

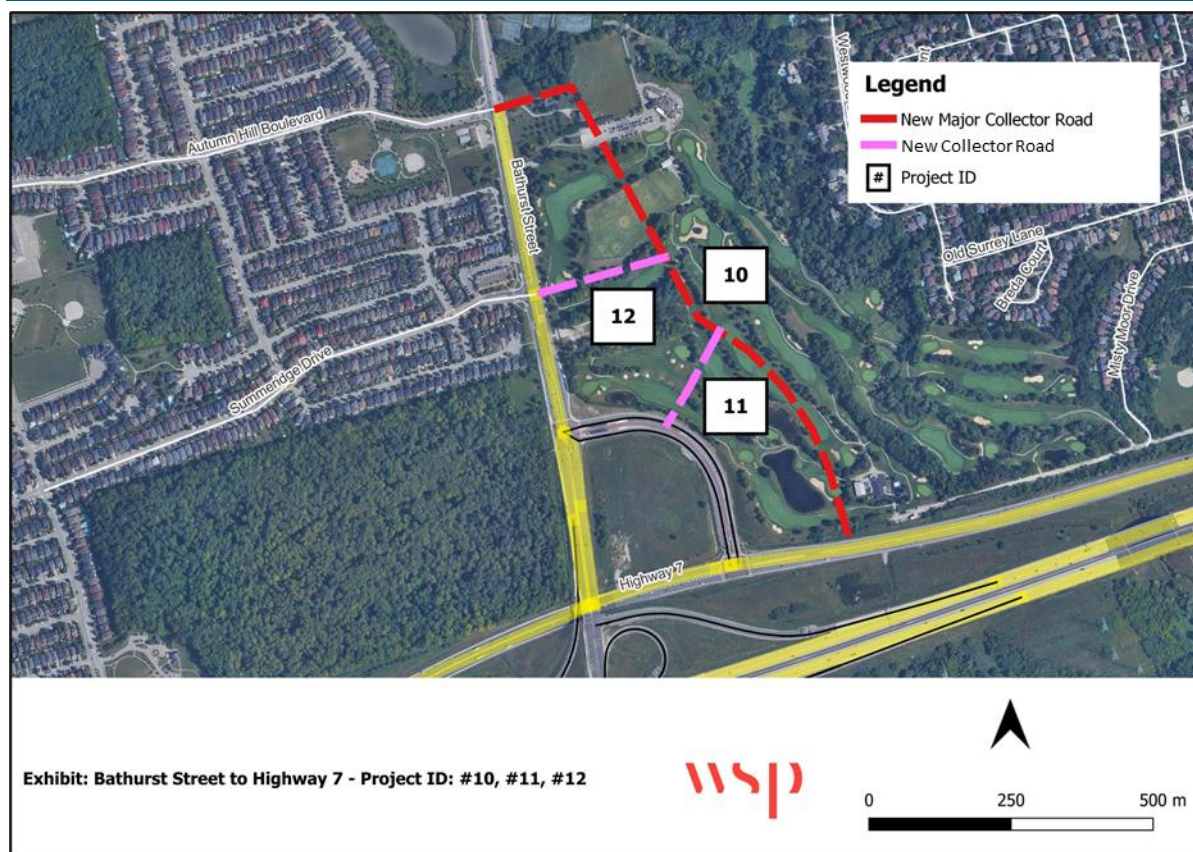
# Appendix E

## ✓ Project Sheets

- **Bathurst Street and Highway 7**
- **Carrville Road to Garden Avenue**
- **East and West Beaver Creek Road**
- **Enford Road Extension**
- **Far Niente Extension**
- **Garden Avenue Extension**
- **McCague Avenue (Bawden Drive to Highway 404)**
- **Performance Drive to Highway 404**
- **Orlando Avenue Extension to Highway 404**
- **Newkirk Road**
- **Oak Ridges**
- **Yonge and 16<sup>th</sup> MTSA Road Network**
- **Leyburn Avenue Extension**

## Project Sheet – Bathurst Street and Highway 7

<b>Project ID</b>	#10, #11, #12		
<b>Location</b>	Bathurst Street		
<b>Project Limits</b>	Bathurst Street and Highway 7		
	New Major Collector Road Construction and New Collector Road Construction		
<b>Road Length</b>	<b>Road</b>	<b>Length</b>	
	New Major Collector Road from Bathurst Street to Highway 7 (#10)	1.07 km	
	New Collector Road in Bathurst and Highway 7 MTSA to Connector Road (#11)	0.19 km	
	New Collector Road in Bathurst and Highway 7 MTSA to Bathurst Street (#12)	0.24 km	
	<b>Total Length</b>	<b>1.50 km</b>	



## Project Sheet – Bathurst Street and Highway 7

### Existing Conditions

#### Physical and Transportation Conditions

Existing ROW	-
Road Designation	Major Collector Road, Collector Roads

#### Description

One new major collector road and two new collector roads are proposed. The new major collector road connects Bathurst Street and Highway 7 on the northeast side. The first new collector road extends from Summeridge Drive and connects to the new major collector road. The second new collector road connects between the exit from Bathurst Street to Highway 7 and the new major collector road. The proposed new major collector road will have a 26 metre right-of-way with cycle track facility. The new collector roads will have a 23 metre right-of-way with cycle track facilities and a parking lane on one side.

#### Natural and Built Environment

Natural Environment	Greenway System (woodland, permanent stream)
Socio-Economic	The proposed road development is located in the Greenway Systems and Parkway Belt West Plan as identified in the Richmond Hill Official Plan. The surrounding area has been identified as a MTSA in the 2022 ROP, and a Local Centre in the City's Key Directions Report.
Land Use and Built Environment	Richmond Hill Country Club, Richmond Hill Golf Club, associated heritage dwellings.

#### Problem or Opportunity

- Road capacity improvements to support future travel demand, accounting for increased demand with redevelopment of golf course and country club.
- Road improvements supporting connectivity, including walking and cycling, as a result of the future major and minor collector road.

#### Alternatives Considered

1. **Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses.
2. **Improve alternative corridor:** Parallel routes will not serve lands for development directly. New roads are required to access properties.
3. **Construct new roads:** Addresses future travel demand as result of the upcoming development which will increase connectivity for all modes of travel.

## Project Sheet – Bathurst Street and Highway 7

### Recommended Improvement

<b>Recommendations</b>	Develop a new major collector road from Bathurst Street to Highway 7 to service new development with redevelopment of the golf course. Develop two collector roads between Bathurst Street to Highway 7. Additionally, there are integrated cycling and sidewalks along the roads, allowing for active transportation.
<b>Phasing</b>	Major Collector Schedule C, Collectors pre-approved through TMP; Construction by 2041

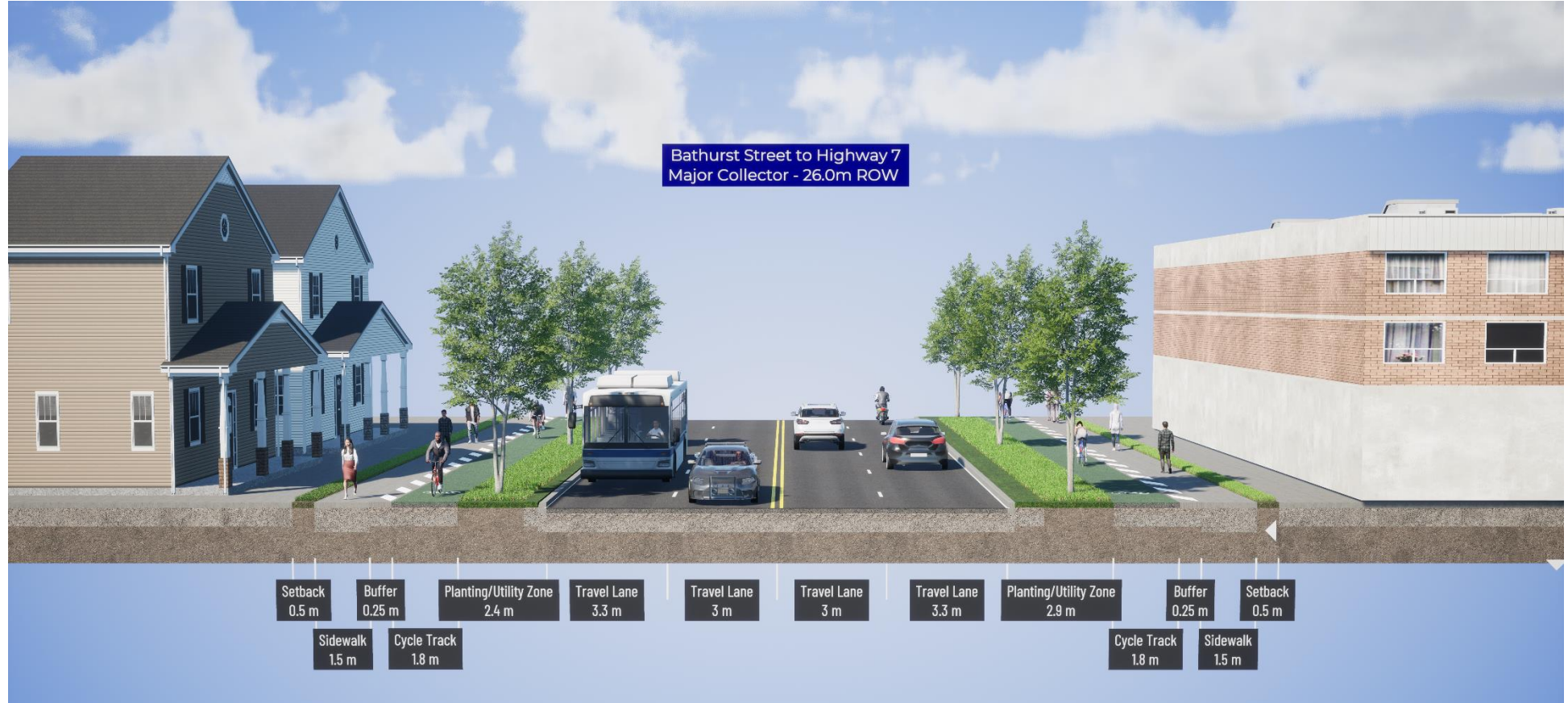
### Costs & Benefits

<b>Preliminary Total Cost Estimate</b>	<p>Project ID #10: Costing will be Developer's responsibility</p> <p>Project ID #11: Costing will be Developer's responsibility</p> <p>Project ID #12: Costing will be Developer's responsibility</p>
<b>Potential Benefits</b>	Multi-modal capacity and connectivity; Facilitates redevelopment of the golf course and intensification of development



## Project Sheet – Bathurst Street and Highway 7

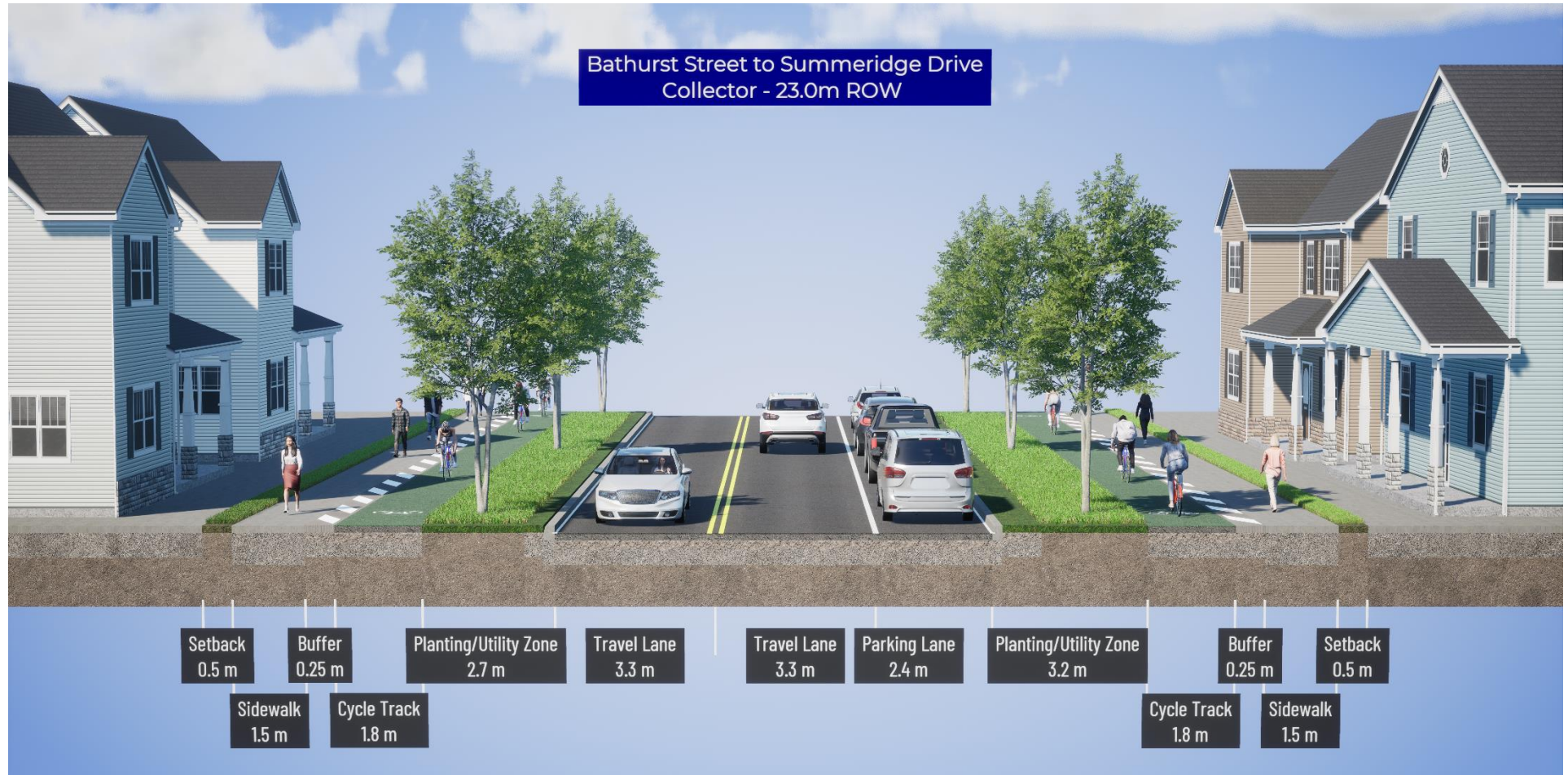
**Figure 1. Typical Road Cross-section - Bathurst Street to Highway 7**



\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

## Project Sheet – Bathurst Street and Highway 7

Figure 2. Typical Road Cross-section - Bathurst Street to Summeridge Drive



\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

## Project Sheet – Carrville Road to Garden Avenue

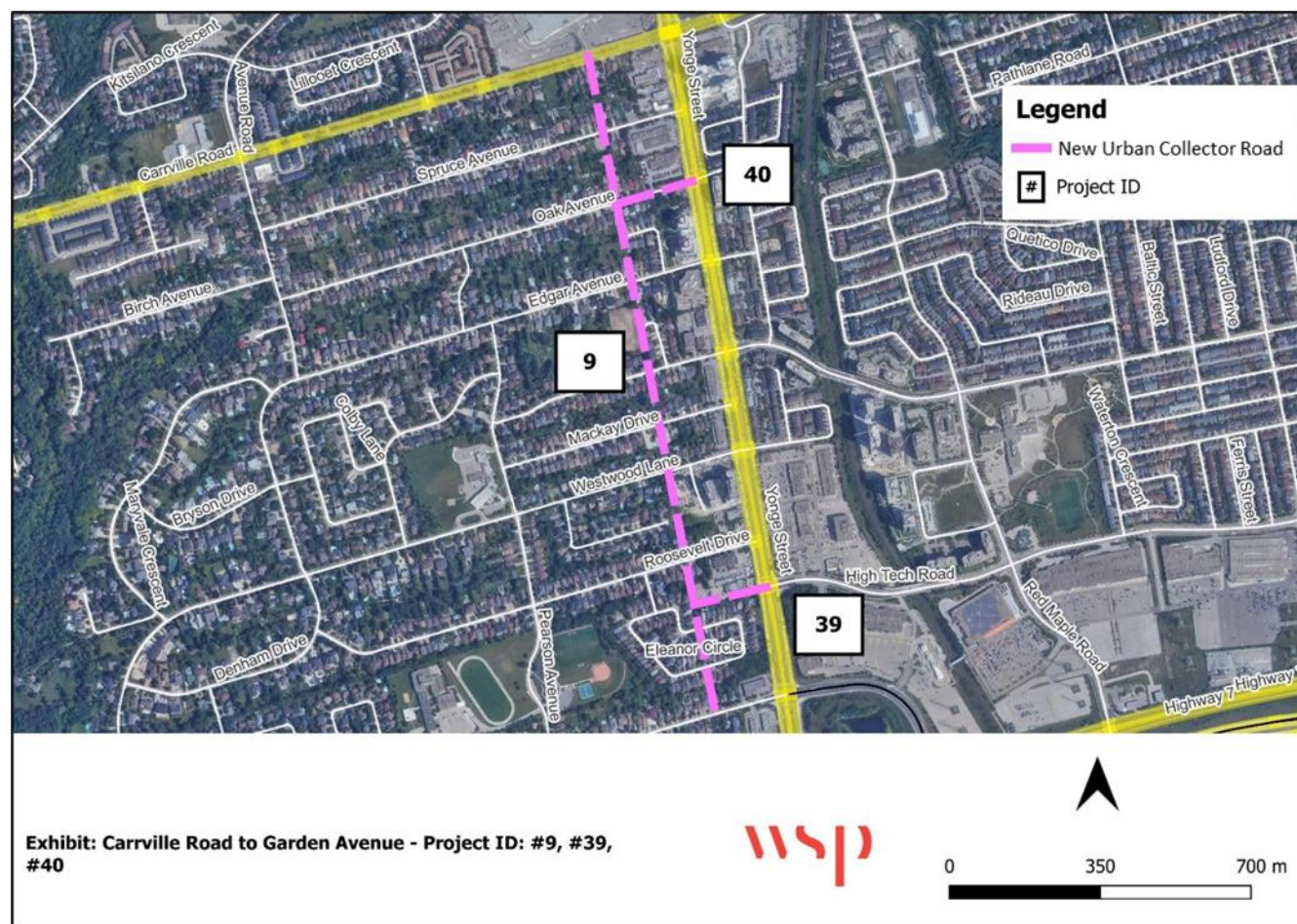
### Project Description

Project ID	#9, #39, #40		
Location	West of Yonge Street		
Project Limits	Carrville Road – Garden Avenue		
Project Type	New Urban Collector Road Construction		
Road Length			
	Road		Length
	New Urban Collector Road, North-South from Carville Road to Garden Avenue (#9)		1.55 km
	New Urban Collector Road, East-West, between North-South Urban Collector Road and Yonge Street (#39)		0.16 km
	New Urban Collector Road, upgrading Oak Avenue from North-South Road (#40) to Yonge Street		0.17 km
	Total Length		1.88 km



# Project Sheet – Carrville Road to Garden Avenue

## Map



## Project Sheet – Carrville Road to Garden Avenue

### Existing Conditions

#### Physical and Transportation Conditions

Existing ROW	-
Road Designation	Urban Collector Road

#### Description

Three new urban collector roads are proposed between Carrville Road and Garden Avenue. The first new urban collector road will run North – South, east of Yonge Street (Project ID #9) between Carrville Road and Garden Avenue. The second new urban collector road will extend from Oak Avenue and connect to Yonge Street (Project ID #40). The third urban collector road will extend from High Tech Road and connect to Yonge Street and the North-South new urban collector road. All the new urban collector roads will be a collector road with 20 metre right-of-way and layby parking.

#### Natural and Built Environment

Natural Environment	Existing development on both sides of corridor.
Socio-Economic	The proposed road development is located in an area identified as Neighbourhood Areas by the Richmond Hill Official Plan. Future developments in the area include high-density/mixed-use residential units and commercial space, single detached dwellings and mixed-use developments.
Land Use and Built Environment	Various retail and commercial properties, and residential housing.  The north section of the road terminates at the Yonge-16th MTSA. The southern end is not within the Richmond Hill Centre (RHC) but a portion of the East-West segment connects to roads within the RHC boundary.

#### Problem or Opportunity

- Road capacity improvements to support future travel demand, accounting for increased demand.
- Road improvements supporting connectivity, including walking, and cycling.

#### Alternatives Considered

1. **Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses.
2. **Improve alternative corridor:** No nearby parallel route exists other than Yonge Street. Yonge Street has already been built out to its maximum number of lanes and cannot be further widened.
3. **Construct new road:** Addresses future travel demand and increased connectivity.

## Project Sheet – Carrville Road to Garden Avenue

### Recommended Improvement

<b>Recommendations</b>	Develop three new urban collector roads with 20 metre right-of-way.
<b>Phasing</b>	<p>North-South Road from Carrville Road to Garden Avenue (ID #9) – MCEA Schedule C; Constructed by 2041</p> <p>East-West Urban Collector Road (ID #39) Between North-South Urban Collector Road (ID #9) and Yonge Street – Constructed by 2041</p> <p>Oak Avenue (ID #40) from North-South Road (ID #9) to Yonge Street - Constructed by 2041</p>

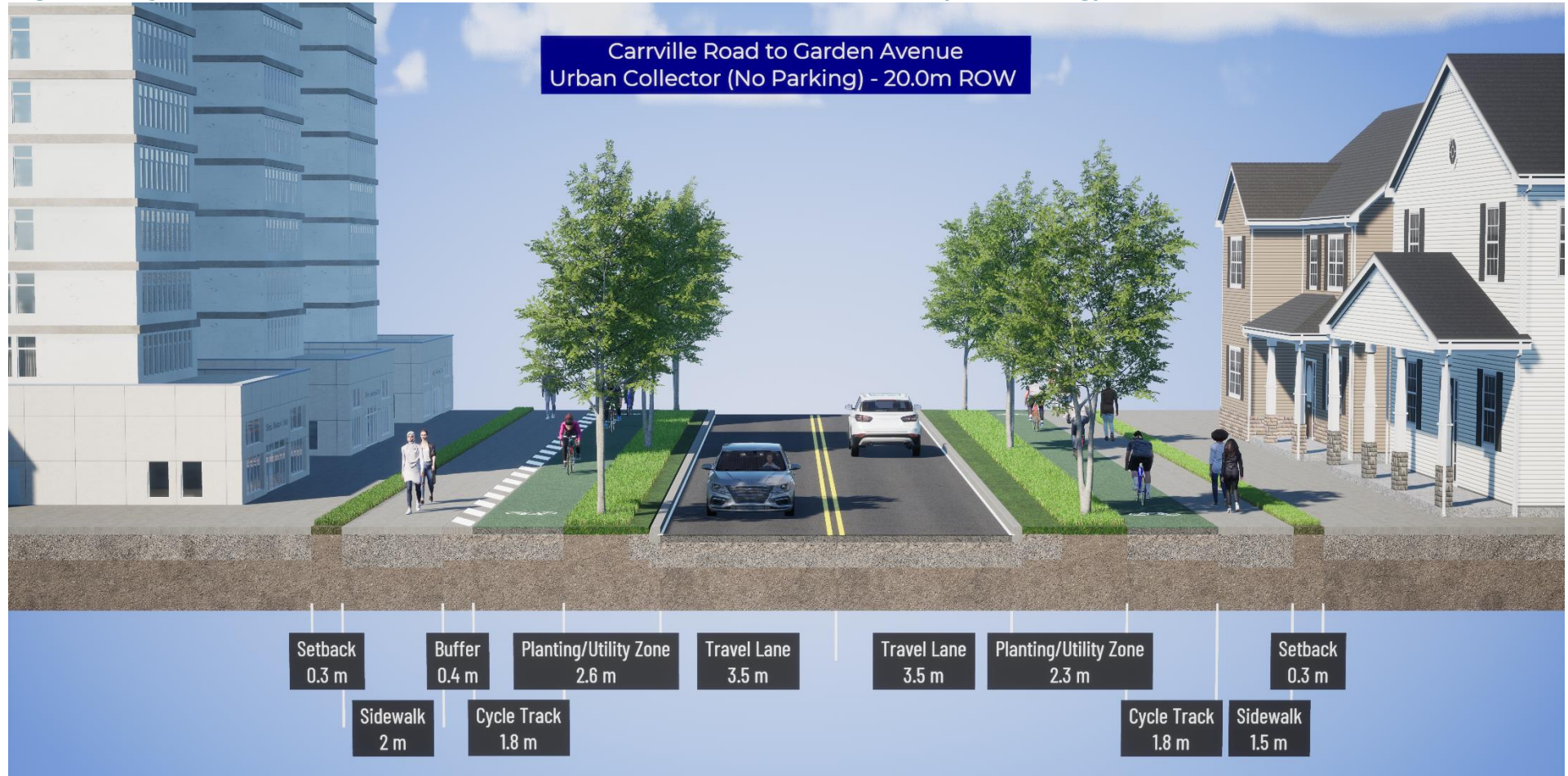
### Costs & Benefits

<b>Preliminary Total Cost Estimate</b>	<p>Project ID #9: \$10,515,000 The preliminary total cost estimate of North-South Road from Carrville Road to Garden Avenue</p> <p>Project ID #39: Costing will be Developer's responsibility</p> <p>Project ID #40: \$1,247,000 The preliminary total cost estimate of Oak Avenue from North-South Road (ID #9) to Yonge Street</p>
<b>Potential Benefits</b>	Alleviate traffic congestion with a highly utilized connection, provide alternate access to properties, facilitate intensification of land uses



## Project Sheet – Carrville Road to Garden Avenue

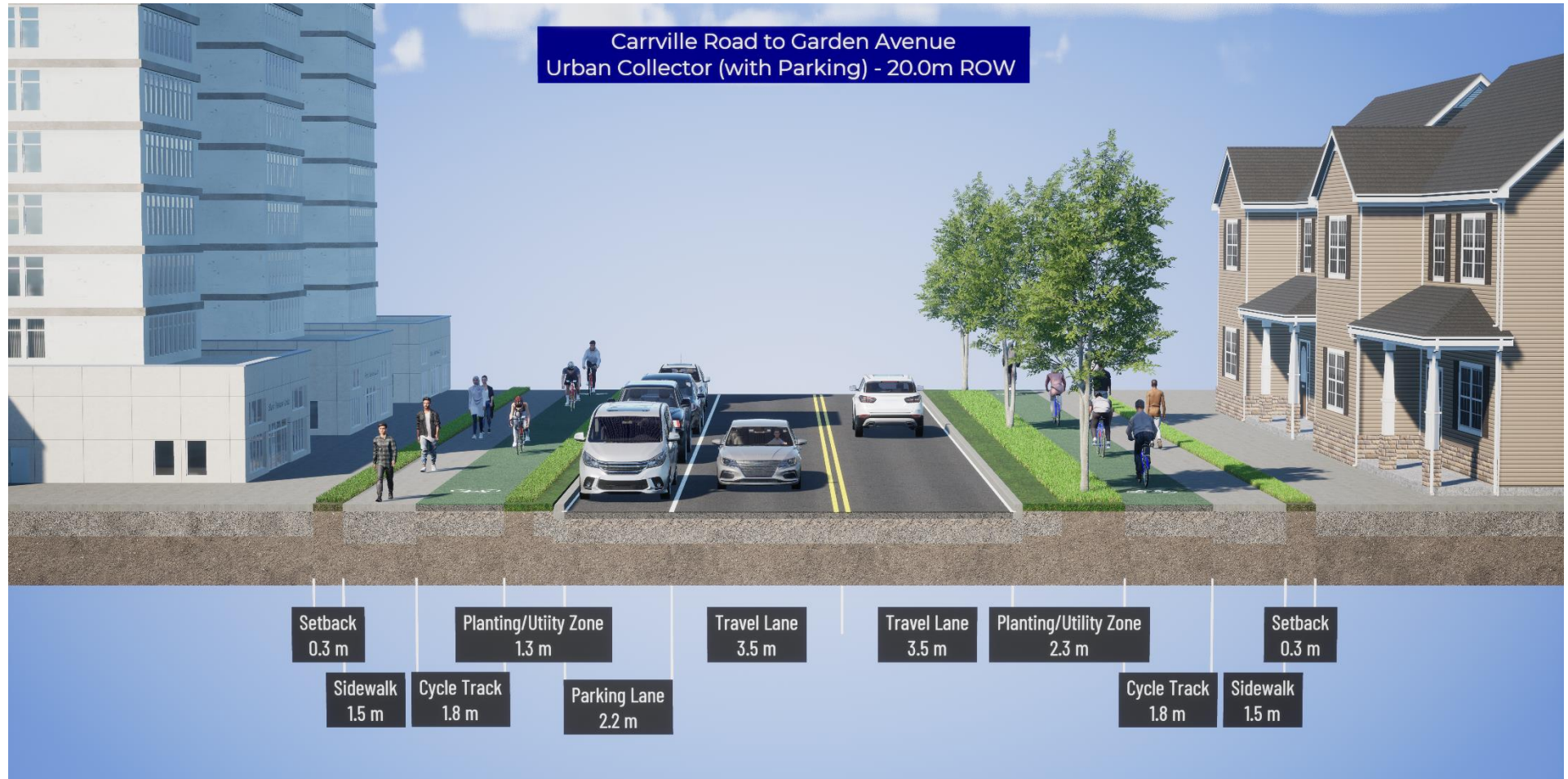
**Figure 1. Typical Road Cross-section – Carrville Road to Garden Avenue (No Parking)**



\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

## Project Sheet – Carrville Road to Garden Avenue

**Figure 2. Typical Road Cross-section – Carville Road to Garden Avenue (with Parking)**



\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

## Project Sheet – East and West Beaver Creek Road

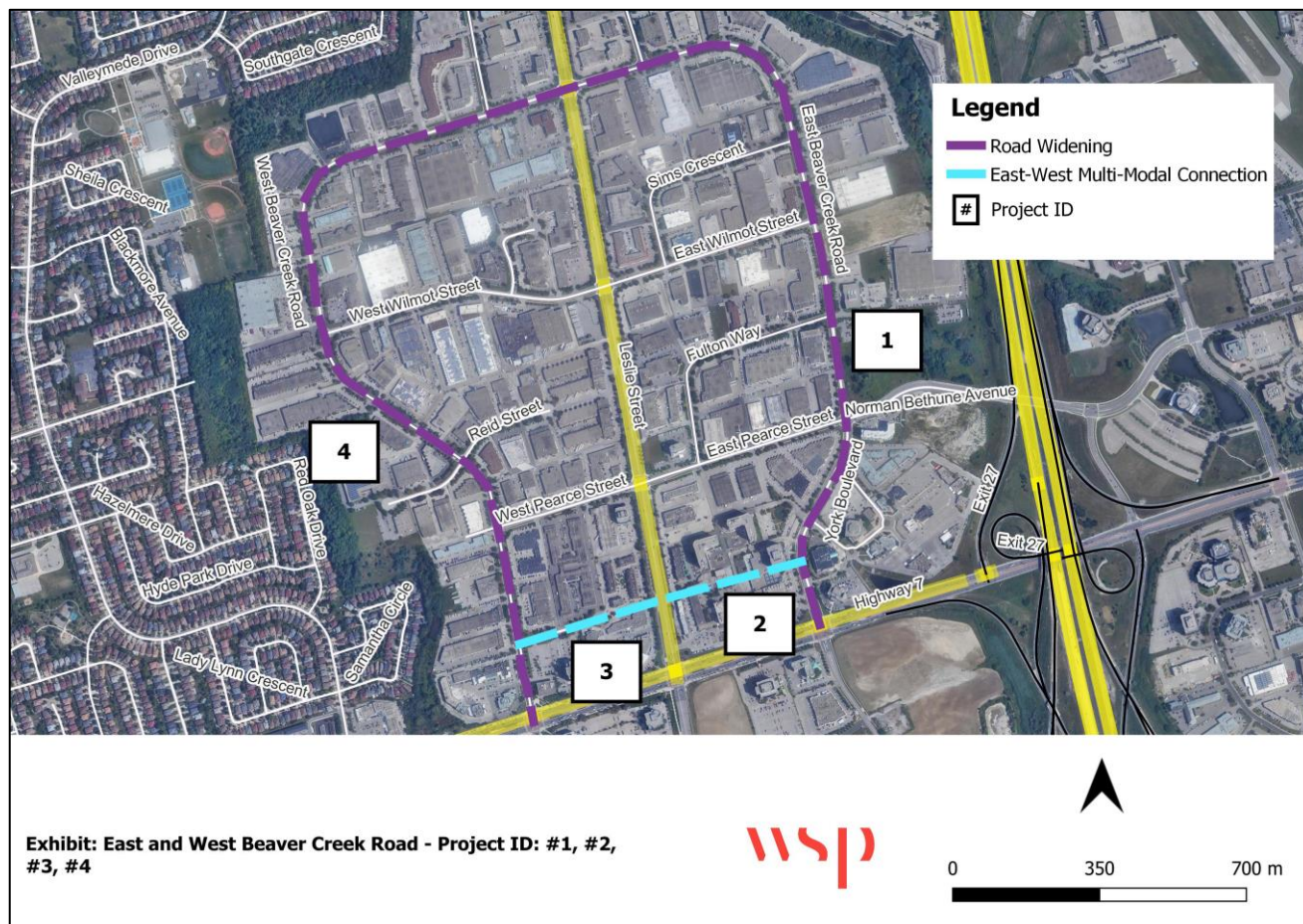
### Project Description

Project ID	#1, #2, #3, #4	
Location	East and West Beaver Creek Road	
Project Limits	Highway 7 – East Beaver Creek Road – West Beaver Creek Road	
Project Type	Road Widening and Multi-Modal Construction	
Road Length		
	Road	Length
	Road Widening of East Beaver Creek Road from Leslie Street to Highway 7 (#1)	2.79 km
	Multi-Modal Construction of Wertheim Court from East Beaver Creek to Leslie Street (#2)	0.71 km
	Multi-Modal Construction of Wertheim Court from Leslie Street to West Beaver Creek (#3)	0.20 km
	Road Widening of West Beaver Creek Road from Leslie Street to Highway 7 (#4)	2.14 km
	Total	5.84 km



# Project Sheet – East and West Beaver Creek Road

## Map



## Project Sheet – East and West Beaver Creek Road

### Existing Conditions

#### Physical and Transportation Conditions

Existing ROW	East and West Beaver Creek Road	26 metres
	Wertheim Court	20 metres
Road Designation	Major Collector Road, East-West Multimodal Connection	

#### Description

The East-West multimodal connection is proposed from Wertheim Court from East Beaver Creek Road to Leslie Street and then further from Leslie Street to West Beaver Creek Road. One new lane will be added to the existing three lane road on both East and West Beaver Creek Road from Leslie Street to Highway 7.

#### Natural and Built Environment

Natural Environment	Existing development on both sides of corridor.
Socio-Economic	The area is designated as a MTSA and as a Local Centre in the City's Key Directions Report. The area is also designated an employment corridor and employment area.
Land Use and Built Environment	Times Square Richmond Hill, Sheraton Parkway Toronto North Hotel and Suites, numerous other employment and commercial establishments.

#### Problem or Opportunity

- Road capacity improvements to support future travel demand, accounting for increased demand.
- Road improvements supporting connectivity, include walking and cycling.

#### Alternatives Considered

1. **Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses.
2. **Improve alternative corridor:** Parallel route of Leslie Street, if widened, would be adding bus only or high occupancy vehicle lanes and would not add sufficient capacity to facilitate intensification and redevelopment of land uses. Does not increase connectivity through new walking and cycling facilities.
3. **Widen roads and construct a new east-west multi-modal linkage:** Addresses future travel demand, increases connectivity for all modes of travel.

### Recommended Improvement

Recommendations	East and West Beaver Creek Road will be widened by adding one lane to the existing three-lane road with multi-use path. A new east-west multimodal connection extending from Wertheim Court to East Beaver Creek Road.
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## Project Sheet – East and West Beaver Creek Road

	Traffic on Leslie Street would be less congested. The multi-use pathway and cycle track will support active transportation
<b>Phasing</b>	MCEA Schedule C for East and West Beaver Creek, construction by 2031; MCEA Schedule C for Wertheim Court, construction by 2051

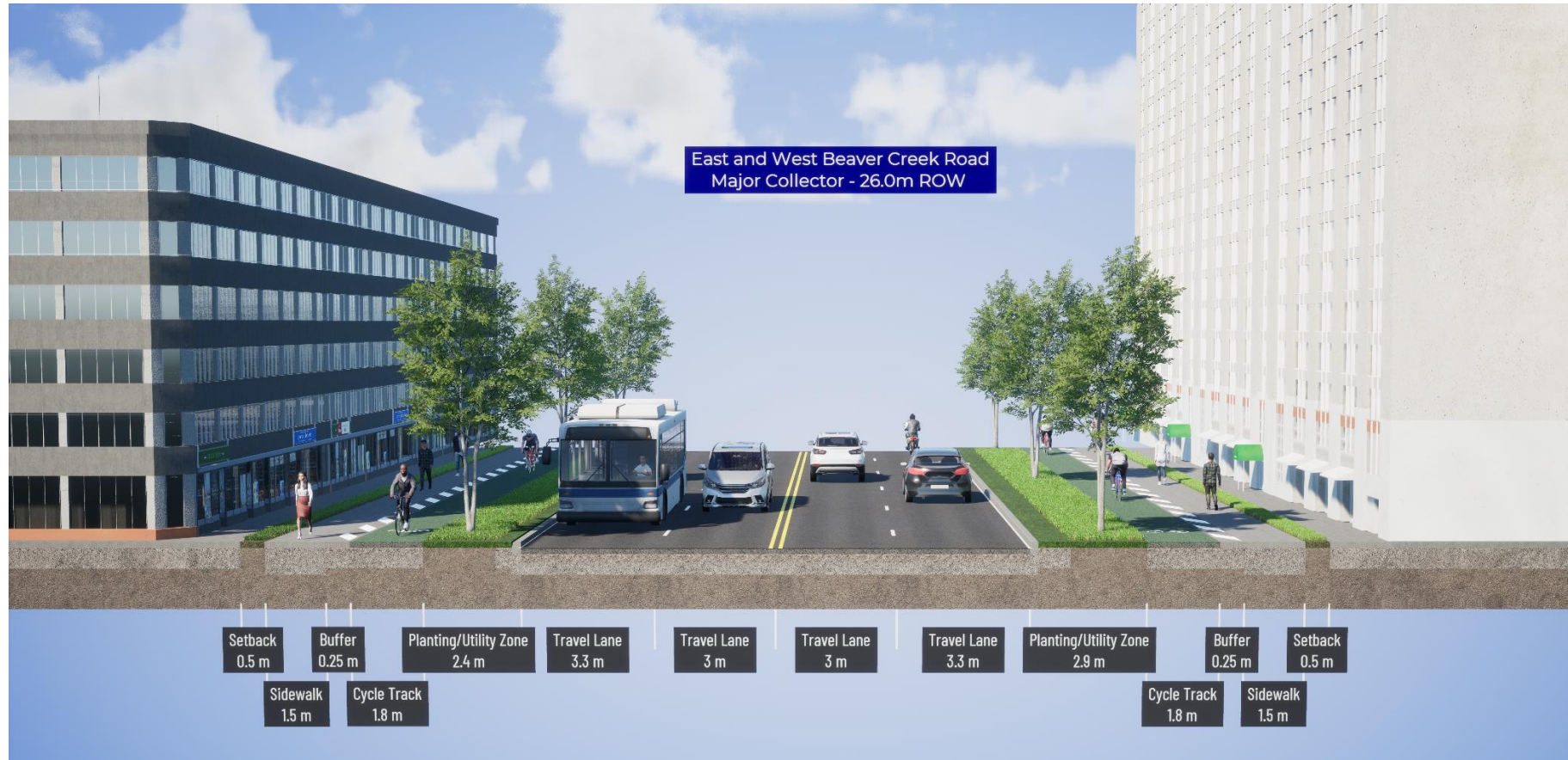
### Costs & Benefits

<b>Preliminary Total Cost Estimate</b>	<p>Project ID #1: \$15,938,000 The preliminary total cost estimate of East Beaver Creek Road from Leslie Street to Highway 7</p> <p>Project ID #2: \$4,827,000 The preliminary total cost estimate of Wertheim Court from East Beaver Creek to Leslie Street</p> <p>Project ID #3: \$1,383,000 The preliminary total cost estimate of Wertheim Court from Leslie Street to West Beaver Creek</p> <p>Project ID #4: \$17,968,000 The preliminary total cost estimate of West Beaver Creek Road from Leslie Street to Highway 7</p>
<b>Potential Benefits</b>	Facilitates infill and intensification of development; notably improves active transportation facilities; provides a well-utilized connection to the travel network.



## Project Sheet – East and West Beaver Creek Road

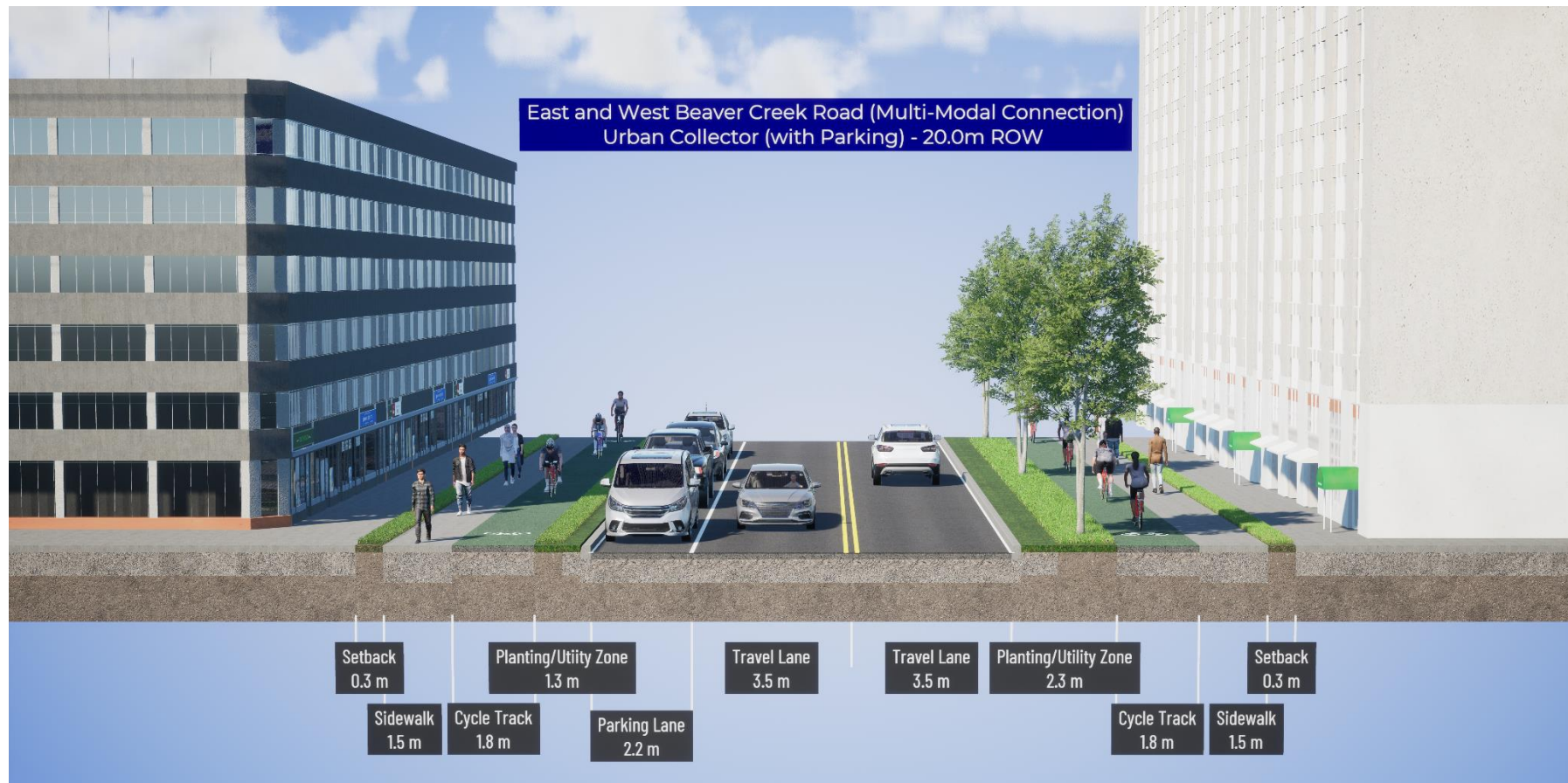
Figure 1. Typical Road Cross-section – East and West Beaver Creek Road



\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

## Project Sheet – East and West Beaver Creek Road

**Figure 2. Typical Road Cross-section – East and West Beaver Creek Road (Multi-Modal Connection)**



\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

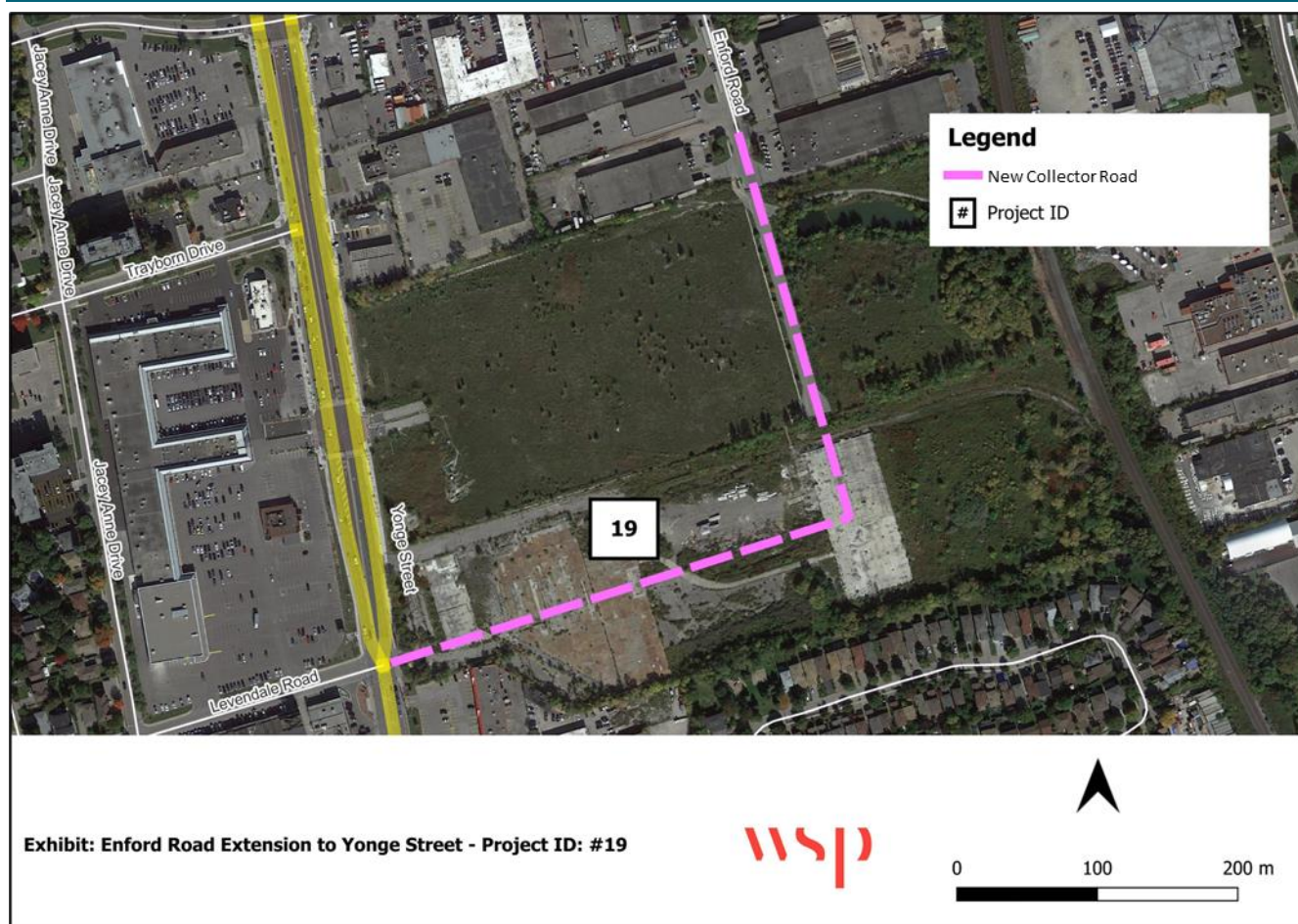


## Project Sheet – Enford Road Extension

### Project Description

Project ID	#19
Location	Enford Road
Project Limits	Enford Road – Yonge Street
Project Type	New Collector Road Construction
Total Length	0.63 km

### Map



## Project Sheet – Enford Road Extension

### Existing Conditions

#### Physical and Transportation Conditions

Existing ROW	-
Road Designation	Collector Road

#### Description

A new collector road construction is proposed from Enford Road to Yonge Street. The length of the road will be 0.63 km, it will consist of a 23 metre right-of-way.

#### Natural and Built Environment

Natural Environment	Vacant Site on both sides of corridor. Identified as a Flood Vulnerable Area.
Socio-Economic	The proposed road development is located in area identified as Employment Lands and Downtown Local Centre by the Richmond Hill Official Plan. As part of OPA 18.6 it is anticipated that a portion of these lands may be redesignated as Regional Mixed Use Corridor
Land Use and Built Environment	Vacant Site on both sides of corridor. The existing portion of Enford Road is lined with various industrial uses, primarily related to the automotive industry.

#### Problem or Opportunity

- Road capacity improvements to support future travel demand.
- Road improvements supporting connectivity, including walking and cycling.

#### Alternatives Considered

1. **Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses.
2. **Improve alternative corridor:** No alternative corridor available to provide access to the vacant lands.
3. **Construct a new collector road:** Addresses future multi-modal travel demand and increases connectivity for all modes of travel.

Recommendations	Develop a new collector road connecting Enford Road to Yonge Street. It will be 0.63 km in length with 20 metre right-of-way. Build cycle track for allowing active transportation.
Phasing	Pre-approved through completion of TMP; Construction by 2041

#### Costs & Benefits

Preliminary Total Cost Estimate	Project ID #19: \$4,279,000 The preliminary total cost estimate of the Enford Road Extension
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October 2023

## Project Sheet – Enford Road Extension

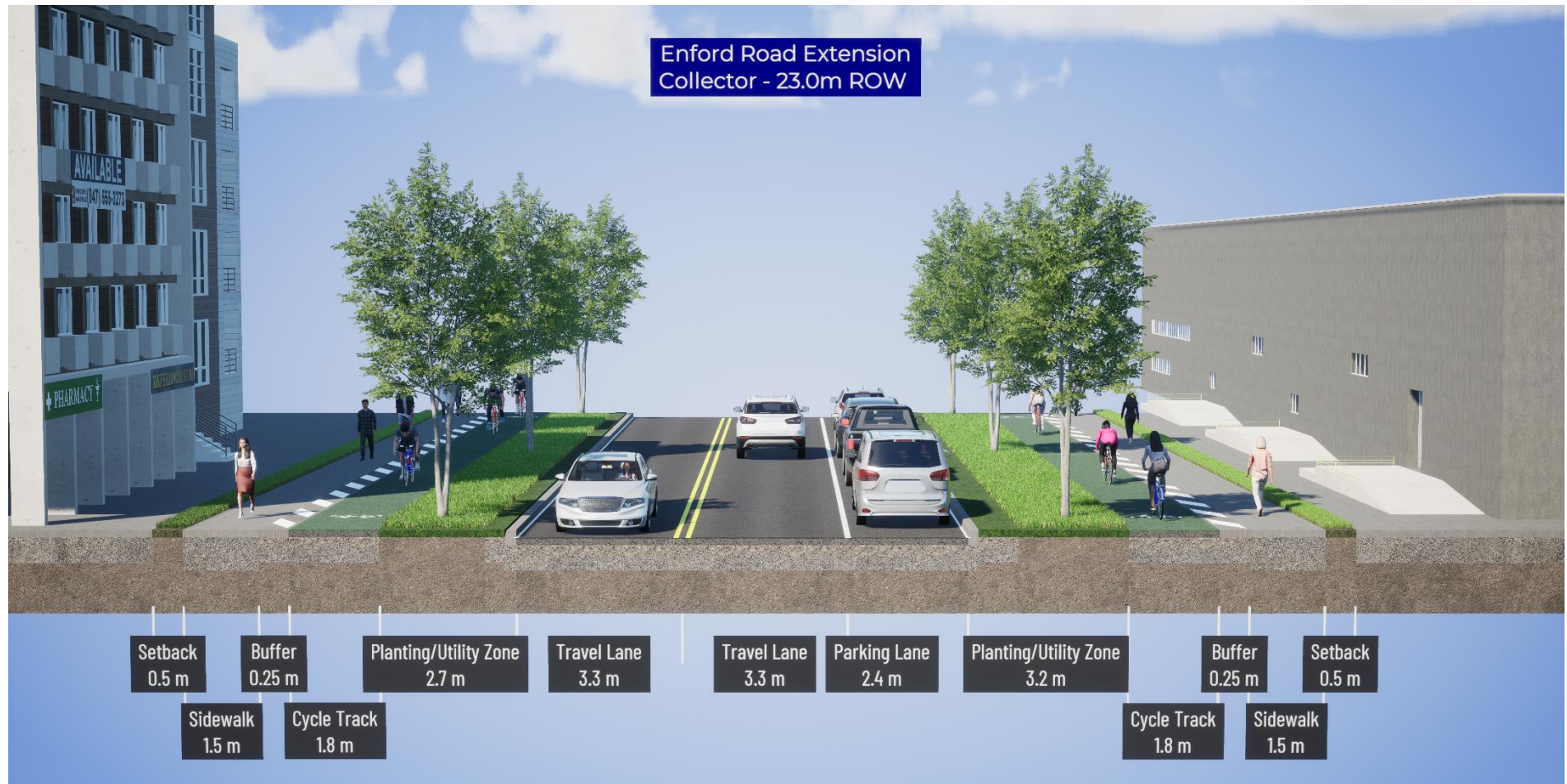
### Potential Benefits

Helps alleviate vehicle traffic on Yonge Street and enabling better access to adjacent properties; facilitates development of vacant parcel; provides active transportation and road network connectivity



## Project Sheet – Enford Road Extension

Figure 1. Typical Road Cross-section – Enford Road Extension



\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

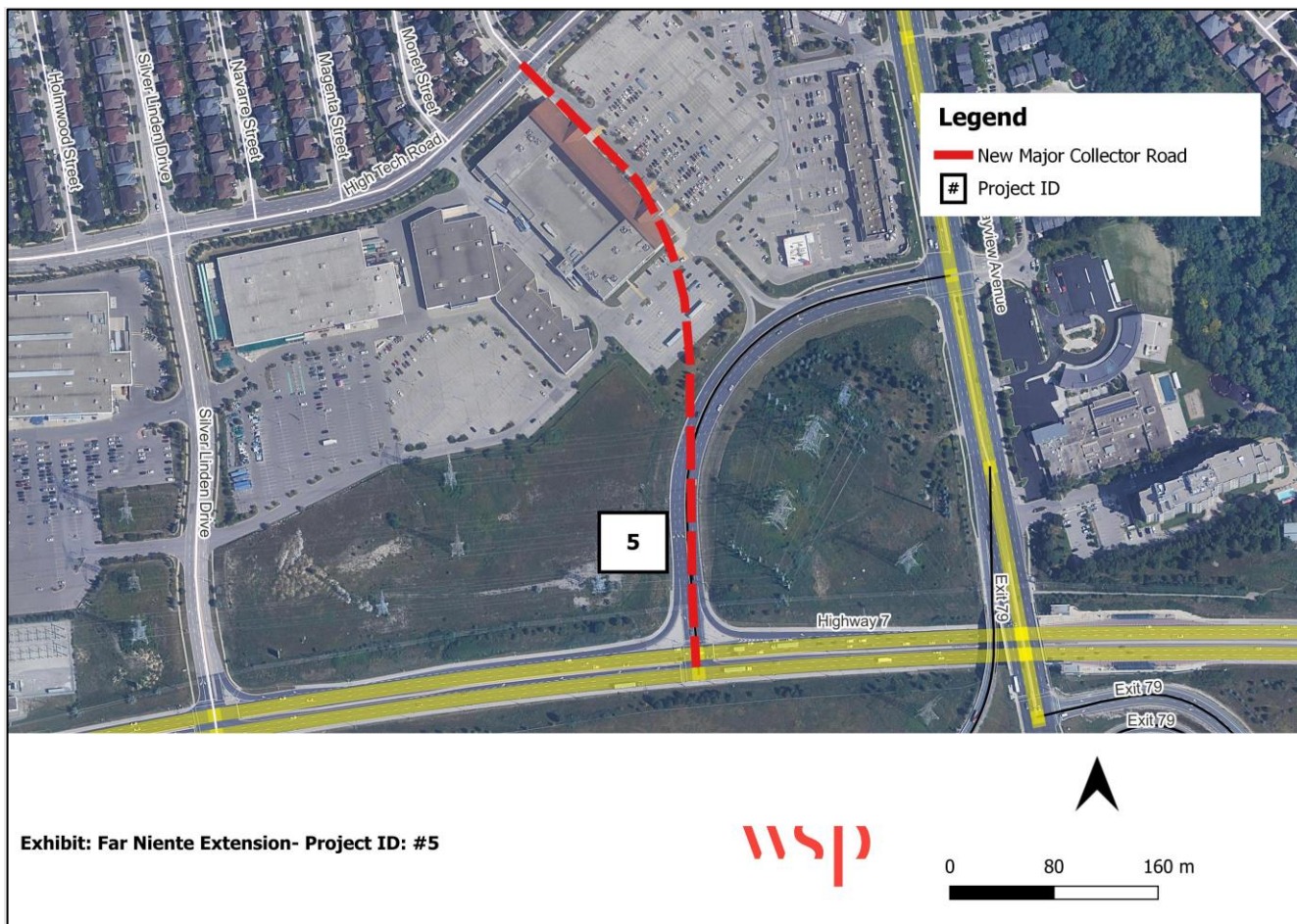


## Project Sheet – Far Niente Extension

### Project Description

Project ID	#5
Location	Far Niente Extension
Project Limits	High Tech Road – Highway 7
Project Type	New Major Collector Road Construction
Total Length	0.5 km

### Map



## Project Sheet – Far Niente Extension

### Existing Conditions

#### Physical and Transportation Conditions

Existing ROW	-
Road Designation	Major Collector Road

#### Description

A new major collector road is proposed to connect Highway 7 to Far Niente Street/High Tech Road. The road will feature two travel lanes in each direction, with sidewalks and separated cycling facilities on both sides.

#### Natural and Built Environment

Natural Environment	Existing development on both sides of corridor.
Socio-Economic	The surrounding area is identified as a Neighbourhood Area and MTSA.
Land Use and Built Environment	Loblaw grocery store, parking lot, and utility corridor.

#### Problem or Opportunity

- Road capacity improvements to support future travel demand to accommodate redevelopment and intensification of land uses.
- Road improvements supporting connectivity, including walking and cycling.

#### Alternatives Considered

1. **Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses and multi-modal access.
2. **Improve alternative corridor:** The parallel route of Bayview Avenue is already built out to the maximum number of lanes and cannot be further widened. The parallel route of Silver Linden Drive also has been built to the maximum extent and cannot be further widened.
3. **Construct a new north-south major collector road:** Addresses future multi-modal travel demand, improves connectivity for all modes of travel.

### Recommended Improvement

Recommendations	Develop a new two to four-lane major collector road connecting Far Niente and Highway 7. Additionally, there are integrated cycling facilities and sidewalks on the road, allowing for active transportation.
Phasing	MCEA pre-approved through completion of TMP; Construction by 2041

#### Costs & Benefits

Preliminary Total Cost Estimate	Project ID #5: \$3,938,000 The preliminary total cost of Far Niente extension
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October 2023

## Project Sheet – Far Niente Extension

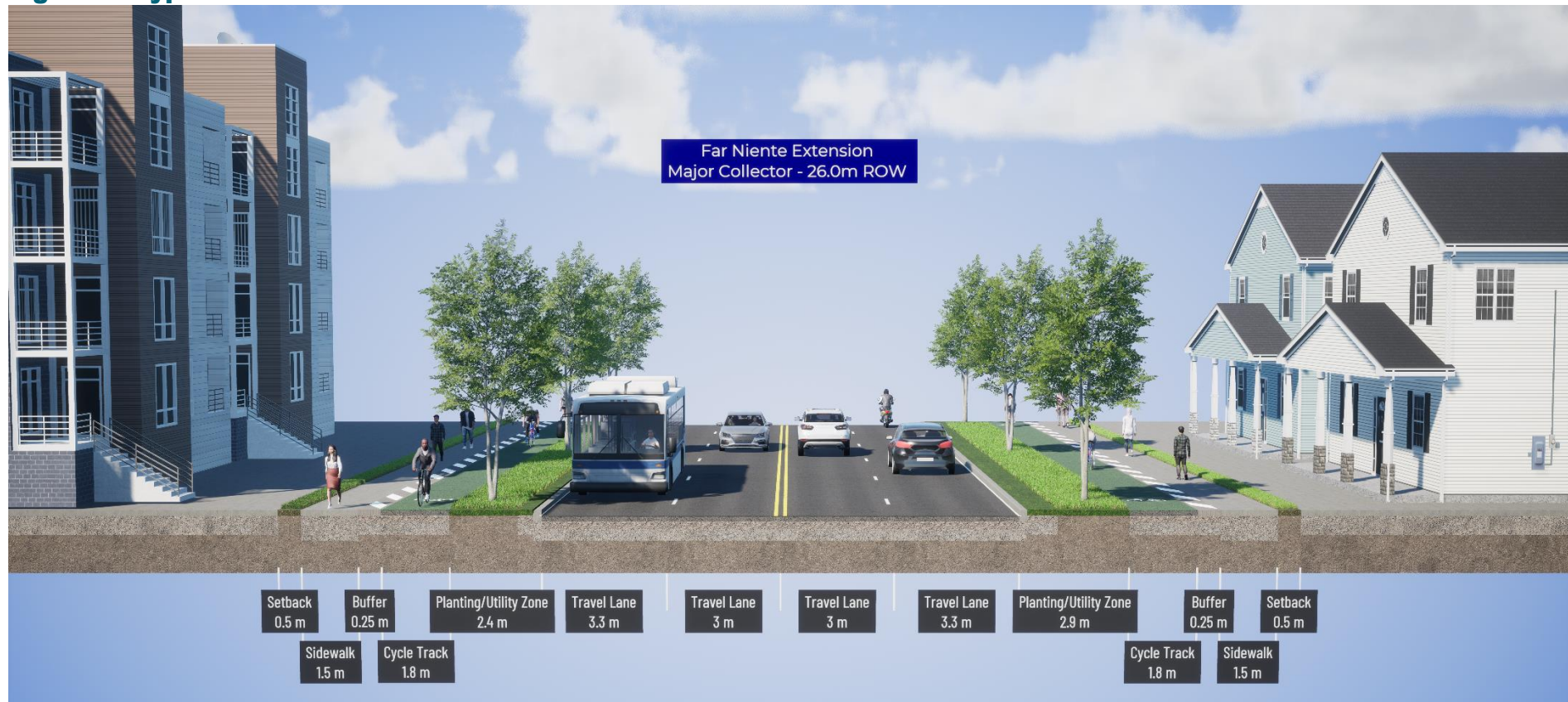
### Potential Benefits

Capacity for future development, connectivity for multiple modes of travel



## Project Sheet – Far Niente Extension

**Figure 1. Typical Road Cross-section – Far Niente Extension**



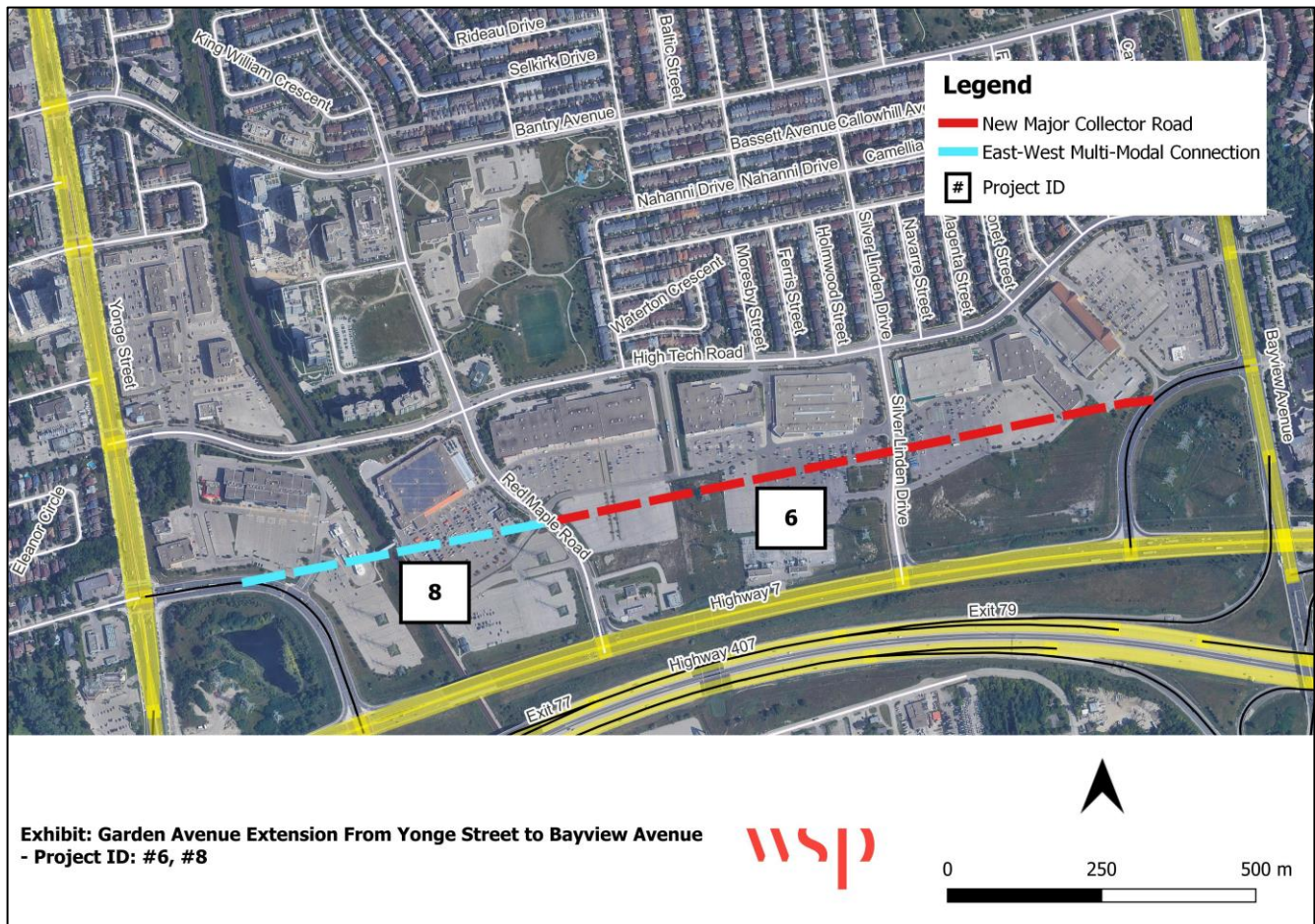
\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

## Project Sheet – Garden Avenue Extension

### Project Description

Project ID	#8, #6
Location	Garden Avenue Extension
Project Limits	Yonge Street - Bayview Avenue
Project Type	New Major Collector Road Construction and East-West Multi-Modal Connection
Total Length	1.62 km

### Map





## Project Sheet – Garden Avenue Extension

### Existing Conditions

#### Physical and Transportation Conditions

Existing ROW	-
Road Designation	Major Collector Road

#### Description

The East-West Multimodal Connection is proposed from the Yonge Street / Highway 7 Connector Road to Red Maple Road. The proposed connection links to a new major collector road to the east. This road is shown conceptually because it is subject to further studies and transportation processes that will determine its final alignment. A grade separation of the rail crossing is also proposed on this alignment. Further to the east, a new major collector road extension is proposed that would extend from Red Maple Road to Bayview Avenue. This road will be a collector road consisting of 26 metre right-of-way with cycle tracks on both sides of the road.

#### Natural and Built Environment

Natural Environment	Existing development on both sides of corridor.
Socio-Economic	The proposed development is located in area identified as Richmond Hill Centre and Neighbourhood Area by the Richmond Hill Official Plan. Future Development includes extension of the North-Yonge Subway Extension to Richmond Hill, intensification of land uses around the subway station, and a grade separation/regional rail crossing (in alignment with MTSA, Urban Growth Centre, and other provincial policies/initiatives).
Land Use and Built Environment	Existing YRT/VIVA/GO Bus Terminal, Langstaff GO train station, SilverCity movie theatre, and Home Depot. Utility corridor also present.

#### Future Transportation Conditions

	Road Limits	Peak Hour Auto Volume	Peak Hour V/C Ratio
2051 Do Nothing	Roads not included in Do Nothing model	-	-
2051 Proposed Network	Yonge Street to Red Maple Road (#8)	605	0.43
2051 Proposed Network	Red Maple Road to Bayview Avenue (#6)	1033	0.73

#### Problem or Opportunity

- Road capacity improvements to support future travel demand, accounting for increased demand given the North-Yonge Subway Extension.
- Road improvements supporting connectivity, including walking and cycling, as a result of the future North-Yonge Subway Extension.

**October 2023**



## Project Sheet – Garden Avenue Extension

- Existing rail track on the alignment hence a rail crossing needs to be provided.

### Alternatives Considered

- Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses and multi-modal access to the future subway station.
- Improve alternative corridor:** Parallel routes of High Tech Road (four lanes) and Highway 7 (six lanes) have already been built out to their maximum number of lanes and cannot be further widened. Does not increase connectivity through new walking and cycling facilities. Does not address road capacity or congestion.
- Construct a new east-west multi-modal linkage:** Addresses future multi-modal travel demand, improves connectivity for all modes of travel.

### Recommended Improvement

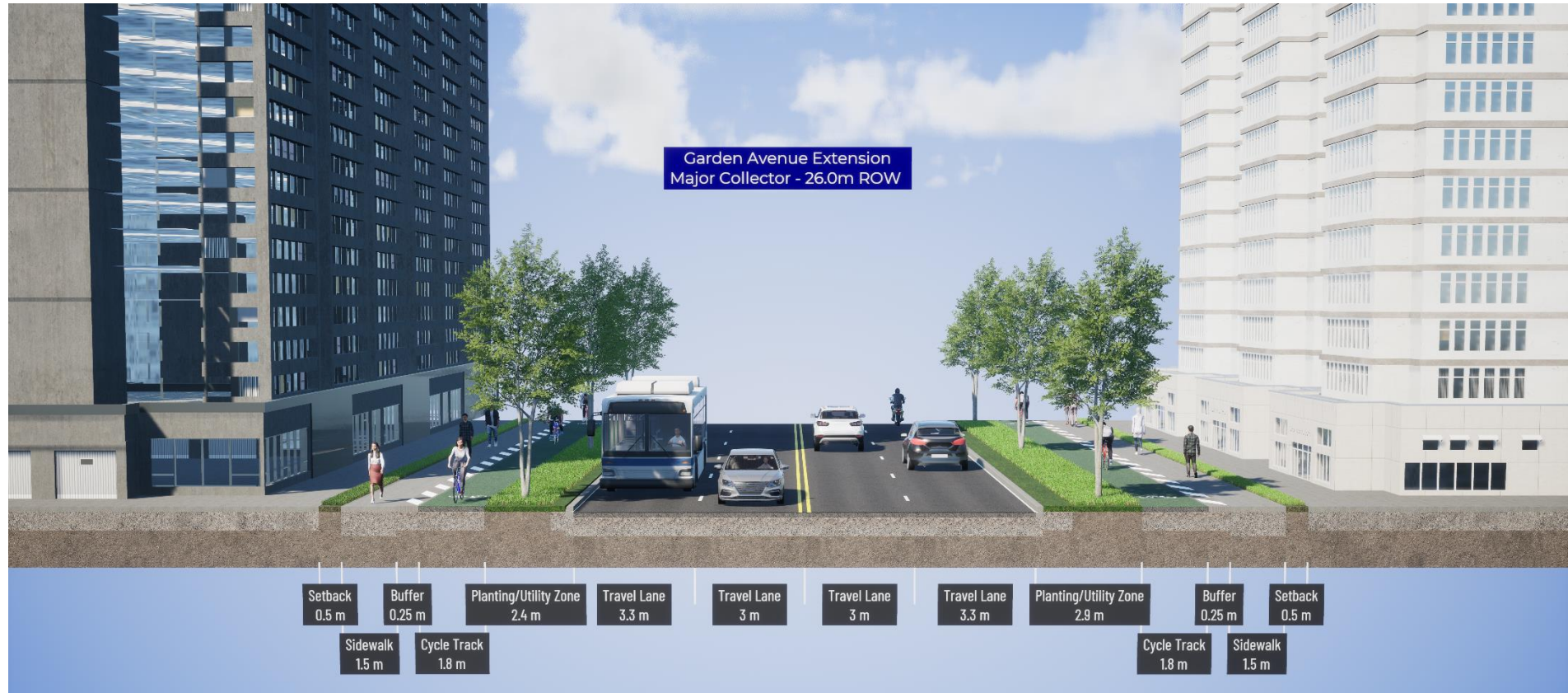
<b>Recommendations</b>	Develop a new road that runs from the Yonge Street / Highway 7 Connector Road to Red Maple Drive and from Red Maple Drive to Bayview Avenue. Traffic on High Tech Road and Highway 7 would be less congested. Additionally, there are integrated cycling facilities and sidewalks on the road, allowing for active transportation.
<b>Phasing</b>	MCEA Schedule C; Construction by 2041

### Costs & Benefits

<b>Preliminary Total Cost Estimate</b>	<p>Project ID #6: \$9,169,000 The preliminary total cost of Red Maple Road to Bayview Avenue</p> <p>Project ID #8: \$3,066,000 The preliminary total cost estimate of the Garden Avenue</p>
<b>Potential Benefits</b>	Facilitation of redevelopment and intensification of development; improved connectivity for all modes; helps alleviate vehicle traffic on Highway 7 and High Tech Road; helps facilitate extension of the subway

## Project Sheet – Garden Avenue Extension

**Figure 1. Typical Road Cross-section – Garden Avenue Extension (Road and Multi-Modal Connection)**



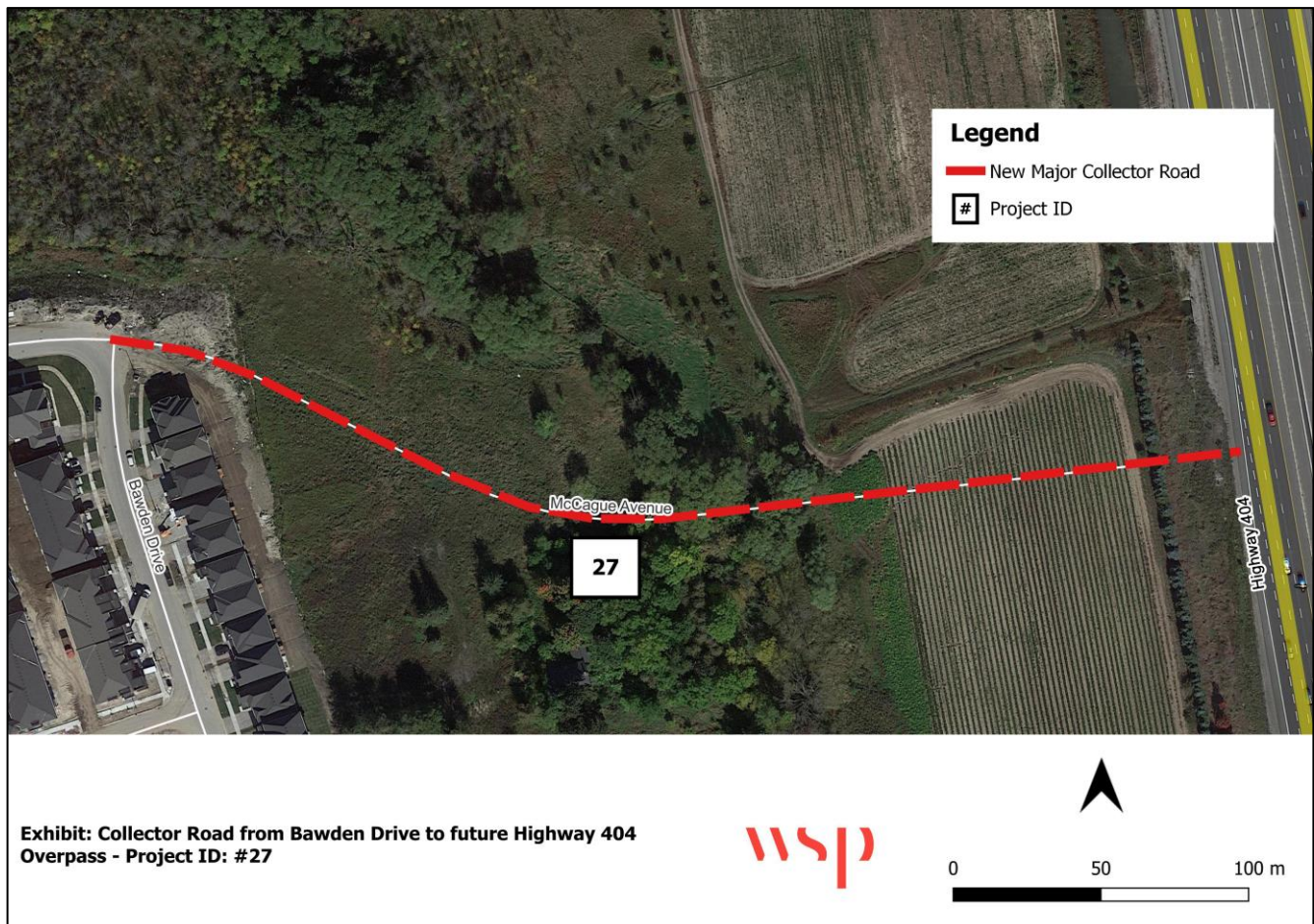
\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

## Project Sheet – McCague Avenue (Bawden Drive to Highway 404)

### Project Description

<b>Project ID</b>	#27
<b>Location</b>	McCague Avenue Collector Road extension from Bawden Drive to future Highway 404 Overpass
<b>Project Limits</b>	Bawden Drive – Highway 404
<b>Project Type</b>	New Major Collector Road Construction
<b>Total Length</b>	0.38 km

### Map





## Project Sheet – McCague Avenue (Bawden Drive to Highway 404)

### Existing Conditions

#### Physical and Transportation Conditions

Existing ROW	-
Road Designation	Major Collector Road

#### Description

An extension of McCague Avenue as a major collector road construction is proposed. The extension will connect Bawden Drive and Highway 404 and facilitate a connection across Highway 404 to the City of Markham.

#### Natural and Built Environment

Natural Environment	Greenway (woodland, permanent stream)
Socio-Economic	The proposed development is located in area identified as Greenway Systems by Richmond Hill Official Plan and are subject to the Greenbelt Plan. The area is also located within the North Leslie Secondary Plan Area.
Land Use and Built Environment	Vacant Site. Adjacent to residential development.

#### Problem or Opportunity

- Road capacity improvements to support future travel demand, accounting for increased demand.
- Road improvements supporting connectivity, including walking and cycling.

#### Alternatives Considered

1. **Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses.
2. **Improve alternative corridor:** No parallel route within one kilometre that would provide an eventual crossing of Highway 404 and no interchange. Elgin Mills Road has an interchange, making it less desirable for vehicles and active transportation with no need to access the highway.
3. **Extend a major collector road:** Addresses future multi-modal travel demand, increases connectivity for all modes of travel. Provides more comfortable eventual crossing of Highway 404 as there will be no interchange with on- and off-ramps at this crossing.

### Recommended Improvement

Recommendations	Develop a new road that will connect Bawden Drive via McCague Avenue across Highway 404. The length of the road is 0.38 km with 26 metre right-of-way. There are integrated cycling facilities and sidewalks on the road, allowing for active transportation.
Phasing	MCEA pre-approved through completion of the TMP; Construction by 2051

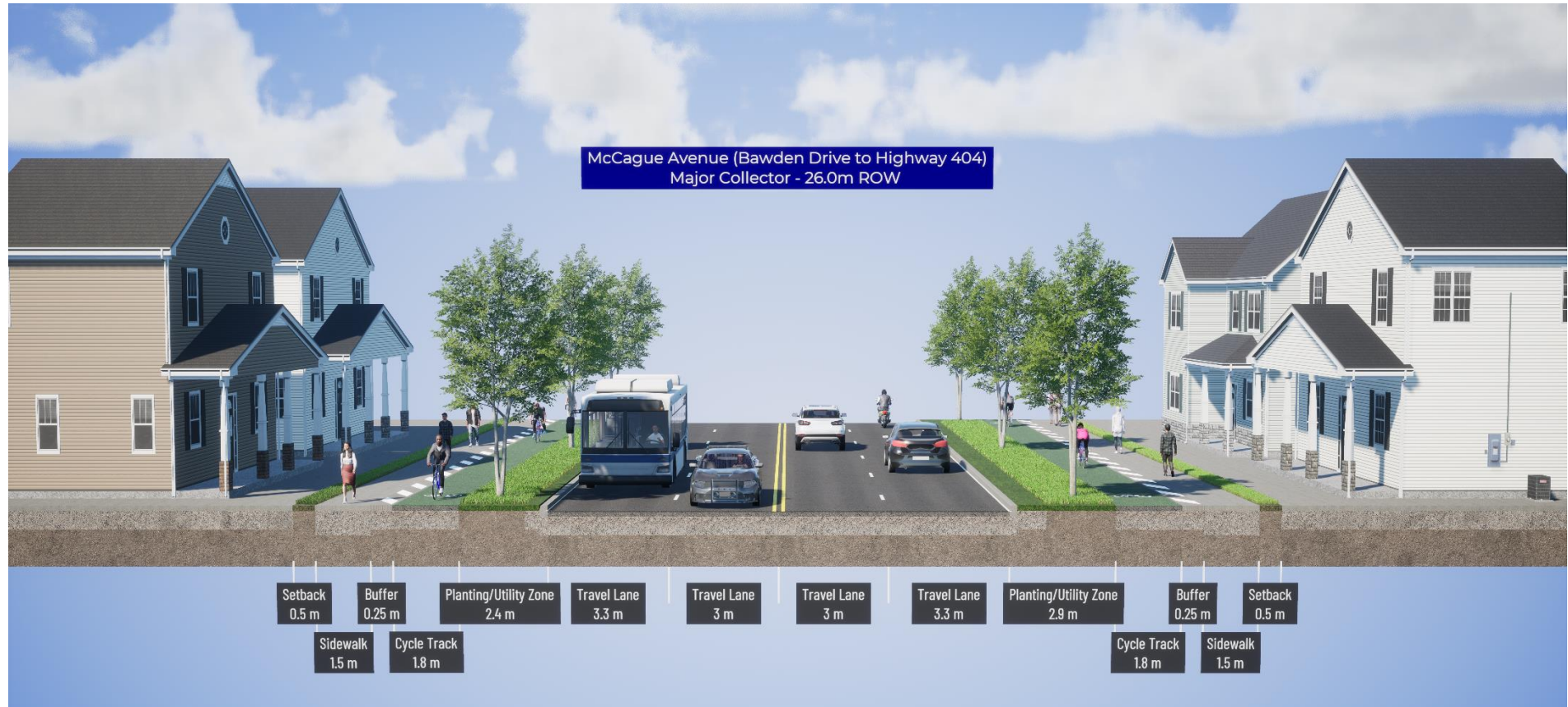
## Project Sheet – McCague Avenue (Bawden Drive to Highway 404)

### Costs & Benefits

<b>Preliminary Total Cost Estimate</b>	Project ID #27: \$3,361,000 The preliminary total cost estimate of the McCague Avenue extension from Bawden Drive to a future Highway 404 Overpass
<b>Potential Benefits</b>	New connection across Highway 404 to facilitate development of lands within Richmond Hill and improve connectivity between Richmond Hill and Markham. With no interchange, this connection becomes more desirable for active transportation crossings. Provides some relief for traffic congestion.

## Project Sheet – McCague Avenue (Bawden Drive to Highway 404)

Figure 1. Typical Road Cross-section – McCague Avenue (Bawden Drive to Highway 404)



\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

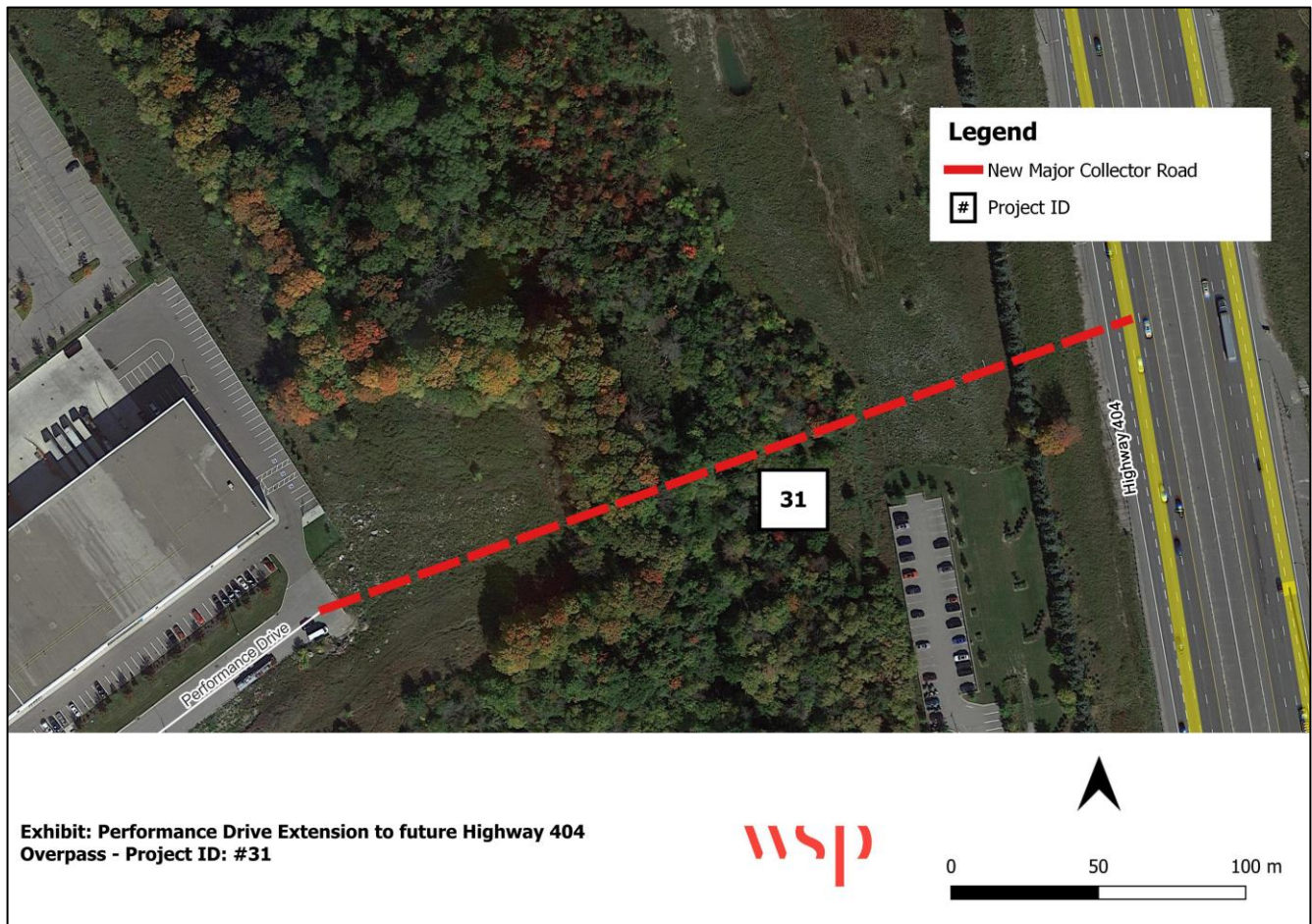


## Project Sheet – Performance Drive to Highway 404

### Project Description

Project ID	#31
Location	Performance Drive
Project Limits	Performance Drive – Highway 404
Project Type	New Major Collector Road Construction
Total Length	0.29 km

### Map



## Project Sheet – Performance Drive to Highway 404

### Existing Conditions

#### Physical and Transportation Conditions

Existing ROW	-
Road Designation	Major Collector Road

#### Description

An extension of Performance Drive as a new major collector road construction is proposed. The new major collector road will connect Performance Drive to the other side Highway 404. It will be a major collector road with a 26 metre right-of-way and will facilitate a crossing of Highway 404 to the City of Markham.

#### Natural and Built Environment

Natural Environment	Vacant lands on both sides of corridor (TRCA and Natural Core lands).
Socio-Economic	The proposed road development is located in areas identified as Employment Lands and Greenway Systems by Richmond Hill Official Plan. Future development includes Barker Business Park.
Land Use and Built Environment	Surrounding employment uses.

#### Problem or Opportunity

- Road capacity improvements to support future travel demand, accounting for increased.
- Road improvements supporting connectivity, including walking and cycling.

#### Alternatives Considered

1. **Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses.
2. **Improve alternative corridor:** Parallel routes of Major Mackenzie Drive have already been built out to their maximum number of general purpose lanes and cannot be further widened. Any widening of Major Mackenzie Drive will be done to facilitate the introduction of Bus Rapid Transit. Major Mackenzie Drive has an interchange, making it less desirable for vehicles and active transportation with no need to access the highway.
3. **Construct a new road extension:** Addresses future travel demand and increases connectivity for all modes of travel. Provides more comfortable eventual crossing of Highway 404 as there will be no interchange with on- and off-ramps at this crossing.

### Recommended Improvement

Recommendations	Develop a new road that runs from the Performance Road to Highway 404. Traffic on Major Mackenzie Road be less congested. Additionally, there are integrated bicycle lanes and sidewalks on the road, allowing for active transportation.
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## Project Sheet – Performance Drive to Highway 404

<b>Phasing</b>	MCEA pre-approved through completion of the TMP; Construction by 2041
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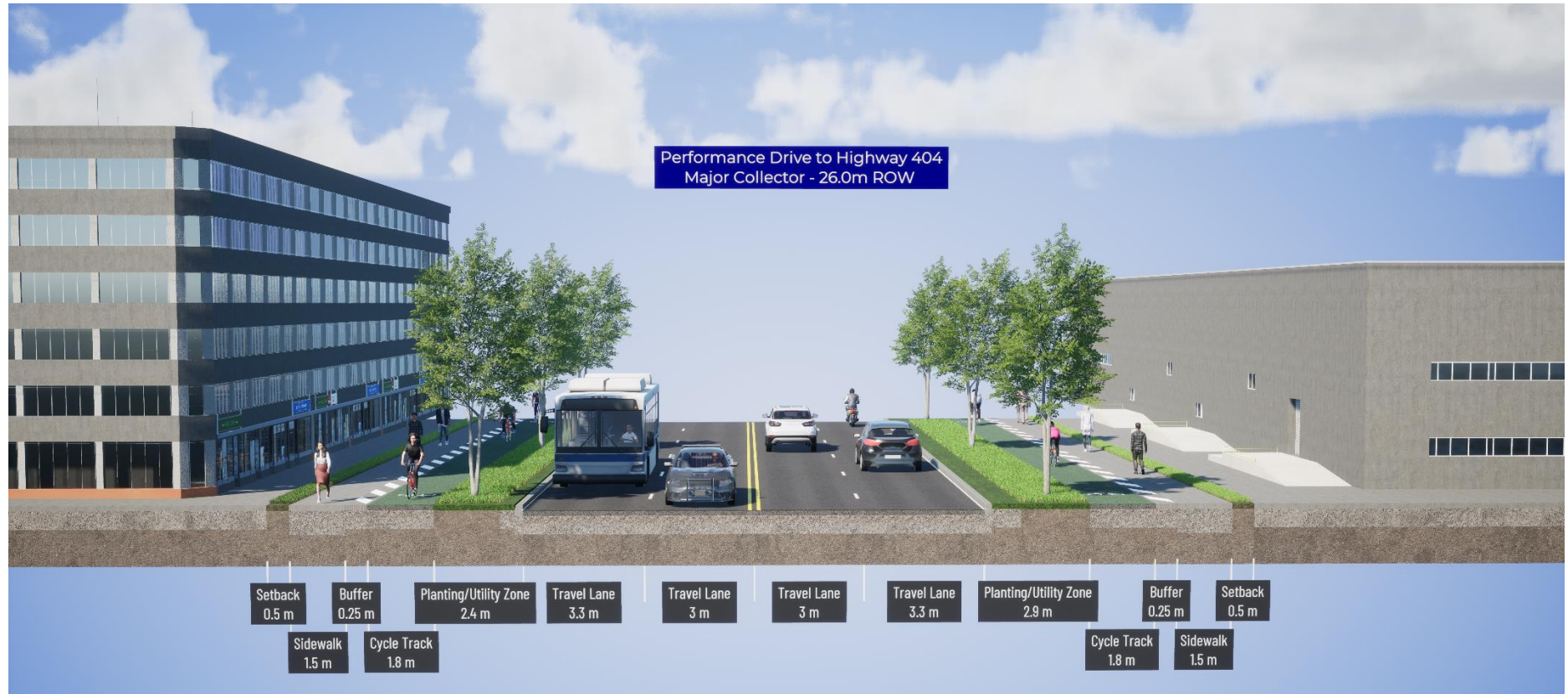
### Costs & Benefits

<b>Preliminary Total Cost Estimate</b>	<p>Project ID #31: \$2,275,000</p> <p>The preliminary total cost estimate of the Performance Drive extension.</p> <p>Bridge crossing of Highway 404 will be partially funded by the City (\$3.2M), but the total project amount will be higher.</p>
<b>Potential Benefits</b>	<p>New connection across Highway 404 to facilitate development of lands within Richmond Hill and improve connectivity between Richmond Hill and Markham. With no interchange, this connection becomes more desirable for active transportation crossings.</p> <p>Expected to be highly utilized.</p>



## Project Sheet – Performance Drive to Highway 404

**Figure 1. Typical Road Cross-section – Performance Drive to Highway 404**



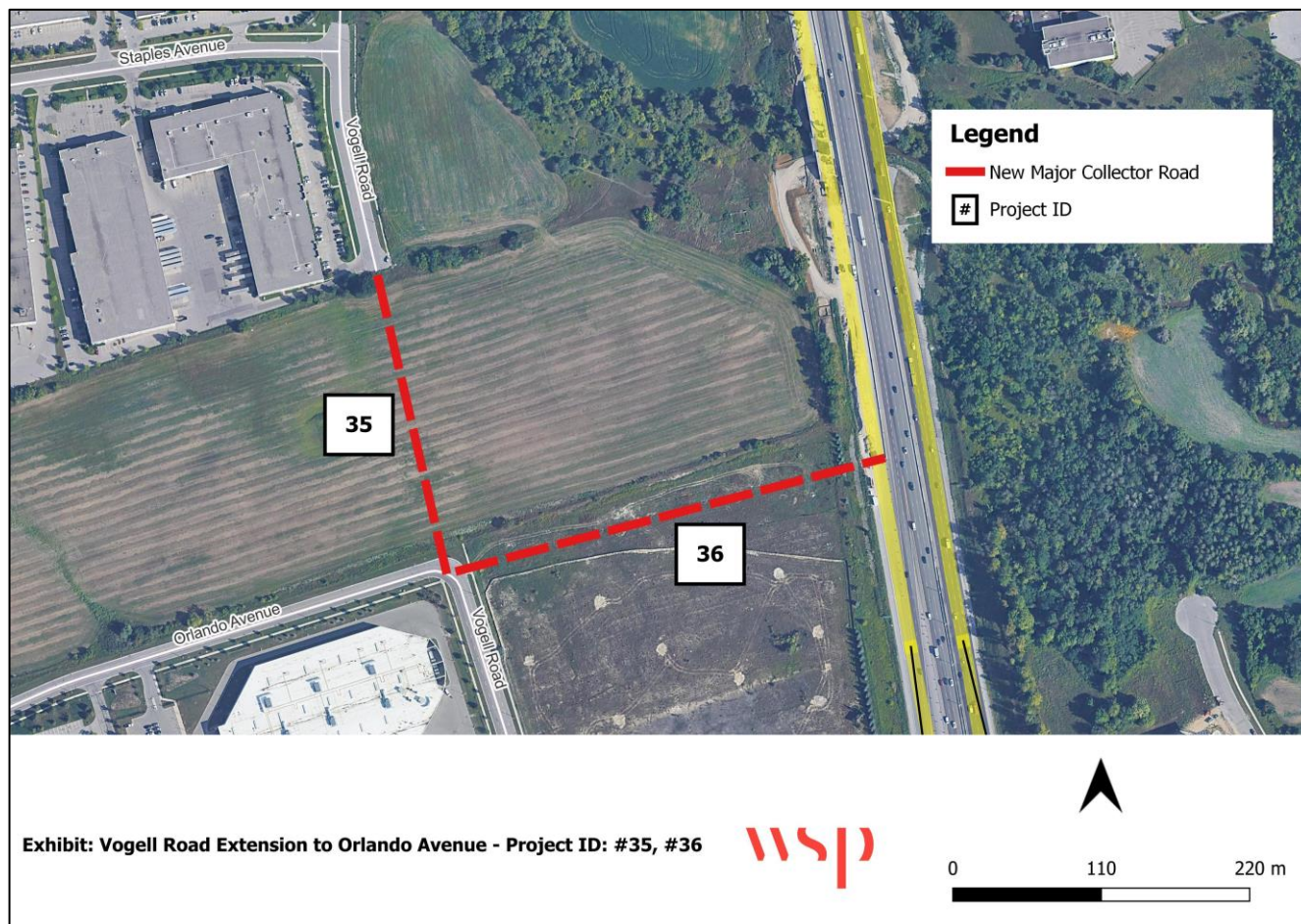
\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

## Project Sheet – Orlando Avenue Extension to Highway 404

<b>Project ID</b>	#35, #36	
<b>Location</b>	Vogell Road, Orlando Avenue	
<b>Project Limits</b>	Orlando Avenue – Highway 404	
<b>Project Type</b>	New Major Collector Road Construction	
<b>Total Length</b>		
	<b>Road</b>	<b>Length</b>
	Vogell Road to Orlando Avenue (#35)	0.22 km
	Orlando Avenue to Highway 404 (#36)	0.33 km
	<b>Total</b>	<b>0.55 km</b>

# Project Sheet – Orlando Avenue Extension to Highway 404

## Map





# Project Sheet – Orlando Avenue Extension to Highway 404

## Existing Conditions

### Physical and Transportation Conditions

Existing ROW	-
Road Designation	Major Collector Roads

### Description

Two new major collector road constructions are proposed. One major collector road from Vogell Road to Orlando Avenue, which connects a missing link on Vogell Road. Orlando Avenue will further extend to Highway 404. The collector road from Vogell Road to Orlando Avenue will be 0.22 km, whereas the collector road from Orlando Avenue to Highway 404 will be 0.33 km long with 26 metre right-of-way.

### Natural and Built Environment

Natural Environment	Farm fields and vacant land where extensions are proposed.
Socio-Economic	The proposed road development is located in areas identified as Employment Areas by Richmond Hill Official Plan (Headford Business Park).
Land Use and Built Environment	Adjacent to office and employment uses such as Octacom Limited, Global Industrial, Alphabroder

### Problem or Opportunity

- Road capacity improvements to support future travel demand and facilitate development of vacant lands.
- Road improvements supporting connectivity, including walking and cycling.

### Alternatives Considered

1. **Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses.
2. **Improve alternative corridor:** Parallel route of 16<sup>th</sup> Avenue has already been built out to its maximum number of lanes and cannot be further widened. Does not increase connectivity through new walking and cycling facilities. Does not address road capacity or congestion.
3. **Construct a new road extensions:** Addresses future multi-modal travel demand, improves connectivity for all modes of travel.

## Recommended Improvement

Recommendations	Develop major collector roads as an extension to Orlando Avenue connecting Vogell Road and Orlando Avenue to Highway 404. The roads will connect to Highway 404. The length of the roads is 0.33 km with 26 metre right-of-way. There are integrated bicycle lanes and sidewalks on the road, allowing for active transportation.
Phasing	MCEA pre-approved through completion of the TMP; Vogell Road construction by 2031; Orlando Avenue construction by 2031

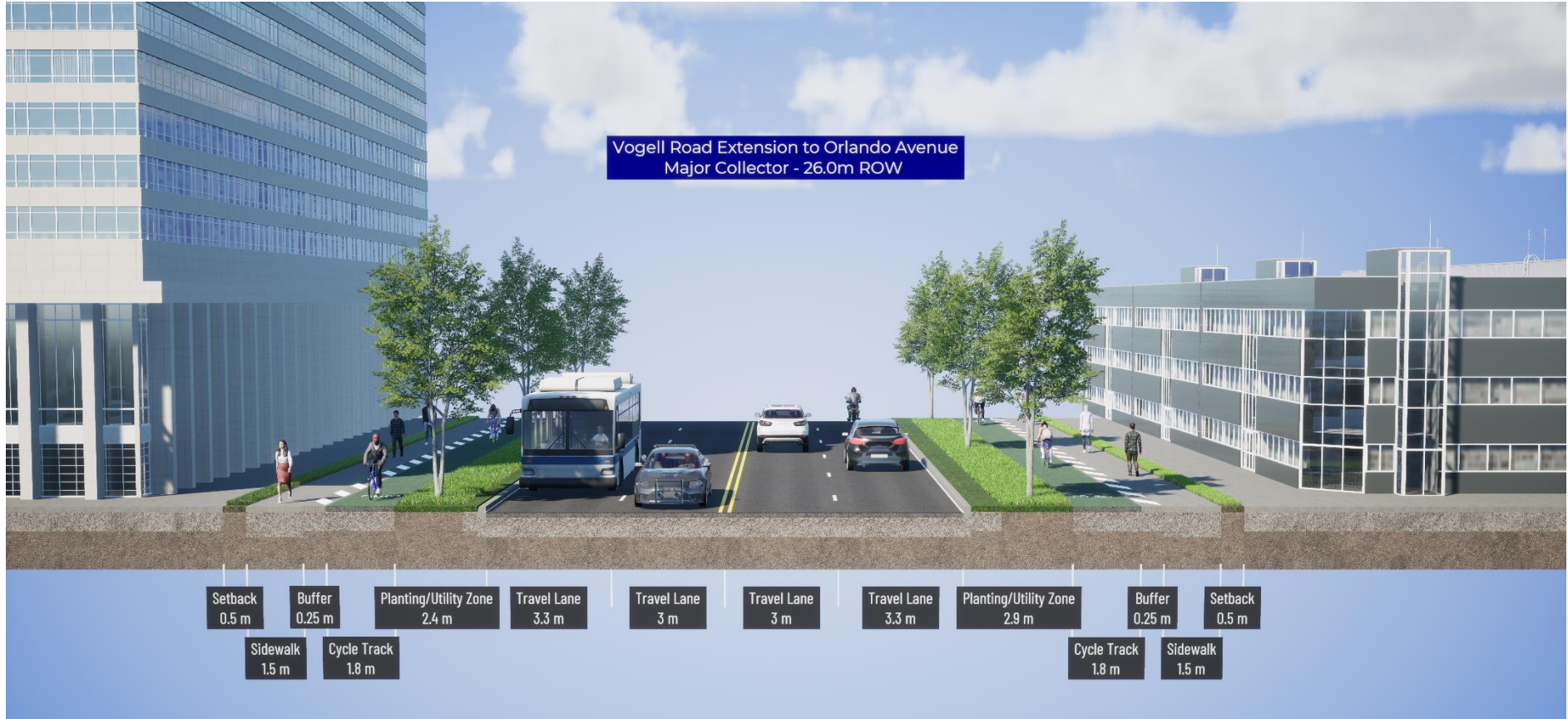
## Project Sheet – Orlando Avenue Extension to Highway 404

### Costs & Benefits

<b>Preliminary Total Cost Estimate</b>	<p>Project ID #35: \$1,697,000 The preliminary total cost estimate of the Vogell Road Extension to Orlando Avenue</p> <p>Project ID #36 \$2,607,000 The preliminary total cost estimate of the Orlando Avenue to Highway 404</p>
<b>Potential Benefits</b>	<p>New connection across Highway 404 to facilitate development of lands within Richmond Hill and improve connectivity/capacity between Richmond Hill and Markham. With no interchange, this connection becomes more desirable for active transportation crossings.</p>

## Project Sheet – Orlando Avenue Extension to Highway 404

**Figure 1. Typical Road Cross-section – Vogell Road Extension to Orlando Avenue**

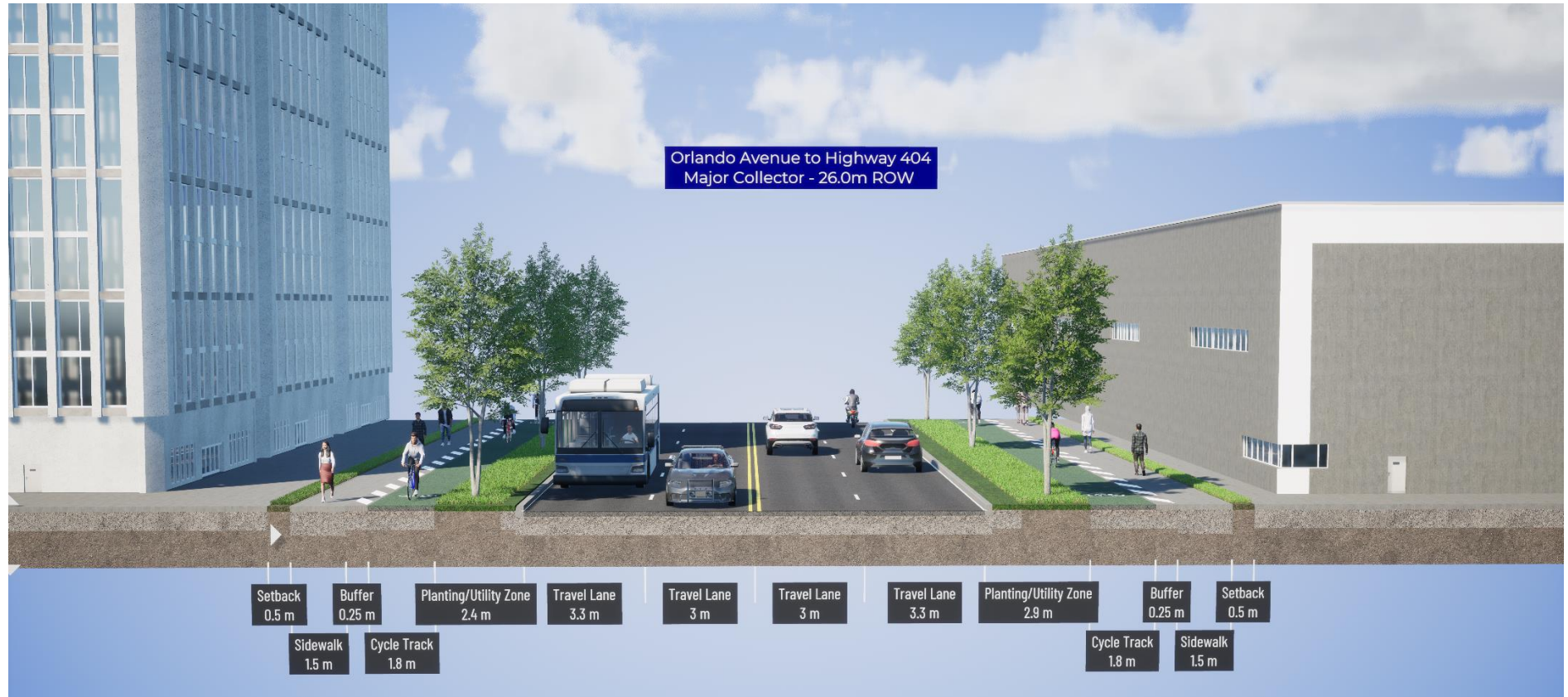


\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.



## Project Sheet – Orlando Avenue Extension to Highway 404

Figure 2. Typical Road Cross-section – Orlando Avenue to Highway 404



\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

## Project Sheet – Newkirk Road

Project ID	#37
Location	Newkirk Road
Project Limits	Elgin Mills Road East – Major Mackenzie Drive East
Project Type	Road Widening
Total Length	2.13 km

### Map





## Project Sheet – Newkirk Road

### Existing Conditions

#### Physical and Transportation Conditions

Existing ROW	26 metres
Road Designation	Major Collector Road

#### Description

One new lane will be added to the existing two-lane road (with two-way centre turning lane) on Newkirk Road from Elgin Mills Road East to Major Mackenzie Drive East. The future road will include two-lanes in each direction, with dedicated (separated) cycling facilities.

#### Natural and Built Environment

Natural Environment	Existing development on both sides of corridor.
Socio-Economic	The proposed road development is located in areas identified as Employment Areas & Employment Corridor by Richmond Hill Official Plan. The area also includes a MTSA designation and existing residential neighbourhoods.
Land Use and Built Environment	Richmond Hill GO Station East Parking Lot, Self-Storage Richmond Hill, Richmond Hill Community Food Bank, Richmond Hill Auto Repair, Boz Electric Supply Ltd, Crosby Park, and other employment and light industrial land uses.

#### Problem or Opportunity

- Road capacity improvements to support future travel demand.
- Road improvements supporting connectivity, including walking and cycling, particularly to the GO Station.

#### Alternatives Considered

1. **Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses and multi-modal access to the future subway station.
2. **Improve alternative corridor:** Parallel routes of Yonge Street and Bayview Avenue have already been built out to their maximum number of lanes and cannot be further widened for general purpose vehicles. Does not increase connectivity through new walking and cycling facilities. Does not address road capacity or congestion.
3. **Widen road:** Addresses future multi-modal travel demand, improves connectivity for all modes of travel, improves access to the GO train station.

### Recommended Improvement

Recommendations	A road widening is proposed. One lane to be added to the existing three-lane road. This will facilitate better access to the GO station and help alleviate vehicular traffic on Yonge Street and Bayview Avenue. Dedicated cycling facilities will be provided.
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October 2023



## Project Sheet – Newkirk Road

### Phasing

MCEA Schedule C; Construction by 2031

### Costs & Benefits

#### Preliminary Total Cost Estimate

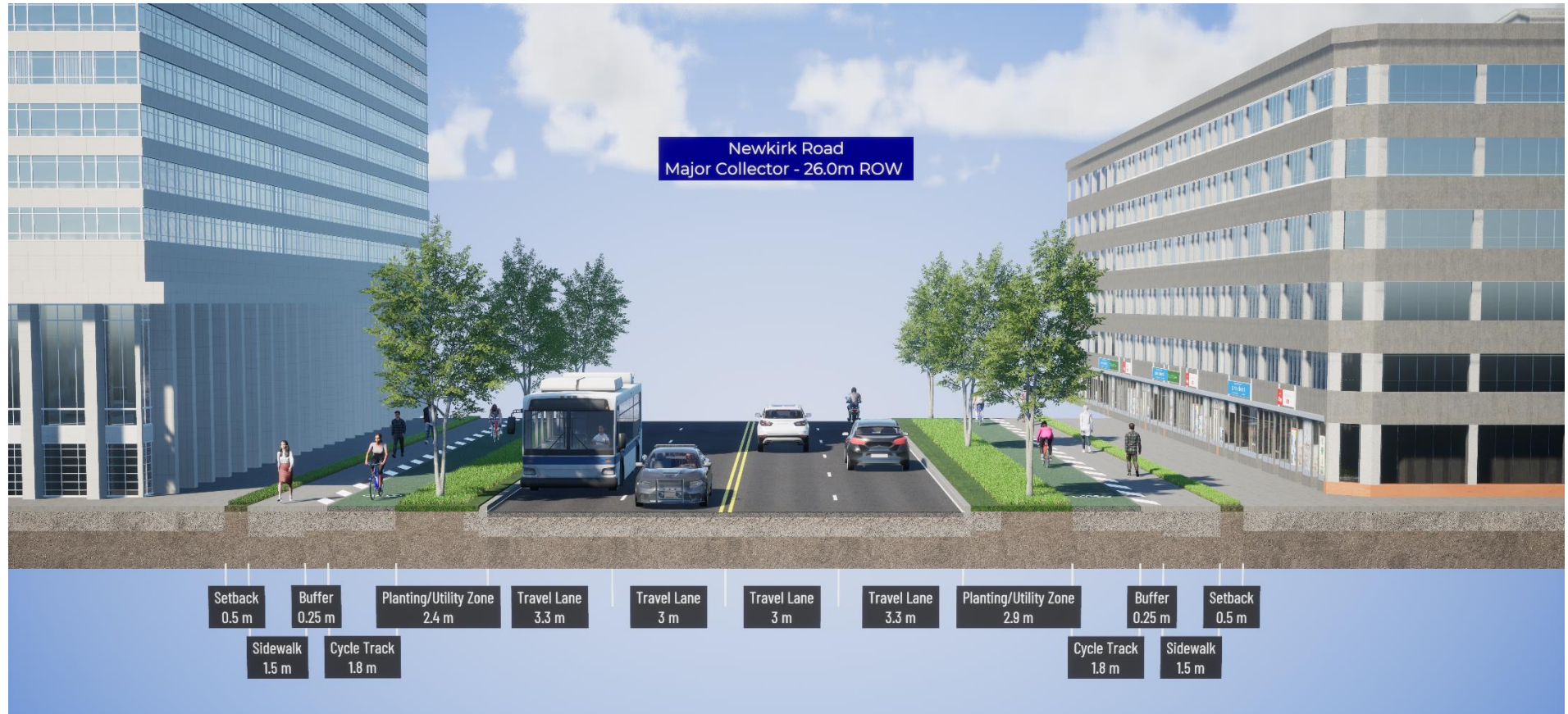
Project ID #37: \$16,532,000  
The preliminary total cost estimate of the Newkirk Road widening

#### Potential Benefits

Improved access to GO train station; additional vehicle capacity to accommodate growth; improved active transportation facilities to accommodate growth

## Project Sheet – Newkirk Road

**Figure 1. Typical Road Cross-section – Newkirk Road**

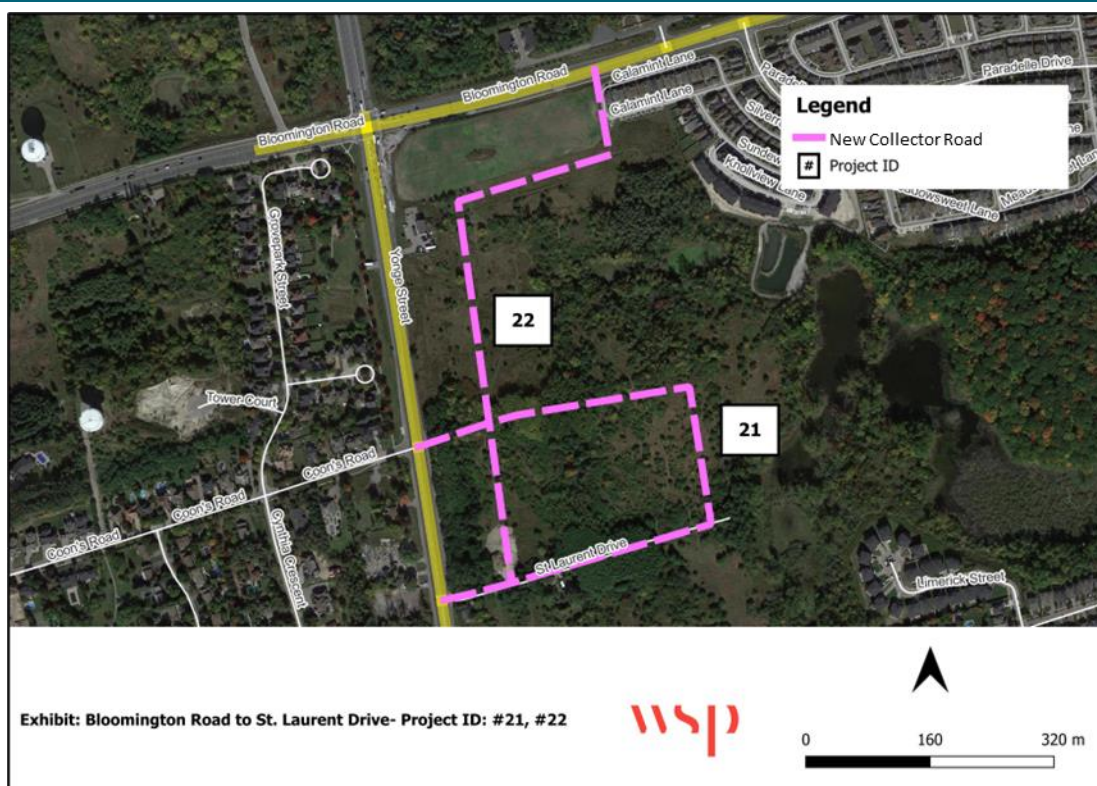


\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

## Project Sheet – Oak Ridges

### Project Description

<b>Project ID</b>	#21, #22								
<b>Location</b>	South of Bloomington and East of Yonge Street								
<b>Project Limits</b>	Bloomington Road – Yonge Street								
<b>Project Type</b>	New Collector Road Construction								
<b>Road Length</b>	<table border="1"> <thead> <tr> <th>Road</th><th>Length</th></tr> </thead> <tbody> <tr> <td>New Collector Ring Road south of Bloomington Road and east of Yonge Street (#22)</td><td>1.19</td></tr> <tr> <td>North-South Collector Road to Bloomington Road (#21)</td><td>0.81</td></tr> <tr> <td><b>Total</b></td><td><b>2 km</b></td></tr> </tbody> </table>	Road	Length	New Collector Ring Road south of Bloomington Road and east of Yonge Street (#22)	1.19	North-South Collector Road to Bloomington Road (#21)	0.81	<b>Total</b>	<b>2 km</b>
Road	Length								
New Collector Ring Road south of Bloomington Road and east of Yonge Street (#22)	1.19								
North-South Collector Road to Bloomington Road (#21)	0.81								
<b>Total</b>	<b>2 km</b>								





## Project Sheet – Oak Ridges

### Existing Conditions

#### Physical and Transportation Conditions

Existing ROW	-
Road Designation	Collector Roads

#### Description

A new collector road extension is proposed from ring road south of Bloomington Road to east of Yonge Street and North-South Collector Road to Bloomington Road. The length of the new roads will be 2 km. It will consist of a 23 metre right-of-way.

#### Natural and Built Environment

Natural Environment	Greenway System (woodlands, wetlands)
Socio-Economic	The proposed road development is located in areas identified as Neighborhood Areas, Greenway Systems and Local Centre by Richmond Hill Official Plan. Future development includes Oak Knoll Community, a residential development comprising of single-house and townhouse units. As part of OPA 18.8 it is anticipated that a portion of these lands close to Yonge Street may be redesignated to "Local Centre".
Land Use and Built Environment	Vacant site

#### Problem or Opportunity

- Road capacity improvements to support future travel demand, accounting for increased demand due to development of vacant lands.
- Road improvements supporting connectivity, including walking and cycling for new residential community.

#### Alternatives Considered

1. **Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses and multi-modal access to the future subway station.
2. **Improve alternative corridor:** A parallel route would not service this greenfield development. New roads are needed to provide access to new residential development.
3. **Construct new roads:** Addresses future travel demand for the upcoming development of Oak Knoll Community, develop active transportation for the upcoming residential development of Oak Knoll Community, increases connectivity of the future development without relying on Yonge Street and Bloomington Road as the only road.

### Recommended Improvement

Recommendations	Develop a new road that runs from south from Bloomington Road. Traffic on Bloomington Road and Yonge Street would be less congested. Additionally,
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October 2023

## Project Sheet – Oak Ridges

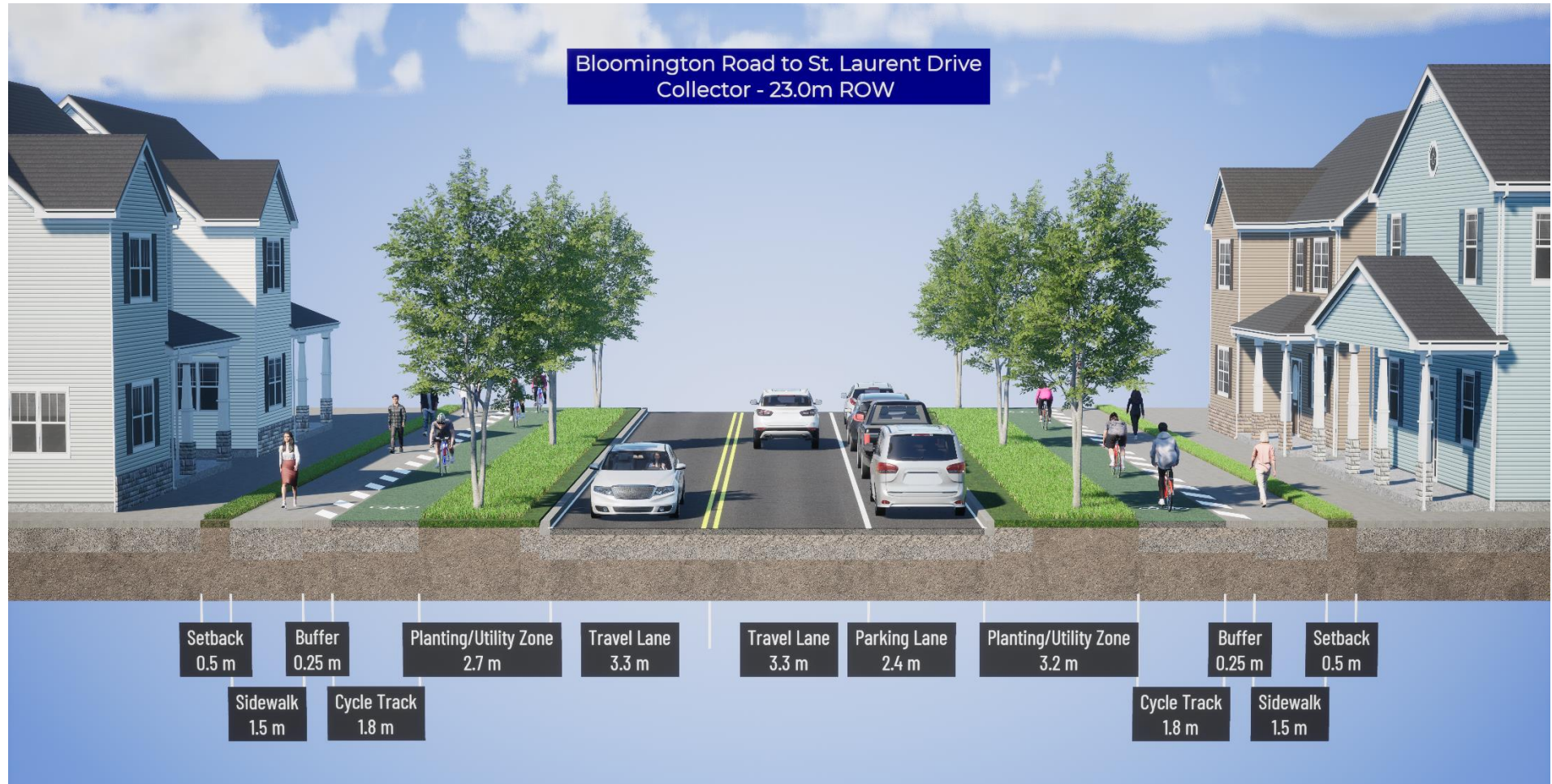
	there are integrated bicycle lanes and sidewalks on the road, allowing for active transportation.
<b>Phasing</b>	Pre-approved through completion of TMP; Construction by 2051

### Costs & Benefits

<b>Preliminary Total Cost Estimate</b>	<p>Project ID #21: Costing will be Developer's responsibility</p> <p>Project ID #22: Costing will be Developer's responsibility</p>
<b>Potential Benefits</b>	Facilitates development of vacant land with sufficient multimodal transportation infrastructure for connectivity.

## Project Sheet – Oak Ridges

**Figure 1. Typical Road Cross-section – Bloomington Road to St. Laurent Drive**



\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.



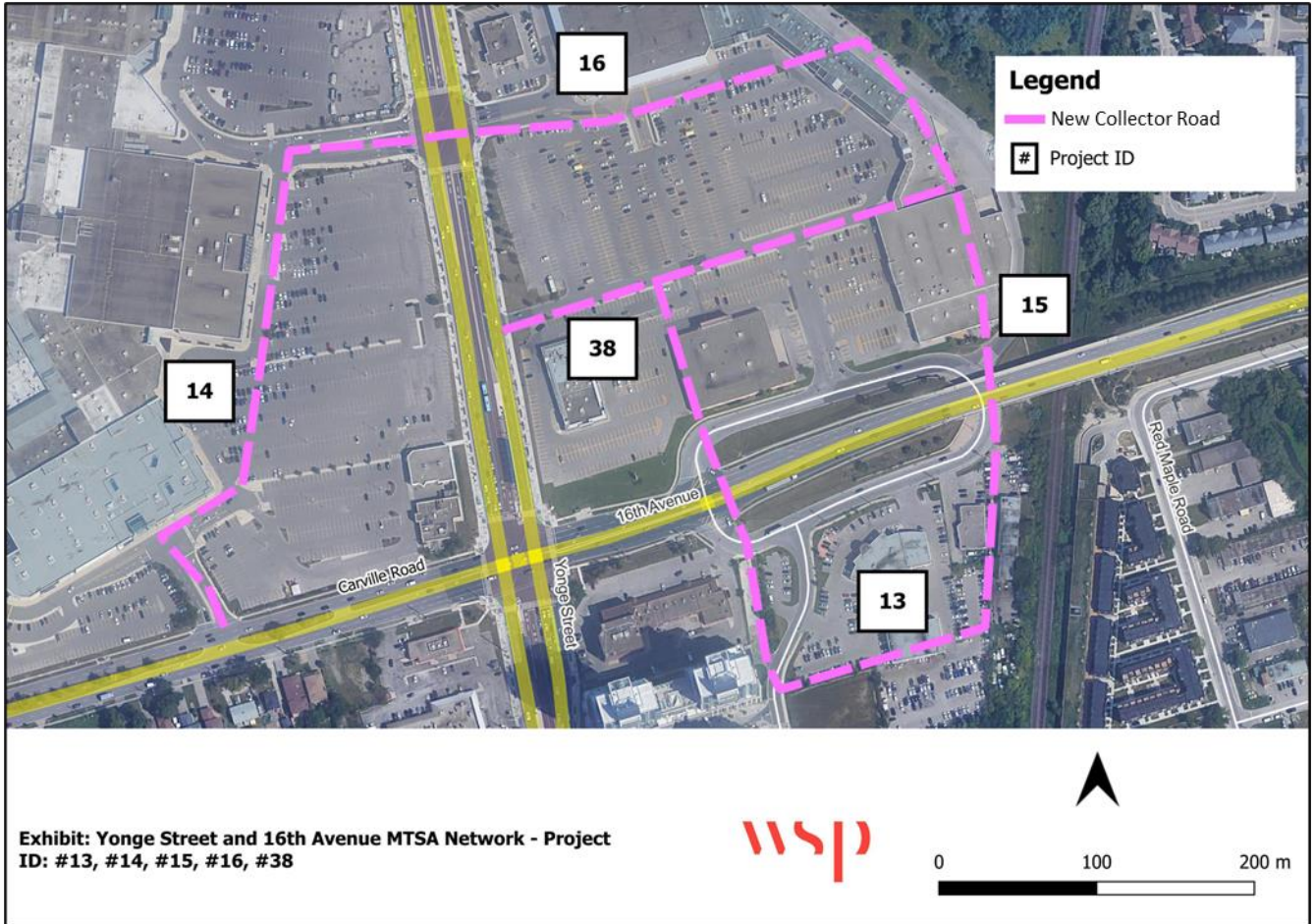
## Project Sheet – Yonge Street and 16<sup>th</sup> MTSA Road Network

### Project Description

<b>Project ID</b>	#13, #14, #15, #16, #38		
<b>Location</b>	North-South Collector Ring Road in Yonge-Carville/16th MTSA East of Yonge Street		
<b>Project Limits</b>	Carrville Road, Yonge Street and 16 <sup>th</sup> Avenue		
<b>Project Type</b>	New Collector Road Construction		
<b>Road Length</b>	<b>Road</b>	<b>Length</b>	
	New North-South Collector Ring Road in Yonge-Carville/16th MTSA East of Yonge Street (#15)	0.52 km	
	New Collector Road in Yonge-Carville/16th MTSA at Hillcrest Mall (#14)	0.44 km	
	New Internal Collector Roads in Yonge-Carville/16th MTSA East of Yonge Street and North of 16th Avenue (#15)	0.33 km	
	New East-west Collector Ring Road in Yonge-Carville/16th MTSA East of Yonge Street and North of 16th Avenue (#13)	0.24 km	
	New Internal Collector Roads in Yonge-Carville/16th MTSA East of Yonge Street and North of 16th Avenue (#38)	0.09 km	
	<b>Total Length</b>	<b>1.62 km</b>	

# Project Sheet – Yonge Street and 16<sup>th</sup> MTSA Road Network

## Map



## Project Sheet – Yonge Street and 16<sup>th</sup> MTSA Road Network

### Existing Conditions

#### Physical and Transportation Conditions

Existing ROW	-
Road Designation	Collector Roads

#### Description

A series of new collector roads are proposed to be constructed around the Yonge Street and 16<sup>th</sup> Avenue intersection. The proposed collector roads will have 23 metre rights-of-way and cycle tracks.

#### Natural and Built Environment

Natural Environment	Existing development on both sides of corridor.
Socio-Economic	The proposed road development is located in area identified as a both a Key Development Area by the Richmond Hill Official Plan and as a MTSA. Future developments in the area will provide mixed use development and high-density mixed-use development.
Land Use and Built Environment	Existing Hillcrest Mall, South Hill Shopping Centre, auto dealership.

#### Problem or Opportunity

- Road capacity improvements to support future travel demand.
- Road improvements supporting connectivity, including walking and cycling.

#### Alternatives Considered

1. **Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses and multi-modal access.
2. **Improve alternative corridor:** These proposed roads facilitate redevelopment and intensification of land uses and are needed to collect multimodal trips from these new developments. Parallel routes of Yonge Street and Carrville Road / 16<sup>th</sup> Avenue cannot serve this function and have already been built out to their maximum number of general purpose vehicle lanes.
3. **Construct new collector roads:** Addresses future travel demand of redevelopment and intensification, improves sustainable connectivity through additional sidewalks and cycle tracks.

### Recommended Improvement

Recommendations	<p>Develop a new collector road in the following locations:</p> <ul style="list-style-type: none"> <li>• North-South Collector Ring Road in Yonge-Carville/16<sup>th</sup> MTSA East of Yonge Street</li> <li>• Collector Road in Yonge-Carville/16<sup>th</sup> MTSA at Hillcrest Mall</li> <li>• Internal Collector Roads in Yonge-Carville/16<sup>th</sup> MTSA East of Yonge Street and North of 16<sup>th</sup> Avenue</li> </ul>
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## Project Sheet – Yonge Street and 16<sup>th</sup> MTSA Road Network

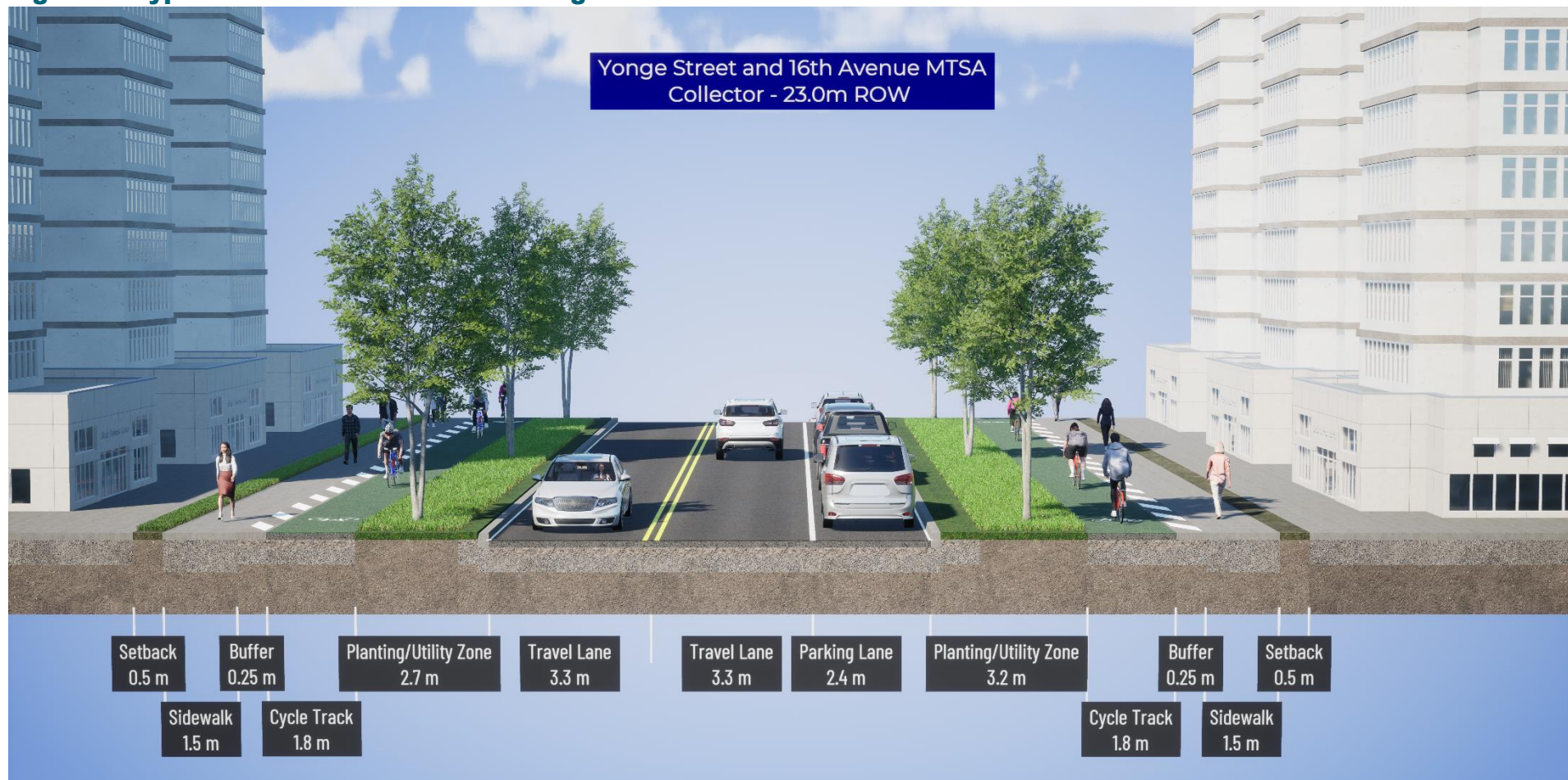
	<ul style="list-style-type: none"> <li>East-west Collector Ring Road in Yonge-Carville/16th MTSA East of Yonge Street North of 16th Avenue</li> <li>Internal Collector Roads in Yonge-Carville/16th MTSA East of Yonge Street and North of 16th Avenue.</li> </ul>
<b>Phasing</b>	Construction by 2041

### Costs & Benefits

<b>Preliminary Total Cost Estimate</b>	<p>Project ID #13: Costing will be Developer's responsibility</p> <p>Project ID #14: Costing will be Developer's responsibility</p> <p>Project ID #15: Costing will be Developer's responsibility</p> <p>Project ID #16: Costing will be Developer's responsibility</p> <p>Project ID #38: Costing will be Developer's responsibility</p>
<b>Potential Benefits</b>	<p>Finer grid network to facilitate redevelopment and intensification of lands. Allows more efficient access to Yonge Street and 16<sup>th</sup> Avenue. Introduces additional active transportation facilities and supports transit opportunities.</p>

## Project Sheet – Yonge Street and 16<sup>th</sup> MTSA Road Network

**Figure 1. Typical Road Cross-section – Yonge Street and 16<sup>th</sup> Avenue MTSA**



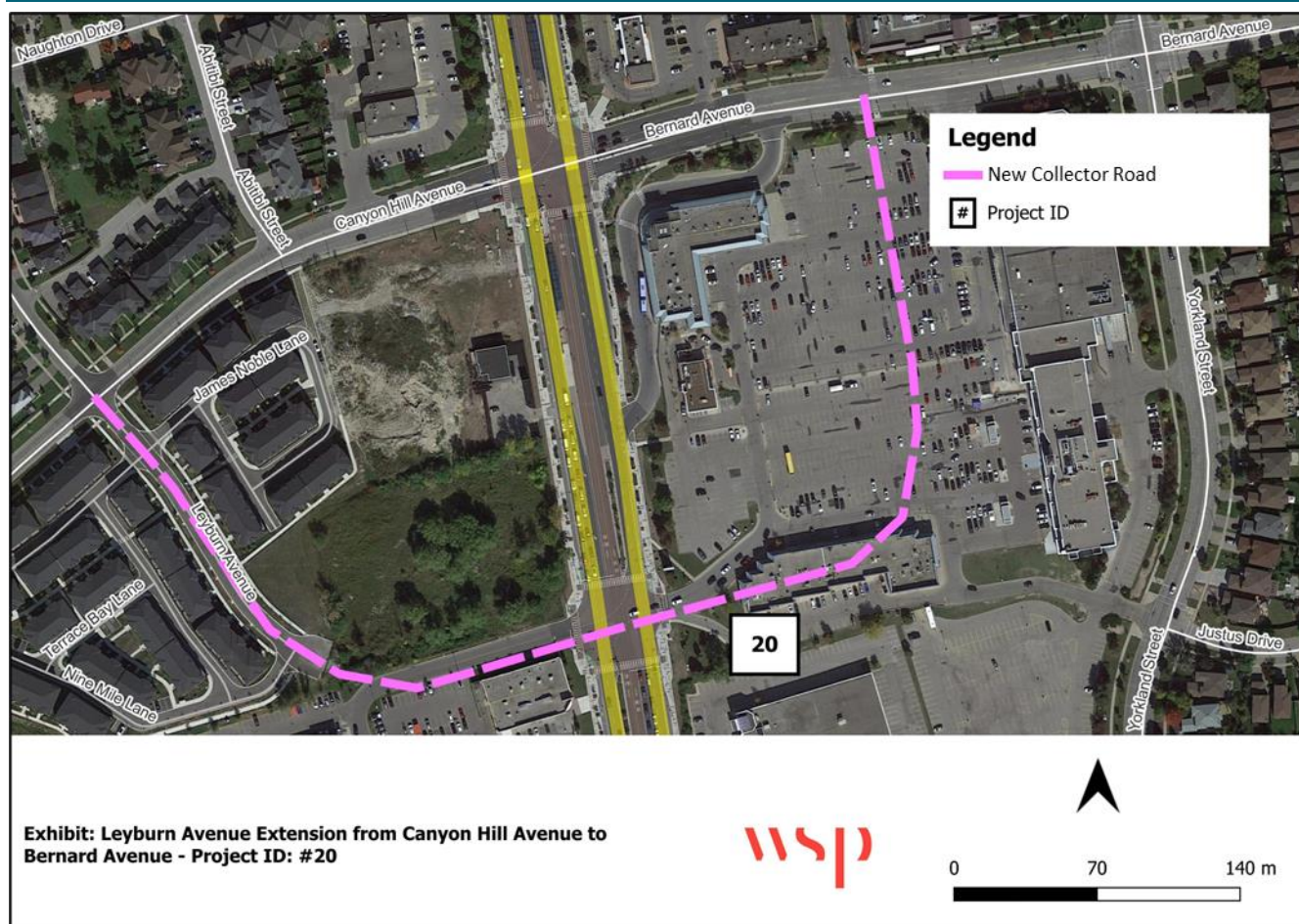
\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.

## Project Sheet – Leyburn Avenue Extension

### Project Description

Project ID	#20
Location	Leyburn Avenue
Project Limits	Canyon Hill Avenue - Yonge Street - Bernard Avenue
Project Type	New Collector Road Construction
Total Length	1.0 km

### Map





## Project Sheet – Leyburn Avenue Extension

### Existing Conditions

#### Physical and Transportation Conditions

Existing ROW	-
Road Designation	Collector Road

#### Description

A new collector road extension is proposed which will extend from Leyburn Avenue between Canyon Hill Avenue to Bernard Ave. The construction of the new collector road will be of one kilometre in length. It will consist of a collector road with a 23 metre right-of-way.

#### Natural and Built Environment

Natural Environment	Vacant site on either side of Leyburn Avenue. Existing development on both sides of Bernard Avenue.
Socio-Economic	The proposed road development is located in an area identified as a Key Development Areas by the Bernard KDA Secondary Plan, and is also near a MTSA designation.
Land Use and Built Environment	Residential development, Markham Station Restaurant Richmond Hill, Upper Yonge Place Shopping Centre.

#### Problem or Opportunity

- Road capacity improvements to support future travel demand and facilitate infill development and intensification of land uses.
- Road improvements supporting connectivity, including walking and cycling.

#### Alternatives Considered

1. **Do nothing:** Does not provide multi-modal connectivity or capacity required to facilitate intensification of land uses.
2. **Improve alternative corridor:** Parallel routes of Yonge Street, Canyon Hill Avenue and Bernard Avenue have already been built out to their maximum number of lanes and cannot be further widened. Does not increase connectivity through new walking and cycling facilities. Does not address road capacity or congestion.
3. **Construct a new collector road:** Addresses future multi-modal travel demand, improves connectivity for all modes of travel.

### Recommended Improvement

Recommendations	Develop a new road that runs from the Leyburn Avenue from Canyon Hill Avenue and extends to Bernard Avenue. Traffic on Yonge Street would be less congested. There are cycle track allowing for active transportation.
Phasing	Pre-approved through completion of TMP; Construction by 2041

## Project Sheet – Leyburn Avenue Extension

### Costs & Benefits

<b>Preliminary Total Cost Estimate</b>	Project ID #20: Costing will be Developer's responsibility
<b>Potential Benefits</b>	Facilitates infill development and redevelopment; enhances active transportation network

## Project Sheet – Leyburn Avenue Extension

**Figure 1. Typical Road Cross-section – Leyburn Avenue Extension**



\*Note: Property lines start after the sidewalk setback (i.e., edge of the ROW), and the images shown do not reflect individual setback requirements per property.