbourhoods and between destinations within the park.
- Provide facilities for a wide range of cycling skill levels, but provide separate facilities for pedestrians and cyclists in locations of heavy recreational use, often on multi-use trails or sidewalks on at least one side of the street.
- Enhance and augment existing tree canopy and incorporate naturalized stormwater control measures.
- Provide local vehicle access and circulation to parks, and within some parks, and target low vehicle speeds.
- Accommodate park service and maintenance vehicle needs.
- Provide continuity in the landscape design and streetscape between the public spaces on adjacent streets, and the routes within the park for a connected network.

2.3.11

EMPLOYMENT STREET

Employment Streets are typically found outside of the Downtown and support mainly industrial or commercial uses inside Employment Areas or Districts. Buildings usually range from multi-storey commercial offices, to lower-rise wholesale or large-format retail, warehouse, and manufacturing buildings. Buildings are often set back from the property line with parking or landscaping between the building and street.

Employment Streets often have driveways and crosswalks to facilitate access.

Employment Streets typically have bus stops to provide mobility options for workers and visitors.

Employment Streets serving warehouse or manufacturing uses often need to accommodate larger trucks turning, as well as loading and unloading activities. Employment Streets dominated by more commercial or retail uses may have less large truck activity.

Employment Streets are important links in the goods movement network, but typically of lower importance in the overall city-wide transportation networks. A significant number of users of these streets arrive by car, but this is not the only mode of access. Many who work on Employment Streets rely on transit, walking and cycling. Employment streets should be designed to encourage walking, cycling and transit use, especially where they serve as a link between adjacent neighbourhoods and Main Streets. Employment Streets generally have rights of way that enable the provision of sidewalks on both sides and complete connections in the pedestrian network. Safe pedestrian and bicycle accommodation, especially at intersections where trucks are turning, is essential. Truck traffic may be significant on Employment Streets. Vehicle traffic is generally moderate, but can be substantial during peak hours. Parking on street is usually not desired due to large truck turning radii. Long term bicycle parking, such as sheltered bicycle corrals, should be provided.

Some Employment Streets have grassy boulevards with significant tree planting. Many are candidates to improve street tree planting and introduce stormwater control measures in the planting zone between curb and sidewalk (where present).

For illustrative purposes.

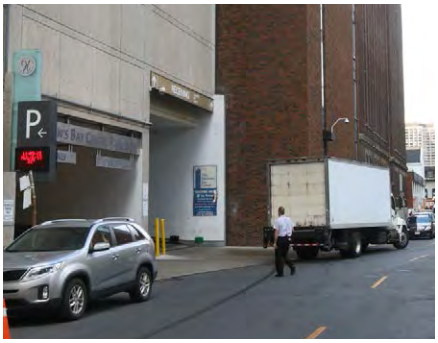
DESIGN OBJECTIVES

- Provide attractive mobility options for workers, especially to support reliable and convenient transit to reduce motor vehicle congestion (e.g., transit priority, transit shelters).
- Enhance transit service and access to employment via transit.
- Create a street environment that is safe and comfortable for pedestrians and cyclists especially to connect to transit stops or stations.
- Encourage creating a sense of place using streetscape improvements to add value and attract additional investment and employment expansion.
- Facilitate movement to and through the area, sometimes with significant vehicle volumes.
- Accommodate access, loading, and circulation by large vehicle types on routes frequented by trucks such as industrial employment areas.
- Make space for street trees and landscape strips where possible for stormwater management and greening.
- Encourage employers to participate in transportation demand management programs such as Smart Commute that promote ride-sharing, transit pass programs, flexible work hours and bicycle parking, lockers and showers.

2.3.12

MIXED-USE ACCESS STREET

Mixed Use Access Streets are found mostly within the Downtown and the Centres. Mixed Use Access Streets primarily provide 'rear' service and access functions to adjacent commercial and residential properties, which often have their front doors on other nearby Main Streets.

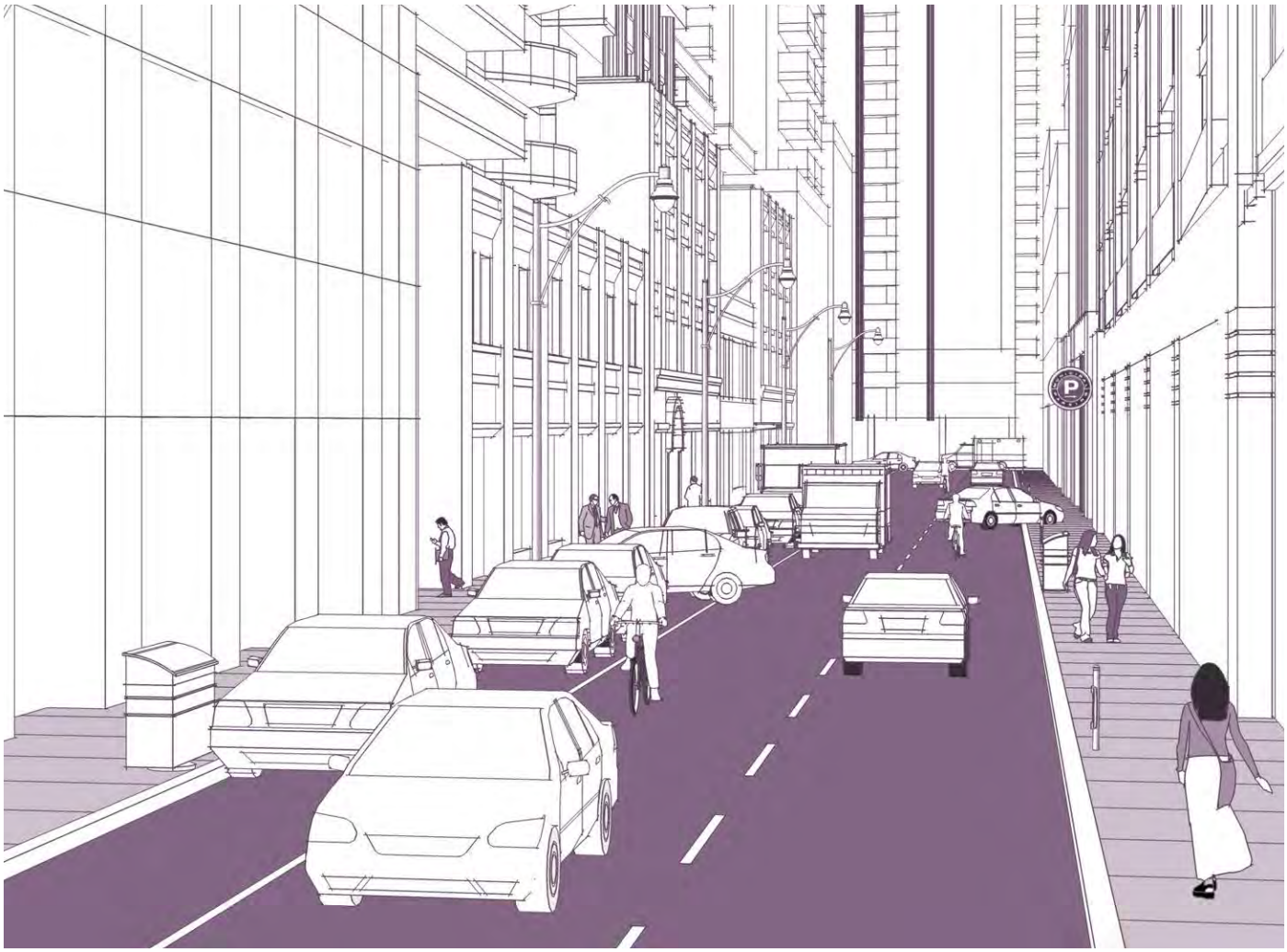


Mixed-Use Access Streets provide truck loading access for large buildings.

Mixed-Use Access Streets accommodate pedestrians, delivery on foot, and often have on- or off-street parking.

Mixed Use Access Streets generally have narrower rights-of-way, but are larger than a lane.

Mixed Use Access Streets are typically not major streets in the transportation network. They are usually limited in length and do not support long-distance travel. Driveways, service entrances and loading docks are common on these streets, which introduce conflicts with pedestrians, cyclists and other vehicles that must be managed. While cars and service vehicles are often the dominant users, these streets should also provide a safe environment for pedestrians and cyclists. Surface transit is very uncommon on Mixed Use Access Streets. Many will have low or moderate pedestrian and cyclist volumes, with low volumes of mostly larger vehicles, like garbage or delivery trucks.



For illustrative purposes.

DESIGN OBJECTIVES

- Facilitate deliveries, loading, and service access for adjacent residential and commercial buildings.
- Provide access to secondary pedestrian entrances to buildings.
- Safely accommodate pedestrians and cyclists, and encourage low motor vehicle speeds.
- Consider ways to create an attractive environment that complements adjacent Main or Civic Streets.
- Provide an adequate furnishing zone for key elements like light poles, waste/recycling receptacles and bicycle parking, and consider landscaping and street trees where possible.
- Some on-street parking may be provided if space is available.
- Provide wayfinding signage to assist drivers with finding building access and entrances to loading areas and parking garages.

2.3.13

MIXED-USE SHARED STREET

Shared Streets are most often found in areas supported by a high level of pedestrian activity, usually in mixed-use areas in the Downtowns and Centres but can also be found in residential neighbourhoods. Shared Streets are streets that blend and blur the spaces and zones of the street – sometimes designed without curbs. Different modes share the space together, but pedestrians typically have the highest priority.

Seasonal or permanent bike corrals are common on Shared Streets.

Trench drain and bollards on Shared Streets provide for curbless and flexible streets.

Shared Streets must maintain a delineated pedestrian clearway zone to ensure the street is universally accessible. The remaining street space is shared between several different modes or users, but pedestrians typically have the highest priority. Shared Streets can have a flexible design to accommodate different uses and seasons. All modes of travel may be permitted on Shared Streets, but motor vehicle volumes and speeds are extremely low. All modes are expected to travel no faster than walking speed. Some Shared Streets may prohibit motor vehicle access and parking entirely, except for emergency, utility, and delivery vehicles during specific times of day, days of week, or entire seasons.

In the Downtown or Centres, buildings are typically more mixed-use and located close to the property line, clearly defining the street edges. Shared Streets can support a variety of uses, including shopping, entertainment, cafés, dining, and residences.

For illustrative purposes.

DESIGN OBJECTIVES

- Create street conditions for very low motor vehicle volumes and very slow travel speeds to facilitate shared use of the street by pedestrians, cyclists and motor vehicles.
- For universal accessibility provide a direct and unobstructed walking path of adequate width, delineated by pavers and/or bollards with adequate contrast and detectability.
- Create a slow zone "feel" for the public space using design treatments (e.g., rightsized space, pavers, plantings, street furniture).
- In mixed-use settings, support commercial activity (such as occasional pedestrian-only streets for events/markets) or neighbourhood gathering, recreation and leisure depending on context.
- In mixed-use settings, support flexible use of the street right-of-way through all seasons including incorporating café seating in spring/summer/fall, and short-term parking or drop-off in winter.
- In mixed-use settings, accommodate high volumes of pedestrians and/or pedestrian lingering, socializing.
- In mixed-use settings, prioritize, enable and emphasize pedestrian activities while also accommodating motor vehicle access by service and delivery vehicles during non-peak hours.

RESIDENTIAL SHARED STREET

Residential Shared Streets are streets in primarily residential areas that mix all modes together to blend and blur the spaces and zones of the streets. All modes are expected to travel no faster than walking speed.

Residential Shared Streets are typically slow zones that include space for people, trees and parking.

Some Residential Shared Streets, like this one in Toronto, have planters and brick pavers.

Shared Streets in residential areas provide space for informal neighbourhood gatherings and activities, like socializing and children playing. In residential areas, where they are referred to as 'woonerfs' or 'home zone' streets, Shared Streets may also permit some on-street parking. Shared Streets are good locations for higher amounts of bicycle parking to help serve the needs of the surrounding area. Shared Streets should be narrow to help slow vehicle traffic and emphasize pedestrian priority.

Shared Streets are primarily hardscape, but the low vehicle volumes make them prime candidates for pavers, permeable pavement and other infiltration strategies. Limited plantings and planters soften the environment and provide additional opportunities for greening and stormwater management.

For illustrative purposes.

DESIGN OBJECTIVES

- Create street conditions for very low motor vehicle volumes and very slow travel speeds to facilitate shared use of the street by pedestrians, cyclists and motor vehicles.
- For universal accessibility provide a direct and unobstructed walking path of adequate width, delineated by pavers and/or bollards with adequate contrast and detectability.
- Create a slow zone "feel" for the public space using design treatments (e.g., rightsized space, pavers, plantings).
- In residential settings, shared streets can function as a public space for recreation and socializing.

2.3.14

MIXED-USE LANE

Mixed Use Lanes are found in the Downtown, Centres and Avenues, and other mixed use areas in the city. These lanes support vehicle and pedestrian access to buildings of various uses. They are typically narrow access routes flanked by the rear or side faces of abutting properties.

Mixed-Use Lanes, like this one in Toronto, may facilitate waste removal as well as act as pedestrian cut-throughs.

Laneways in Toronto provide space for murals, and pedestrian and/or vehicle access to properties.

Mixed-Use Lanes provide access for deliveries, waste disposal and pickup, and parking garage entrances, as well as informal local cyclist and pedestrian routes. They help to restrict or minimize driveway access and loading on Civic and Main Streets to support efficient movement of people and to reduce conflicts among modes. Mixed Use Lanes are typically significantly narrower than Mixed Use Access Streets and much shorter – commonly just one block long.

Mixed-Use Lanes are very minor links in the overall transportation network. Although their primary role is for motor vehicle service and access, these lanes are often used as quieter, informal routes for pedestrians and bicyclists.

In a busy Downtown environment, Mixed-Use Lanes can also offer unique opportunities to create active spaces for retail or other commercial users, and become part of a vibrant pedestrian network.

Although space for tree planting is limited, and some servicing requirements can present challenges, Mixed-Use Lanes do provide some opportunities to introduce stormwater control measures.

For illustrative purposes.

DESIGN OBJECTIVES

- Support adjacent commercial and residential uses by providing access to the rear of buildings for service, delivery, loading, and parking garage access needs.
- Minimize cut-through motor vehicle traffic and design for slow vehicle speeds.
- Anticipate and accommodate through-access by pedestrians and cyclists and use of lanes as informal public spaces.
- Durable street materials for heavier vehicles, like garbage and delivery trucks.
- Provide adequate lighting for personal security.

2.3.15

RESIDENTIAL LANE

Residential Lanes are found throughout the city and typically provide rear access for pedestrians and vehicles to garages, parking, and rear entrances of single family homes and low-rise residential buildings. They are often narrow access routes flanked by fences or garages at the rear of properties.

Residential Lanes have the opportunity to become attractive public spaces that support informal play and social interaction.

Residential Lanes are often used by pedestrians and cyclists.

Motor vehicle volumes are low and slow on residential lanes, and they do not play a large role in the overall transportation network. They are often used for pedestrian and bicycle connections within the neighbourhood, and should be designed for walking speed to emphasize and encourage pedestrian use. They are often used for local recreational activities.

Although space for tree planting is limited, Residential Lanes do provide opportunities to introduce green street design elements and planting to create more inviting and useful spaces.

Residential Lanes typically provide garage and vehicle parking access at the rear of properties.

For illustrative purposes.

DESIGN OBJECTIVES

- Provide access to rear of residential properties and encourage informal spaces for playing and social interaction through speed management (e.g., rightsizing of space).
- By providing the residential lane, this reduces or removes the need for driveways and motor vehicle-pedestrian conflicts from the parallel residential street.
- Minimize cut-through motor vehicle traffic, enhance local access, and design to slow motor vehicle speeds.
- Anticipate and accommodate through-access by pedestrians and cyclists.
- Provide adequate lighting for personal security.


Left
Turning
Lane /
Median
3.6 m
1.8 m
Bike
Lane
Traffic Lane
3m
Turning Lane
3m
Roadway
15m

c. DTAH

Chapter 3 describes the five general steps in the street design process. Not all projects follow these steps, as the number of steps and time spent on each one often depend on the type, scale, scope and resources of a project.

Making decisions about street design is a collaborative process with many different voices at the table, including City staff, stakeholders, and members of the public. It is important to identify these voices early on and involve them throughout the process. It is also important to document key decisions to ensure the rationale and design process are transparent and defensible.

3.0 STEPS TO STREET DESIGN

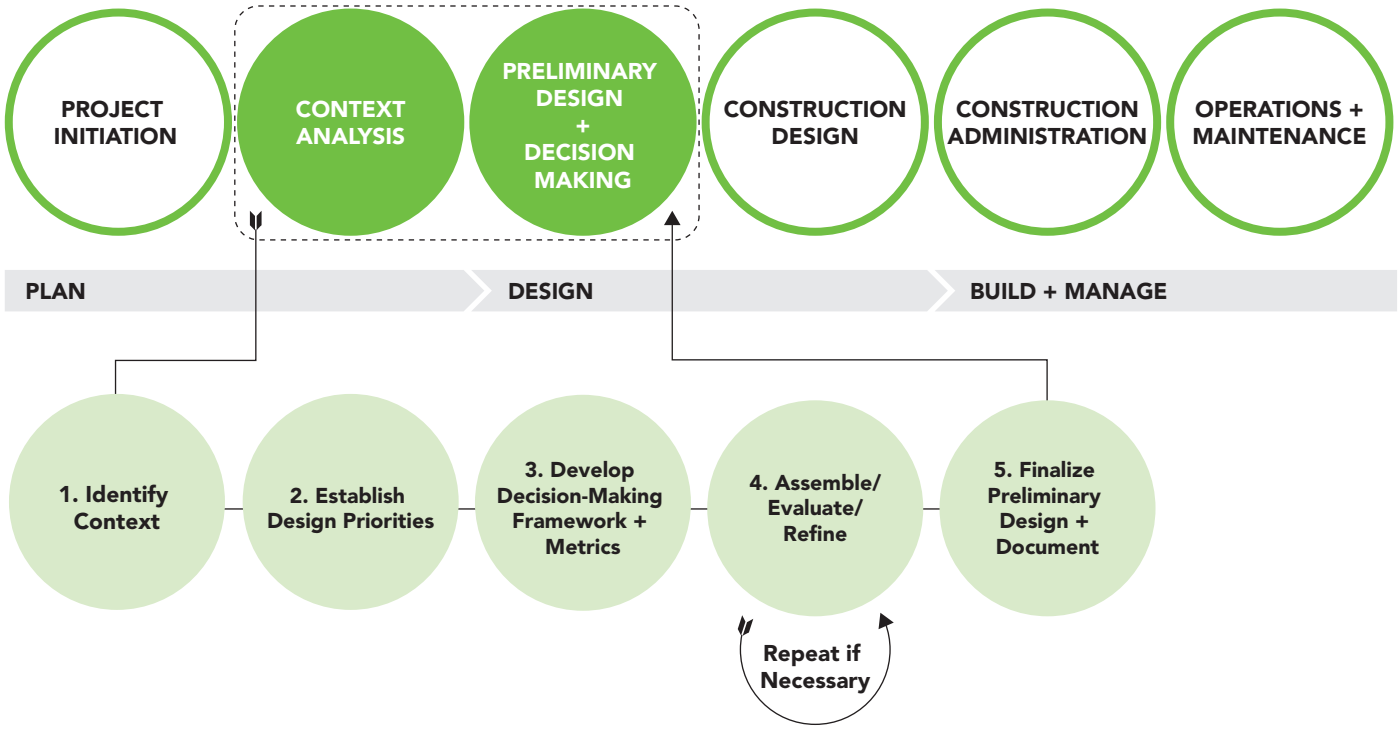
3.1

STEPS TO STREET DESIGN

The five general steps to street design are illustrated in Figure 3-1 and described in more detail on the following pages. This process is best suited to large projects such as major reconstructions and Environmental Assessment studies, but adaptable to many different project types.

Step 1: Identify Context & Street Type
Step 2: Establish Design Priorities & Objectives
Step 3: Develop Decision-Making Framework & Metrics
Step 4: Assemble, Evaluate, Refine & Repeat
Step 5: Finalize Design & Document

c. DTAH



COLLABORATION WITH CITY STAFF, STAKEHOLDERS AND PUBLIC

Transportation Services
- Beautiful Streets, Pedestrian Projects, and Street Furniture
- Cycling Infrastructure & Programs
- Traffic Operations
- Traffic Safety
- Traffic Signals (installation & maintenance)
- Traffic Planning & Right-of-Way Management
- Infrastructure Asset Management & Programming
- Road Operations

Toronto Transit Commission
- Strategy & Service Planning

Emergency Access – Divisions
- Fire Services, Paramedic Services and Police

Operational Access – Divisions
- Waste Management
- Parks

City Planning
- Community Planning
- Transportation Planning
- Urban Design
- Heritage
- Environment

Parks, Forestry & Recreation
- Urban Forestry

Economic Development & Culture
- BIA Office
- Film Office

Municipal Licensing & Standards
- Business Licensing & Regulatory Services

Utilities
- E.g., Toronto Hydro, Toronto Water, others including Major Capital Infrastructure Coordination

Councillors and their staff
Local residents, businesses, and institutions (schools, hospitals, seniors facilities, business improvement areas, etc.)

Community organizations, advocacy groups and other industries
- Pedestrians and transit riders
- Disabilities groups (e.g., for vision, mobility, hearing and cognitive)
- Cycling groups
- Drivers, motorcyclists, and goods deliveries (e.g., couriers and logistics)
- Parks, conservation authorities, environmental groups
- Arts, cultural groups, and film industry
- Taxi, car-sharing, and tourism
- Developers and property managers

Figure 3-1: Steps to Street Design

3.1.1

STEP 1: IDENTIFY CONTEXT & STREET TYPE

Understanding the variety of roles and relationships of a street with its surrounding context is a critical step in the street design process.

Using the approach outlined in Chapter 2, undertake a comprehensive review of available information to create a thorough and holistic understanding of the different aspects of a street's context. When gathering and reviewing policies, plans, and other data, also identify strategies to address significant information gaps or deficiencies. Using the analysis of information gathered, select one of the Street Types outlined in Chapter 2 as a starting point for setting design priorities and objectives.

Figure 3- 2: Many factors inform the understanding and identification of street types

STEP 1: CHECKLISTS

Identify the street's "placemaking" context:

- ☐ Consult Official Plan policies and maps (eg, urban structure, land use designations, secondary plans or other area plans, heritage conservation plans, etc)
- ☐ Consult public realm and streetscape policies (e.g, Streetscape Manual, Vibrant Streets Guidelines, urban design guidelines, etc)
- ☐ Consult the Green Streets Technical Guidelines including policies, maps and the Low-Impact Design feature selection tool (eg, planting conditions, stormwater plans, tree canopy, etc). Identify grades, drainage, stormwater flow, catch basin locations, etc.)
- ☐ Is the street located in a Business Improvement Area (BIA) and are there streetscape or master plans?
- ☐ What are the street's trip generators and destinations, e.g., schools, institutions, parks, etc.?
- ☐ Identify the past, present and future characteristics of the place and users of the street (e.g, cultural heritage, social history and new development).
- ☐ Research and identify any encroachment or easement agreements on the street segment.

Identify the street's "movement" context:

- ☐ Consult Official Plan policies, network plans and maps (e.g, rapid transit network, surface transit priority network, planned right-of-way widths, etc)
- ☐ Align with the City's pedestrian-related policies and obtain data, (e.g. existing and future volumes, trip generators, safety heat maps, walking conditions, OTM Book 15, etc.).
- ☐ Consult the Cycling Network Plan, OTM Book 18, and obtain data, e.g, existing and future volumes, trip generators, and safety conditions.
- ☐ Collect and review data (e.g. collisions, existing and future volumes, truck volumes, speed, and travel times)
- ☐ Identify curbside and operational uses (e.g. parking (on- and off-street supply), deliveries, taxi stands, food trucks, bike parking, Bike Share stations, snow storage, etc).
- ☐ Review multimodal demand and connectivity. Consult Road Classification System.
- ☐ Identify existing street right-of-way widths and allocation of space.

Identify profile of street users:

- ☐ Conduct site assessments and gather observational data
- ☐ What are the current and future demographics (e.g. seniors)? Who uses the street? Consider people of all ages, abilities and genders, and universal design.
- ☐ Identify activities and any permit holders (e.g, cafés, marketing displays, street vendors, food trucks, boulevard parking, filming, etc.).
- ☐ Consider all times of the day, different days of the week, and times of the year (all seasons)
- ☐ Consider anticipated routes for different users, and their desire lines (typical paths and destinations)
- ☐ Consider emergency services, operations and maintenance, and utilities (year-round, all times of day)
- ☐ Consider utilities and their location and placement, both above and below ground
- ☐ What consultation (e.g., public and stakeholder input and feedback) has been conducted on the above roles and users of the street, and the potential street type(s) that contribute to the street project's objectives?
- ☐ Identify potential funders and maintenance partners.

Identify street type(s):

- ☐ Which street type(s) are most similar to the aspirational role of the street (i.e., vision and goals)?

3.1.2

STEP 2: ESTABLISH DESIGN PRIORITIES & OBJECTIVES

Develop the design priorities and objectives through a collaborative process—agreed upon as much as possible by the parties involved, and reviewed later in the process to evaluate how they are being met. They should align with the City's Official Plan and other city policies, as well as the complete streets vision, goals, and guidance outlined in this document. In some cases, previous policy or guidance (such as Secondary Plan, EA Terms of Reference, BIA Public Realm Plan, etc) may exist to inform design objectives for a street or area.

Design priorities and objectives should reflect the most recent context information developed through Step 1. On larger projects, review and revise objectives as the design proceeds, with changes and decisions documented for transparency.

STEP 2: CHECKLISTS

Confirm that project objectives align with the City's policies and plans and bylaws:

- ☐ Alignment with Official Plan's city-building vision and goals
- ☐ Alignment with Toronto's Complete Streets vision, goals, and design guidance
- ☐ Align with network plans and local area studies or plans that exist or are underway
- ☐ Consult appropriate bylaws in Toronto Municipal Code (e.g., streets and sidewalks, street vending, etc.)

Confirm that the project objectives are informed by design objectives for the selected Street Type in Step 2:

- ☐ Design objectives for moving pedestrians, cyclists, transit, and motorized vehicles
- ☐ Design objectives for place-making, green infrastructure, and users of the street
- ☐ Compare project objectives with the street type(s) design objectives

Confirm that project objectives have received input and feedback through consultation and engagement:

- ☐ Internal consultations of key stakeholders (all relevant Divisions, Agencies, Commissions and units) have informed the project's objectives (think of all modes and users)
- ☐ External consultations with key stakeholders have informed the project's objectives (think of all modes and users)

What are the funding sources for the project?

- ☐ Internal and external discussions on funding capital, operations and maintenance.

3.1.3

STEP 3: DEVELOP DECISION-MAKING FRAMEWORK & METRICS

An evidence-based decision-making framework and a set of metrics are essential to evaluate street design options and make difficult choices and trade-offs. Organize the decision-making framework and metrics according to the design priorities and objectives established in Step 2. Develop both qualitative and quantitative metrics for each of the priorities or objectives to assess how they can be achieved.

Involve a variety of interdisciplinary professionals to provide specific advice in their area of expertise. Consultation and stakeholder engagement will also help inform the decision-making framework. Collect "before" and "after" data to provide a baseline set of metrics to track and monitor impacts and progress over time. It is important to document how decisions are being made.

STEP 3: CHECKLISTS

Establish an evidence-based decision-making framework:

- ☐ Review the decision-making framework template (Figures 3-2a and 3-2b)
- ☐ Incorporate priorities and objectives resulting from Step 2 into the framework
- ☐ Conduct internal and external stakeholder consultation for input on the framework
- ☐ Identify qualitative and quantitative measures for the evaluation criteria
- ☐ Collect any data required to produce the qualitative and quantitative analysis including consulting multidisciplinary and subject matter experts for advice. Ideally, "before" data is collected at this stage to provide a baseline against which "after" data can be compared once the project has been completed to track impacts over time.

TEMPLATE FOR DEVELOPING DECISION MAKING FRAMEWORK

Vision: _____

Goal(s): _____

Priority and/or Objective(s): _____

Criteria and/or Metric(s): _____

Figure 3-2a: Sample Decision Making Framework Template

STREETS FOR PEOPLE	STREETS FOR PLACEMAKING	STREETS FOR PROSPERITY
Improve Safety and Accessiblity	**Create Beautiful and Vibrant Public Space**	**Support Economic Vitality**
Shorter Crossing Distance at Intersections	Wide Pedestrian Clearway and Furnishing/Planting Zone	Adequate On- and Off-Street Parking and Loading; Wider Sidewalks and Setbacks for Outdoor Cafes
Give People Choices and Connected Networks	**Respond to Local Area Context**	**Enhance Social Equity**
Length (km) of Missing Links for Pedestrians and Cyclists	Alignment with Area and Community Plans	Increased Transit Access (5-10 Minute Walk) to Low-Income Households; Expanded Bicycle Network to Transit Stops/Stations
Promote Healthy and Active Living	**Improve Environmental Sustainability**	**Balance Flexibility and Cost Effectiveness**
Safety Features for All Road Users (i.e. Rightsize Lanes and Curb Radii)	Number and Type of Green Infrastructure Added	High, Medium, Low Costs Over The Long Term (for Operations and Maintenance)

Figure 3-2b: Sample Criteria and Metrics

3.1.4

STEP 4: ASSEMBLE, EVALUATE, REFINE, & REPEAT

Step 4 is an iterative step that is often repeated as trade-offs and choices are made to refine the design of a street. Design choices and trade-offs should be evaluated and refined through internal and external consultation and engagement using the evidence-based decision-making framework from Step 3.

The amount of iteration will depend on the scale, scope and nature of the street project. For example, a small scale neighbourhood safety and beautification project will likely not involve as many steps or iterations as a major streetscape improvement that encompasses a whole street segment that involves many external stakeholders.

Assemble: Design options should be prepared using schematic drawings of street cross-sections as well as the plan view of an entire block or intersection. The street type(s) and design priorities and objectives should be used as a starting point to select and help prioritize street elements.

Street types may lead to more than one cross-section option for different street segments. Designers may also not be able to achieve all design objectives on a street project due to context-sensitive considerations. For more information on cross-section elements, see Chapters 4 through 9 which provide an overview of some key design objectives for pedestrians, cyclists, transit, green infrastructure, roadways, and intersections.

Evaluate: Once the options are developed, they should be evaluated using the evidence-based decision-making framework and metrics from Step 3. This evaluation is important because there are often physical space allocation choices that need to be addressed before proceeding to detailed design. Difficult trade-offs may need to be made after being evaluated and documented using an evidence-based approach.

Evaluating using this approach ensures that design priorities and objectives for a project are applied in a context-sensitive manner, and that decisions are explained and documented for how they achieve the overall complete streets vision and goals.

Refine & Repeat: Street design options should be refined through collaboration and creative problem-solving, as well as the use of various design standards and best practices

Repeated refinement is often necessary to better achieve project objectives. This is typically an iterative step that involves multi-disciplinary collaboration among key stakeholders, as well as external consultation and engagement with the community and public.

Refinements to the street design should result from a thoughtful and collaborative discussion of trade-offs between competing uses on the street and within the available right of way. This discussion requires all stakeholders to understand the perspectives and needs of others.

This is a critical step that demonstrates transparent and accountable decision making.

STEP 4: CHECKLISTS

Assemble street cross-section(s):

- ☐ Review and apply project design objectives – prioritizing space and attention to design for priorities resulting from Checklists for steps 1, 2 and 3
- ☐ Review and apply key design principles and select elements using the Chapters on Pedestrians, Cycling, Transit, Green Infrastructure, Roadways and Intersections
- ☐ Review and apply additional resources including specific design guidelines, construction standards, and best practices (e.g. City's Lane Width and Curb Radii Engineering Guidelines, On-Street Bikeway Design Guidelines, Green Streets Technical Guidelines, Streetscape Manual, etc.)
- ☐ Coordinate designs with other projects in the area (e.g. new buildings or developments), and permitted activities or businesses (e.g, cafés, etc.)
- ☐ Assemble street cross-sections and plan views using a multi-disciplinary, collaborative approach with key stakeholders and produce the schematic drawings

Evaluate options using the evidence-based decision-making framework from Step 3:

- ☐ Review each design option against the framework (developed from Step 3) and document the pros/cons of each option, any trade-offs made in the option, and any qualitative and quantitative measures
- ☐ Ensure that all users of the street are taken into account, e.g., a road user risk assessment for the safety of the most vulnerable road users
- ☐ Collect any data required to produce the qualitative and quantitative analysis of the design options (including consulting interdisciplinary and subject matter experts for advice)
- ☐ Conduct internal and external stakeholder consultation for feedback on the evaluation of options including life cycle costs
- ☐ Document the evaluation using qualitative and quantitative data and analysis and feedback

Refine street design and repeat Step 4, if necessary:

- ☐ Foster collaborative problem-solving among key stakeholders, using a multi-disciplinary approach, to address issues that arise and to refine street design options
- ☐ Review and apply additional resources including specific design guidelines, construction standards, and best practices
- ☐ Refine and produce the preferred street designs, including schematics and streetscape details
- ☐ Consult internal and external key stakeholders, using a multi-disciplinary approach to gather input and feedback on their needs
- ☐ Document the rationale for any trade-offs made, conflict resolution measures and innovative solutions to design issues including life-cycle costs and obtain agreement and approvals on operations and maintenance (i.e. who will maintain the street elements)

3.1.5

STEP 5: FINALIZE DESIGN & DOCUMENT

The completion of all of the previous steps, including any additional public and stakeholder input, should provide enough rationale to select the design option that best matches the context and future expectations relative to the street project.

It is important that the design team documents the process that was followed, including consultation and engagement activities, so that it can inform future similar street projects, and serve as a reference for any questions that may arise about why a particular decision was made.

STEP 5: CHECKLISTS

Finalize the preferred street design:

- ☐ Finalize the preferred street design, including cross-sections, plan views (of the whole block, segments and/or intersections and approaches to the intersection), and streetscape details
- ☐ Include documentation of any analysis
- ☐ Include documentation on consultations
- ☐ Include documentation on the evaluation
- ☐ Include documentation on the written agreement and approvals on operations and maintenance for the long term (i.e. who will maintain the street elements for the long-term)
- ☐ Note that, depending on the lead division or agency, some streetscape elements will require a formal agreement with the City. (e.g, for maintenance, encroachments, or easements).

Examples of street elements that require an agreed-upon and approved maintenance owner include, but are not limited to:

- ☐ Street trees, landscaping and planters
- ☐ Pavers (e.g. in the furnishing or edge zones, sidewalk, or roadway)
- ☐ Green infrastructure such as permeable materials
- ☐ Other streetscape details, e.g., lighting, street furniture, decorative installations
- ☐ Others, as needed

Examples of maintenance owners that need to provide agreement and approval include, but are not limited to:

- ☐ Transportation Services
- ☐ Toronto Water
- ☐ Parks, Forestry and Recreation
- ☐ Business Improvement Areas (BIAs)
- ☐ Property managers (e.g. commercial or condominium building owners)
- ☐ Toronto Hydro
- ☐ Others, as needed

3.2

PERFORMANCE MEASUREMENT

This section outlines what project teams should consider in assessing how well a project performs in terms of meeting its complete streets objectives.

Queensway: Before


Queensway: After

MEASURING STREET PROJECTS

"Before" and "after" data help to assess and communicate the results and benefits of street projects. Resources for data collection, analysis, and communications are often not included in budgets. Ideally, resources for measuring street performance are considered in advance and integrated into the project budgets, commensurate with the scale of the project.

While the City of Toronto and its partners currently collect some data related to streets and the transportation system, more often than not, there would be a need for project-specific qualitative and quantitative data for "before" and "after" monitoring, such as:

- Volumes of pedestrians, cyclists, transit passengers and vehicles (at intersections and mid-block)
- Collision data and observational data (e.g. conflict and near misses) for motor vehicles, pedestrians and cyclists
- Motor vehicle speeds
- Transit and motor vehicle travel times
- Provision of new infrastructure (e.g. length and type of new sidewalks, bike facilities, transit priority measures, street trees or landscaping, street furniture, parking supply (on- and off-street)
- Use of public space (e.g. observation studies, surveys or safety audits)
- Socio-economic data (e.g. mix of land uses, employment data, café permits, vacancy rates, etc.)
- Environmental and public health benefits (e.g. tree cover)
- Photographs and visuals to demonstrate the changes in the street design

3.3 EXCEPTIONS

This section addresses the issue of exceptions and the need for professional judgment by practitioners in using the latest best practices in their field.

As noted earlier, implementing Toronto's Complete Streets vision and goals is the responsibility of all staff involved in street projects. If the street design team believes that an exception to applying the Complete Streets Guidelines is warranted, they must document the rationale at each stage of project planning and design, and where conflicts arise, seek approval from senior management.

Documentation should include:

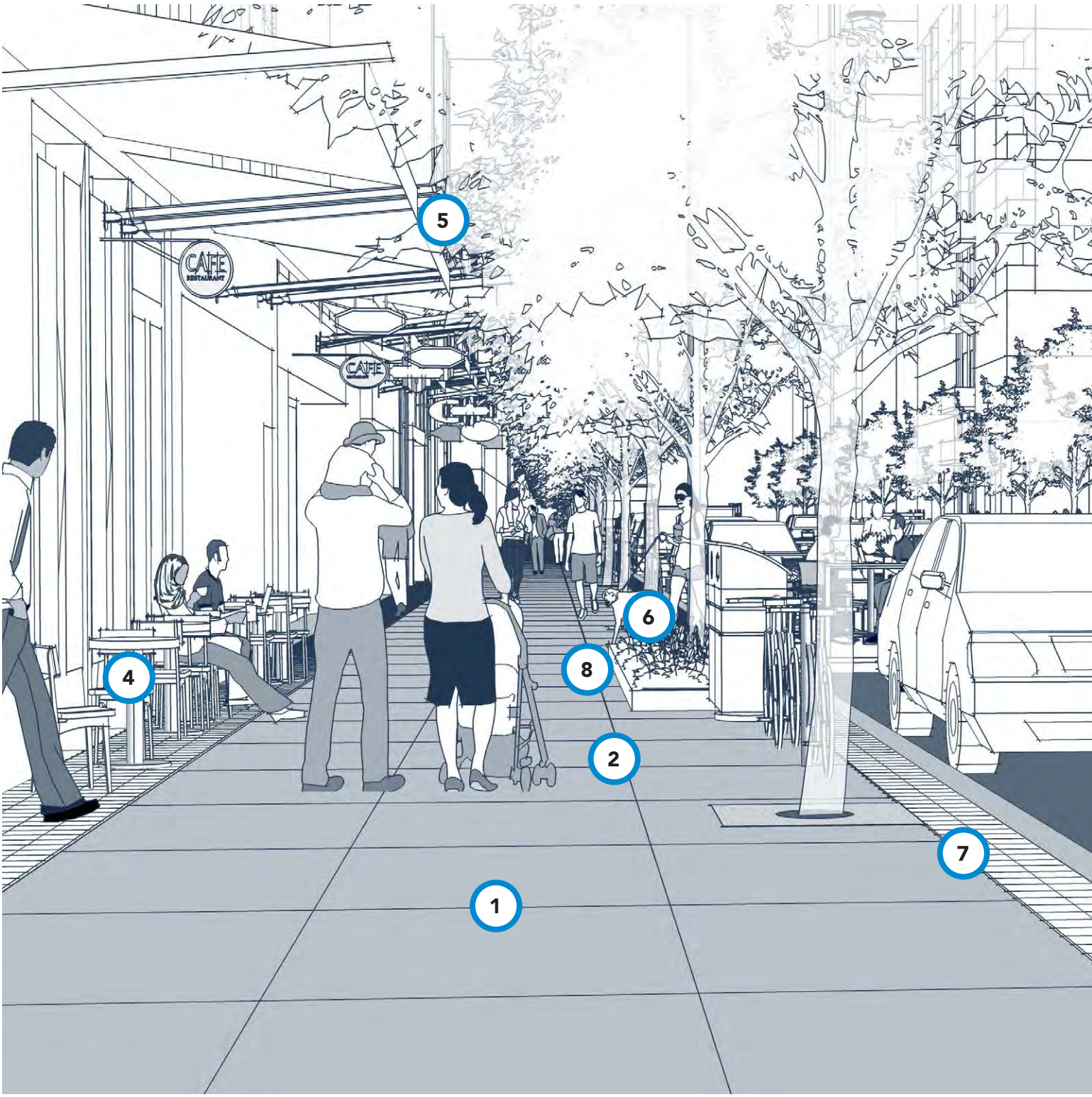
- A description and schematic diagram of the recommended street design, including e.g. right-of-way width, proposed cross section and/or plan view, and photos of the existing conditions and graphics that illustrate the desired condition
- Explanation for the requested exception and details on why the desired condition is a better solution to achieving the City's objectives and outline these stated objectives
- Description of the street context and how the desired condition serves the existing and future uses and users of the street
- Description of how the desired condition satisfies the City's plans and policies (e.g. Official Plan, network plans, master plans, City's design guidelines, etc.)

Everyone is a pedestrian—whether you are walking to school or work, or to your parked car, transit or bicycle. Pedestrians include people on foot and/or using an assistive device. Pedestrian design should be accessible for all people. Pedestrians are the safety priority in street design as they are the most vulnerable and have the highest rates of fatalities among road users. The safety of pedestrians should be prioritized over maximizing traffic capacity and speeds as the safety benefits can be reaped for all road users.

The pedestrian network—which includes sidewalks, crossings, and public spaces— is core to the city's transportation network. Space should be allocated to protect pedestrians, encourage walking, and support placemaking—all of which enhances Toronto's economic and social vitality. This chapter discusses context-sensitive pedestrian design, accessibility, and the public realm.

4.0 STREET DESIGN FOR PEDESTRIANS

4.1 PEDESTRIAN DESIGN PRINCIPLES



For illustrative purposes.

1. Accessibility and Mobility. A top priority is to provide accessible sidewalks and facilities for all users regardless of physical abilities or age. Ensure clear, direct, unobstructed continuous paths of a suitable context-sensitive width to serve existing and anticipated pedestrian flows. Minimize or remove clutter.

2. Provide a Network of Continuous Sidewalks. Places that support walking are healthier, more vibrant, and resilient. Create a network of continuous sidewalks with dedicated space for pedestrians safely separated from cyclists and motorized vehicles.

3. Design for Safe Crossings. Pedestrian-friendly design takes into account the frequency of crossing opportunities, target speed, street width, intersection geometry, visibility, signal timing and walk speeds for vulnerable pedestrians, such as seniors and persons with disabilities. See also Chapter 9 on Intersections for guidance.

4. Placemaking. Sidewalks are public spaces where people interact. Design sidewalks to invite, with seating, trees, cafés, public art, lighting, and places to gather. Create opportunities suited to the street's context. Design to evolve with changing demands. Consider current and future pedestrians and uses.

5. Design for Comfort. Provide sidewalks of adequate width for the context. Design sidewalks and boulevards for uses all year long. Street trees offer shade and relief from sun, rain, wind and snow. Carefully arrange street elements to support pedestrian activities, and to provide a safe buffer between pedestrians and moving traffic.

6. Greening Infrastructure and Stormwater Management. Incorporate passive stormwater measures in boulevards where possible. Divert stormwater into rain gardens, planting beds, or permeable paving in the boulevard to reduce potential for ponding. Green infrastructure enhances the quality of the street environment, and contributes to mental and psychological health. Consider sufficient soil and water for street trees to reach maturity. See Chapter 7 on Green Infrastructure for guidance.

7. Design for Efficient Maintenance. Consider materials and designs that are durable and easier to maintain. Use City Standard Materials. Provide adequate access to utilities for maintenance. Consider snow storage and waste and recycling collection. Coordinate repairs and upgrades, if feasible, to minimize impact to pedestrians.

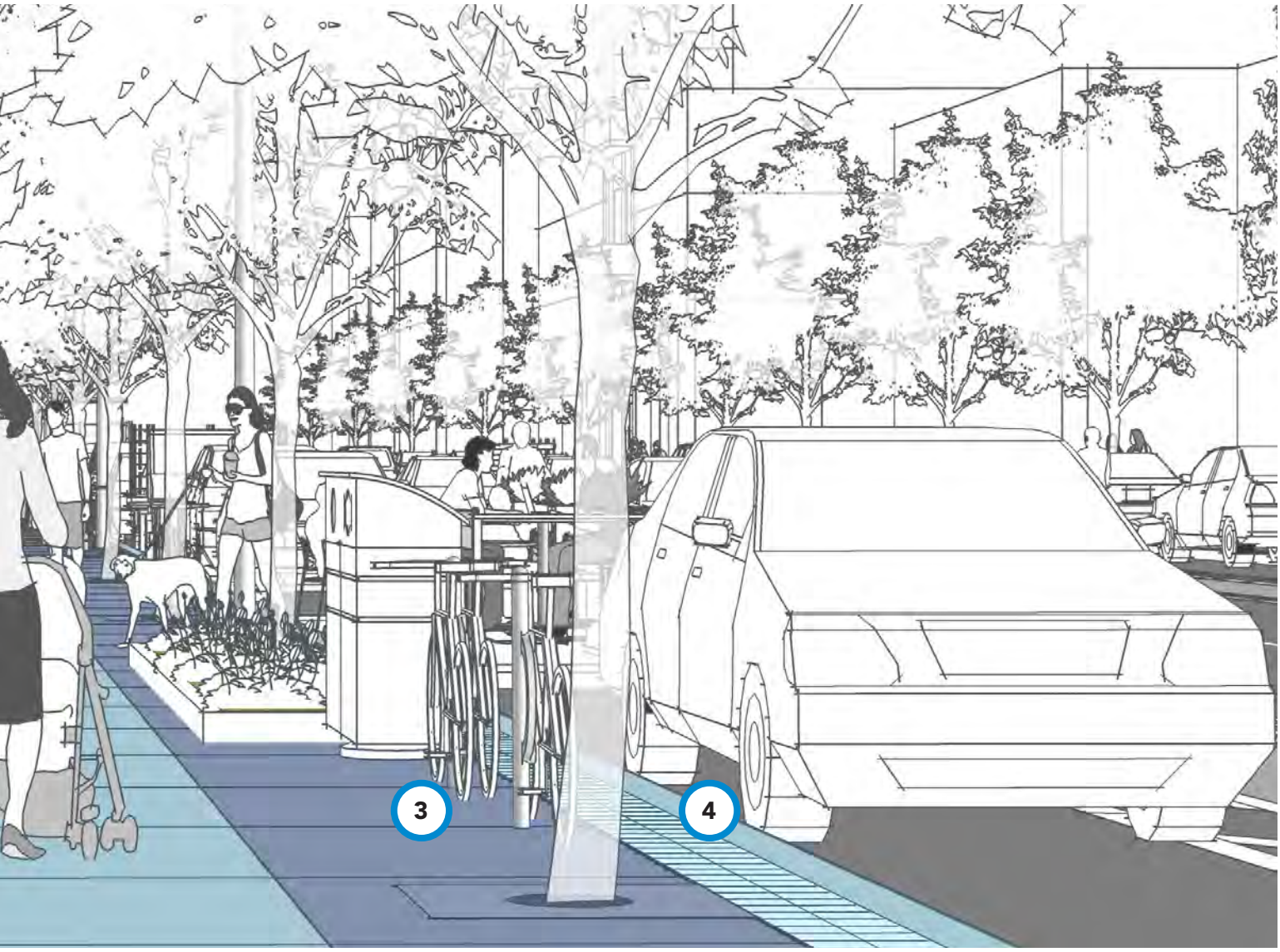
8. Coordination with Utilities. The location, use, and maintenance of utilities needs to be coordinated early on in street projects. Ensure pedestrian clearway needs are met for universal accessibility. Seek ways to minimize conflicts among utilities, street furnishings, trees, and landscaping.

4.2 SIDEWALK ZONES

For illustrative purposes.

1. Frontage and Marketing Zone. The area adjacent to properties, such as building entrances, front yards, stoops, window shopping area, vending, café seating, and building-related utilities. This area may be part of the public right-of-way, or private, if a building setback is present.

2. Pedestrian Clearway Zone. The most important area of the street for safe, accessible, and efficient movement of pedestrians. The width depends on the street context. The minimum will be higher on streets with greater pedestrian activities. An adequate pedestrian clearway is most important in sidewalk design.



3. Furnishing and Planting Zone. This zone in the boulevard provides space for a wide range of street elements such as trees, other plantings, litter and recycling bins, benches, street lights, and bicycle racks.

4. Edge Zone. The space behind the curb that acts as a buffer between moving/parked vehicles and the other sidewalk/boulevard functions. May accommodate sign posts, parking machines, decorative pavers, garbage set out and snow storage.

4.3 IMPORTANCE OF THE PEDESTRIAN CLEARWAY ZONE

The Pedestrian Clearway Zone is the area of sidewalk that is free and clear of any obstacles so that people of all ages and abilities can travel in a direct, continuous path. This zone is dedicated for pedestrian movement and the amount of space required will depend on the volume and intensity of pedestrian activity on the street.

CONTEXT-SENSITIVE WIDTHS

A wider pedestrian clearway is required on streets that bring more people to the sidewalk, e.g. busy shopping or destination areas, busy transit routes with many pedestrians, or other sites with large volumes of pedestrians. Space is needed for greater numbers of pedestrians to pass each other, window shop, push strollers or delivery carts, or support someone needing assistance with walking(See Figure 4.1 and photos).

At minimum, two assistive devices need to be able to pass each other with a buffer. This minimum space (2.1 metres) provides a safe, universally accessible path for people of all abilities. Issues with lack of space include having to pass on uneven surfaces like sod that could tip a wheelchair, or being blocked on one side by a retaining wall and not having space to safely pass.

HIGH PRIORITY

For safety reasons, the pedestrian clearway takes priority from other parts of the street. In areas with high pedestrian volumes and crowding, walking will become obstructed and overflow if there is inadequate space and may result in people walking in the roadway. Overall sidewalk width should first accommodate the preferred pedestrian clearway, assigning available space to other zones second.

WHAT IS NOT CLEARWAY

When measuring the pedestrian clearway, do not count the space right up to a bench or bicycle post and ring, or other element (e.g. door opening areas, frontage and marketing areas or tree pits), because you need to account for how it is being used. Think of the users or objects taking up space, such as a person sitting on a bench, a bicycle locked to a post and ring, a person standing or lining up for a transit stop or food vendor. Ventilation grates and covers should be placed outside of the clearway.

DIRECT AND CONTINUOUS

A direct, continuous clearway is especially needed along a block, because it is difficult for people with low or no vision, or physical mobility challenges to maneuver sudden or frequent changes in path. Shared Streets need a clear path of adequate width that is delineated with visual contrast and by tactile indicators. This provides a dedicated path of travel for persons of all ages and abilities in an area with a mixing of pedestrians and vehicles.

Figure 4-1: Examples Of Widths Of Different Types Of Pedestrians

Wider pedestrian clearways are required on streets with greater pedestrian activities, like these examples in Toronto.

4.4

ACCESSIBILITY AND UNIVERSAL DESIGN

Sidewalks are essential. Accessible and universal design for sidewalks include: ensuring adequate pedestrian clearway widths, effective physical separation between pedestrians and cyclists, materials, slopes, and tactile walking surface indicators that provide warnings and guidance for people with low or no vision. See Chapter 9 on Intersections for accessible and universal design features found typically at intersections such as curb ramps, depressed curbs, and accessible pedestrian signals.

Sidewalks should be designed to accommodate pedestrians of all ages and abilities.


Sidewalk should be flat and level, while maintaining proper drainage.

SIDEWALK MATERIALS

- Sidewalk materials and their maintenance impact the experience of a street. Safe, smooth, stable and slip-resistant sidewalk surfaces are important for universal accessibility. In general, sidewalks should be constructed of concrete, in a manner that minimizes gaps, discontinuities, rough surfaces, and vibration-causing features for mobility device users.
- Minimize the number of different materials across the sidewalk. Non-standard items are strongly discouraged for most street types for cost, durability, maintenance, accessibility and sustainability reasons. Unique materials are more difficult and costly to maintain, and become tripping hazards, unsightly and confusing to users especially when maintenance lags.

SLOPES

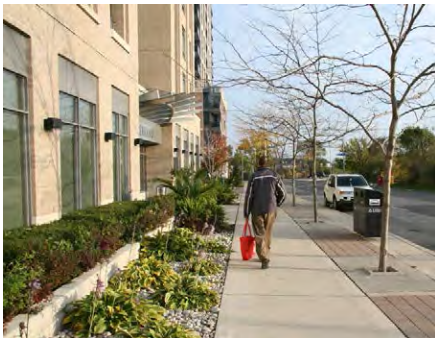
- Sidewalks should have a flat, level surface for walking, while maintaining enough slope for proper drainage so rainwater does not accumulate on sidewalks. The slope of the sidewalk as you walk forward along it (i.e., running slope) often depends on the slope of the adjacent roadway.

TACTILE WALKING SURFACE INDICATORS & DELINEATORS

- To provide persons with low or no vision with warnings and guidance, Tactile Walking Surface Indicators (TWSI) are installed at curb ramps or depressed curbs where a pedestrian may encounter a hazard such as moving vehicles.
- A tactile, colour contrasting and/or physical delineator is required between the sidewalk and sidewalk-level cycle track (e.g., on Sherbourne Street), or for a flush street (e.g., Market Street), where pedestrians are at the same level or grade as cyclists and cars. Yellow tactile strips are used at transit stop areas. The design depends on the context, i.e. speed and volumes.

Curb ramps and accessible pedestrian signals are discussed in Chapter 9 on Intersections.


Tactile Walking Surface Indicators are in installed at curb ramps or depressed curbs.


Straight and direct sidewalks are required for safe and convenient access for people of all ages and abilities, especially those with low or no vision.

4.5

PEDESTRIAN CROSSINGS

Pedestrian crossings are found at intersections of streets, at mid-block locations on long blocks, and at key destinations, such as schools, transit stops or stations, offices, or shopping plazas, that generate pedestrian crossing demand. Pedestrian crossings are facilitated by traffic signals, mid-block pedestrian signals, pedestrian crossovers (also known as PXOs) and pedestrian crossing islands or refuge islands.

This mid-block pedestrian crossing facilitates children in walking safely to school.

PEDESTRIAN SIGNALS

Traffic control signals that provide pedestrians with a protected crossing opportunity at intersections or mid-block locations by requiring motorists to stop at the signal.

PEDESTRIAN CROSSOVER (PXO)

Pedestrian crossovers are identified by specific signs, pavement markings, illuminated overhead lights, and pedestrian push buttons. Under provincial laws, drivers and cyclists must wait until pedestrians have completely crossed the road.

PEDESTRIAN CROSSING ISLAND OR REFUGE ISLAND

An area protected by curbs (i.e., a raised concrete island) between two directions of traffic, where pedestrians can wait for a gap in vehicular traffic or rest while crossing streets mid-block.

As discussed in Chapter 8 on Roadways, a priority is to look for opportunities to rightsize streets to reduce pavement widths for safety and greening purposes. For example, before allocating space to a median or crossing island, consider right-sizing lanes and the street to reduce crossing distances and to support preferred widths for the pedestrian clearway, planting and furnishing zone, and cycling facilities.

The decision to install any of the above devices depends on many factors such as pedestrian safety (e.g., lack of crossings or gaps in traffic), street geometry, number of lanes, adjacent land uses and trip generators, vehicular volumes, speed, and observational data.

PXOs are common in Toronto.