



Welcome

Sandalwood Parkway Improvements

From

McLaughlin Road to Heart Lake Road

Municipal Class Environmental Assessment

Public Information Centre (PIC) #2

Thursday June 21, 2018

6:30 pm to 8:30 pm

Jim Archdekin Recreation Centre, City of Brampton

Why Are We Here?

The Purpose of Public Information Centre (PIC) #2 is to:

- Provide an update on project progress and an opportunity to comment on the Preferred Design.
- Present the preliminary recommended preferred design and evaluation of alternative designs.
- Provide information on any property requirements.
- Present environmental impacts of the project and mitigation measures.
- Obtain public input on the above.

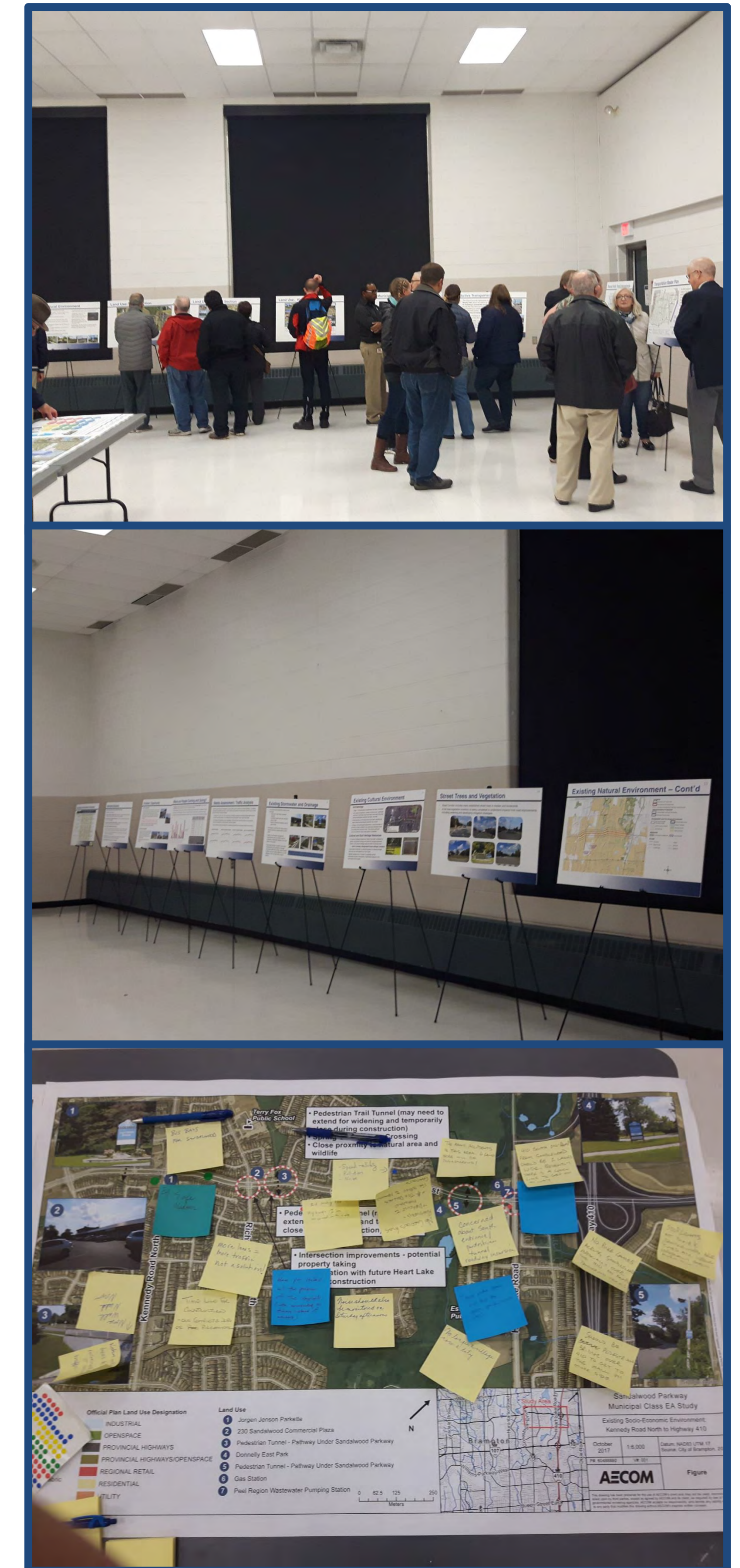


How Can You Help?

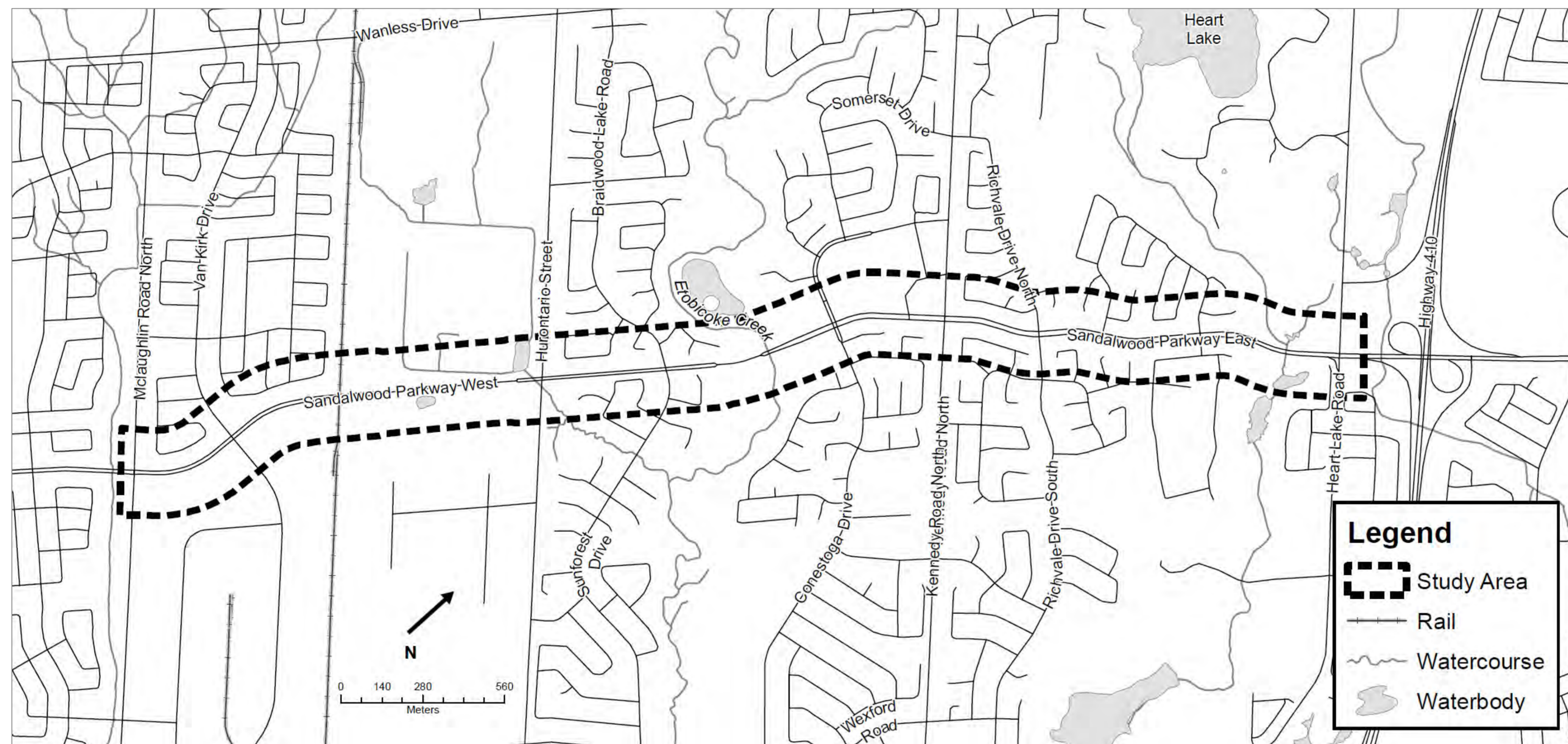
- Please take a Comment Form and a pen. We are interested in what you have to say!
- As you review the information presented today, we encourage you to ask questions and provide feedback by **July 6, 2018**.

Summary of PIC #1

- PIC #1 was held on November 2, 2017 from 6:30 p.m. to 8:30 p.m. at Loafer's Lake Recreation Centre in Brampton.
- Main purpose of the first PIC was to:
 - Provide an overview of existing and future conditions within the Study Area
 - Present the Study's problems, opportunities and need justification
 - Present the evaluation of alternative solutions including the preliminary preferred solution
 - Gather public input
- Participants viewed information display boards, discussed issues or concerns with Study Team members and provided feedback via interactive roll-out maps and comment forms.
- Approximately **87** stakeholders and community members attended PIC #1 and a total of **21** comment forms were submitted.
- Key issues identified by members of public related to the following themes: safety; intersections and traffic signals; alternate modes of transportation; project need; traffic; road design; alternative solutions / preliminary preferred solution; natural environment; socio-economic environment including noise; project timeline; and construction.



Study Area Overview

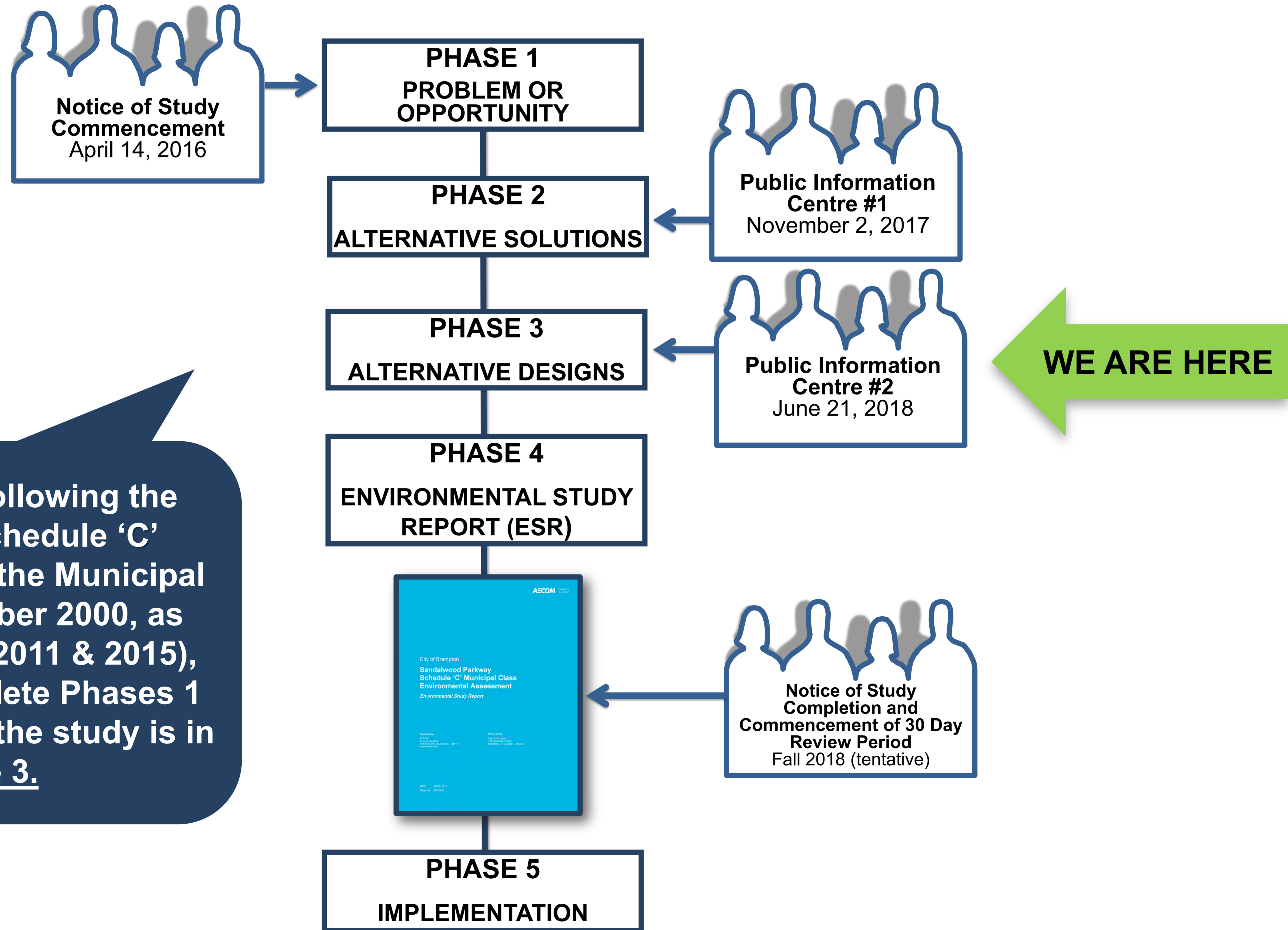


Major Arterial Road definition (City Official Plan)

- Planned, designed, constructed and designated to carry medium to high volumes of medium distance intra-regional traffic at medium speeds and to serve traffic flows between the principal areas of traffic generation, as well as traffic to or from freeways (for Sandalwood Parkway this means Northeast Brampton and HWY 410). Provisions will be made for transit service through High Occupancy Vehicle (HOV) lanes, dedicated transit lanes, or other transit priority measures, where appropriate.
- Arterial roads should be continuous and able to accommodate direct transit routes and transit priority measures with appropriate street furniture including sidewalks where appropriate.

- The Study Area is located in the north central part of the City of Brampton and includes the section of Sandalwood Parkway, from McLaughlin Road to Heart Lake Road.
- Sandalwood Parkway is classified as a **Major Arterial Road in the OP** with a right of way width of 40 to 45 metres (the existing ROW ranges from 36 to 45 metres).
- The existing road corridor includes four vehicular travel lanes with a centre median, sidewalks on both sides of the road and several north-south pedestrian tunnels.
- Brampton Transit provides regular bus service that connects to the Züm Hurontario Route.
- Heavy trucks are only permitted on Sandalwood Parkway between McLaughlin Road and Hurontario Street.

Municipal Class EA Process



This study is following the process of Schedule 'C' requirements of the Municipal Class EA (October 2000, as amended 2007, 2011 & 2015), which will complete Phases 1 to 4. At present, the study is in Phase 3.

What We Have Heard

The Sandalwood Parkway Municipal Class EA began in April 2016. The first PIC was held in November 2017. To date, the Study Team has received many comments.

Here are a few selected highlights that we gathered from you since PIC #1:

Safety

Widening will allow for increased accidents and speeding, and will create an unsafe environment for pedestrians and cyclists.

- Past studies show that widening from four to six lanes would not necessarily result in an increase in the number of collisions.
- Safety performance is more dependent on how elements of the roadway (e.g., travel lane width, horizontal and vertical alignments, etc.) are designed.
- Widening to six lanes will provide opportunities for safety improvements (e.g., provision of positive offset left-turn lanes and tighter curb radii at intersections, access management, etc.).
- Peel Regional Police will be requested to enforce the speed limit.
- Facilities for both pedestrians and cyclists will be improved as part of the road widening.

Intersections and Traffic Signals

Need to implement synchronized lights, advanced signals, dedicated turning lanes and additional traffic signals.

- Advance green for turning lanes are implemented only when found warranted through study.
- All the intersections along Sandalwood Parkway were synchronized in December 2017 after PIC #1.
- The preliminary preferred solution presented at PIC #1 includes improvements to the Sandalwood Parkway corridor through provision of multi use trails in both directions (in boulevard), improvements to the existing pedestrian facilities, provision of a potential HOV lane for exclusive use of buses, carpool, and vehicles with 2 or more persons, and traffic signal phasing/ coordination improvements.
- A signal warrant analysis has been done for the existing unsignalized intersections and adding new signals were not found warranted.

Alternate Modes of Transportation

Need to provide safe multiuse paths and cycling facilities. Improved transit should be prioritized.

- Based on the traffic volumes and speeds along Sandalwood Parkway, the preferred alternative is to include multi-use paths on both sides of Sandalwood Parkway with connections to the existing trails and grade-separated pedestrian underpasses across Sandalwood Parkway as well as sidewalks along the cross streets.
- The preliminary preferred solution includes improvements for transit services and infrastructure (e.g. introduction of bus bays where appropriate, new bus stops / shelters for future ZUM services, queue jump lanes, transit signal priority, etc.).
- With the preferred alternative design, there will be improvements to level of service for both pedestrians and cyclists as compared to the existing conditions.
- With the preferred alternative design, there will be improvements to level of service for transit passengers as compared to the Future Do-Nothing conditions.

Traffic

Widening will only increase vehicle usage on Sandalwood Parkway and traffic congestion.

- Increase in traffic volume will be mainly a result of future growth in population and employment in the broader study area (i.e., Highway 410 to the east, Wanless Drive to the north, Chinguacousy Road to the west, and Bovaird Drive to the south) and to a lesser extent due to future growth in Brampton as a whole between now and 2041. The preferred solution with a six-lane cross-section based on traffic analysis is needed to meet the future demand of this corridor.
- In the absence of additional lanes in the future (i.e., in the Future Do-Nothing Conditions), there are expected to be poor level of service and longer delays for motorized traffic (including buses) along the corridor which could result in frustration for both local and through commuters and will have a negative impact on the environment.
- The traffic analysis for 2041 with a six-lane cross-section and other supplementary measures (e.g., provision of multi-use paths on both sides, improved bus headways, etc.) does indicate better level of service, and less delays for motorized traffic (including buses) along the corridor as compared to the Future Do-Nothing conditions.

Natural/Socio-economic Environment

Concerned about impacts to wetlands, wildlife, property access, parks and mature trees; and increased noise and air pollution.

- A Natural Environment Report including an impact assessment and associate mitigation for terrestrial and aquatic species, species at risk and their habitat has been completed.
- A full tree/vegetation inventory has been completed to understand any potential impacts from road improvements.
- A Noise Impact Study has been conducted to confirm the need and location of new noise barriers if warranted.
- Following the selection of the preliminary preferred design, mitigation measures to alleviate any potential property impacts will be explored.

Preliminary Preferred Solution

Alternatives such as Transportation Demand Management (TDM), improvements to active transportation, transit services, and intersection geometry should be prioritized.

- Implementation of alternatives such as TDM, improvements to active transportation facilities, improvements to transit services and infrastructure, and improvement to intersection geometry alone will not be able to meet the capacity (demand) requirements of 2041 as per findings of the traffic analysis.
- The evaluation of alternative solutions presented at PIC #1 identified the preliminary preferred planning solution to be a combination of alternatives: TDM; improvements to active transportation, transit services and infrastructure, intersection geometry; and widening Sandalwood Parkway from four to six lanes.

How Did We Get Here?

Official Plan (2006)

- The City of Brampton continues to grow and develop into a more urban municipality
- To accommodate growth, new infrastructure needs to be provided that recognizes the capacity needs of planned growth

*Preliminary Forecasted Growth in Brampton				
	2017	2021	2031	2041
Total Population	628,200	686,800	836,800	888,600
Total Housing Units	173,400	191,100	235,100	250,900
Total Employment	215,000	244,000	292,400	322,000

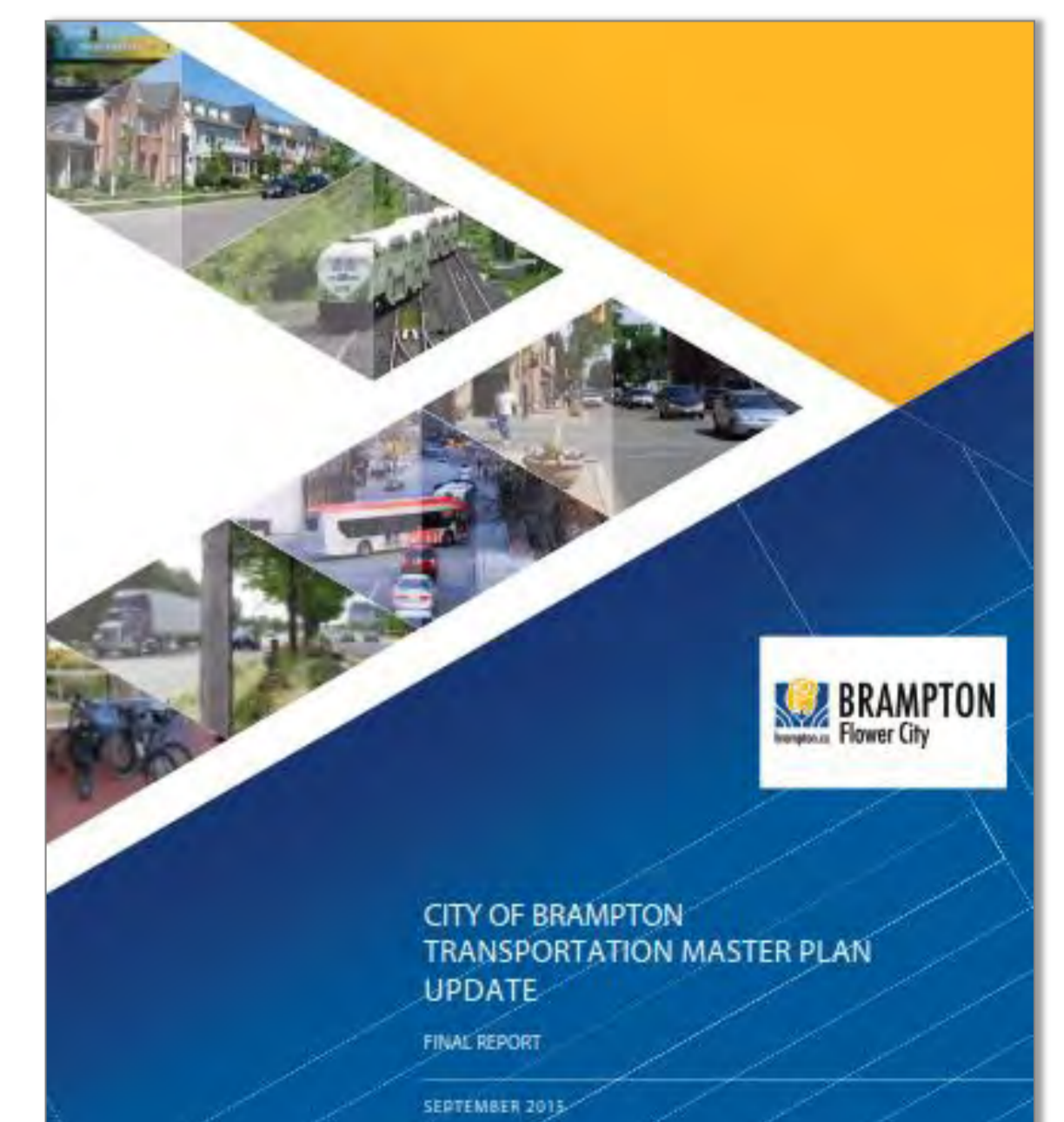
*The forecasts are subject to change as they are being finalized

Preliminary forecasts prepared for the City of Brampton by Hemson Consulting Ltd. (May 2015)

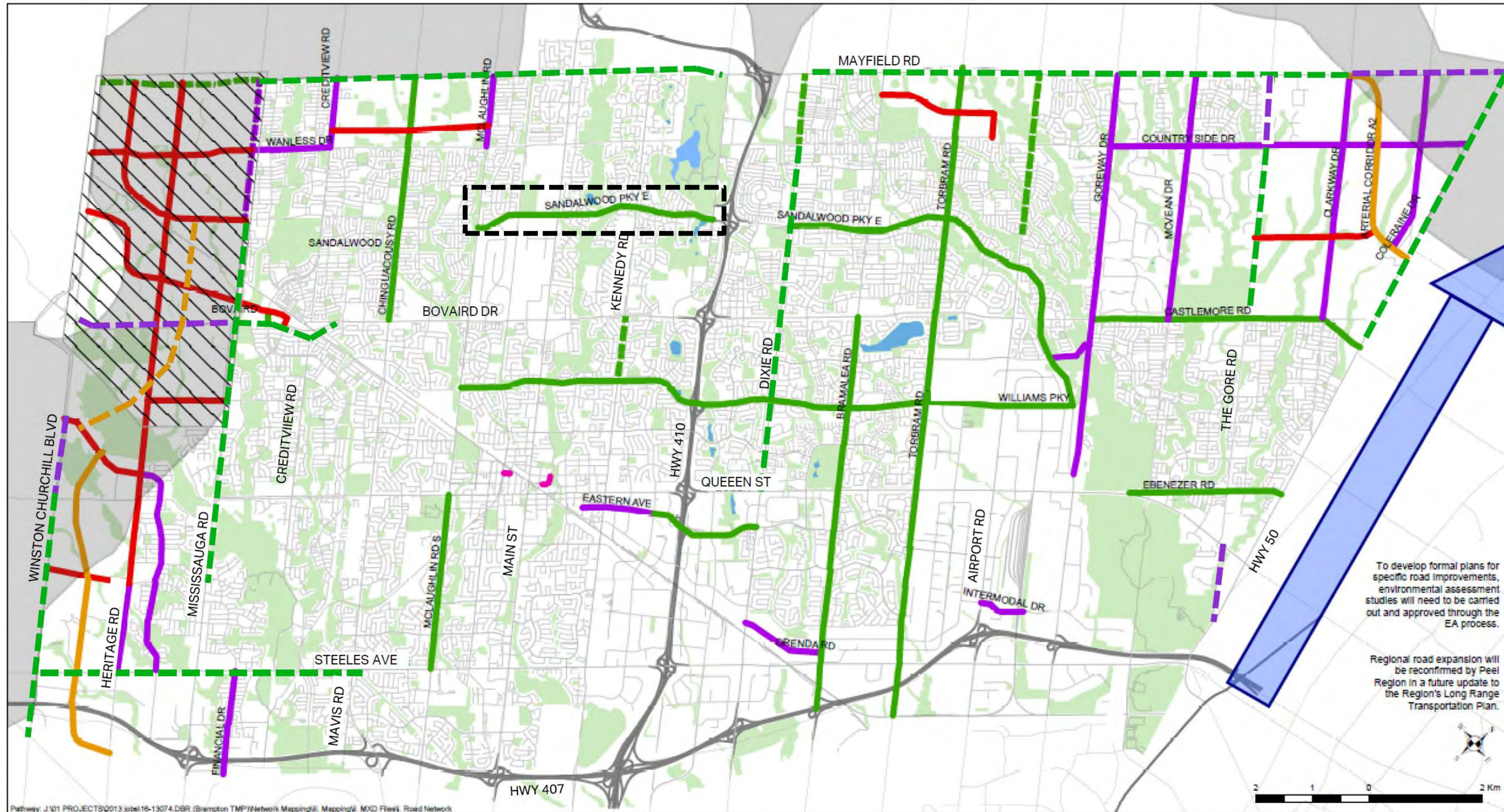


Transportation Master Plan (2015)

- The City of Brampton undertook an update study for their 2009 Transportation and Transit Master Plan in 2015
- The 2015 Transportation Master Plan (TMP) Update identified the need for widening Sandalwood Parkway (Heart Lake Road to McLaughlin Road) from a four-lane cross section to a six-lane cross section
- This study is to confirm the recommendations of the 2015 TMP and determine the timing of improvements



Transportation Master Plan



- The TMP considered a number of City, Region and MTO planned transportation projects in relation to projected traffic volumes on Sandalwood Parkway.
- Other transportation improvements such as Metrolinx and Brampton Public Transit Initiatives were also considered as part of the review

Pathway: J:\01 PROJECTS\2013\jtbl\16-13074.DBR (Brampton TMP)\Network Mapping\Maping\Maping\MXD Files\ Road Network

BRAMPTON
Flower City

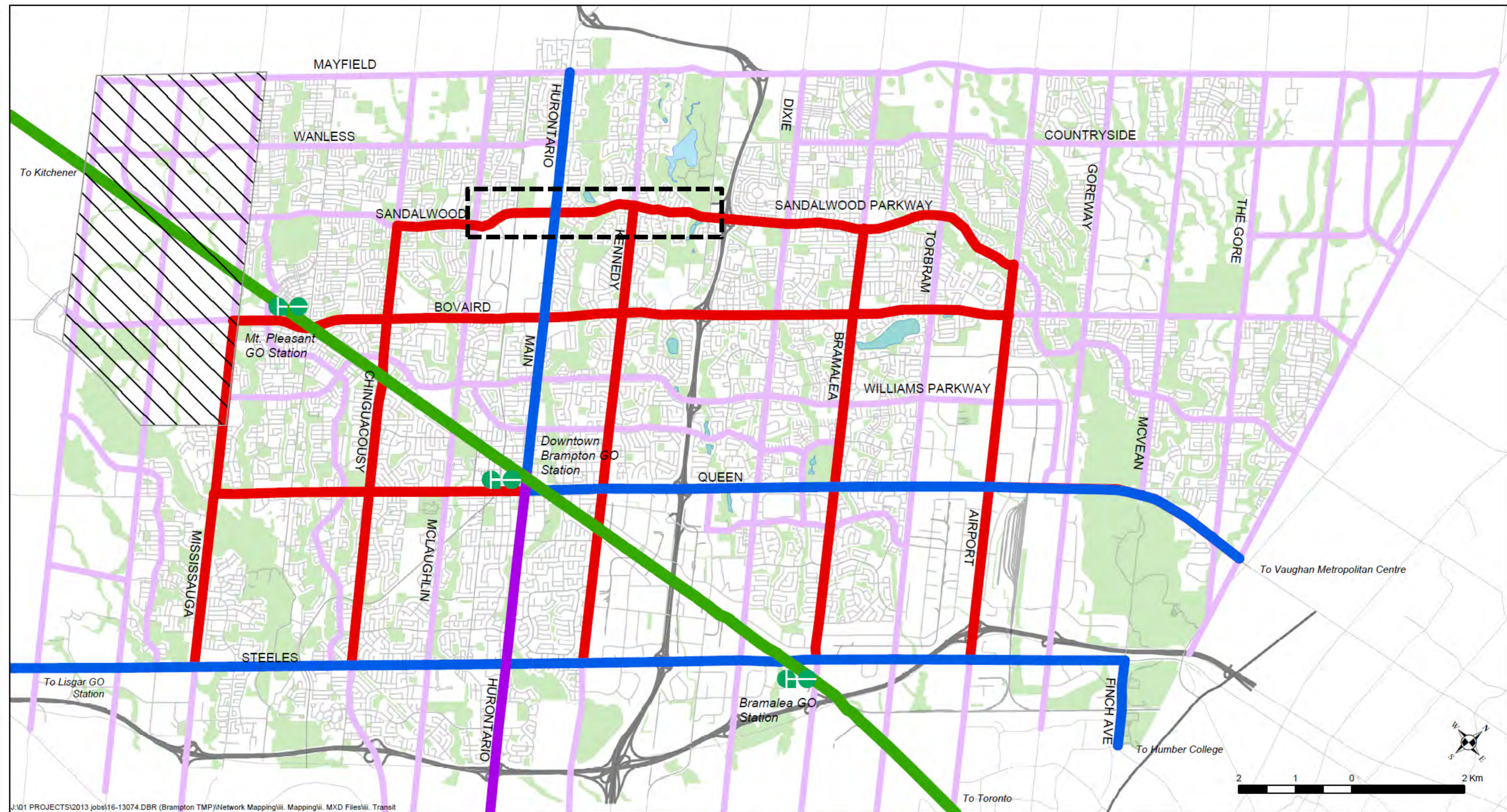
Source: City TMP Update (dated 2015) and Region of Peel Public Works Road Program Funding to 2031 (dated November 28, 2013)

Legend

City Road Expanded to Four Lanes	City Road Extension by Two Lanes	GTA West Corridor Study Area
Regional Road Expanded to Four Lanes	New City Road Construction Six Lanes	Highway 427 and Extension
City Road Expanded to Six Lanes	New City Road Construction Four Lanes	Conceptual Road Network for use in the Development Charges Background Study
Regional Road Expanded to Six Lanes	Provincial Highway	

Recommended City Road Network Needs to 2041

Planned Public Transit Improvements



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Legend

- █ Higher Order Rapid Transit
- █ ZUM
- █ Hurontario / Main LRT
- █ GO Rail
- Conceptual Road Network for use in the Development Charges Background Study
- Support Corridor
- GO Train Station

Notes:
 1. All routes running outside of the City of Brampton will be determined through additional detailed service planning on strategic corridors.
 2. Transit services will be provided to new growth areas in Bram West, Northwest Brampton, and Northeast Brampton. Determination of corridor types will be established through the Secondary Planning Process. Connections to key future transit routes outside of Brampton should be provided as required.
 3. "Higher Order Transit" are projects identified by Metrolinx in the Big Move.

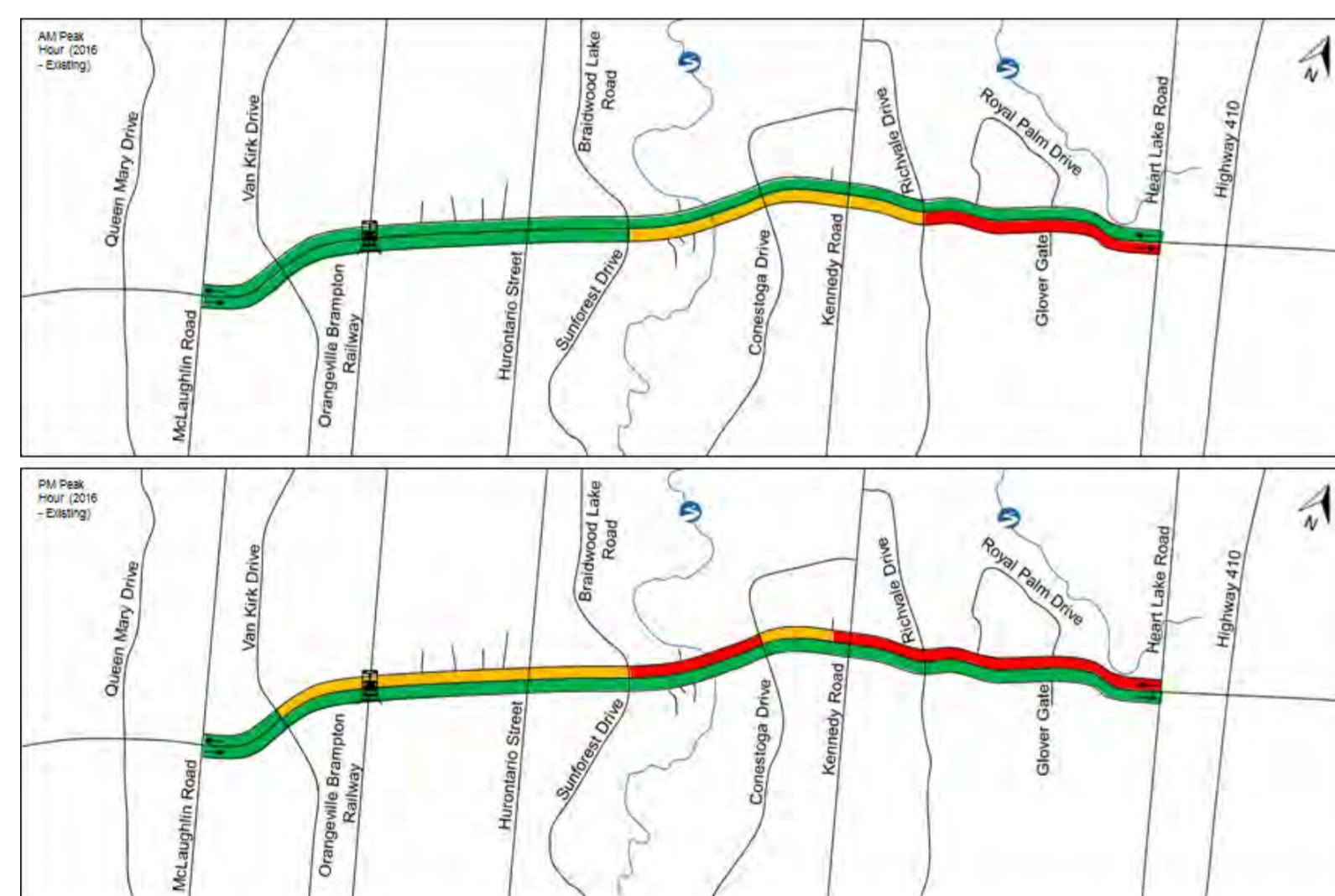
Figure 3
Recommended Rapid Transit Implementation by 2041

Needs Assessment / Traffic Analysis

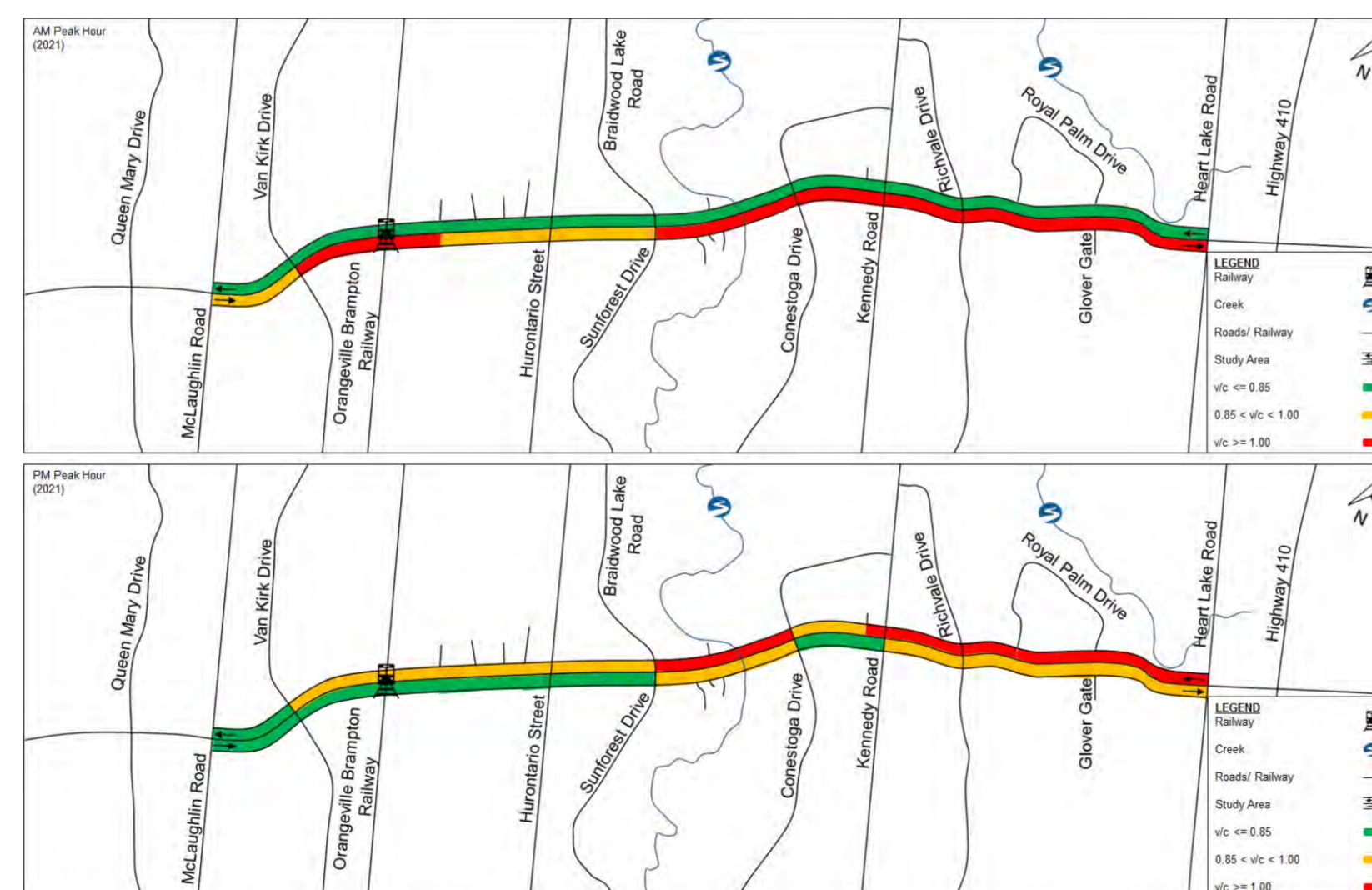
Significant approved future development and population growth is planned in Northeast Brampton. Considering associated transportation demands, a Traffic Analysis was completed for this Municipal Class EA Study to confirm need and timing for road improvements:

- Findings of the 2021, 2031, 2041 and Future “Do-Nothing” assessment indicated that future traffic demands exceed the existing capacity on Sandalwood Parkway (McLaughlin Road to Heart Lake Road)
- The assessment considered active transportation, TDM and transit projections based on real experience from other jurisdictions, including impact to vehicular capacity
- This provides the need and justification for implementing Multi Modal improvements within the Study Area

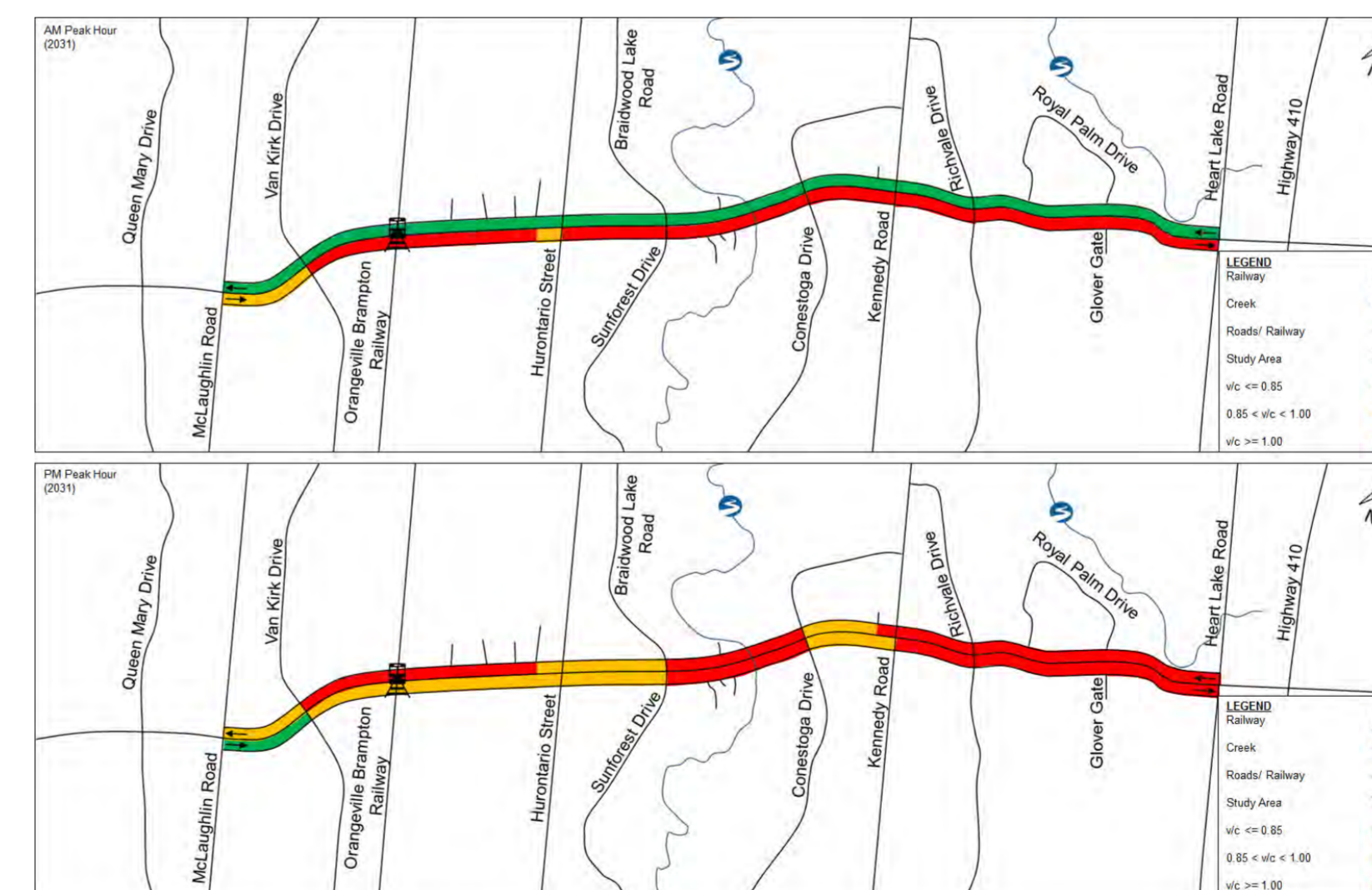
Existing (2016) Conditions



2021 Future “Do Nothing” Conditions



2031 Future “Do Nothing” Conditions

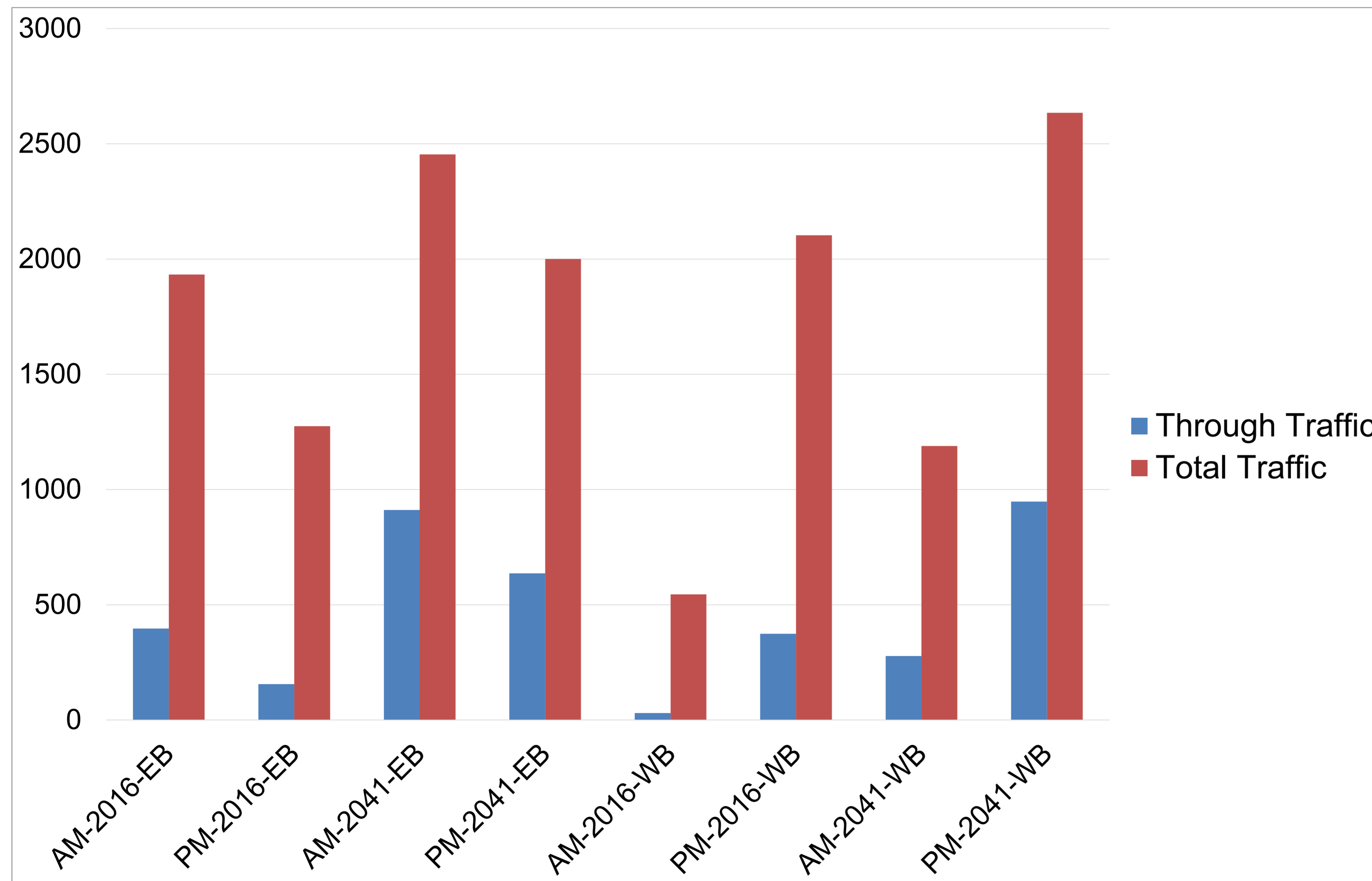


2041 Future “Do Nothing” Conditions



Where are People Coming and Going?

- The following compares the directional east bound (EB) and west bound (WB) **Through Traffic** volumes with the **Total Traffic** volumes during AM and PM peak hours for Sandalwood Parkway
- The existing conditions (2016) show 6 to 21 percent of total traffic volume is through traffic on Sandalwood Parkway
- The future 2041 conditions show 23 to 37 percent of total traffic volume is through traffic on Sandalwood Parkway
- No travelers that start and end their trips outside the City would travel on the studied section of Sandalwood Parkway



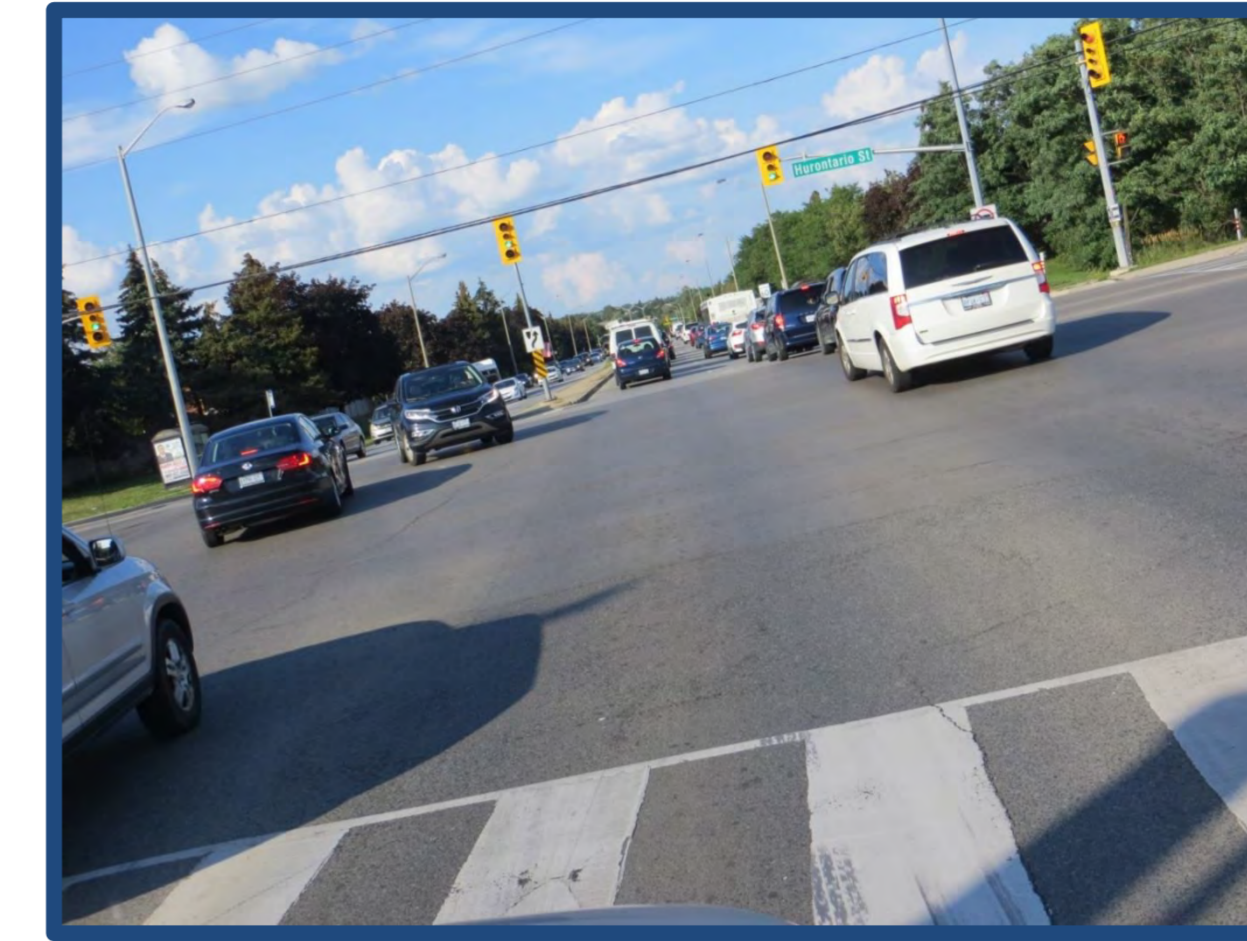
Peak Hour-Year-Direction	Through Traffic** (1)	Total Traffic (2)	Through/Total (1)/ (2)
AM-2016-EB	397	1933	21%
PM-2016-EB	156	1275	12%
AM-2041-EB	911	2454	37%
PM-2041-EB	637	2000	32%
AM-2016-WB	30	545	6%
PM-2016-WB	374	2103	18%
AM-2041-WB	278	1189	23%
PM-2041-WB	948	2634	36%

****Through Traffic:** trips that are originated from AND destined to locations outside the broader study area (i.e., the area bound by the Wanless Drive to the north, Highway 410 to the east, Bovaird Drive to the south and Chinguacousy Road to the west)

Problem / Opportunity

What is the problem?

- The Transportation Analysis conducted for this study confirmed that traffic volumes will exceed capacity in the AM and PM peak periods - New transportation infrastructure will need to be provided that recognizes the capacity needs of planned growth and the objectives of protecting established communities and businesses
- **Future 2021, 2031, 2041 Do Nothing scenarios show increased traffic congestion and deterioration of road operation conditions**
- Significant near and long term growth is expected in the City of Brampton that will impact the overall road network



What is the opportunity?

- There is an opportunity to improve Sandalwood Parkway to help accommodate the existing and future traffic demand by providing active transportation, transit facilities and other cross sectional elements
- Potential safety improvements will also be addressed



Recap – Preferred Solution

Prior to PIC #1 we identified six (6) alternative solutions:

1. Do Nothing

2. Transportation Demand Management (TDM)

3. Improvements of Active Transportation Infrastructure

4. Improvements of Transit Services and Infrastructure

5. Road Network Improvements (Sandalwood Parkway)

A. Improvements to Sandalwood Parkway - intersection geometry

B. Increase Capacity - widen Sandalwood Parkway by adding one (1) vehicular travelling lane in each direction to six lanes and modify intersections for transit, active transportation and turning.

6. Limit Development

Based on the evaluation and consideration of feedback, **the Preferred Solution is a combination of Alternatives 2, 3, 4 and 5.**

Rationale for the Preferred Solution includes:

- Provides safety for all road users including pedestrians and cyclists
- Improves transit
- Can support “Complete Streets” approach and improves linkages to City trail network
- Accommodates Future Population Growth – addresses future capacity needs (4 lane and 5 lane cross sections or other roads can not meet future demands even if TDM and other modes including transit and active transportation are maximized)
- Provides opportunities to convert one lane in each direction into High Occupancy Vehicle (HOV) lane in the future
- Best addresses the Problem and Opportunity Statement

Alternative Design Concepts

The following alternative design concepts were identified for the Project:

1. Widen to the north



2. Widen to the south



3. Widen about the centreline



For the purpose of evaluating the preferred alignment for widening Sandalwood Parkway, the subject roadway was divided into three segments. The segments took into account the existing conditions, available property and constraints.

Segment 1: McLaughlin Road North to Hurontario Street

Segment 2: Hurontario Street to Kennedy Road North

Segment 3: Kennedy Road North to Heart Lake Road/Highway 410

Each segment was evaluated against selected project criteria for the purpose of identifying the preferred widening alignment for each road segment.

Evaluation of Alternative Design Concepts

Segment 1: McLaughlin Road to Hurontario Street

CRITERIA	CRITERIA INDICATORS	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	RATIOANALE
		WIDEN NORTH	WIDEN SOUTH	WIDEN CENTRE-LINE	
SEGMENT 1: McLaughlin Road to Hurontario Street					
1. Transportation Engineering	▪ Roadway geometry				Widening from the centre line is preferred because: <ul style="list-style-type: none"> ▪ Fewer impacts to existing roadway geometry
	▪ Utilities				Widening from the centre line is preferred because: <ul style="list-style-type: none"> ▪ Lower impacts to above-ground utilities (e.g. hydro poles)
	▪ Construction				Widening from the centre line is not most preferred from a construction staging perspective
	▪ Pedestrians, Cyclists – Safety				Widening from the centre line is preferred because: <ul style="list-style-type: none"> ▪ Eliminates sight line issues created by a wide median ▪ A wide median encourages people to cross mid-block
	▪ Access/Egress				▪ No Preference
	▪ Potential impacts to traffic flow				▪ No Preference
	▪ Emergency vehicles operation				▪ No Preference
2. Natural Environment	▪ Species at Risk and habitat or Species of Conservation Concern and Habitat				▪ No Preference (None Present)
	▪ Environmentally Significant Areas, Areas of Natural or Scientific Interest, Provincially Significant Wetlands, Significant Woodlands, etc.				▪ No Preference (None Present)
	▪ Terrestrial species and habitat				Widening from the centre line is preferred because: <ul style="list-style-type: none"> ▪ Least impacts to street trees (utilizes median opposed to boulevard)
	▪ Aquatic species and habitat				Widening from the centre line is preferred because: <ul style="list-style-type: none"> ▪ Less encroachment on stormwater management facilities and Fletchers Creek
	▪ Watercourse crossings				▪ No Preference
	▪ Groundwater				▪ No Preference
	▪ Stormwater quality and quantity				▪ No Preference
	▪ Drainage and erosion				▪ No Preference
3. Socio-Economic	▪ Planned development				▪ No Preference
	▪ Residences and local businesses				Widening to the centre line is preferred because: <ul style="list-style-type: none"> ▪ Reduces property impacts – less encroachment on residences backing onto north side of road and businesses (e.g. Petro Canada gas station)
	▪ Visual and landscape				▪ Loss of landscaped median vs. loss of landscaped boulevard
	▪ Institutions and community facilities				▪ No preference
	▪ Property Acquisition				Widening to the centre line is preferred because: <ul style="list-style-type: none"> ▪ Minimizes property taking (uses centre median)
	▪ Noise				Widening to the centre line is preferred because: <ul style="list-style-type: none"> ▪ Keeps cars further away from homes. Less noise impacts to sensitive receptors (e.g. residential backyards) compared to north or south side widening).
4. Archaeology and Culture	▪ Archaeological resources				▪ No preference
	▪ Built heritage resources				▪ No preference
5. Cost	▪ Capital costs				Widening to the centre line is preferred because: <ul style="list-style-type: none"> ▪ Reduces construction costs for widening of pedestrian underpasses
	▪ Operation and maintenance costs				Widening to the centre line is preferred because: <ul style="list-style-type: none"> ▪ Reduces maintenance costs for a landscaped median

LEGEND							PRELIMINARY PREFERRED ALTERNATIVE
	No Preference	Least Preferred					

Evaluation of Alternative Design Concepts

Segment 2: Hurontario Street to Kennedy Road North

CRITERIA	CRITERIA INDICATORS	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	RATIOANALE
		WIDEN NORTH	WIDEN SOUTH	WIDEN CENTRE-LINE	
SEGMENT 2: Hurontario Street to Kennedy Road North					
1. Transportation Engineering	▪ Roadway geometry				Widening from the centre line is preferred because: ▪ Fewer impacts to existing roadway geometry
	▪ Utilities				Widening from the centre line is preferred because: ▪ Lower impacts to above-ground utilities (e.g. hydro poles)
	▪ Construction				▪ Widening from the centre line is not most preferred from a construction staging perspective
	▪ Pedestrians, Cyclists – Safety				Widening from the centre line is preferred because: ▪ Eliminates sight line issues created by a wide median ▪ A wide median encourages people to cross mid-block
	▪ Access/Egress				▪ No preference
	▪ Potential impacts to traffic flow				▪ No preference
	▪ Emergency vehicles operation				▪ No preference
2. Natural Environment	▪ Species at Risk and habitat or Species of Conservation Concern and Habitat				▪ No Preference (None Present)
	▪ Environmentally Significant Areas, Areas of Natural or Scientific Interest, Provincially Significant Wetlands, Significant Woodlands, etc.				▪ No Preference (None Present)
	▪ Terrestrial species and habitat				Widening from the centre line is preferred because: ▪ Least impacts to street trees (utilizes median opposed to boulevard)
	▪ Aquatic species and habitat				Widening from the centre line is preferred because: ▪ Less encroachment on stormwater management facilities and Etobicoke Creek
	▪ Watercourse crossings				▪ No Preference
	▪ Groundwater				▪ No Preference
	▪ Stormwater quality and quantity				▪ No Preference
	▪ Drainage and erosion				▪ No Preference
3. Socio-Economic	▪ Planned development				▪ No Preference
	▪ Residences and local businesses				Widening to the centre line is preferred because: ▪ Reduces property impacts – less encroachment on residences backing onto north side of road and businesses (e.g. businesses on north side of Sandalwood Parkway between Conestoga Drive and Kennedy Road North)
	▪ Visual and landscape				▪ Loss of landscaped median vs. loss of landscaped boulevard
	▪ Institutions and community facilities				▪ No preference
	▪ Property Acquisition				Widening to the centre line is preferred because: ▪ Minimizes property taking (uses centre median)
	▪ Noise				Widening to the centre line is preferred because: ▪ Keeps cars further away from homes. Less noise impacts to sensitive receptors (e.g. residential backyards) compared to north or south side widening).
4. Archaeology and Culture	▪ Archaeological resources				▪ No preference
	▪ Built heritage resources				Widening to the centre line is preferred because: ▪ Avoids impacts to Snell's Cemetery (same for Alternative 1)
5. Cost	▪ Capital costs				Widening to the centre line is preferred because: ▪ Reduces construction costs for widening of pedestrian underpasses
	▪ Operation and maintenance costs				Widening to the centre line is preferred because: ▪ Reduces maintenance costs for a landscaped median

LEGEND							PRELIMINARY PREFERRED ALTERNATIVE
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Segment 3: Kennedy Road North to Heart Lake Road/Highway 410

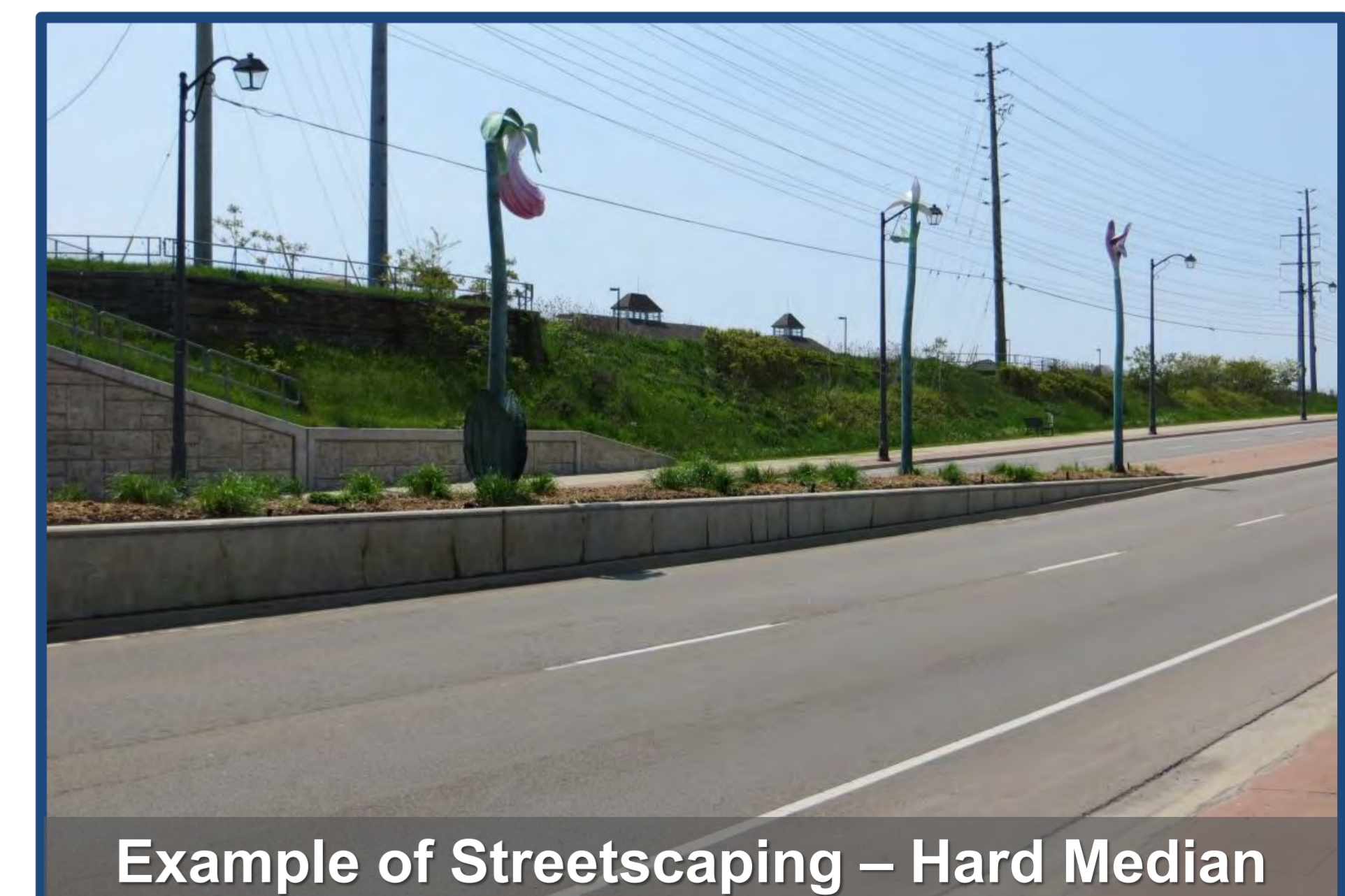
CRITERIA	CRITERIA INDICATORS	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	RATIOANALE
		WIDEN NORTH	WIDEN SOUTH	WIDEN CENTRE-LINE	
SEGMENT 3: Kennedy Road North to Heart Lake / Highway 410					
1. Transportation Engineering	▪ Roadway geometry				Widening from the centre line is preferred because: <ul style="list-style-type: none"> ▪ Fewer impacts to existing roadway geometry
	▪ Utilities				Widening from the centre line is preferred because: <ul style="list-style-type: none"> ▪ Lower impacts to above-ground utilities (e.g. hydro poles)
	▪ Construction				Widening from the centre line is not most preferred from a construction staging perspective
	▪ Pedestrians, Cyclists – Safety				Widening from the centre line is preferred because: <ul style="list-style-type: none"> ▪ Eliminates sight line issues created by a wide median ▪ A wide median encourages people to cross mid-block
	▪ Access/Egress				No Preference
	▪ Potential impacts to traffic flow				No Preference
	▪ Emergency vehicles operation				No Preference
2. Natural Environment	▪ Species at Risk and habitat or Species of Conservation Concern and Habitat				Widening to the south is preferred because: <ul style="list-style-type: none"> ▪ Least impacts to SAR (related to Heart Lake Wetland Complex)
	▪ Environmentally Significant Areas, Areas of Natural or Scientific Interest, Provincially Significant Wetlands, Significant Woodlands, etc.				Widening from the centre line is preferred because: <ul style="list-style-type: none"> ▪ Less encroachment on Heart Lake natural area/Provincially Significant Wetlands
	▪ Terrestrial species and habitat				Widening from the centre line is preferred because: <ul style="list-style-type: none"> ▪ Least impacts to street trees (utilizes median opposed to boulevard)
	▪ Aquatic species and habitat				Widening from the centre line is preferred because: <ul style="list-style-type: none"> ▪ Less encroachment on stormwater management facilities and Fletchers Creek
	▪ Watercourse crossings				No Preference
	▪ Groundwater				No Preference
	▪ Stormwater quality and quantity				No Preference
	▪ Drainage and erosion				No Preference
3. Socio-Economic	▪ Planned development				No Preference
	▪ Residences and local businesses				Widening to the centre line is preferred because: <ul style="list-style-type: none"> ▪ Reduces property impacts – less encroachment on residences backing onto north side of road and businesses (e.g. Canada Post outlet and businesses on north side of Sandalwood Parkway)
	▪ Visual and landscape				Loss of landscaped median vs. loss of landscaped boulevard
	▪ Institutions and community facilities				No preference
	▪ Property Acquisition				Widening to the centre line is preferred because: <ul style="list-style-type: none"> ▪ Minimizes property taking (uses centre median)
	▪ Noise				Widening to the centre line is preferred because: <ul style="list-style-type: none"> ▪ Keeps cars further away from homes. Less noise impacts to sensitive receptors (e.g. residential backyards) compared to north or south side widening).
4. Archaeology and Culture	▪ Archaeological resources				No preference
	▪ Built heritage resources				No preference
5. Cost	▪ Capital costs				Widening to the centre line is preferred because: <ul style="list-style-type: none"> ▪ Reduces construction costs for widening of pedestrian underpasses
	▪ Operation and maintenance costs				Widening to the centre line is preferred because: <ul style="list-style-type: none"> ▪ Reduces maintenance costs for a landscaped median

LEGEND	No Preference	Least Preferred				Most Preferred	PRELIMINARY PREFERRED ALTERNATIVE
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Preliminary Preferred Design Concept

Road Widening:

- For all 3 road segments, widening from the Centre Line was identified as the preliminary preferred design concept because:
 - It equitably optimizes encroachment on land uses and property takings (avoids moving road closer to residences – less noise and vibration)
 - Majority of works will take place in existing right-of-way (potential minor property taking at intersections/bus stops)
 - Allows for shorter pedestrian crossing lengths at intersections as compared to other alternatives
 - Eliminates sight line issues created by a wide median
 - A wide median encourages pedestrians to cross mid-block (can modify pedestrian behaviour to cross at intersections or pedestrian tunnels)
 - Lower impacts to above ground utilities (e.g. hydro poles)
 - Least impacts to natural environment features and Snell's Cemetery
- The existing Centre median will be reduced to accommodate the majority of road widenings (i.e. travel lanes).



Preliminary Preferred Design Concept – cont'd

Intersections:

- Refer to cross section and roll plan.
- Heart Lake Road intersection improvements will consider recommendations from separate Heart Lake Road Function and Design Review (e.g. multi use path connection with proposed Heart Lake Road dedicated bike lanes).



Peak Time HOV Lanes:

- The additional lanes provide an opportunity to introduce High Occupancy Vehicles (HOV), including public transit (e.g. ZUM Buses) during peak AM and PM hours in the future.

Phasing:

- The project will be constructed in phases. Details on phasing will be developed as part of the detailed design of the project.

Preliminary Preferred Design Concept – cont'd

Water Crossings:

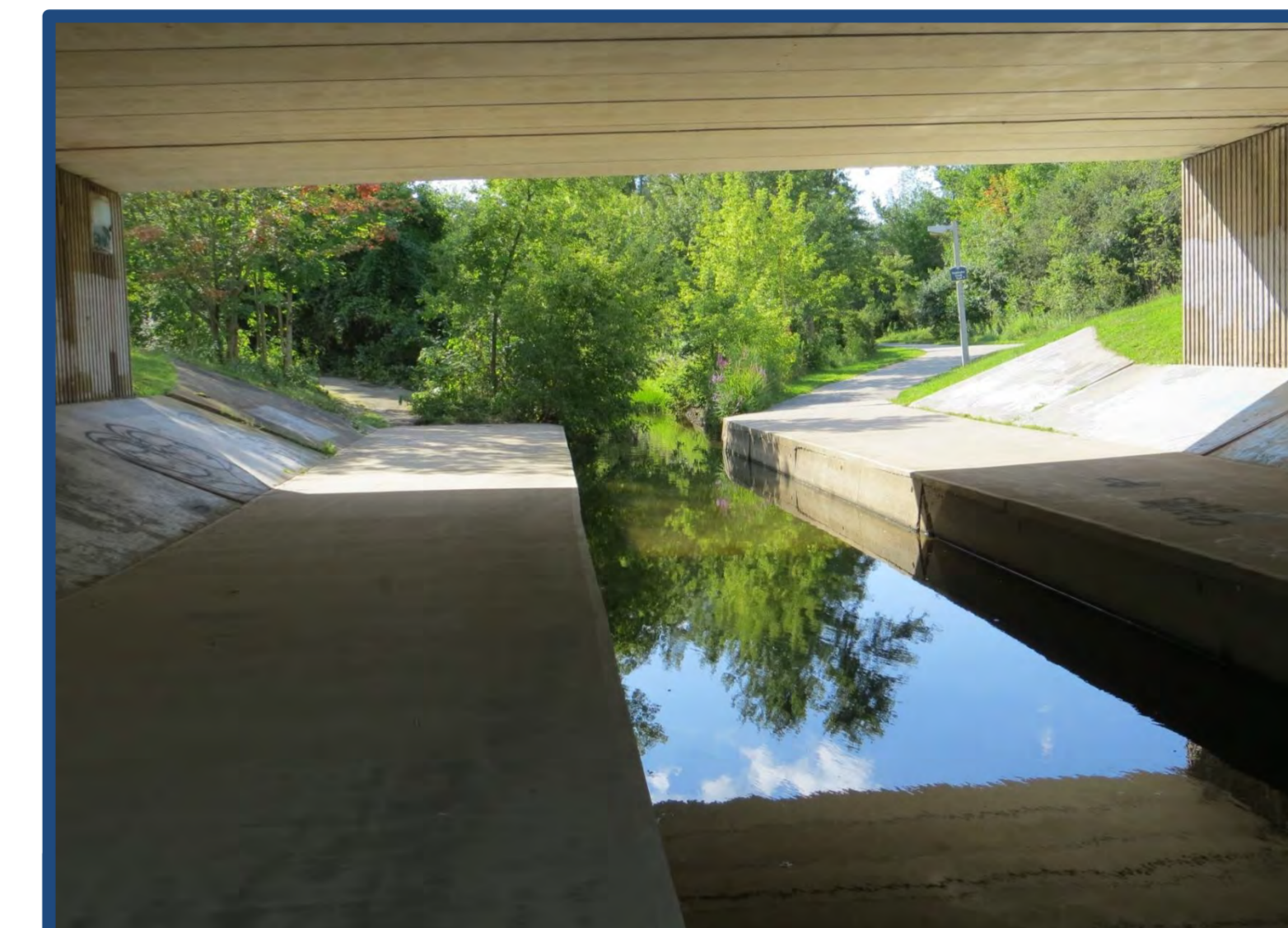
- The Etobicoke Creek bridge structure will need to be extended on both sides to accommodate the new road platform.
- The Etobicoke Creek crossing is currently a channelized concrete passage (with multi-use path on both sides) that negatively impacts stream form and function. The City will look for opportunities to improve Etobicoke Creek in consultation with TRCA.

Pedestrian Tunnels:

- Add hand rails to Sandalwood Parkway above pedestrian tunnels.
- Modification details will be developed during the detailed design of the project.

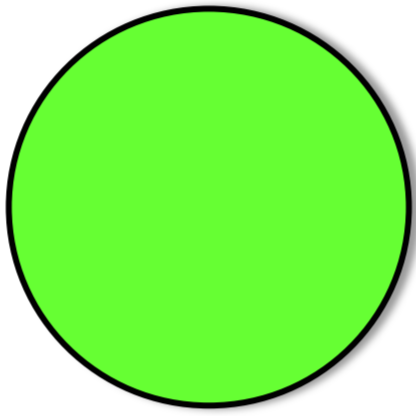
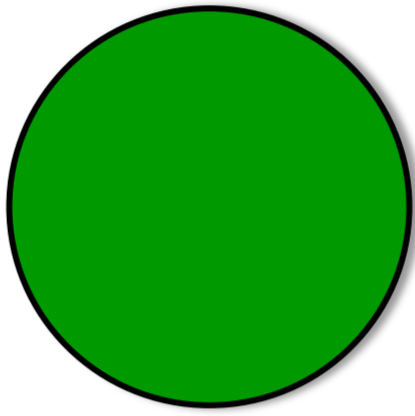
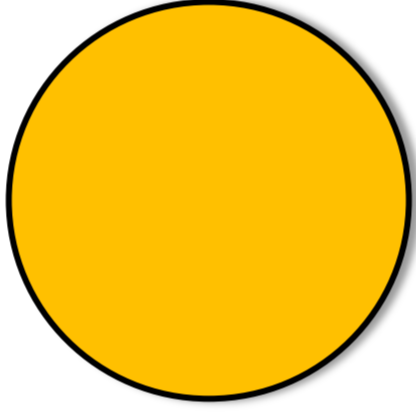
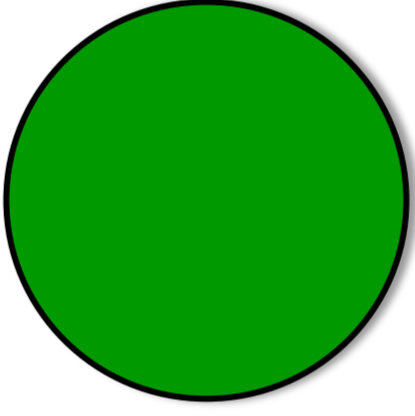
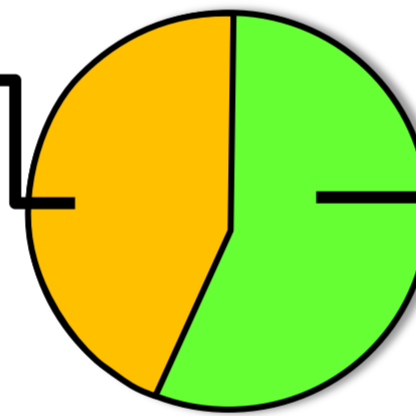
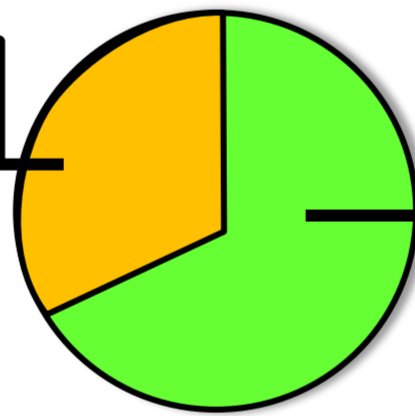
Other Elements:

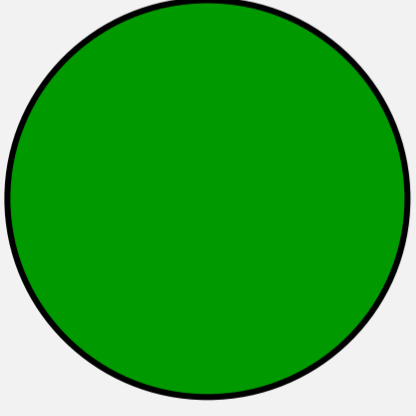
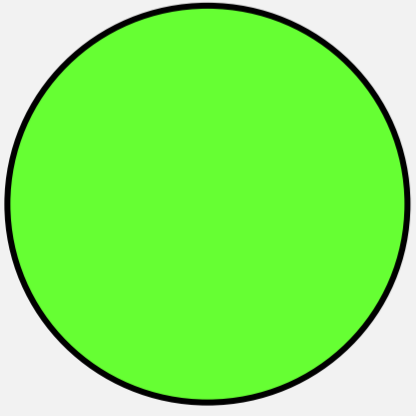
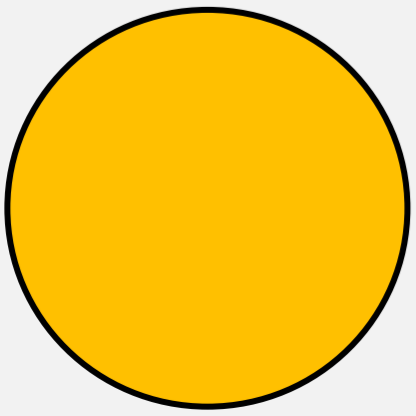
- Orangeville Brampton Railway Crossing – modify rail crossing to comply with Transport Canada requirements.



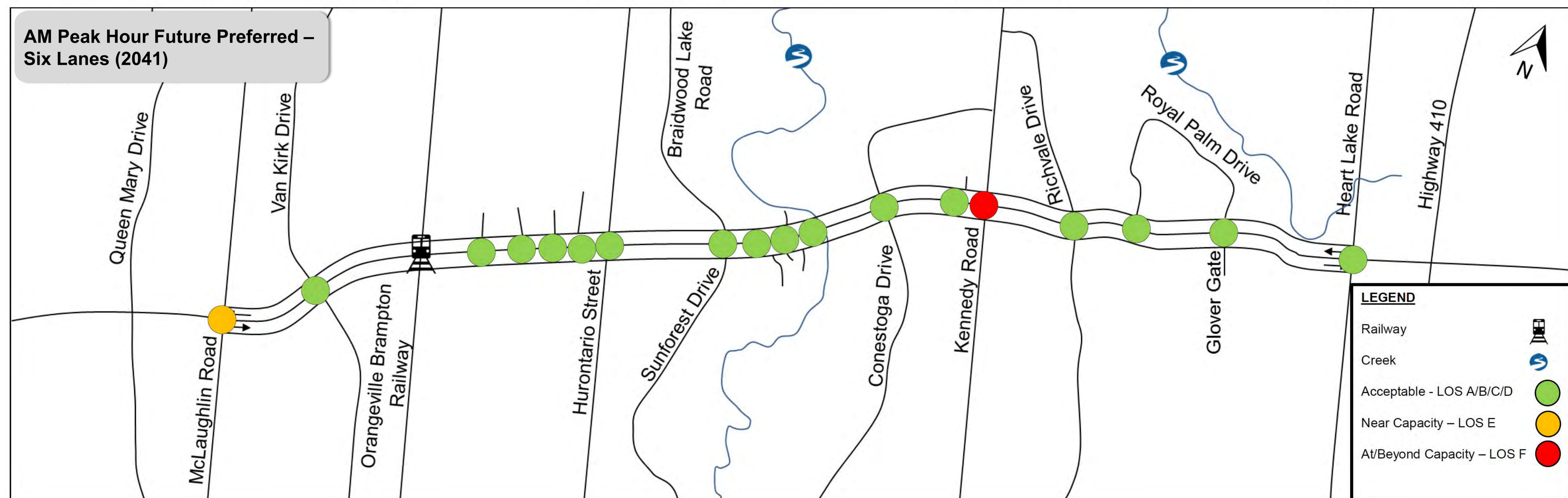
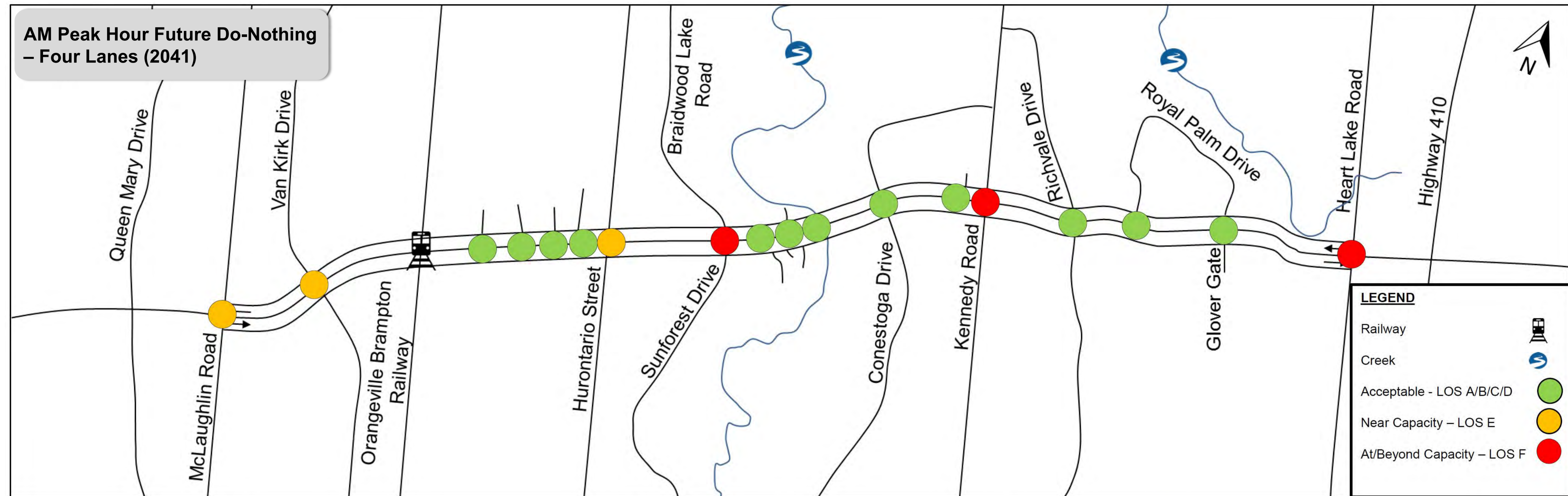
Multimodal Analysis – AT and Transit

MMLOS Study Findings

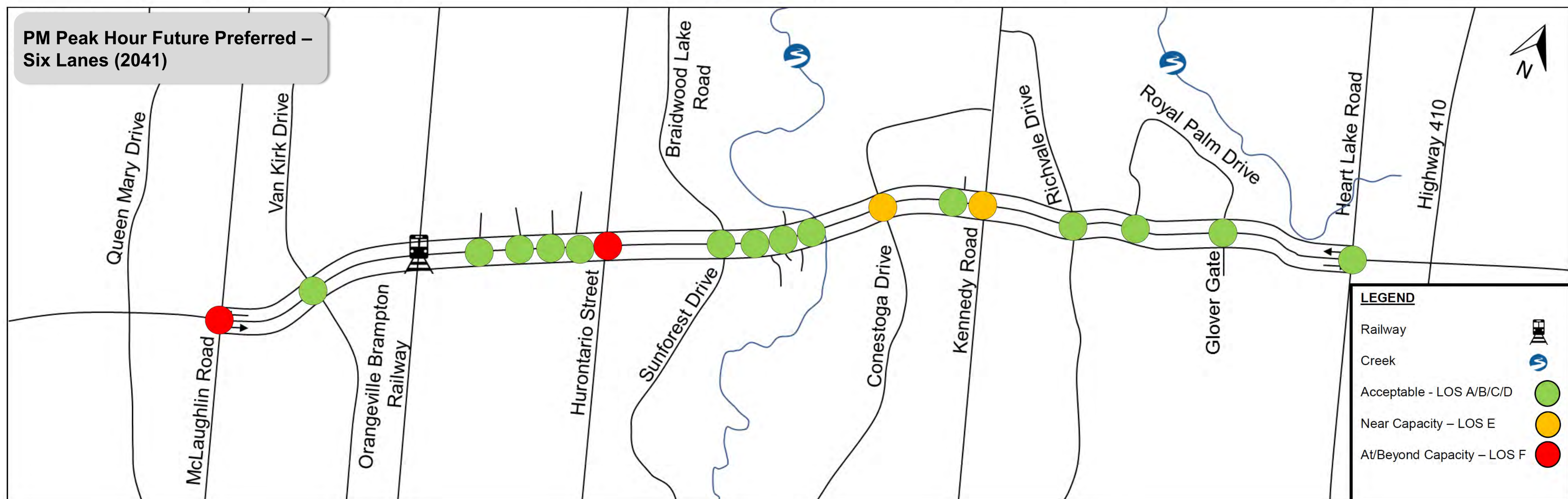
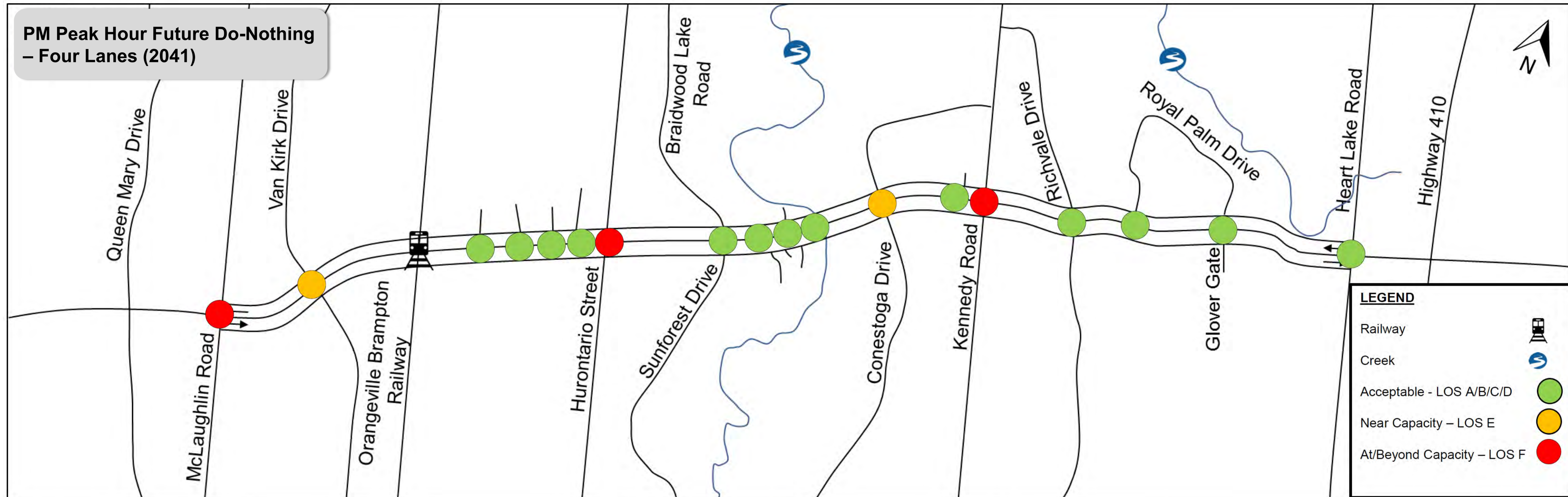
Road User	Future (2041) Do-Nothing Conditions (Four Lanes)	Future (2041) Preferred Alternative (Six Lanes)
Pedestrians		
Cyclists		
Transit Users	 <p>40% ← → 60%</p>	 <p>32% ← → 68%</p>

Legend	
	LOS A/B
	LOS C/D
	LOS E/F

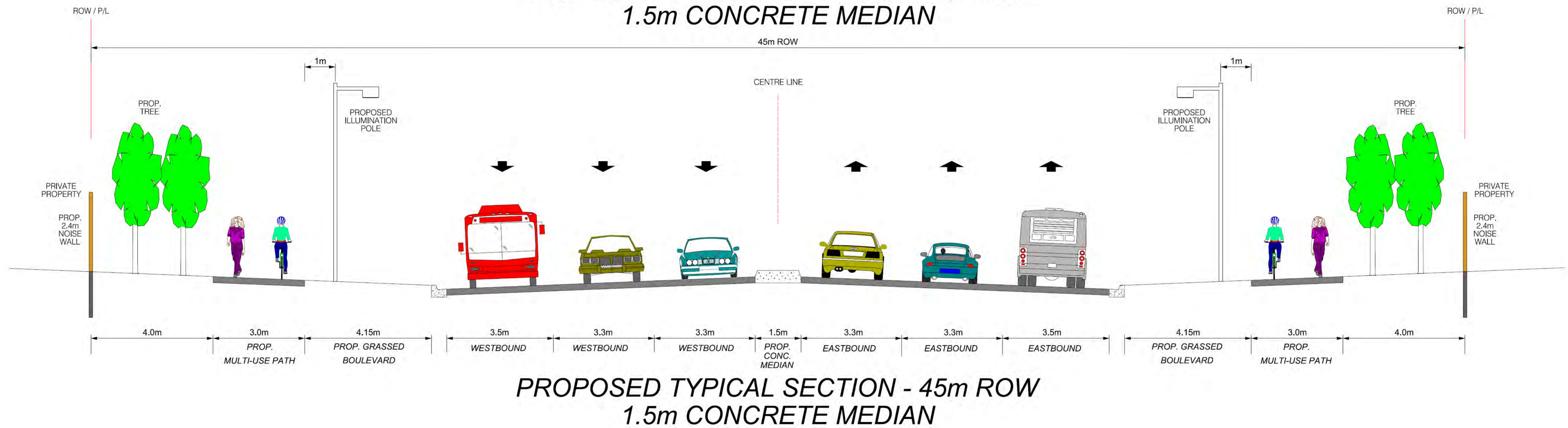
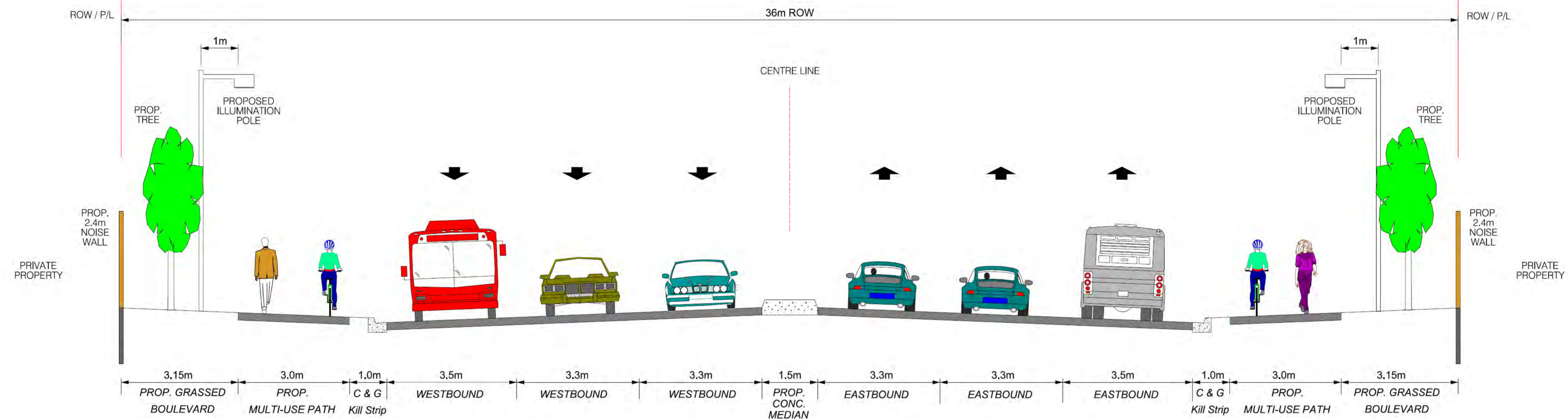
Multimodal Analysis – Motor Vehicles



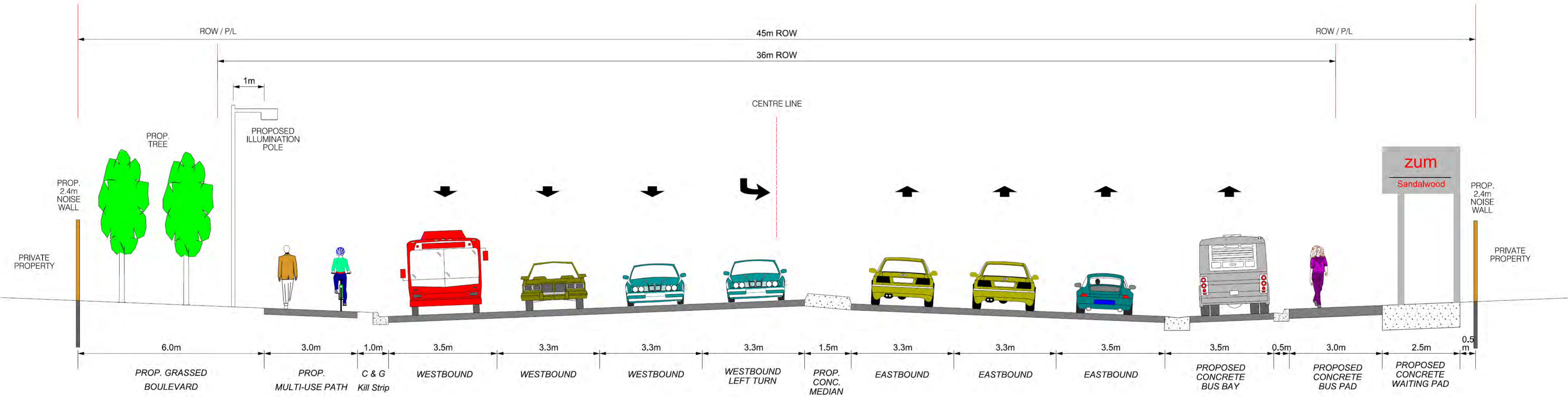
Multimodal Analysis – Motor Vehicles



Typical Cross Sections



Typical Cross Sections – cont'd



**PROPOSED TYPICAL SECTION
EAST OF HURONTARIO
PROPOSED ZUM BUS BAY**

How can the Proposed Improvements make Sandalwood Parkway Safer?

- Includes bi-directional multi use path on both sides of road.
- Allows for shorter pedestrian crossing lengths at intersections.
- Eliminates sight line issues created by a wide median.
- A wide median encourages pedestrians to cross mid-block (modified pedestrian behaviour to cross at intersections or pedestrian tunnels).
- Narrower 3.3 m lanes can slow down traffic (driver behaviour).



Noise Assessment

Information on Noise

- Noise is a form of energy measured in terms of sound pressure using “Decibels” (dBA) to describe how the human ear perceives noise (0 decibels = threshold of typical human hearing)
- The general thresholds for how people perceive increases or decreases in noise levels include:

Changes in Decibel Level

Less than 3 dBA	Change considered insignificant and barely perceptible
Between 3 dBA and 5 dBA	Change considered a just noticeable difference
Between 5 dBA and 10 dBA	Change considered clearly noticeable
Over 10 dBA	Change considered significant (doubling of sound exposure)

City of Brampton’s Noise Policy

- The City of Brampton has a policy to build noise walls to mitigate traffic noise where roads are being widened to six lanes adjacent to existing residential properties (reverse frontage and side flanking lots)
- Noise walls may be constructed as part of a road widening project if the noise levels in the outdoor living areas are above 60 dBA and if a reduction of 5 dBA or more can be achieved

Noise Assessment Results

- Change in traffic noise levels is expected to be marginal (less than 2 dB) and barely perceptible
- Traffic noise levels are predicted to be greater than 60 dBA at most residential locations along Sandalwood Parkway
- 2.4 metre high noise walls are recommended for most first row dwellings (with reverse frontage and side flanking lots) in the study area
- Proposed locations for noise are shown on the next boards

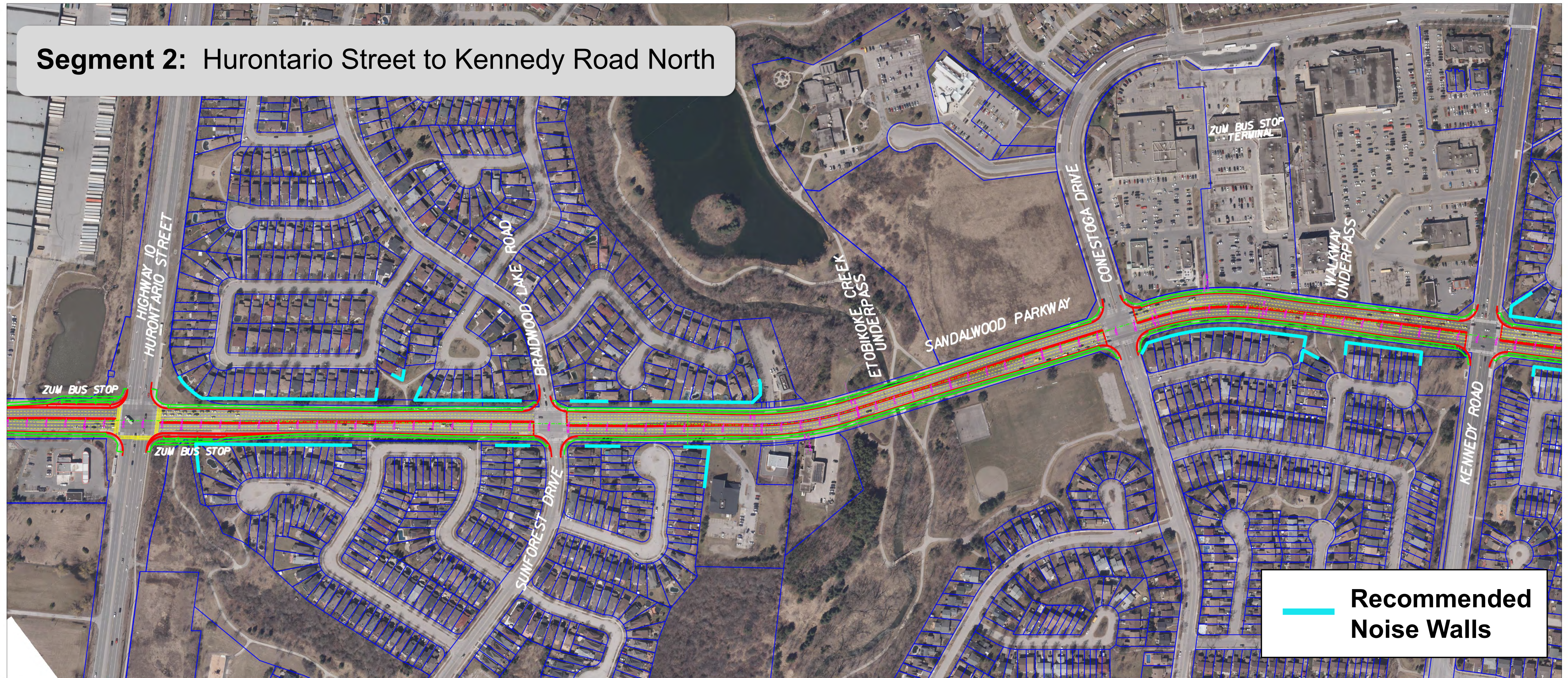
Recommended Noise Walls

- Some tree and vegetation trimming will be required at some locations for noise wall installation.



Recommended Noise Walls – cont'd

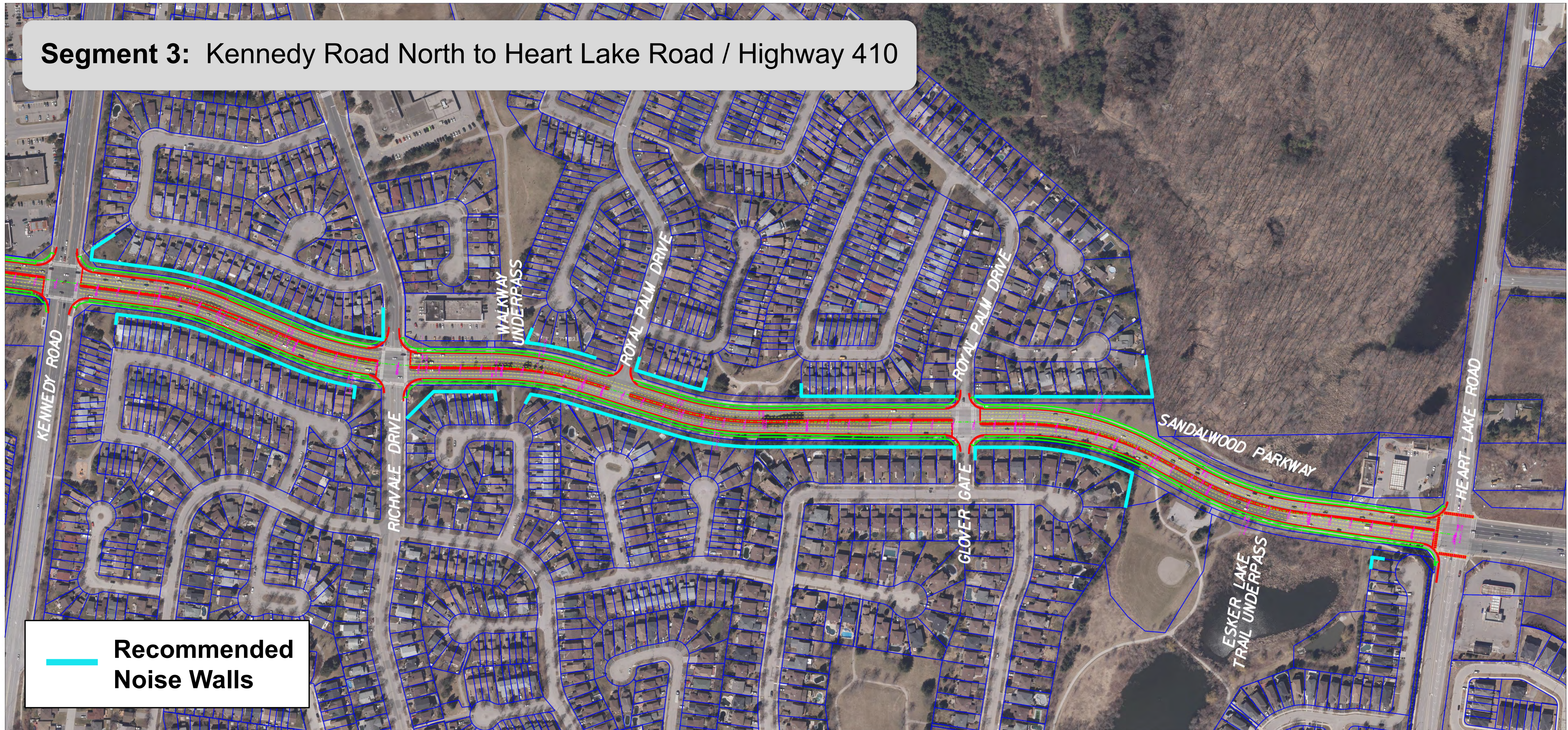
- Some tree and vegetation trimming will be required at some locations for noise wall installation.



Recommended Noise Walls – cont'd

- Some tree and vegetation trimming will be required at some locations for noise wall installation.

Segment 3: Kennedy Road North to Heart Lake Road / Highway 410



Approach to Stormwater Management

The existing storm sewers were analyzed:

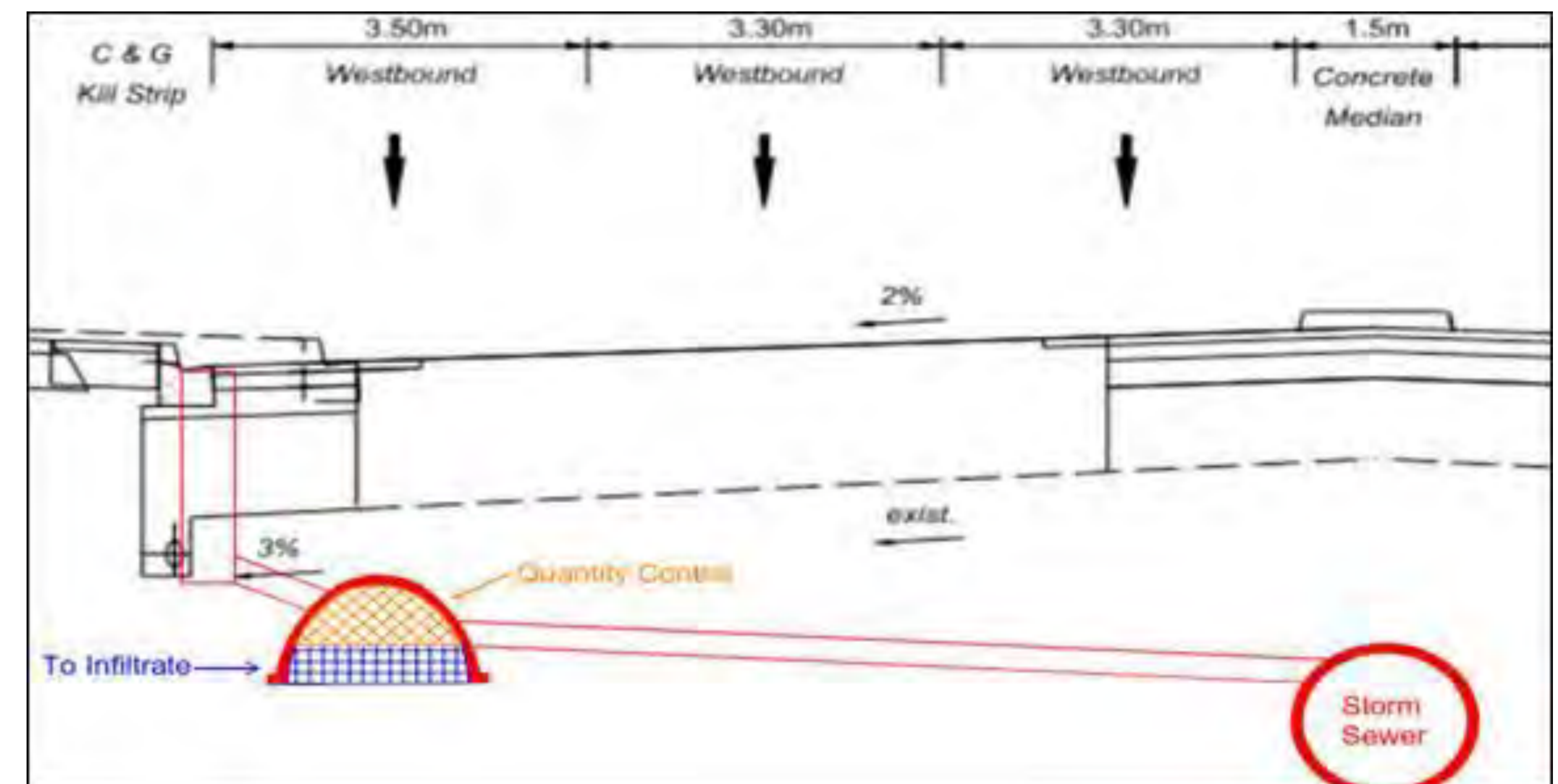
- Most storm sewers have capacity for the existing 10-year peak flow, however, some do not.
- The increase in pavement will cause a slight increase in peak flows to the existing storm sewer systems.
- Proposed measures include underground storage to mitigate this increase.
- Only storm sewer sections currently undersized are recommended for upgrade, if required.

The proposed stormwater management design will provide three benefits:

- Stormwater peak flows will be reduced to match existing by providing some on site storage.
- Some of the site stormwater will be infiltrated into the soil below the roadway.
- Enhanced quality treatment to ensure sediment, oil and debris are removed from the stormwater.

LID Storage chambers are proposed to be designed and installed:

- At most catch basins beneath the edge of the roadway.
- To intercept runoff before it reaches the storm sewer.
- Sized and designed to infiltrate some of the water and store some temporarily.
- Provide quality treatment through the use of filter fabric
- A sample cross-section is shown on the right.



Sample cross-section showing storage chambers and connection to storm sewer

Potential Effects and Proposed Mitigation Measures

The Construction Project team will ensure:

Natural Environment:

- All regulatory requirements to protect the environment are followed.
- A tree protection and replacing plan will be prepared.
- Construction occurs outside of the nesting bird window.
- A visual reptile survey is prepared at detailed design.



Social Environment:

- Traffic management plan will be developed to minimize disruption during construction.
- Access to existing properties, business, institutions and commercial areas will be maintained during and after construction.
- The implementation of infrastructure to support healthy lifestyle activities (e.g. walking, biking, etc.).
- Streetscape plan will be prepared at detailed design.



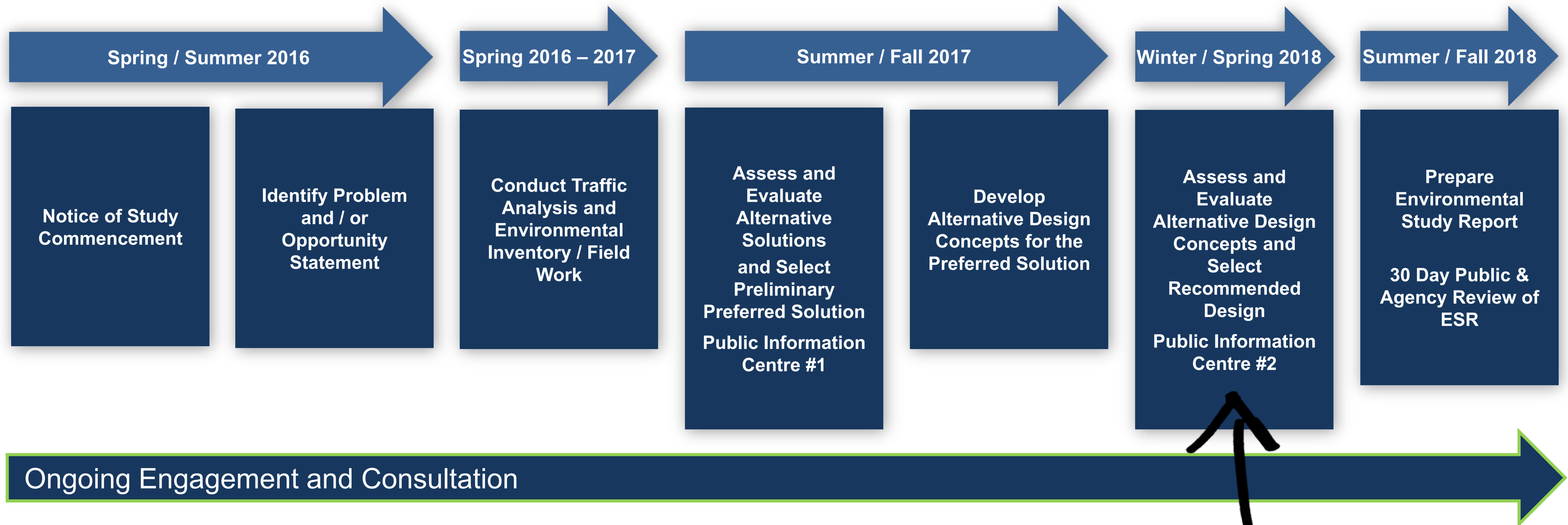
Cultural Heritage and Archaeology:

- The completion of the Stage 2 archeological assessment (AA) in detailed design.
- Stage 2 AA will include special considerations for lands within and adjacent to Snell's Cemetery (e.g. Licensed Archaeologist to monitor construction between Kennedy Road pavement and Snell's Cemetery limits).



Next Steps

- Consider all questions and comments received from this meeting and provide follow-up as needed.
- Use your feedback from this meeting to finalize the preferred design concept.
- Complete the assessment and identify mitigation measures.
- Complete the Environmental Study Report (ESR).
- Issue the Notice of Completion and publish the ESR for a 30-day public and agency review period.



- Construction: actual construction timing is subject to availability of funding and council approval (tentative commencement by 2024).

Thank You for Attending!

- We appreciate the time you have taken to learn more about the Sandalwood Parkway Municipal Class EA!
- We value your input and encourage you to stay connected.
- Visit the project website at [Brampton.ca/Environmental Assessments](https://Brampton.ca/Environmental%20Assessments)
- Join our mailing list – leave us an email or mailing address so we can keep you up-to-date as the Project progresses.
- Contact the City and Consultant Project Managers with any additional comments or questions:

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*Kindly drop off your completed Comment Form in the Comment Box before you leave or send it to us by regular mail / email
by **July 6, 2018***