

# PHASE 3 REPORT: STREETSCAPE MASTER PLAN

YONGE STREET & DAVIS DRIVE STREETSCAPE MASTER PLAN







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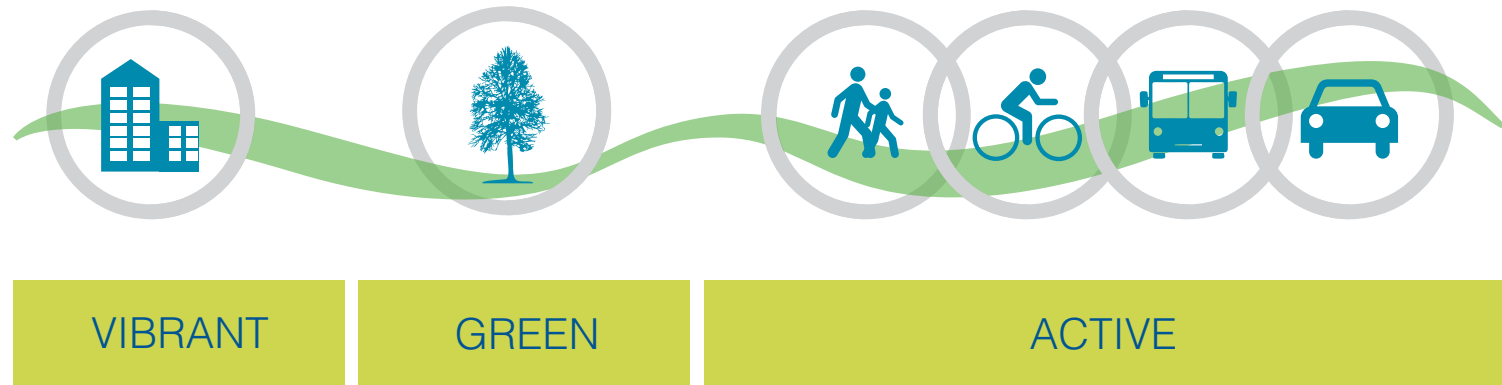


## 1.0 PROJECT OVERVIEW



1.1 Executive Summary

YONGE STREET & DAVIS DRIVE VISION



Within the Town of Newmarket and The Regional Municipality of York, the Yonge Street and Davis Drive corridors have been identified as key locations for intensification, growth and development. With public and private sector projects already in the works, a major transformation of these corridors is imminent.

The Streetscape Master Plan will support the transformation the streetscape from a primarily car-oriented corridor to a walking, cycling, and transit oriented public realm. The Master Plan will guide streetscape development and provide recommendations to strengthen and reinforce the sense of place.

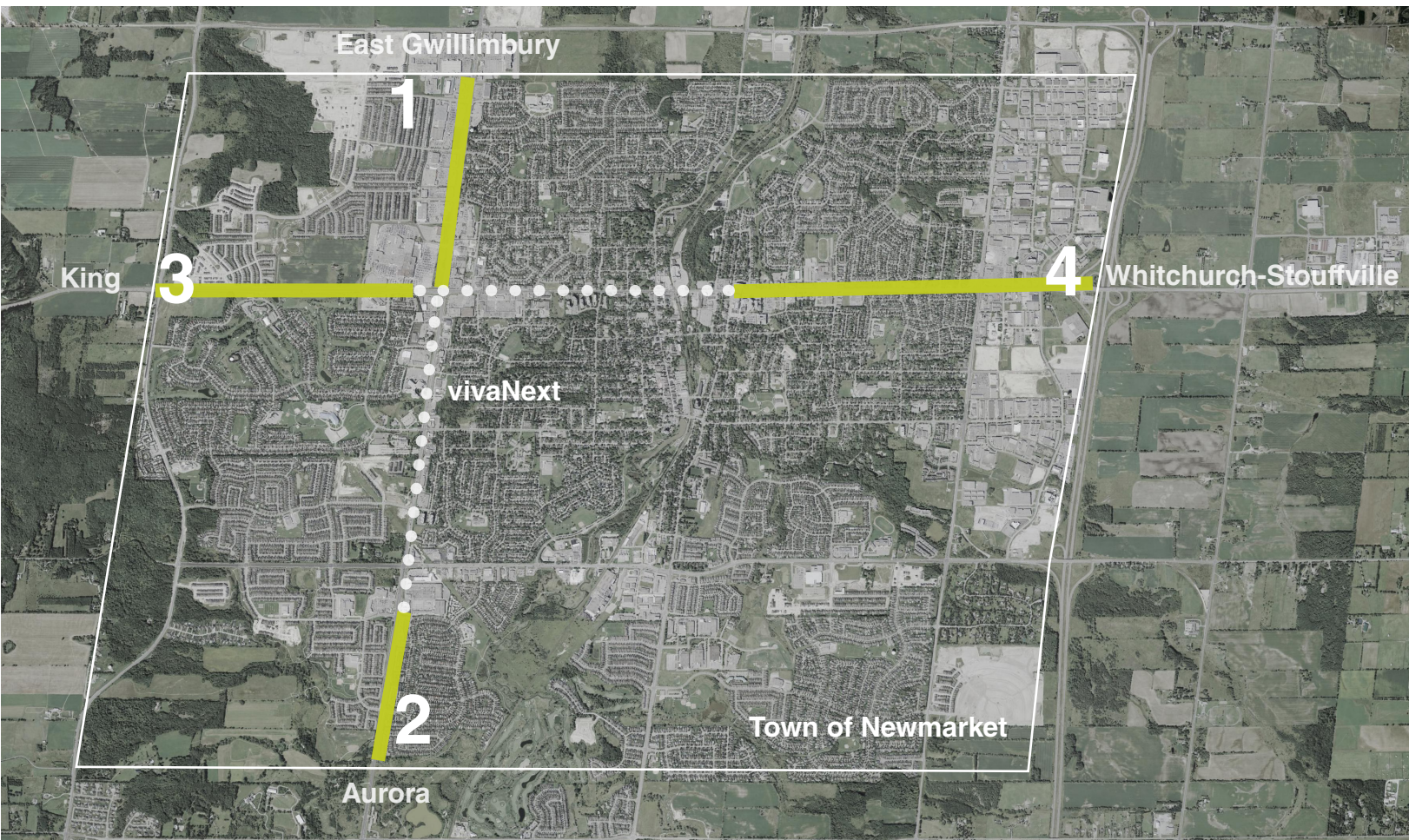
This vision was developed in a Visioning Workshop held to discuss local town and Regional priorities for the Yonge Street & Davis Drive Streetscape Master Plan. The aim of the workshop was to develop a clear and united Master Plan vision informed by the objectives of the Region and Town. The Stakeholders discussed key issues pertaining to urban design, green infrastructure, active transportation and right size streets.

This vision of Yonge Street and Davis Drive as **Vibrant, Green & Active** informed the design decisions for the Streetscape Master Plan.

Two concepts for the Yonge Street & Davis Drive Streetscape Master Plan (in section 2.0) were developed in response to the streetscape vision: **Green Yonge & Davis** and **Active Yonge & Davis**. This report will present the two streetscape concepts and evaluate their benefits and drawbacks. After evaluating both concepts, the Project Core Team concluded that a hybrid of both concepts was a balanced approach for the Master Plan for the Town of Newmarket.

The report will go on to present the hybrid concept vision in the Streetscape Master Plan (in section 3.0), including its design approach and key elements. Through the use of sections, plans, illustrated detailed plans, and visualizations, the report presents illustrations of typical streetscape conditions, as well as unique areas such as gateway intersections.

The purpose of this report is to establish the streetscape typologies that make up the Streetscape Master Plan with a focus on: roadway lane widths, curb radii, median design, cycling infrastructure type and location relative to the boulevard, pedestrian infrastructure, and planting-furnishing zone configuration. Detailed design elements such as paving material, street furniture, plant material, tree species, tree grates and light standards, are discussed in the Phase 4 Report: Detailed Design and Guidelines (forthcoming).



- 1 Yonge Street North  
Town Boundary to Davis Drive
- 2 Yonge Street South  
Sawmill Valley Drive to Town Boundary
- 3 Davis Drive West  
Bathurst Street to 200m West of Yonge Street
- 4 Davis Drive East  
Highway 404 to Patterson Street

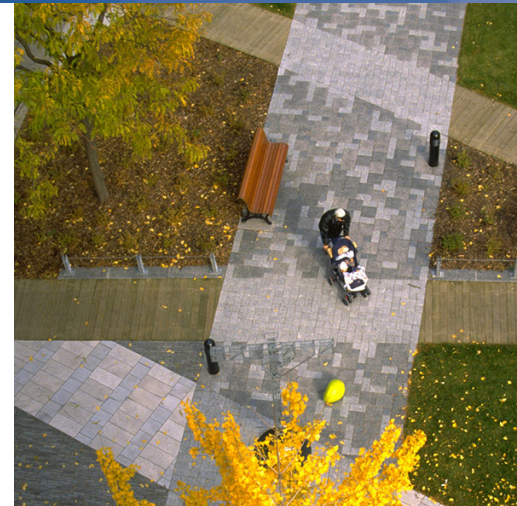
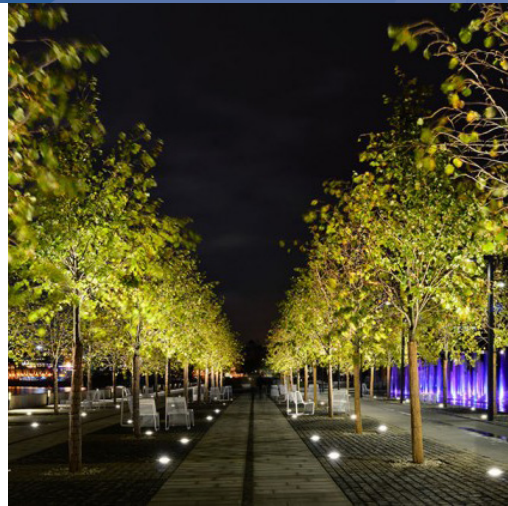
The Master Plan area is separated into 4 segments for analysis: Yonge Street North, Yonge Street South, Davis Drive West and Davis Drive East.

Through conducting research on the current streetscape conditions, as well as the existing policies, studies and initiatives regarding York Region and the Town of Newmarket, Phase 1 of the project established a comprehensive understanding of the current and future state of Yonge Street and Davis Drive.

A SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis was conducted on Yonge Street and Davis Drive (for more information please refer to Phase 1 Report). Yonge Street and Davis Drive currently operate as car dominated corridors with expansive right of ways (ROW). Pedestrian and cyclist infrastructure is limited. There are minimal street trees present throughout the corridors and some areas contain open ditches adjacent to the roadway and sidewalks. There is a significant presence of utility poles and infrastructure throughout the streetscape.

Informed by the current streetscape conditions, ongoing and future initiatives for these corridors, as well as streetscape design best practices, the Project Core Team and IBI Group have created a 30 year vision for the future of Yonge Street and Davis Drive in the Town of Newmarket.





## 2.0 STREETScape CONCEPTS





2.1 Streetscape Concepts Overview

In response to the SWOT analysis (in Phase 1) and the vision for Yonge Street and Davis Drive as **Vibrant, Green & Active** (in Phase 2), two design concepts were developed for Yonge Street and Davis Drive:

- Green Yonge & Davis
- Active Yonge & Davis

These concepts were developed through the Visioning Workshop and are informed by the Project Core Team's vision for the future of Newmarket.

Each concept explores the possibility of emphasizing one key aspect of the vision (Green or Active), and makes design decisions based on achieving the theme.

This section examines the concepts, their approach to design, key objectives and the key strategies employed to achieve the objectives. The concepts will be explored through illustrative sections which examine the typical streetscape conditions and geometry in each quadrant of the Master Plan (Yonge Street North, Yonge Street South, Davis Drive West, and Davis Drive East).

The final section of this chapter provides an evaluation of the benefits and shortcomings for both concepts and compares their merits, concluding that a hybrid option of both concepts is the best solution for the Town of Newmarket.

Concept One: Green Yonge & Davis

This section explores the **Green Yonge & Davis** concept, in which all design decisions are motivated by an effort to **create** an **environmentally resilient streetscape**.

In this concept, a green Yonge Street and Davis Drive is achieved through maximizing sustainable planting, using Low Impact Development (LID), stormwater management (SWM) techniques and utilizing green space to benefit the community.



Concept Two: Active Yonge & Davis

This section explores the **Active Yonge & Davis** concept, in which all design decisions are driven towards achieving an **efficient, safe and vibrant multi-modal transportation network focused on active transportation**.

In this concept, an active Yonge Street and Davis Drive is achieved through promoting mobility of all users, safety, wayfinding and accessibility.



Hybrid Concept

Through exploring these two possible directions for the Yonge Street & Davis Drive Streetscape Master Plan and evaluating their benefits and shortcomings, the Project Core Team concluded that a hybrid of the two concepts is the best solution for the Town of Newmarket.







## 2.2 Concept One: Green Yonge & Davis

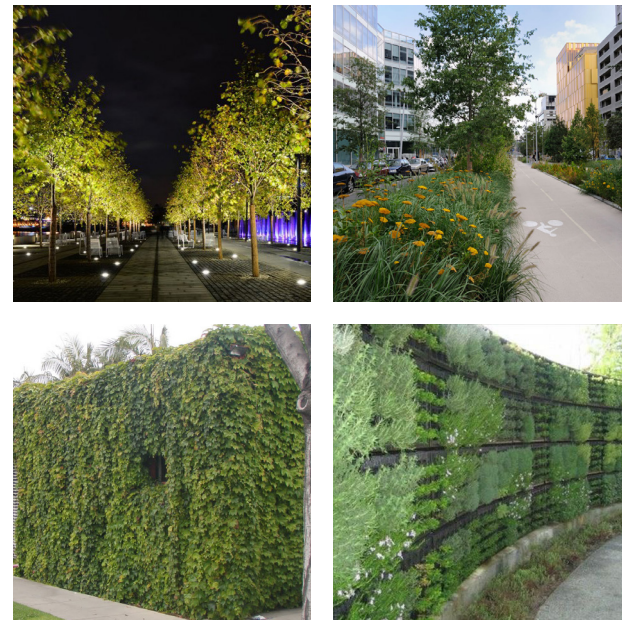
### Maximize Sustainable Planting

The **Green Yonge & Davis** concept presents a streetscape in which all decisions are aimed towards creating a green environmentally resilient streetscape. This concept imagines a lush green sustainable streetscape that has positive environmental impacts and establishes the Town of Newmarket with a strong sense of place.

The following key principles are utilized to achieve a **Green Yonge & Davis**:

- Maximize Sustainable Planting
- Stormwater Management (SWM)
- Low Impact Development (LID)
- Green Space as a Community Amenity

Key strategies are identified under each principle.



#### KEY STRATEGIES

1. Use standard sidewalk, cycling lane and vehicular lane widths in order to optimize green space.
2. Use Hendrix cables to maximize tree canopy under hydro lines.
3. Plant trees close together to create an urban grove.
4. Implement green walls to maximize green space and create cohesion on rear lots in residential areas.
5. Select diverse species that are native, salt tolerant, and drought tolerant.

### Stormwater Management (SWM)



#### KEY STRATEGIES

1. Use stormwater infiltration planters to collect and filter stormwater.
2. Install bioswales and rain gardens to collect and filter storm runoff, taking pressure off of the municipal sewer system.
3. Transform stormwater management ponds into a community amenity.

### Low Impact Development (LID)



#### KEY STRATEGIES

1. Increase pavement permeability to reduce stormwater runoff.
2. Use permeable pavers to increase infiltration.
3. Minimize affect of pavement albedo.
4. Implement strategies to utilize stormwater for plant irrigation therefore reducing the usage of potable water.
5. Select plants that are appropriate for the context and consequently improve sustainability.

### Green Space as a Community Amenity



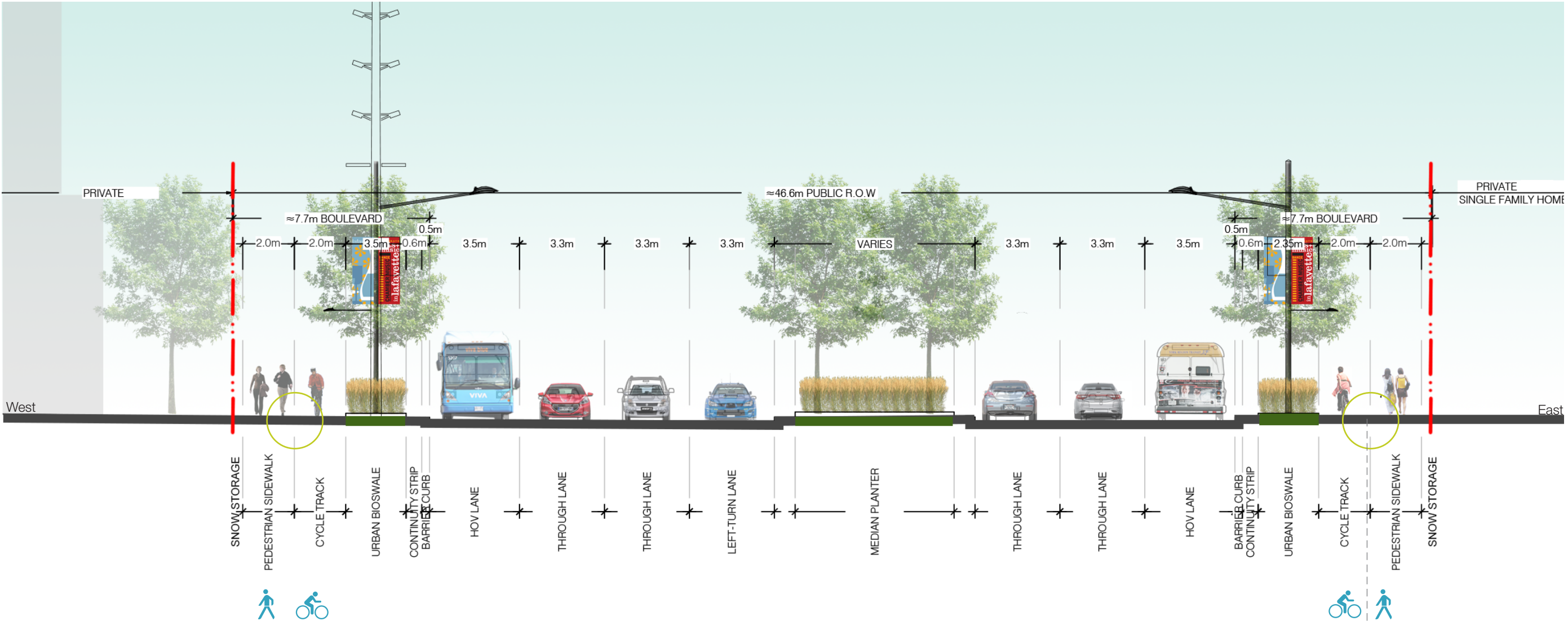
#### KEY STRATEGIES

1. Create urban agricultural lots to involve the community in the 'greening' of Yonge Street and Davis Drive. Yonge Street South at St. John's Sideroad is a potential location for urban agricultural initiatives.
2. Implement cycle tracks and pedestrian circulation to connect to existing trails (i.e. Nokiidaa Bike Trail leading to Tom Taylor Trail on Yonge Street South).
3. Utilize the streetscape as a 'living lab' to educate the community about environmental issues.

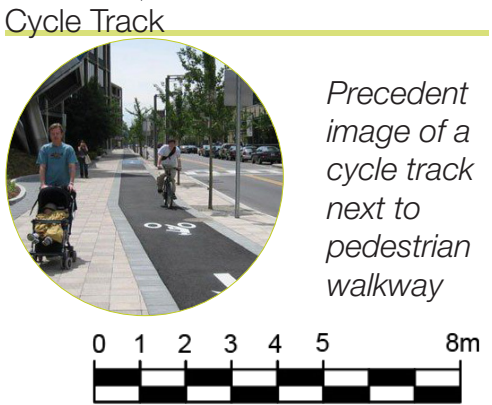




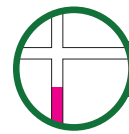
2.2.1 Conceptual Section North of Dawson Manor Boulevard



- This section illustrates a **green** strategy for an urbanized corridor. Key features include:
- In areas where the Two Way Left Turn Lane (TWLTL) is currently a painted median, it is replaced with a planted centre median in order to optimize green space.
  - Urban bioswales aid with stormwater management and provide a buffer for cyclists and pedestrians from traffic.
  - A separated cycle track promotes cyclist safety.
  - A total of three southbound lanes with one right turn lane and three northbound lanes with a standard width of 3.3 metres.
  - 3.5 metre wide curbside HOV lane on both sides of street.
  - Soil cell technology in boulevard.

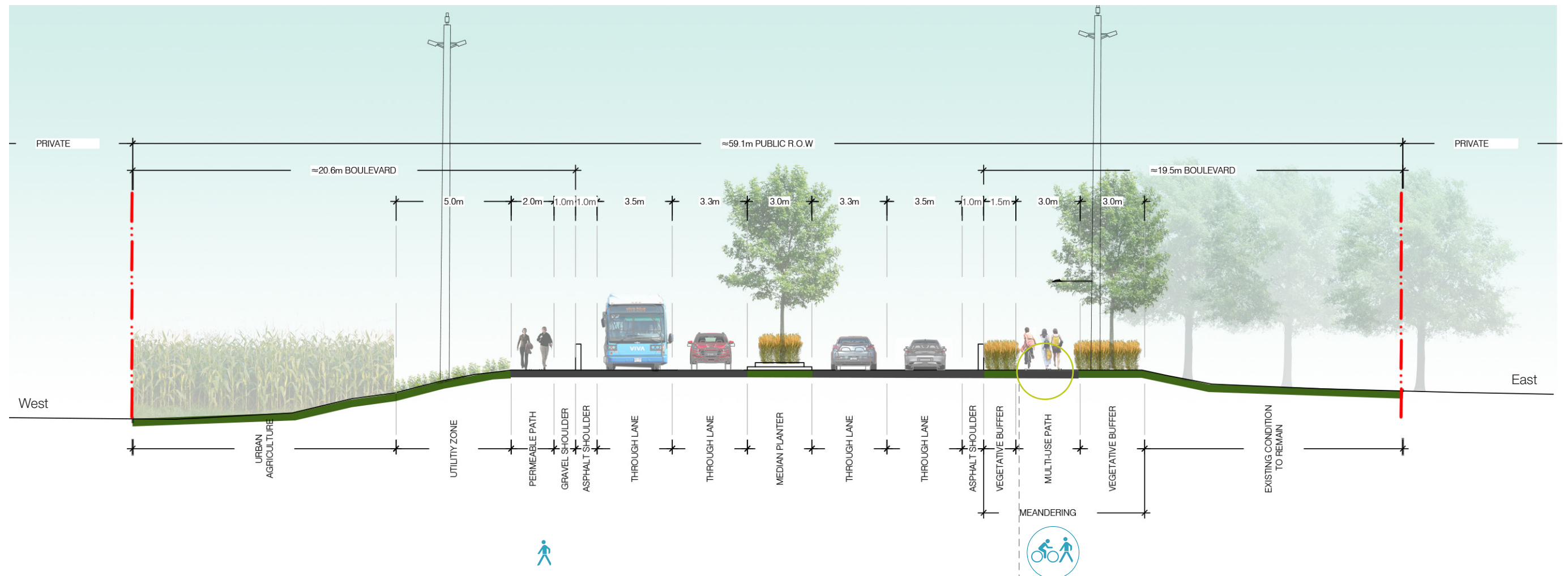






## Yonge Street South

## 2.2.2 Conceptual Section North of St. John's Sideroad



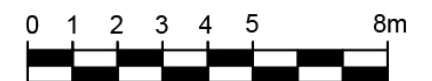
This section illustrates a **green** strategy for a corridor of green open space. Key features include:

- In areas where the TWLTL is currently a painted median, it is replaced with a planted centre median in order to optimize green space.
- Vegetative buffer along the east side of Yonge Street.
- 3.0 metre multi-use path for cyclists and pedestrians along the east side that connects to the Nokiidaa Bike Trail, which leads to the Tom Taylor Trail.
- 2.0 metre wide pedestrian path on the west side.
- Two vehicular through lanes in each direction.

## Multi-Use Path



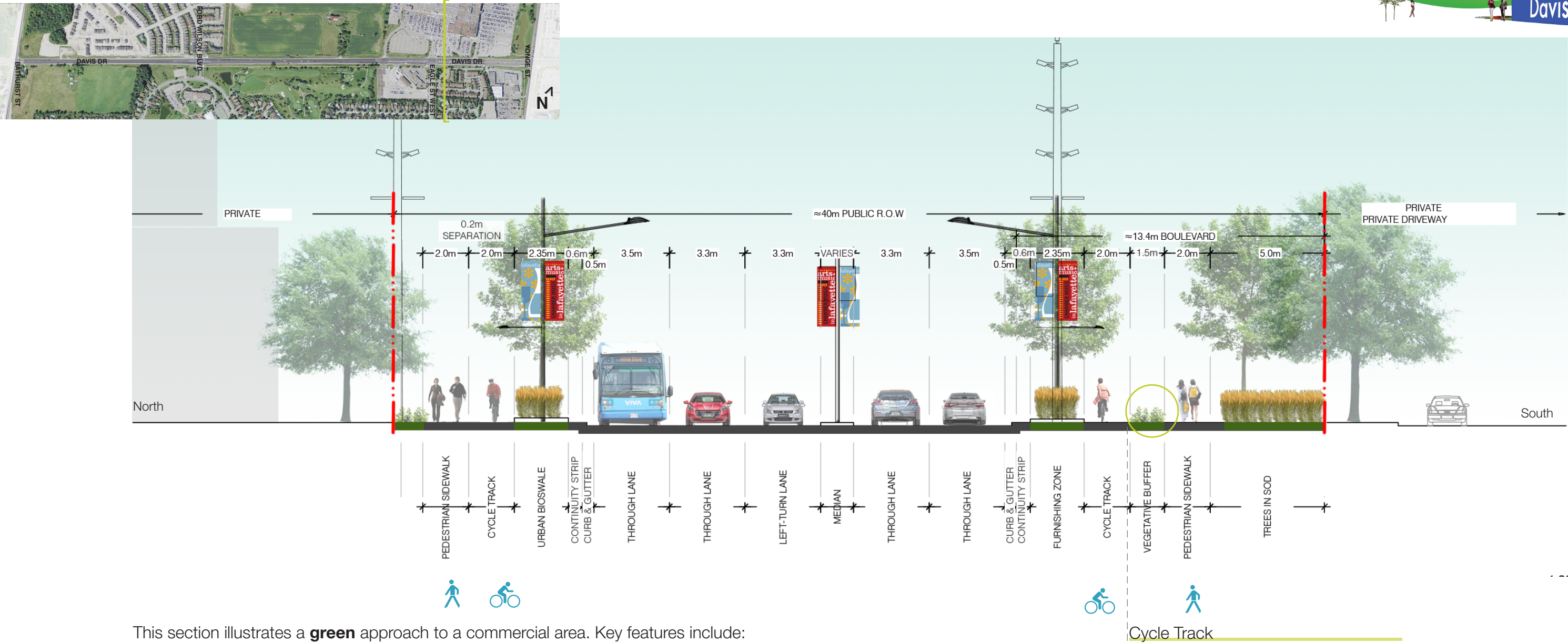
*Precedent image of a multi-use path with landscape buffer*







2.2.3 Conceptual Section East of Eagle Street



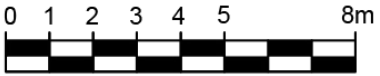
This section illustrates a **green** approach to a commercial area. Key features include:

- Two 3.3 metre wide lanes of traffic in both directions.
- Centre median is utilized to establish a sense of place through banners (as it is not wide enough to accommodate planting).
- Urban bioswales to aid with stormwater management.
- Pedestrian sidewalks and cycle tracks protected from vehicular traffic by a landscaped buffer.
- Raised cycle track is separated from traffic by a landscaped buffer which reduces the interactions between cyclists and vehicular traffic. This creates a safer cycling condition and consequently encourages active transportation and a decrease in carbon emissions from vehicles.

Cycle Track



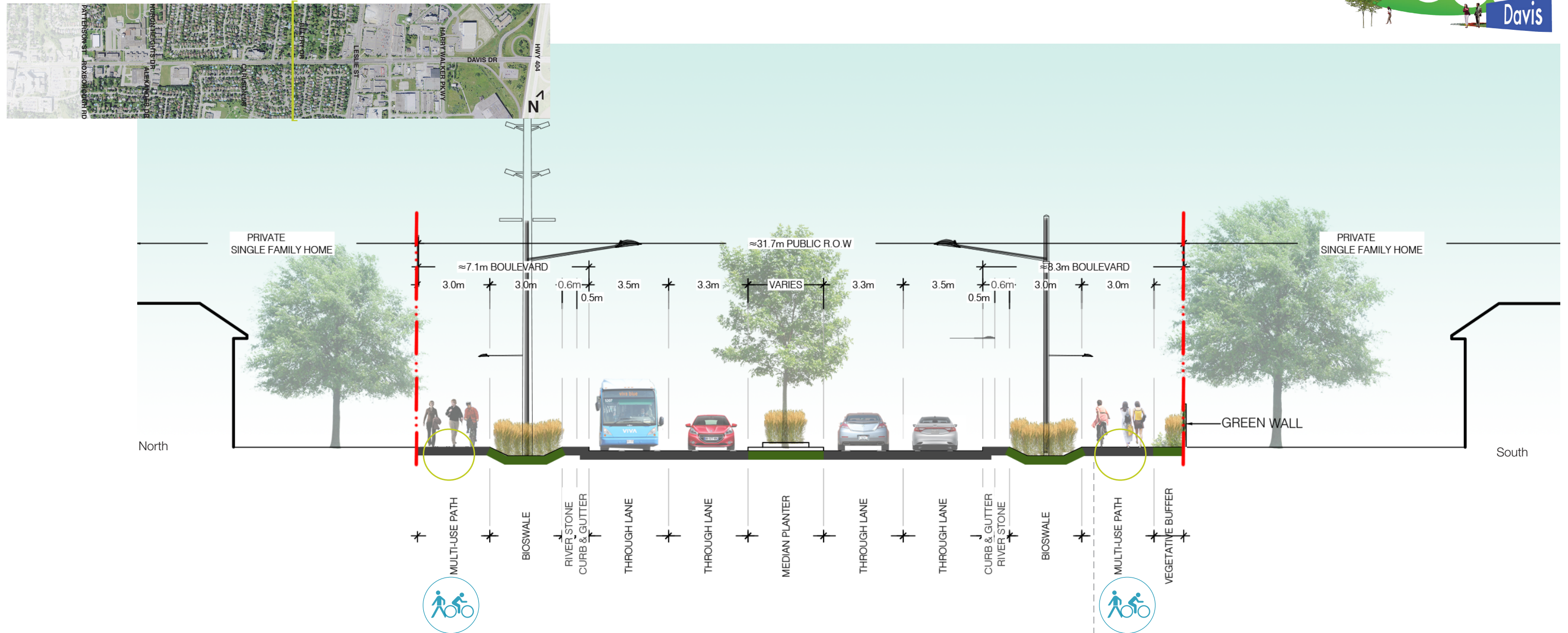
Precedent image of a cycle track separated from pedestrian circulation with landscaped buffer







### 2.2.4 Conceptual Section West of Belfry Drive



This section illustrates a **green** residential area with rear lots in which mismatched private fences line the streetscape. Key features include:

- Greens walls along the corridor to optimize green infrastructure and create visual cohesion.
- Bioswales aid with stormwater management and buffer the 3.0 metre wide multi-use path from vehicular traffic.
- Planted median contributes to the greening of the corridor and reduction of Urban Heat Island (UHI) effect.
- Two vehicular through lanes in each direction.

Multi-Use Path



Precedent image of a multi-use path with vegetated buffer







2.3 Concept Two: Active Yonge & Davis

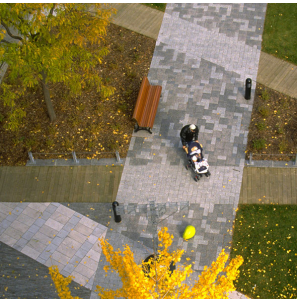
The **Active Yonge & Davis** concept presents a streetscape in which all decisions are aimed towards optimizing active transportation. This concept is focused on fostering a healthier community by engaging them with the streetscape in an active way.

The following key principles are utilized to achieve a **Active Yonge & Davis**:

- Mobility
- Wayfinding
- Safety
- Accessibility

Key strategies are identified under each principle.

Mobility



KEY STRATEGIES

1. Create a balanced, multi-modal corridor.
2. Elevate the importance of cyclists and pedestrians.
3. Encourage active transportation through continuous cycle tracks and sidewalks.
4. Create wide boulevard cycling tracks that are segregated from vehicle and pedestrian circulation to avoid conflict.
5. Facilitate passing through curbside cycle tracks and rolled curbs.
6. Provide continuous obstacle-free sidewalks in order to promote active transportation.

Wayfinding



KEY STRATEGIES

1. Clearly delineate differing modes of transportation that prioritize pedestrians and encourage active transportation.
2. Create universally accessible wayfinding techniques (i.e. integrated into the paving) in order to promote accessibility.
3. Utilize distinctive wayfinding techniques to create a strong sense of place.
4. Implement cycling, running and walking 'Activity Loops' of varying distances to promote an active lifestyle and animate the streetscape. Activity Loops connect to existing trails and cultural areas.

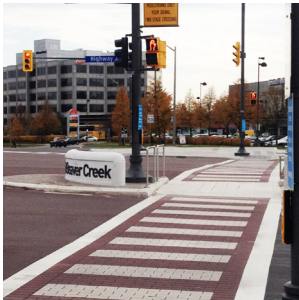
Safety



KEY STRATEGIES

1. Give intersections visual importance to increase safety.
2. Raise cycle tracks to establish a clear separation between cyclists and vehicles with a barrier curb.
3. Separate cyclists from pedestrians by a planted boulevard to minimize conflicts.
4. Provide wide sidewalks.
5. Provide a buffer between different modes of transportation.

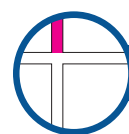
Accessibility



KEY STRATEGIES

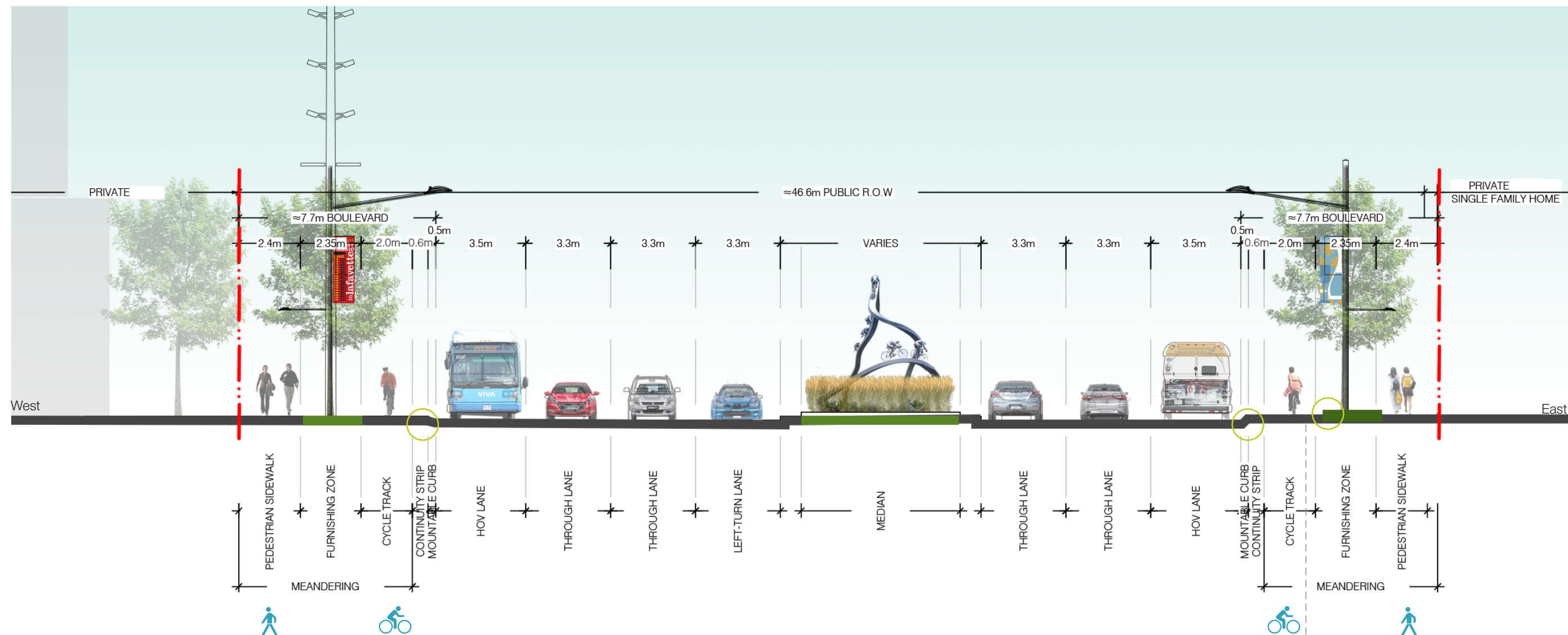
1. Implement continuous clear sidewalks to prioritize pedestrian circulation.
2. Direct clear pedestrian routes between transit stops and community amenities.
3. Use accessible curbs at intersections.
4. Comply with AODA standards.
5. Improve access to public transit stops.





Yonge Street North

## 2.3.1 Conceptual Section North of Dawson Manor Boulevard



This section illustrates an **active** urbanized corridor. Key features include:

- The painted median at unused portions of the TWLTL has been transformed into a planted median utilized to showcase public art that references the active theme.
- A 2.0 metre wide separated raised cycle track promotes cyclist safety.
- A semi-mountable curb at the edge of the cycle track allows for passing.
- A 2.4 metre wide sidewalk provides ample room for pedestrian circulation.
- The cycle track and pedestrian sidewalk are separated by a planting/furnishing zone to minimize conflict
- A total of three southbound lanes with one left turn lane and three northbound lanes with a standard width of 3.3 metres.
- Both sides contain curbside HOV lanes that are 3.5 metres wide.

### Cycle Track



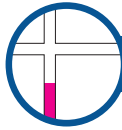
Precedent image of a raised cycle track next to roadway



Precedent image of a cycle track separated from pedestrian circulation with landscaped buffer

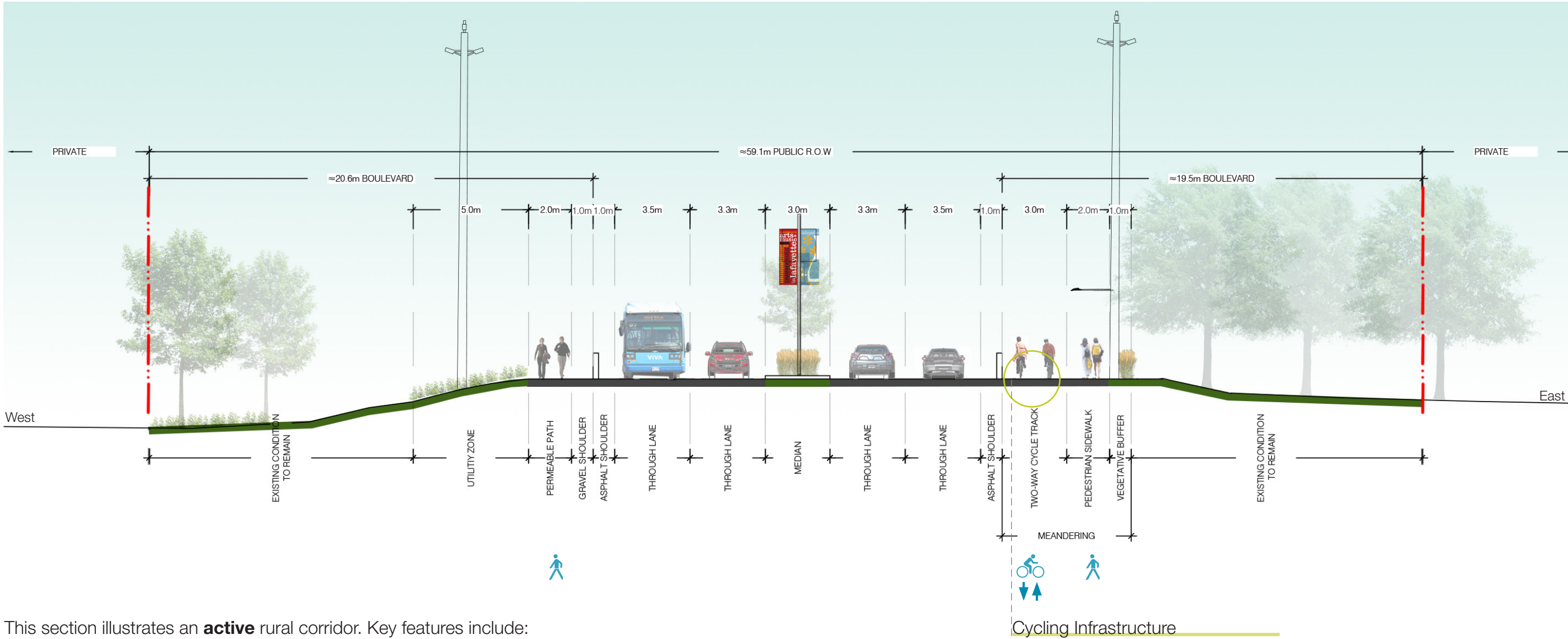
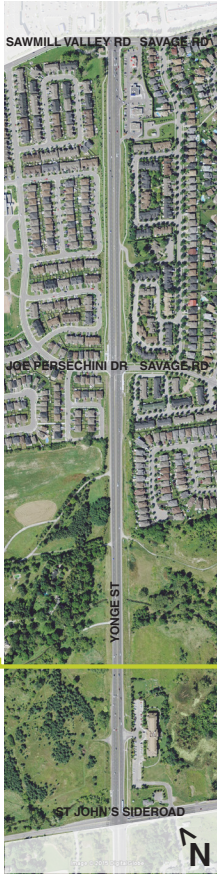






Yonge Street South

2.3.2 Conceptual Section North of St. John's Sideroad



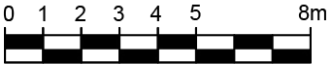
This section illustrates an **active** rural corridor. Key features include:

- The painted median at unused portions of the TWLTL has been transformed into a planted median with banners.
- A 3.0 metre wide two-way cycle track and 2.0 metre wide pedestrian sidewalk on the east side facilitates active transportation and connects into the Nokiidaa Trail.
- The west side of the street contains a pedestrian path that connects to off-road trails and local municipal road.
- There are two through lanes in each direction.

Cycling Infrastructure



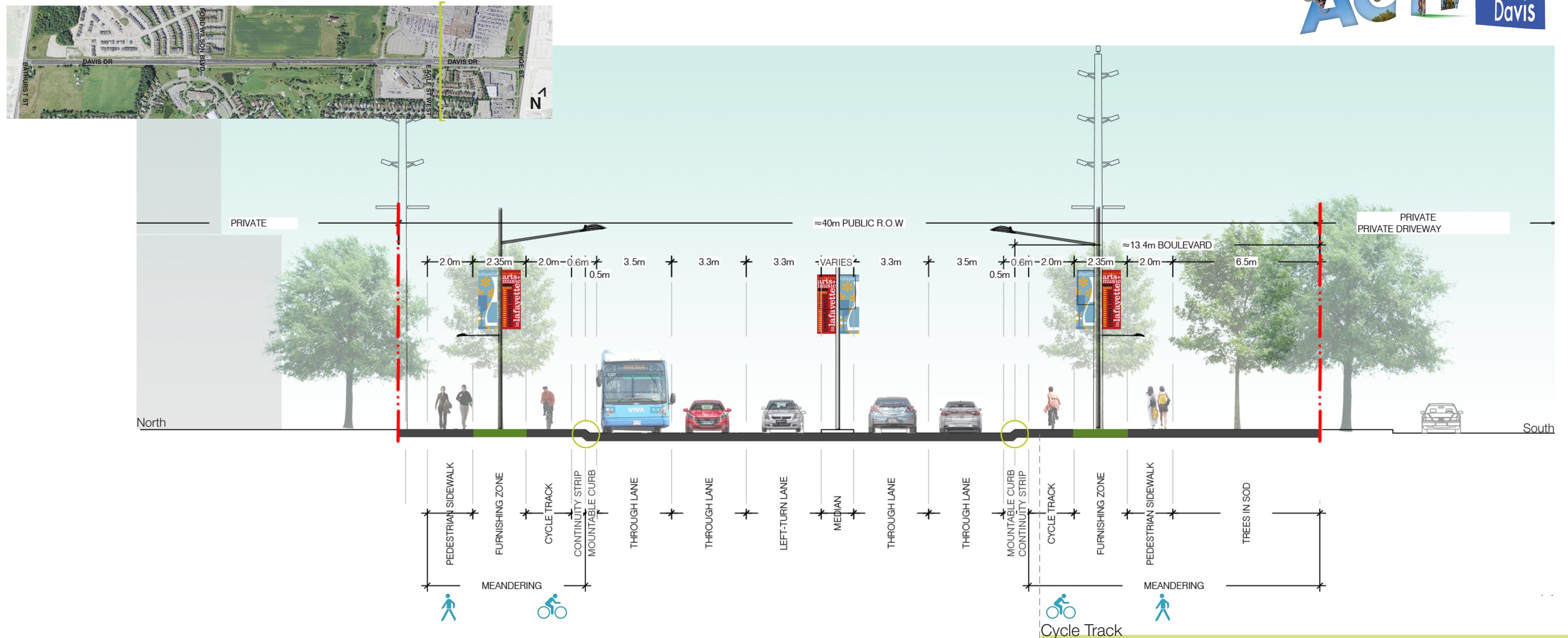
Precedent image of a two-way cycle track







### 2.3.3 Conceptual Section Eagle Street to Yonge Street



This section located near Eagle Street and Davis Drive illustrates an **active** commercial/residential area. Key features include:

- Four through lanes, two in either direction, and a left-turn lane.
- The painted median lane where the TWLTL is not required has been replaced with a raised median containing banners.
- A 2.0 metre raised cycle track is separated from a 2.0 metre wide pedestrian sidewalk by a planting/furnishing zone in order to minimize pedestrian-cyclist conflicts.
- The cycle track is roadside and has a rolled curb which allows cyclists to enter the roadway to pass if necessary.



Precedent image of a raised cycle track next to roadway



Precedent image of a cycle track separated from pedestrian circulation with landscaped buffer

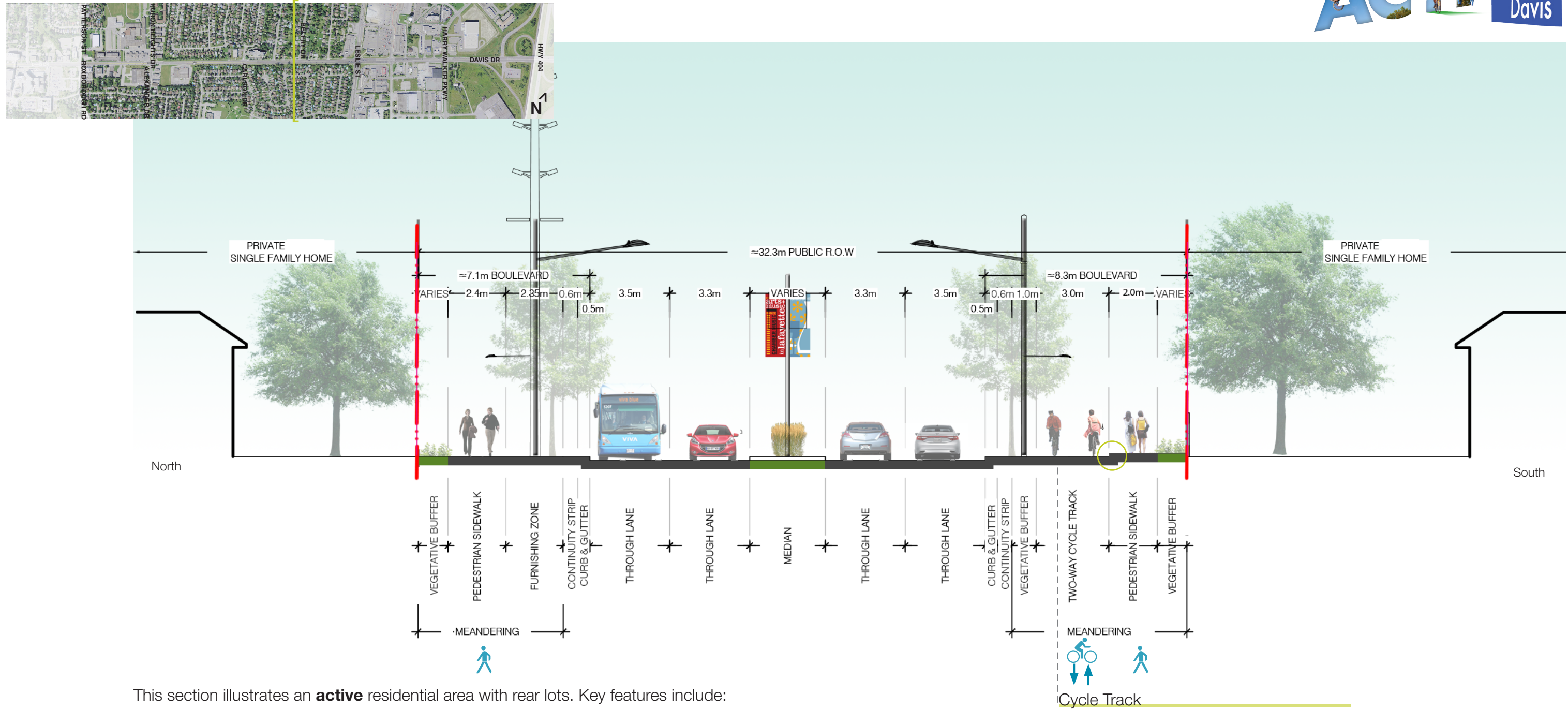






Davis Drive East

2.3.4 Conceptual Section West of Belfry Drive



- This section illustrates an **active** residential area with rear lots. Key features include:
- A 3.0 metre wide two-way cycle track on the south side of the streetscape that is separated from vehicular traffic by a planting/furnishing zone and vertically separated from the pedestrian sidewalk in order to minimize conflict.
  - The two-way cycle track connects to the Tom Taylor Trail.
  - Both sides of the street have pedestrian sidewalks (2.4 metres wide on the north side and 2.0 metres wide on the south).
  - The painted median lane has been transformed into a planted median.
  - There are four vehicular lanes, two in each direction.



Precedent image of a raised two-way cycle track with vertical separation from pedestrian sidewalk





## 2.4 Concept Comparison and Evaluation

The two design concepts highlight different aspects of the Yonge Street & Davis Drive Streetscape Master Plan vision; Green and Active. Both concepts take differing approaches, but fulfill the **vibrant** aspect of the vision through establishing a more animated streetscape.

The Green Yonge & Davis concept establishes a strong **green** sense of place for the corridors through the use of urban groves, bioswales and enhanced landscaped areas. The concept promotes community engagement through green space (i.e. urban agriculture and 'living labs') and

minimizes storm runoff during extreme weather events through reducing impermeable surfaces. The streetscape design works towards mitigating the UHI effect and aids in the slowing of climate change. The predominant disadvantage of the Green Yonge & Davis concept is the elevated costs for the installation and maintenance of the green infrastructure.

The Active Yonge & Davis concept establishes Yonge Street and Davis Drive as key **active** transportation routes for the Town of Newmarket. Through utilizing context sensitive active

transportation typologies, the concept encourages a more active lifestyle for residents, and consequently could lead to a decrease in vehicular carbon emissions. The predominant disadvantage for the Active Yonge & Davis concept also lies in material, installation and operation costing.



Community	Engage community in open green space	✓	Encourage active transportation to promote a healthier lifestyle	✓
	Build community through 'living lab' and urban agriculture	✓	Build community through active events	✓
Environmental	Improve air quality with increased plant material	✓	Potentially reduce carbon emissions by decreasing vehicular traffic	✓
	Reduce urban heat island effect	✓		
	Increase infiltration through SWM techniques	✓		
Safety	Promote safe transportation with green buffers between pedestrians, cyclists and motorists	✓	Provide ample room for active transportation	✓
	Minimize flooding during extreme weather events with SWM techniques	✓	Separate cyclists from vehicular traffic	✓
Operations / Maintenance	Minimize pressure on sewer system with SWM techniques	✓	Potentially reduce vehicular traffic	✓
	Increase maintenance cost for softscape	×	Increase time spent on operational tasks such as snow removal due to vertically separated cycle track	×
Costs	Increase materials cost (i.e. bioswales, planting, trees)	×	Increase spending on hardscape infrastructure (i.e. paths, buffers, intersections)	×
Placemaking	Establish a strong identity for the streetscape through green infrastructure (i.e. signature grasses)	✓	Incorporate activity nodes into public parks to promote fitness	✓
	Enhances user experience of public plazas through green infrastructure (i.e. provides shade, reduces the urban heat island effect)	✓		
Transportation	Keep trees and plant material clear of vehicular and cyclist sight lines at intersections and driveways	×	Reduce vehicular traffic volumes through promoting active transportation and transit	✓
Utilities	Tree root zones can interfere with below grade utilities	×	Easily access below grade utility repairs under sidewalk and cycle track pavement	✓
	Overhead hydro lines impact tree species selection	×		



2.5 Preferred Concept: Vibrant, Green & Active Streetscape

The Project Core Team evaluated both concepts for the Yonge Street & Davis Drive Streetscape Master Plan and concluded that a **hybrid** of both concepts would be most effective moving forward. Through optimizing both active transportation as well as green infrastructure, the Master Plan can best achieve a vision for a **Vibrant, Green & Active** streetscape.

Through applying elements of both design concepts and utilizing them in specific corridors in which they will provide the most benefit, the hybrid streetscape is able to provide the most well-balanced Streetscape Master Plan. These design decisions are informed by the present and future streetscape context and accompanying usages of the streetscape.

The hybrid streetscape concept delivers a balanced complete street and public realm that will be instrumental in shaping a better community for York Region and the Town of Newmarket.

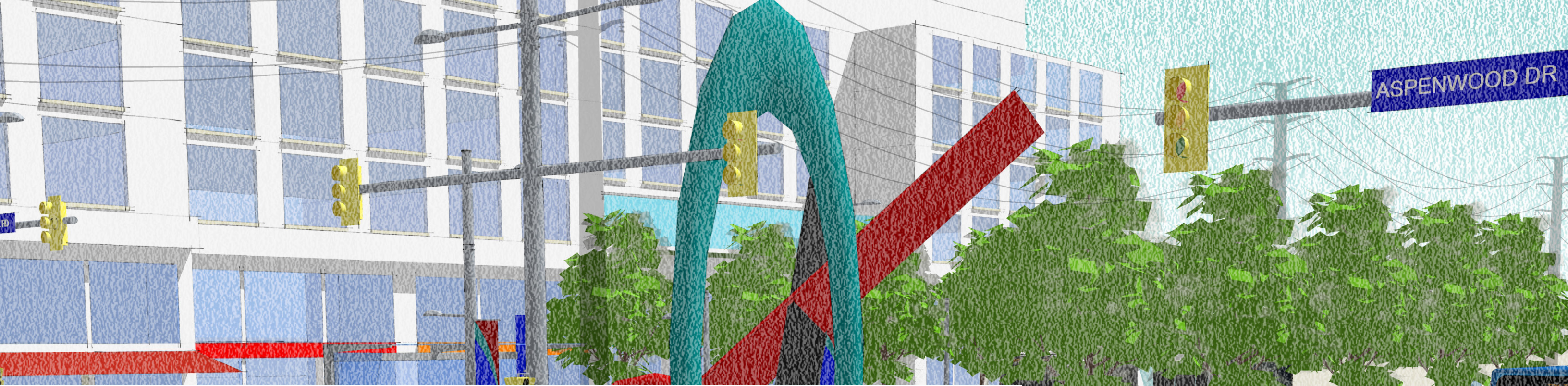
Key design strategies include:

- Equalizing the importance of all users including pedestrians, cyclists, transit users and vehicles;
- Providing safe accessible pedestrian sidewalks;
- Providing safe and continuous cycling infrastructure;
- Maximizing the urban forest thorough comprehensive best practices;
- Implementing Low Impact Development (LID) strategies within the public realm

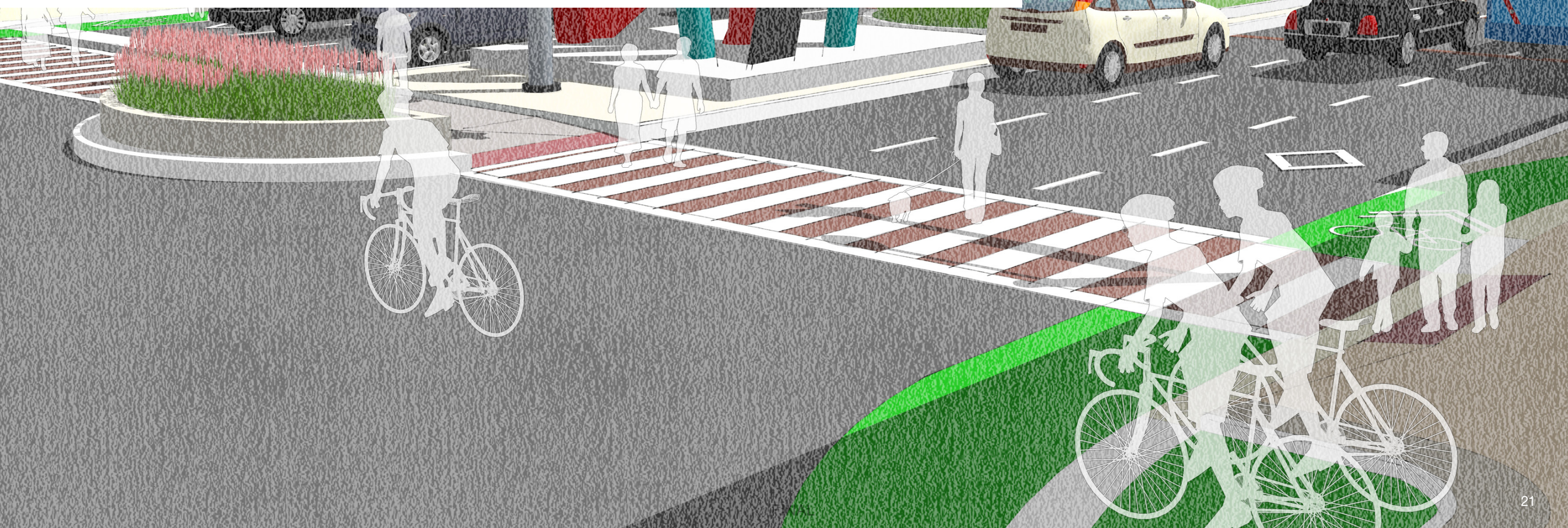
The streetscape typologies provide a clear and logical system for where to use specific streetscape elements. Refer to the next chapter for further information on the hybrid Streetscape Master Plan.







## 3.0 STREETScape MASTER PLAN





3.1 Design Approach

The Yonge Street & Davis Drive Streetscape Master Plan is aimed at creating a **Vibrant, Green & Active** streetscape that is unique to the Town of Newmarket and York Region. The plan provides a context-sensitive approach in order to support mixed-use pedestrian environments with attractive streets, high quality urban design and a distinct sense of place.

The Streetscape Master Plan has evolved and developed throughout all three phases of the project (Phase 1: Research, Site Inventory, and SWOT Analysis, Phase 2: Vision Statement, Principles and Objectives and the current phase, Phase 3: Streetscape Master Plan). Through conducting a thorough SWOT analysis of the corridors and the Town of Newmarket more generally, the Streetscape Master Plan is grounded in the specific corridor context. Further, through researching existing and future initiatives, studies and policies, the Master Plan works in conjunction with existing initiatives.

The vision of Yonge Street and Davis Drive as Vibrant, Green and Active evolved through two concepts: Green Yonge & Davis and Active Yonge & Davis. After exploring how these concepts would materialize and evaluating their benefits and

shortcomings, the Project Core Team concluded that a hybrid of the two options would be most beneficial for the Town of Newmarket.

The Streetscape Master Plan is a result of the Project Core Team and the stakeholders' vision for the future of the Town of Newmarket, streetscape design principles as well as a response to the specific context and needs of the community.

The preliminary Streetscape Master Plan was presented to the community in a Public Information Session in November 2015. Feedback from the attendees has been incorporated into the Streetscape Master Plan.

- The Streetscape Master Plan presents a 30-year vision for the Town of Newmarket, responding to the future state of the corridors rather than the present.
- Certain areas of stable residential land use are expected to remain unchanged.
- Other areas, particularly commercial, are expected to change dramatically. As the population of the Town of Newmarket continues to grow the suburban streetscape edges are expected to urbanize.
- The Master Plan is aimed at creating a

- streetscape that fosters community and culture through a vibrant streetscape that caters to pedestrians, cyclists, transit users, community members, business owners and drivers.
- In order to balance the needs of all streetscape users, the geometry of the corridors has been 'Right Sized'.
  - The Streetscape Master Plan fits within the existing publicly owned ROW.
  - The Master Plan provides a context driven approach to the streetscape, in which streetscape typologies are utilized to fulfill the functional and aesthetic needs of each corridor.

A key consideration in the design of a vibrant public realm and streetscape is designing Complete Streets, which support the needs of all users including pedestrians, cyclists, transit users and motorists. One way to achieve a Complete Street is to re-locate the roadway space to gain more space in the boulevard. This contemporary movement is referred to as "Right Size Streets". IBI Group hosted a workshop in January 2016 to explore options on refining and reducing the roadway geometry to provide a more balanced public realm.

Key Design Objectives

- Create a Complete Street (a street that caters to all users, not just motorists)
- Improve community identity and pride
- Provide safe accessible pedestrian sidewalks
- Design safe and continuous cycling infrastructure
- Expand the urban forest
- Implement Low Impact Development sustainable strategies within the public realm





3.1.1 Right Size Streets

Background

A key element to the Yonge Street & Davis Drive Streetscape Master Plan is adherence to Right Size Streets principles. A Right Size Streets Workshop evaluated the current roadway conditions and informed a framework to move forward with the Streetscape Master Plan. Through utilizing Right Size Street principles with a context-specific approach, a streetscape that benefits all users including pedestrians, cyclists, transit users and motorists, has been developed.

Introduction to Right Size Streets

Right Size Streets is a contemporary movement towards creating streets that cater to all users, providing a safer, more vibrant streetscape. Right Size Streets are aimed at:

- Increasing accessibility for all users;
- Increasing safety;
- Encouraging active transportation and transit use;
- Supporting businesses and the local economy;
- Creating a pedestrian friendly and accessible place;
- Creating streetscapes that foster community and livability; and
- Creating a destination.

Right Size Streets Principles

Right Size Streets (especially suited to urban contexts) are designed to create the safest roadway and street conditions for drivers, transit users, pedestrians and cyclists. Key aspects to Right Size Streets as follows:

- Design strategies such as reduced lane widths and turning radii are used to encourage road users to maintain a safe driving speed.
- Visual cues within the right-of-way provide the information required for drivers to make good decisions and have flexibility when judgment errors are made.

At higher operating speeds, drivers tend to narrow their field of vision, which reduces their ability to detect pedestrians that may be entering the

roadway. Further, contemporary multi-tasking life styles and gadgets such as, complex in-car GPS systems and smartphones present frequent distractions which should be mitigated through roadway design that reinforce the intended speed.

Conventional Highway Design consists of the Design Speed being greater than the Operating Speed, which is greater than the Posted Speed. This type of design is problematic as the geometry of the roadway encourages faster speeds than the intended speed. Fast driving speeds are not in line with the Streetscape Master Plan's aim to create a vibrant, urban streetscape. Through utilizing proactive urban street design, in which the target speed, design speed and posted speed are all the same, the streetscape design encourages maintaining a safe driving speed (National Association of City Transportation Officials (NACTO) Urban Street Design Guide).

As NACTO Urban Street Design Guide explains, Right Size Streets are designed “for the most vulnerable street users rather than the largest possible vehicle. While designs must account for the challenges that larger vehicles, especially emergency vehicles, may face, these infrequent challenges must not dominate the safety or comfort of a site for the majority of daily users.”

Right Size Streets Design Strategies

Right Size Streets provides strategies aimed at reducing the roadway size, encouraging safer vehicular speeds and providing more space in the boulevard to create more comfortable/ accessible space for pedestrians, transit users and cyclists. The Right Size Streets Strategies figure located to the right outlines the most prevalent Right Size Street tactics and their benefits.

Right Size Streets Implementation

Right Size Streets have been implemented in the City of Toronto and all over North America. The City of Toronto Right Size Streets Precedents figure located to the right presents local built streetscape examples and their geometry.

Right Size Streets Strategies	
Right Size Street Strategy	Benefit to the Streetscape
Reduced number of lanes	<ul style="list-style-type: none"><li>• Reduces vehicular speed;</li><li>• Creates more room in the boulevard for active transportation infrastructure, landscaped areas, boulevard trees, public art, patios and other placemaking elements.</li></ul>
Reduce lane widths	
Reduce curb turning radii and eliminate 'pork chop' islands	<ul style="list-style-type: none"><li>• Slows turning speeds;</li><li>• Shortens pedestrian crosswalk distances;</li><li>• Creates pedestrian priority.</li></ul>
Add cycling infrastructure	<ul style="list-style-type: none"><li>• Encourages active transportation;</li><li>• Could decrease traffic.</li></ul>
Increase pedestrian realm	<ul style="list-style-type: none"><li>• Encourages walking;</li><li>• Could decrease traffic;</li><li>• Creates space for streetscape animation and placemaking.</li></ul>

City of Toronto Right Size Streets Precedents					
Street Name	Extent	Posted Speed	Curbside Through Lane Width	Through Lane Width	Centre Lane Width/ TWLTL
Pharmacy Avenue	St. Clair Ave. E to Comstock Rd	50 km/ hr	3.4 m	3.1 m	N/A
Ellesmere Road	McCowan Rd to Markham Rd	50 km/ hr	3.25 m	3.0 m	2.7 m
Warden Avenue	Finch Ave E to Bridletown Circle	50 km/ hr	3.1 m	3.0 m	3.0 m
Nugget Road	Shorting Rd to Markham Rd	50 km/ hr	3.3 m	3.0 m	N/A
Brimley Road	Kingston Rd to St. Clair Avenue East	50 km/ hr	3.3 m	3.0 m	N/A

Source: City of Toronto



Yonge Street & Davis Drive: Right Size Streets Matrix			
	Existing Conditions	Streetscape Master Plan <i>Ultimate Vision</i>	Interim <i>Pre-BRT*</i>
Design Speed			
Yonge Street North	80-100 km/h	50 km/h	60 km/h
Yonge Street South	80 km/h	60 km/h	60 km/h
Davis Drive East	60 km/h	60 km/h	60 km/h
Davis Drive West	60 km/h	60 km/h	60 km/h
Lane Width			
Through Lane	~3.3m - 4.5m	3.3 m	3.3 m
Curbside Through Lane	~ 3.3m - 3.9m	3.5 m	3.5 m
Right Turn Lane	~ 3.7 m	3.0 m	3.5 m
Left Turn Lane	~3.2 m	3.0 m	3.3 m
Corner Curb Radii**			
Major- Major	14 m	10 m	9 m
Major- Minor	15 m (two-way) 13 m (one-way)	9 m	9 m
Minor- Major	8 m	9 m	9 m
Driveways	10 m (residential) 15 m (commercial)	7 m	7 m
Truck Specific Lane	N/A	15 m	15 m
Pedestrian Facilities			
Yonge Street North	~ 1.5 m	2.4 m	2.0 m
Yonge Street South	~ 1.5 m & non-existent	3.0 m MUP	3. 0 m MUP
Davis Drive East	~ 1.5 m	2.0 m	2.0 m
Davis Drive West	~ 1.5 m	2.0 m	2.0 m
Cycling Facilities			
Yonge Street North	None	1.5 m boulevard cycle track	1.5 m cycle track
Yonge Street South	None	3.0 m MUP	3.0 m MUP
Davis Drive East	Shared lane 'sharrows'	1.5 m cycle track + 0.6m buffer 3.0 m MUP	1.5 m cycle track + 0.6m buffer 3.0 m MUP + 0.6m buffer
Davis Drive West	None	1.5 m cycle track + 0.6m buffer 3.0 m MUP	1.5 m cycle track + 0.6m buffer 3.0 m MUP + 0.6m buffer

Source: Project Core Team Decision Matrix April 26, 2016

Right Size Yonge Street and Davis Drive

The Right Size Street Workshop was held to compile research on Right Size Streets and analyze the components that are suitable for Yonge Street and Davis Drive. Context-specific elements of the corridor were considered such as:

- The need to accommodate YRT bus transit;
- The need to accommodate future vivaNext expansions;
- Future vivaNext bus rapidway geometry and design speed;
- Snowplow turning radii;
- The necessity for snow storage;
- The presence of hydro poles;
- Providing more space in the boulevard to develop an urban forest;
- Providing more space for safe, comfortable cycling infrastructure;
- The potential for stormwater management; and
- The vision of an active and green streetscape.

Through taking into account Right Size Street tactics and context-specific elements of the corridors, the Project Core Team developed the Yonge Street & Davis Drive: Right Size Streets Matrix to the left.

Refer to Appendix A for the Right Size Streets Workshop presentation material.

\* The Interim column refers to geometry that is being implemented in current York Region capital projects such as Yonge Street North as well as the Bathurst Street and Davis Drive intersection. The Streetscape Master Plan column indicates the final build-out of the ultimate streetscape vision.

\*\* Values may differ for Yonge Street North. Refer to Section 3.2.6 Auto-Turn Analysis for location specific figures.

Vehicle Dominated Streetscape



Right Size Streetscape



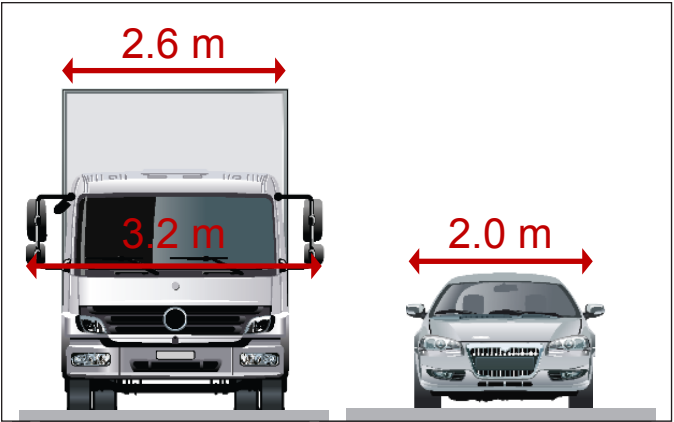


Right Size Street Turning Radii Precedent: vivaNext Bus Rapidway

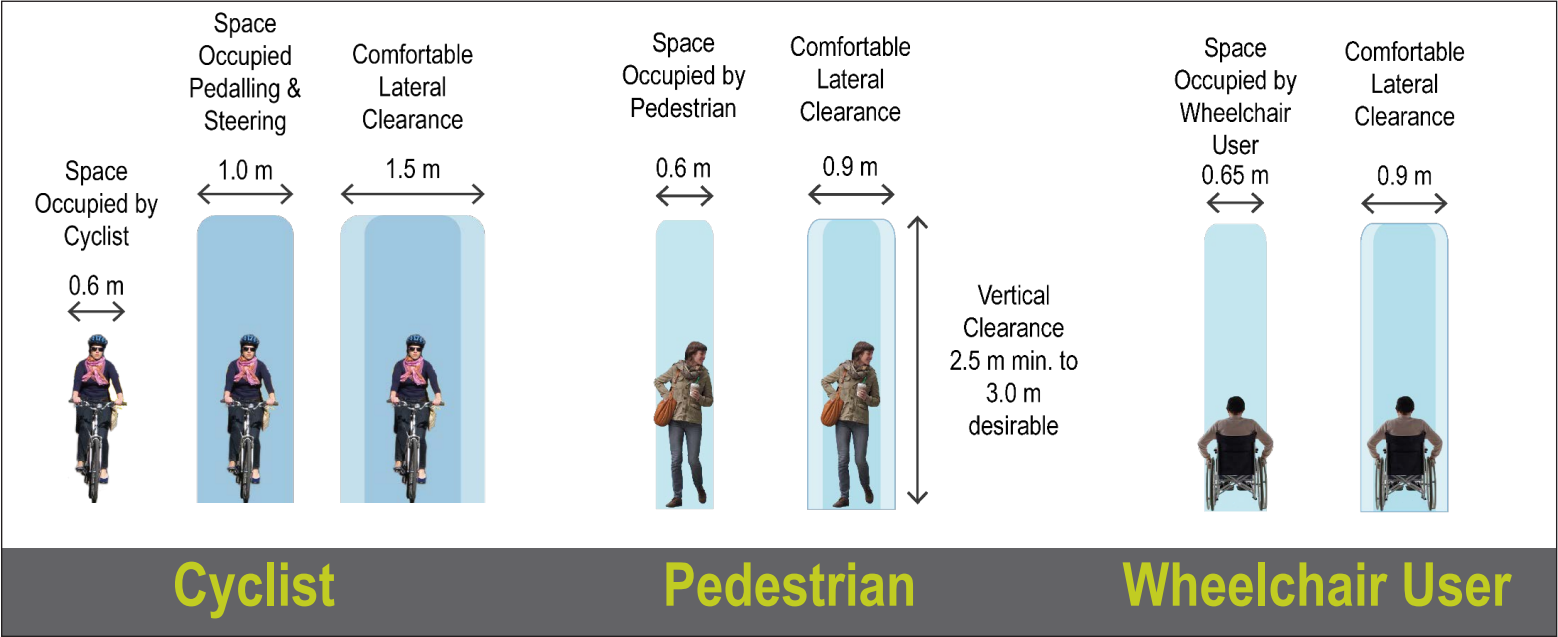
York Region Rapid Transit Corporation (YRRTC) have successfully brought rapid transit to York Region with vivaNext along Highway 7 (H3, H2 VMC) and Davis Drive (D1). YRRTC’s vision supports the belief that well planned transit including the design of the public realm is instrumental in shaping better communities. The vivaNext project captures the philosophy of the Complete Street which anticipates and accommodates the needs of all users – pedestrians, transportation users, cyclists and drivers by providing a welcoming, functional and safe environment for everyone, no matter how they want to get to and from their destination. Included in this approach is the reduction of turning radii at

intersections to slow cars down, the reduction of crossing distances for pedestrians and the increase of real estate in the boulevard. The matrix below indicates successful built precedents on D1 with reduced radii at intersections and driveways along Davis Drive in Newmarket.

vivaNext Curb Radii				
Intersections	Westbound		Eastbound	
	Right In	Right Out	Right In	Right Out
Davis Dr. and Yonge St.	15m	15m	15m	15m
David Dr. and Longford Dr.	10m	10m	12m	10m
Davis Dr. and Main St.	10m	10m	10m	10m
Davis Dr. and George St.	10m	10m	10m	10m
Davis Dr. and Barbara Rd.	10m	10m	9m	9m
Davis Dr. and Hill St.	10m	10m	N/A	N/A
Davis Dr. and Lorne Ave.	N/A	N/A	10m	10m
Davis Dr. and Vincent St.	10m	10m	10m	7.5m
Davis Dr. and Superior St.	N/A	N/A	6m	9m
Davis Dr. and Bayview Pkwy.	7.5m	10m	7.5m	7.5m
Davis Dr. and Lundy's Ln.	10m	10m	10m	10m
Davis Dr. and Patterson St.	10m	10m	10m	10m
Davis Dr. and Huron Heights Dr.	10m	10m	10m	10m
Residential Driveways	3.5m-5m	5m	5m	5m



Typical Vehicle Dimensions from the Right Size Streets Workshop



Designing for All Users dimensions from the Right Size Streets Workshop



3.1.2 Auto-Turn Analysis

A key component of Right Size Streets philosophy is to urbanize intersections, which includes reduced turning radii. From an urban design and safety perspective, a reduced turning radii is desired for the following reasons (refer to diagram below):

- Safer for pedestrians as it forces vehicles to slow down as they make the turn;
- Reduces the crossing distance so pedestrians spend less time in the roadway where hazard risk increases;
- Provides more room in the boulevard for pedestrian circulation, accessibility and amenities such as lighting, seating and wayfinding signage.

YRT and vivaNext buses must be able to operate safely and efficiently throughout the corridors. In order to analyse the needs of transit, operations and maintenance vehicles, IBI Group conducted a high level auto-turn analysis to assess vehicle access, clearances, and swept path maneuvers. The analysis was conducted for the Yonge Street North corridor only using a curb-lane width of 3.5m and a through lane width of 3.3m.

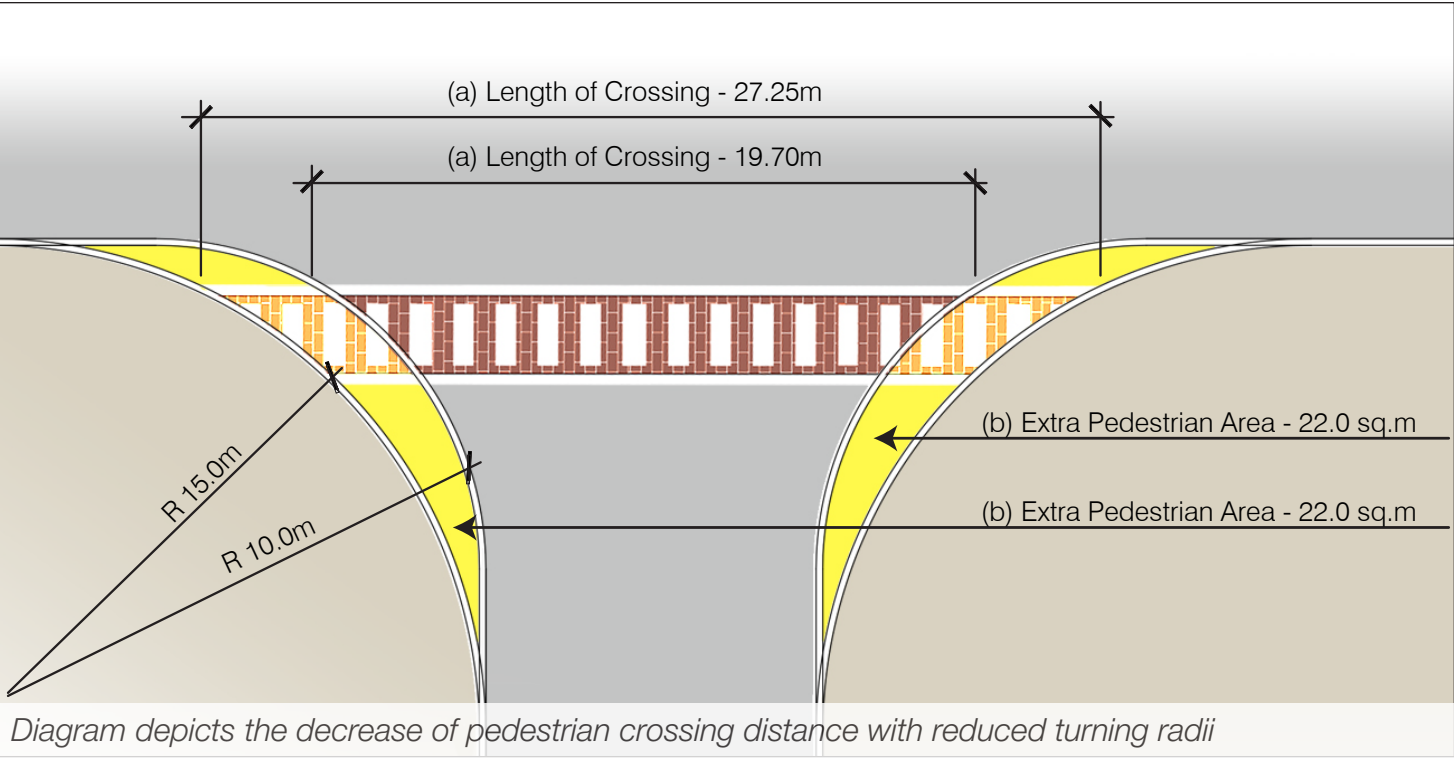
The auto-turn analysis was conducted for the following four intersections in the Yonge Street North corridor:

- Yonge Street and Davis Drive
- Yonge Street and Dawson Manor Boulevard/ Kingston Road
- Yonge Street and Bonshaw Avenue/London Road
- Yonge Street and Aspenwood Drive/Bristol Road

The analysis was conducted using the worst-case scenario vehicles as per below:

- Nova LFS 60' Articulating Bus
- WB20 Tractor Trailer (TACC-1999)

The Nova LFS 60' bus (YRT) was used rather than the Van Hool AG300 (Viva) since it has a larger turning radius. The WB20 is the largest tractor trailer in the TACC vehicle library.



3.1.2.1. Results and Recommendations

WB20 (Truck) scenario:

The drawings on the following pages indicate that the truck can make right turn maneuvers at a 15 metre curb radius without conflicting with the proposed curb. However, in most cases more severe encroachments are required in the through lanes to complete the maneuver and avoid conflicting with the curb.

- To avoid through lane encroachments:
- curb radii more than 15 metres;
  - compound curves; and
  - larger receiving lanes; or
  - a combination thereof may be considered.
- However, since large curb radii would likely be required to completely eliminate through lane encroachments, adjustments may not be feasible or desired.

Nova (Articulating Bus) Scenario:

The drawings on the following pages indicate that the bus can complete the right-turn maneuvers at a 15 metre radius without conflicting with the proposed curb. However, there are some instances where minor encroachments are required in the through lanes to complete the maneuver and to avoid conflicting with the curb.

- In order to avoid through lane encroachments,:
- curb radii larger than 15 metres;
  - compound curves; and
  - larger receiving lanes; or

- a combination thereof may be considered at the detailed design stage.

The tables on the following page provides a detailed analysis of the Nova LFS 60' Articulating Bus including maneuver type, results, recommendations and assumptions.

Van Hool (40' Bus) Scenario:

The Yonge Street and Dawson Manor Boulevard/ Kingston Road intersection currently does not have a bus route. However a community bus route with a smaller 40' Van Hool Bus is likely in the near future. The drawing on the following page indicates that this smaller bus can complete maneuvers with little to no encroachment with a 10 metre radii.

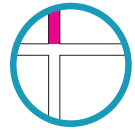
Conclusion:

The results of auto-turn analysis which was conducted using the worst-case scenario vehicles demonstrates that encroachment with separated bike lanes occurs even using a large 15m radius.

In order to provide an urbanized corridor which takes the needs of all users into account, the public realm designers and engineers together with York Region should assess the level of encroachment that they are willing to accept at the detailed design stage while being mindful of the long term streetscape vision's goals and objectives.

Reduced Road Radii Matrix			
			Difference
Radius	R=15m	R=10m	5m
Length of Crossing	27.25 m	19.7 m	7.55m
Boulevard Space Added	N/A	44.0 sq m	44.0 sq m





## Yonge Street North

## 3.1.2.2. Auto-Turn Analysis: Yonge Street North Corridor

## Introduction

Auto-Turn Analysis was conducted in order to ensure the operations of the Right Sized lanes and corner curb radii along the Yonge Street North corridor. The following intersections were tested:

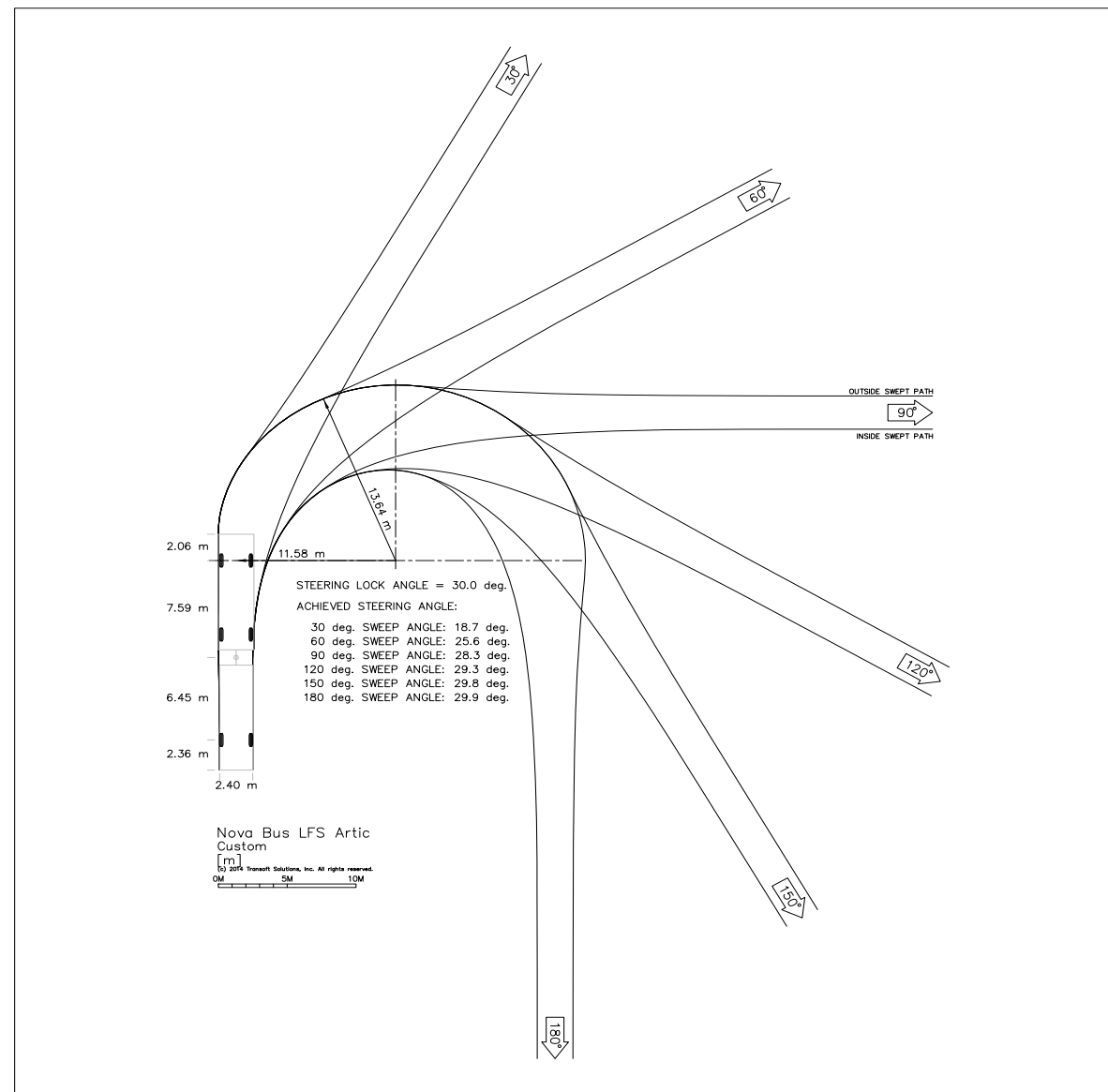
- Yonge Street and Davis Drive
- Yonge Street and Dawson Manor Boulevard/ Kingston Road
- Yonge Street and Bonshaw Avenue/ London Road
- Aspenwood Drive/ Bristol Road

'Worst case scenario' vehicles were tested to analyse if the roadway geometry was ample enough for safe passage of the largest vehicles that frequent the roadway. The following vehicles were tested:

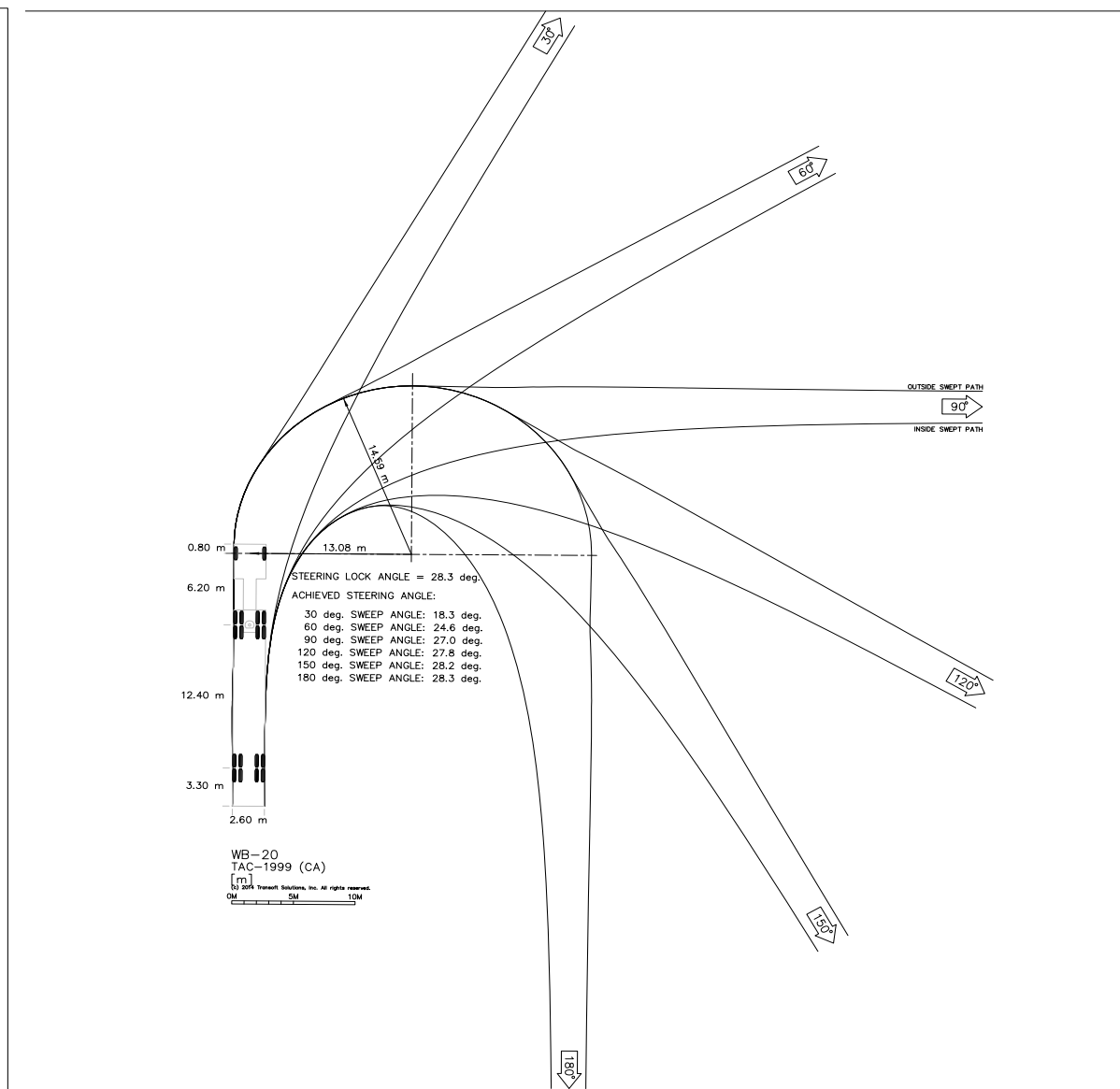
- Nova LFS 60' Articulating Bus
- WB20 Tractor Trailer (TACC-1999)

The following pages present the auto-turn analysis.

## Nova LFS 60' Articulating Bus



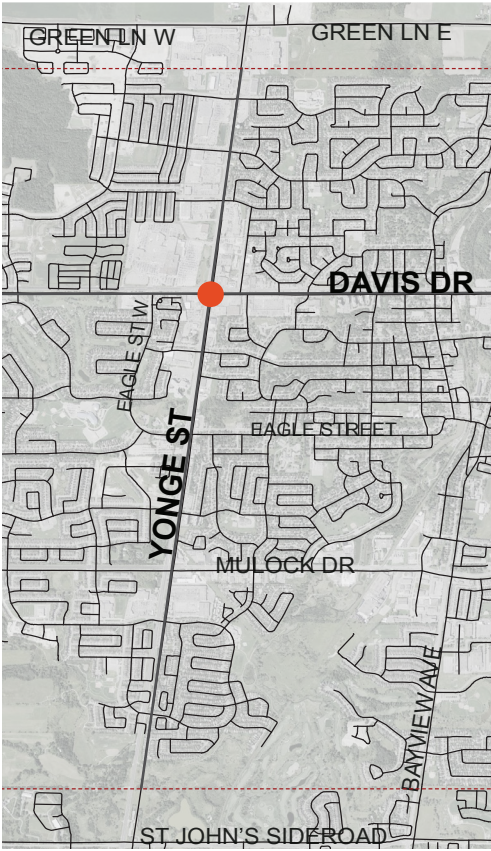
## WB20 Truck Tractor Trailer (TACC-1999)







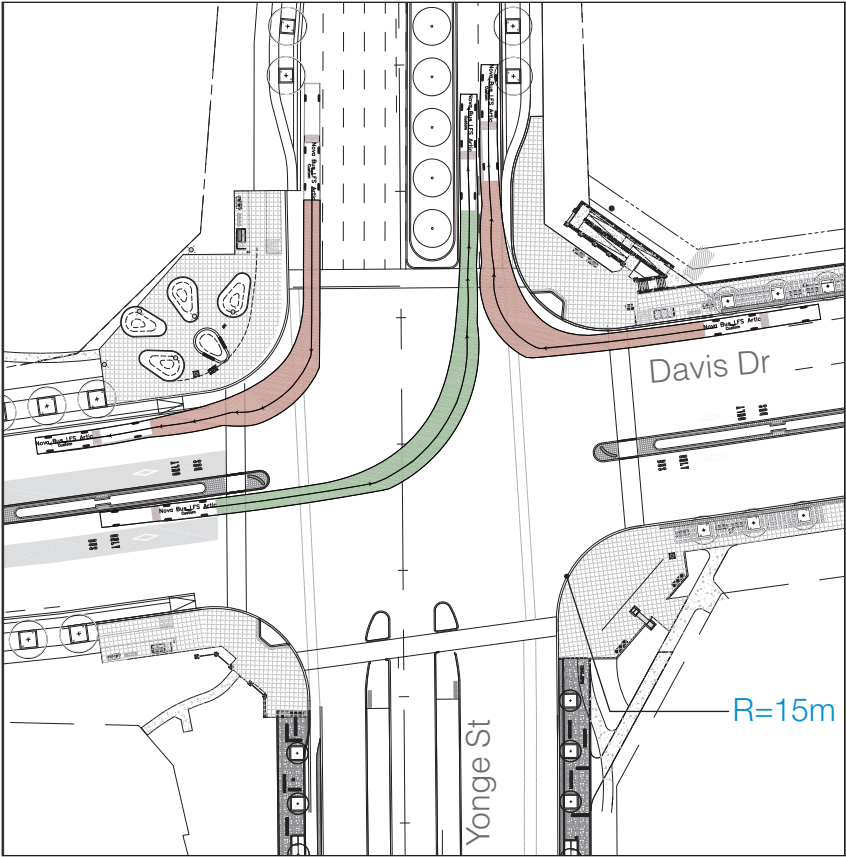
3.1.2.3. Auto-Turn Analysis: Yonge Street and Davis Drive Intersection



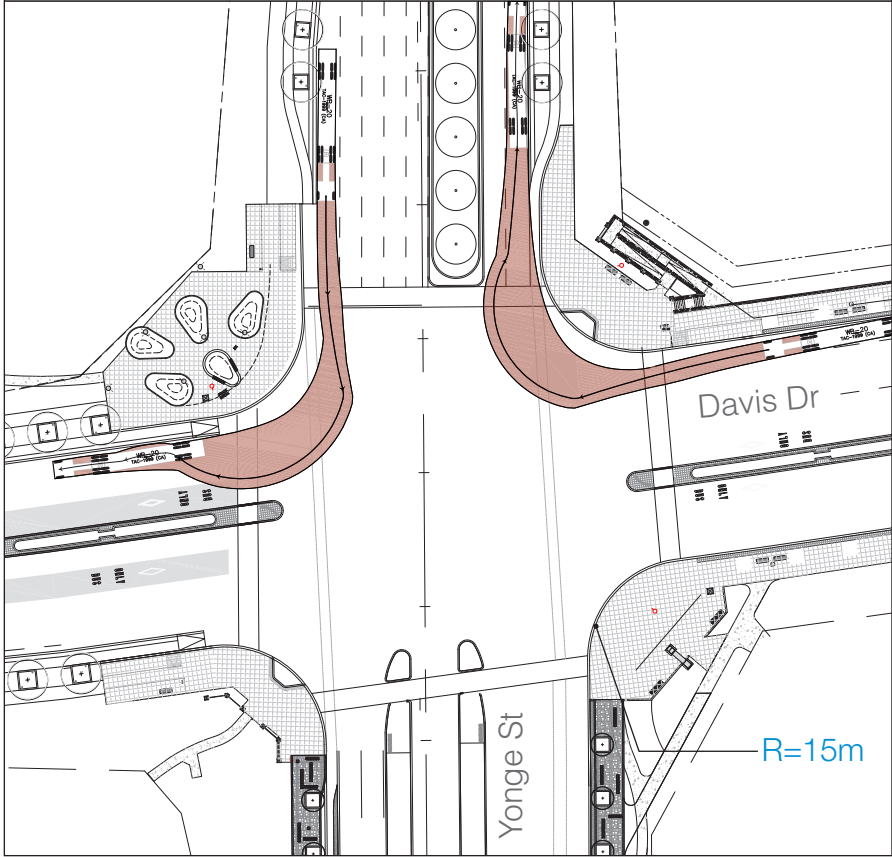
Right Sized Features

- Curbside Lane: 3.5 metres
- Through Lane: 3.3 metres
- Left Turn Lane: 3.3 metres
- Corner Turning Radius: 15 metres
- YRT Bus Route (52, 98, 99, 521)

Nova LFS 60' Articulating Bus



WB20 Tractor Trailer (TACC-1999)

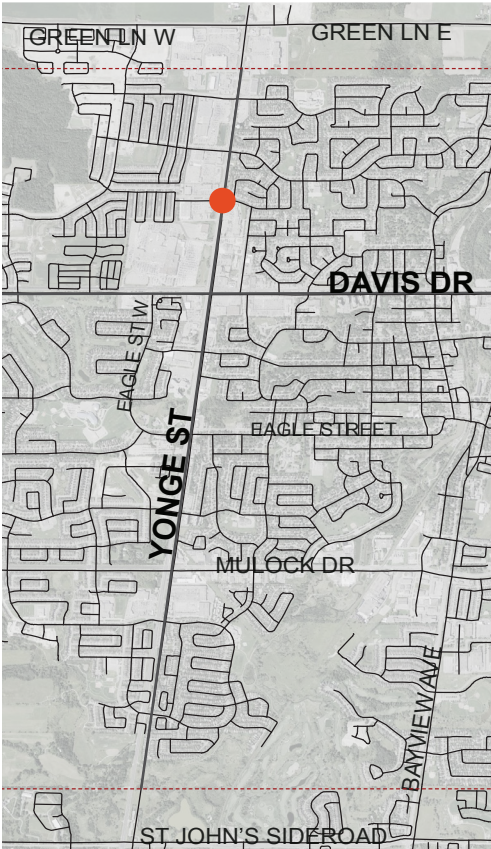


Maneuver	Location	Vehicle	Pass	Fail	Comments	Recommendations
Right Hand Turn	N/E Corner	Nova LFS 60' Articulating		x	Conflicts with cycle track	Include painted bike lane merge marking with a 20m radius
Right Hand Turn	N/W Corner	Nova LFS 60' Articulating		x	Conflicts with cycle track	Move bike lane ramp approximately 4m west
Left Hand Turn	EB Davis to NB Yonge	Nova LFS 60' Articulating	✓		N/A	N/A





3.1.2.4. Auto-Turn Analysis: Yonge Street and Dawson Manor Boulevard/ Kingston Road Intersection

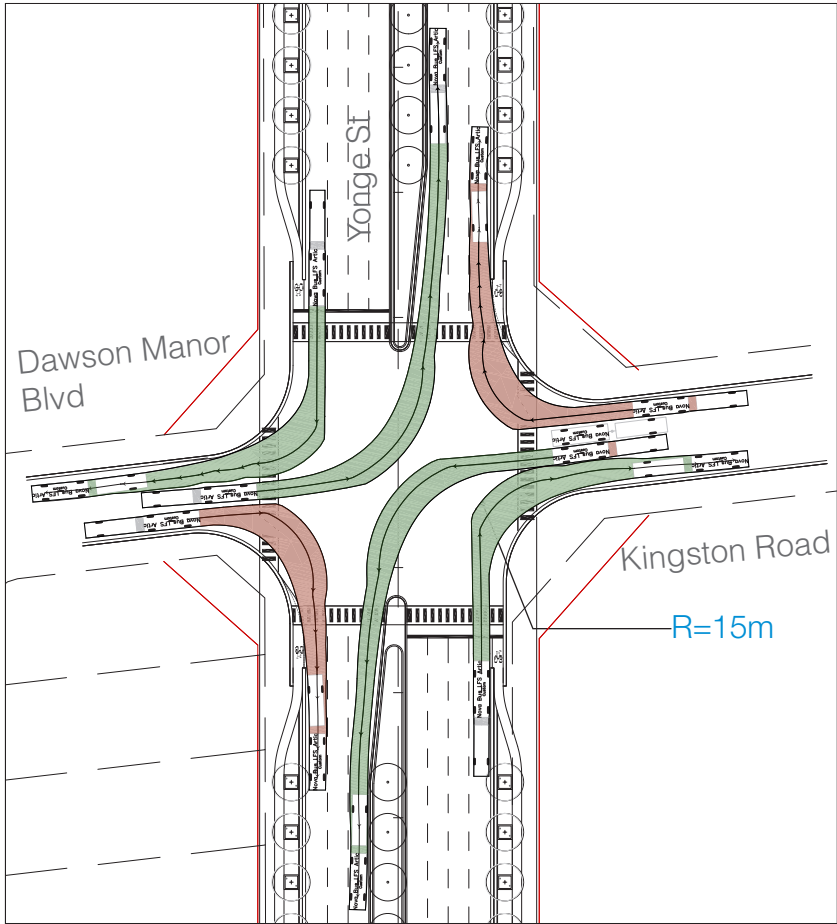


Right Sized Features

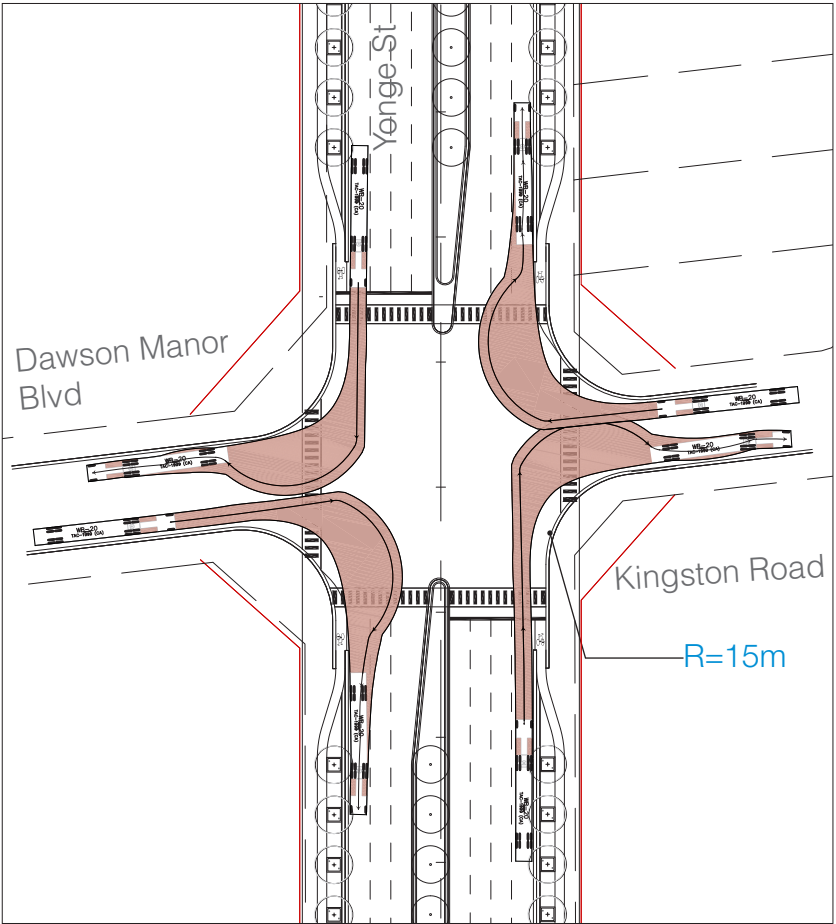
- Curbside Lane: 3.5 metres
- Through Lane: 3.3 metres
- Left Turn Lane: 3.3 metres
- Corner Turning Radius: 15 metres & 10m tested
- Not currently a bus route

Note: This intersection currently does not have a bus route however a community bus route with a smaller 40' Van Hool Bus is likely in the near future. This smaller bus means that the turning radii can be reduced to 10m with little to no encroachment.

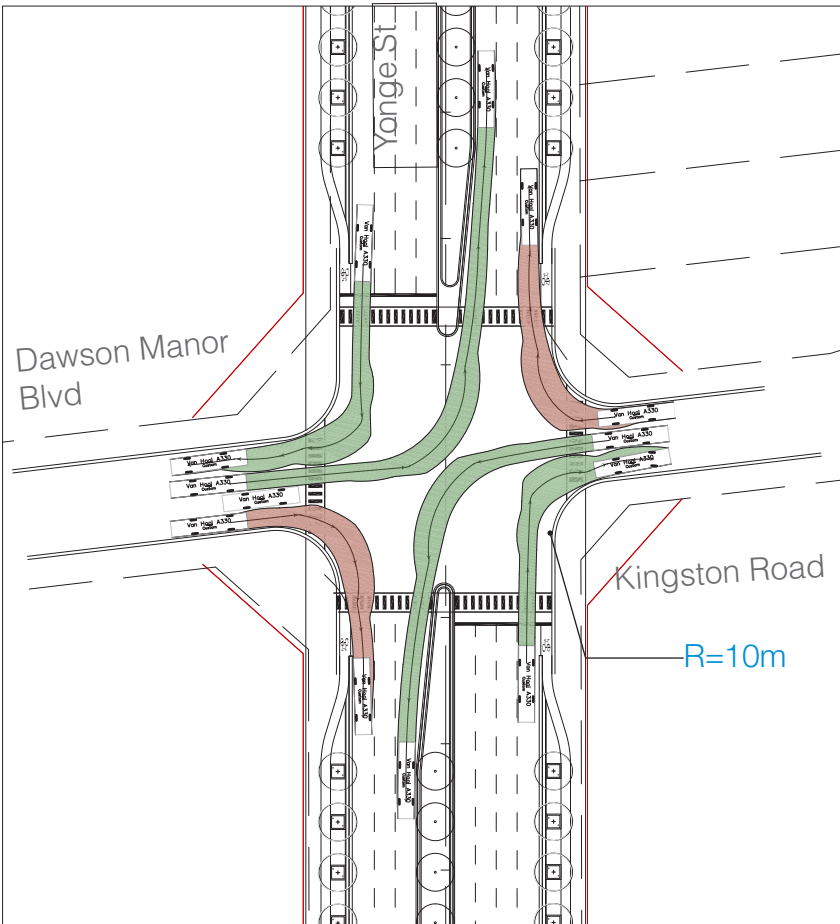
Nova LFS 60' Articulating Bus



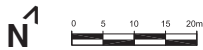
WB20 Tractor Trailer (TACC-1999)



Van Hool A330 40'



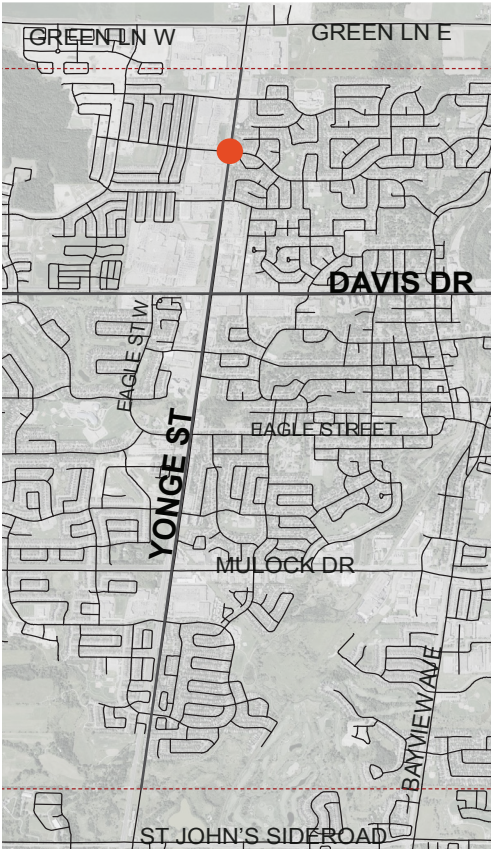
Maneuver	Location	Vehicle	Pass	Fail	Comments	Recommendations
Right Hand Turn	N/E Corner	Nova LFS 60' Articulating		x	Conflicts with cycle track	Include a painted bike lane merge marking with a 20m radius rather than 10m
Right Hand Turn	N/W Corner	Nova LFS 60' Articulating	✓		N/A	N/A
Right Hand Turn	S/W Corner	Nova LFS 60' Articulating		x	Conflicts with cycle track	Include a painted bike lane merge marking with a 20m radius rather than 10m
Right Hand Turn	S/E Corner	Nova LFS 60' Articulating	✓		N/A	N/A
Left Hand Turn	EB Dawson to NB Yonge	Nova LFS 60' Articulating	✓		N/A	N/A
Left Hand Turn	WB Kingston to SB Yonge	Nova LFS 60' Articulating	✓		N/A	N/A







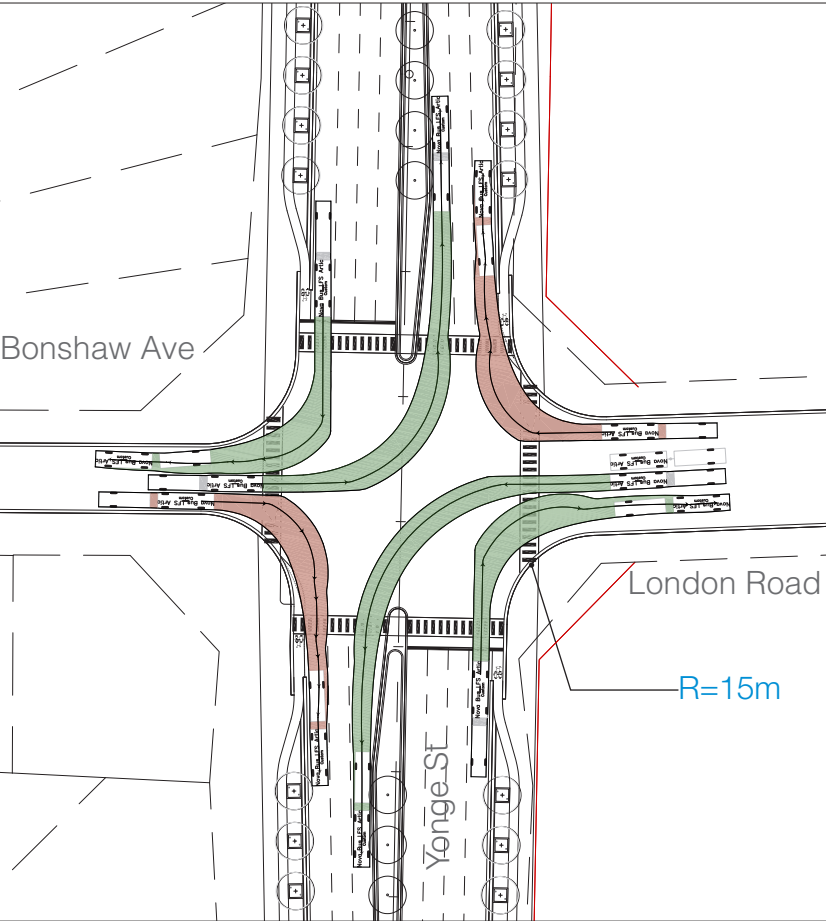
3.1.2.5. Auto-Turn Analysis: Yonge Street and Bonshaw Avenue/ London Road Intersection



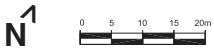
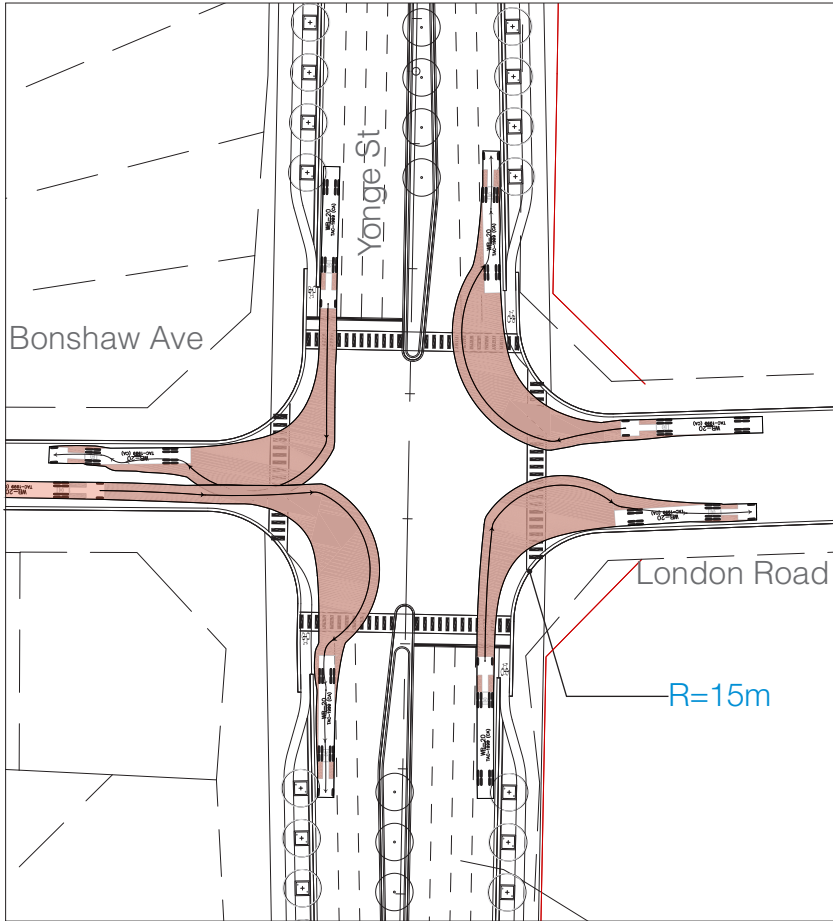
Right Sized Features

- Curbside Lane: 3.5 metres
- Through Lane: 3.3 metres
- Left Turn Lane: 3.3 metres
- Corner Turning Radius: 15 metres
- Community Bus Route (44, 423, 521)

Nova LFS 60' Articulating Bus



WB20 Tractor Trailer (TACC-1999)

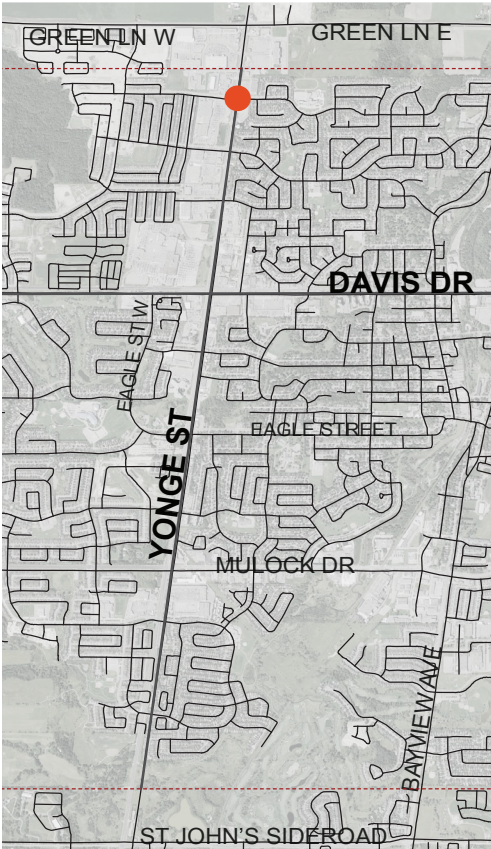


Maneuver	Location	Vehicle	Pass	Fail	Comments	Recommendations
Right Hand Turn	N/E Corner	Nova LFS 60' Articulating		x	Conflicts with cycle track	Include a painted bike lane merge marking with a 20m radius rather than 10m
Right Hand Turn	N/W Corner	Nova LFS 60' Articulating	✓		N/A	N/A
Right Hand Turn	S/W Corner	Nova LFS 60' Articulating		x	Conflicts with cycle track	Include a painted bike lane merge marking with a 20m radius rather than 10m
Right Hand Turn	S/E Corner	Nova LFS 60' Articulating	✓		N/A	N/A
Left Hand Turn	EB Bonshaw to NB Yonge	Nova LFS 60' Articulating	✓		N/A	N/A
Left Hand Turn	WB London to SB Yonge	Nova LFS 60' Articulating	✓		N/A	N/A





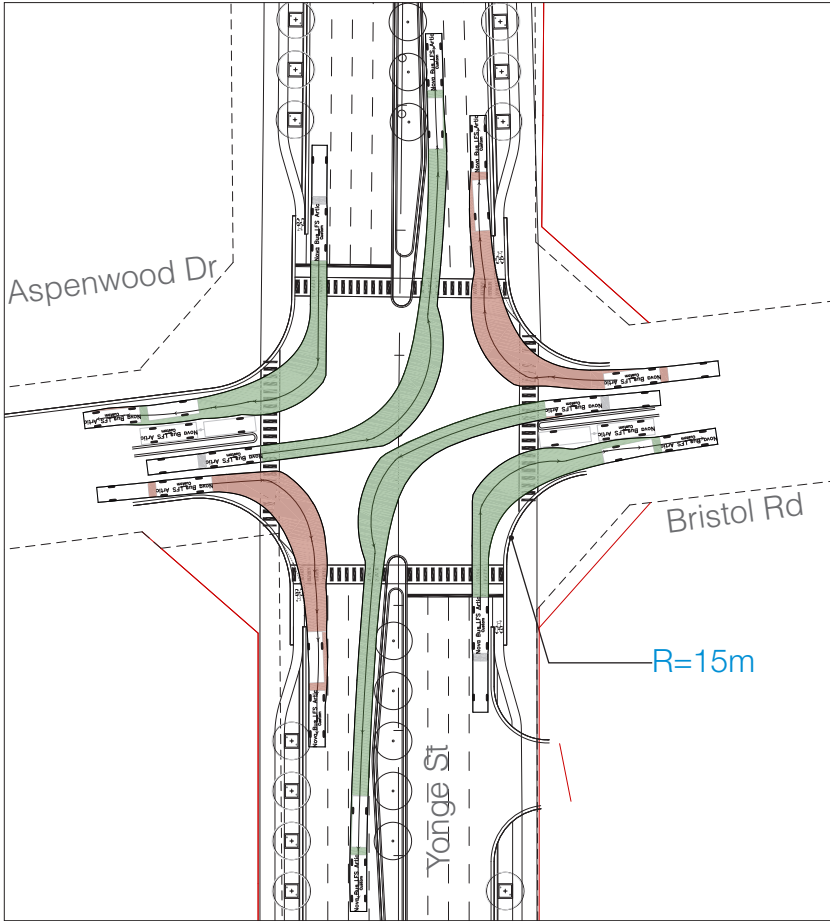
Auto-Turn Analysis: Yonge Street and Aspenwood Drive/ Bristol Road Intersection



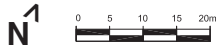
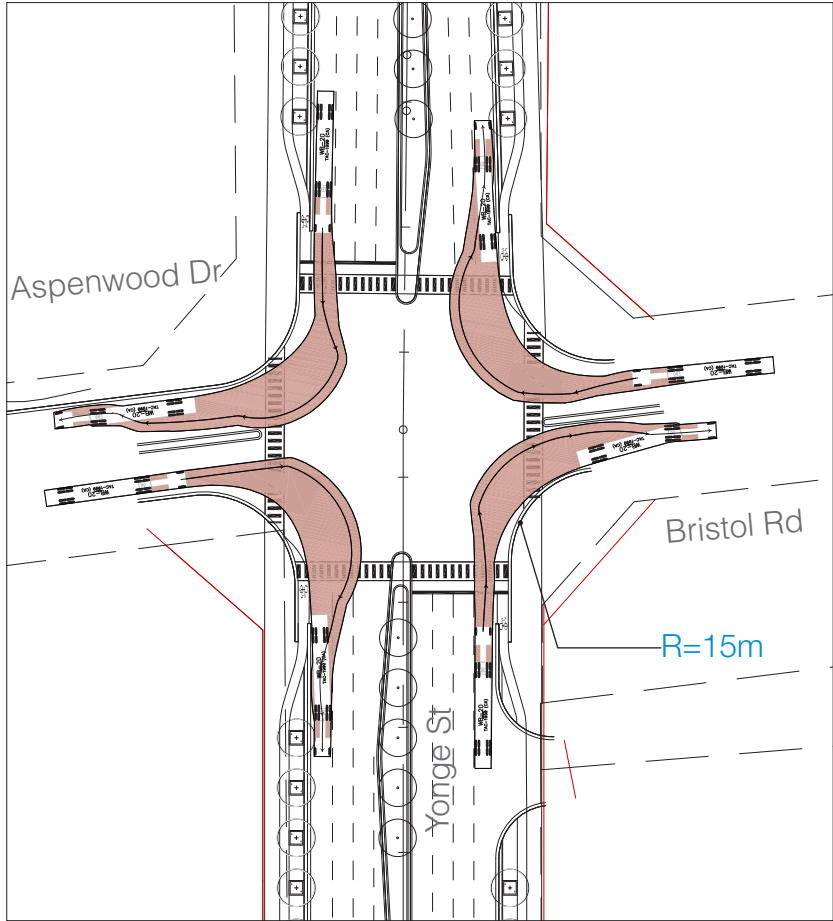
Right Sized Features

- Curbside Lane: 3.5 metres
- Through Lane: 3.3 metres
- Left Turn Lane: 3.3 metres
- Corner Turning Radius: 15 metres
- Community Bus Route (44, 423, 521)

Nova LFS 60' Articulating Bus



WB20 Tractor Trailer (TACC-1999)



Maneuver	Location	Vehicle	Pass	Fail	Comments	Recommendations
Right Hand Turn	N/E Corner	Nova LFS 60' Articulating		x	Conflicts with cycle track	Include a painted bike lane merge marking with a 20m radius rather than 10m
Right Hand Turn	N/W Corner	Nova LFS 60' Articulating	✓		N/A	N/A
Right Hand Turn	S/W Corner	Nova LFS 60' Articulating		x	Conflicts with cycle track	Include a painted bike lane merge marking with a 20m radius rather than 10m
Right Hand Turn	S/E Corner	Nova LFS 60' Articulating	✓		N/A	N/A
Left Hand Turn	EB Aspenwood to NB Yonge	Nova LFS 60' Articulating	✓		N/A	N/A
Left Hand Turn	WB Bristol to SB Yonge	Nova LFS 60' Articulating	✓		N/A	N/A



3.1.3 VivaNext Streetscape Transitions

The Yonge Street & Davis Drive Streetscape Master Plan will interface with the vivaNext streetscape along the Davis Drive West corridor at Yonge Street, as well as at the project limits along the Davis Drive East corridor. The Yonge Street & Davis Drive Streetscape Master Plan gradually transitions from the vivaNext streetscape at spatially logical places.

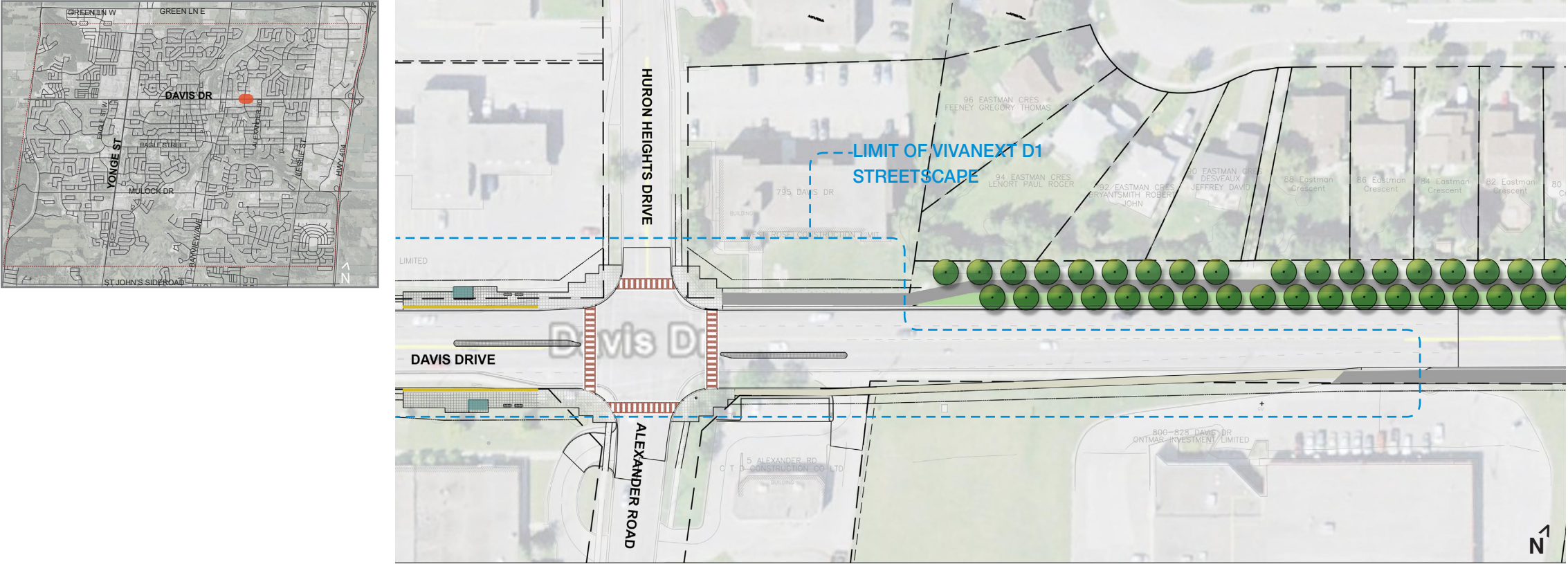
The transition along Davis Drive West involves gradually tapering the bus rapid lanes as they merge into local traffic west of Yonge Street.

The Streetscape Master Plan transitions at Davis Drive East into a 'suburban' vivaNext Streetscape. VivaNext lights extend east of Patterson Street into the Streetscape Master Plan scope for a gradual transition.

DAVIS DRIVE WEST TRANSITION WITH VIVANEXT D1

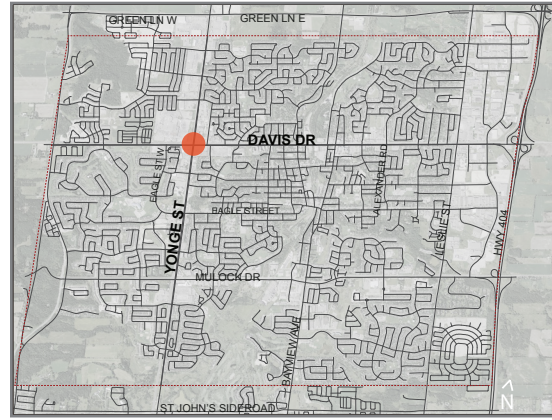


DAVIS DRIVE EAST TRANSITION WITH VIVANEXT D1

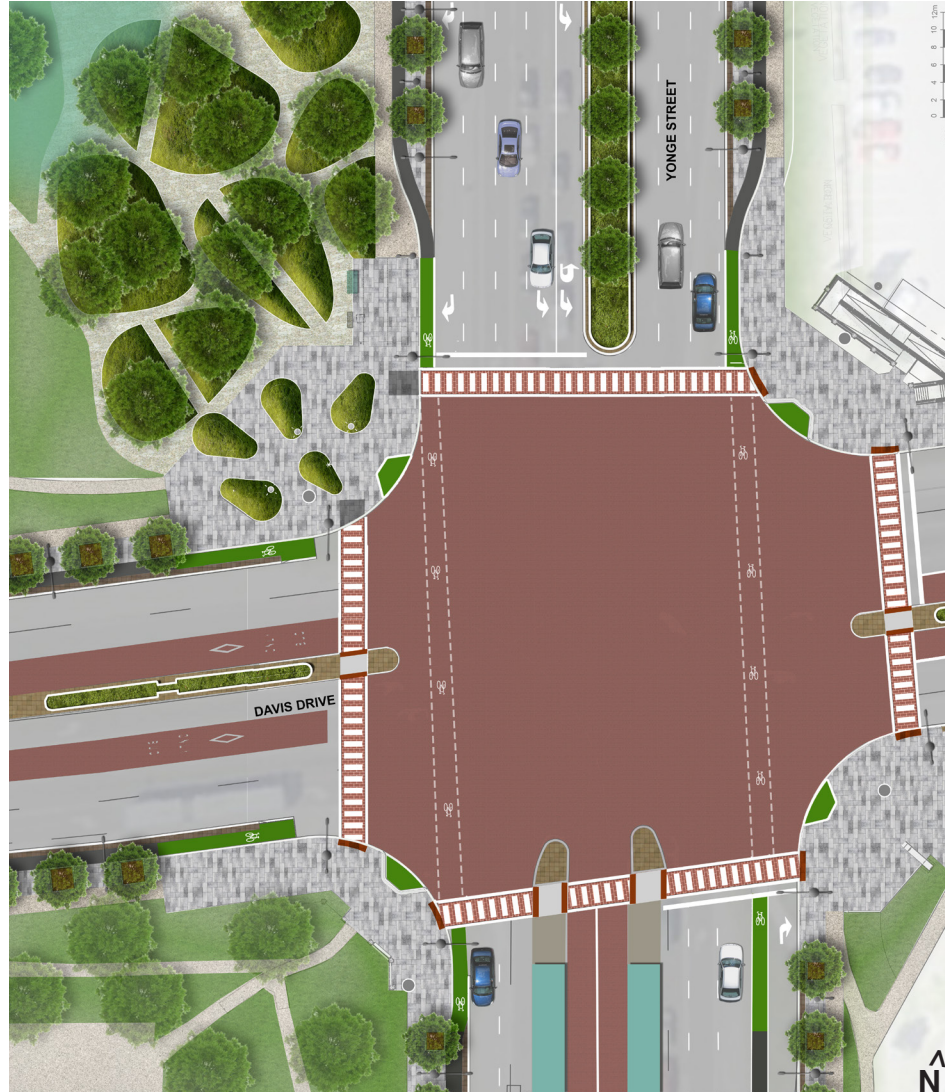




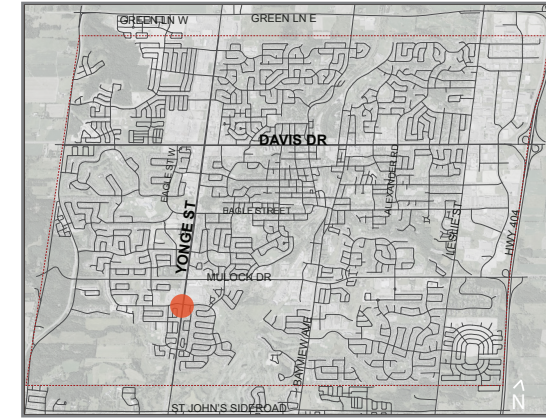
## YONGE NORTH STREETScape TRANSITION



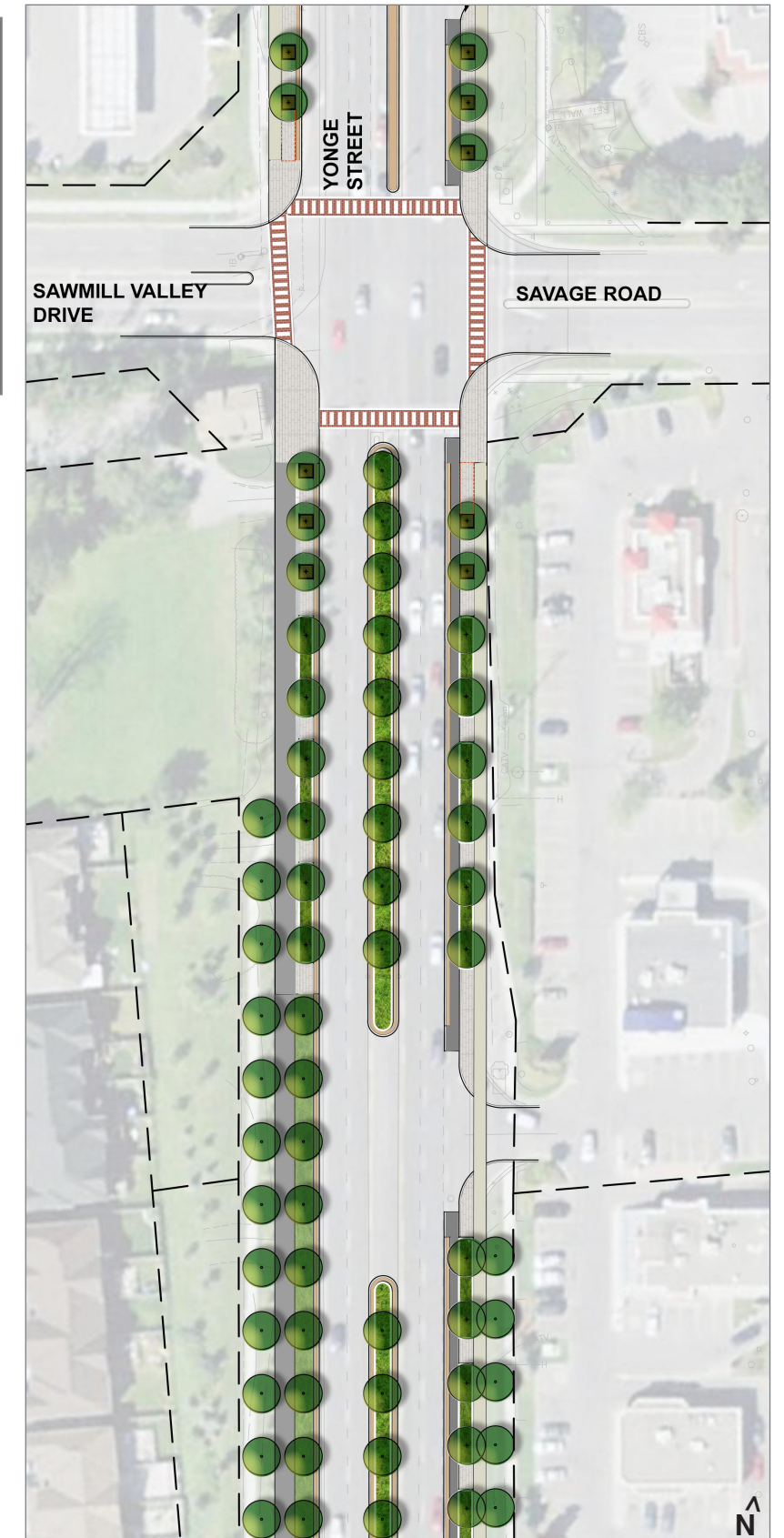
Yonge Street North begins at Davis Drive. This intersection is marked by the signature vivaNext red paving throughout the intersection. Measures have been taken to ensure a smooth transition into the vivaNext streetscape geometry. Buses will transition from the BRT lane into vehicular traffic and over to the curbside HOV lanes. VivaNext may be implemented on Yonge Street North in the future. The Yonge Street North streetscape plan demonstrated in this report is the interim condition which protects the center of the ROW for the future vivaNext BRT planned for in the next 25 years. The future BRT will be implemented pending approval and funding by the Province and Metrolinx. The streetscape Master Plan shows a planted centre median with trees spaced 8 m on centre with an understorey of hardy shrub planting. Once the BRT arrives, the centre median will be removed and replaced by the rapidway with a running width of 3.5m in each direction. The curb line will remain fixed as well as the boulevard treatment behind the curb including cycle track, tree planting, hydro, utilities, traffic signals, lighting and pedestrian infrastructure. However, the road geometry may change including the elimination of through lanes or right/left-hand turn lanes during the future detailed design stage. This follows the rationale that the future BRT will replace some of the volume of private vehicles.



## YONGE SOUTH STREETScape TRANSITION



The Yonge Street & Davis Drive Streetscape Master Plan does not interface with the vivaNext streetscape on Yonge Street South. VivaNext terminates at Mulock Drive, where as the northern project limit of Yonge Street South is at Sawmill Valley Drive.





## 3.1.4 Context Driven Streetscape Typologies

The Master Plan consists of context driven streetscape typologies that are applied to the various segments throughout the corridors.

The streetscape typologies are informed by the adjacent land uses, the vision for Yonge Street and Davis Drive as well as urban design best practices. They provide a framework for future streetscape development through distilling the predominant objectives of the streetscape and the means to achieve these objectives. Through developing a rational for the streetscape development, the Master Plan ensures that the motivations behind the project remain at the forefront of future development.

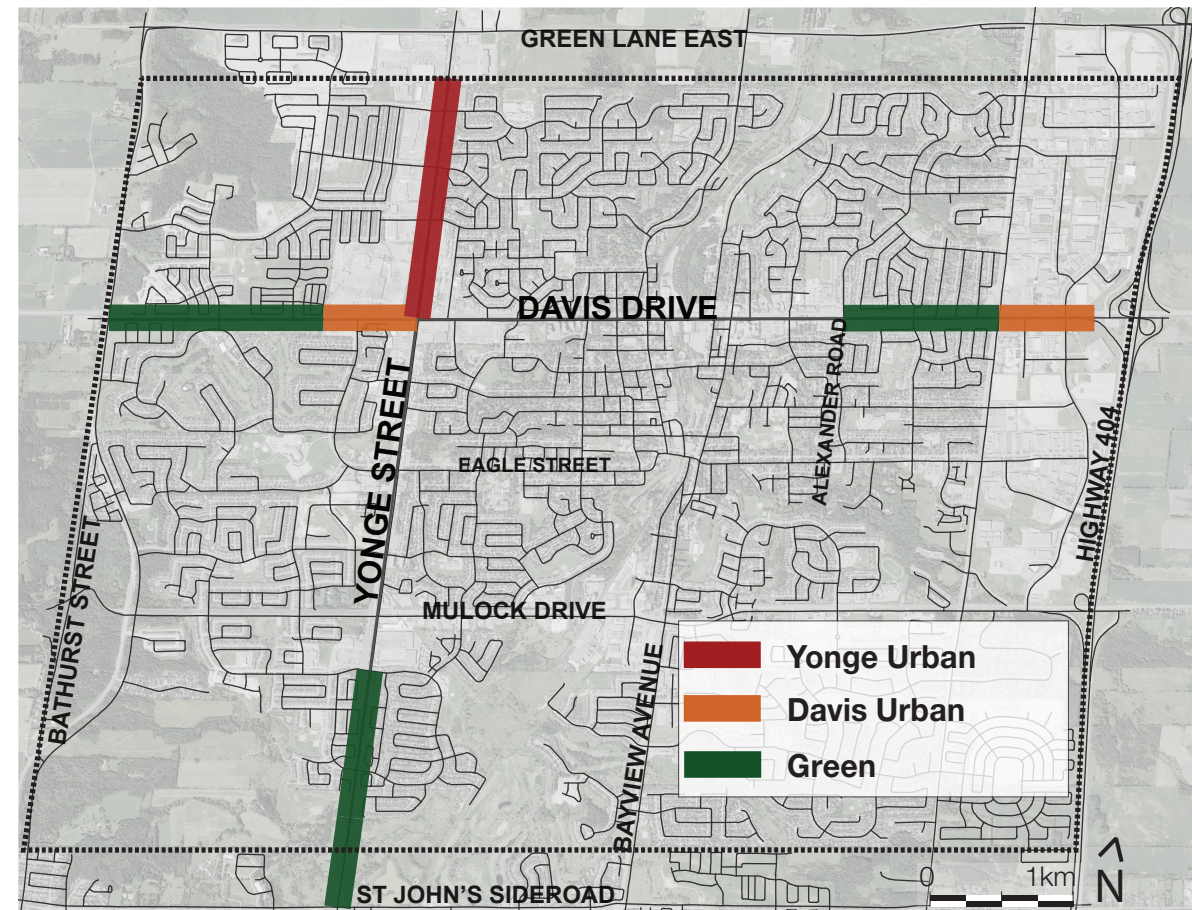
The typologies provide a basis for all streetscape designs including the typical streetscape geometrics for intersections and midblock conditions. The typologies present ideal forms for pedestrian, and cyclist transportation, public realm amenities, and planting geometries. The typologies respond to the current and projected land use contexts and illustrate effective ways for the streetscape to interface with its current and future surroundings.

These typologies include the following:

- Yonge Urban Streetscape
- Davis Urban Streetscape
- Green Streetscape

Both Urban Streetscape Typologies provide the framework for streetscapes in urban areas. The major difference between the Yonge Urban Streetscape and the Davis Urban Streetscape is the location of the raised cycle track in the boulevard.

Though the typologies serve as a basis for the typical streetscape condition, there is room for alterations when the context necessitates.



Streetscape Typologies Key Plan



3.1.4.1. Urban Streetscape Typology

This streetscape typology is utilized in commercial areas where there will be an influx of businesses and people. The streetscape is based on a projected urban intensification, in which animated mixed-use frontages line the streetscape.

Philosophy & Approach

In accordance with the urbanized setting, this streetscape typology has a distinctly urban ambiance. Valuable space in the boulevard is gained through the implementation of Right Size Streets strategies. Pedestrian space is enhanced through the presence of pedestrian amenities such as street furniture, pedestrian lighting and street trees. Trees are planted in grates at intersections maximize pedestrian circulation space and contribute to the urban atmosphere.

The boundary between the public and private realm is blurred to create a visually cohesive streetscape pedestrian plaza.

Geometry

The geometry of the **Urban Streetscape Typology** focuses on optimizing pedestrian space for an animated streetscape through the implementation of Right Size Street strategies.. Measures are taken to minimize conflict between pedestrian circulation and other forms of transportation.

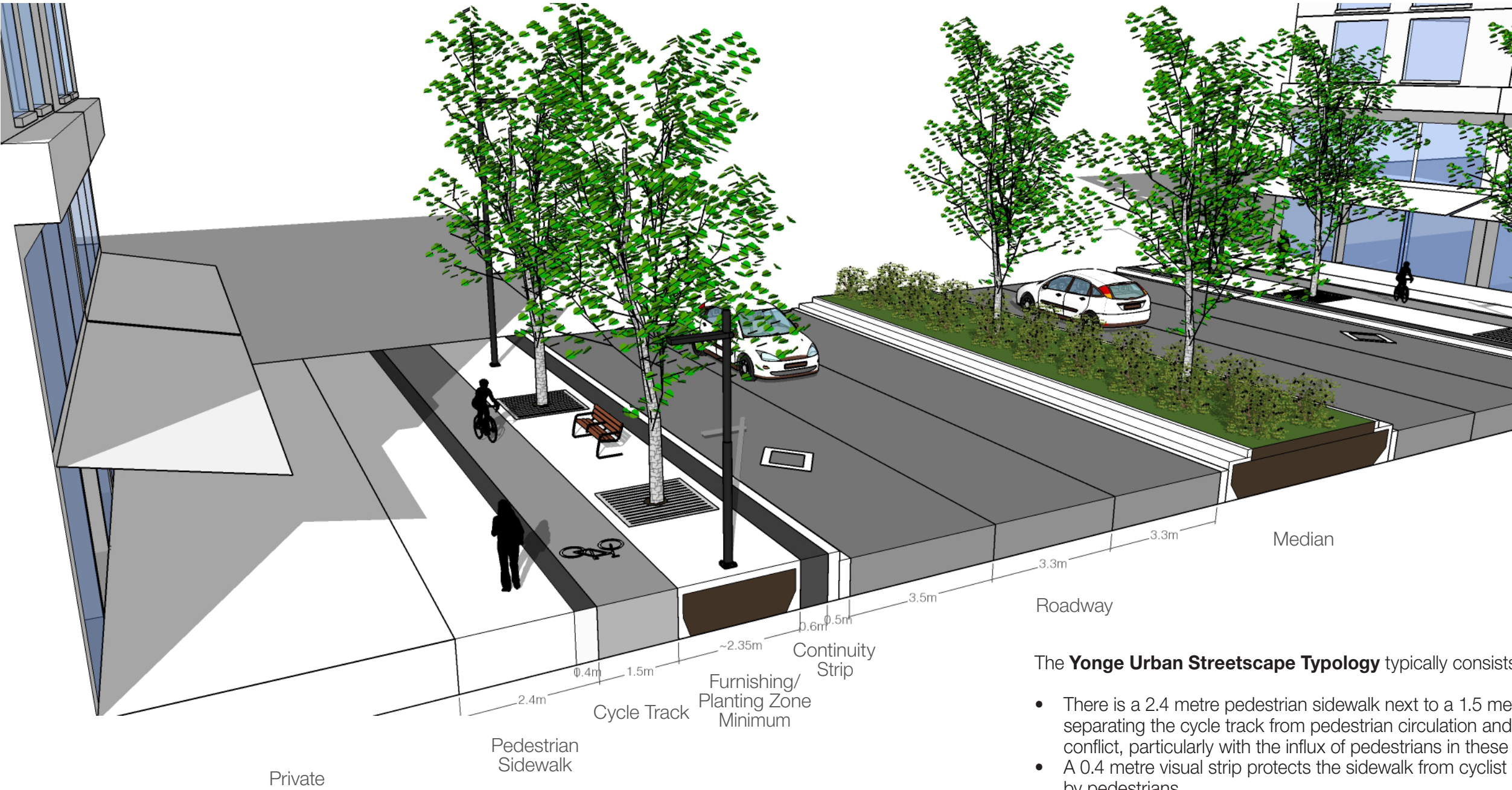
There are two sub-types of the Urban Streetscape Typology that are differentiated based on the placement of the cycle track.

The following elements are present throughout **both** types of the Urban Streetscape Typology

- Right Size Street strategies are implemented as follows:
  - 3.0 to 3.3 m wide through lane
  - 3.35 to 3.5m wide curb side lane
  - 3.0m wide right-hand turn/left- hand turn lane
  - Reduced corner-curb radii at intersections and driveways
- The planting/ furnishing zone contains Town of Newmarket signature street lights with pedestrian luminaires with additional pedestrian lighting.
- Urbanized intersections with smaller turning radii reduce pedestrians crossing distances and slow vehicular turning.
- Street trees are planted in grates 6 metres on centre in close proximity to intersections, in order to optimize space for pedestrian circulation and create an urban grove.
- Urban planters contain street trees midblock
- Roadway lanes are typically 3.3 metres wide with a 3.5 metres wide HOV lane curbside wherever appropriate.
- The centre median is utilized for planting, banners and/or public art installations, in order to establish a strong identity and sense of place.
- 0.6 metre curbside continuity strip reinforces Town of Newmarket theme.



Yonge Urban Streetscape Typology



The **Yonge Urban Streetscape Typology** typically consists of the following:

- There is a 2.4 metre pedestrian sidewalk next to a 1.5 metre raised cycle track. Through separating the cycle track from pedestrian circulation and the roadway, this design minimizes conflict, particularly with the influx of pedestrians in these areas.
- A 0.4 metre visual strip protects the sidewalk from cyclist traverse. This area can be accessed by pedestrians.
- There is a furnishing/planting zone buffer between the cycle track and the roadway in order to protect cyclists from vehicular traffic, and reduces the visual impact of the expansive roadway for cyclists and pedestrians. The placement of the furnishing/planting zone next to the roadway visually reduces the appearance of the ROW.
- Roadway lanes are typically 3.3 metres wide, with 3.5 metre wide HOV lanes curbside.
- Right and left turn lanes are 3.0 metres wide.
- The corner curb radii is reduced at intersections and driveways.



## Davis Urban Streetscape Typology



The **Davis Urban Streetscape Typology** typically consists of the following:

- There is a 2.0 metre pedestrian sidewalk and a 1.5 metre raised roadside cycle track with a 0.6 metre buffer. Through separating the cycle track from pedestrian circulation and the roadway, this design minimizes conflict, particularly with the influx of pedestrians in these areas.
- There is a furnishing/planting zone buffer between the cycle track and pedestrian sidewalk.
- Roadway lanes are typically 3.0 - 3.3 metres wide, with 3.35- 3.5 metre wide HOV lanes curbside.
- Right and left turn lanes are 3.0 metres wide.
- The corner curb radii is reduced at intersections and driveways.



3.1.4.2. Green Streetscape Typology

This streetscape typology is utilized in stable and developing residential areas along the corridors, as well as adjacent to open green space.

Philosophy & Approach

This streetscape typology aims to create a lush green streetscape that provides comfortable means for active transportation and a strong, cohesive sense of place along the streetscape. Valuable space in the boulevard is gained through the implementation of Right Size Streets strategies.

In residential areas, the streetscape typology caters to the population of low to mid density residential areas. Multi-use paths with landscaped buffers from the roadway provide shaded and protected corridors for people of different ages and ability to partake in active transportation.

In areas of open green space, the streetscape creates comfortable passage to and from the trail networks.

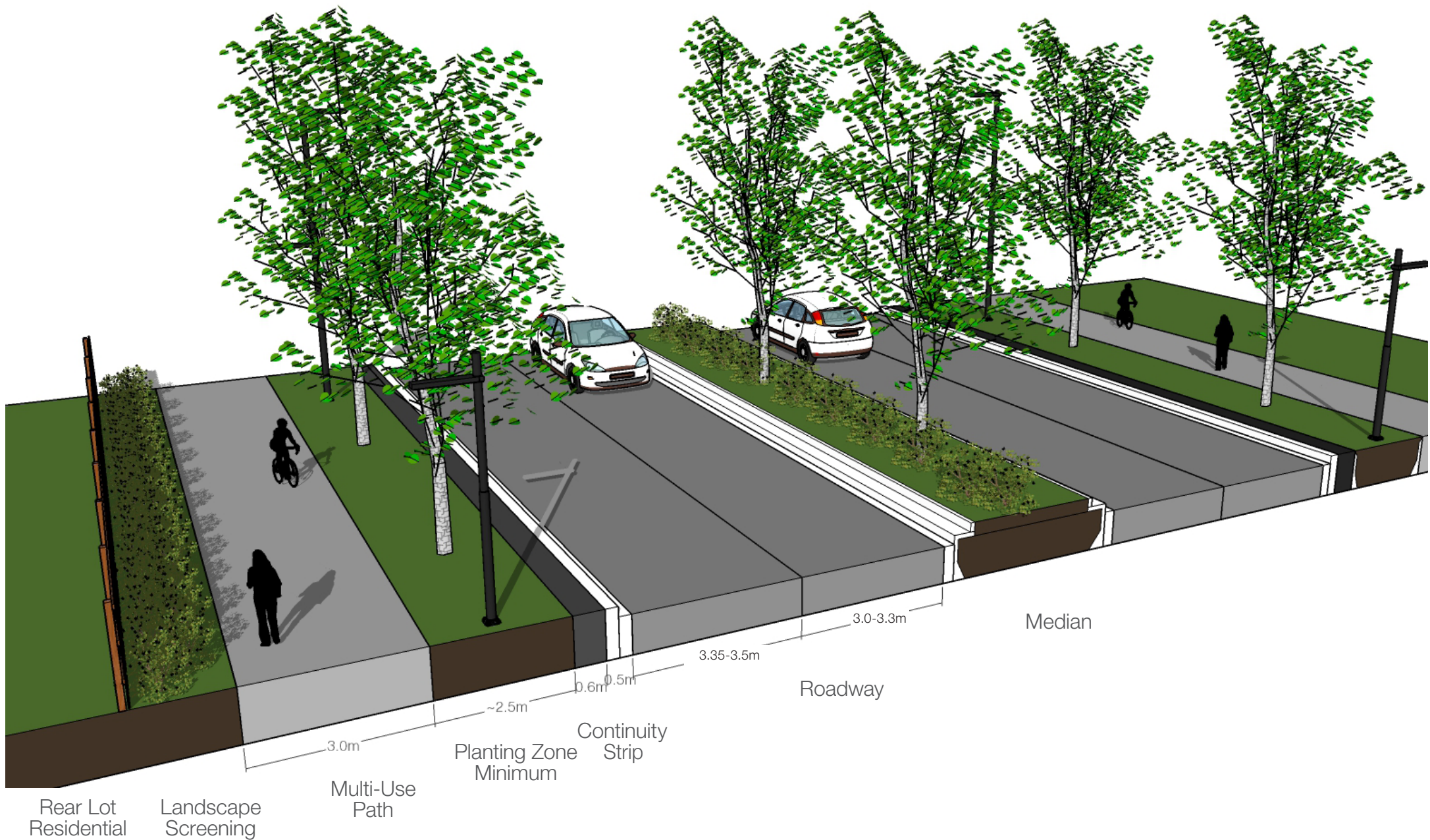
The Green Streetscape Typology is focused on the safe and comfortable transportation of residents and trail users.

Strategies such as signature grasses and landscaped buffers are utilized in order to create a sense of visual cohesion in areas that can be disparate due to differing privacy fencing types. Landscape is used to create cohesion between the streetscape and the adjacent lands.

Right Size Street Geometry

This typology consists predominantly of multi-use paths that are lined on one or both sides of the street with landscaped areas. Bioswales are utilized for SWM where there is sufficient room in the Right of Way (ROW).

- The multi-use path is 3.0 metres wide in order to accommodate multiple forms of active



transportation including walking, running and cycling.

- Multi-use path is segregated from the roadway through a landscape buffer.
- In the corridors with rear lot residential, a landscape buffer screens the private fences and provides visual cohesion and additional opportunities for green infrastructure.

- Roadway lanes are typically 3.0 - 3.3 metres wide, with 3.35- 3.5 metre wide HOV lanes curbside.
- Right and left turn lanes are 3.0 metres wide.
- The corner curb radii is reduced at intersections and driveways.
- The centre median is utilized for planting in order to reduce the expansive appearance of the ROW

- and contribute to the urban forest.
- Urbanized intersections with smaller turning radii reduce pedestrians crossing distances and slow vehicular turning.



## 3.2 Key Design Analysis

The hybrid design for the Yonge Street & Davis Drive Streetscape Master Plan utilizes the key principles from both the Active Yonge & Davis Concept as well as the Green Yonge & Davis Concept, prioritizing different principles based on the streetscape context. The streetscape design aims to optimize:

- Pedestrian Experience
- Cycling Infrastructure
- Accessibility
- Environmental Resilience
- Streetscape Transitions

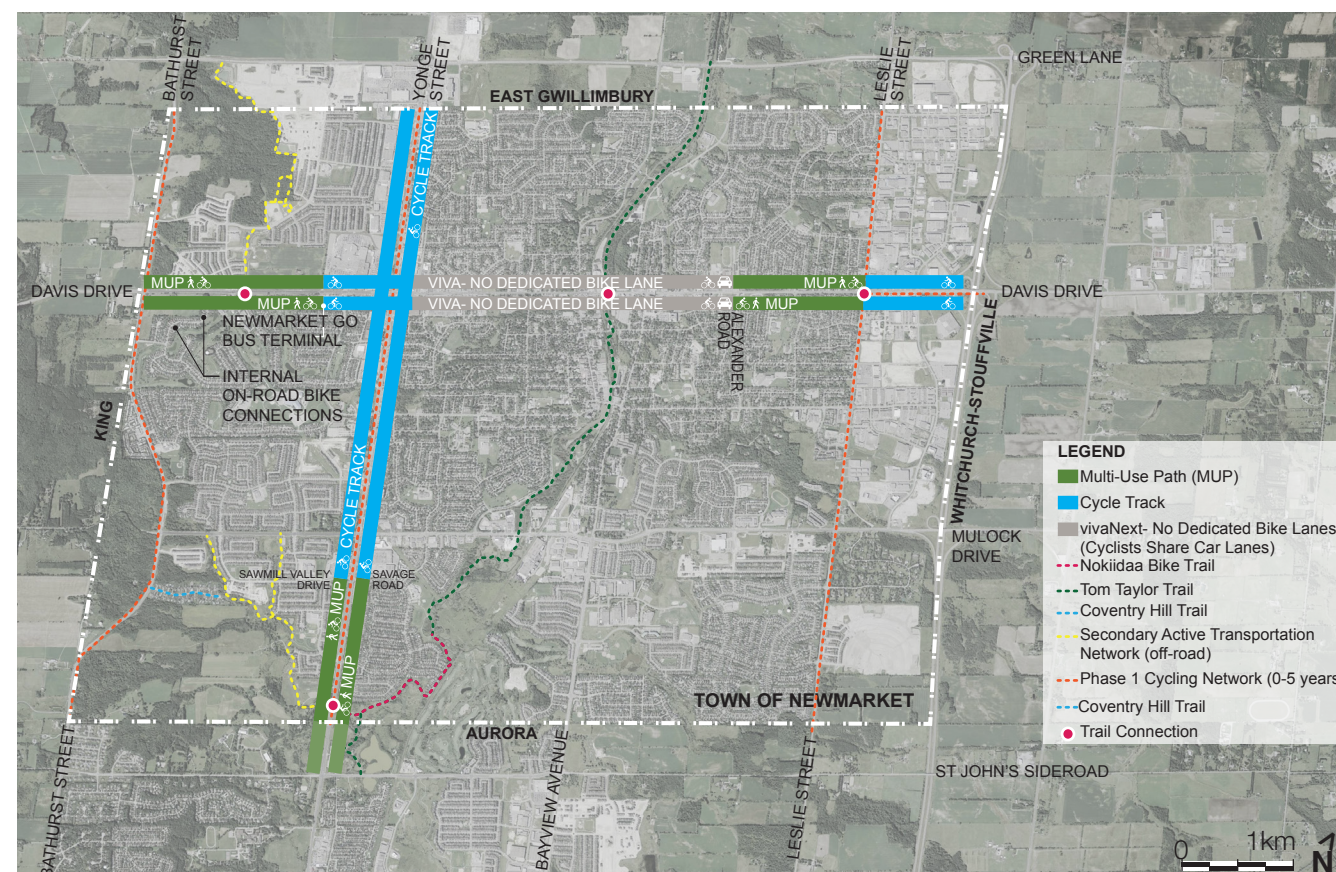
### 3.2.1 Pedestrian Experience

In order to encourage an active streetscape, the Streetscape Master Plan prioritizes pedestrians. Continuous accessible paths are present along both sides of the street along all corridors. In the more urban areas, these paths are sidewalks. In the urbanized areas street trees are planted in grates approaching signalized intersections to facilitate pedestrian circulation. The less urbanized areas contain multi-use paths that are shared between pedestrians and cyclists. These multi-use paths connect with the existing trail systems and are sheltered from vehicular traffic with landscaped buffers. When pedestrian circulation intersects with vehicular circulation such as driveways, pedestrians are given priority.

### 3.2.2 Cycling Infrastructure

Active transportation is also encouraged through the presence of cycling facilities along all corridors. Yonge Street North is being designed with a raised cycle track that is segregated from vehicular traffic by a furnishing/ planting zone. The majority of the remaining corridors are equipped with multi-use paths, to be shared by cyclists and pedestrians.

Cyclists' paths through intersections are demarcated through road markings in compliance with Provincial standards. York Region standard bike boxes provide a means for safer left-turns at signalized intersections. Creating enhanced cycling facilities throughout the corridors and therefore encouraging active transportation, as well as transit, could lead to an increase in cyclists and a decrease in the reliance on private vehicles. The Cycling Master Plan conceptually illustrates the planned and existing cycling infrastructure within the project area.



Cycling Master Plan for Yonge Street and Davis Drive

Multi-Use Path



Boulevard Cycle Track

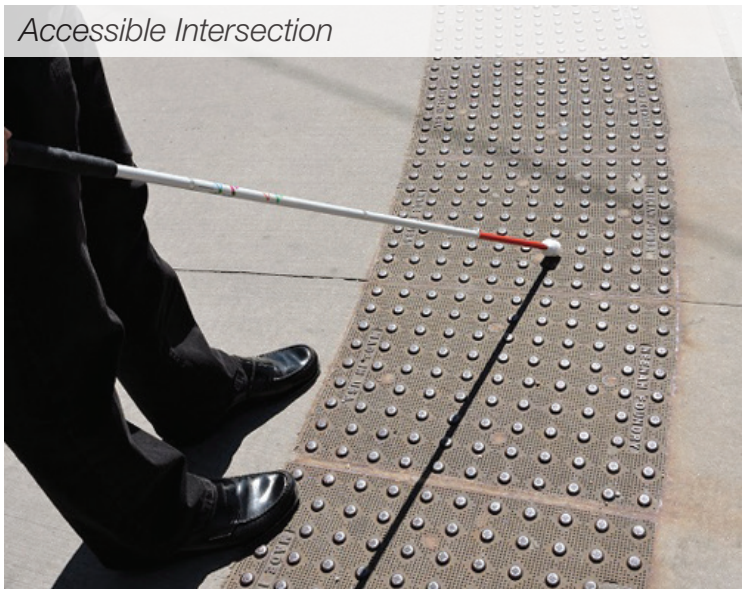




3.2.3 Accessible Intersection Treatment

The intersections reinforce a sense of place unique to Newmarket through the use of specialized intersection paving treatments.

Accessible curbs are used at all intersection crossings and AODA compliant tactile plates warn pedestrians that they are transitioning the sidewalk to the roadway. Textured crosswalks provide cues for the visually impaired.



3.2.4 Environmental Resilience/LID

**Stormwater Management**  
Stormwater infiltration planters (in more urbanized corridors) and vegetated bioswales collect and filter stormwater in order to take pressure off of the sewer system during extreme weather events, as well as minimize the usage of potable water for irrigation. Appropriate low maintenance plant species are proposed to minimize upkeep and irrigation needs. Stormwater management (SWM) ponds also aid in the collection and filtering of stormwater, as well as present the opportunity for an animated community space.

**Street Trees**  
The streets are lined with diverse and context-appropriate deciduous tree species to aid in offsetting the carbon emissions produced from the heavily vehicular traffic. Trees are planted 6 metres on centre at intersections in order to create an urban grove effect, maximizing canopy and establishing a strong sense of place throughout the corridors. Tree species are salt and drought tolerant and native when possible.

**Buffer Planting**  
Landscape screens create opportunities for additional planting along rear lot residential areas. The landscape screens create visual cohesion in an area that currently lacks continuity.

**Paving Materials**  
Light coloured paving is used in order to mitigate the heat island effect. There are also opportunities to implement Low Impact Development (LID) techniques such as pervious materials on the multi-use paths, in pedestrian zones and the continuity strips.

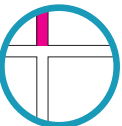
**Green Living Labs**  
Opportunities for the community to engage in environmentalism are presented through urban agriculture plots and treatment of the streetscape as a living lab in which the community can learn about nature.



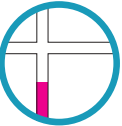


### 3.3 Streetscape Corridors

The next section of the report is organized into four sections that examine the four segments of the Streetscape Master Plan:



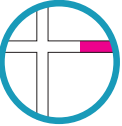
**Yonge Street North (section 3.3.1)**



**Yonge Street South (section 3.3.2)**



**Davis Drive West (section 3.3.3)**



**Davis Drive East (section 3.3.4)**

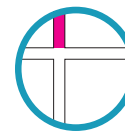
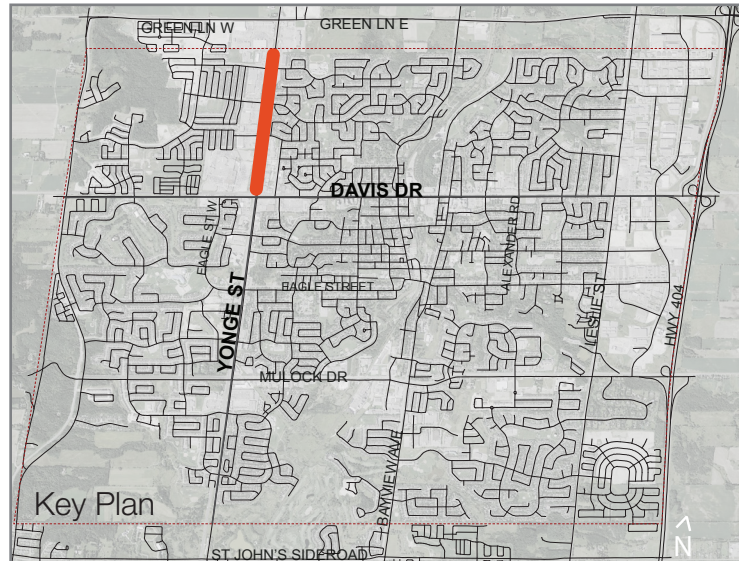
Each section will begin with a brief summary of the existing streetscape conditions, the philosophy and approach for the section, the key objectives, key challenges, and key streetscape elements. The overall Master Plan for the corridor will follow. The Master Plan also serves as a key plan for areas that are depicted in further detail. A larger version of the Master Plan can be found at the end of the document.

The report goes on to examine the design in more detail, illustrating the typical conditions as well as unique areas (such as the gateway) through sections, detailed plans and perspective renderings.

Both Yonge Street segments (Yonge Street North and Yonge Street South) are examined from south to north and both Davis Drive segments (Davis Drive West and Davis Drive East) are examined from west to east.

The examination into the section begin with sections that depict the typical streetscape condition(s) throughout the segments. Detailed plans and visualizations follow to provide more detail regarding the streetscape conditions.





## Yonge Street North

## 3.3.1 Yonge Street North Segment

## PHILOSOPHY &amp; APPROACH

Yonge Street North is identified primarily as a mixed use area in the Urban Centres Secondary Plan, with priority commercial areas extending from Davis Drive to Bonshaw Avenue, and again at Aspenwood Drive. According to the Secondary Plan, the corridor is also a preferred location for up to two elementary schools as well as a neighbourhood park.

Where the streetscape currently lacks animation, future commercial and institutional developments will consist of animated frontages in close proximity to the sidewalk.

The Yonge Street North segment of the Streetscape Master Plan will encourage the growing pedestrian population in this changing corridor. Through the presence of continuous urban pedestrian circulation, street furniture, pedestrian lighting, tree canopy and public art, Yonge Street North will hold a strong sense of place and act as a community hub.

## KEY OBJECTIVES

The main objective for Yonge Street North is to create an urbanized, vibrant streetscape that encourages an animated pedestrian atmosphere and supports multi-modal transportation.

## KEY CHALLENGES

The current streetscape condition is car-dominated. In some areas large parking lots line the sidewalks. These parking lots serve as physical barriers between the sidewalk and commercial establishments, discouraging pedestrian presence and interaction with the streetscape. A key challenge to Yonge Street North will be establishing the corridor as an animated, interactive complete street given the current lack of pedestrian culture.

Another major challenge to the development of Yonge Street North is the potential addition of a Bus Rapid Transit (BRT) centre lane in the future. Accordingly, the centre median may serve as a place holder for the BRT lane.

## APPLICATION OF STREETScape TYPOLOGIES

The Yonge Urban Streetscape Typology is utilized for the entire Yonge Street North corridor. Due to the large ROW, the placement of the furnishing/planting zone curbside visually reduces the pavement width of the ROW with a row of street trees, creating a more pleasant streetscape condition. The pedestrian sidewalk, segregated cycle track and furnishing/planting zones utilized in the typology supports the initiative to make Yonge Street North a more animated pedestrian friendly environment.

The Yonge Urban Streetscape Typology demonstrated in this report is the **interim condition** which protects the center of the ROW for the future BRT. The future BRT will be implemented pending approval and funding by the Province and Metrolinx.

## KEY DESIGN ELEMENTS

The following presents the typical streetscape conditions throughout the Yonge North segment:

## Intersection Treatment

- Clear pedestrian path
- Reduced radii
- AODA compliant
- Enhanced crosswalk paving
- Trees in grates with soil cells in a continuous trench
- Group of five deciduous trees spaced 6 metres on centre at signalized intersections to create tree groves
- Far-side York Region standard bike boxes
- Feature paving at intersection corners
- Cycle track ramps down and meanders roadside at intersections
- Pavement marking demarcate cycling path through intersections

## Midblock Treatment

- Pedestrian priority at driveways
- Clear pedestrian path
- Cycle track adjacent pedestrian circulation
- Cycle track priority at driveway locations
- Trees in boulevard planters spaced 8 metres on centre to provide a green street wall
- Utility poles and light standards located in furnishing zone

## Median Treatment

- Trees spaced 6 metres on centre at intersections
- Hardy shrub understorey
- Unit paver splash strip

## Existing Conditions Summary

Yonge Street North is a high volume arterial located within the commercial core of the Town of Newmarket. The street carries significant amounts of traffic at a design speed of 100km/h. This influx of traffic is beneficial for businesses located adjacent to Yonge Street, but currently presents challenges for pedestrian and cyclist safety. This stretch of roadway has no bike lanes and the existing pedestrian environment lacks pedestrian amenities and character.

Key existing characteristics of Yonge Street North include:

- Wide ROW and paved area (ranging from 39.5 metres – 49.1 metres);
- Streetscape character is predominantly large big-box stores with significant setbacks from Yonge Street;
- Numerous large asphalt parking lots front Yonge Street and contribute to the heat island effect;
- Frequent consolidated driveways due to large lots;
- Open ditches adjacent to roadway and sidewalks;
- Significant grade changes at some properties;
- Visual dominance of hydro poles and above ground utilities.



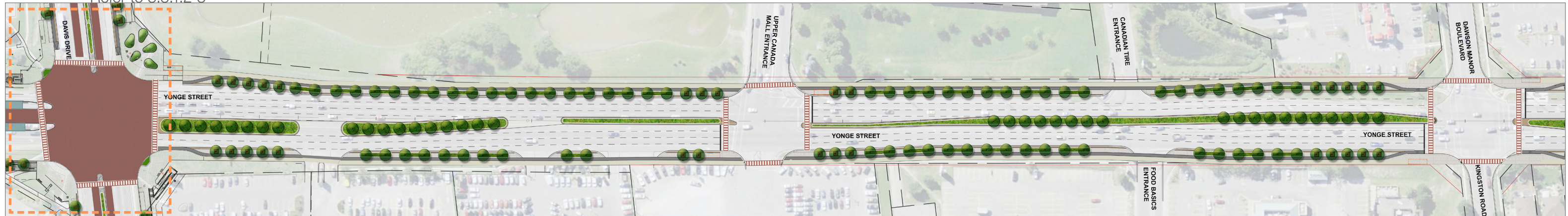


Yonge Street North

### 3.3.1.1. Streetscape Master Plan

The following illustrates the Master Plan for the Yonge Street North segment of the Yonge Street & Davis Drive Streetscape Master Plan with a key plan of Streetscape Typologies. The design represents the interim condition which protects for the future BRT down the centre of the rapidway. The Plan is overlaid over an aerial image of the current conditions to provide context. Further detail on the Master Plan is provided in the following section, complete with sections, visualizations and detailed plans.

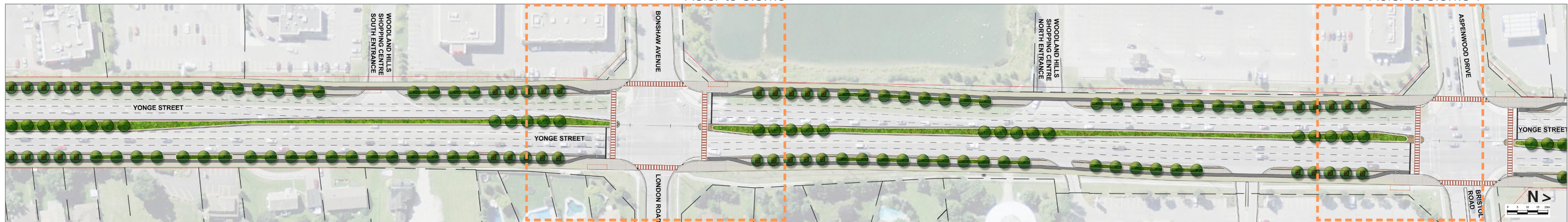
Refer to 3.3.1.2-3



Yonge Urban Streetscape Typology (Refer to 3.3.1.4)

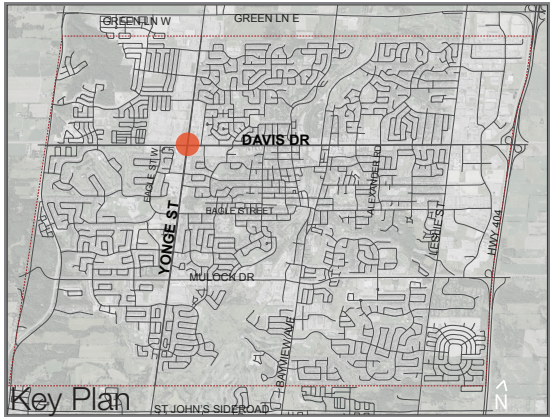
Refer to 3.3.1.5

Refer to 3.3.1.6-7



Yonge Urban Streetscape Typology





Yonge Street and Davis Drive is a significant intersection in the Town of Newmarket. The intersection marks the crossing of two major corridors and is celebrated through the addition of unique placemaking initiatives such as public art and landscape design.

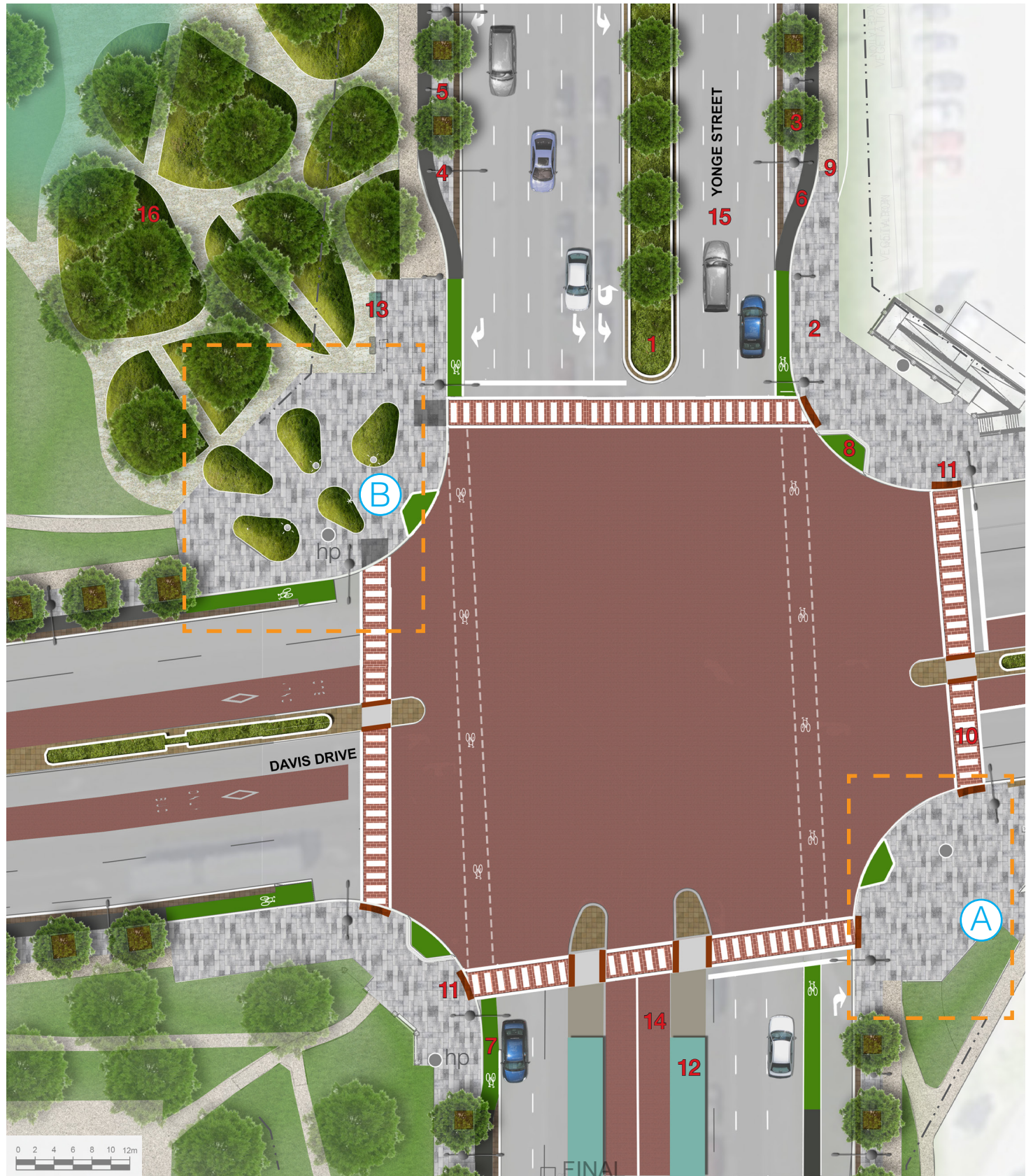
This intersection is also a transitional zone from the vivaNext streetscape into the Yonge Street & Davis Drive Streetscape Master Plan (refer to section 3.2.5).

The Yonge Street North streetscape plan demonstrated in this report is the interim condition which protects the center of the ROW for the future vivaNext BRT planned for in the next 25 years. The future BRT will be implemented pending approval and funding by the Province and Metrolinx.



Yonge Street & Davis Drive

3.3.1.3. Intersection Detailed Plan



Key Features Legend

- 1. Planted median with ornamental grasses, hardy shrubs and trees aid in establishing a strong sense of place
- 2. Enhanced paving at intersections contribute to a more urbanized environment
- 3. Street trees in grates 6 metres on centre at intersections
- 4. Signature street lights with pedestrian luminaires provides illumination for vehicles, cyclists and pedestrians
- 5. Pedestrian lights further illuminate pedestrian and cyclist realm
- 6. 1.5 metre wide cycle track with buffer provides a safe aesthetic riding environment for cyclists
- 7. Cycle track transitions to on-road bike lane on Yonge Street (vivaNext streetscape)
- 8. York Region Standard bike boxes enhance left-turns for cyclists
- 9. 2.4 metre wide pedestrian sidewalk connects to parks, private plazas and patios
- 10. vivaNext Standard TrafficPattern XD pedestrian crosswalk
- 11. AODA tactile plates
- 12. vivaNext stations
- 13. YRT bus shelter
- 14. vivaNext BRT lane
- 15. 3.3 metre wide through lane
- 16. Potential for future park that extends the active transportation route (currently a SWM pond)

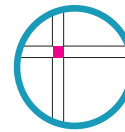
A & B: Town of Newmarket placemaking features (more information on the following page)

\*hp: hydro pole





The southeast corner and the northeast corner of Yonge Street and Davis Drive provide the sites for art and landscape installations to recognize the importance of the intersection and create a strong sense of place.



### Yonge Street & Davis Drive

#### 3.3.1.4. Intersection Placemaking Features

##### A Southeast Corner of Yonge Street & Davis Drive



The 'N' Arch is a public art installation that celebrates this key intersection in the Town of Newmarket. The community can interact with the piece by walking through it. The "N" stands for Newmarket and is etched with the Town's street network. In late afternoon, the shadow creates a shape reminiscent of the letter "D" for Davis Drive. The gateway design at this intersection has been approved by Town of Newmarket Council.

The Yonge Street and Davis Drive feature creates a gateway to a future park at the northwest corner and an urban plaza on the southeast corner. Unique custom beacons will be illuminated at night for an additional element of animation.

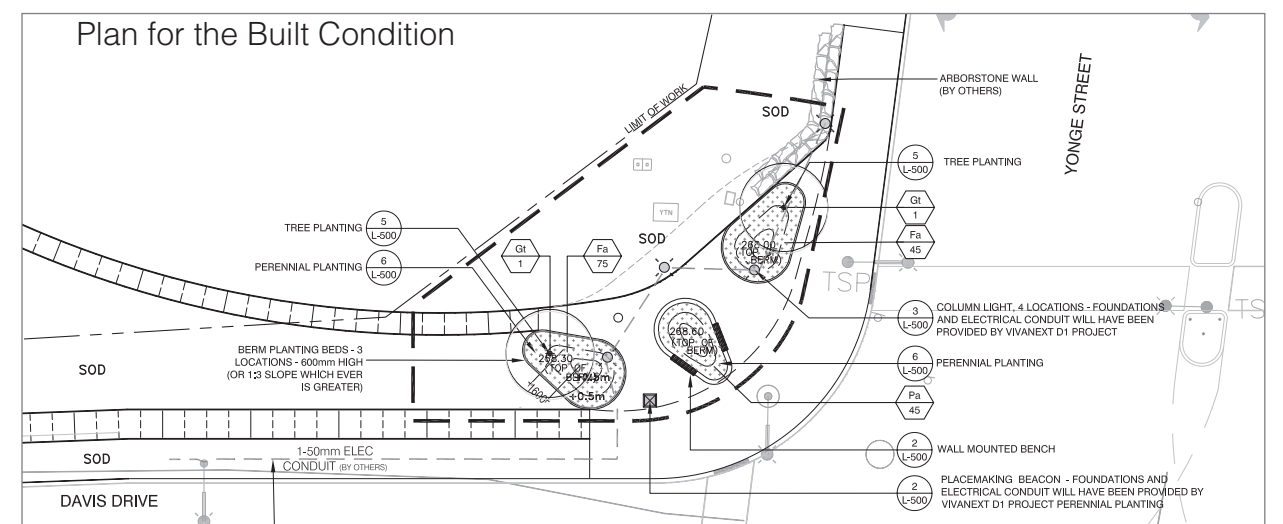
The plan to the right depicts the conditions that will be built. The renderings display the potential future of the space with the addition of a park.

##### B Northwest Corner of Yonge Street & Davis Drive Concept

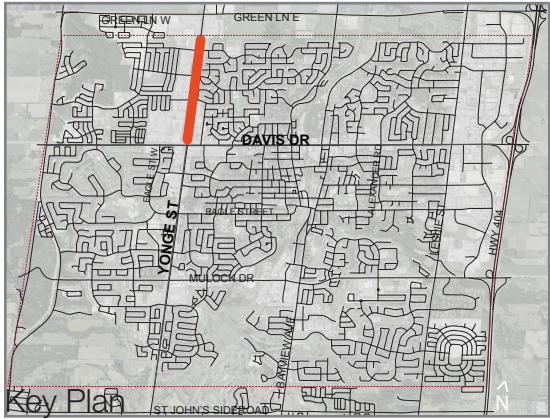
##### Phase 1: Artist Conceptual Rendering of the Placemaking Project



The rendered plan of the intersection with five planters represents the ultimate design vision which ties into the future parkland at this intersection.







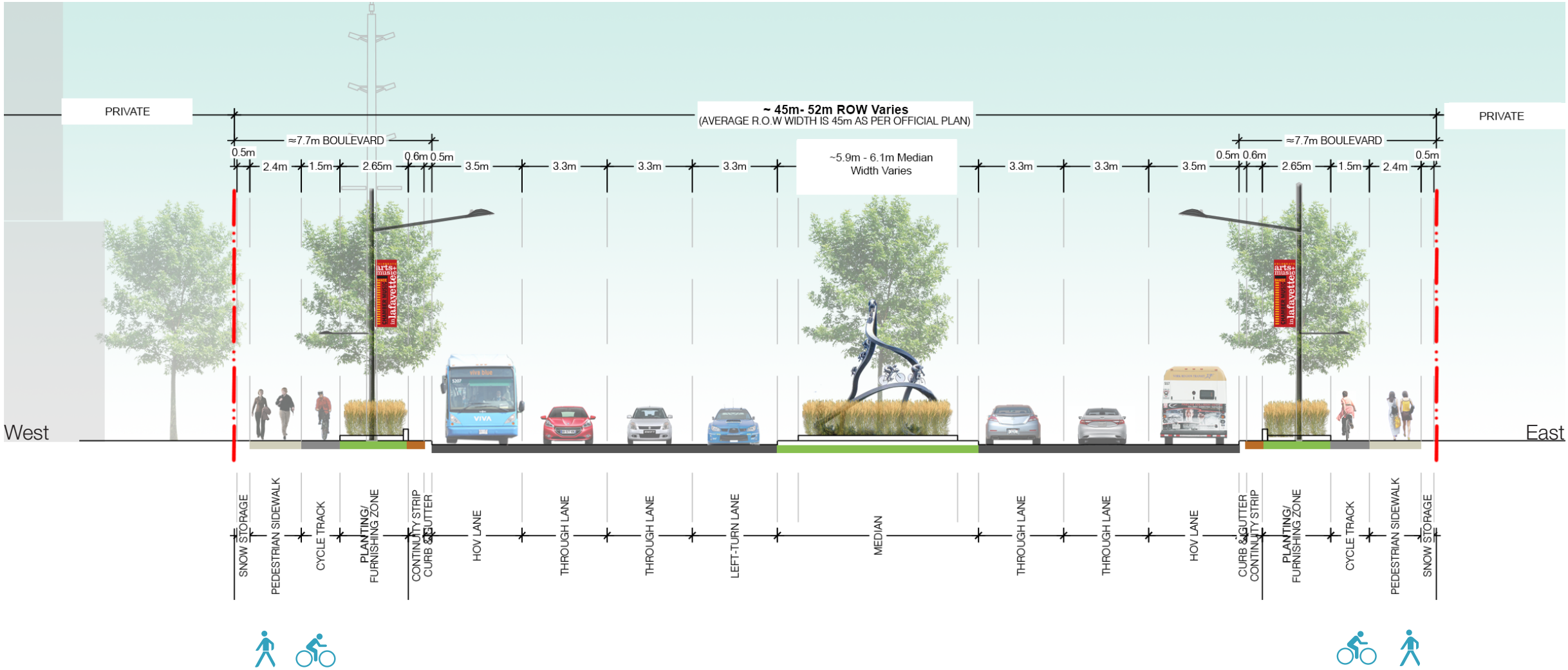
Yonge Street North

3.3.1.5. Yonge Urban Streetscape Typology Section (From Town Boundary to Davis Drive)

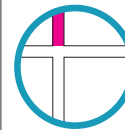
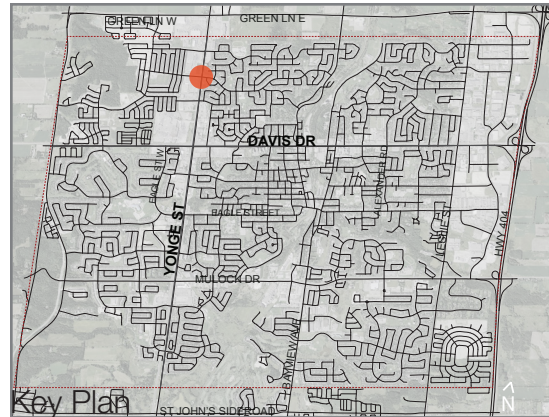
This Urban Streetscape Typology is applicable for the length of the Yonge Street North corridor. Characterized by distinctive urban placemaking elements such as cycle tracks, street trees in grates and public art, this design responds to the urbanized future of the Town of Newmarket.

Key Features

- Planted median with ornamental grasses, shrubs, trees and public art aid in establishing a strong sense of place
- HOV lane promotes efficient transit
- Reduced through lane width
- Raised cycle track promotes active transportation
- Clear pedestrian routes
- Snow storage
- Right Size geometry:
  - 3.3 metre through lane;
  - 3.5 metre curbside lane;
  - 3.0 metre turn lane;
  - 2.4 metre sidewalk;
  - 1.5 metre bike lane.







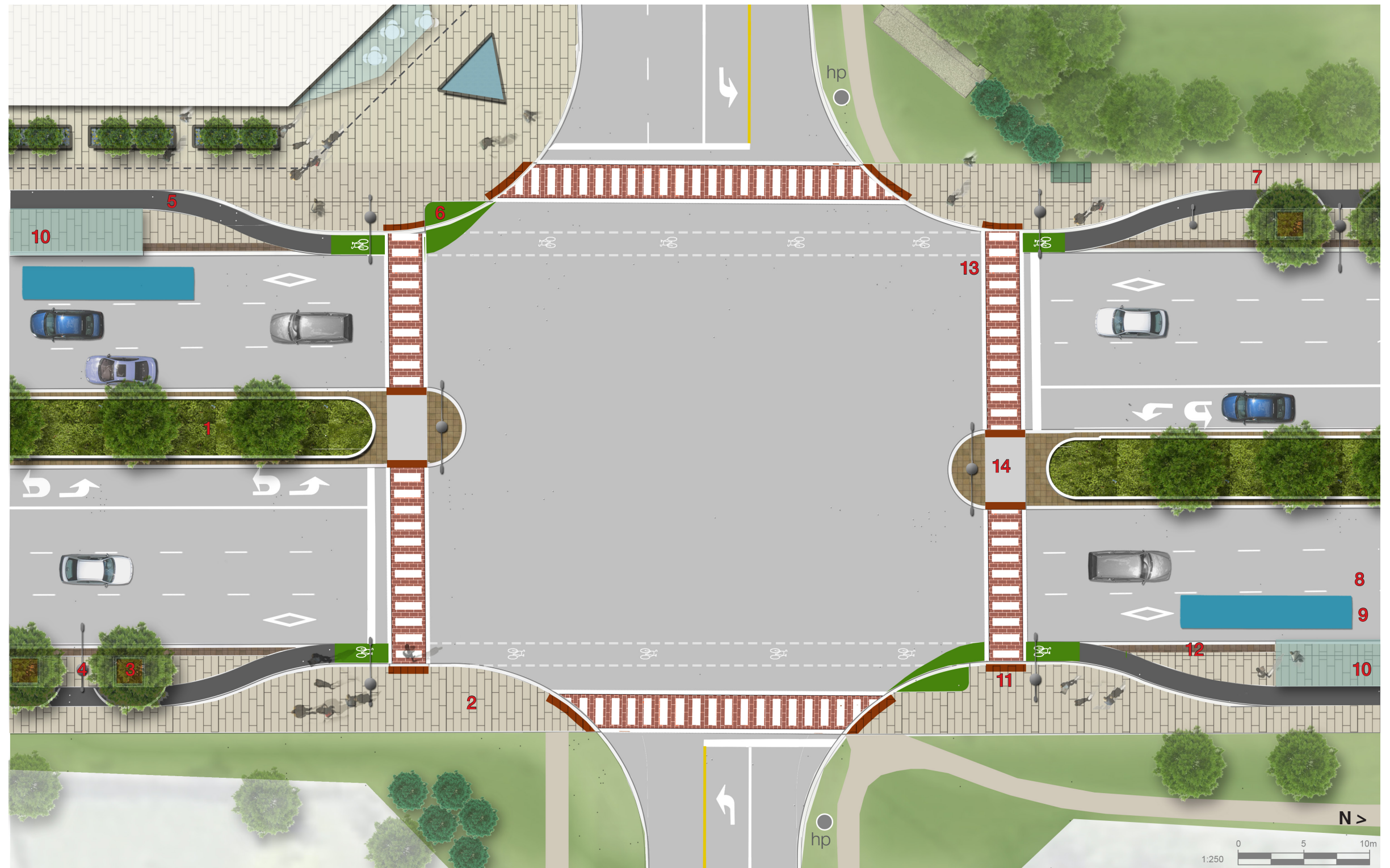
Yonge Street North

## 3.3.1.6. Detailed Plan at Signalized Intersection in Urban Zone

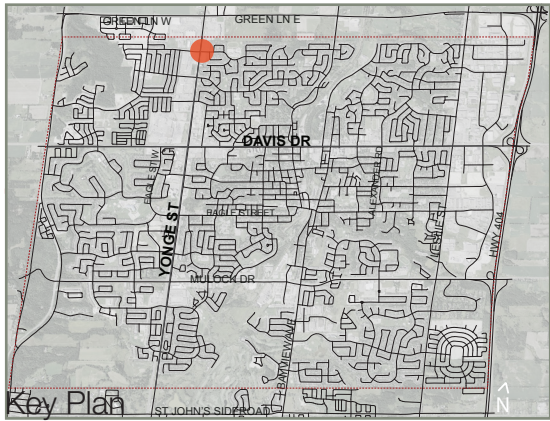
This plan illustrates a typical signalized intersection in the Yonge Street North corridor. The streetscape is urban in nature with street trees in grates and the Town of Newmarket signature boulevard paving treatment. The raised cycle track ramps down at the intersection and pavement markings demarcate the cycling route across the intersection.

## Key Features Legend

1. Planted median with ornamental grasses, shrubs and trees aid in establishing a strong sense of place
2. Enhanced paving at intersections and street trees in grates contribute to a more urbanized environment
3. Street trees 6 metres on centre in grates
4. Signature lighting provides illumination for vehicles and pedestrians
5. 1.5 metre wide cycle track provides an enhanced aesthetic riding environment for cyclists
6. Bike boxes provide the infrastructure for safer left-turns
7. 2.4 metre wide pedestrian sidewalk
8. Three through lanes in either direction
9. Curbside HOV/ Bus lane for efficient transit
10. vivaNext bus shelters
11. AODA tactile plates at intersections
12. Continuity strip aids in establishing a cohesive streetscape
13. Enhanced pedestrian crosswalk
14. Two-stage crossing







Yonge Street North

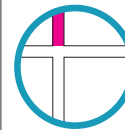
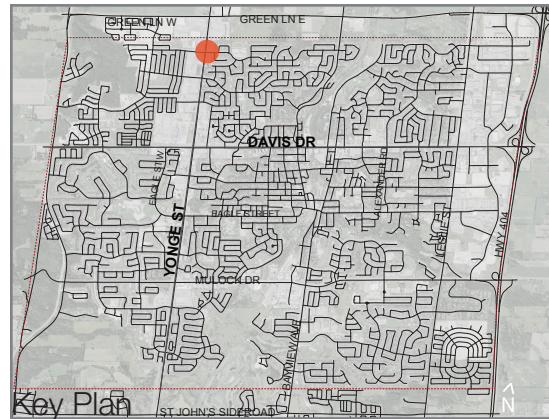
3.3.1.7. Streetscape Gateway: Detailed Plan at Aspenwood Drive

Key Features Legend

- 1. Streetscape defines the gateway into the Town of Newmarket through coloured banding and accompanying planting
- 2. Planted median with ornamental grasses, hardy shrubs and trees aid in establishing a strong sense of place
- 3. Median and pedestrian plazas provide opportunities for public art
- 4. Enhanced paving at intersections contribute to a more urbanized environment
- 5. Street trees in grates 6 metres on centre
- 6. Signature street lights with pedestrian luminaires provides illumination for vehicles and pedestrians
- 7. Pedestrian lights further illuminate pedestrian realm
- 8. 1.5 metre wide cycle track with buffer provides a safe aesthetic riding environment for cyclists
- 9. York Region Standard bike boxes support safer left-turns for cyclists
- 10. 2.4 metre wide pedestrian sidewalk connects to private plazas and patios
- 11. 3.5 metre wide HOV/ Bus Lane for more efficient transit





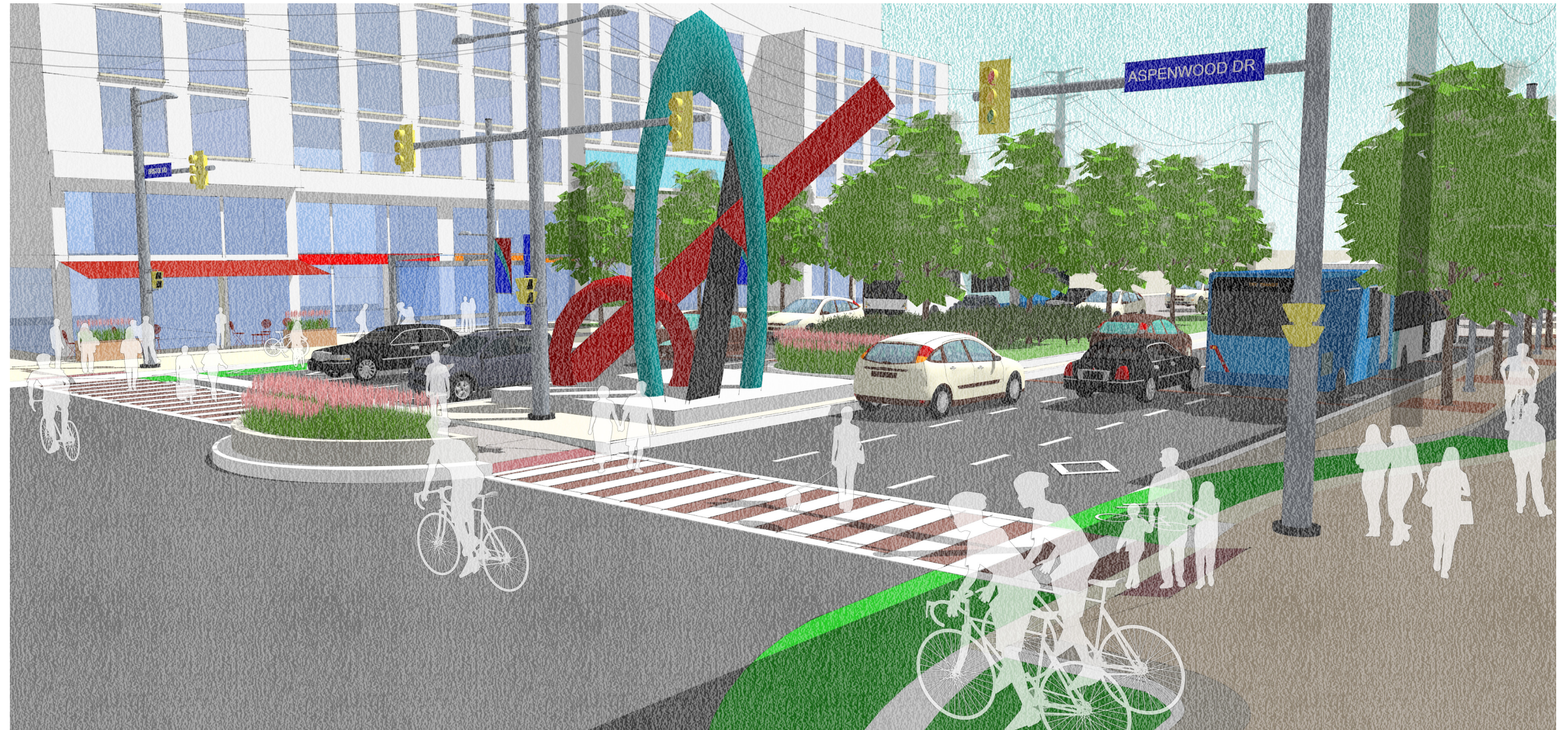


### Yonge Street North

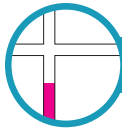
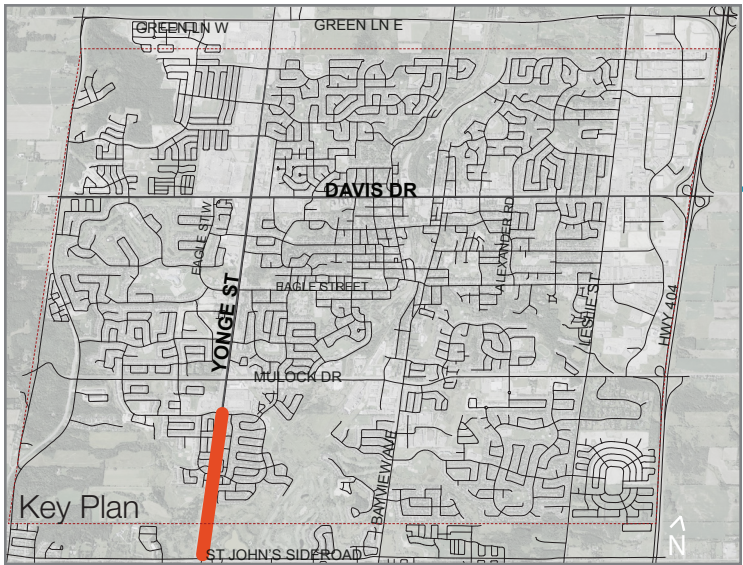
#### 3.3.1.8. Visualization at Aspenwood Drive Gateway

Aspenwood Drive marks the closest signalized intersection to the northern boundary to the Town of Newmarket and consequently provides a logical placement for the Town gateway. The streetscape gateway design reflects the Town border and establishes a strong sense of place.

This visualization depicts a future more urbanized context that includes animated private amenity areas with potential patio space, additional planting, and seating which interfaces harmoniously with the public streetscape design.







Yonge Street South

3.3.2 Yonge Street South Segment

PHILOSOPHY & APPROACH

The Yonge Street South segment consists of stable residential in the northern portion and a more rural area with trail connections along the southern portion. Accordingly, this corridor of the Streetscape Master Plan utilizes two differing streetscape typologies in order to serve both land usages.

The Streetscape Master Plan proposes the possibility of animating the more rural edges through urban agriculture. The streetscape design also enhances the green elements of the streetscape through the addition of a planted median.

The streetscape design extends beyond the official Town boundary to the nearest intersection (St. John's Sideroad) in order to establish a spatially logical transition from the Town of Aurora to the Town of Newmarket.

KEY OBJECTIVES

The key objectives for Yonge Street South is to cater to the residential population as well as those utilizing the trail systems along the southern segment of the corridor.

KEY CHALLENGES

Currently, trail users are not provided with a safe path to and from the trail connections, sometimes forced to walk along the roadway shoulder. The streetscape design works towards making the trail connections more visible and accessible for community members.

Additionally, the residential areas currently lack continuity and animation along the rear lot residential land. The streetscape design works towards creating a strong sense of visual cohesion in these areas, predominantly through planting.

APPLICATION OF STREETScape TYPOLOGIES

Yonge Street South consists of the Green Streetscape Typology.

KEY DESIGN ELEMENTS

The following presents the typical streetscape conditions throughout the Yonge Street South segment:

Intersection Treatment

- Clear pedestrian path
- Reduced radii
- AODA compliant
- Enhanced crosswalk paving
- Trees in planters spaced 6 metres on centre in a continuous soil trench

Midblock Treatment

- Pedestrian priority at driveways
- Clear pedestrian path
- Vegetative buffer
- Trees in softscape spaced 8 metres on centre
- Double row of trees where possible
- Urban agriculture
- Feature paving at intersection corners

Median Treatment

- Hardy tree species
- Trees spaced 6 metres on centre at intersections and 8 metres on centre midblock
- Hardy shrub understorey

Existing Conditions Summary

The Yonge Street South section of this study is suburban in character and is predominantly low density residential. The street carries significant amounts of traffic, but mostly as a thoroughfare in the area. This stretch of roadway does not have any existing bike lanes and minimal pedestrian amenities.

Key existing characteristics of Yonge Street South include:

- Wide ROW (ranging from 44.5 metres – 59.1 metres);
- Land use is predominantly low density residential;
- Above ground utilities and hydro poles dominate the streetscape and contribute to visual clutter;
- Rural cross section south of Joe Persechini Drive;
- The sidewalk is not continuous in some locations;
- Streetscape components such as paving materials, lighting, signage and furniture are utilitarian.





3.3.2.1. Streetscape Master Plan

The following illustrates the Master Plan for the Yonge Street South segment of the Yonge Street & Davis Drive Streetscape Master Plan. The Plan displayed over an aerial image of the current conditions to provide context.

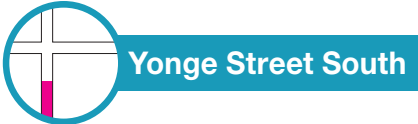
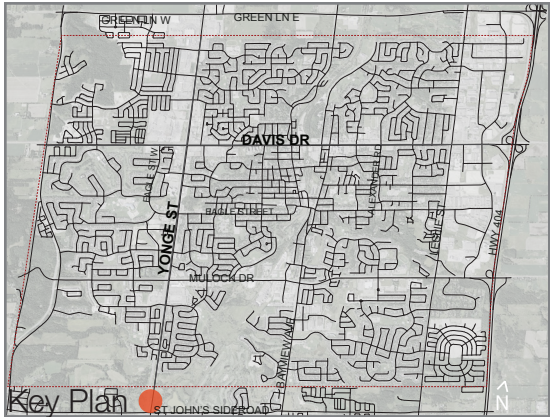


Green Streetscape Typology (Refer to 3.3.2.3)



Green Streetscape Typology



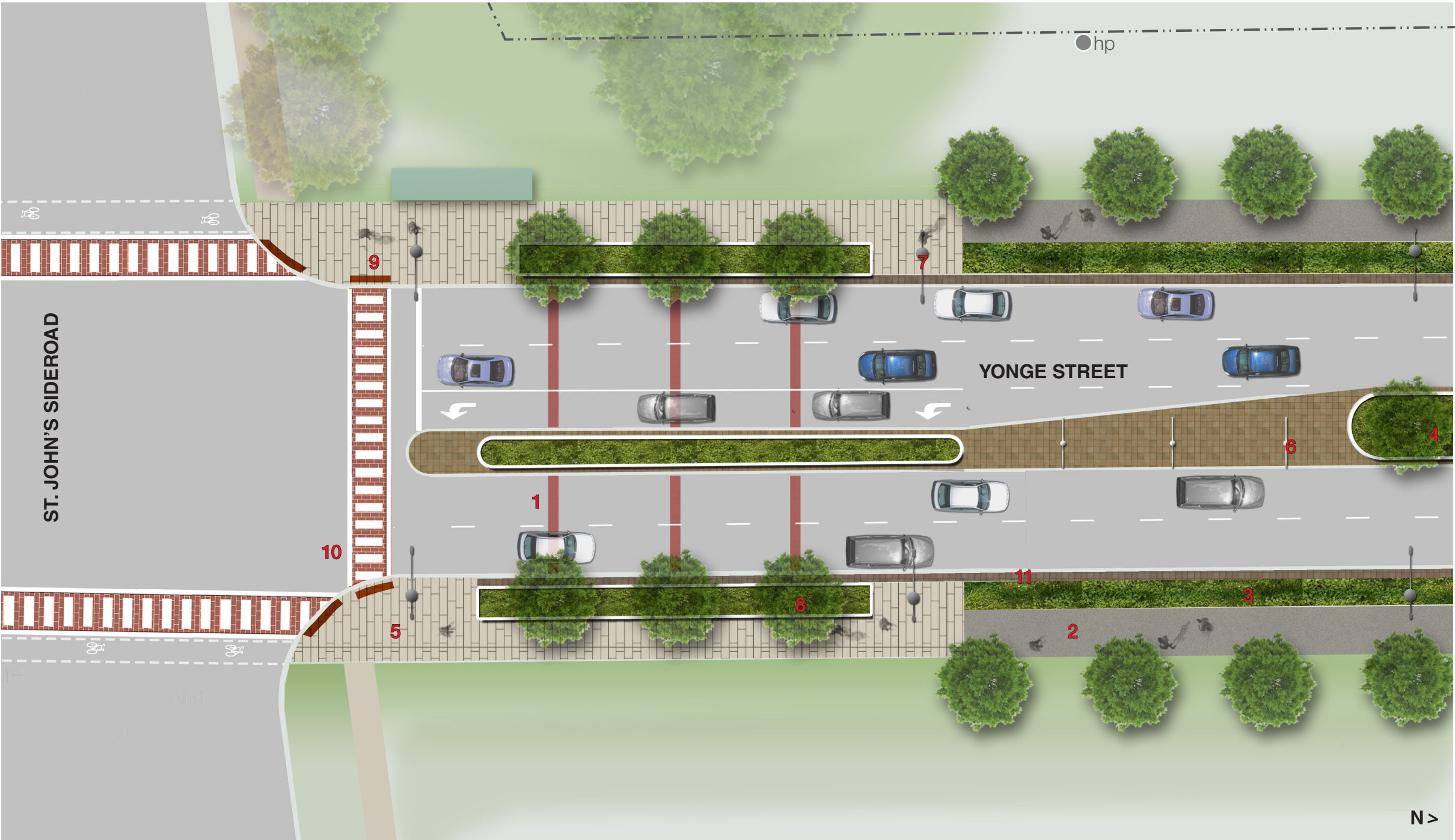


3.3.2.2. Streetscape Gateway: Detailed Plan at St. John's Sideroad

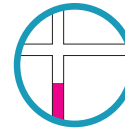
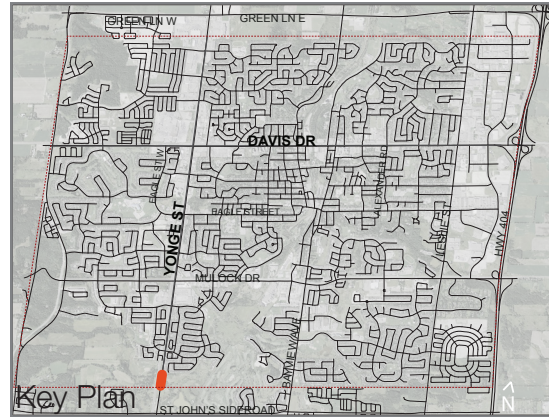
The Town of Newmarket streetscape gateway is a gradual transition from the Town of Aurora that originates at the signalized intersection at St. John's Sideroad, approximately 500 metres south of the Town boundary.

Key Features Legend

- 1. The Town of Newmarket streetscape gateway is established through banding with accompanying street trees signifying the entrance to the Town of Newmarket
- 2. 3.0 metres wide multi-use path that connects with the existing local trail system
- 3. Vegetated buffer between multi-use path and vehicles
- 4. Planted median with shrubs and trees
- 5. Enhanced boulevard paving
- 6. Banners provide visual interest, placemaking opportunities and a space for conveying information about Town events
- 7. Signature lighting provides illumination for pedestrians, cyclists and vehicles
- 8. Street trees in planters 6 metres on centre to define the intersection and gateway
- 9. AODA tactile plates
- 10. Enhanced pedestrian crosswalk
- 11. Continuity strip creates visual cohesion throughout the streetscape





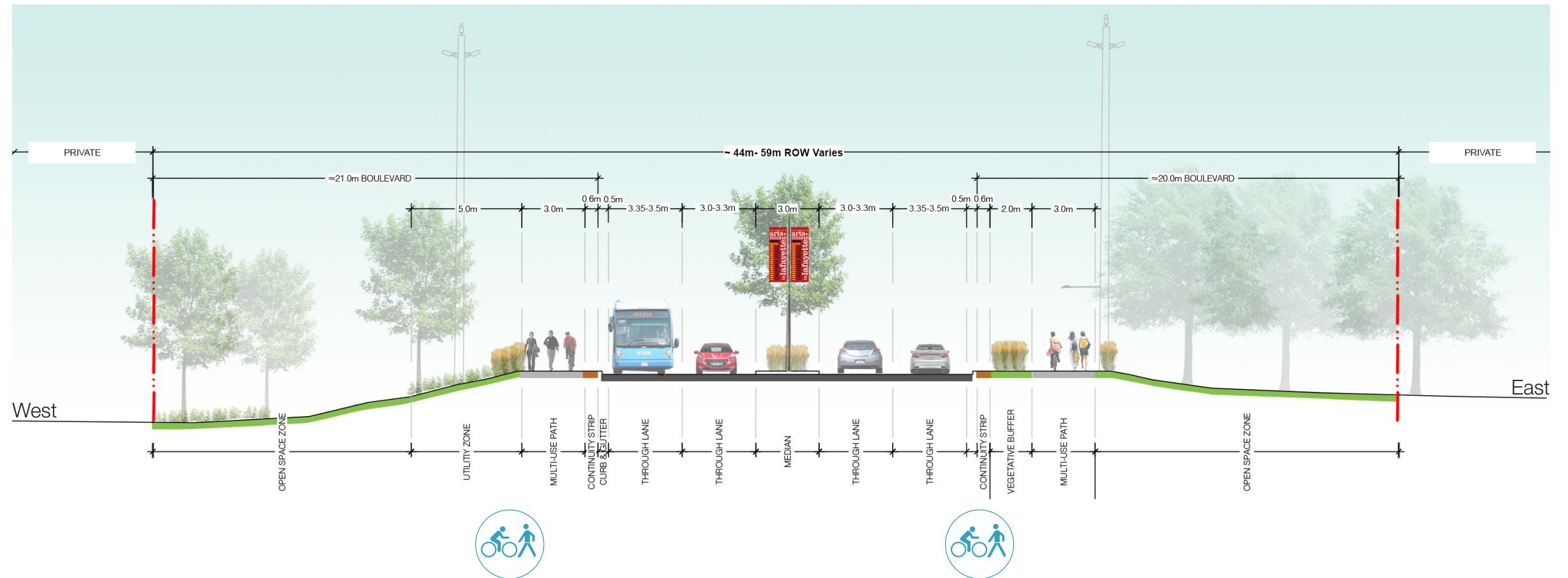


Yonge Street South

### 3.3.2.3. Green Streetscape Typology Section (Nokiidaa Bike Trail to St. John's Sideroad)

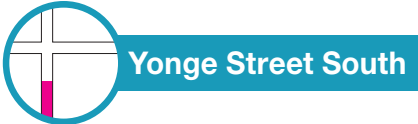
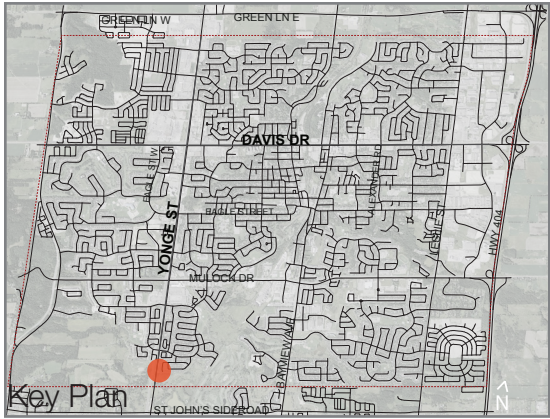
#### Key Features

- Planted median with shrubs and trees
- Two through lanes in either direction
- Multi-use path
- Landscape buffer segregates cyclists and pedestrians using the multi-use path from vehicular traffic
- Banners provide visual interest and a space for conveying information about Town events
- Signature lighting provides illumination for pedestrians, cyclists and vehicles
- Right Size geometry:
  - 3.0- 3.3 metre through lane;
  - 3.35-3.5 metre curbside lane;
  - 3.0 metre turn lane;
  - 3.0 metre MUP.



1:200  
0 1 2 3 4 5 8m





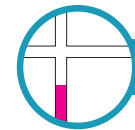
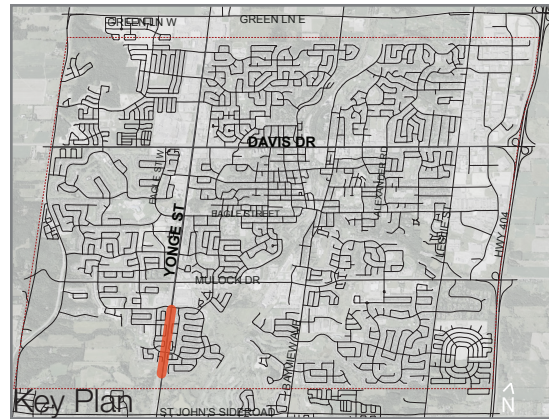
3.3.2.4. Visualization at Nokiidaa Bike Trail Connection

This visualization illustrates a view of the streetscape as one approaches Yonge Street from the Nokiidaa Bike Trail.

Through the addition of a multi-use path as well as planting in the landscape buffers and the centre median, the surrounding green space and trail network is extended into the streetscape.







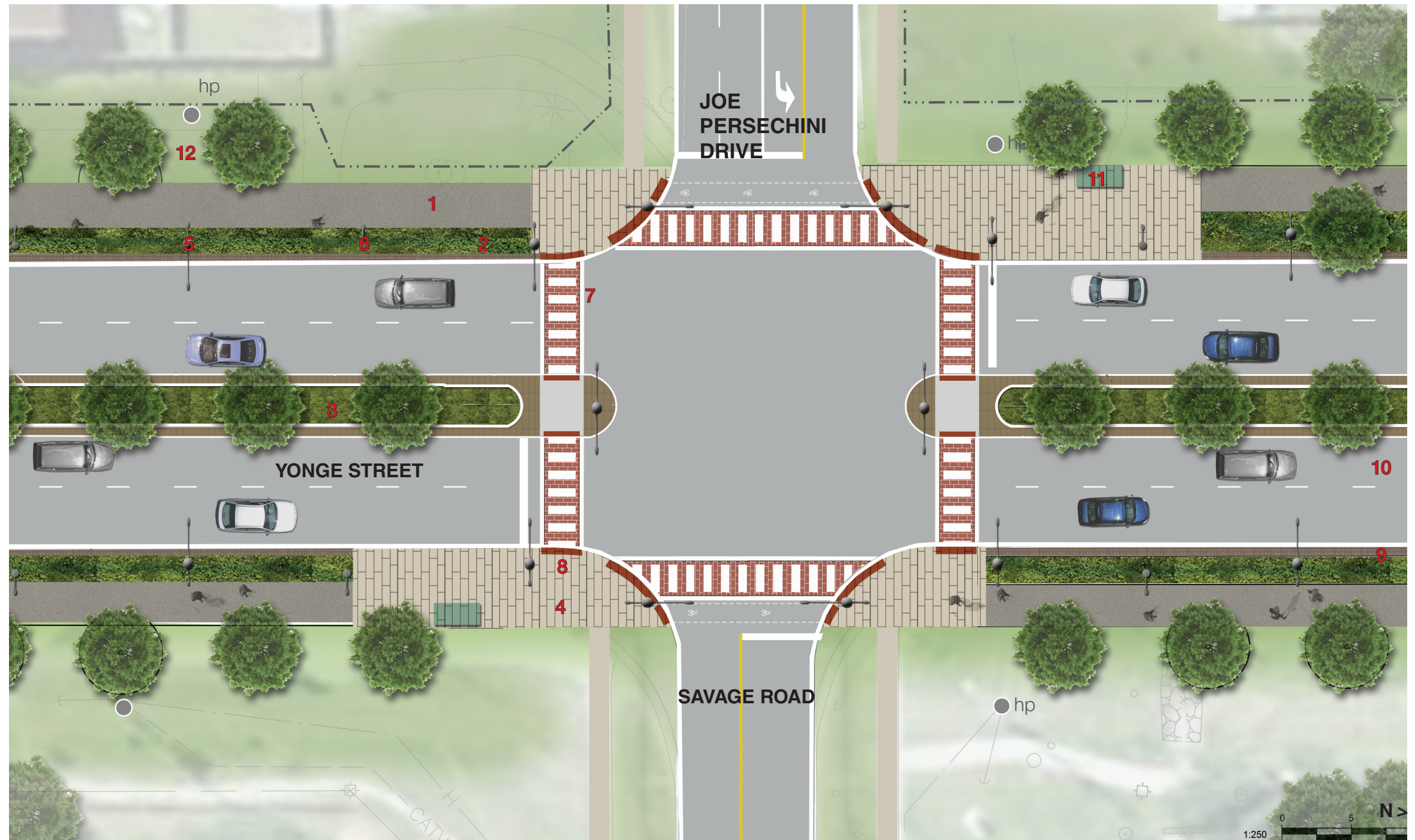
## Yonge Street South

## 3.3.2.5. Detailed Design at Signalized Intersection in Residential Zone

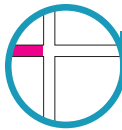
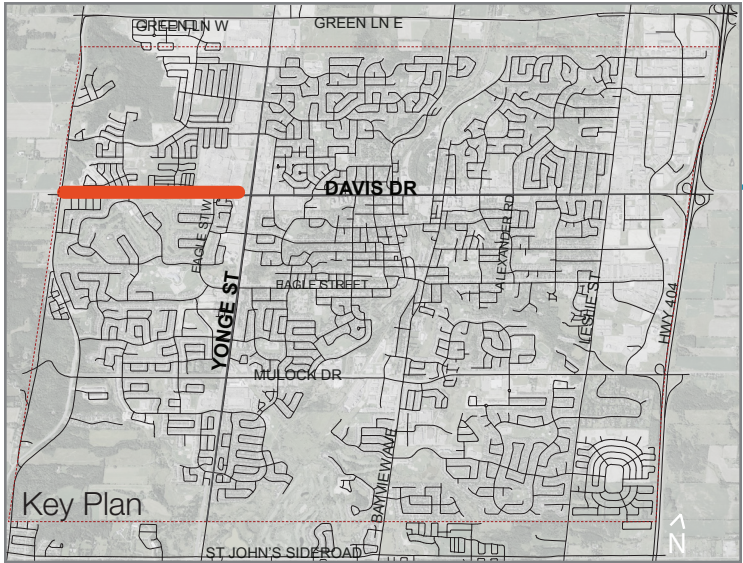
This plan illustrates a typical Green Streetscape Typology intersection.

## Key Features Legend

1. 3.0 metre wide multi-use path
2. Landscaped buffer between the multi-use path and vehicular traffic
3. Planted median with shrubs and trees
4. Enhanced boulevard paving at intersection
5. Signature street lights with pedestrian luminaires provides illumination for pedestrians, cyclists and vehicles
6. Pedestrian lighting further illuminates the pedestrian and cyclist realm
7. Enhanced pedestrian crosswalk
8. AODA tactile plates
9. Continuity strip creates visual cohesion throughout the streetscape
10. Two through lanes in either direction
11. YRT Bus shelter
12. Deciduous trees in softscape spaced 6 metres on centre where there is property behind the multi-use path







Davis Drive West

3.3.3 Davis Drive West Segment

Existing Conditions Summary

- Davis Drive West has a varied streetscape character with predominantly commercial developments from Yonge Street to Eagle Street and a more rural cross section from Eagle Street to Bathurst Street. Davis Drive West carries a significant amount of through traffic, with the intersection of Yonge Street and Davis Drive noted as a key intersection and urban centre of the Town of Newmarket. There is a continuous sidewalk on the south side of the street for the majority of the length and no existing bike lanes. Most of the commercial development is focused towards the Yonge Street and Davis Drive intersection, with a GO Transit hub at Eagle Street. There are two residential subdivisions (Mosaik and Mattamy) near Bathurst Street, as well as a newly constructed gateway entry feature to be complemented by enhanced paving and planting. Sundial and Glenway subdivisions at Bathurst Street will provide low to medium density residential communities. Key existing characteristics of Davis Drive West includes:
- Wide ROW (from 33.5 metres – 51 metres);
  - Varied character with commercial land to the east and rural low density residential to the west;
  - Non-continuous sidewalks along the corridor;
  - The average distance between existing signaled intersections is approximately 720 linear metres, which is geared towards vehicular travel and encourages pedestrian jay walking;
  - The average distance between transit stops is approximately 1150 linear metres.

PHILOSOPHY & APPROACH

The Davis Drive West segment consists of commercial development on the east end and two new residential/ mixed-use developments at the west end with two more low to medium density residential communities forthcoming. Accordingly, this corridor of the Streetscape Master Plan utilizes two differing streetscape typologies in order to serve both land usages.

The Urban Centres Secondary Plan (2015) has identified Davis Drive west at Yonge Street as a mixed use area, and priority commercial areas have been identified further west along Davis Drive. These commercial areas extend from Yonge Street to just west of Eagle Street.

The Davis Drive and Bathurst Street area contains two existing residential subdivisions (Mosaik and Mattamy)

The Sundial Subdivision is proposed on the north side of Davis Drive (from west of Eagle Street to east of Ford Wilson Boulevard), and the Glenway Subdivision along the south (from Eagle Street to west of Ford Wilson Boulevard).

The Streetscape Master Plan along the Davis Drive West corridors caters to the growing nature of this corridor by providing amenities for the changing population.

KEY OBJECTIVES

The Davis Drive West's key objective is to cater to the growing population and create a streetscape that is fitting for the more urbanized corridor. The Streetscape Master Plan creates a green and vibrant streetscape with a strong sense of place for the new mixed use developments and future more urban commercial area. Further, the streetscape provides safe means for active transportation throughout the corridor.

KEY CHALLENGES

The main challenge for Davis Drive West is to establish the corridor as an animated urban streetscape and a pleasant residential area given the large ROW and the significant amount of commuter traffic traveling to and from Highway 404.

Davis Drive is not on York Region's current 10-Year Capital Plan and consequently in the future York Region and the Town of Newmarket must budget for a higher level of streetscape, not covered by development.

Further, because Bathurst Street is the boundary between the Town of Newmarket and the Township of King, constructing a unified and coordinated gateway may be challenging. Additional challenges at the gateway may arise due to the dominant visual impact of Hydro poles and utilities.

Existing mature trees within the public ROW contribute to the structure of the streetscape by enhancing the urban canopy. At the detailed design phase, all existing vegetation should be assessed and analyzed by a certified arborist to determine preservation status. Of particular note is an existing mature elm with a 92.6 cm DBH caliper on the south side of Davis Drive West adjacent to the Glenway Estates subdivision.

APPLICATION OF STREETSCAPE TYPOLOGIES

Davis Drive West consists of the Green Streetscape Typology to the west and the Davis Urban Streetscape Typology to the east (refer to key map 3.3.3.1). The Davis Urban Streetscape Typology is utilized to achieve a more efficient cycling route, due to less pedestrian cyclist conflict and the ability for cyclists to enter the roadway when necessary to pass other cyclists.

KEY DESIGN ELEMENTS

The following presents the typical streetscape conditions throughout the Davis Drive West segment:

Intersection Treatment

- Clear pedestrian path
- Reduced radii
- AODA compliant
- Enhanced crosswalk paving
- Trees in grates or linear planters in a continuous trench
- Trees spaced 6 metres on centre at intersections
- Feature paving at intersection corners

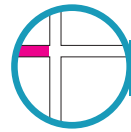
Midblock Treatment

- Pedestrian and cyclist priority at driveways
- Clear pedestrian path
- Meandering multi-use path
- Vegetative buffer
- Trees in softscape spaced 8 metres on centre

Median Treatment

- Hardy tree species
- Trees spaced 6 metres on centre at intersections and 8 metres on centre midblock
- Hardy shrub understorey



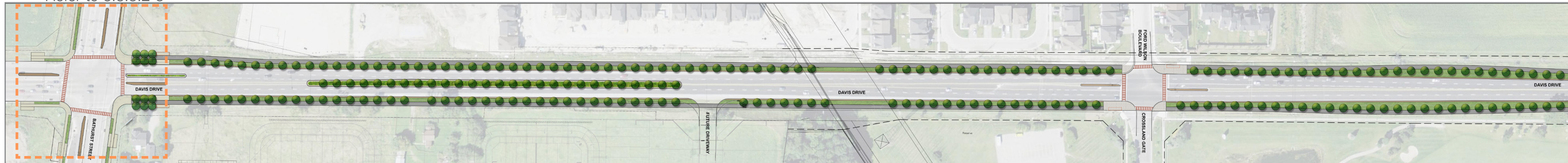


## Davis Drive West

## 3.3.3.1. Streetscape Master Plan

The following illustrates the Master Plan for the Davis Drive West segment of the Yonge Street & Davis Drive Streetscape Master Plan. The plan is overlaid on an aerial image of the current conditions in order to provide context.

Refer to 3.3.3.2-3



Green Streetscape Typology (Refer to 3.3.3.4)

Refer to 3.3.3.6

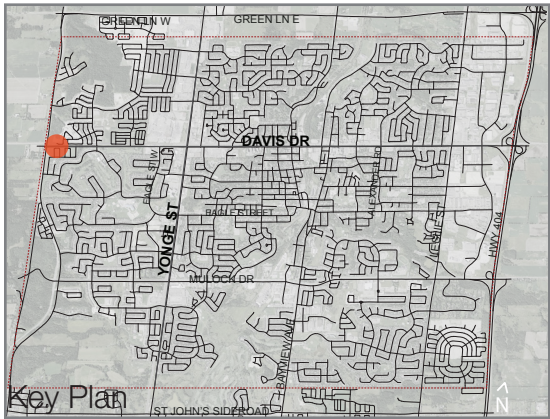
Refer to 3.3.1.1



Green Streetscape Typology (Refer to 3.3.3.4)

Davis Urban Streetscape Typology (Refer to 3.3.3.5)



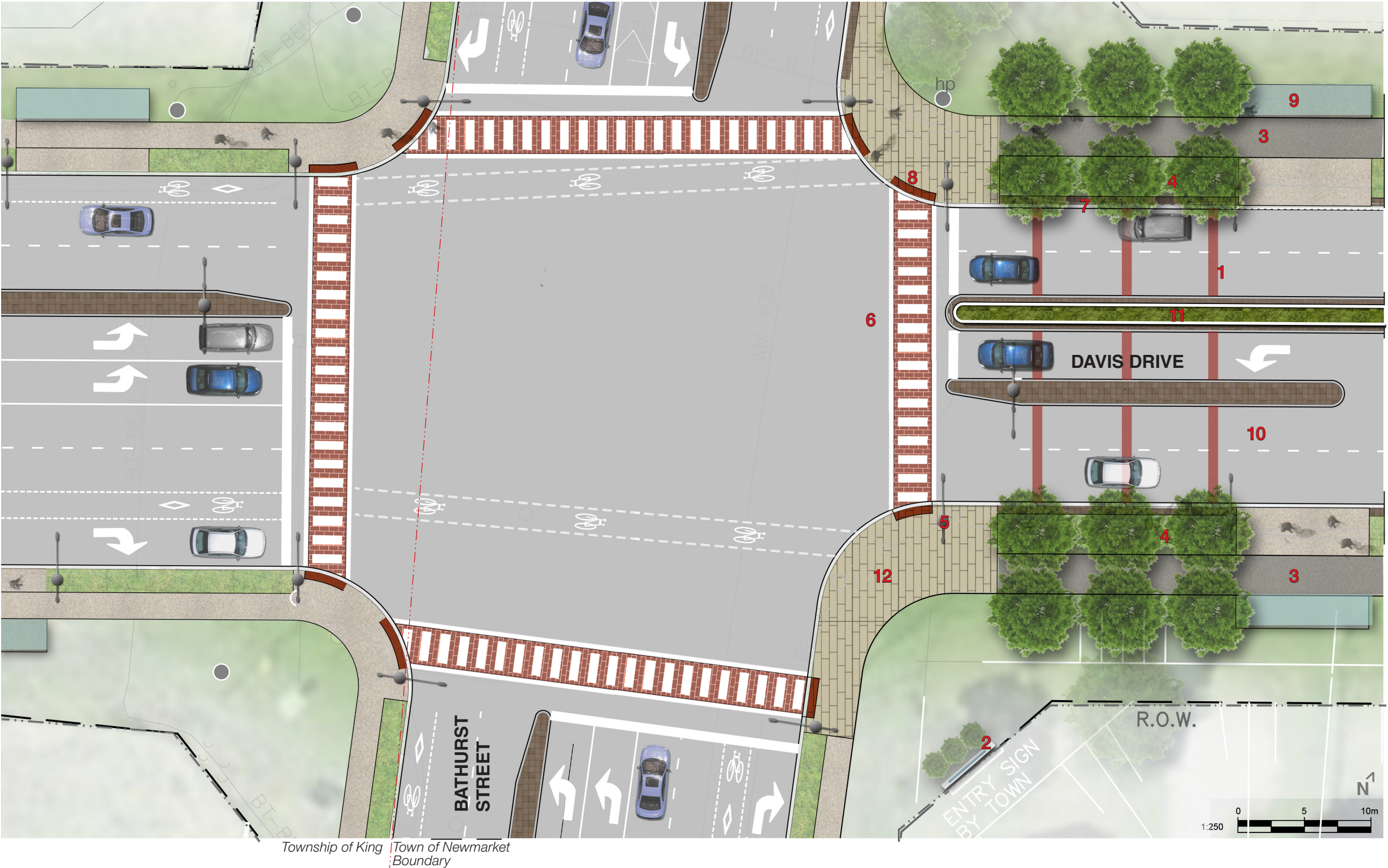


3.3.3.2.Streetscape Gateway: Detail Plan at Bathurst Street

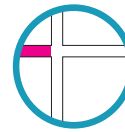
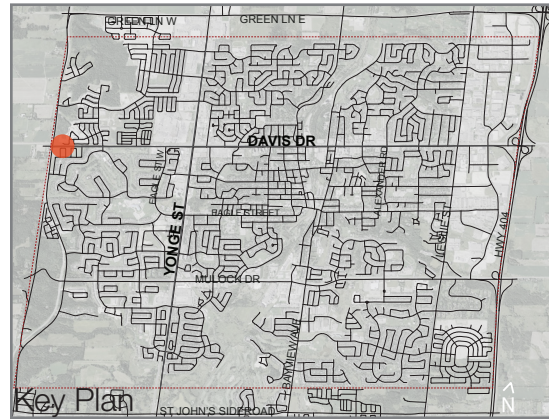
This plan depicts the Town of Newmarket gateway at Davis Drive and Bathurst Street. The streetscape design provides visual cues that commuters, pedestrians and cyclists are entering the Town of Newmarket.

Key Features Legend

- 1. Streetscape defines the gateway of the Town of Newmarket through coloured banding and accompanying double row of tree planting
- 2. Town of Newmarket gateway signage
- 3. 3.0 metre wide multi-use path for pedestrians and cyclists
- 4. Vegetated buffer between multi-use path and vehicular traffic
- 5. Signature street lights with pedestrian luminaire provides illumination for vehicles, cyclists and pedestrians
- 6. Enhanced pedestrian crosswalk paving
- 7. Continuity strip creates visual cohesion throughout the streetscape
- 8. AODA tactile plates
- 9. Front and back York Region bus pad
- 10. Two vehicular through lanes in either direction with a dedicated left turn lane
- 11. Planted median
- 12. Enhanced boulevard paving at intersections







Davis Drive West

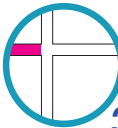
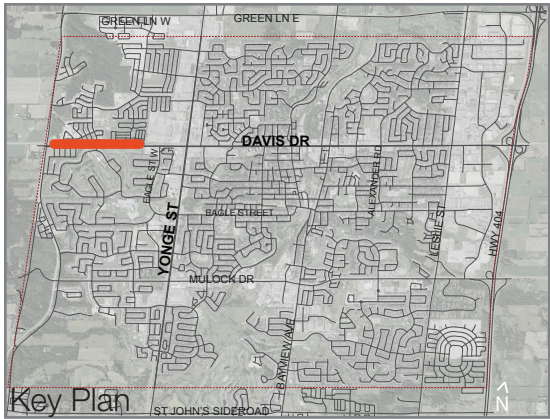
### 3.3.3.3. Visualization at Bathurst Street Gateway

This visualization depicts the Town of Newmarket gateway at Davis Drive and Bathurst Street. The Town Boundary is recognized through Town of Newmarket signage and the signature pavement banding with accompanying planting.

Both sides of the streetscape are met with green open space. The lush landscape is carried into the streetscape design through landscape buffers and a planted median. This Town of Newmarket gateway strongly established the Town as a green and environmental municipality.







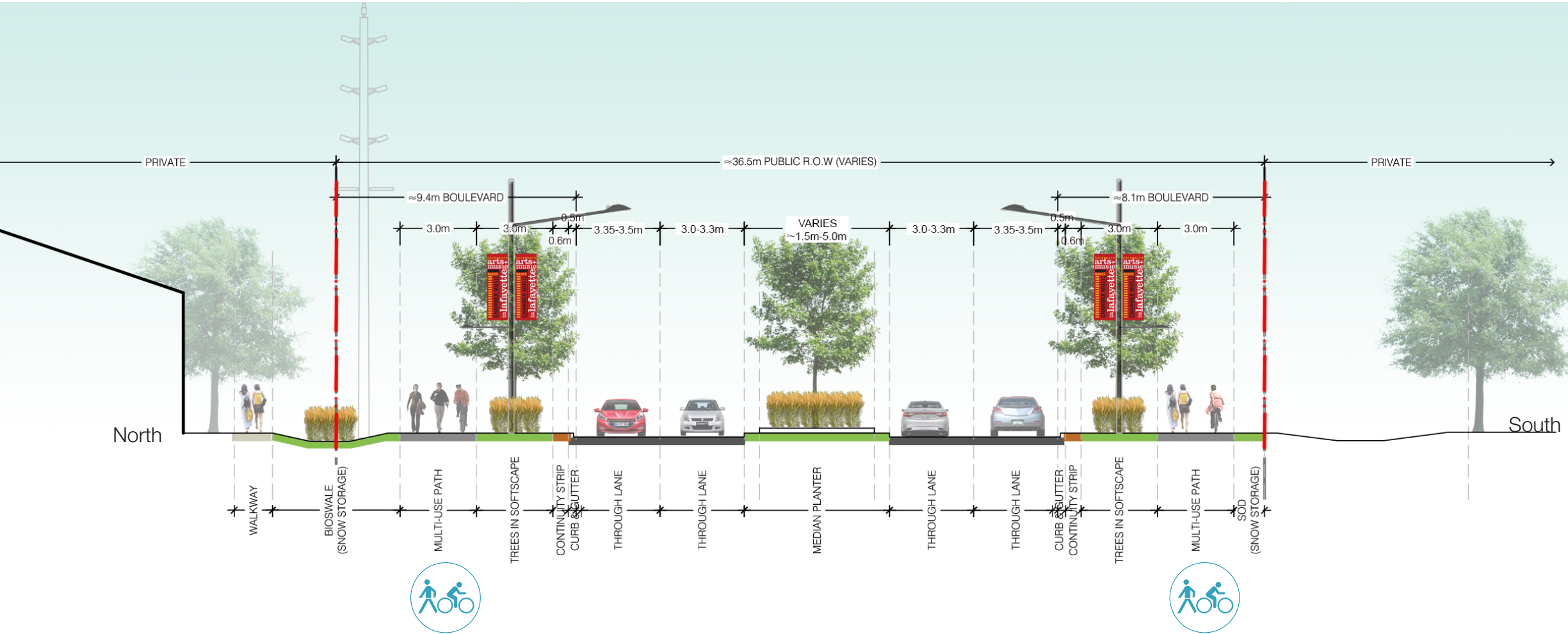
Davis Drive West

3.3.3.4. Green Streetscape Typology Section (Bathurst Street to West of Eagle Street)

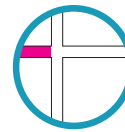
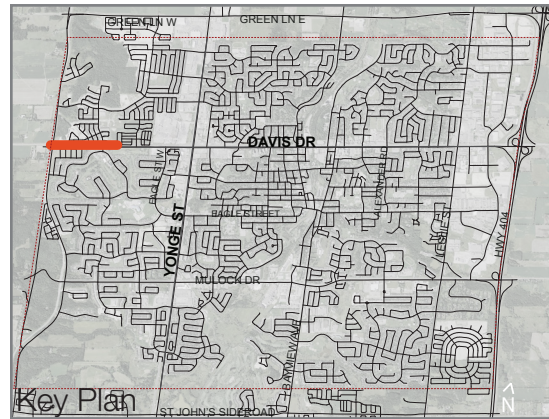
This section illustrates the Green Streetscape Typology along Davis Drive West. The geometry is applicable from Bathurst Street to just west of Eagle Street West.

Key Features

- Bioswale for stormwater management
- Multi-use path with landscaped buffer encourages active transportation
- Continuity strip creates visual cohesion throughout the streetscape
- Planted median minimizes the scale of the expansive ROW
- Two through lanes in either direction
- Right Size geometry:
  - 3.0- 3.3 metre through lane;
  - 3.35-3.5 metre curbside lane;
  - 3.0 metre turn lane;
  - 3.0 metre MUP.







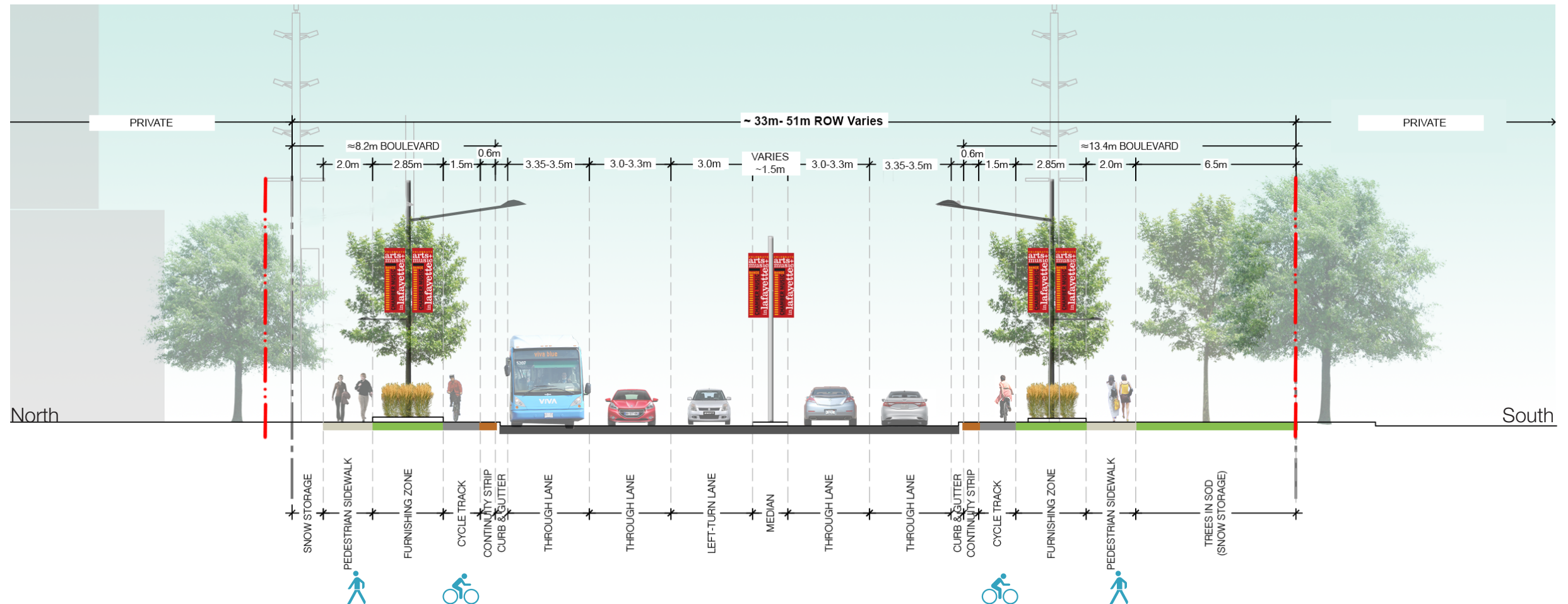
## Davis Drive West

## 3.3.3.5. Davis Urban Streetscape Typology Section (West of Eagle Street to Yonge Street)

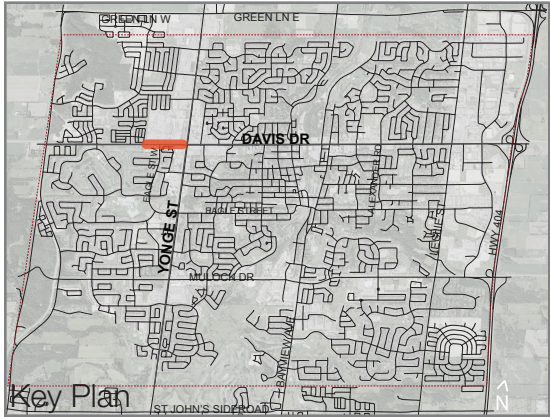
This section illustrates the Urban Streetscape Typology B along Davis Drive West. The geometry is applicable from just west of Eagle Street West to Yonge Street.

## Key Features

- Signature lighting provides illumination for vehicles, cyclists and pedestrians
- Cycle track with a landscape buffer from pedestrian sidewalk minimizes conflict
- Cycle track extends from Yonge Street to west of Eagle Street, to the limit of the GO Bus Terminal Driveway
- Continuity strip creates visual cohesion throughout the streetscape
- Right Size geometry:
  - 3.0- 3.3 metre through lane;
  - 3.35-3.5 metre curbside lane;
  - 3.0 metre turn lane;
  - 2.0 metre sidewalk;
  - 1.5 metre bike lane with a 0.6 metre buffer.





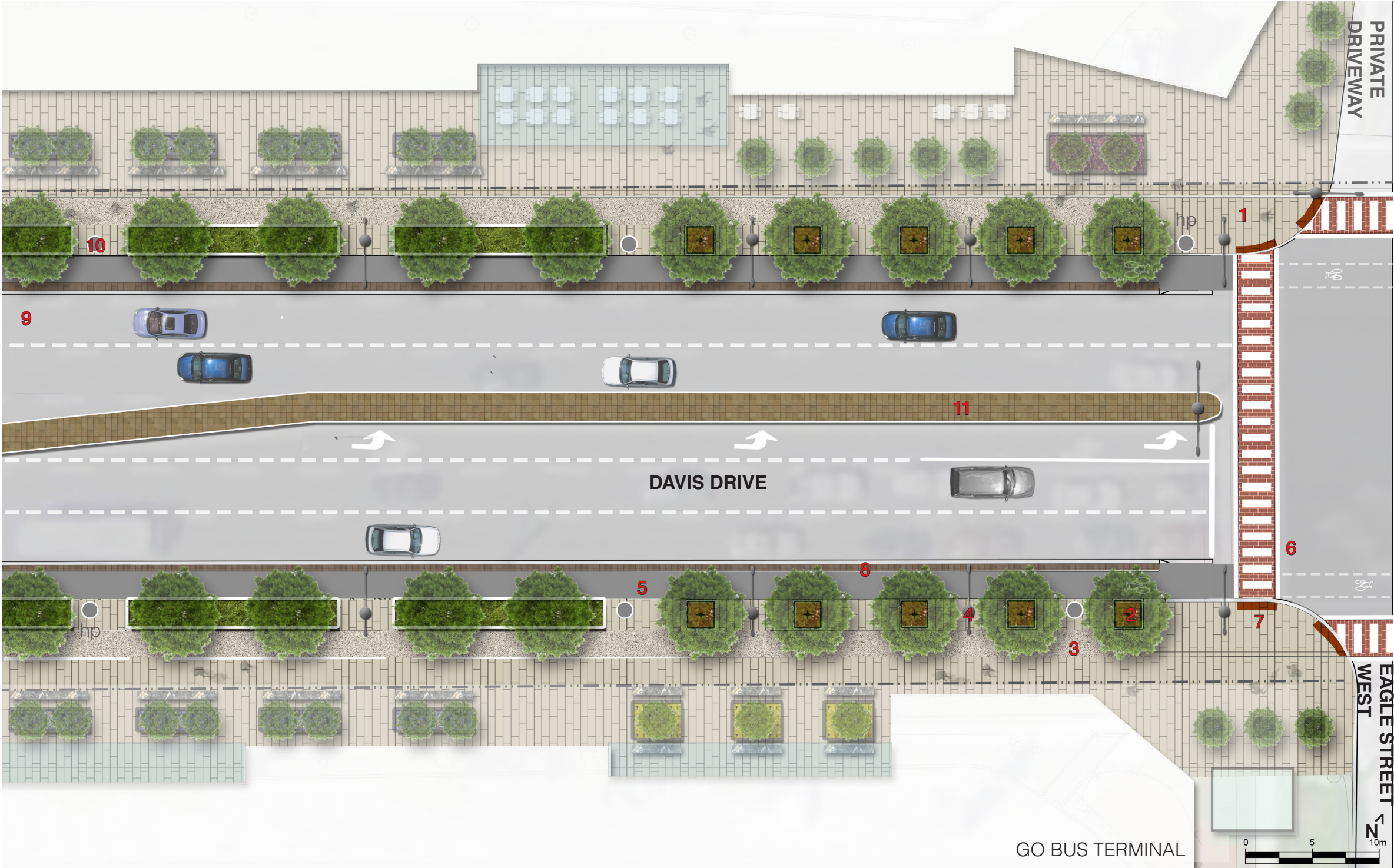


3.3.3.6.Streetscape Detail Plan in Commercial Urbanized Zone

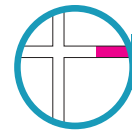
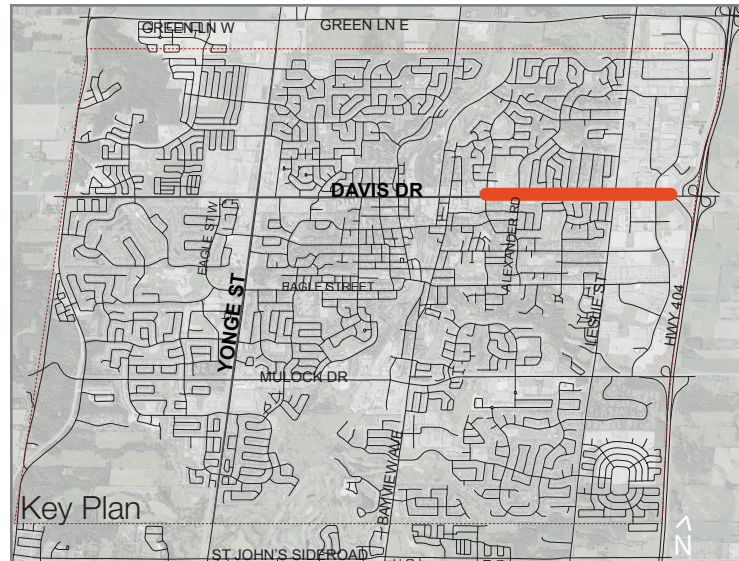
This plan illustrates an urbanized intersection along Davis Drive West with the future urbanized context of the streetscape. This typology extends from Yonge Street to Eagle Street West.

Key Features Legend

- 1. Enhanced boulevard paving at intersections and street trees in grates and planters contribute to a more urbanized environment and facilitate pedestrian circulation
- 2. Street trees in grates spaced 6 metres on centre
- 3. 2.0 metre minimum pedestrian sidewalk connects to privately owned future animated plaza space
- 4. Signature street lights with pedestrian luminaires provides illumination for vehicles, cyclists and pedestrians
- 5. 1.5 metre wide cycle track with 0.6 metre buffer provides safe segregated space for cyclists
- 6. Enhanced pedestrian crosswalk
- 7. AODA tactile plate
- 8. Continuity strip creates visual cohesion throughout the streetscape
- 9. Two vehicular through lanes in either direction
- 10. Utility poles
- 11. Decorative paving in narrow median ties into streetscape language







## Davis Drive East

## 3.3.4 Davis Drive East Segment

## PHILOSOPHY &amp; APPROACH

The Davis Drive East segment consists of residential land usage and commercial. Accordingly, this corridor of the Streetscape Master Plan utilizes two differing streetscape typologies in order to serve both land usages.

The Davis Drive East streetscape design provides safe, accessible transportation options for pedestrians and cyclists and is accessible for all users including the elderly and those with disabilities. Through the presence of continuous urban pedestrian circulation, street furniture, pedestrian lighting, and tree canopy, Davis Drive East will hold a stronger sense of place.

## KEY OBJECTIVES

The key objective for the Davis Drive East segment is to serve both the residential population as well as the population utilizing the commercial facilities. Through creating visual cohesion and comfortable active transportation facilities with green buffers, the streetscape will provide an animated space for residents to enjoy. The commercial area also provides dedicated active transportation in a more urban environment with street trees in grates and space for placemaking features such as public art.

## KEY CHALLENGES

A major challenge to the Davis Drive East segment is its close proximity to Highway 404 and the accompanying commuter traffic volumes. Establishing a strong sense of place and creating a buffer between the roadway and the pedestrian/cycling realm aids in establishing a safe and animated streetscape.

## APPLICATION OF STREETScape TYPOLOGIES

The Davis Drive East segment consists of the Green Streetscape Typology toward the west and the Davis Urban Streetscape Typology to the east (refer to key map 3.3.4.1). Davis Urban Streetscape Typology is utilized in order to minimize conflict between pedestrians and cyclists. In this corridor, it is appropriate to use the Davis Urban Streetscape Typology as the relatively smaller ROW can accommodate the cycle track roadside without an excessive amount of hardscape.

## Existing Conditions Summary

Davis Drive East has a varied and inconsistent street character that is dominated by residential rear lots, commercial strip plaza development and medical facilities. This section of Davis Drive has continuous sidewalks for the entire length, as well as an existing bicycle facility (on-road shared) for the majority of length (from Alexander Road to Harry Walker Parkway). Although sidewalks and cycling facilities currently exist, there is a lack of amenities resulting in a poor pedestrian environment and a cluttered public realm. In addition, there are frequent driveways, interrupting traffic, cyclist and pedestrian flow. Davis Drive interfaces with the vivaNext rapidway near Patterson Street.

Key existing characteristics of Davis Drive East include:

- Varied street character with a mix of commercial and low density residential;
- Above grade utilities contribute to clutter in the public realm;
- Hydro poles along north side of street dominate the streetscape;
- Significant grade changes including at Leslie Street and Davis Drive on the southeast quadrant;
- Residential rear lots create an unanimated streetscape that lacks visual continuity;
- Car-oriented public realm.

## KEY DESIGN ELEMENTS

The following presents the typical streetscape conditions throughout the Davis Drive West segment.

## Intersection Treatment

- Clear pedestrian paths
- Reduced radii at intersections to decrease crossing distances for pedestrians
- AODA compliance
- Enhanced crosswalk paving
- Trees in grates with soil cells in a continuous trench
- Trees spaced 6 metres on centre at intersections
- Feature paving at intersection corners contribute to placemaking

## Midblock Treatment

- Pedestrian priority at driveways
- Clear pedestrian path
- Multi-use path in residential zones
- Cycle track in commercial areas
- Cycle track priority at driveway locations
- Trees in boulevard planters near commercial zone
- Vegetative buffer
- Trees in softscape near residential zone
- Trees spaced 8 metres on centre
- Hydro poles and light standards located in furnishing zone

## Median Treatment

- Hardy shrub understorey
- Deciduous trees spaced 8 metres on centre where space permits

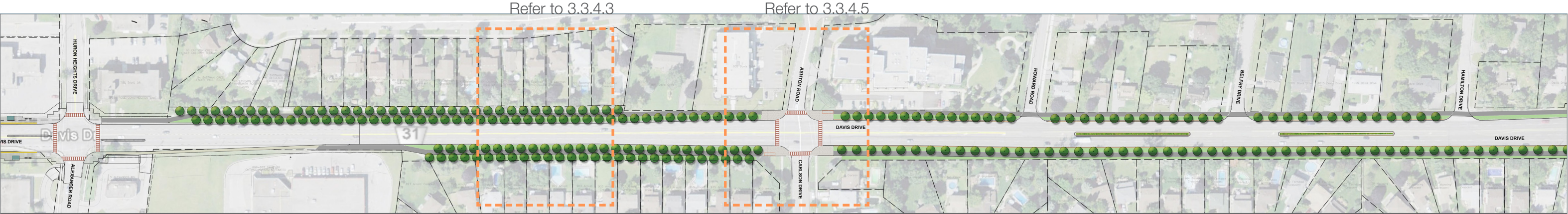




Davis Drive East

3.3.4.1. Davis Drive East Streetscape Master Plan

The following illustrates the Master Plan for the Davis Drive East segment of the Yonge Street & Davis Drive Streetscape Master Plan including a key plan of Streetscape Typology limits. The plan displays an aerial image of the current local context.

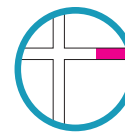
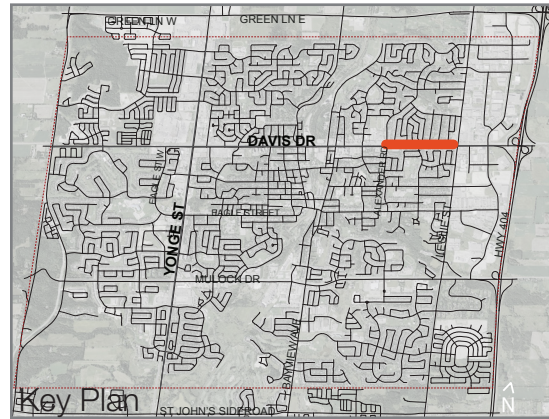


Green Streetscape Typology (3.3.4.2)



Davis Urban Streetscape Typology (3.3.4.3)





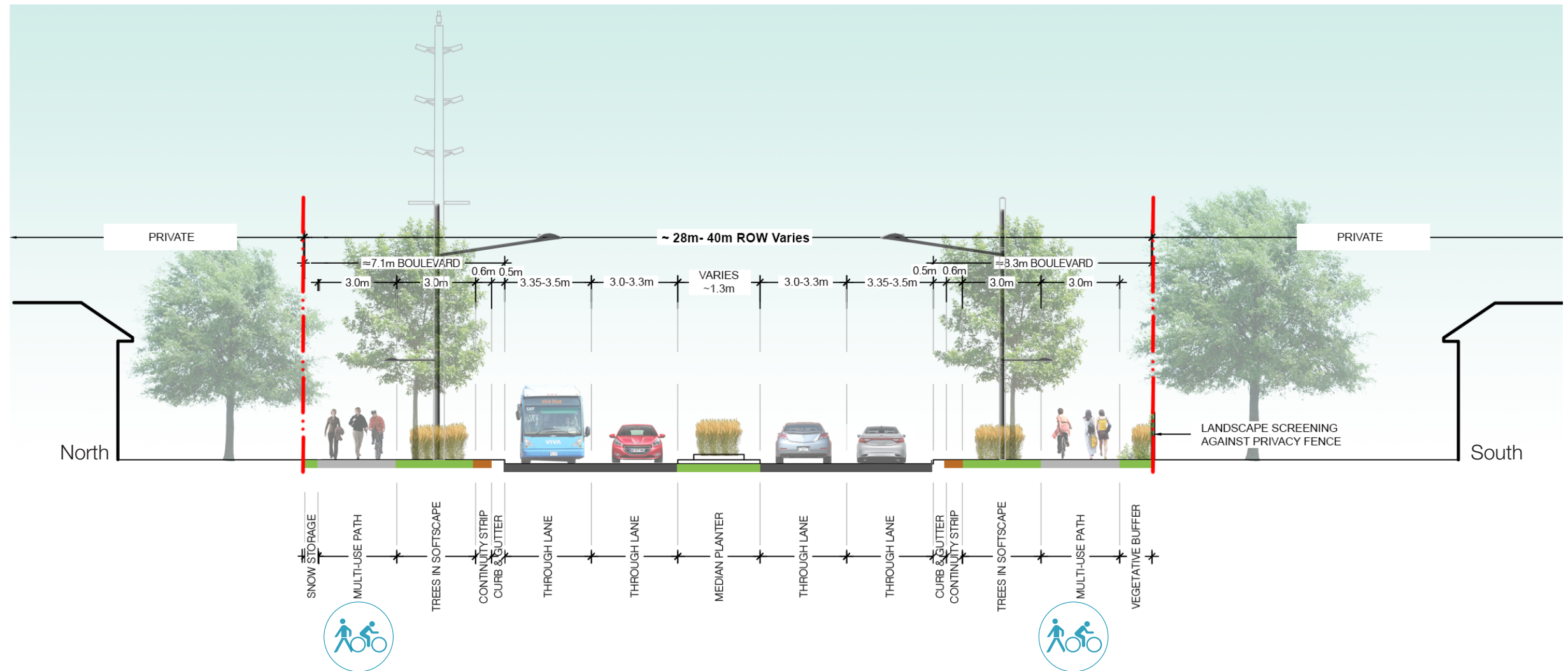
## Davis Drive East

## 3.3.4.2. Green Streetscape Typology Section (From Patterson Street to Leslie Street)

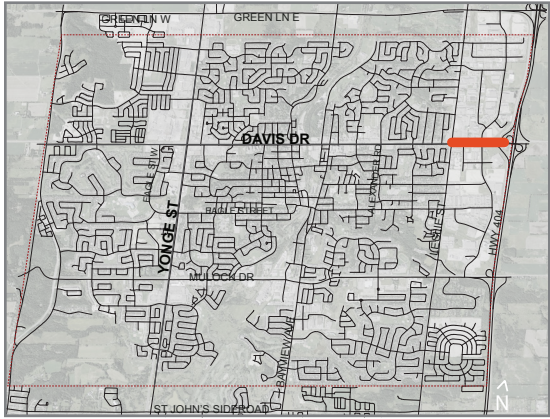
This Green Streetscape Typology section illustrates the conditions in stable low density residential areas with rear lots.

## Key Features Legend

- Multi-use path for pedestrians and cyclists with vegetated buffer from vehicular traffic
- Landscape screening of varied privacy fences creates visual cohesion along rear lot residential properties
- Signature lighting provides illumination for pedestrians, cyclists and vehicles
- Right Size geometry:
  - 3.0- 3.3 metre through lane;
  - 3.35-3.5 metre curbside lane;
  - 3.0 metre turn lane;
  - 3.0 metre MUP.







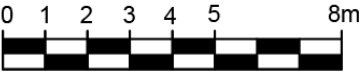
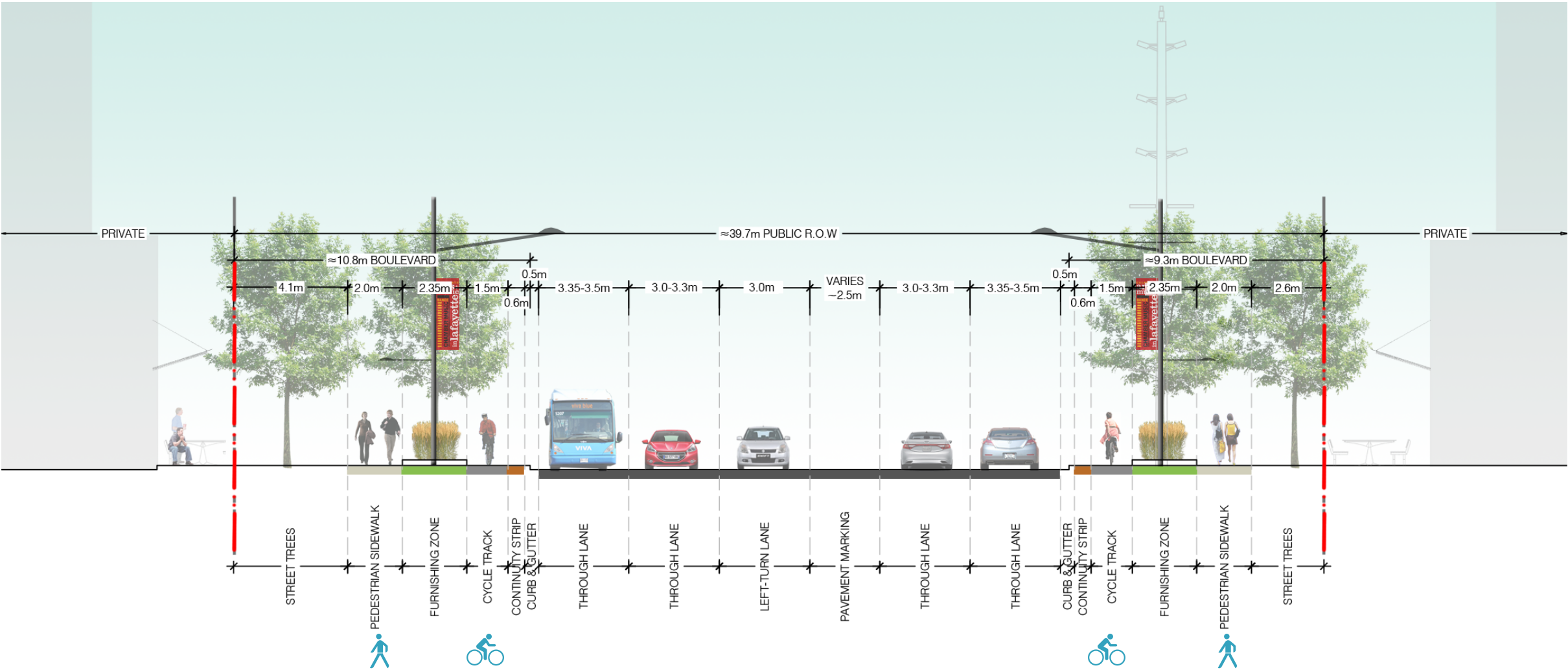
Davis Drive East

3.3.4.3.Davis Urban Streetscape Typology Section (From Leslie Street to Town Boundary)

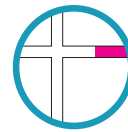
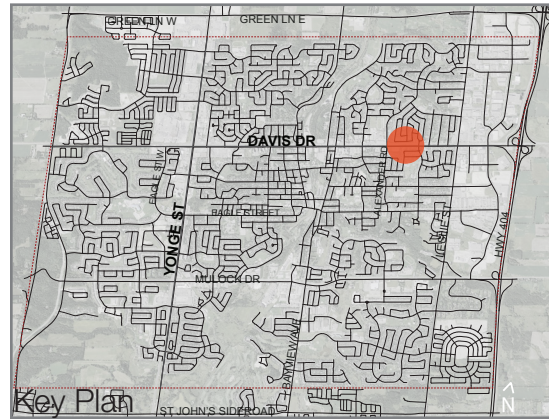
This Davis Urban Streetscape Typology section illustrates the conditions in a developing urban zone.

Key Features Legend

- Curbside raised cycle track with buffer
- Furnishing/ planting zone buffer between cycle track and 2.0 metre wide pedestrian sidewalk
- Signature lighting provides illumination for pedestrians, cyclists and vehicles
- Right Size geometry:
  - 3.0- 3.3 metre through lane;
  - 3.35-3.5 metre curbside lane;
  - 3.0 metre turn lane;
  - 2.0 metre sidewalk;
  - 1.5 metre bike lane with a 0.6 metre buffer.







Davis Drive East

### 3.3.4.4. Visualization in Residential Zone

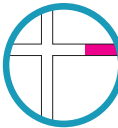
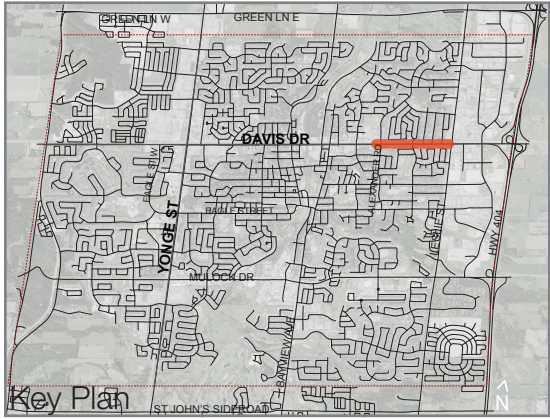
This visualization depicts the streetscape condition in a stable residential zone with rear lots.

#### Key Features

- 3.0 metre wide multi-use path for pedestrians and cyclists with vegetated buffer from vehicular traffic
- Vegetated buffer consists of hardy deciduous street trees spaced 8 metres on centre with an understorey of ornamental grasses and hardy shrubs
- Landscape screening creates visual continuity along rear lot residential zone
- Signature lighting provides illumination for pedestrians, cyclists and vehicles
- Planted median visually reduces the scale of the ROW and contributes to greening of the corridor







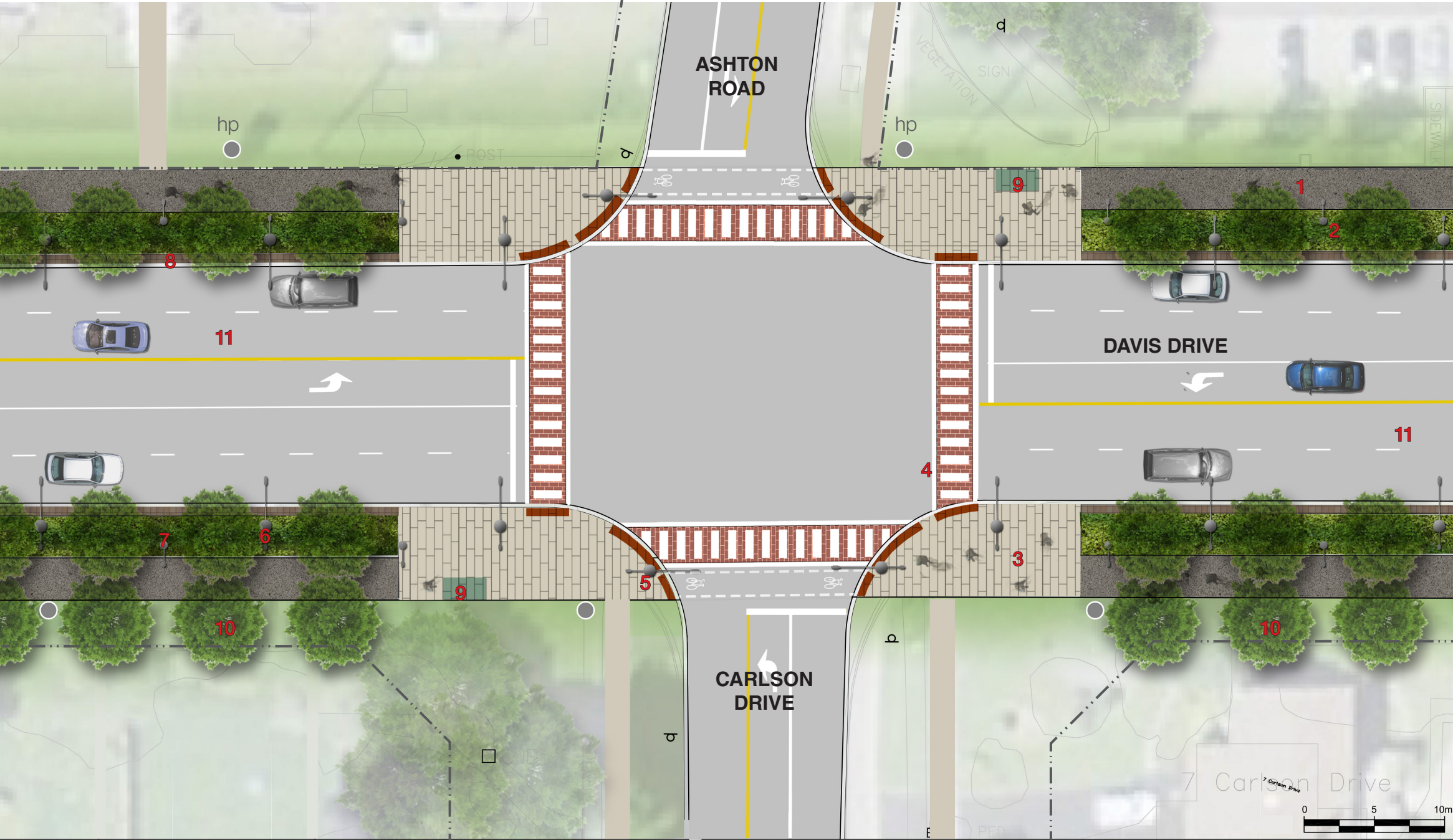
Davis Drive East

3.3.4.5. Detailed Plan at Typical Signalized Intersection in Residential Zone

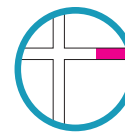
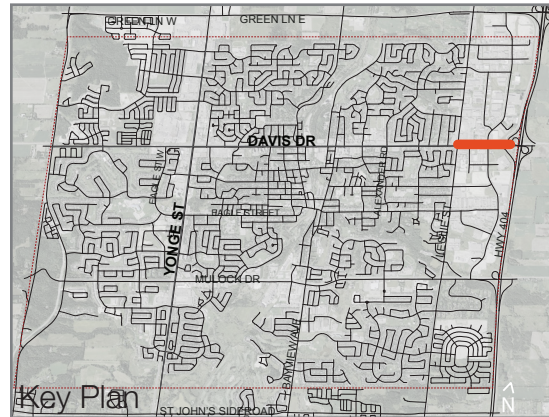
This streetscape detail plan illustrates the detailed streetscape design at a signalized intersection in a stable residential areas with rear lots.

Key Features Legend

- 1. 3.0 metre wide multi-use path for pedestrians and cyclists
- 2. Vegetated buffer with trees between multi-use path and vehicular traffic
- 3. Enhanced boulevard paving at intersection
- 4. Enhanced crosswalk paving
- 5. AODA tactile domes
- 6. Signature street lights with pedestrian luminaries provides illumination for pedestrians, cyclists and vehicles
- 7. Pedestrian lighting further illuminates pedestrian realm
- 8. Continuity strip creates cohesion throughout the streetscape
- 9. Bus shelter
- 10. Deciduous trees in softscape line the back of the multi-use trail where there is available space
- 11. Two vehicular through lanes in either direction







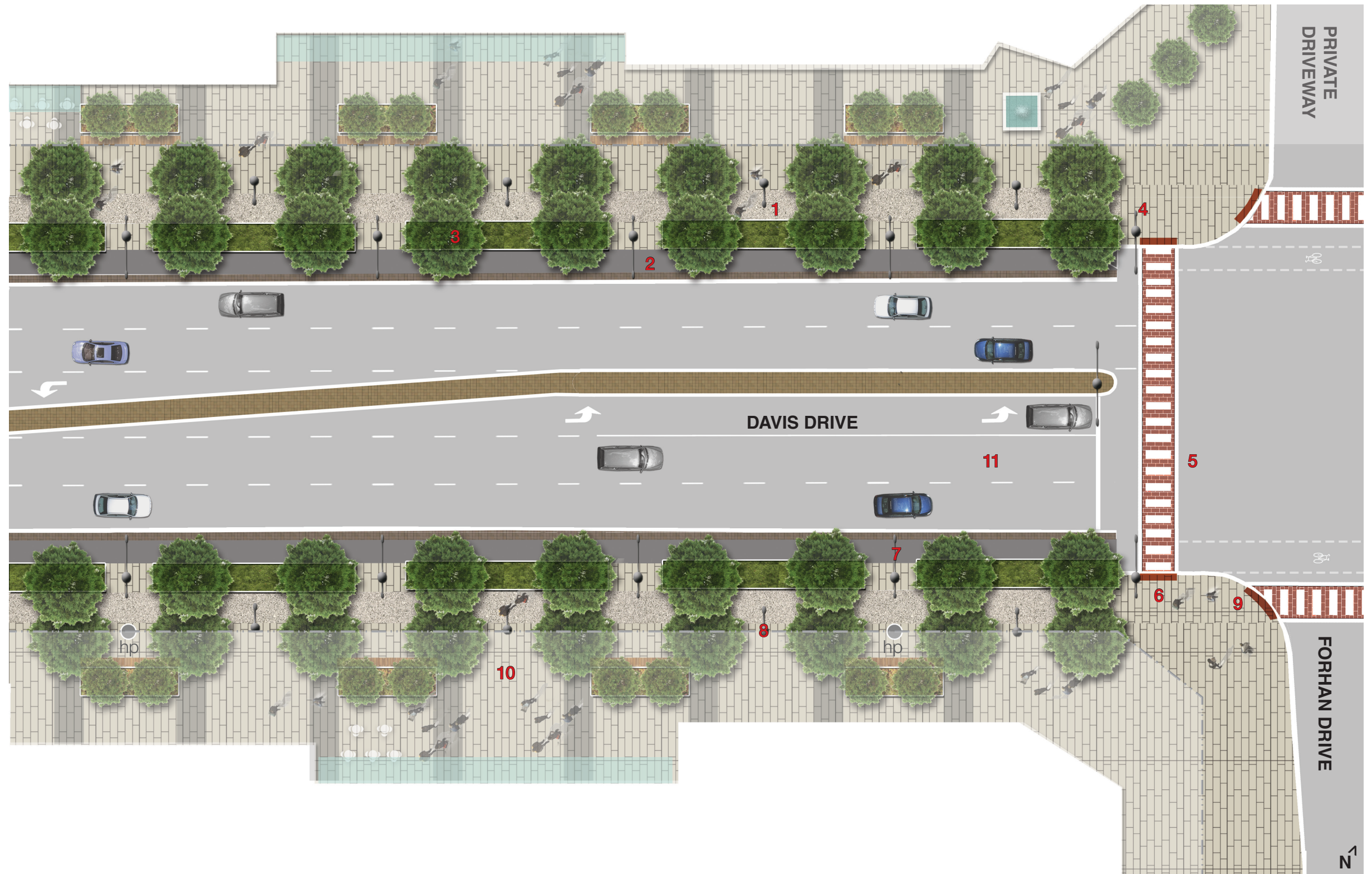
Davis Drive East

## 3.3.4.6. Detailed Plan in Urban Zone

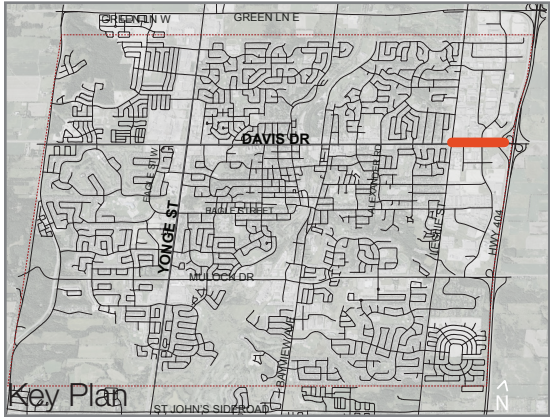
This visualization depicts the streetscape design in an urbanized context.

## Key Features Legend

1. 2.0 metre wide pedestrian sidewalk
2. 1.5 metre raised cycle track with a 0.6 metre buffer
3. Trees in planters provide an urbanized condition in commercial areas
4. Enhanced boulevard paving at intersections
5. Enhanced crosswalk paving
6. AODA tactile plates
7. Signature street lights with pedestrian luminaires provide illumination for pedestrians, cyclists and vehicles
8. Pedestrian realm further illuminated through pedestrian lighting
9. Decorative unit paving defines narrow centre median
10. Interface between private and public realm paving is seamless and provides for visual cohesion
11. Two vehicular through lanes in either direction with a dedicated left turn lane
12. Decorative paving in narrow median ties into streetscape language







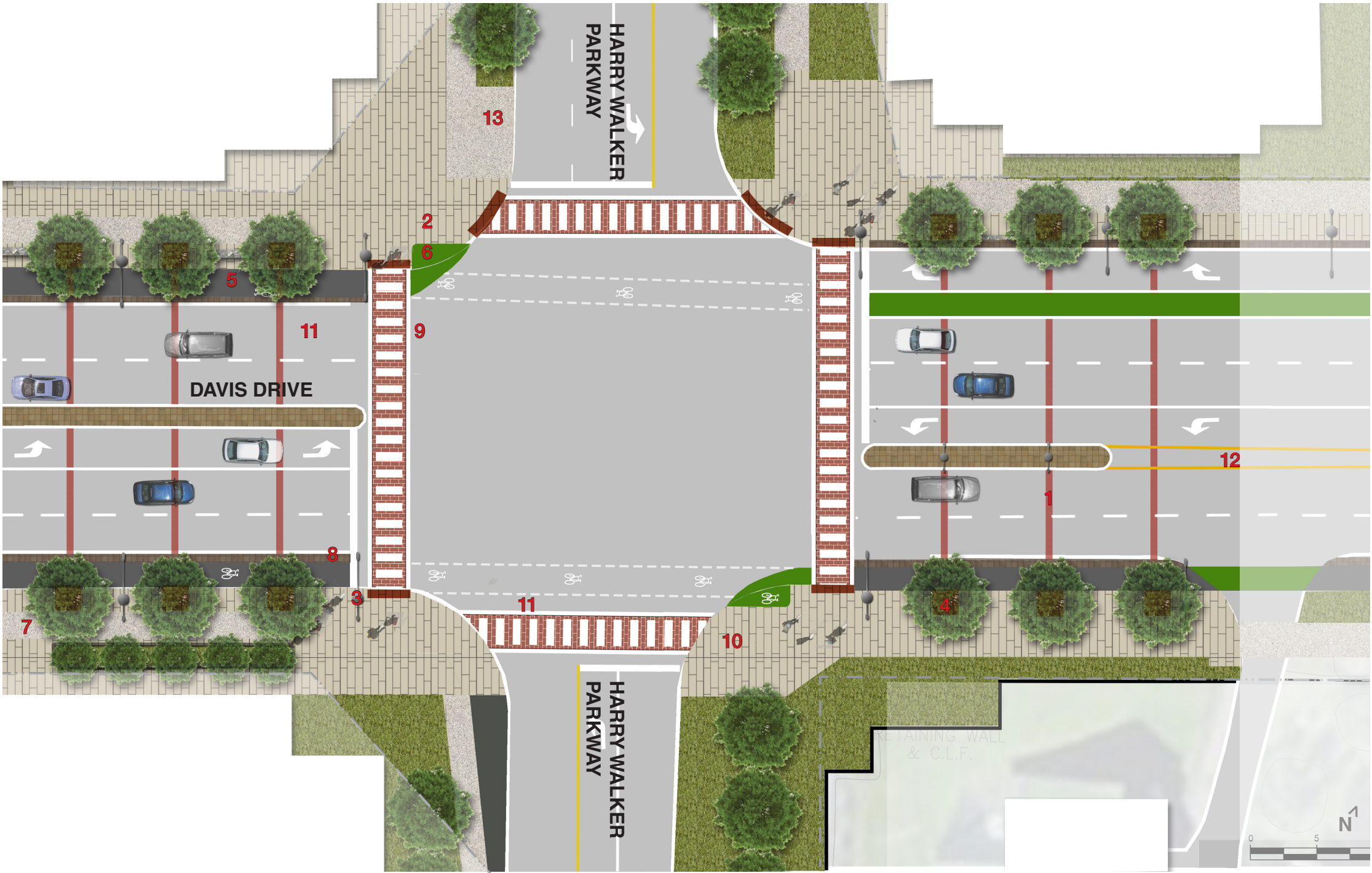
Davis Drive East

3.3.4.7. Streetscape Gateway: Detailed Plan at Harry Walker Parkway

This streetscape typology illustrates the conditions in a urban area.

Key Features Legend

- 1. Streetscape defines the gateway of the Town of Newmarket through coloured banding and accompanying tree planting
- 2. Enhanced boulevard paving at intersections
- 3. Signature streetlights with pedestrian luminaires provide illumination for pedestrians, cyclists and vehicles
- 4. Enhanced paving at intersections and street trees in grates contribute to a more urbanized environment
- 5. 1.5 metre wide cycle track with a 0.6 metre buffer provides a safe aesthetic riding environment for cyclists
- 6. York Region standard bike box
- 7. 2.0 metre wide pedestrian sidewalk with street trees and site furnishing provides a pedestrian-friendly environment
- 8. Continuity strip creates visual cohesion throughout streetscape
- 9. Enhances crosswalk paving
- 10. AODA tactile plate
- 11. Two vehicular through lanes in either direction
- 12. Streetscape Master Plan Boundary
- 13. YRT Bus Stop









# 4.0 Next Steps

The Yonge Street & Davis Drive Streetscape Master Plan utilizes different streetscape typologies in order to achieve a context driven streetscape design. A cohesive theme for the Town of Newmarket is maintained through paving materials, consistent street furniture, a unique plant palate and repeating streetscape typologies. These streetscape typologies work together to achieve the vision of a **Vibrant, Green & Active** Streetscape.

Now that the geometry of the streetscape has been established, Phase 4: Detailed Design and Guidelines will move on to establish detailed design guidelines and standards including a consolidated checklist of urban design criteria and requirements. This information will be utilized for local municipal and Regional review of development applications and site plans. It will also be a valuable tool to inform the detailed design process

Phase 4 will establish a 'Kit of Parts' for the streetscape that distills items of continuity and items of variability throughout the streetscape. The report will present detailed guidelines for the geometry and dimensions for intersections and midblock conditions. Phase 4 will also establish the materials to be utilized for the streetscape as well as the street furniture style.

Phase 4 of the project will further develop the Streetscape Master Plan to ensure that future development upholds the vision for Yonge Street and Davis Drive.



## 4.1 Glossary of Terms

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**Auto Turn Analysis:** CAD analysis of the movement of vehicles turning within certain streetscape dimensions.

**Complete Streets:** Streets that are designed for all users, including pedestrians, bicyclists, motorists and transit riders of differing ages and abilities.

**Right Size Streets:** Streets which contain dimensions that encourage the comfortable transport of all users.

**Urban Heat Island (UHI) Effect:** Raised temperatures in urban areas as a result of the built form.



