CORPORATION OF THE CITY OF BRAMPTON

STREET CORRIDOR MASTER PLAN AND DESIGN STANDARDS

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Prepared by

The City of Brampton & Region of Peel
Steering Committee

NAK Design Group Inc.
Landscape Architecture
Urban Design
Community Planning

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1. INTRODUCTION

1.1 Purpose and Scope

This streetscape initiative, whose origin was directed by Council, is a strategic opportunity to enhance Brampton's arterial roads, a major public component of the City.

The Region of Peel recognizes that Brampton is a major urban centre with a distinct identity which should be reflected in the design quality of its arterial roads. The City and the Region are committed to design excellence and are working together to develop the arterial enhancement program.

The purpose of this document is to provide a streetscape master plan and design standards for the City of Brampton arterial road network, focusing on the physical elements within the road allowance. Current projected road capacities and designated land uses are to be assumed, although the master plan may provide recommendations on adjacent built form and site access, particularly at key locations.

1.2 City's Vision

The City of Brampton is most often first experienced by travelling along its corridor streets; therefore, it is these streets that present the initial and most lasting impression of the City. This impression may vary but the predominant character is one where everything is designed to accommodate the efficient movement of private automobiles and minimal attention has been given to the needs of pedestrians, transit users and cyclists. Even the needs of motorists are compromised. The view of the street is generally unappealing and it is often difficult to find ones' way around. Furthermore, along most of the corridor roads that connect with neighbouring municipalities, there are few recognizable points of entry to the City.

The City's vision for its road corridors, developed in consultation with the Region, is that the arterial roads should present clear points of community entry, a favourable first impression to motorists and a safe and pleasurable experience for all users including motorists, pedestrians, transit users and cyclists.

Figure 1.1 - City of Brampton Existing Arterial Corridor Plan

2. DESIGN PRINCIPLES

2.0 Design Principles

For Functional, Attractive Corridor Roads

Corridor roads have generally been designed to facilitate the safe and functional movement of high volumes of traffic, with little or no consideration of the aesthetic qualities of the corridor streetscape or the needs of pedestrians and bicyclists. The importance of addressing these issues is now paramount.

The following section presents a number of general design principles, developed from the writing of Jacobs and others, which should be considered as a good initial reference point in the development of a corridor enhancement design program.

2.1 General Design Principles

The recent attention design professionals have given to the importance of successful street design has contributed to a growing body of literature on the subject. As part of the present study, a number of publications were reviewed, including the following :

- *Great Streets*, by Alan B. Jacobs lauded for its inspirational writing on those great urban streets of Europe and North America, notable for their beauty, maturity and their appeal to pedestrians in particular.
- *A Regional Streetscape Policy*, prepared by the Regional Municipality of York, Ontario, offering a concise assessment of key issues and recommendations for the region's arterial network.
- *Regional Road Corridor Design Guidelines,* Region of Ottawa-Carlton, which presents comprehensive analysis, design guidelines and implementation for the region's arterial corridors.

The following general design principles are presented, with supporting statements from the above publications, as noted.

1. **The full importance of streets extends beyond their utilitarian role.**

   "Streets are more than public utilities, more than linear physical spaces that permit people and goods to get from here to there. . . . Streets moderate the form and structure and comfort of urban communities. . . "

   A.B. Jacobs, *Great Streets*, Page 5

2. **Street quality is important to community residents.**

   "The people of cities understand the symbolic, ceremonial, social, and political roles of streets, not just those of movement and access. . . . proposals to improve existing streets, to make them special, "great" places, are common and are regularly approved by voters who tax themselves to achieve this end. "

   A.B. Jacobs, *Great Streets*, Page 53.

3. **Trees and planting contribute significantly to streetscape quality.**

   "Regional Road corridors should maximize the amount of vegetation as an attractive element of public space, to green the urban landscape and to create public spaces and green ways."

   Region of Ottawa Carlton, *Regional Road Corridor Design Guidelines,* Page 9.

4. **Adjacent land use can be a key determinant of streetscape character.**

> "The primary goal of streetscaping is an integrated, cohesive street dynamic, regardless of the land use. However, different land uses impart the street character in different ways and should be considered, with connectivity as a goal."
>
> The Regional Municipality of York, Ontario, *A Regional Streetscape Policy* Page 15.

5. **The corridor should be visually appealing as well as functional.**

> "Regional road corridors should have qualities that engage the eye through the creative combination of road elements such as trees and vegetation, lighting, signs, furniture, public art, utility infrastructure, and the definition provided by adjacent landscaping and buildings."
>
> Region of Ottawa Carlton, *Regional Road Corridor Design Guidelines,* Page 9.

Figure 2.2a Floral Feature at Hurontario & Mayfield

2.2 Specific Design Principles

From a review of relevant literature, certain design principles emerge as being applicable, indeed essential to the design of functional and attractive corridor roads for the City.

1. **Urban transportation corridors have a vital functional role as well as a role in shaping our sense of community identity.**

   - Corridor design must address both functional requirements and those aspects of design that enhance appearance, making the corridor a more welcoming element and contributing positively to the City's sense of community and identity.

2. **Community corridor gateways should establish a sense of entry and exit (or a beginning and end) at the community boundaries.**

   - Corridors serving as primary community entrance routes have a special place in the corridor hierarchy, as they convey a first impression to visitors.
   - Corridor gateways at rural locations can provide a point of transition to a more urban condition.
   - Corridor gateways within urban locations can denote significant community areas such as the city centre.
   - Gateway implementation programs should be coordinated with other enhancement programs such as outdoor sculpture or floral display.

3. **The extensive use of landscape elements and trees in particular are among the most beneficial enhancements for corridor roads.**

   - Street trees are perhaps the most cost effective street improvement.
   - Trees provide oxygen and shade; movement of leaves modulates light.
   - Leaf green is a restful colour.
   - When planted in line near the curb, tree canopies separate the pedestrian and vehicular zones; the tree branches give a semi-transparent edge to the street.
   - Deciduous trees are preferred as they permit sunlight to reach the street in winter and their branch and leaf patterns are less dense than most conifers.
   - When spaced closely enough, the overhead canopy visually reduces the impact of the asphalt roadway.
   - In-line planting should be as continuous as possible along the corridor road right-of-way (R.O.W.), except that where motorists' sight lines are critical, trees should not be planted within 12-15 m of street corners. Each planting site is to be evaluated on an individual basis.
   - Landscaping guidelines should stipulate an appropriate minimum standard for amount and location of landscaping and ground treatment within the R.O.W.

4. **Establish a consistent vocabulary of design elements that visually characterize transportation corridors as unique from other street types within the road hierarchy.**

   - If the arterial roads are landscaped consistently with rows of flanking trees of distinctive types, and medians where space permits, while non-arterial streets are landscaped differently and in a contrasting manner, motorists quickly associate the landscape treatment with the street type, and can then readily identify the arterial roads even at unfamiliar intersections.

   - Applying the same principle in the use of other enhancements such as accent paving, street lighting or signage further enhances the corridor while at the same time reinforcing its identity within the road hierarchy.

5. **Transportation corridors should be designed with their elements visually organized and integrated with the surrounding development where possible.**

6. **Transportation corridors should address the needs of pedestrians and bicyclists.**

   - Consider addressing the street improvement or street furniture needs of pedestrians and bicyclists according to the PathWays program, local character of the corridor and adjacent land uses.

Figure 2.2b City Access Point Gateway

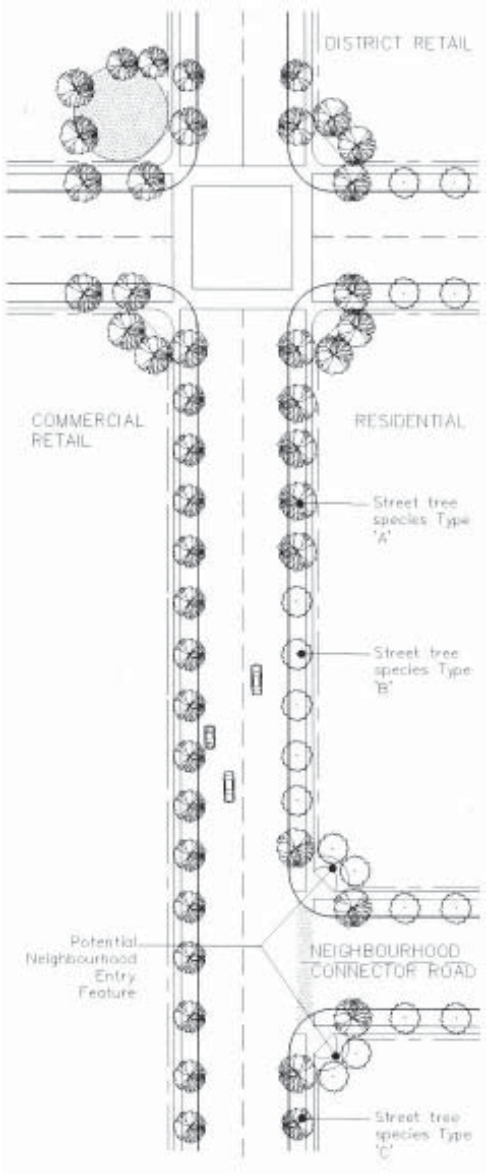


Figure 2.2c Schematic Plan of Tree-Lined Arterial Road

2.3 Corridor Design and Planning Process

The planning and development process, from vision to implementation, can be both lengthy and challenging. It is important to have clearly stated objectives that are as straightforward and cost-effective as possible to maximize the potential for realization.

Effective coordination with related civic programs is essential. This document, for example, is one of several urban design initiatives being developed for the City which will be summarized within *The Urban Design Community Image & Identity Master Plan*. This forthcoming study, to be read and implemented in conjunction with the following other studies, will consolidate all of the City's major urban design projects presently in the works to align initiatives. The scope will include the following:

- Streetscapes and Gateways
- Art and the City
- Preservation of Culture and Heritage
- Flower City Implementation
- Architecture and City Identity
- Public Urban Spaces
- Pathways (signage)
- Community Facilities and Services
- Open Space Environment
- Development Design Guidelines
- Adjacent Land Use

Corridor design must also be coordinated with the AcceleRide program, which presents the opportunity for immediate implementation of Bus Rapid Transit (BRT) along the Queen Street and Main Street corridors. (For more information, refer to Section 5.2.1.1).

Oppportunities to implement design improvements promoted in this document will arise mainly in association with capital road works or servicing projects. In this context, it is vital that design needs be clarified early in the overall planning of the project (during the Environmental Assessment or EA phase), to ensure that extra road allowance requirements are identified and adequate budgeting allocated. As well, the City may initiate streetscape improvements independently of road works projects, which will also require advance planning and budgeting. Some key points to consider are the following :

1. **Approach the aesthetic enhancement of the corridor streetscape and its surrounding land uses as an integrated package.**

    - Enhancement of the public corridors has a significant impact on the overall appearance of the area and sets a standard regarding the city's expectation's for attractive, thoughtful development along corridor routes.

    - Set a good example with public projects,by implementing the design guidelines to the fullest practicable extent.

    - Establish simple and practical design guidelines for adjacent land uses to help achieve the overall desired result.

    - Consistently adhere to the guidelines over the long term.

    - Enhancement of the public corridors should be one component of an overall improvement plan incorporating other initiatives such as the Flower City, Gateways and PathWays programs.

    - When corridor frontages are redeveloped, explore opportunities for combining entrances to reduce the number of left turn locations along the street.

    - Higher intensity commercial uses should be concentrated near corridor intersections where possible, to take advantage of enhanced public exposure, greater vehicular access and public transit opportunities.

2. **Keep the process as simple as possible with clearly stated standards that are financially realistic and achievable.**

    - Establish a consistent protocol at both municipal government levels to ensure that good civic design is incorporated early in capital road works or servicing projects along a corridor.

3. **Remove regulatory barriers to innovative site design and land-use planning.**

    - Consider more flexible zoning regulations for corridor frontages to encourage more innovative site developments that improve the visual quality of the street.

4. **Establish firm goals, be flexible in means to achieve them.**

    - Be practical and flexible in the application of long-range design objectives.

3. DESIGN OBJECTIVES

3.0 Design Objectives

3.1 Objectives for Motorists:

Functional Design Objectives

For motorists and the road operating authorities, corridor arterials must facilitate safe and functional movement of high traffic volumes within clearly defined roadways designed with due consideration of the following:

- Appropriate corridor lane width and hard surface material according to the existing or anticipated traffic volume.
- Designated left and right turn lanes at intersections as required according to current or anticipated traffic volumes.
- Street curbs along built up corridors and at all intersections.
- Medians at arterial/arterial intersections to provide definition to the movement zones for turning vehicles within the corridor's area of widest pavement.
- Wide gravel shoulders at roads having rural cross-sections for emergency pull-over and for winter snow piling.
- Drainage to catch-basins in built up areas, drainage to ditch inlet catch basins or directly to watercourses at rural cross-sections.
- Corridors laid out as straight and level as possible within the context of surrounding grading conditions to optimize driver visibility and traffic flow.
- Continuous splash strips at urban road cross-sections.
- Arterial/arterial intersections located a safe distance beyond major curves where possible, as level as possible and having roads meeting at angles as close to 90 degrees as possible within the context of surrounding grade, to maximize visibility and safety at the intersection.
- Street lighting fixtures having their light source well above the driver's field of view and directed down to the road to reduce glare and distraction, spaced to provide clear illumination at intersections.
- Road signage that is clear, consistent, informative without being distracting and located appropriately to direct or inform drivers.
- Road signage located at intersections to provide direction or regulate traffic without obstructing driver's vision.
- Signals at intersections that are clearly visible both from a distance appropriate to the posted speed of vehicle movement and at the intersection without obstructing driver's vision.
- Above ground services located at intersections in a manner that allows for access and servicing yet minimizes their impact on driver visibility.

Aesthetic Design Objectives

Design standards to guide the aesthetic enhancement of The City of Brampton's corridor streets for motorists should consider the following design objectives :

- Enhance the appearance of the main corridor entry points to the City to create a good first impression and a clear sense of arrival in Brampton.
- Create a sense of civic, corporate and community identity that is distinct for the City of Brampton at corridor gateway locations and other key areas of the corridor system.
- Enhance the visual quality along each corridor to provide a satisfactory visual experience and improved sense of orientation.
- Recognize the special nature of intersections as points of convergence and choice of direction with accent paving or other aesthetic enhancements.
- Reduce the visual impact of an excess of asphalt surface treatment on roads, medians and splash strips, especially at intersections.

Aesthetic Design Objectives (cont'd)

- Develop distinctive way-finding and road signage for the corridor arterials which distinguishes them from other streets.
- Coordinate corridor enhancements with existing programmes such as the corridor Gateways, Flower City and PathWays programmes.
- Coordinate corridor enhancements with development design guidelines for adjacent lands so that corridor design and local development are seen as a more harmonious and attractive whole. This may include recommendations about preferred types of adjacent land use at particular locations, private parking access and visibility from the corridor, relationship of built form to corridor edge and other design considerations.

3.2 Objectives for Pedestrians

Functional Design Objectives

Unlike motorists, pedestrians are not protected by a surrounding artificial environment, but remain directly exposed to the elements and the local microclimate of traffic noise and vehicle movement within the corridor.

The primary concern of pedestrians is that they feel safe at all times walking within an environment designed mainly for high-volumes of swiftly moving traffic. The needs of the handicapped and elderly must also be addressed. Functional design objectives for the pedestrian realm include the following :

- Continuous sidewalks within the R.O.W. on both sides of the street in built up areas providing a uniform, paved surface for pedestrian movement separated from vehicular traffic.
- Sidewalks sufficiently removed from the pavement edge so pedestrians are buffered from the noise, fumes and motion of swiftly moving vehicles and they are beyond the limits of traffic splash from streets wet with rain or snow melt.
- Transit shelters at transit stops, with a surrounding paved area, oriented to address the street, to provide protection from rain and prevailing winds.
- Pedestrian street furniture such as benches, planters, special lighting or vending boxes, located at those intersections, transit stops or corridor locations having or expecting to have larger numbers of pedestrians.
- Pedestrian signals and clearly delineated crosswalks at intersections.
- Ramps at all intersections, to accommodate wheel-chairs, baby carriages, bicycles, roller blades and skate-boards.
- Sidewalks with minimum cross slopes to facilitate use by the handicapped and elderly.
- Trees lining sidewalks to provide shade and visual interest that, where possible, also act as a buffer between pedestrians and traffic when located in the R.O.W. between the pavement edge and the sidewalk.
- Sufficient sidewalk illumination to ensure a sense of safety.
- Paved walkway connections from the sidewalk to adjacent development.

Aesthetic Design Objectives

Pedestrians move within the corridor at a much slower pace than vehicles, and observe their surroundings in much greater detail as they pass. The aesthetic enhancement of the pedestrian environment will have a significant positive impact for pedestrians as a result. Design standards to guide the aesthetic enhancement of the City's corridor streets for pedestrians should consider the following design objectives :

- Contribute to a sense of community identity that is distinct for the City of Brampton with the enhancement of the pedestrian-oriented elements of the streetscape.
- Enhance the visual appearance and visibility of crosswalks, particularly at gateway locations.
- Reduce the amount of asphalt and its visual impact in the pedestrian realm at splash strips, turn islands and medians.
- Reduce local microclimate effects of vehicular traffic on pedestrians by locating sidewalks as far from the road pavement edge as possible.
- Provide shade and create a pedestrian scale with a continuous row of street trees within the R.O.W.
- In a conventional boulevard condition, keep the sidewalk at or near the elevation of the street.
- Coordinate the design or selection of bus shelters, street furniture, accent paving and feature lighting to create an integrated whole.
- Coordinate sidewalk locations with gateways and floral displays. Consider the use of feature paving materials at these areas.

3.3 Objectives for Bicyclists

Functional Design Objectives

Bicyclists frequently share the road and interact directly with motorists, often at considerable speeds, therefore safety is paramount. Functional design objectives should include the following :

- Routing and design of paths should conform to the City's PathWays Master Plan.
- Maximize personal safety and minimize harsh microclimate effects by locating bicyclists' paths separate and removed from the paved road wherever possible.
- Where paths are separate from the road pavement and occur on both sides of the street, each side should comfortably accomodate at least one cyclist.
- Paths separate from the road pavement and occuring on only one side of the street should comfortably accomodate at least one cyclist in each direction.
- Path surface should be of materials that drain well, are economical and provide traction when wet or dry.
- Path locations should be coordinated with sidewalks to prevent overlap or route conflicts.
- Where the path is located within the paved area of the road, it should be next to the curb and clearly marked as a separate zone for cyclists.
- Where the path is located within the paved area of the road, signage reminding motorists and cyclists of its presence should occur within the R.O.W.
- Paths should cross the arterial corridors at road intersections only.

Aesthetic Design Objectives

- Enhance the appearance of the path where it occurs within the paved area of the road with the use of accent paving materials.
- Coordinate placement of Pathways and vehicular signage to minimize visual clutter.
- Bicycle paths should lead to feature areas or nodes within the corridor such as gateways, floral displays and areas of environmental interest that may occur below bridges or overpasses.

4. EXISTING CORRIDOR CONDITIONS

4.0 Existing Corridor Conditions

This portion of the document focuses on the functional design characteristics of the corridor arterials.

4.1 Current Design Standards

Design standards are presented in the following sections for roads having either the typical arterial road section or the parkway road section.

4.1.1 Arterial Road Prototype

Overview

This section presents information for the following elements of the arterial road :

- R.O.W. width
- Curbs and medians
- Splash strips
- Light standards
- Signals & signage
- Utility boxes
- Boulevards
- Street furniture and transit shelters

The following bulleted points summarize the current design standards for a typical arterial road:

- 36.0 m to 50.0 m R.O.W.
- Two or three continuous lanes in both directions; left and right turn lanes in both directions at intersections.
- Narrow (1.5 - 2.1 m) concrete/asphalt medians at intersections.
- Continuous concrete curbs in developed areas (urban road section); in undeveloped areas, concrete curbs at intersections only, with continuous gravel shoulders beyond (rural road section).
- Continuous splash strips adjacent to the curb in developed areas (urban road section), splash strips at intersections only, for undeveloped areas (rural road section).

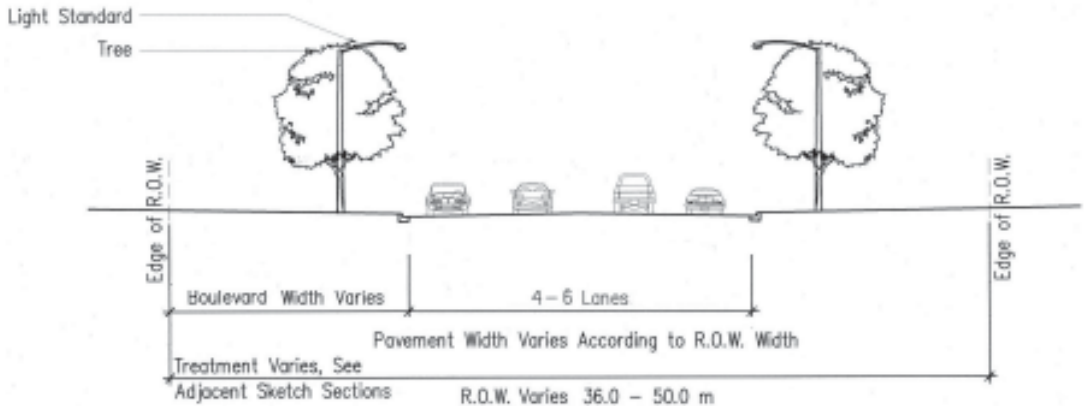


Figure 4.1.1 a - Existing Arterial Prototype Section at Built-up Areas

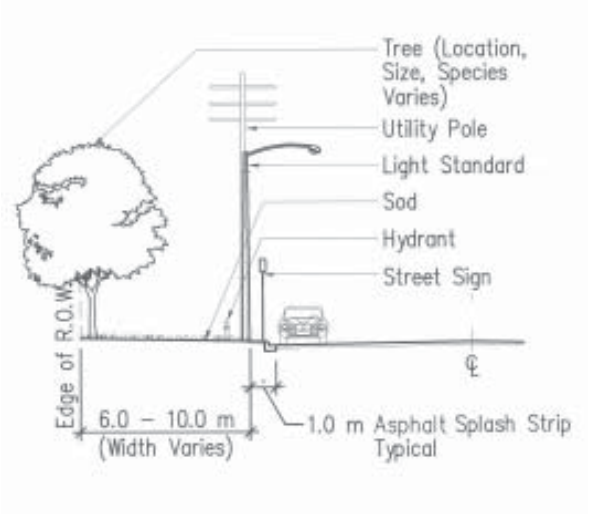


Figure 4.1.1 b - Existing Road Edge Condition 1 No Sidewalk

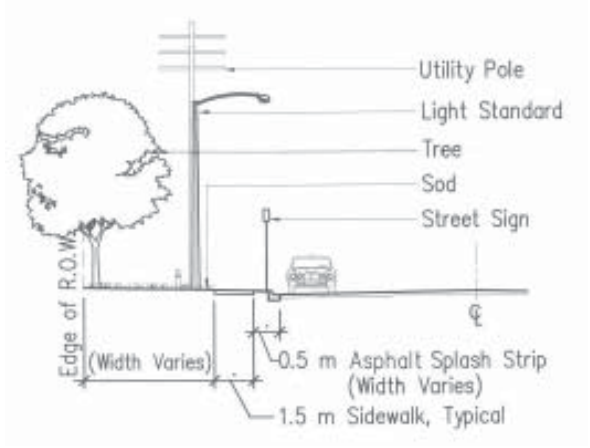


Figure 4.1.1 c - Existing Road Edge Condition 2 Sidewalk Adjacent Splash Strip

- Cobra light fixtures mounted on spun concrete light poles spaced at approximately 50 m o.c and located near the pavement edge.
- Traffic signals on cantilevered arms fixed to existing utility poles, lighting poles or poles for signals only; left turn lane traffic signals fixed singly or in pairs to poles located in the median.
- Post-mounted signage located at roadside.
- Utility boxes painted non-descript colour, located within the R.O.W. at the intersection.

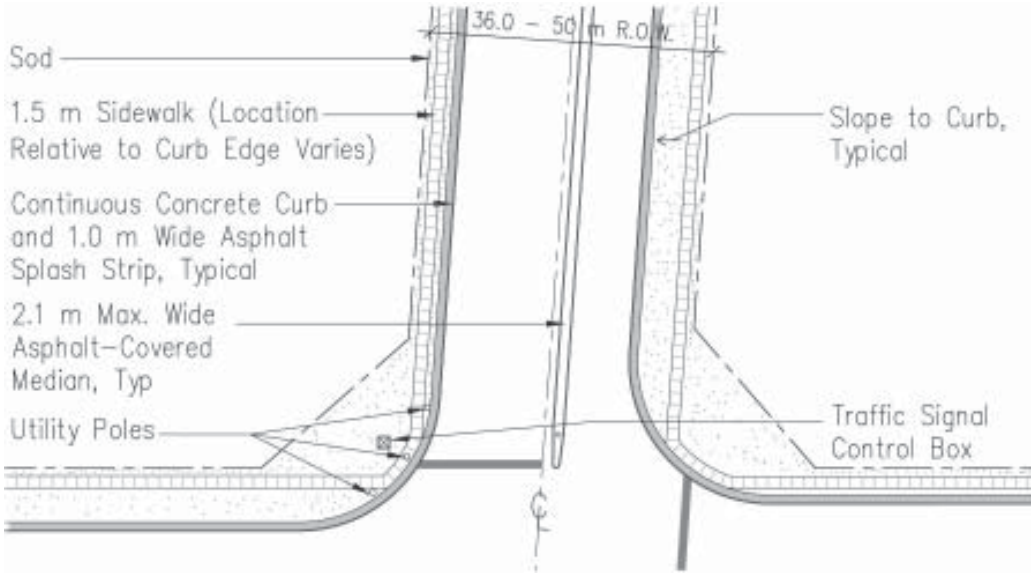


Figure 4.1.1 d - Plan of Arterial Intersection at Developed Areas

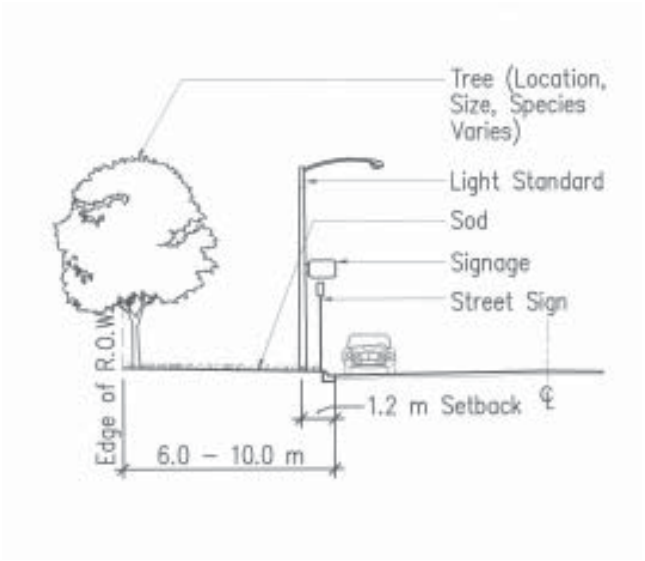


Figure 4.1.1.e Existing Road Edge Condition 3 No Sidewalk

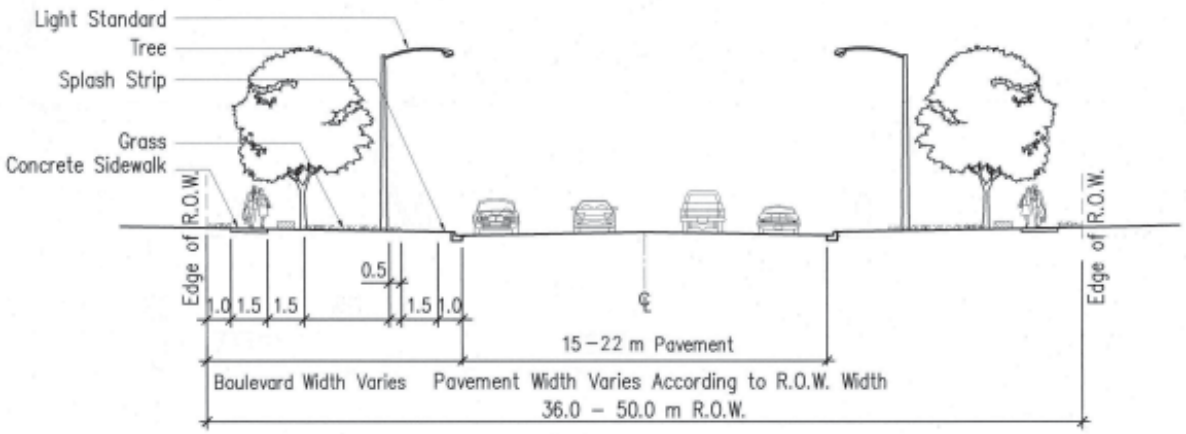


Figure 4.1.1 f - Arterial Urban Road Section
(From City of Brampton Works & Transportation Department)

- Boulevards in developed areas that are generally flat or sloping to the street edge, consisting of 1.5 m sidewalk flanked on the street side by sod and splash strip, additional sod on the R.O.W. side of the sidewalk, and occurring on both sides of the street.

- Street trees of varying species with inconsistent spacing along the street, located on either the street side or the R.O.W. side of the sidewalk.

- Boulevards in undeveloped areas occurring on both sides of the street, consisting of gravel shoulder and sodded slope to drainage swale at the approximate midpoint of the boulevard.

- Street furniture at built-up intersections may include a bench, waste bin and vending boxes.

- Other elements at the intersection may include public phone booth or public transit shelter.

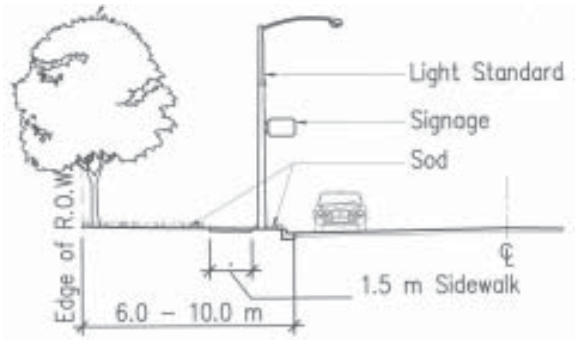


Figure 4.1.1h - Existing Road Edge Condition 4 Sidewalk with no Splash Strip

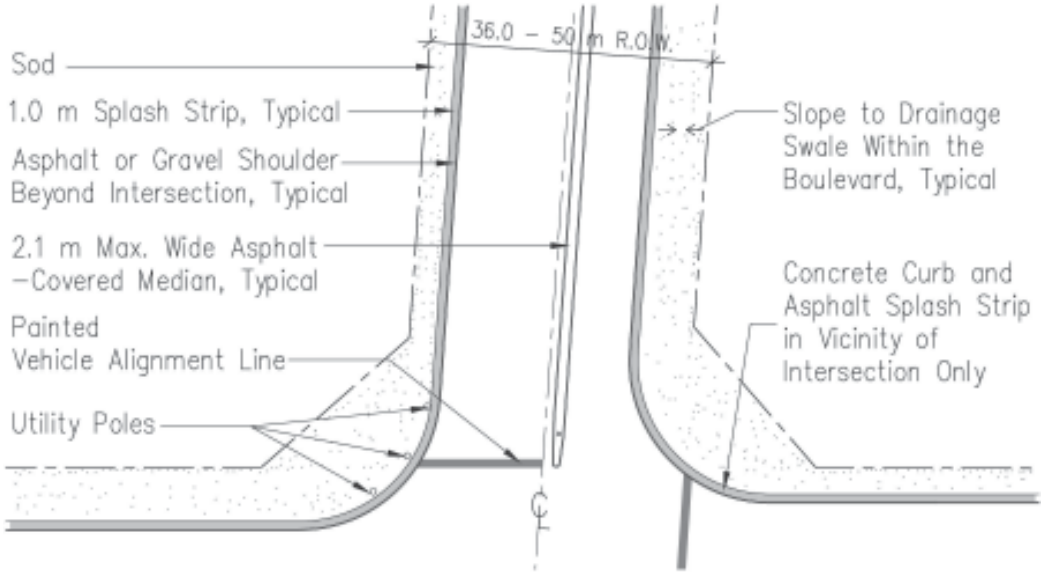


Figure 4.1.1 g- Plan of Arterial Intersection (Rural Road Section)

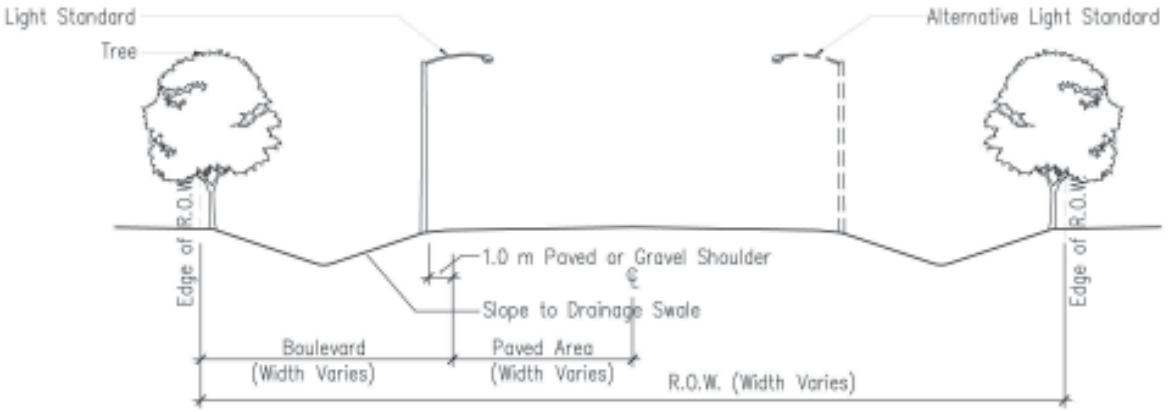


Figure 4.1.1 i - Existing Arterial Prototype (Rural Road Section)

4.1.2 Parkway Prototype

Overview

This section presents information for the following elements of the parkway arterial road :

- R.O.W. width
- Curbs and medians
- Splash strips
- Light standards
- Signals & signage
- Utility boxes
- Boulevards
- Street trees
- Floral features

The following bullet points summarize the current design standards for an arterial road having a parkway road section:

- 36.0 m ROW width.
- Two continuous lanes in both directions; left and right turn lanes in both directions at intersections.
- Continuous, wide medians (up to 7.0 m approx.), tapering in the vicinity of intersections to 1.5 to 2.1 m to accomodate the left turn lane.
- Continuous concrete curbs.
- Light fixtures mounted on metal poles regularly spaced and located near the road edge or within the median; fixture type varies.

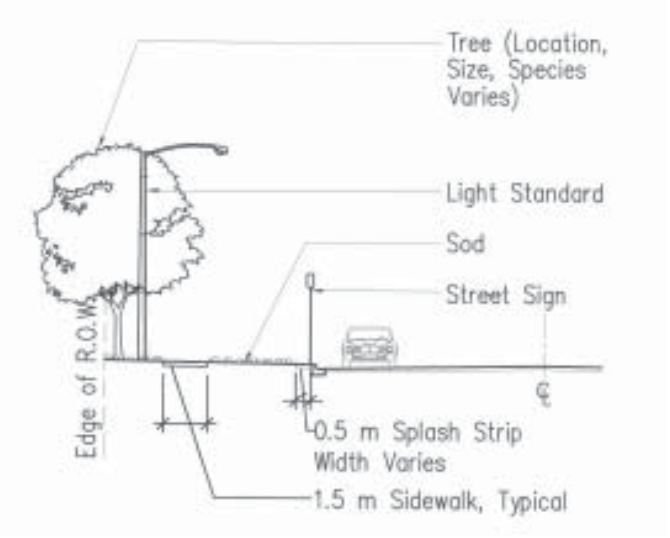


Figure 4.1.2 b - Existing Road Edge Condition 5 Sod Strip Between Sidewalk & Splash Strip

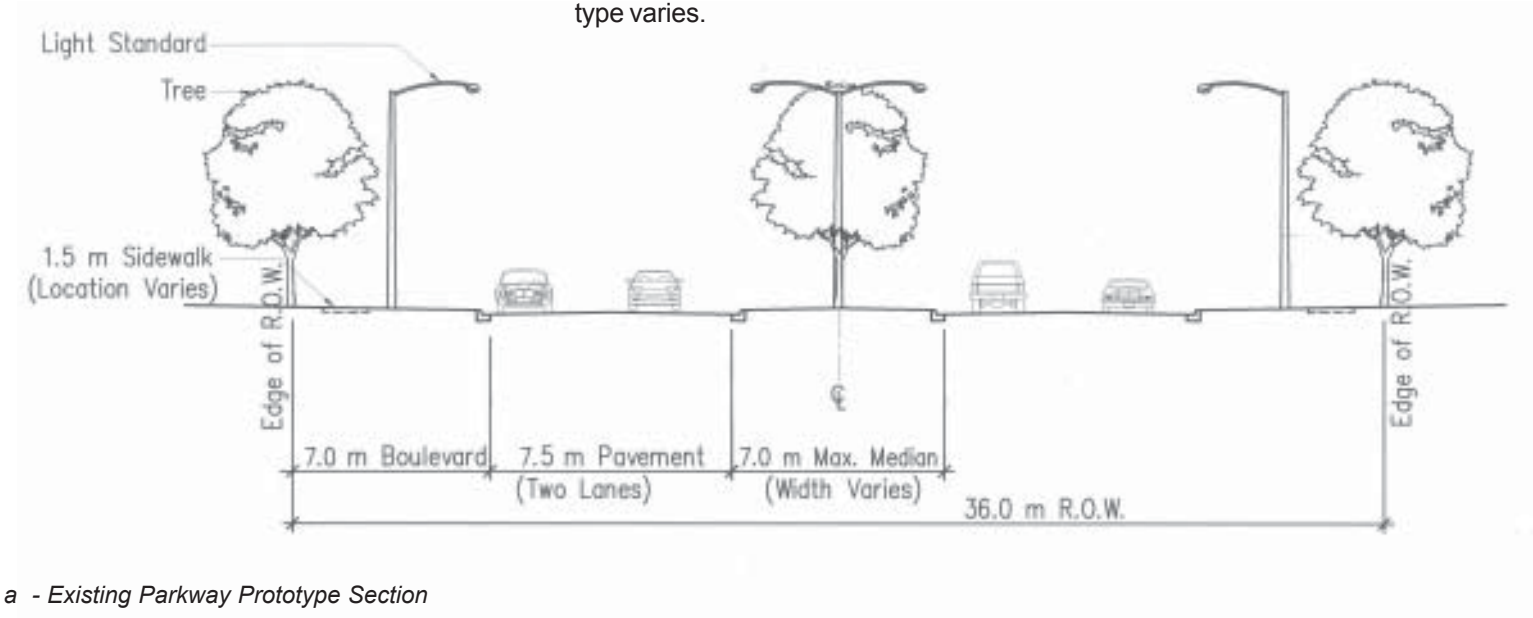


Figure 4.1.2 a - Existing Parkway Prototype Section

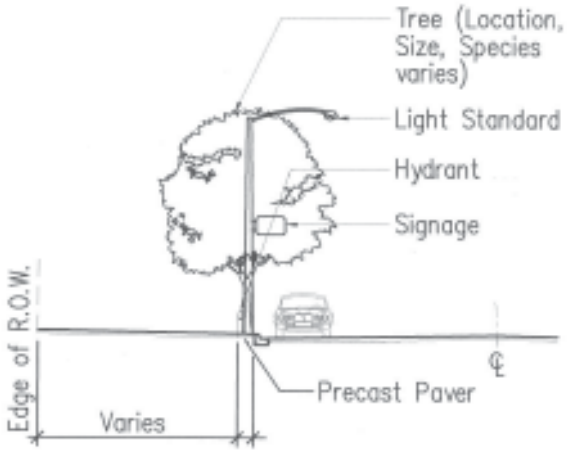


Figure 4.1.2 c - Existing Road Edge Condition 6

- Traffic signals on cantilevered arms fixed to existing utility poles, lighting poles or poles for signals only; left turn lane traffic signals fixed singly or in pairs to poles located in median.
- Signage fixed to light standard poles or post-mounted at roadside.
- Various utility boxes generally painted green or grey, on concrete pads, located within the R.O.W. at the intersection.
- Boulevards in developed areas that are generally flat or sloping to the street edge, consisting of 1.5 m sidewalk flanked on the street side by sod and curb, additional sod on the far side of the sidewalk, both sides of street.
- Street trees occur in intermittent rows; located at times to the street side of the sidewalk at times to the R.O.W. edge side.
- Attractive floral features at key intersections add to the appealing quality of these streets.

4.2 Operations Issues

Overview

Winter road maintenance and planting :
- Salt concentrations and plough damage.
- Select, hardy species suitable for boulevard planting.
- Importance of splash strips.

Winter road maintenance and pedestrians :
- Importance of ploughing and salting.
- Locate sidewalk away from street splash.
- Clear snow from intersections and bus shelters.

Transit operations and bus stops :
- Stop location and visibility.
- Lay-bys at mid-block and intersection;
- Stops at near side of intersections preferred.

Traffic signal lights are mounted on cantilevered arms fixed to :
- Existing utility poles or dedicated poles near the pavement edge.
- Dedicated poles at left turn islands

Signal utility boxes are located above-ground and should be placed at the edge of the daylight triangle.

4.2.1 Winter Road Maintenance, Boulevard Planting & Turf Survival

Winter road maintenance mainly involves plowing and salting of the roadway and sidewalks. The impacts of these activities on boulevard planting include the following :

- Direct exposure to road salt spray which can burn leaves and stems of less salt-tolerant species.
- High concentrations of road salt on the ground from spray and snowbanks which accumulate over winter and leech into the soil during spring thaw.
- Plow damage to tree trunks from “winging back” of large snowbanks.

The road edge and narrow medians receive the greatest concentration of salt spray, beyond the survivability of most plant species, including grasses. Once the turf dies, the median or edge of the boulevard becomes unsightly, unpleasant to walk over in wet weather and prone to soil erosion.

One meter wide splash strips at the road edge provide a continuous hard surface in lieu of substandard turf or weeds. Narrow medians are hard surfaced as well. At present, splash strips and medians are typically surfaced with asphalt.

4.2.2 Winter Road Maintenance, Pedestrian / Bicycle Accessibility

Winter pedestian activity within the corridor depends on regular plowing and salting of the sidewalks for safe passage. Sidewalks located well beyond the road edge are less prone to icing over from traffic splash.

Winter cycling is a generally unsafe activity practised by only a very few people at most, so winter road maintenance requirements for bicyclists are assumed to be negligible.

4.2.3 Transit Operations at Bus Stops

The public transit system operates within the corridor among regular vehicular traffic. To minimize impacts on traffic flow, transit operations include the following :

- Stops that are generally well marked and placed at key areas such as primary intersections.
- Far side stops located at busy intersections to facilitate vehicular traffic flow.
- Near side stops at other intersections, which transit drivers prefer, as they allow the driver to merge more easily into traffic.

4.2.4 Traffic Signal Equipment

Traffic signals must be located within the R.O.W. in a manner which ensures full signal visibility to approaching vehicles while minimizing the visual obstruction of their supports, located in the vicinity of the intersection, where clear sight lines are essential for motorists. At busy intersections, additional signals are required at left turn lanes, potentially increasing visual clutter with more support poles at the intersection.

Signal lights are typically mounted as follows :

- on cantilevered metal arms, fixed to concrete or metal poles already carrying the street lighting or utility cables, located near the pavement edge or within a right turn island.

- on cantilevered metal arms mounted to metal poles carrying no other fixture or utility, located near the pavement edge.

- mounted to metal poles either singly or in opposing pairs, located within the median.

Utility boxes for signal equipment are located above ground at the intersection in proximity to the signal poles. They are usually painted grey to appear as nondescript as possible.

4.3 Arterial Corridor Analysis

4.3.1. Qualitative Analysis

Key arterial corridors and intersections were examined and assessed according to their general traffic volume, components, visual characteristics, amenities for pedestrians, transit users and cyclists.

The following photographs are representative of typical streetscape conditions, illustrating some of the positive features of the arterial roads as well as their shortcomings. To review the assessment, critical analysis and accompanying photos for all of the areas examined, refer to *Appendix A: Corridor and Intersection Assessment.*

Figure 4.3.1 a - Existing Hurontario Entry Feature

Community Entry Points

The community entry feature on Hurontario Street, south of Steeles, with its wide median, planters and accompanying gateway feature wall, creates a dramatic, memorable and inviting sense of community entry. This treatment will be augmented locally with additional Flower City identity features at the intersection of Steeles Avenue and Hurontario Street.

At Hurontario and Mayfield, there is a large and colourful floral feature at the south west corner, but the scale of the accompanying feature wall and plaque are too small to convey a meaningful message of community welcome.

The floral entry feature at Steeles Avenue East and Regional Road 50 is far less successful, as it has no accompanying signage and sits at a lower elevation than the road, on the far side of the intersection from arriving motorists, minimizing its visibility to passers-by.

Most other major community entry points lack the distinguishing features or signage appropriate to their roles as gateways to the City.

Figure 4.3.1 c - Existing Snelgrove Floral Feature

Figure 4.3.1 b - Existing Queen Street & Mississauga Road Floral Feature

Figure 4.3.1 d - Existing Steeles Avenue East and Regional Road 50 Floral Feature

Distinguishing Features

Brampton's arterial road network supports a large community of generally low rise, low density development, having relatively few landmark buildings to provide community orientation points or contribute to the visual appeal of the streetscape and the driving experience.

As can be seen by comparing the pair of streetscape photographs in Figure 4.3.1 d and 4.3.1 e, intersections and stretches of corridor often resemble one another, making orientation and way-finding more difficult for community visitors.

The existing community gateway, floral entry features and other floral features already mentioned are contributing to the visual enhancement and variety of the streetscapes, creating points of orientation and focus, but clearly, more needs to be done in this regard.

Visual Appeal

The heavily asphalted arterials have a utilitarian appearance with little visual appeal. This is especially noticeable at intersections where the pavement width increases to provide turning lanes, and asphalt is used at splash strips, medians and right turn islands. Where long stretches of retail commercial use occur adjacent the R.O.W., the streetscape is bordered by asphalt access drives and asphalt parking areas, further diminishing its visual appeal.

Figure 4.3.1 d - Looking East along Steeles Avenue at Hurontario: Asphalt Paving Predomintes.

Figure 4.3.1 e - Looking North along Hurontario Avenue at Regional Road 107/Bovaird : Broad expanse of asphalt; unpaved bus waiting area; unsightly litter bin.

Figure 4.3.1 f - Bus Shelter, Waiting Area and Bench, Hurontario South of Steeles, West Side: unpaved waiting area; unsightly litter bin.

Figure 4.3.1 g - Bus Shelter , Steeles East of Hurontario, South Side: unpaved waiting area.

i

Street furniture consists of unattractive benches set close to the road edge, facing arterial traffic and usually placed near a bus shelter but having no associated paving or planting to create a sense of place. Unsightly blue metal barrels are used as waste bins. (Figure 4.3.1f)

Bus shelters rest on a concrete pad only slightly larger than the shelter footprint. The land between the shelter and the road edge is unpaved and at heavily used transit stops waiting transit users have defined boulevard areas where durable paving materials are required (Figures 4.3.1 f and 4.3.1g).

Retail commercial streetscapes frequently have adjacent buildings that are long, low and set well back from the road behind large parking areas, providing no effective visual edge to the corridor. (Figure 4.3.1h)

Where recent retail commercial buildings have been located close to the street at the City's encouragement, some present a windowless wall to the street, punctuated by service doors (Figure 4.3.1i).

Figure 4.3.1 h - Retail plaza set well back from street with large parking lot extending to the R.O.W. and no street trees; street edge is undefined.

Along most arterials, both the spacing distance between street trees and the distance they are set back from the road edge are not consistent.

Utilities

The location of above-ground utilities can be particularly unattractive and render a prime location unavailable for streetscape enhancement.

At the south-west corner of Steeles and Hurontario, for example, the daylight triangle is filled with a seeming random array of utilities, including pad-mounted transformer, fire hydrant, vents, access covers, telephone and other utility boxes (Figure 4.3.1 j). At the same intersection, additional utility boxes are located within the R.O.W. south of the daylight triangle, as can be seen in the background of Figure 4.3.1f.

Figure 4.3.1 i - Retail commercial facade near the street but with no windows or public entrances.

Figure 4.3.1 j - Above ground utilities, grouped at the south-west corner of Hurontario and Steeles Avenues

Figure 4.3.1 k - Unattractive above ground utilities, Hurontario St & Wellington.

Pedestrians, Cyclists and Transit Users

The pedestrian realm typically includes continuous 1.5m wide sidewalks on both sides of the street with slopes to flush curbs at intersections. Sidewalk setbacks from the road edge vary, leaving the sidewalk uncomfortably close to a busy arterial edge in many instances (Refer to Figures 4.3.1 l and 4.3.1 m).

Street trees, which can provide pedestrians shade, a sense of human scale and a visual buffer from arterial traffic, are not spaced consistently along the street and their setback from the pavement edge varies (Figures 4.3.1n, 4.3.1o, 4.3.1p); when located between the sidewalk and the R.O.W., (the more frequent condition) they provide no buffer between pedestrians and road traffic.

Street benches are unattractive, located close to the adjacent road and facing traffic. No supporting amenity such as paving or planting is provided to enhance the seating area and create a sense of place (Figure 4.3.1p).

Pedestrians crossing busy arterials move within an environment of painted crosswalks over asphalt paving and asphalt-covered right turn islands, having very little visual appeal (Figure 4.3.1q).

The unpaved surface between bus shelters and curbside transit boarding point is often worn bare by waiting transit users (Figures 4.3.1f and 4.3.1g).

Figure 4.3.1 l - Arterial with sidewalk close to road edge and no street trees (Hurontario at Williams Pkwy).

Figure 4.3.1 n - Well spaced street trees, located between the sidewalk and R.O.W. edge. (Williams Pkwy)

Figure 4.3.1 p - Street trees and bench close to road edge (Hurontario north of Steeles).

Figure 4.3.1 m - Arterial with sidewalk close to road edge and no street trees (Hurontario at Harold Street).

Figure 4.3.1 o - Street trees between sidewalk and road edge (Dixie Road)

Figure 4.3.1 q - Heavily asphalted pedestrian realm (Hurontario and Steeles).

4.3.2 Analysis Using Mapping Techniques

Members of the study Steering Committee, which included staff from City of Brampton and Region of Peel, worked together in design sessions using mapping techniques to analyse the arterial road network.

Hierarchy Mapping

The following hierarchy was developed for the arterial roads according to their functional importance within the City :

Category 1 : Primary Arterial/Main Streets

The city's two principal north/south and east/west streets, Hurontario (Highway 10) and Queen Street respectively, connect externally to adjacent municipalities and internally link a number of key focal points of the city, including the downtown core. Accordingly, these are the two predominant civic corridors within the hierarchy.

Category 2 : Primary Arterial Roads

The next most important arterial roads also connect important areas within the city and connect to adjacent municipalities. Included are Steeles and Bovaird (e/w), Mississauga, Dixie and Airport Roads (n/s).

Category 3 : Secondary Arterial Roads

These are the more important arterials serving largely residential areas. Most have a parkway cross section, with continuous wide median.The secondary arterials are Sandalwood Parkway, Williams Parkway, Chinguacousy, New Creditview and Heritage Road.

Category 4 : Perimeter Arterial Roads

These are the three arterials which define the community boundaries, namely Winston Churchill to the west, Mayfield to the north, and Highway 50 to the east.

Category 5 : Tertiary Arterial Roads

This category includes all roads not already assigned a category, the majority of which are oriented north/south, serving generally new residential and rural areas.

Figure 4.3.2 a - Arterial Corridor Road Hierarchy Mapping Plan

Gateway Mapping

The Steering Committee design session mapping also identified a hierarchy of the most important intersections, having special significance as community entry points, the crossing point of two significant streets, or gateways to special areas.

Design treatments are proposed for each gateway type to visually enhance and reinforce these intersections, creating an appropriate sense of arrival, a focal point or landmark. Proposed design treatments are developed according to location and may include floral features, newly designed gateway features or those already developed for the Gateway Beautification Program, having associated zones of transition such as wide medians with raised planters in select locations.

The gateway locations developed by the Steering Committee are mapped below, together with the Gateway Beautification Program's gateway locations for comparison *(Figure 4.3.1 s)*.

Figure 4.3.2 b - Arterial Corridor Road Hierarchy and Gateway Mapping Plan

Character Mapping

This mapping identifies the general character of the arterials, according to the following adjacent land uses:

1. Heritage/Older Residential
2. Business Industrial (Commercial Mixed-Use)
3. Industrial
4. New Residential
5. Rural

Streetscape enhancement may occur according to arterial character type. Where adjacent land use is heritage or older residential for example, there may be opportunities for enhancement of both the public lands within the street R.O.W. and private lands beyond it, such as :

- An historical plaque within the R.O.W. at the edge of the community.
- An emphasis on the pedestrian realm with enhanced boulevard planting or floral features.
- Distinct street lighting with an historical character.
- Guidelines for provision of enhanced privacy or acoustic fencing on private lands approaching a heritage community.

Refer also to Section 5.5 Adjacent Land Use Guidelines.

Corridor Typologies Matrix

A matrix was created using the five corridor typologies developed from the corridor hierarchy mapping (refer to page 25). The objective was to develop enhancements for each corridor type appropriate to its place in the hierarchy. A description of existing characteristics and critical analysis were prepared for each corridor type, from which a list of enhanced defining components was developed (Refer to *Appendix C : Corridor Typologies Matrix,* for the complete document).

For example, the Primary Arterial Main Streets, at the top level of the hierarchy, are the two most important arterials, linking Brampton externally to neighbouring municipalities and internally connecting the Old Brampton core area to the rest of the City.

The Existing Characteristics section lists the observed key elements of the streets, such as number of lanes of traffic, presence of public transit, general traffic volume, street lighting type, splash strips, cross walks, medians, City entry feature, floral features and so on.

The Critical Analysis column identifies shortcomings in corridor design, such as their utilitarian appearance beyond the core area, lack of distinguishing features or sense of arrival at key intersections and lack of amenity for pedestrians and cyclists. Streetscape enhancements in the vicinity of old Brampton, such as the boulevard and entry feature on Hurontario, north of Highway 407, floral features, enhanced street lighting, mature, closely spaced street trees, enhanced splash strip and street furniture are also noted in this section for their positive contribution to the character of the street.

The Defining Components are the proposed enhancements according to the strengths and weaknesses in streetscape design noted in the Critical Analysis section. For the Primary Arterial Main Streets, proposed enhancements include continuous enhanced splash strips, enhanced right turn islands and crosswalks, decorative street lighting, distinct street name signage, arterial identifier signage, enhanced continuous wide medians with planters where feasible, and enhanced narrow medians at intersections with banner poles (Refer to *Appendix C : Corridor Typologies Matrix*).

5. RECOMMENDATIONS

5.0 Recommendations

5.1 General Recommendations

The qualitative analysis in Section 4.3.1 assesses the visual character and design quality of the streetscape. A number of shortcomings are identified in key locations, representative of general conditions within the City's arterial network. The following recommendations respond accordingly, and recognize that at all times, the operational requirements of the arterial roads are to be preserved, while their visual qualities and level of comfort for pedestrians and cyclists are to be enhanced.

Community Entry Points

1. To realize their full potential, features at community entry points must be attractive, scaled and oriented to passing motorists and include a supporting message of welcome.

2. For more detailed gateway feature recommendations, refer to Section 5.5.2 Gateways.

Distinguishing Features

1. Develop streetscape enhancements within the public realm such as gateway features, floral displays, banner poles, signage and other design elements at key locations to reinforce the Flower City image, improve orientation, wayfinding and beautification of the City's arterial network.

2. Within the private realm, encourage the placement of buildings distinctive for their use or design quality at significant intersections to define neighbourhood character and act as local landmarks.

Visual Appeal

1. Reduce the visual impact of asphalt paving by using alternate paving material such as impressed concrete as frequently as possible at splash strips, medians, crosswalks and right turn islands, accenting elements of the street.

2. Provide a continuous row of uniformly spaced street trees along both sides of the street to create a natural edge to the streetscape and contribute to its visual appeal.

3. Locate street trees between the sidewalk and the road edge wherever possible, but maintain at least 5m - 6m distance between the trees and the arterial road edge to minimize the impacts of winter salting.

4. Use planting and floral accents at intersections and other key areas to reinforce Brampton's Flower City image and soften the severe, utilitarian appearance of the arterial corridor.

5. Improve and coordinate the quality and design of streetscape furniture such as benches and wastebins; at priority locations provide a well defined public seating area that includes a level, paved pad, bench, waste receptacle and planting.

6. At heavily used transit stops, provide a paved path and waiting area between the bus shelter and the road edge.

7. To improve the visual appeal of the private realm adjacent the arterial roads, encourage screened parking and appropriate landscaped buffers for commercial developments adjacent the R.O.W.

8. Encourage placement of commercial buildings closer to the street with more windows and points of entry on their street-facing sides to define the street edge and enhance the visual appeal of the street.

Utilities

1. Locate above-ground utilities in concealed locations beyond the daylight triangle wherever possible.

Pedestrians, Cyclists and Transit Users

1. Locate the sidewalk within the boulevard as far from the road edge as possible.

2. Street trees should be located between the sidewalk and the road edge where possible, to buffer pedestrians from arterial traffic.

3. Where the boulevard width is reduced, locate street trees between the sidewalk and the R.O.W. edge if necessary, to maintain the minimum recommended 5 m to 6 m setback from the road edge.

4. The species, set back and spacing for street trees should be uniform along the street.

5. Street benches and waste bins should be upgraded; seating areas in key locations should include a level, paved surface and adjacent planting.

Pedestrians, Cyclists & Transit Users cont'd

6. Reduce the amount of asphalt paving at intersections, using coloured, impressed concrete at splash strips, medians, traffic islands and crosswalks where possible.

7. Provide planting at wide medians and floral displays within the daylight triangle.

8. At heavily used transit stops, provide a paved waiting area and path between the bus shelter and the road edge.

9. Provide paved pedestrian connections between bus stops and adjacent development.

10. Snow clearing and salting at bus shelters adjacent sidewalks and at crosswalk access areas must maintain safety and optimal visibility for both pedestrians and motorists. Snow should be piled well beyond intersections or removed.

11. Provide bicycle paths within the arterial boulevard; coordinate path planning and design with the PathWays program.

    Note :
    Bicycle paths are not shown continuous at intersections, as cyclists are expected to dismount and use the pedestrian crosswalk in accordance with the Ontario Highway Traffic Act.

    Recognizing that it is not practical to provide additional width at bridges or grade-separated railway crossings for cyclists' exclusive use, municipal policy should reconcile their safety at these locations.

Planting & Turf Survival

1. Boulevard planting must include salt tolerant species able to withstand the winter maintenance impacts from concentrations of road salt and from air-borne vehicle emission pollutants.

2. Planting along arterials should generally be set back a minimum of 6.0 m from the road edge to maintain good health and long term survival.

3. In exposed areas, boulevard trees on the west side of the street may be located 3-4 m closer to the street as they are exposed to west winds and thus receive less road salt.

4. In highly urbanized conditions, where buildings are massed at the street line, the planting setback may be reduced to 2-3 m. This reduced setback also applies to landscaped medians where raised beds, automatic irrigation and special soil mixes are used to counteract the road salt.

5. For street trees within medians, irrigation and soil amendments will be provided to support light canopy, hardy, salt-tolerant species.

Transit Operations at Bus Stops

1. Locate stops strategically at or near nodes such as shopping areas, intersections, civic buildings and connecting points to other bus routes, as much as possible.

2. Stops must be clearly visible to motorists and pedestrians, marked with a pole and signage and/or bus shelter at the road edge.

3. Locate bus stops with lay-bys at busy intersections and at midblock within heavily travelled corridors, allowing the pick up or discharge of passengers from a dedicated lane and safe merging back into traffic without adversely affecting the normal flow of corridor traffic.

3. Locate stops at the near side of intersections where possible; where traffic volumes are heavier locate the stop at the far side to reduce right-turn lane back-up and maintain traffic flow.

4. Design routes with a minimum of left turns within the arterial system to minimize left lane backup, bus lane changes and related interruptions to traffic flow.

Traffic Signal Equipment

1. Place traffic signal boxes at the edge of the daylight triangle except where infeasible. All traffic signal lights must be visible from the utility box or from a remote testing device connected by about 2.5 m of cable, for access and equipment testing purposes.

Arterial Acoustic Walls

1. Acoustic walls are to be coordinated for design, colour, and material along each arterial corridor to ensure visual harmony and to minimize their obtrusiveness.

2. Concrete/composite acoustic walls should be colour impregnated, with parts of durable finish and matching colour.

3. For concrete/composite acoustic walls, where feasible, the arterial-facing side of vertical supports should be clad with material matching the colour and texture of the wall surface.

Hydro Services

1. When a primary intersection is enhanced, the overhead utilities should be relocated underground within its vicinity, ensuring that intersection design treatments such as gateway features are not obscured by nearby service poles or guy wires.

5.1.1 Street Hierarchy and Enhancement

The street hierarchy developed from the corridor mapping design sessions has five categories of arterial road based on their relative importance (Primary/Main; Primary, Secondary, Perimeter; Tertiary).

For the purpose of communicating design enhancements, the arterial roads may be characterized by two major design conditions :

- The corridor portion, being those lengths of road between intersections, maintaining the typical road cross section, uniform pavement and boulevard widths.

- The arterial intersections and adjacent lengths of road, having greater widths of pavement than the typical road cross section, in order to accommodate transitions, turning lanes and medians.

5.1.2 Streetscape Components and Enhancement

In the design approach for the following sections, the streetscape is viewed as a composition of separate components such as pavement, medians, curb, street trees, light standards, sidewalk and so on. Select components may be enhanced according to a street's place within the hierarchy. Other enhancing elements such as floral or gateway features may also be introduced at important locations. Based on the critical analysis and defining components of the Corridor Typologies Matrix, (Appendix C), appropriate combinations of enhanced elements, or "kits of parts," are developed for each arterial type.

The elements forming the complete kit of parts are described in further detail within *Appendix D: Streetscape Enhancement Kit of Parts*.

This Master Plan document recognizes that additional R.O.W. width may be required, or later refinement of streetscape design may be required within the context of the report recommendations, for unusual or unique local design conditions such as the following :

- Variation in R.O.W. width along the length of the street (e.g. Queen Street 36-45m).
- Streets within the same hierarchy presently having different R.O.W. widths.
- Nonstandard intersection or cross-section conditions.
- Dual left-turn lane intersections.
- Variant turning lane lengths.
- Variant topographical conditions.
- AcceleRide transit lanes and enhanced shelter areas at intersections.
- Design features at locations having limited boulevard width.

5.2 Recommendations For Each Corridor Type

Each corridor type is to receive a kit of enhancements appropriate to its place within the arterial hierarchy. Specific locations are to receive decorative gateway or floral features according to their importance within the hierarchy as well.

5.2.1 Primary Arterial/Main Streets

The first category in the hierarchy is reserved for the City's two main streets, whose special importance includes a civic or ceremonial function.

- Hurontario Street
- Queen Street

The Primary Arterial/Main Streets will receive the same streetscape enhancements recommended for the Primary Arterial Roads. In addition, the Primary Arterial/Main Streets will also receive the following features :

- Decorative lighting fixtures at arterial inter- sections.
- Continuous coloured, impressed concrete splash strips and medians.
- Decorative, enlarged cross walks at arterial intersections.
- Continuous, planted medians, subject to left turn lane requirement restrictions.

(Refer to Figure 5.2.1).

5.2.1.1 AcceleRide Program

The Primary Arterial /Main Street corridor design must coordinate with the AcceleRide program, which will presently implement Bus Rapid Transit service (BRT) along Queen Street and Main Street. BRT will bring a high level of transit service to Brampton's residents and businesses, and provide one component of a coordinated transit network throughout the GTA. It is intended to complement the City's efforts to revitalize the Downtown and Queen Street corridor, while shifting some of the City's travel demands away from auto dependency. Program enhancements will include:

- Five minute service intervals all day.
- Enhanced east-west connections with TTC (in conjunction with York Region service).
- North-south connections with GO services in the Hwy 7 corridor, emerging services in the 403 corridor, to Mississauga and to Port Credit GO Station.
- An arterial corridor serviced by BRT and connected with neighbourhood areas by supporting local transit services.
- An improved appearance for BRT passenger facilities including shelters, benches, landscaping and waste bins, as well as provision of security lighting and surveillance.

Acceleride will have certain impacts on street corridor design, while also complementing the more pedestrian environment advocated within the present study. Corridor design and streetscape enhancements for Queen Street and Main Street will be coordinated with the requirements of the AcceleRide program, and will include the following:

1. BRT traffic signals having priority over other vehicles.
2. Lane and island modifications, lane widening and re-striping as required to provide dedicated BRT lanes and stops.
3. Improved appearance of BRT streetscape facilities within the pedestrian realm, including shelters, benches, landscaping and waste bins, as well as security lighting and surveillance.

(Refer to Figure 5.2.1).

5.2.2 Primary Arterial Roads

The second category in the hierarchy is reserved for the next most important arterials in the City, after the two main streets and includes:

- Mississauga Road
- Dixie Road
- Airport Road
- Steeles Avenue
- Bovaird Drive

At Primary Arterials, the coloured, impressed concrete splash strips should extend 75 m beyond the intersection in each direction.

The planned enhancements for both the Primary Arterials and the Primary Arterial/Main Streets are summarized graphically on Figure 5.2.1.

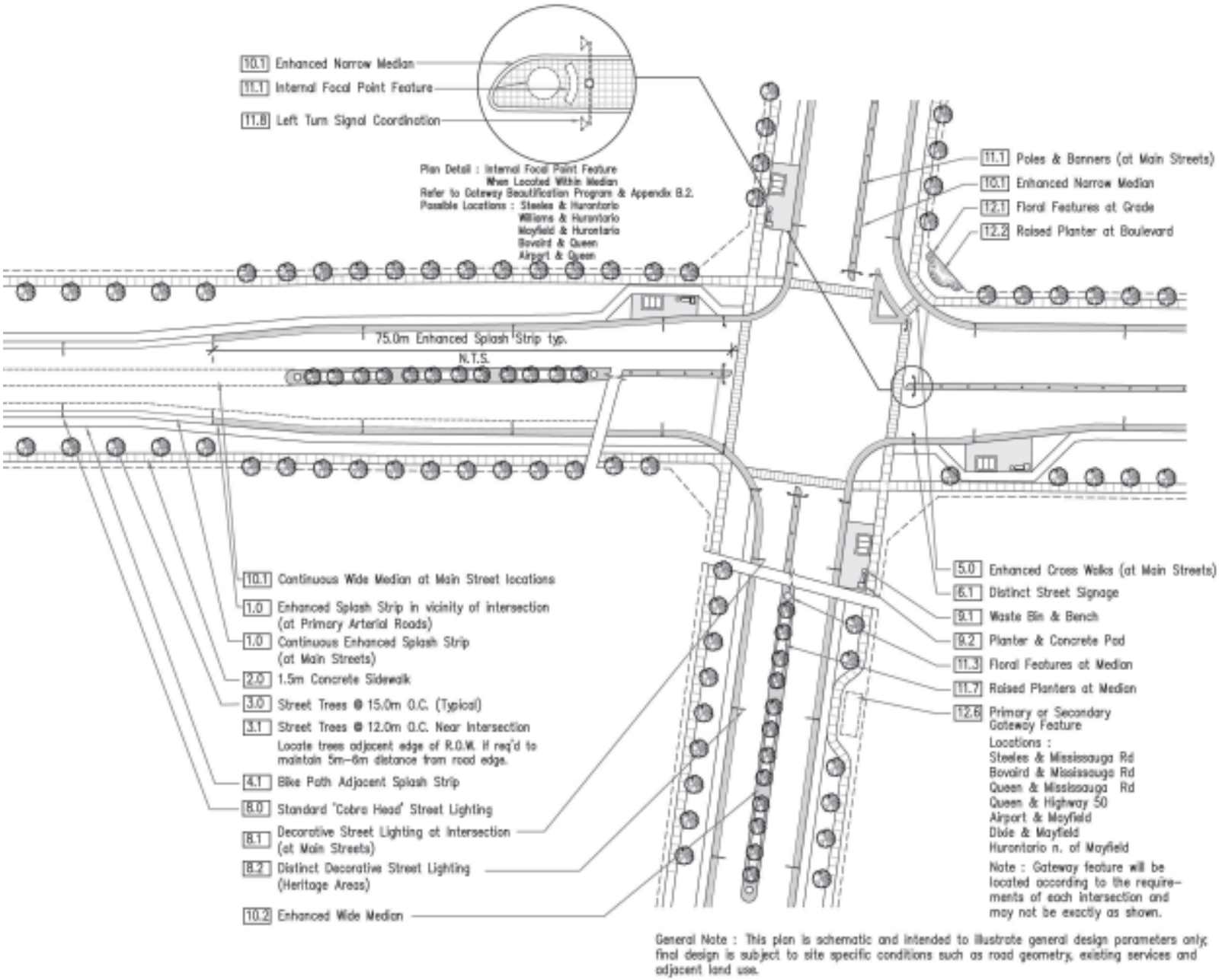


Figure 5.2.1 Enhancements for the Primary Arterial/Main Streets and the Primary Arterial Roads.

5.2.3 Secondary Arterial Roads

The third category is reserved for the next most important arterials. The secondary arterials are typically four lanes wide, most having a parkway street cross section. At Secondary Arterials, coloured, impressed concrete splash strips should extend 75 m maximum beyond the intersection. Arterials within this category include:

- Sandalwood Parkway
- Williams Parkway
- Humber West Parkway
- Chinguacousy/ Mavis
- Creditview/New Creditview
- Bram West Parkway

The planned enhancements for this category are summarized graphically on the accompanying diagram. Dashed lines represent components which occur at select locations only.

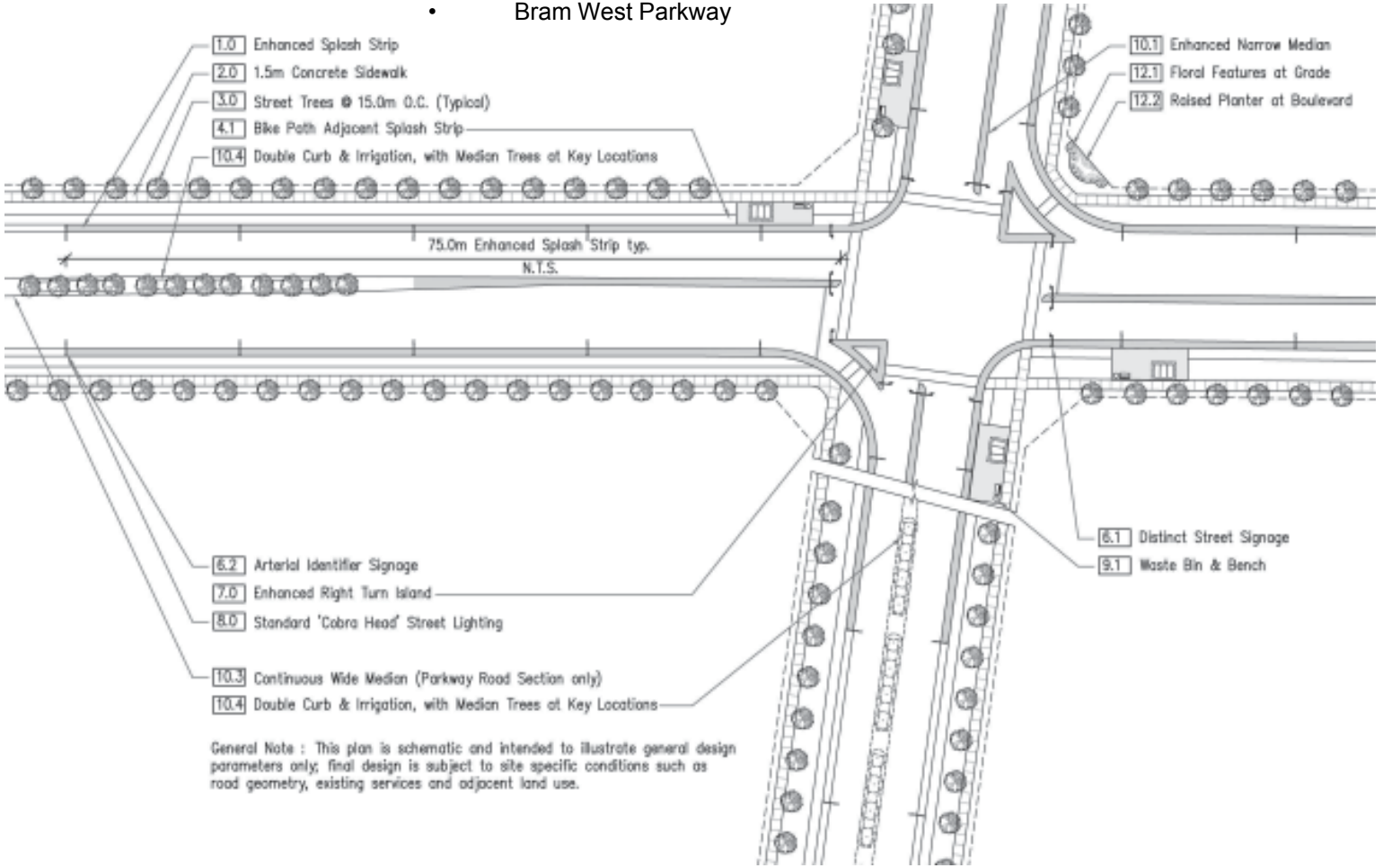


Figure 5.2.3 Enhancements for Secondary Arterial Roads.

5.2.4 Perimeter Arterial Roads

The perimeter arterials are the fourth category, defining the City's northern, western and eastern limits.

Roads in this category are presently two to four lanes with a rural street cross section. Road widenings and adoption of the urban cross section are planned for the future. The perimeter arterials are as follows:

- Winston Churchill Blvd.
- Mayfield Road
- Regional Road No. 50

All three roads are heavily travelled and with their many points of community entry offer a first introduction to the City for many visitors. A gateway or floral feature is recommended at almost every arterial intersection along their length.

these arterials are
the accompanying
esent components
locations only.

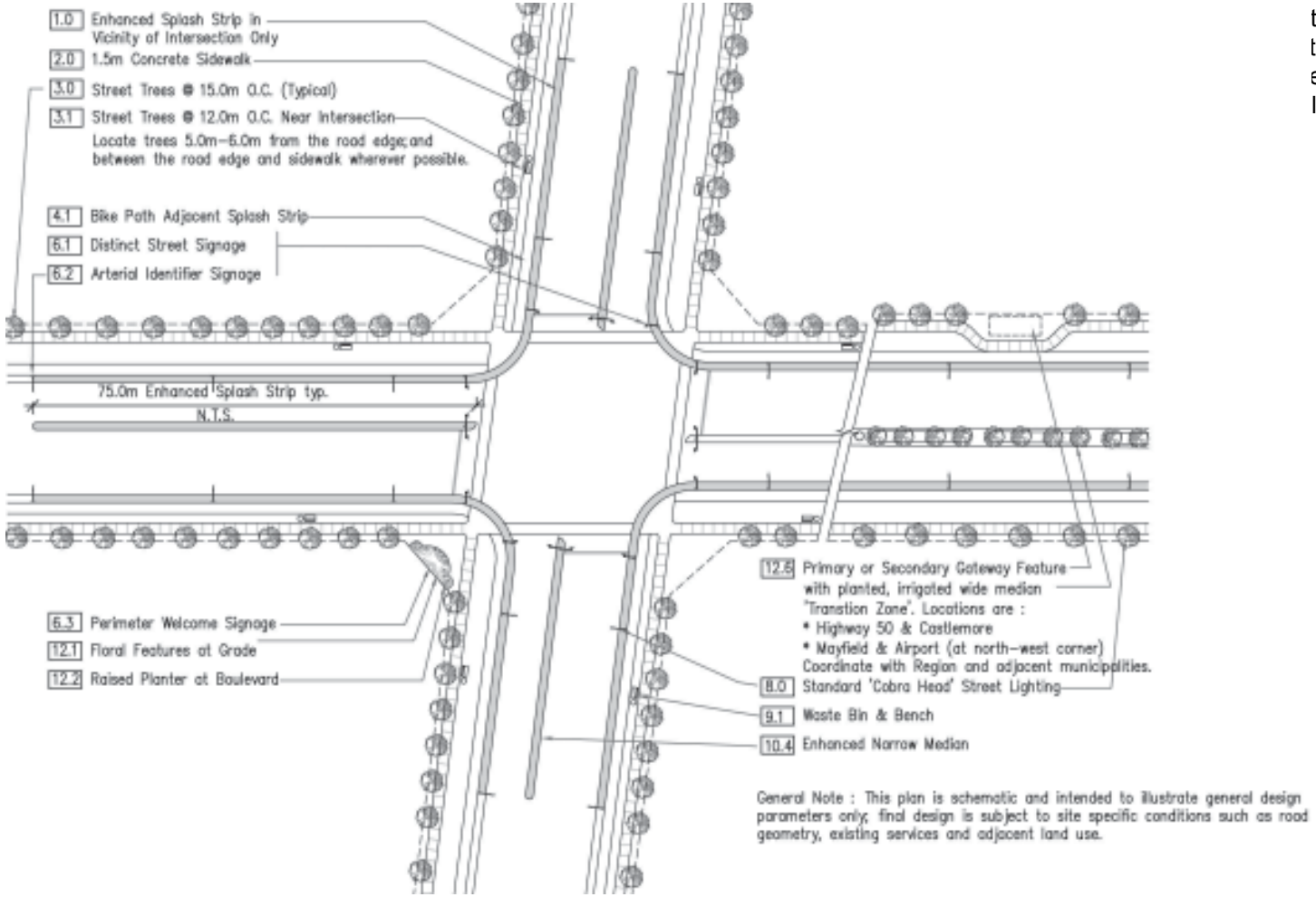


Figure 5.2.4 Enhancements for Perimeter Arterial Roads.

5.2.5 Tertiary Arterial Roads

The fifth category is for all remaining arterials. Most of these roads are oriented in a north/south direction and generally serve new residential or rural areas. The tertiary arterials are :

- McLaughlin Road
- Kennedy Road
- Heart Lake Road
- Bramalea Road
- Torbram Road
- Goreway Drive
- McVean Drive
- The Gore Road
- Clarkway Drive
- Coleraine Drive
- Gorewood Drive
- Heritage Road
- Creditview Road
- Embleton Road
- Heritage Road
- Wanless Drive
- Conservation Drive
- Countryside Drive
- Ebenizer Road
- Tomken Road

At present, most of these roads are four lanes with an urban street cross section. In the future, those which are presently two lane roads with rural cross sections will be upgraded to four lanes with an urban cross section.

This category includes the largest number of streets, but they are to receive the least amount of enhancements.

Planned enhancements for these arterials are summarized graphically on the accompanying diagram. Dashed lines represent components which are to occur at select locations only.

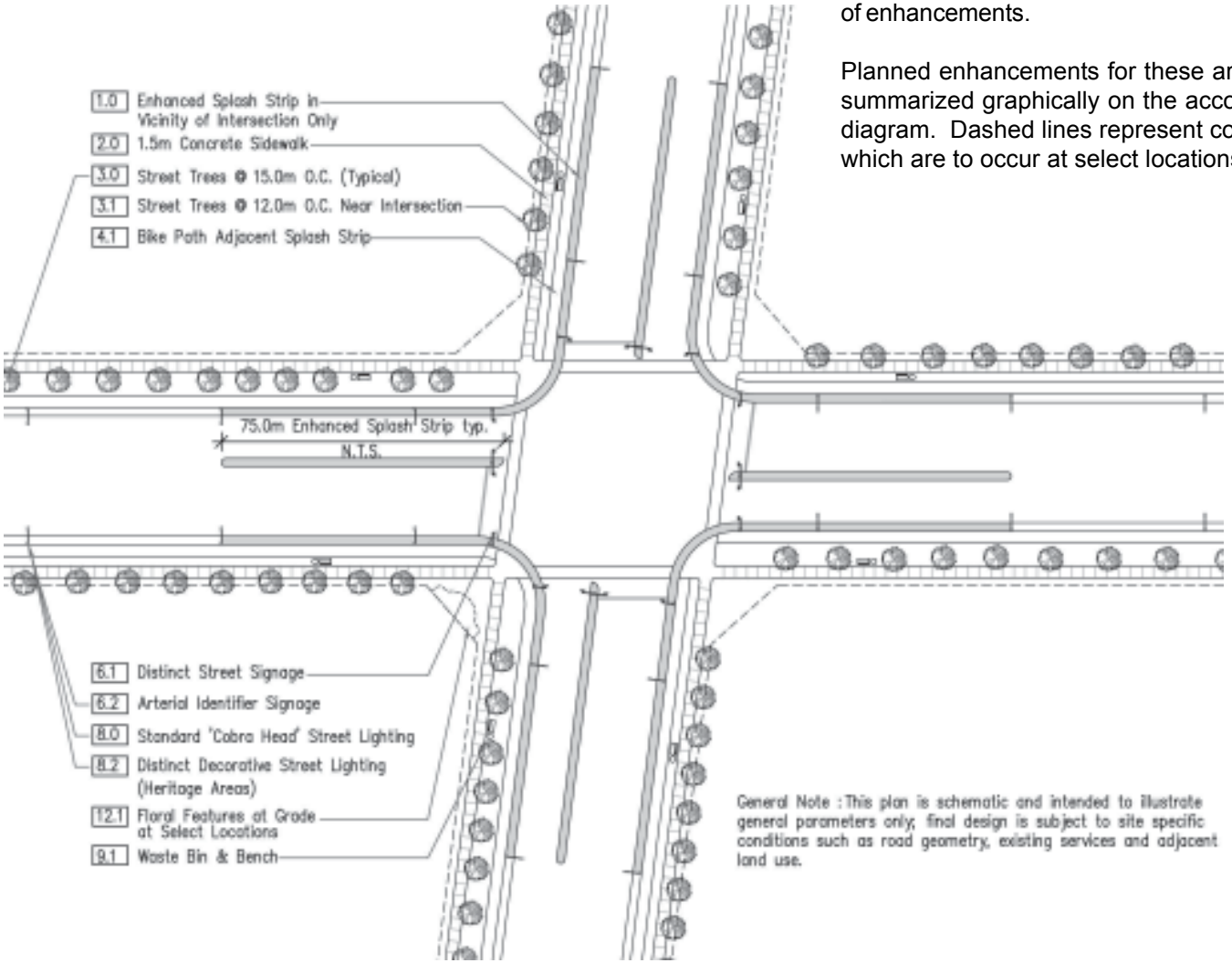


Figure 5.2.5 Enhancements for Tertiary Arterial Roads.

5.2.6 Summary Enhancement Charts

The arterial road may be seen as having two main components, namely its lengths of corridor and its intersections. Intersections have significance as points of convergence for vehicles and pedestrians with their own set of streetscape elements such as right turn islands, left turn medians, traffic signals and street signage, generally offering greater opportunities than the corridor to locate gateways, decorative features or other enhancements.

Accordingly, the corridor and intersection enhancements for the arterial roads are summarized in separate accompanying charts.

Where intersections occur having roads of two different categories, the higher order road generally determines the enhancement standard.

Corridor Enhancements Chart

The left hand column of the chart lists the streetscape components which may be enhanced. Each of the five columns to the right is for one of the arterial types within the corridor hierarchy.

Dark grey rectangles denote enhanced components common to all arterial corridors, such as sidewalks well back from the road, continuous street trees or bike paths adjacent splash strip.

Light grey rectangles within each column denote enhanced components occurring in some, but not all, arterial categories. For example, enhanced splash strips and decorative street lighting occur only within the Category 1 Main Street/Primary corridor. Generally, the higher the road category in the hierarchy, the greater the number of enhancements.

Summary Chart of Corridor Enhancements (Arterial Road Between Intersections)

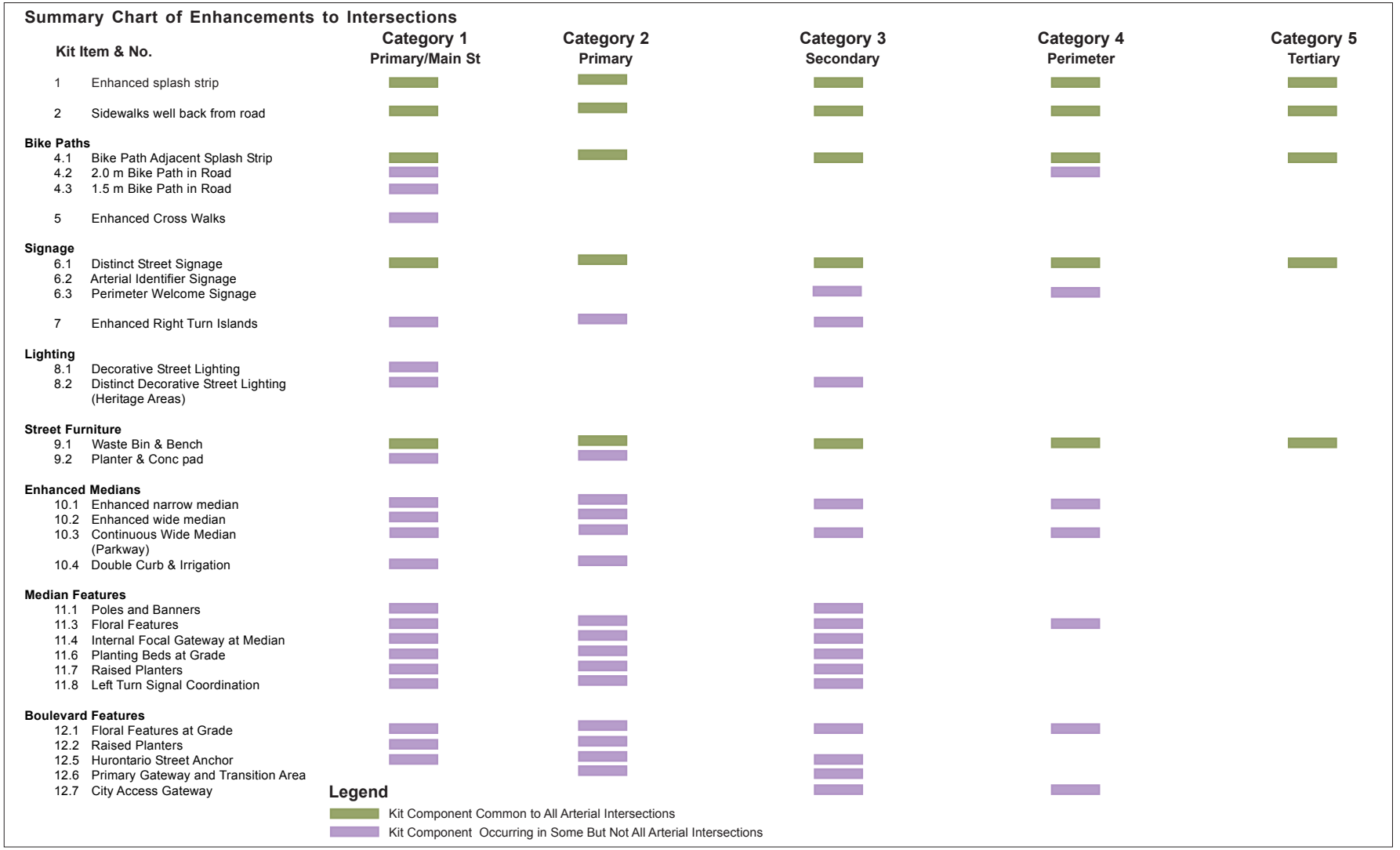
Corridor Hierarchy

Kit Item & No.	Category 1 Primary/Main St	Category 2 Primary	Category 3 Secondary	Category 4 Perimeter	Category 5 Tertiary
1 Enhanced splash strip	■				
2 Sidewalks well back from road	■	■	■	■	■
3 Continuous Street Trees	■	■	■	■	■
4.1 Bike Path Adjacent Splash Strip	■	■	■	■	■
4.2 2.0 m Bike Path in Road	■				
4.3 1.5 m Bike Path in Road	■				
5 Enhanced Cross Walks	Note : Items left blank occur within the intersection. Refer to Intersection Enhancement Chart on following page.				
6.1 Distinct Street Signage					
6.2 Arterial Identifier Signage	■	■	■	■	■
6.3 Perimeter Welcome Signage					
7 Enhanced Right Turn Islands					
8.0 Standard 'Cobra Head' Fixture	■	■	■	■	■
8.1 Decorative Street Lighting					
8.2 Distinct Decorative Street Lighting (Heritage Areas)	■	■		■	■
9.1 Waste Bin & Bench					
9.2 Planter & Conc pad					
10.1 Enhanced narrow median					
10.2 Enhanced wide median	■	■			
10.3 Continuous Wide Median (Parkway)			■		

Legend

■ Kit Component Common to All Arterial Categories

■ Kit Component Occurring in Some But Not All Arterial Categories



Intersection Enhancements Chart

The above chart summarizes streetscape enhancements at the arterial intersections. The left hand column of the chart lists the streetscape components which may be enhanced.

The columns to the right represent the arterial intersection types according to the hierarchy. At intersections where streets occupying different categories within the heirarchy converge, the enhancements for the higher order street will govern.

Enhanced elements common to all intersections are represented with dark grey rectangles. Light grey rectangles denote the enhanced components occurring in some, but not all, intersections.

5.3 Gateway Treatments

5.3.1 Gateway Beautification Program

The Gateway Beautification Program precedes the work undertaken by the present study. Its scope and intent is briefly summarized in the following paragraphs.

The Program's intent is to demarcate and beautify highly visible streetscape locations that are well travelled points of City entry or orientation, with the installation of a decorative landscape feature or horticultural display.

Sites for City initiated and funded installations are at intersections identified as having a gateway potential based on parameters such as road traffic volume, access to the historic downtown core and relation to neighbourhood. The program establishes a hierarchy of design treatments and related locations for the following gateway features :

- Hurontario Street Anchor
- Highway 407 Anchor
- Internal Focal Feature
- City Access Point
- Downtown Gateway

Notwithstanding the differing terminology for each of the above design treatments, *(anchor*, *focal feature*, *access point, gateway)* they are all considered to be gateway features.

Designs for developer initiated and funded installations at highly visible locations, such as certain gateways to new residential and commercial developments, will be reviewed by the City to ensure key principles of the Gateway Beautification Program are incorporated.

Figure 5.3.1a Hurontario Street Anchor

Figure 5.3.1b Highway 407 Anchor, Front View

Figure 5.3.1c Highway 407 Anchor, Side View

Sponsorship opportunities for certain gateway features by local businesses or neighbourhoods will also be available.

Figure 5.3.1d Internal Focal Feature

Figure 5.3.1e City Access Point Feature

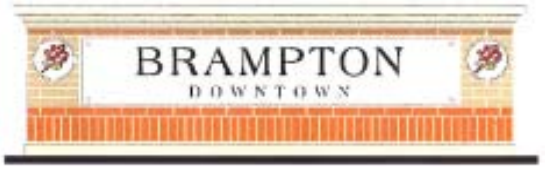


Figure 5.3.1f Downtown Gateway Feature

For gateway locations proposed under this program, refer to *Figure B.2, Arterial Corridors Gateway Mapping*, within *Appendix B*. For additional information, refer to the *Gateway Beautification Program* document, prepared for the City of Brampton.

5.3.2 Other Gateways

The assessments of the present study are independent of the Gateway Beautification Program and present a hierarchy of three types of *gateway* location which are to receive *design features*. *Floral feature intersections* are identified as a fourth location type, expected to receive a lesser design treatment.

Gateway locations, for the purpose of this study, are sites within the arterial grid assessed as important to the City according to a number of criteria.

Primary and Secondary gateways include design features having a masonry or precast wall and plaque, planter, planting or other elements, intended for installation within the boulevard approaching an intersection, similar to the siting of the existing gateway feature at Hurontario Street south of Steeles Avenue.

A *transition zone*, for the purposes of this study, is a wide median (5m minimum) with decorative planting and irrigation, introduced some distance prior and leading to the gateway design feature location, similar in concept to the planted median associated with the existing gateway feature at Hurontario Street south of Steeles Avenue (Figure 5.3.2.1c). Transition zones perform several functions, including the following:

- Extend the scale of the gateway feature area, appropriate to the scale of the street and to the rate at which it is perceived by travelling motorists.

- Provide orientation and a visual cue to motorists that they are approaching a significant part of the City.

- Enhance the aesthetic quality of the streetscape.

- Provide a visual counterpoint to the gateway design feature within the adjacent boulevard.

The placement of gateway design features within the boulevard prior to the intersection (rather than within the median at the intersection), is recommended for the following reasons:

- There are minimal sight line requirements to limit design opportunities as compared with medians at intersections.

- The boulevard's width is considerably greater than the 2.1m of the intersection median allowing for a larger gateway footprint; the boulevard feature can therefore be at a scale more appropriate to the scale of the street.

- Within the boulevard there is no requirement to coordinate feature placement and design with left turn signal lights and pole-mounted warning signage as is required with placement at the end of intersection medians.

- There is greater opportunity for the boulevard feature to be seen and appreciated on approach to the intersection; once at the intersection, most drivers are concentrating on traffic signals, additional lanes of turning vehicles and pedestrian movements, giving them little opportunity to admire a median feature.

The following sections describe the gateway design features developed by the Steering Committee in greater detail.

Figure 5.3.2.1a Primary Gateway Elevation

5.3.2.1 Primary Gateways

Seven major community intersections are identified as Primary gateway locations, including the site of the existing feature on Hurontario Street south of Steeles Avenue. The assessment is based more on the importance of the intersection to the City than whether it is a prime internal or perimeter location. Parameters such as traffic volume, proximity to adjacent municipalities and access to the City core were considered.

Five of these locations have been identified previously for design treatment within the Gateway Beautification Program. (Refer to *Figure B.2, Arterial Corridors Gateway Mapping*, within *Appendix B*).

The Primary gateway design proposes a wide median with raised planters and irrigation as a zone of transition approaching the intersection, a feature wall (similar to the Internal Focal Point wall) fronted by a decorative precast planter and backed by a larger planter within the boulevard, positioned to be visible to motorists entering the city. The Primary Gateway locations are as follows :

- Hurontario Street south of Steeles Avenue (existing)
- Castlemore Road and Regional Road No. 50
- Queen Street and Regional Road No. 50
- Steeles Avenue and Mississauga Road
- Bovaird Drive and Mississauga Road
- Highway 10 north of Mayfield Road
- Tomken Road at the Highway 410 exit

At the Highway 10 and Mayfield Road location, the design of the gateway feature should be according to the Hurontario Street anchor design of the Gateway Beautification program.

For the three Primary gateways at the perimeter, the City intends to work with adjacent municipalities and the Region to implement the transition zone features (median, planters and irrigation) which may be located beyond the City boundary.

Figure 5.3.2.1b Primary Gateway Plan

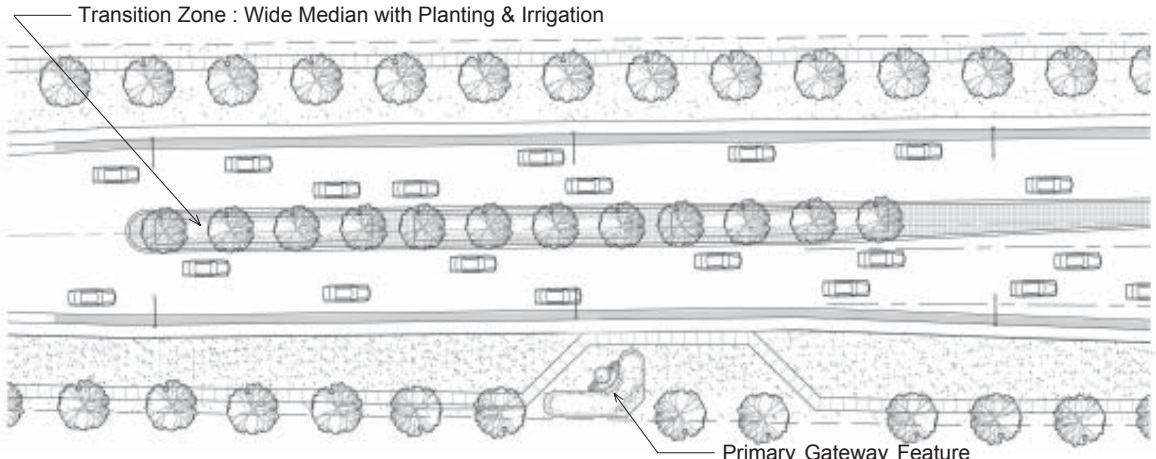


Figure 5.3.2.1c Primary Gateway and Transition Zone Plan

5.3.2.2 Secondary Gateways

Five community entry points are identified as secondary gateway locations, based more on the importance of the intersection to the City than whether it is a prime internal or perimeter location. Parameters such as traffic volume, proximity to adjacent municipalities and access to the City core were considered.

Four of the locations have been previously identified for design treatment within the Gateway Beautification Program. (Refer to *Figure B.2, Arterial Corridors Gateway Mapping*, within *Appendix B*).

The secondary gateway design derives from the City Access Point feature of the Gateway Beautification Program and includes a feature wall (similar to the City Access Point feature wall) and planter within the boulevard, positioned to be seen by motorists entering the City. At two locations it also includes a wide median with raised planters and irrigation as a zone of transition approaching the intersection. The secondary gateway locations are as follows :

- Airport Road north of Highway 7
- Mavis Road north of Highway 407 (includes transition zone)
- Queen Street and Mississauga Road (includes transition zone)
- Dixie Road and Mayfield Road
- Airport Road and Mayfield Road

Figure 5.3.2.2a Secondary Gateway Plan

Figure 5.3.2.2b Secondary Gateway Elevation

5.3.2.3 Perimeter Gateways

The Perimeter gateway features are to occur at five significant points of entry to the City, namely where the perimeter arterials intersect and where major east/west arterials meet Winston Churchill Blvd. The design reinforces Brampton's 'Flowertown' image with a floral feature located at the daylight triangle, facing motorists as they enter the City and having a bed sloping up from the curb side to increase its visibility from the road. Signage welcoming visitors to Brampton accompanies the floral feature. The locations for perimeter gateway features are the following:

- Steeles Avenue W. and Winston Churchill Blvd.
- Embleton Road and Winston Churchill Blvd.
- Wanless Drive and Winston Churchill Blvd.
- Mayfield Road and Winston Churchill Blvd.
- Mayfield Road and Regional Road No. 50

5.3.2.4 Floral Feature Entry Points

Floral feature entry points occur where each of the remaining arterials enters the community from the north. They will consist of a floral bed located at the daylight triangle of the south-west corner, sloping up from the curb and facing motorists as they enter the City, to reinforce the 'Flowertown' image and accentuate the point of entry.

5.3.2.5 Banner Poles at Gateway Locations

Banner poles will occur at the most important intersections along Hurontario and Queen Streets. They will be located within the length of narrow median adjacent the left turn collector lane.

Pole design and dimensions are to be consistent with the existing downtown banner poles.

Some suggested design themes for the banner program include :

- Brampton : Flowertown Heritage
- Brampton : Heritage Buildings
- Brampton : Parks and Conservation
- Brampton : Industry and Opportunity
- Brampton : Cultural and Recreation

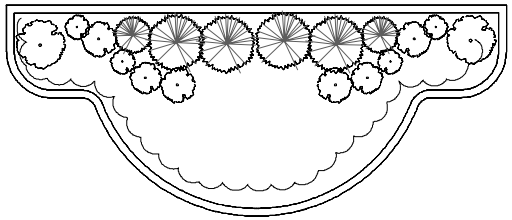


Figure 5.3.2.3 Perimeter Gateway and Floral Feature Entry Point Plan

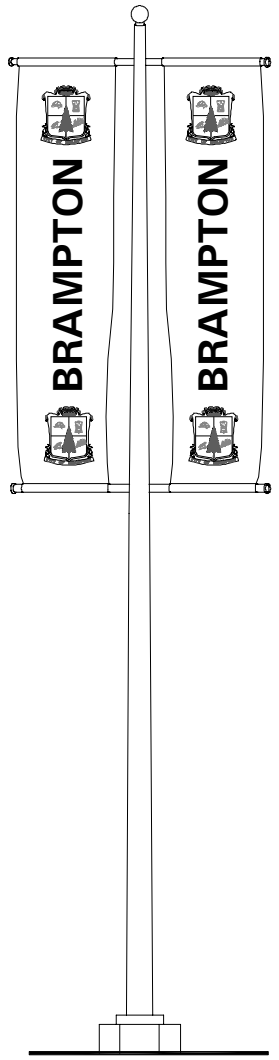


Figure 5.3.2.5 Banner Pole Concept Sketch
Note : Developed design is to be consistent with existing downtown banner poles.

5.4 Other Treatments

5.4.1 Bridges and Overpasses

Bridges and overpasses are visually important elements of the arterial system. Their appearance contributes to the quality of the streetscape and their design should strive for uniformity of appearance, a recognizable sense of style and sense of human scale.

The recently completed Etobicoke Creek bridge on Hurontario Street is distinctive for both its sense of style and human scale. The following recommendations for bridge and overpass design are developed accordingly.

Bridge design should include poured-in-place piers and wing walls, detailed with false horizontal joints or reveals as shown. Precast pier cap design should be according to the Brampton standard coping detail. End piers should have a formed recess in the street-facing elevation to receive a plaque with the Brampton rose or other appropriate City-approved logo. The continuous tubular metal railing between the piers should be painted blue.

An alternate design is shown for featured locations, with piers having decorative light standard and floral baskets.

Bridge and overpass soffits that are exposed to public view should be designed accordingly, having an attractive appearance and well-finished materials, consistent with the design and material finishes of the street-facing sides.

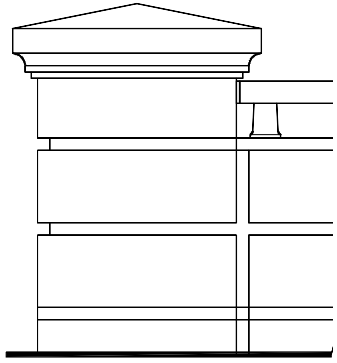


Figure 5.4.1a Bridge End Pier Elevation

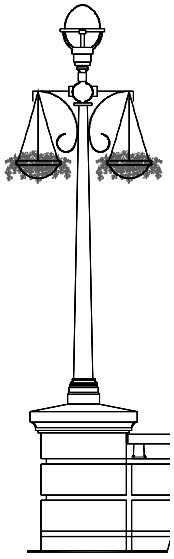


Figure 5.4.1b Bridge End Pier Elevation with light standard and floral baskets.

5.4.2 Guide Rails

The MTO standard box beam guide rail is recommended where guide rails are absolutely necessary along arterial roads. The continuous horizontal railing should be painted the same blue proposed for the metal railing and decorative metal work of the bridges and overpasses. Vertical supports should be painted a white or pale grey, complementary to the value of the blue.

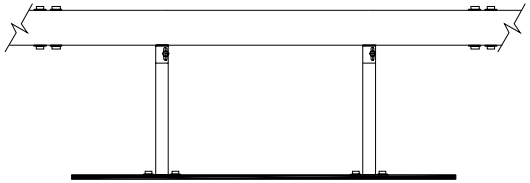


Figure 5.4.2 Guide Rail Elevation

5.4.3 Signage

Street signage designed for the arterial roads will contribute to their special identity and assist in wayfinding for motorists. The three types of enhanced signage are as follows :

Arterial Street Name Signage

Located at intersections, these signs should be larger and positioned higher than the non-arterial street name signs. Recommended colours are white letters on a blue field to distinguish them from the standard street signs of white on green.

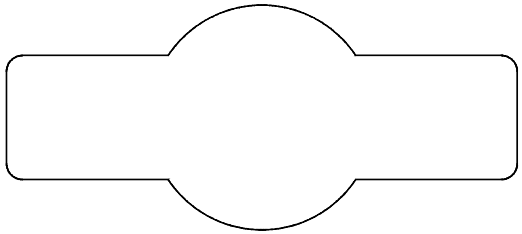


Figure 5.4.3a Arterial Street Name Signage

Arterial Identifier Signage

Located between intersections, these signs should have a distinct shape or colour, making them identifieable at a glance. Their graphic design should incorporate the words *City of Bramptom* and *Region of Peel,* as well as an appropriate logo symbolizing the cooperative efforts of the Region and the City in the enhancement of the arterial road network.

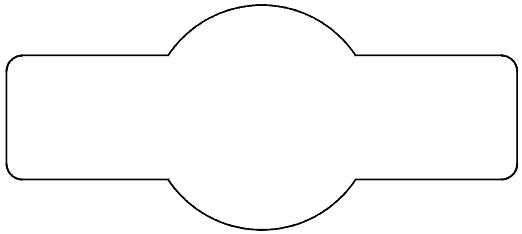


Figure 5.4.3b Arterial Identifier Signage

Arterial Welcoming Signage

Located at community entry points in conjunction with gateway features, these signs should incorporate the words *City of Brampton* and *Region of Peel* into a message of welcome to arriving motorists.

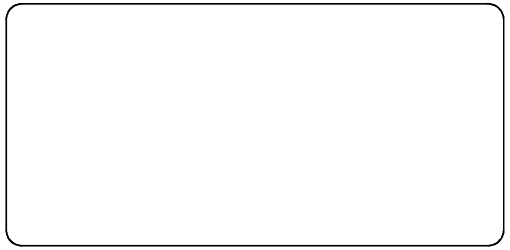


Figure 5.4.3c Arterial Welcoming Signage

5.5 Adjacent Land Use Guidelines

As described in Section 4, land uses adjacent the R.O.W. are identified generally in the Character Mapping Plan, *(Figure B.3*, *Appendix B*). Opportunities for enhancement of the streetscape or adjacent lands may occur according to arterial character type.

The following sections include design guideline recommendations intended to improve the design quality of the streetscape within the public lands of the R.O.W. or the privately owned lands adjacent the R.O.W., according to the general adjacent land use categories.

5.5.1 Heritage/Older Residential Areas

Where adjacent land use is heritage or older residential, there may be opportunities for enhancement of both the public lands within the street R.O.W. and private lands beyond it to preserve or reinforce the heritage character of the area.

- Design of arterial acoustic fencing within 200m of older residential (heritage) areas should have an appropriate historical appearance, to be approved by the City.

- Where appropriate, an historical plaque should be placed by the City within the R.O.W. at the edge of the community.

- The pedestrian realm of the area should be emphasized with a combination of enhanced boulevard planting, seating, paving and floral features.

- Distinct street lighting with an historical character should occur within heritage areas.

- Traffic speeds through the area should be reduced by measures such as the following :
  - reduction in pavement width.
  - soft curbs (no curb & gutter).
  - ribbed areas on pavement.
  - posting reduced speed limits.
  - introducing on-street parking.
  - canopy of trees

- Design of new buildings is encouraged to relate in scale and form to nearby existing heritage structures where possible.

Figure 5.5.1a - Queen Street heritage area. Street trees and heritage street lighting reinforce the character of the street.

Figure 5.5.1b - Queen Street more recent building. Scale at the street relates to existing fabric; on-street parking calms local traffic.

Figure 5.5.1c - Heritage lighting fixtures with floral basket

Figure 5.5.1d - Historic Bovaird House entrance; opportunity for historic plaque, heritage street lighting; floral features.

s.

5.5.2 New Residential Areas

- Design of acoustic fencing adjacent the arterial should be uniform and consistent.
- Within 100m of arterial intersections, the same design and finish of fencing should occur at each side of the street.
- Design and details of gateway entry features on private lands should be coordinated with corresponding public features occuring locally within the R.O.W.

5.5.3 Business Industrial Areas (Commercial Mixed-Use)

- Provide a minimum 3.0 m landscape buffer between private parking and the R.O.W. edge. Provide a row of trees within the buffer in designated locations to create a second row of trees adjacent the street.
- Provide paved walkway connections from adjacent development to the sidewalk.
- Placement of buildings close to the road, to define the street edge, is encouraged.
- Window and/or door apertures should comprise a minimum of 20 % of the arterial-facing sides of commercial buildings .
- Joint access driveways are encouraged at adjacent developments to maximize the landscaped areas surroundings parking lots and reduce the number of arterial access points.
- Locate fast food or other drive-through facilities behind the main building on site or integrated into the building structure using an extended roofline, screened area or other design device; minimize the drive-through visibility from the street.

Gas Bars

- At gas bars, the kiosk/store component is strongly encouraged at the street edge with the canopy and pumps to the side or rear.
- Provide a 3.0 m landscaped strip adjacent the R.O.W., with planting, trees, low walls, floral features or berming, to reinforce the street edge and reduce the visual impact of the heavily asphalted pump area.
- The design of gas bar canopy form, height, graphics and colour banding will be according to the requirements of design guidelines prepared by the City.
- At high volume traffic locations or at busy intersection locations, gas bar access and departure should be right lane in and right lane out.

Figure 5.5.3 a - Big box in retail plaza; landscaped buffer is located adjacent R.O.W. but large abutting parking lot, thin planting & lack of street trees leave street edge poorly defined (Steeles Avenue).

Figure 5.5.3 b - Commercial retail gateway; building is attractive and located at the corner close to the street; however neither windows nor doors face the arterial road (Steeles Avenue).

Figure 5.5.3 c - Gas Bar with roadside landscaped screening (Bovaird Street and Mississauga Road).

5.5.4 Industrial Areas

- Buildings, parking and loading area locations should be planned for balanced integration to minimize the visual impact of parking and service areas on the streetscape yet allow for convenient vehicular access and loading.
- Service areas should be located at the rear or sides of buildings to minimize visibility from the street, and/or be screened by a combination of fencing, landscaping and berms.
- Where loading areas occur in prominent locations on self-contained sites due to site planning constraints, they should be screened with landscaping or integrated architectural elements designed to be compatible with the building.
- Parking areas should have minimum visibility from the street; screening may include fencing, landscaping and berms.
- Parking at internal side-yard and rear-yard locations is encouraged.
- Front-yard parking spaces should be limited to visitors where possible.
- At adjacent development lots, joint access driveways are encouraged to maximize landscaped areas surrounding parking lots.
- Buildings should be located at or near the minimum allowed setbacks from the road to address the streetscape.
- Visually appealing buildings with interesting facades and creative use of materials, colour, form and texture are encouraged.
- All facades visible from the public realm should be attractive and well designed (architecturally strong).
- Where a building faces an Arterial Road, its façade design and surroundings should be enhanced using one or more of the following:
  - Greater architectural detail in the façade design.
  - Better quality cladding.
  - Enhanced window design and glazing detailing.
  - Enhanced exterior lighting and signage.
  - Enhanced landscaping.
- Provide paved walkway connections from adjacent development to the sidewalk.
- For buildings located on corner lots, design having corner entry is encouraged.
- For buildings located on corner lots, the design of the secondary façade facing the lesser priority street may be architecturally more modest than the primary façade; the secondary frontage should receive greater landscape treatment.

Figure 5.5.4 a - Industrial Commercial building at arterial intersection; attractive floral features and landscaping at corner, parking and loading do not appear in this image, but are visible from the street, beyond the limit of the photograph; building should be closer to the street and have a paved walkway connection to the sidewalk.

5.6 Test Cases

Other consultants are performing design work for the widening of Bovaird Drive to six lanes with a central median, from Highway 410 west to Mississauga Road.

Enhancement studies were done for two key intersections, based on the proposed road widenings and using Peel Regions' dimensional standards for curb radii, vehicle lanes and median width.

5.6.1 Bovaird and Hurontario Street

The proposed enhancements for this location are depicted in Figure 4.6.1.a below. Comments on the proposed enhancements are as follows:

- Boulevards should accomodate feature planting within the daylight triangles.
- Some gateway feature elements may require a local widening of the R.O.W. to accomodate them.
- The streetscape enhancements, street trees and boulevard planting are crucial to softening the impact of the greater paved road width.

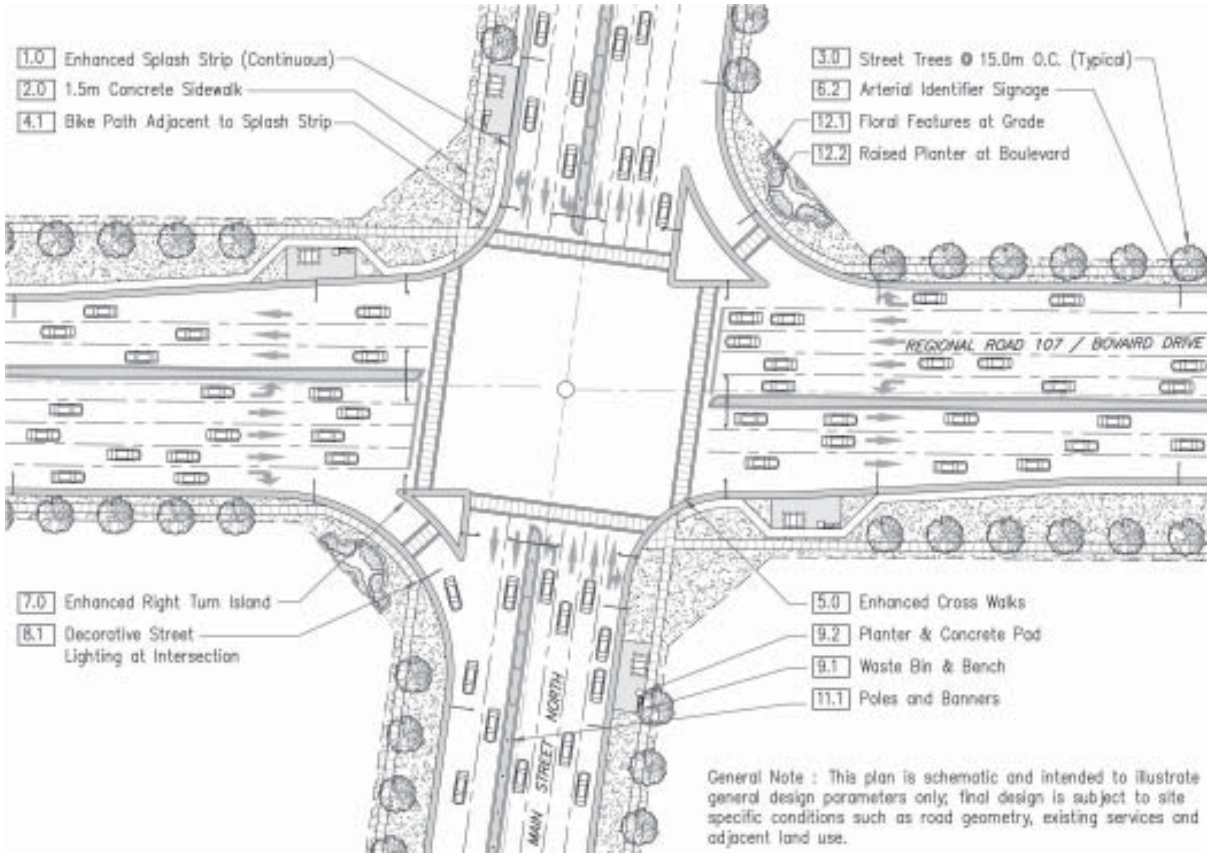


Figure 5.6.1a Plan Detail at Intersection (Regional Road 107 / Bovaird Drive & Hurontario Street)

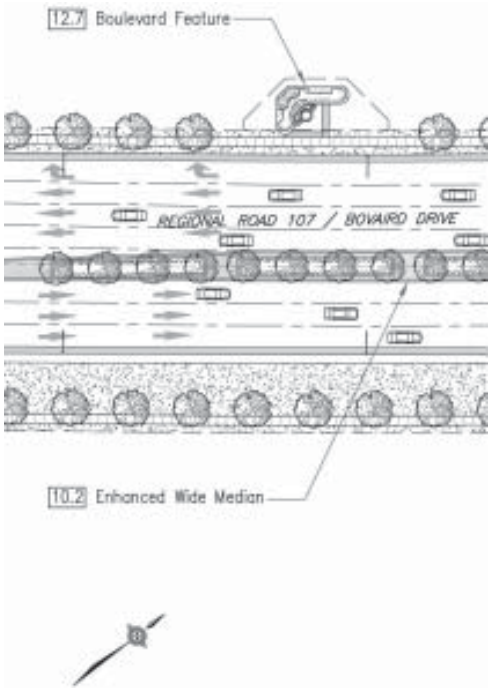
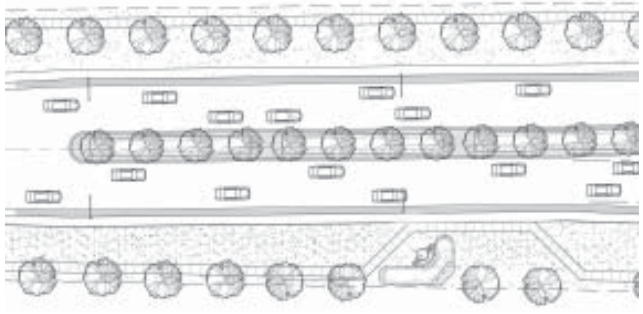


Figure 5.6.1b Plan Detail at Median

5.6.2 Bovaird and Mississauga Road

Comments on the proposed enhancements are as follows:

- The streetscape enhancements, street trees and boulevard planting are crucial to softening the impact of the greater paved road width.
- Some gateway feature elements may require a local widening of the R.O.W. to accomodate them.
- Boulevards should accomodate feature planting within the daylight triangles.
- Where noise barriers are required, they shall be consistent in design at all corners of the intersection.



General Note : This plan is schematic and intended to illustrate general design parameters only; final design is subject to site specific conditions such as road geometry, existing services and adjacent land use.

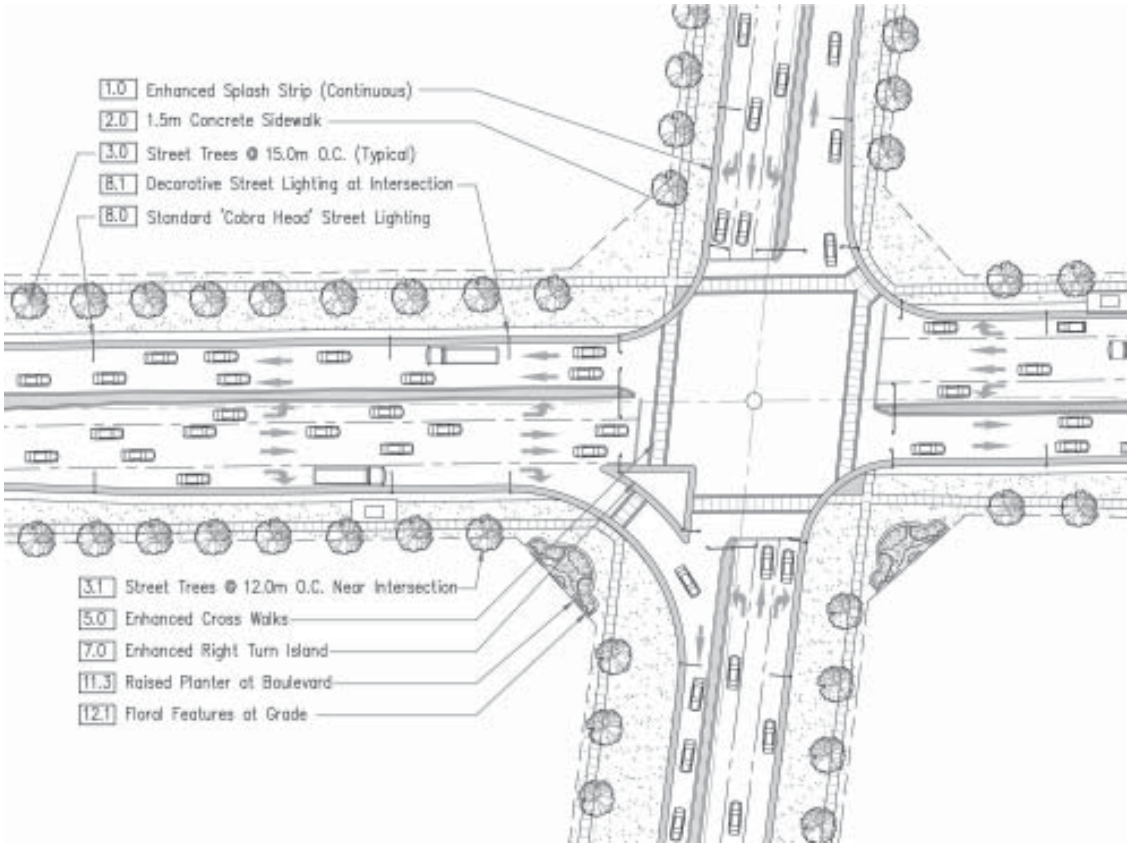


Figure 5.6.2a Plan Detail at Median (Regional Road 107 / Bovaird Drive & Mississauga Road)

Figure 5.6.2b Plan Detail at Intersection

APPENDIX A

Corridor and Intersection Assessment

Figure A.1a: Steeles Avenue East & Regional Road (Highway) 50: View Looking West : Major community entry point with utilitarian appearance.

Figure A.1b: Steeles Avenue East & Regional Road (Highway) 50: View Looking West; entry feature planting on far side of road is not visible.

Figure A.1c : Steeles Avenue East & Highway 50; feature planting at n.w. corner located beyond the drainage swale and at a lower elevation than the road has low visual impact.

CORRIDOR & INTERSECTION ASSESSMENT
A.1 Steeles Avenue East & Regional Road (Highway) 50

TRAFFIC & ABOVE-GROUND UTILITIES

Pavement Area
- Steeles Avenue East: 2 cont. lanes + 1 left turn & 1 right turn lane (both directions)
- Regional Road (Highway) 50: 2 cont. lanes + 1 left turn & 1 right turn lane (both directions)

Traffic
- Observed as constant and fast flowing in all directions

Medians
- Narrow concrete/asphalt median at intersection

Curbs
- Concrete curb at each corner of intersection & along Steeles Avenue East & Highway 50
- Asphalt splash strip at each corner of intersection & along Hwy. 50

Lighting
- Cobra light fixture mounted on concrete light pole at curbside along Steeles & Hwy. 50

Above Ground Signal Equipment
- Pole mounted vehicular traffic signal located 1 per median
- Cantilevered vehicular traffic signal located 1 per corner
- Pole mounted pedestrian traffic signal located 2 per corner of intersection

Signage
- Post mounted signage located at roadside

Utility Boxes & Poles
- Utility box located at S.E. corner (2-3m from curb edge)
- Hydro poles located near R.O.W. edge

OTHER CHARACTERISTICS

Surrounding Land Use
- Undeveloped lands

Vegetation:
- Sod on roadside boulevards
- Tall grasses & shrubs in roadside swale

Topography:
- Adjacent roadside boulevards slope to drainage swale

Gateways & Other Features :
- Floral feature planting bed located at N.W. corner boulevard

Pedestrian & Transit User Amenities
- None

Bicycle Amenities
- None

CRITICAL ANALYSIS

- Traffic flow was observed to be continuous and efficient.
- Unobstructed sight lines at intersections and within the corridor contribute to travel safety.
- Typical night lighting design affords safe travel after dark.
- Streetscapes present utilitarian appearance, little to distinguish one stretch of road from another.
- Streetscape design conveys no sense of transition to or arrival at this key intersection.
- Lack of attention to streetscape edge:adjacent lands are not yet developed.
- Above ground utility boxes occur at one corner, but have little negative impact in the undeveloped surroundings.
- Lack of amenity for pedestrians, cyclists, which must be considered when the streets are redeveloped according to urban cross sections.
- There is an opportunity to implement streetscape design enhancements coordinated with the future development of surrounding lands.

Figure A.2 a: Steeles Avenue & Main Street South/ Hurontario Street: View Looking East. Broad expanse of asphalt; corridor lacks continuous street trees or buildings close to the road to define its edges.

Figure A.2 b: Steeles Avenue & Main Street South/ Hurontario Street: View Looking North

Figure A.2 c: Steeles Avenue & Hurontario St S.W. Corner. Unattractive above ground utilities in a prominent location.

CORRIDOR & INTERSECTION ASSESSMENT
A.2 Steeles Avenue & Main Street South/ Hurontario Street

TRAFFIC & ABOVE-GROUND UTILITIES

Pavement Area
- Steeles Avenue: 3 cont. lanes + 1 left turn & 1 right turn lane (both directions)
- Main St. S./ Hurontario St.: 3 cont. lanes + 1 left turn & 1 right turn lane (both directions)

Traffic
- Observed to be constant and fast flowing

Medians
- Narrow concrete/asphalt medians at intersection
- Right turn concrete/asphalt island at each corner of intersection

Curbs
- Concrete curb at each corner of intersection & along Steeles Avenue & Main Street
- Asphalt splash strip at each corner of intersection & along Steeles Avenue

Lighting
- Cobra light fixture mounted on concrete light pole spaced approximately 15-20m apart and 1-3m from curb edge along Main St. S./ Hurontario St. and North side of Steeles Ave.
- Cobra light fixture mounted low on concrete utility pole spaced approximately 15m apart and 1-3m from curb edge along South side of Steeles Ave.

Above Ground Signal Equipment
- Cantilevered vehicular traffic signal located 2 per right turn island & 2 per median
- Pole mounted pedestrian traffic signal located 2 per right turn island

Signage:
- Post mounted signage located at roadside & on medians

Utility Boxes & Poles
- Utility box & transformers located at S.W. corner boulevard adjacent to far edge of walkway
- Hydro poles combined with cobra light fixtures adjacent to far edge of walkway on Steeles Avenue

OTHER CHARACTERISTICS

Adjacent Land Use
- Gas bars and Business Industrial (Commercial Retail plazas)

Vegetation
- Sod on roadside boulevards
- Trees of varying size & maturity irregularly spaced within the boulevard

Topography
- Adjacent roadside boulevards are generally flat

Gateways & Other Features
- None

Pedestrian & Transit User Amenities
- Concrete walkway adjacent to asphalt splash strip along Main Street South and North side of Steeles Avenue and adjacent to grass boulevard along South side of Steeles
- Public phone booths adjacent far side of walkways along the North and South sides of Steeles Avenue

Bicycle Amenities
- None

CRITICAL ANALYSIS

- Observed traffic flow was efficient and continuous.
- Unobstructed sight lines at intersections and within the corridor contribute to travel safety.
- Typical night lighting design affords safe travel after dark.
- Streetscapes present pared-down, utilitarian appearance, little to distinguish one stretch of road and its associated adjacent land use from another.
- Streetscape design conveys no sense of transition to or arrival at this key intersection.
- Lack of attention to streetscape edge : street tree species and spacing lack uniformity or sense of order.
- Lack of visual definition to corridor edge is especially noticeable adjacent Business Industrial uses where buildings are generally well set back and separated from the R.O.W. edge by a broad expanse of highly visible parking.
- Above ground utility boxes are unattractive, arranged in highly visible locations in a seeming random manner.
- Lack of amenity for pedestrians, cyclists.
- Street furniture is utilitarian, its location on sloping, sparsely grassed ground conveys no sense of place.

Figure A.3 a: Steeles Avenue West & Mississauga Road: View Looking East

Figure A.3 b: Steeles Avenue West & Mississauga Road: View Looking South

CORRIDOR & INTERSECTION ASSESSMENT
A.3 Steeles Avenue West & Mississauga Road

TRAFFIC & ABOVE-GROUND UTILITIES

Pavement Area
- Steeles Avenue West: 2 cont. lanes + 1 left turn & 1 right turn lane (both directions)
- Mississauga Road: 2 cont. lanes + 1 left turn & 1 right turn lane (both directions)

Traffic
- Low volume of fast flowing traffic in all directions during off peak times
- Moderate volume of fast flowing traffic in all directions during peak times

Medians
- Narrow concrete/asphalt medians at intersection
- Right turn concrete/asphalt island at each corner of intersection

Curbs
- Concrete curb at each corner of intersection & along Mississauga Road & Steeles Avenue West
- Asphalt splash strip at each corner of intersection & along Mississauga Road & Steeles Avenue W.

Lighting
- Cobra light fixtures mounted on concrete light poles spaced approximately 15-20m apart and 1-3m from curb edge along west side of Mississauga Rd. and South side of Steeles Ave.
- Cobra light fixtures mounted low on concrete utility poles spaced approximately 15-20m apart and 1-3m from curb edge along east side of Mississauga Rd. and north side of Steeles Ave.W.

Above Ground Signal Equipment
- Cantilevered vehicular traffic signal located 1 per right turn island
- Pole mounted vehicular traffic signal located 1 per median
- Pole mounted pedestrian traffic signal located 2 per right turn island

Signage
- Post/pole mounted signage located at roadside, on medians & right turn islands

Utility Boxes & Poles
- Utility boxes located at N.E. & S.W. corner boulevards (2-4m from curb edge)
- Hydro poles combined with cobra light fixtures adjacent far edge of walkway on Steeles Avenue

OTHER CHARACTERISTICS

Adjacent Land Use
- Gas bar at S.E. corner; otherwise undeveloped.

Vegetation
- Sod on roadside boulevards
- Trees of varying size and maturity randomly located within roadside boulevards

Topography
- Adjacent roadside boulevards are generally flat south of Steeles Ave. W. and slope to drainage swale north of Steeles Ave. W.

Gateways & Other Features
- None

Pedestrian & Transit User Amenities
- Concrete walkway separated from roadway by grassed boulevard on west side of Mississauga Rd., south of Steeles Ave. W.
- Concrete walkway adjacent to asphalt splash strip at S.E. corner of intersection

Bicycle Amenities
- None

CRITICAL ANALYSIS

- Traffic flow was observed to be relatively light and moving freely.
- Unobstructed sight lines at intersections and within the corridor contribute to travel safety.
- Typical lighting design affords safe travel after dark.
- Streetscapes present utilitarian appearance, little to distinguish one stretch of road from another.
- Streetscape design conveys no sense of transition to or arrival at this intersection.
- Streetscape edge is not defined; surrounding lands are not developed at this point, apart from gas bar at one intersection.
- Above ground utility boxes occur at two corners, but have little negative impact in the undeveloped surroundings.
- Lack of amenity for pedestrians, cyclists, which must be improved when the streets are upgraded to urban cross sections.
- There is an opportunity to implement streetscape design enhancements coordinated with the expected development of the surrounding lands.

Figure A.4 a: Queen Street East & Highway 50: View Looking North

Figure A.4 b: Queen Street East & Highway 50: Looking East (top) & West (bottom).
Major commmunity entry point with no distinguishing streetscape features.

CORRIDOR & INTERSECTION ASSESSMENT
A.4 Queen Street East & Highway 50

TRAFFIC & ABOVE-GROUND UTILITIES

Pavement Area
- Queen Street East: 3 cont. lanes + 1 left turn & 1 right turn lane (both directions)
- Highway 50: 2 cont. lanes + 1 left turn & 1 right turn lane (both directions)

Traffic
- Constant and fast flowing in all directions

Medians
- Narrow concrete/asphalt median at intersection
- Right turn concrete/asphalt island at N.E. corner of intersection only

Curbs
- Concrete curb with gravel strip beyond, at each corner of intersection
- Soft shoulder located along Queen St. & Hwy. 50

Lighting
- Cobra light fixture mounted on concrete pole located 1 per corner of intersection close to curb edge

Above Ground Signal Equipment
- Pole mounted vehicular traffic signal located 1 per median (Queen St. only)
- Cantilevered vehicular traffic signal located 2 per corner & 1 per median (Hwy. 50 only)
- Pole mounted pedestrian traffic signal located 2 per corner of intersection

Signage
- Post mounted signage located close to roadside
- Frame mounted traffic signage located over Hwy 50 just north of Queen St.

Utility Boxes & Poles
- Utility box located at N.W. corner (2-3m from curb edge)
- Hydro poles located near R.O.W. edge

OTHER CHARACTERISTICS

Surrounding Land Uses
- Undeveloped lands, garden centre

Vegetation
- Sod on roadside boulevards
- Tall grasses & shrubs in roadside swale

Topography
- Adjacent roadside boulevards slope to drainage swale

Gateways & Other Features
- None

Pedestrian & Transit User Amenities
- None

Bicycle Amenities
- None

CRITICAL ANALYSIS

- Observed traffic flow moves well.
- Unobstructed sight lines at intersections and within the corridor contribute to travel safety.
- Typical lighting design affords safe travel after dark.
- Streetscapes present pared-down, utilitarian appearance, little to distinguish one stretch of road from another.
- Streetscape design conveys no sense of transition to or arrival at this intersection.
- Streetscape edge is not defined; surrounding lands are not developed at this point, apart from gas bars at two intersections.
- Above ground utility boxes occur at one corner, but have little negative impact in the undeveloped surroundings.
- Lack of amenity for pedestrians, cyclists.
- There is an opportunity to implement streetscape design enhancements which recognize this major community entry point and the future development of surrounding lands.

Figure A.5 a: Queen Street East & Airport Road: View Looking East

Figure A.5. b: Queen Street East & Airport Road: View Looking North

CORRIDOR & INTERSECTION ASSESSMENT
A.5 Queen Street East & Airport Road

TRAFFIC & ABOVE-GROUND UTILITIES

Pavement Area
- Queen Street East: 3 cont. lanes + 1 left turn & 1 right turn lane (both directions)
- Airport Road: 2 cont. lanes + 1 left turn & 1 right turn lane (both directions)

Traffic

Observed as :
- Moderate volume of fast flowing traffic in all directions during off peak times
- High volume of fast flowing traffic in all directions during peak times

Medians
- Narrow concrete/asphalt medians at intersection
- Right turn concrete/asphalt/grass island at N.E. and S.W. corners of intersection

Curbs
- Concrete curb at each corner of intersection & along Airport Road & Queen St. E.
- Asphalt splash strip at each corner of intersection, on right turn islands & along Airport Road & Queen St. E.

Lighting
- Cobra light fixtures mounted on concrete light poles spaced approximately 15-20m apart and 1-3m from curb edge along Queen St. E.
- Dual Cobra light fixtures mounted on concrete light pole spaced approximately 15-20m apart and centered along Airport Rd. median

Above Ground Signal Equipment
- Cantilevered vehicular traffic signal located 2 per right turn island, 2 per corner of intersection and 2 per median (Airport Rd. only)
- Pole mounted vehicular traffic signal located 1 per median (Queen St. E. only)
- Pole mounted pedestrian traffic signal located 2 per right turn island

Signage
- Post/pole mounted signage located at roadside, on medians & right turn islands

Utility Boxes & Poles
- Utility box located at S.E. corner boulevard (2-4m from curb edge)
- Hydro poles located adjacent to roadway along North side of Queen St. E. and West side of Airport Rd..

OTHER CHARACTERISTICS

Adjacent Land Use
- Industrial and Business Industrial

Vegetation:
- Sod on roadside boulevards and right turn islands
- Trees of varying size, maturity randomly located along road side boulevards

Topography:
- Adjacent roadside boulevards are generally flat except along east side of Airport Rd. which slopes to drainage swale

Gateways & Other Features
- None

Pedestrian & Transit User Amenities
- Concrete walkway at corners of intersection
- Some street furnishing randomly located at corners of intersection
- No sidewalks at the south and east sides of the streets

Bicycle Amenities
- None

CRITICAL ANALYSIS

- Traffic flow was obseved as efficient and continuous.
- Unobstructed sight lines at intersections and within the corridor contribute to travel safety.
- Typical night lighting design affords safe travel after dark.
- Streetscapes present pared-down, utilitarian appearance, little to distinguish one stretch of road and its associated adjacent land use from another.
- Streetscape design conveys no sense of transition to or arrival at this key intersection.
- Lack of attention to streetscape edge : few street trees.
- Lack of visual definition to the corridor edge is especially noticeable where built form occurs; buildings are deeply set back and a broad expanse of asphalt parking abuts the R.O.W. edge.
- Above ground utility box is unattractive, set in a highly visible location.
- Existing rural road section on Airport Road lacks amenity for pedestrians, cyclists.

Figure A.6: Queen Street West & Mississauga Road: View Looking East

CORRIDOR & INTERSECTION ASSESSMENT
A.6 Queen Street West & Mississauga Road

TRAFFIC & ABOVE-GROUND UTILITIES

Pavement Area
- Queen Street West: 1 cont. lane (both directions) + 1 left turn lane (Westbound only)
- Mississauga Road: 2 cont. lanes + 1 left turn lane (both directions)

Traffic

Observerved as :
- Moderate volume of fast flowing traffic in all directions during off peak times
- High volume of fast flowing traffic in all directions during peak times

Medians
- None

Curbs
- Concrete curb at each corner of intersection & along Mississauga Road & Queen Street West

Lighting
- Cobra light fixtures mounted on concrete/metal light poles spaced approximately 15-20m apart and 1-3m from curb edge along Mississauga Rd. and Queen St. W.

Above Ground Signal Equipment
- Cantilevered vehicular traffic signals located 2 per corner of intersection

Signage
- Post/pole mounted signage located at roadside

Utility Boxes & Poles
- Hydro poles located near R.O.W. edge along east side of Mississauga Rd. and north side of Queen St. W.

OTHER CHARACTERISTICS

Adjacent Land Use
- Undeveloped land

Vegetation
- Sod on roadside boulevards
- Trees of varying size and maturity in the vicinity of the S.E. boulevard

Topography
- Adjacent roadside boulevards slope gently up from roadway

Gateways & Other Features
- Floral feature planting bed located on boulevard at N.E. & S.E. corners of intersection

Pedestrian & Transit User Amenities
- None

Bicycle Amenities
- None

CRITICAL ANALYSIS

- Observed traffic flow is light.
- Unobstructed sight lines at intersections and within the corridor contribute to travel safety.
- Typical lighting design affords safe travel after dark.
- Streetscape floral feature enhancements communicate sense of entry to Queen Street, but streetscape otherwise presents utilitarian appearance.
- Streetscape edge is not defined; surrounding lands are not developed at this point.
- Rural road section lacks amenity for pedestrians, cyclists.
- There is an opportunity to implement streetscape design enhancements coordinated with the future development of the surrounding lands.

Figure A.7 a: Regional Road 107 & Main Street: View Looking North. Street edge lacks definition. Boulevard grass near the transit stop worn away by waiting transit users.

Figure A.7 b: Regional Road 107 & Main Street: View Looking West

Figure A.7 c: Regional Road 107 & Main Street: View Looking West

CORRIDOR & INTERSECTION ASSESSMENT
A.7 Regional Road 107 & Main Street North

TRAFFIC & ABOVE-GROUND UTILITIES

Pavement Area
- Regional Road 107: 2 cont. lanes + 1 left turn (both directions)
- Main Street North: 2 cont. lanes + 1 left turn (both directions)

Traffic
- Moderate volume of fast flowing traffic in all directions during off peak times
- High volume of fast flowing traffic in all directions during peak times

Medians
- Narrow concrete/asphalt medians at intersection
- Right turn concrete/asphalt island at N.E. corner of intersection

Curbs
- Concrete curb at each corner of intersection and along Main St. N. and Regional Rd. 107

Lighting
- Cobra light fixtures mounted on concrete/ metal light poles spaced approximately 15-20m apart and 1-3m from curb edge along south side of Regional Rd. 107 and west side of Main St. N.
- Cobra light fixtures mounted on concrete/ metal/ wood hydro poles spaced approximately 15-20m apart and 1-3m from curb edge along north side of Regional Rd. 107 and east side of Main St. N.

Above Ground Signal Equipment
- Cantilevered vehicular traffic signal located 2 per corner of intersection and 2 per median
- Pole mounted pedestrian traffic signal located 2 per corner of intersection

Signage
- Post/pole mounted signage located at roadside and on medians
- Cantilevered traffic signage on median located along Main St. N. South of Regional Rd. 107

Utility Boxes & Poles
- Utility box located at S.E. corner boulevard (2-4m from curb edge)
- Hydro poles located adjacent to roadway along North side of Queen St. E. and West side of Airport Rd..

OTHER CHARACTERISTICS

Adjacent Land Use
- Gas Bar; Business Industrial (Retail/Commercial)

Vegetation
- Sod on roadside boulevards and right turn islands
- Uniformly planted trees and shrubs at R.O.W. edge near intersection

Topography
- Adjacent roadside boulevards are generally flat except S.W. corner boulevard which slopes up gently from walkway

Gateways & Other Features
- None

Bicycle Amenities
- None

Pedestrian & Transit User Amenities
- Concrete walkways buffered from roadways by grass boulevard
- Transit shelters located on Main St. N. and Regional Rd. 107 at S.E. corner of intersection
- Pedestrian seating and steel drum waste receptacles located adjacent to transit shelters

CRITICAL ANALYSIS

- Traffic flow was observed as efficient and continuous.
- Unobstructed sight lines at intersections and within the corridor contribute to travel safety.
- Typical night lighting design affords safe travel after dark.
- Streetscapes present utilitarian appearance, little to distinguish one stretch of road and its associated adjacent land use from another.
- Streetscape design conveys no sense of transition to or arrival at this key intersection.
- Uniform street tree species and spacing communicate sense of order to portions of the street edge.
- Lack of visual definition to corridor edge is especially noticeable adjacent Business Industrial uses where buildings are generally well set back and separated from the R.O.W. edge by an expanse of exposed parking.
- Above ground utility boxes should be in less primenent locations.
- Lack of amenity for cyclists.
- Street furniture is utilitarian, its barren surroundings convey no sense of place.

Figure A.8 a: Williams Parkway & McLaughlin Road North: View Looking East; sloped grade enhances the visibility of the floral feature. Utility box is located at edge of daylight triangle, reducing its visual impact.

Figure A.8 b: Williams Parkway: View Looking East

Figure A.8 c: Williams Parkway: View Looking East

CORRIDOR & INTERSECTION ASSESSMENT
A.8 Williams Parkway & McLaughlin Road North

TRAFFIC & ABOVE-GROUND UTILITIES

Pavement Area
- Williams Parkway: 2 cont. lanes + 1 left turn (both directions)
- McLaughlin Road: 2 cont. lanes + 1 left turn (both directions)

Traffic

Observed to be :
- Moderate volume of fast flowing traffic in all directions during off peak times
- High volume of fast flowing traffic in all directions during peak times

Medians
- Narrow concrete/asphalt medians at intersection
- Wide median with planting (i.e. grass, shrubs and trees)

Curbs:
- Concrete curb at each corner of intersection and along Williams Pkwy. and McLaughlin Rd.

Lighting
- Cobra light fixtures mounted on concrete light poles spaced approximately 15-20m apart and 1-3m from curb edge along both sides of Williams Pkwy. and McLaughlin Rd.
- Dual cobra light fixtures mounted on metal poles located at the end of each median at intersection
- Custom lights and poles beyond intersection

Aboveground Signal Equipment
- Cantilevered vehicular traffic signal located 2 per corner of intersection and 1 per median
- Pole mounted pedestrian traffic signal located 2 per corner of intersection

Signage
- Post/pole mounted signage located at roadside and on medians

Utility Boxes & Poles
- Utility box located at S.E. corner boulevard (2-4m from curb edge)

OTHER CHARACTERISTICS

Adjacent Land Use
- New residential

Vegetation
- Sod on medians and roadside boulevards
- Trees on medians and roadside boulevards
- Flowers and shrubs located in median and boulevard planting beds

Topography
- Adjacent roadside boulevards slope up from roadway

Gateways & Other Features
- Large terraced floral planting on S.E. corner boulevard

Pedestrian & Transit User Amenities
- Concrete walkways buffered from roadways by 3-4m wide grass boulevard

Bicycle Amenities
- None

CRITICAL ANALYSIS

- Traffic flow is efficient and continuous.
- Unobstructed sight lines at intersections and within the corridor contribute to travel safety.
- Typical night lighting design affords safe travel after dark.
- Streetscape enhancements include curving road, wide medians with light standards, boulevards with regularly spaced, maturing trees and floral feature at the intersection.
- Streetscape design conveys sense of transition to or arrival at this intersection.
- Uniform street tree species and spacing communicate sense of order to portions of the street edge.
- Above ground utility box is unattractive in an otherwise well-ordered intersection.
- Lack of amenity for cyclists.

Figure A.9 a: Queen Street & Main Street: View Looking West. Buildings set close to the street define corridor edge. On street parking has traffic calming effect.

Figure A.9 b: Queen Street & Main Street: View Looking North : Enhancements include street trees, feature paving, decorative street lighting and banners to create a distinct identity for this area.

CORRIDOR & INTERSECTION ASSESSMENT
A.9 Queen Street & Main Street

TRAFFIC & ABOVE-GROUND UTILITIES

Pavement Area
- Queen Street: 1 cont. lane + 1 cont./parking lane (both directions)
- Main Street: 1 cont. lane + 1 cont./parking lane (both directions)

Traffic
- Low volume of slower traffic in all directions during off peak times
- Moderate to high volume of slower traffic in all directions during peak times (fewer trucks than seen at other arterials)

Medians
- None

Curbs
- Concrete curb with adjacent 1m wide decorative precast paving strip and 2m wide concrete sidewalk

Lighting
- Decorative single globe light standards spaced approximately 10m o.c. and 0.5m from curb edge along both sides of Queen St. and Main St. (equiped with 2 banner brackets per pole)

Above Ground Signal Equipment
- Cantilevered vehicular traffic signal mounted on decorative dual globe light standard located 2 per corner of intersection
- Pole mounted pedestrian traffic signal located 2 per corner of intersection

Signage
- Pole mounted decorative street name signage located 2 per street corner
- Post/pole mounted signage located at street edge

Utility Boxes & Poles
- Fire hydrants located adjacent to curb

OTHER CHARACTERISTICS

Adjacent Land Use
- Urban Retail/Commercial with reduced setbacks;
- Built form comes out to the corner with little, if any, daylight triangle.

Vegetation
- Mature street trees (mostly honeylocust) spaced approximately 10m o.c. and 0.5m from curb edge line both sides of street
- Flowers and shrubs in exposed aggregate concrete planters

Topography
- Gently sloping from east to west and north to south

Gateways & Other Features
- Decorative precast paver banding and accents in sidewalk
- Decorative banners mounted 2 per light standard
- Exposed aggregate concrete street furnishings, metal tree grates and tree guards

Pedestrian & Transit User Amenities
- Approximately 3m wide concrete sidewalk with decorative precast paving accents located on both sides of Queen St. and Main St.
- Decorative concrete aggregate/wood planters, waste reptacles and seating located along Queen St. and Main St. adjacent to roadway
- Public phone booths, mail boxes and vending boxes located in line with, or adjacent to building faces

Bicycle Amenities
- None

CRITICAL ANALYSIS

- Traffic is calmed by on-street parking, narrow boulevards and fewer traffic lanes.
- Sight lines approaching intersections are limited due to the presence of buildings having minimal front lot setbacks and no daylight triangle relief at the intersection corners.
- Heritage light fixtures provide lighting for safe travel with a decorative or traditional look complementary to the generally heritage character of the street.
- Streetscape enhancements include street trees, feature paving, decorative street lighting and banners to create a distinct identity for this area.
- The use of an additional feature element conveying a sense of transition or arrival should be considered as this is the intersection point for Brampton's two principle streets.
- Uniform street tree species and spacing communicate a sense of order to portions of the street edge.
- Strong visual definition to corridor edge occurs as buildings have minimal property line setbacks.
- Street planters and seating share a common design theme and are well grouped on the sidewalk near the intersection.

APPENDIX B

Arterial Corridor Hierarchy Mapping

Figure B.1 - Arterial Corridor Hierarchy Mapping

Figure B.2 - Arterial Corridor Gateways Mapping

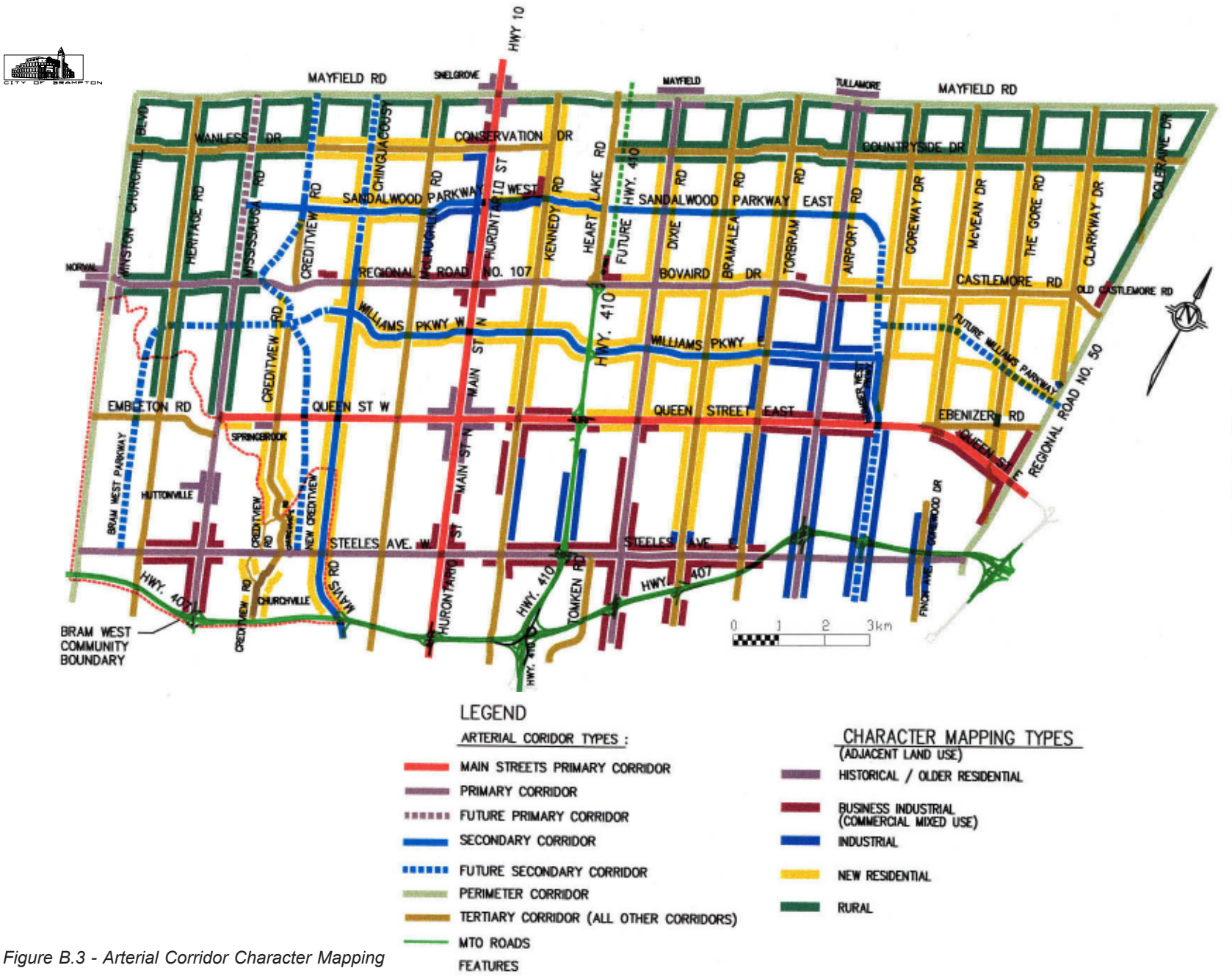


Figure B.3 - Arterial Corridor Character Mapping

APPENDIX C

Corridor Typologies Matrix

Corridor Typologies Matrix

Corridor Type	Description of Existing	Critical Analysis	Defining Components
1. Primary Arterial / Main Streets (Hurontario, Queen)	* 4 lanes + 2 left turn lanes * High traffic volume * Higher speed traffic beyond Old Brampton (OB) * No on-street parking except OB * Public transit route * Cobra head street lights typ. * Sidewalks both sides * 1.0 m asphalt splash strip typ * Painted crosswalks * 2.0 m centre medians at intersections, * Right turn medians at some intersections, * Street trees where possible * Above ground utility boxes as req'd. * Standard street furniture beyond core : * Vending boxes at some intersections * City entry feature south of Steeles * Pedestrian activity diminishes outside OB. * 1m - 2 m bike lane within Queen Street road pavement. * Floral features at some key intersections Streetscape Features in Old Brampton : * 1.0 m pressed conc splash strip in vicinity of core * Exposed aggregate planters, metal bollards at key intersections. * New "heritage " bridge design at Etobicoke Creek * Decorative "heritage " street lights. * Some on-street parking * More mature street trees, more closely spaced.	General Comments for All Arterials : * Traffic flow is safe, efficient and continuous * Clear sight lines at intersections and corridor contribute to safe travel * Standard street lighting is effective * Boulevard and median feature on Hurontario enhance streetscape: memorable introduction to Brampton * Enhanced street lighting, splash strip, street furniture in OB reinforce neighbourhood character. * Floral features offer visual interest. * Outside OB, streetscapes present pared-down, utilitarian appearance, little to distinguish one stretch of road from another. * Sense of transition or arrival at key intersections is lacking. * Street tree species and spacing lack uniformity. * Lack of visual definition to corridor edge (large parking areas adjacent ROW edge). * Lack of amenity for pedestrians, cyclists. Note : Queen east of Kennedy opportunity for medians subject to left turn requirements – applies to all intersections dn to brown.	Key intersections : * Enhanced splash strips * Decorative street lighting * Median enhancements according to hierarchy (transition zone where appropriate) * Gateway structure according to hierarchy, within boulevard or median * Traffic signals coordinated with median feature * Enhanced right turn islands * Enhanced crosswalks * Distinct street name signage * Enhanced street furniture * Corner treatment beyond daylight triangle * Decorative crosswalks at all signalized intersections Other Intersections : * Enhanced splash strips * Distinct street name signage * Enhanced street furniture * Primary & secondary corridors within hierarchy Corridor : * Cont enhanced splash strips * Sidewalks well back from Rd. edge * Continuous row of street trees * Bike paths * Arterial identifier signage

Corridor Typologies Matrix

Corridor Type	Description of Existing	Critical Analysis	Defining Components
2. Primary Arterial (Steeles, Bovaird, Dixie, Mississauga Rd., Airport Rd.) 36.0 m ROW	* 4 & 6 lanes + 2(sometimes 4) left turn lanes. * High traffic volume. * Higher speed traffic. * Higher truck volume on utility corridors. (Steeles, Dixie) * Public transit corridors. * No on-street parking. * Cobra head street lights. * Sidewalks both sides of the street in developed areas. * 1.0 m asphalt splash strip typ * Painted crosswalks. * 2.0 m max wide intersection medians. * Right turn medians at some intersections. * Street trees where possible. * Above ground utility boxes. * Standard street furniture. * Vending boxes at some intersections. * Utility corridors have generally less pedestrian activity.	* Streetscapes look utilitarian; little to distinguish one stretch of road from another. * Sense of transition or arrival at key intersections is lacking. * Street tree species and spacing lack uniformity. * Lack of visual definition to corridor edge, esp at commercial & industrial areas (large parking areas adjacent ROW edge). * lack of amenity for pedestrians, cyclists.	Key intersections : * Enhanced splash strips * Median enhancements according to hierarchy transition zone where appropriate) * Gateway structure according to hierarchy, within boulevard or median * Traffic signals coordinated with median feature * Enhanced right turn islands * Distinct street name signage * Enhanced street furniture Other Intersections : * Enhanced splash strips * Distinct street name signage * Enhanced street furniture Corridor : * Sidewalks well back from road edge * Continuous row of street trees * Bike paths * Arterial identifier signage * Wide medians as aesthetic transitions appproaching key intersections, especially for Mississauga Road & Airport Rd. Other Areas : * Develop design for transition to bridges from road with median.

Corridor Typologies Matrix

Corridor Type	Description of Existing	Critical Analysis	Defining Components
3. Secondary Arterial (Sandalwood Pkwy, Williams Pkwy, Chinguacousey, Creditview, Heritage)	* 4 lanes + 2 left turn lanes. * Lower traffic volume. * Moderate traffic speed. * No on-street parking. * Public transit route some streets. * Parkways have 4.0 m wide, treeless centre medians & follow curving routes. * More mature blvd street trees than at primary arterials. * Pkwy street trees located on far side of sidewalk away from street. * Parkway bike path within blvd. near road edge. * Adjacent land use is primarily new residential. * Cobra head street lights on conc poles. * Custom lights & poles at Williams Pkwy. * Sidewalks both sides of street. * 1.0 m asphalt splash strip typ. * Painted crosswalks. * Intersection medians 1.0-2.0 m wide. * Above ground utility boxes as req'd. * Vending boxes at some locations.	* Parkway streetscapes have greater visual interest & character than the other arterials. * Meandering path and flanking berms add visual interest. * Wide median separates traffic flows, breaks the expanse of street pavement. * Boulevard street trees give street edge definition (spacing & maturity). * Relative consistency of adjacent land use (residential) reinforces street character. * Pedestrian realm would benefit if trees were located between road edge and sidewalk. * Wide median offers opportunity for landscape treatment at appropriate locations.(eg key intersections) * Irrigation cost premium and salting practices at median should be reviewed against benefit of locating trees within median. * Coordinate floral feature locations with private realm residential gateways where possible. * Sense of transition or arrival at key intersections could be improved.	Key intersections : * Enhanced splash strips * Median enhancements according to hierarchy * Street trees within wide median (transition zone to intersection) * Traffic signals coordinated with median feature * Distinct street name signage * Enhanced street furniture Other Intersections : * Enhanced splash strips * Distinct street name signage * Enhanced street furniture Corridor : * Sidewalks well back from road edge * Continuous row of street trees * Bike paths * Arterial identifier signage * Where possible, all secondary arterials should have a parkway road section (Creditview is already committed to a standard section, Heritage is not).

Corridor Typologies Matrix

Corridor Type	Description of Existing	Critical Analysis	Defining Components
4. Perimeter Arterial (Winston Churchill, Mayfield, Hwy 50)	* 2 lane rural and 4 lane rural + 2 left turn lanes. * Rural boulevard – no sidewalk, bike path or planned street trees. * Lower traffic volume - except Hwy 50. * Moderate traffic speed - except Hwy 50. * No on-street parking. * Adjacent land use is rural residential, agricultural or historical small town. * Cobra head street lights on conc poles at key intersections. * Intersection medians 1.0-2.0 m wide. * Above ground utility boxes as req'd.	* Streetscapes are largely rural and undeveloped. * A sense of arrival at intersections having little more than street lights and signals occurs mainly as a contrast to the spartan character of the rural corridor. * low density adjacent land use means lack of pedestrian and cyclist amenity is not an issue. * Intersections with roads entering the City should include an entry feature. (eg floral) * Intersections of two perimeter arterials should include a more distinct entry feature.(eg floral plus Brampton logo) * Streetscape should communicate transition from neighbouring municipalities (eg. a distinctive Brampton / Peel arterial road sign).	Key intersections : * Median or blvd enhancements according to hierarchy * Floral entry feature with or without Brampton logo * Street trees within blvd (transition zone to intersection) * Traffic signals coordinated with median feature * Distinct street name signage Other Intersections : * Distinct street name signage Corridor : * Arterial identifier signage * Refer to notes on future widening of Mayfield & 50 & adoption of urban cross section. * Refer to notes on importance of Norval and how to treat this area. * Refer to York Regional transit plan for edge conditions.

Corridor Typologies Matrix

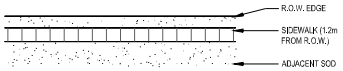
Corridor Type	Description of Existing	Critical Analysis	Defining Components
5. Tertiary Arterial (McLaughlin, Kennedy, Heart Lake Rd., Bramalea, Torbram, Goreway Dr., McVean,The Gore Rd., Clarkway Dr.,Coleraine Dr., Gorewood Dr.,	* All other arterials. * Majority are oriented north/south. * Serve generally new residential and rural areas. * Generally 2 lane + 2 left turn lanes in rural areas; 4 lane + 2 left turn lanes in more urban areas. * Lower traffic volume, lower truck volume. * Lower traffic speed. * Some public transit routes (?).	* Within developed areas there is a general lack of uniformity to the boulevard. * No sense of transition or arrival at key intersections. * Enhancement should occur at intersections with more significant arterials or in conjunction with gateway entry features into existing and new residential developments. * Boulevard design should include uniformly spaced street trees located between the road edge and sidewalk. * Sidewalk should be as far removed from road edge as possible. * (These arterials are lesser priority streets for enhancement).	Key intersections : * Enhanced splash strips * Median enhancements according to hierarchy (transition zone where appropriate) Note ; may be floral enhancement only – least priority on hierarchy * Gateway structure according to hierarchy, within boulevard or median; see note above * Traffic signals coordinated with median feature * Enhanced crosswalks * Distinct street name signage * Enhanced street furniture Other Intersections : * Enhanced splash strips * Distinct street name signage * Enhanced street furniture Corridor : * Sidewalks well back from road edge * Continuous row of street trees * Bike paths * Arterial identifier signage

APPENDIX D

Streetscape Enhancement 'Kit of Parts'

1.0 **Enhanced splash strip**
1.0 m wide typ; coloured, impressed concrete.

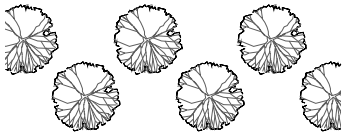
2.0 **Sidewalks**
Located as far from street edge as possible



3.0 **Street Trees**

3.1 Continuous single row adjacent the street side of sidewalk where possible; approx 15 m o.c.

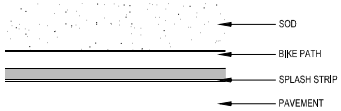
3.2 Double row within the ROW in feature areas where feasible.



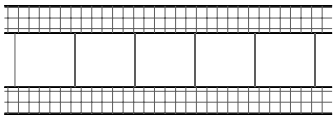
3.3 Second row within landscape strip of adjacent private lands where recommended by accompanying guidelines.

4.0 **Bike Paths**

4.1 1.5m wide one way asphalt bike path adjacent splash strip on either side of road.

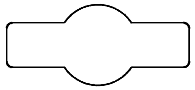


5.0 **Enhanced Cross Walks**
Impressed concrete flush with road pavement.

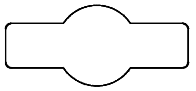


6.0 **Enhanced Signage**

6.1 Distinct Street Name Signage



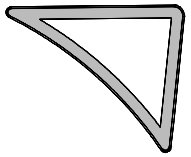
6.2 Arterial Identifier Signage
Consider using Brampton and Peel colours, fonts and logos.



6.3 Perimeter Welcome Signage

All signage to conform to requirements of Ontario Highway Safety Act

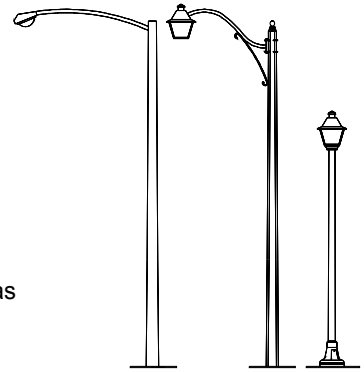
7.0 **Enhanced Right Turn Islands**
1.0 m wide impressed concrete splash perimeter and broom fin concrete interior.



8.0 **Enhanced Street Lighting**

8.0 Standard ‘cobra head’ fixture on concrete pole.

8.1 Decorative Street Lighting
At key corridors and intersections; spaced closely at intersection.



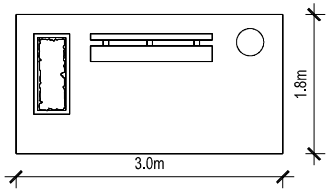
8.2 Distinctive Decorative Street Lighting
To suit special local conditions such as heritage areas.

* All lighting to conform to RP8 2000 street lighting standard by IES.

9.0 **Enhanced Street Furniture**

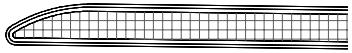
9.1 Waste bins with integral top; weather and vandal resistant benches

9.2 Planter matching bench design and 3.0 x 2.4 m min conc pad with impressed concrete fin at key locations.

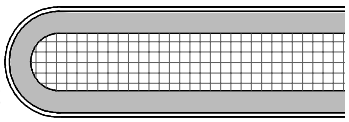


10.0 **Enhanced Medians**

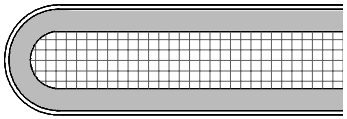
10.1 1.0 -2.1 wide median with impressed, coloured concrete finish, length to suit locally required left turn lane length.



10.2 Wide medians (5.0 m typical but may vary according to local conditions), introduced as aesthetic transitions to key intersections for streets otherwise designed using the standard street section. Medians taper to 1.0-2.1 m wide approaching intersection to accommodate left turn lane. Coloured, impressed conc. splash strip typical.



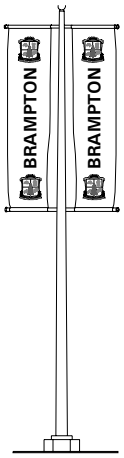
10.3 Continuous wide medians at parkway street section, (5.0 m typical but may vary between 3.5 – 7.0 m according to local conditions); coloured, impressed concrete splash strip at key locations. Medians taper to 1.0-1.5 m wide approachingintersection to accommodate left turn lane. Coloured, impressed conc. splash strip typical.



10.4 Double curb and irrigation at wide medians where at-grade planting is to occur.

11.0 Median Features

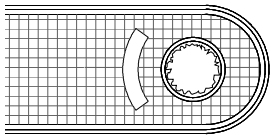
11.1 Poles and banners within narrow medians at key intersections.



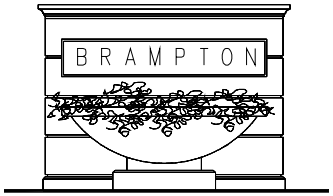
11.2 Public art at key intersections.

11.3 Floral Features at key intersections.

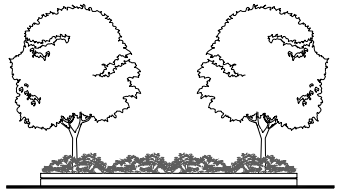
11.4 Internal Focal Point Gateways within median at up to 7 locations as presently designed (irrigated median).



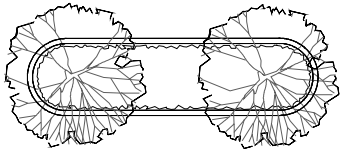
11.5 Downtown Gateway at 4 locations as presently designed. (Note : this design is assumed to be for a boulevard location, subject to future confirmation).



11.6 Planting beds at grade with irrigation, beyond intersection for key intersections or key corridor lengths.

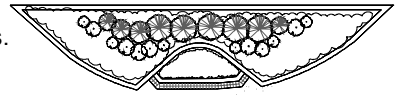


11.7 Raised planters with irrigation; design,materials and location coordinated with accompanying feature elements located within the adjacent boulevard. (eg. Hurontario Street Anchor and/or Primary Gateway + Transition zone).

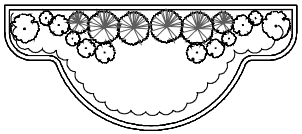


12.0 Boulevard Features

12.1 Floral features at grade; at key intersections or within key corridor areas.

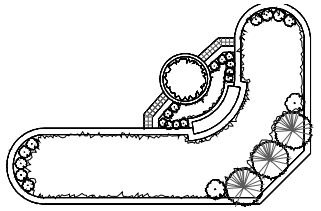


12.2 Raised planters, landscaping and accent paving at intersection daylight triangles; design and materials coordinated with gateway features.



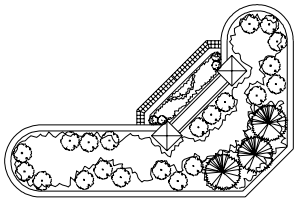
12.3 Internal Focal Point Gateway design or other gateway feature located within adjacent median.

12.4 Public Art at key locations.



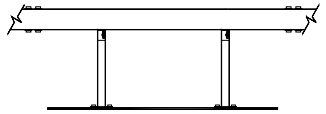
12.5 Downtown gateways. See note at 11.5.

12.6 Internal Focal Feature/Primary Gateway and related planting beds and landscaping at key locations. May include a transition zone.



12.7 City Access Point Gateway/Secondary Gateway. Assume present design is for a boulevard location. May include a transition zone.

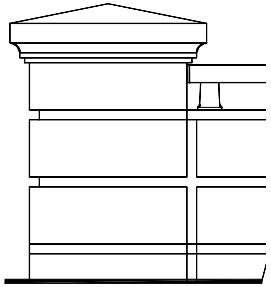
12.8 Highway 407 Anchors in 2 locations.



13.0 Enhanced Guard Rails
OPSS box rail standard – painted.

14.0 **Enhanced Bridge Details**

Brampton Standard profile for precast pier caps(and copings where applicable). Cast in place piers and walls with false joints. End piers should allow for inset of future Brampton rose logo panel. Metal railing and mounts painted subdued blue.



15.0 **Enhanced Overpasses**

16.0 **Services**

16.1 Below grade services location coordinated with sidewalk, bike path and tree locations to minimize disruption during servicing.

16.2 Above ground service boxes and pads: coordinate to minimize visual impact (especially at intersections) & physical intrusion upon pedestrian movement; where several must occur, they should be grouped and located for minimal visual impact.

16.3 Traffic signal boxes : locate in concealed locations where possible, beyond the daylight triangle.

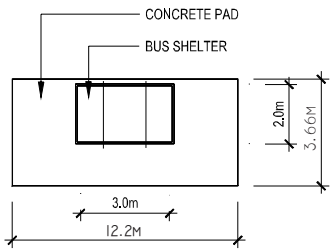
17.0 **Bus Bays or Laybys**

17.1 Preferred location for Brampton Transit is at the near side of the intersection, but is ultimately determined by local traffic flow.

17.2 Midblock bus bays should be provided according to traffic flow; eg. within 6 lane heavy volume arterials and busier 4 lane arterials.

18.0 **Bus Shelters**

Existing bus shelter construction is hss steel frame with tempered glass panels and requires a concrete pad 7.6 m x 3.6 m minimum.



The recently designed cantilevered transit shelters with large diam tubular steel frame and curving roof, (used in City of Toronto), have a larger footprint than those currently in use in Brampton, and if introduced, would probably require replacement of the existing concrete shelter pads at considerable expense, so it is unlikely there will be a forthcoming change in transit shelter design for the City.

Shelters should be located as far from the road edge as possible (keeping in mind that the boulevard width is reduced at intersections by additional pavement width for turning lanes).

19.0 **Adjacent Lands**

Guideline recommendations for lands adjacent the R.O.W. are developed according to land use. Refer to Section 5.5 for more information.