

MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT STUDIES

Warden Avenue and Kennedy Road from
Major Mackenzie Drive to Elgin Mills Road

Online Open House #2
November 25, 2022

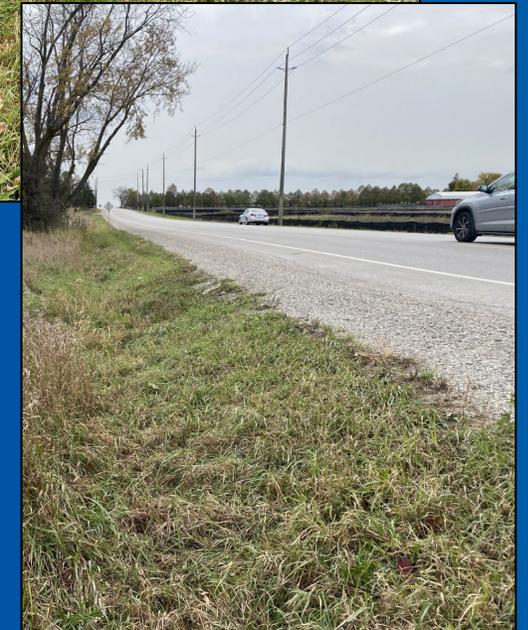
ONLINE OPEN HOUSE #2 OVERVIEW

- Study areas and objectives
- Municipal Class EA process
- Alternative design concepts
- Feedback: Online Open House #1
- Evaluation of alternative design concepts
- Preferred design concepts
- Next steps

Warden North



Kennedy Bridge



Warden South

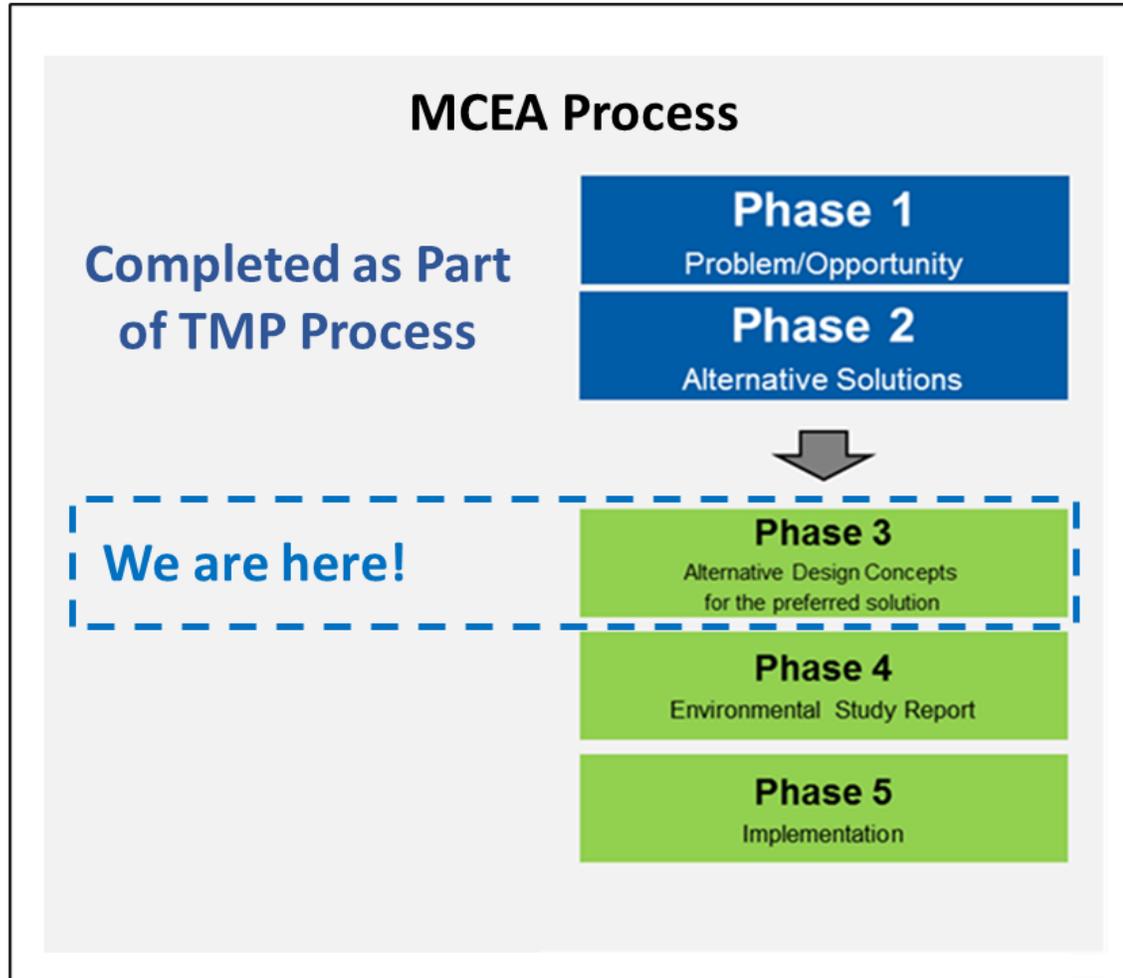
Study Areas and Objectives

The Regional Municipality of York is undertaking Schedule C Municipal Class Environmental Assessment (MCEA) Studies for improvements to Warden Avenue and Kennedy Road, between Major Mackenzie Drive East and Elgin Mills Road East, in the City of Markham.



- These studies build on the recommendations from the approved 2016 York Region Transportation Master Plan (TMP)
- Through the MCEA studies, York Region is examining how best to complete the identified road and active transportation improvements while lessening the environmental impacts

Municipal Class Environmental Assessment Process



Approved 2016 TMP

- Established road needs and justification for the two study corridors
- Completed to a level of detail that meets the requirements for phases 1 and 2 of the MCEA process

Current studies

- Identify and evaluate alternative design concepts for preferred solutions (Phase 3)
- Complete Environmental Study Report (Phase 4)

Approved 2016 Transportation Master Plan



The approved 2016 TMP documented broader, Region-wide problems and opportunities, including:

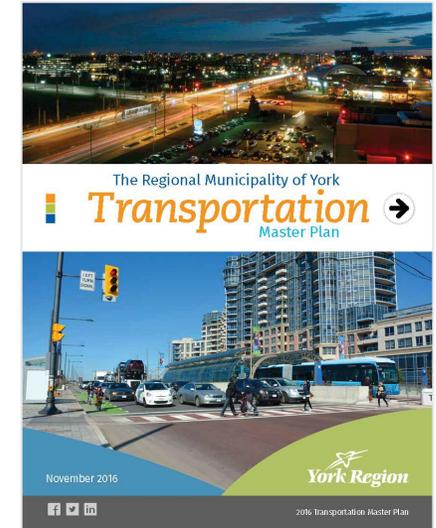
- Creating a road network ‘fit for the future’
- Integration of active transportation in urban areas



Problem and opportunities identified in the 2016 TMP for the Warden Avenue and Kennedy Road study areas include:

- Transportation network improvements needed to accommodate expansion of the designated urban area and future travel demands
- Capacity improvements needed to accommodate future travel demands
- Corridor improvements to support walking, cycling and transit access

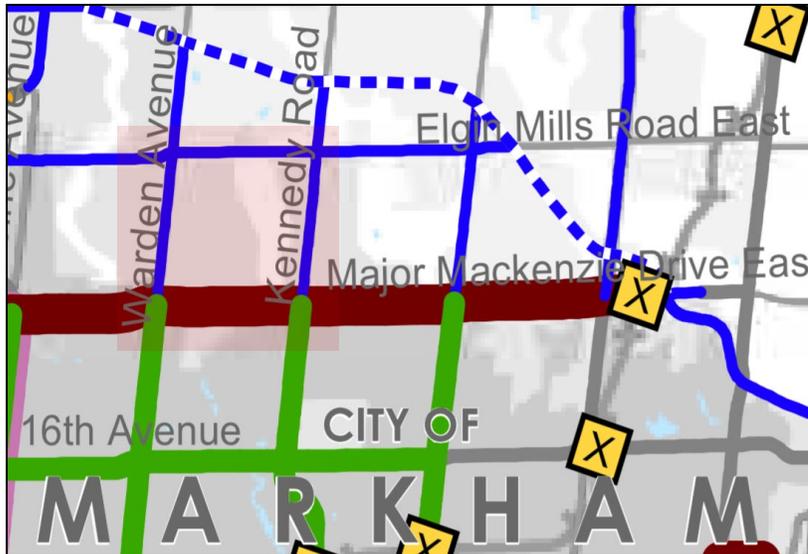
Current analysis of existing and future traffic and development in the study area corridors have confirmed the problem/opportunities identified in the approved 2016 TMP.



Preferred Solutions (approved 2016 TMP)

- Widen to two lanes in each direction and construct to urban arterial standards
- Opportunity to improve transit network
- Opportunity to improve walking and cycling facilities

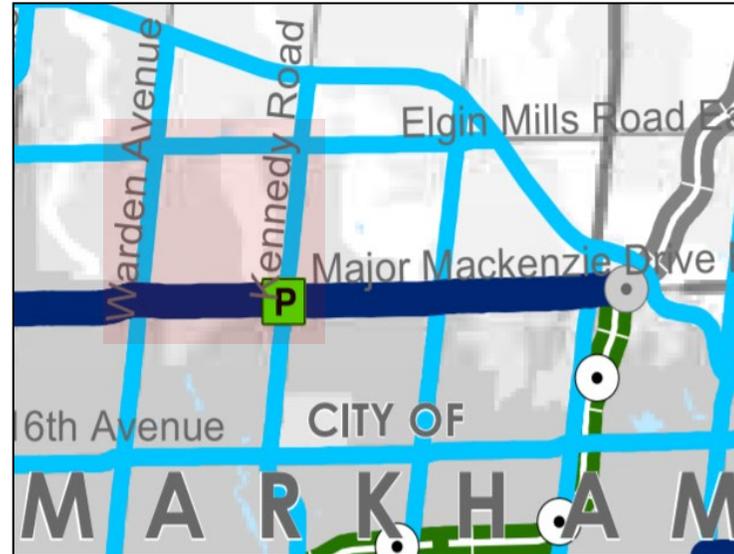
Lane improvement



— Proposed Future 4 Lane Widening

Source: Map 8, Proposed 2041 Road Network (2016 TMP)

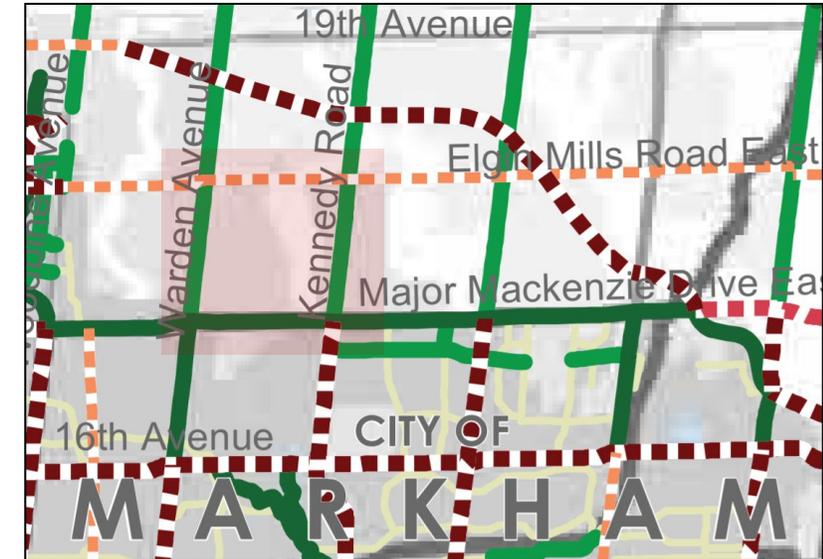
Transit improvement



— Frequent Transit Network

Source: Map 7, Proposed 2041 Road Network (2016 TMP)

Active transportation improvement



— Dedicated Facility

Source: Map 9, Proposed 2041 Cycling Network (2016 TMP)

Additional Recommendations for Warden Avenue and Kennedy Road

The City of Markham's Future Urban Area Conceptual Master Plan

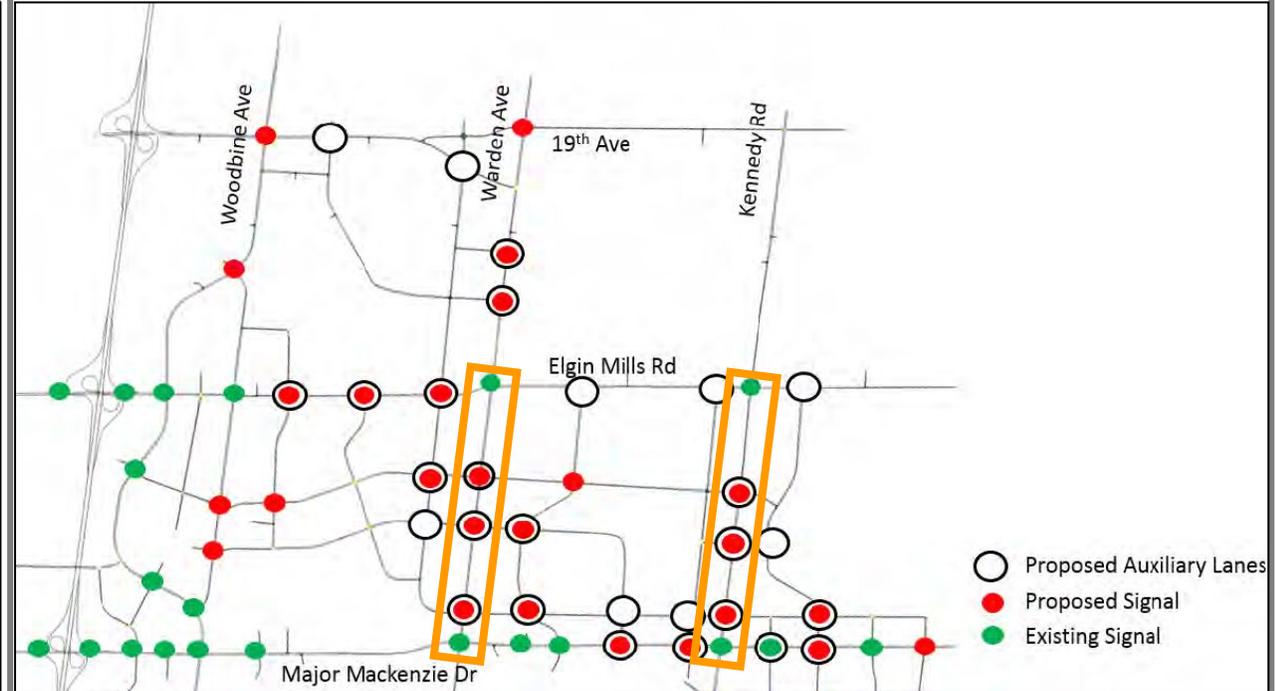
Recommended comprehensive collector road network of road and active transportation infrastructure



- Road**
- Proposed Collector Network
- Transit**
- Proposed Regional Rapid Transit Corridor
- Proposed Regional Transit Priority (Frequent transit network)

Proposed Community Structure Plan (Conceptual Master Plan)
Adapted from: Future Urban Area Conceptual Master Plan Volume 2
(October 2018)

Anticipated signals in support of future development and travel demands

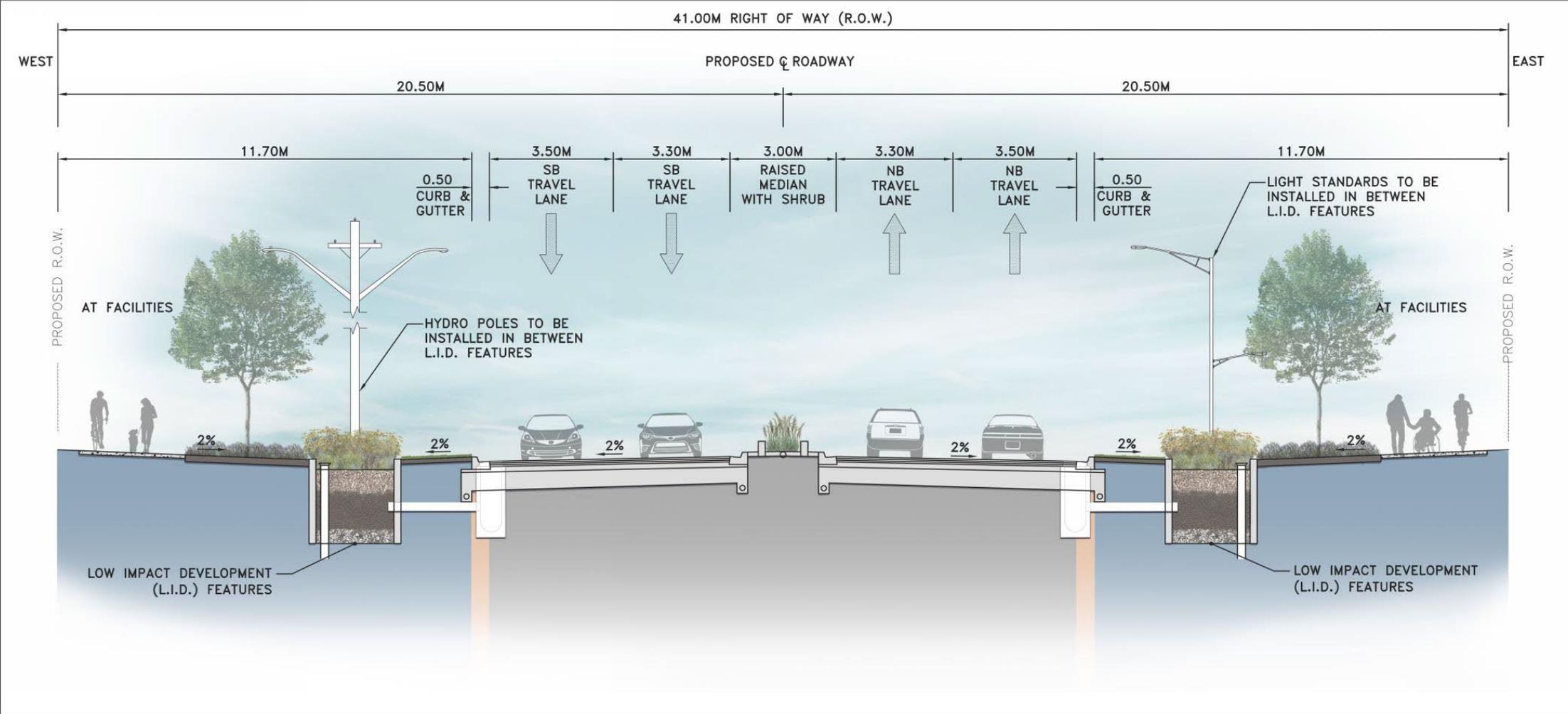


- Proposed Auxiliary Lanes
- Proposed Signal
- Existing Signal

Proposed Signal and Intersection Configuration
Source: Future Urban Area Conceptual Master Plan Volume 2 (October 2018)

ALTERNATIVE DESIGN CONCEPTS

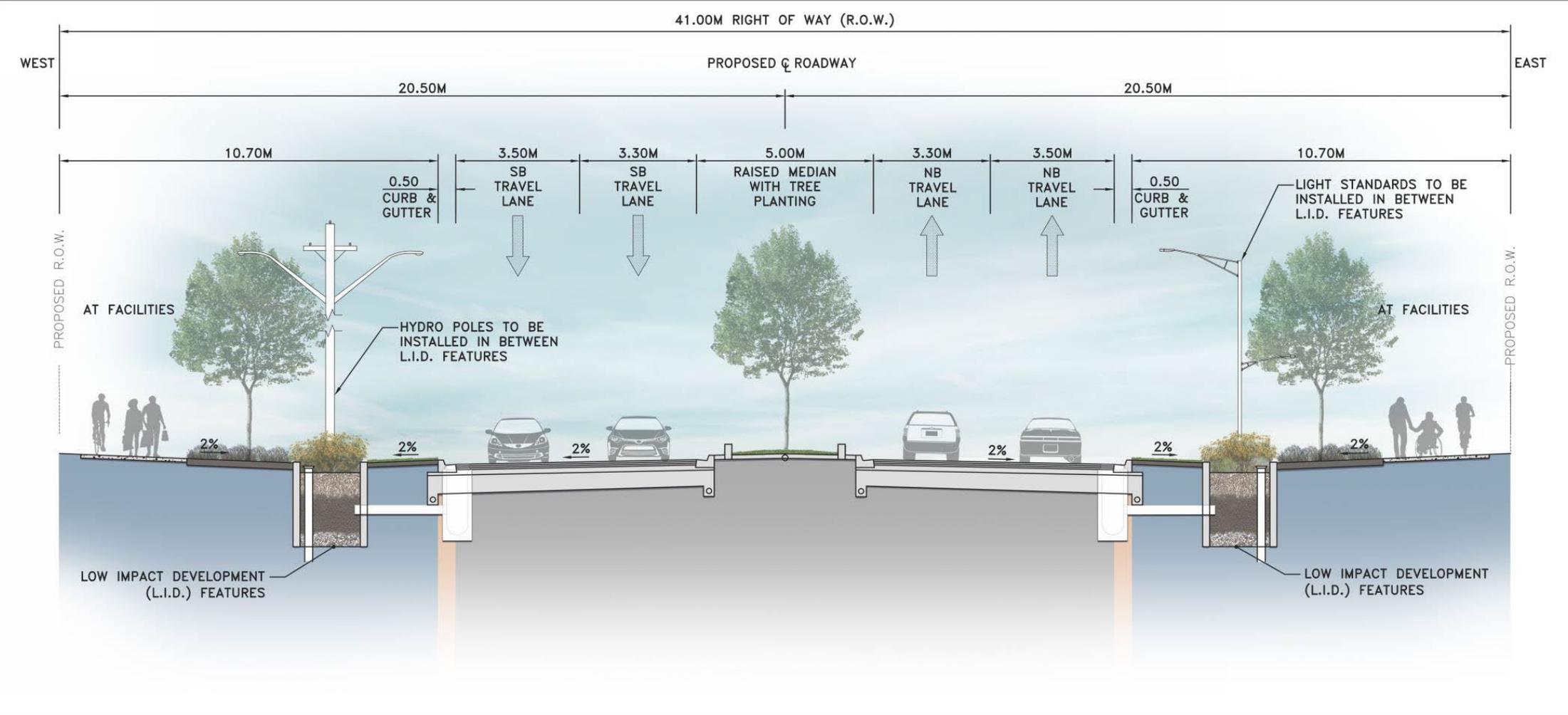
Alternative Design Concept 1



**WARDEN AVENUE AND KENNEDY ROAD
TYPICAL 4-LANE CROSS SECTION | WITH 3.0M MEDIAN ISLAND**



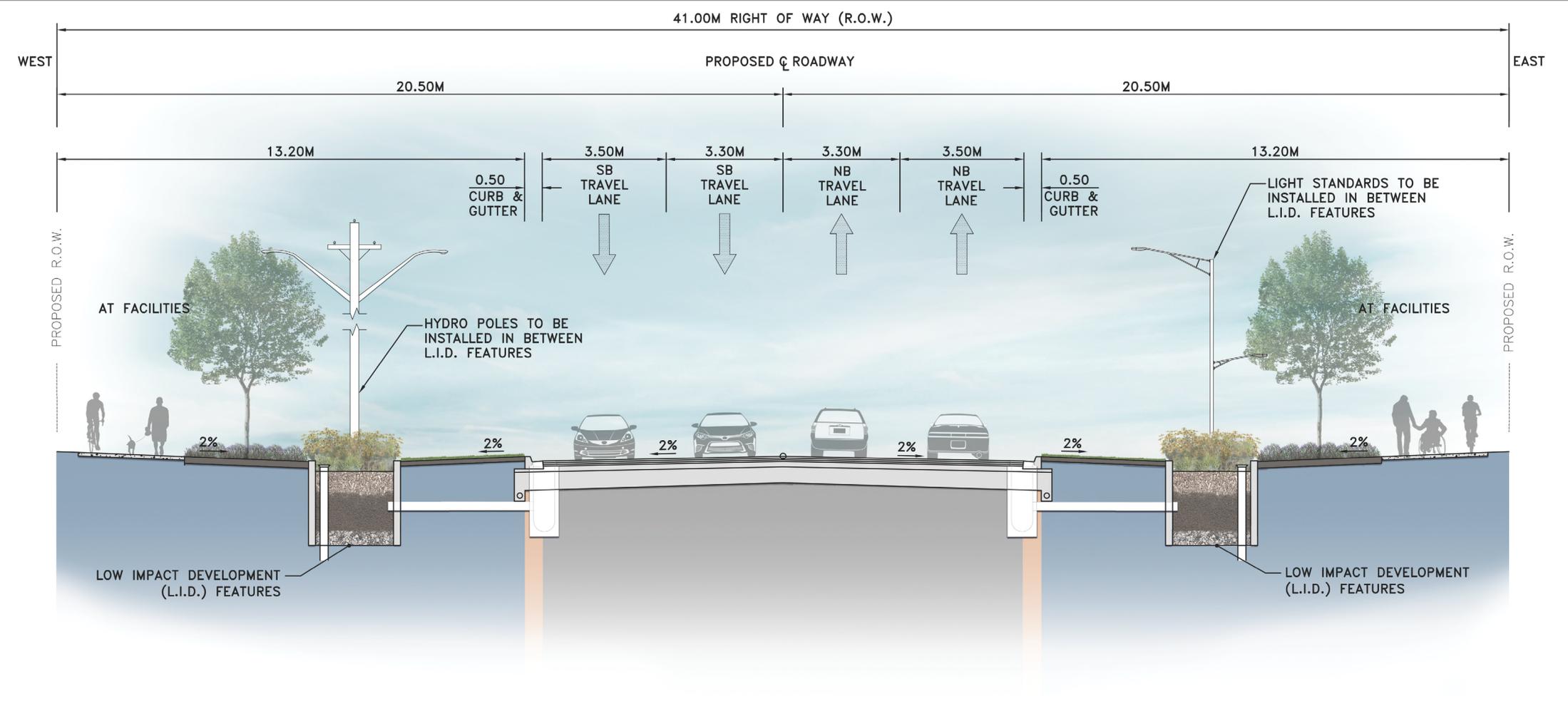
Alternative Design Concept 2



**WARDEN AVENUE AND KENNEDY ROAD
TYPICAL 4-LANE CROSS SECTION | WITH 5.0M MEDIAN ISLAND**



Alternative Design Concept 3



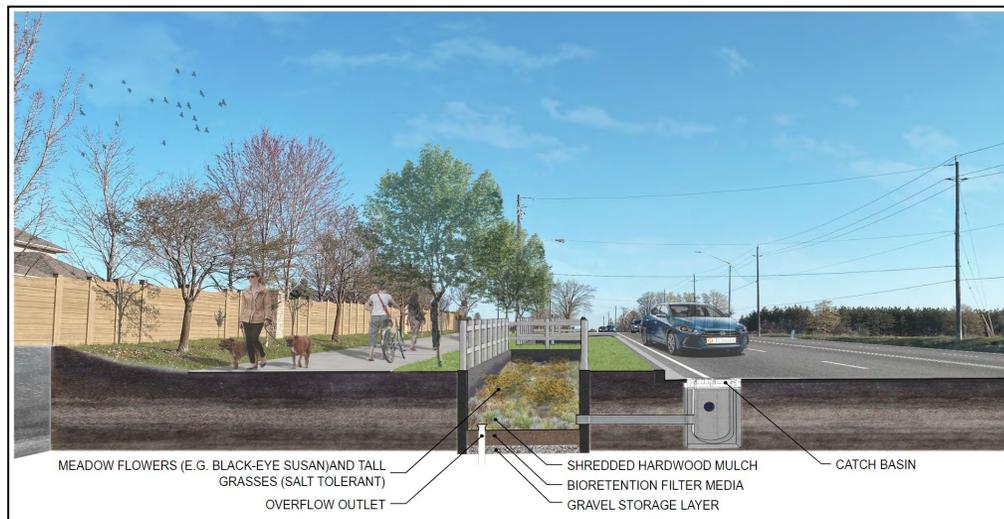
**WARDEN AVENUE AND KENNEDY ROAD
TYPICAL 4-LANE CROSS SECTION | WITHOUT MEDIAN ISLAND**



Low Impact Development (LID) Measures

LID uses cost-effective construction and building methods to store, filter and infiltrate rainwater and snow melt into the ground. LID measures are necessary to consider for all road widening projects to address increased impervious (does not allow water to pass through) surfaces and improve sustainable and climate adaptive solutions. Some example designs that are feasible for road improvement projects and are being considered for Warden Avenue and Kennedy Road, including:

- Box Trench Design
- Vegetated/Bio Swale Design
- Bioretention and Rain Garden Design
- Infiltration trenches and soak-aways
- Permeable pavement
- Above-ground rainwater harvesting tanks
- Underground storage tanks



Your Feedback

Online Open House #1



Online Open House #1 was hosted on the Region's website from **February 24, 2022 to March 24, 2022**



The project webpage was **viewed 1,125 times** during this period



Online comment forms were received from **24 members of the public**. Where identified, most participants indicated an interest in the project as a local resident



A summary of written comments with responses was provided in an Online Open House #1 Summary Report posted on the study webpage, york.ca/WardenKennedyStudy

Comments received included the following general themes:

- Traffic (speed, flow, signals)
- Safety
- Active transportation
- Impact to the environment, including trees

Stakeholder Advisory Committee

- Consideration of impacts from road salt and other solubles (e.g. nitrates)
- Impact of adjacent corridor improvements
- Assessment of accurate vehicle traffic volumes
- Consideration of active transportation

Technical Advisory Committee

- Directing stormwater run-off
- Impact of centre median on access for emergency service vehicles
- Preference for separation of sidewalk and cycle track and preferred width of 1.8m cycle track

Evaluation Criteria

The alternative design concepts in the study areas were evaluated relative to each other against a set of criteria. Evaluation criteria are provided below under each of the project environments:



Natural environment

- Potential impact to vegetation and designated natural features
- Potential impact to wildlife, aquatic habitat and habitat of species at risk
- Potential impact to water resources and drainage
- Potential climate change impact and resilience
- Potential impact from contaminated sites



Socio-cultural environment

- Potential impact to heritage resources (e.g. archaeology, cultural heritage)
- Nuisance impacts (e.g. noise, visual, or construction impacts)
- Land acquisition needs, impacts to driveway access
- Conformity to municipal and agency policy
- Connectivity and safety



Engineering environment

- Level of service / traffic congestion
- Speed management
- Traffic safety
- Design constraints
- Utility impacts
- Constructability



Financial environment

- Estimated capital costs
- Estimated operation and maintenance costs
- Property acquisition costs

Evaluation of Alternative Design Concepts - Warden Avenue

To view the complete evaluation, visit www.york.ca/media/109571

Criteria for Evaluating Alternatives	Alternative Design Concept 1 Construction of typical 4-lane road with 3.0m median island.	Alternative Design Concept 2 Construction of typical 4-lane road with 5.0m median island.	Alternative Design Concept 3 Construction of typical 4-lane road with limited marked median island.
Natural Environment			
Socio-Cultural Environment			
Engineering Environment			
Financial Environment			
Overall Summary	More Preferred	Least Preferred	Most Preferred

Order of Preference:

Most Preferred  More Preferred  Somewhat Preferred  Less Preferred  Least Preferred 

Evaluation of Alternative Design Concepts - Kennedy Road

To view the complete evaluation, visit www.york.ca/media/109566

Criteria for Evaluating Alternatives	Alternative Design Concept 1 Construction of typical 4-lane road with 3.0m median island.	Alternative Design Concept 2 Construction of typical 4-lane road with 5.0m median island.	Alternative Design Concept 3 Construction of typical 4-lane road with limited marked median island.
Natural Environment			
Socio-Cultural Environment			
Engineering Environment			
Financial Environment			
Overall Summary	More Preferred	Least Preferred	Most Preferred

Order of Preference:

Most Preferred  More Preferred  Somewhat Preferred  Less Preferred  Least Preferred 

Evaluation of Alternative LID Design Concepts

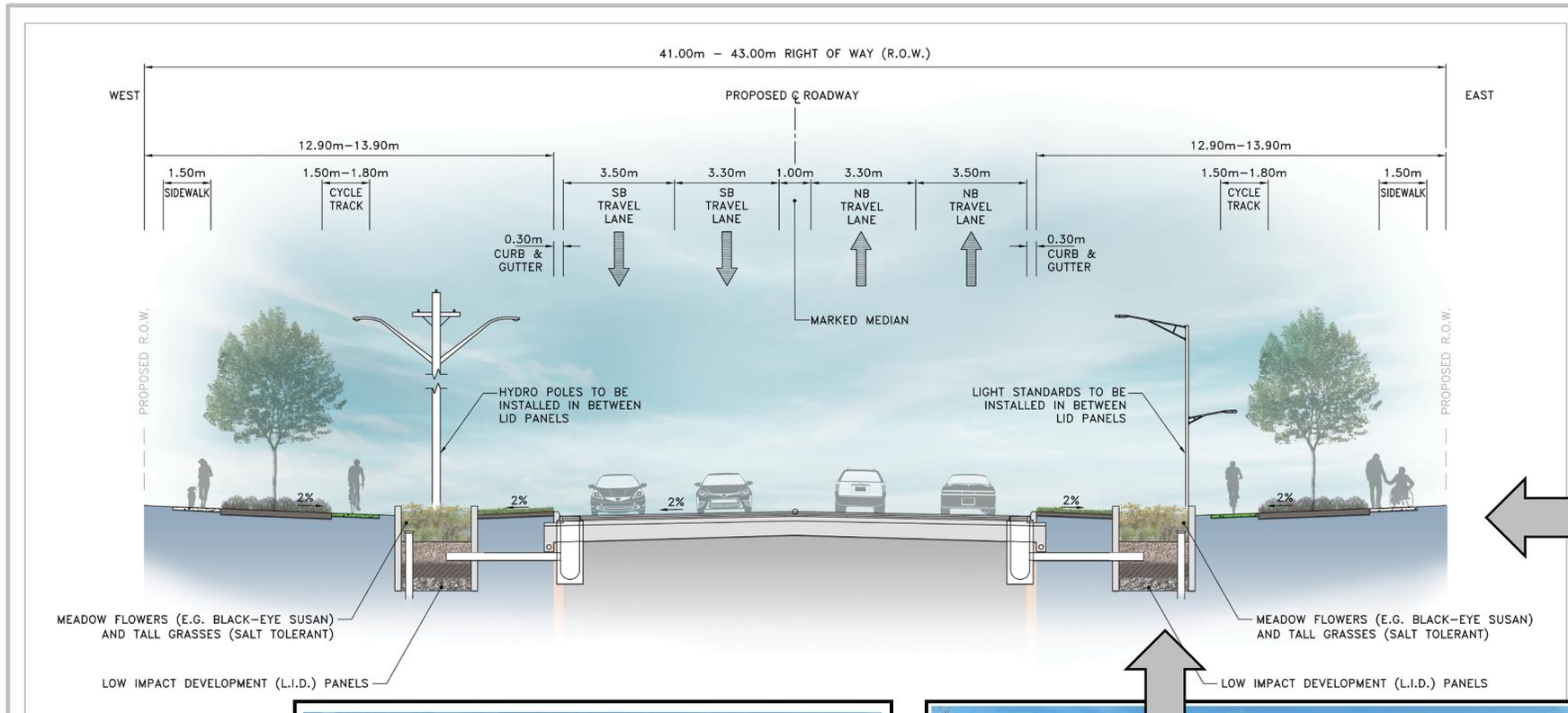
To view the complete evaluation, visit <https://www.york.ca/media/109581> and www.york.ca/media/109576

Criteria for Evaluating Alternatives	Indicators	Option 1: Box Trench Design	Option 2: Vegetated / Bio Swale Design	Option 3: Bioretention and Rain Garden Design	Option 4: Infiltration trenches and soak- aways	Option 5: Underground storage tanks
Natural Environment	Ecological Benefit, Soil Permeability, Impacts to Groundwater					
Socio-Cultural Environment	Aesthetics, Educational Opportunities					
Technical Factors	Quality and Quantity Control, Erosion Control, Maintenance, Surface footprint					
Financial Factors	Estimated Capital and Maintenance Costs, Life-cycle costs and savings					
Overall Summary		Most Preferred	Most Preferred	More Preferred	Least Preferred	Somewhat Preferred

Order of Preference:

Most Preferred More Preferred Somewhat Preferred Less Preferred Least Preferred

Preferred Design Concept



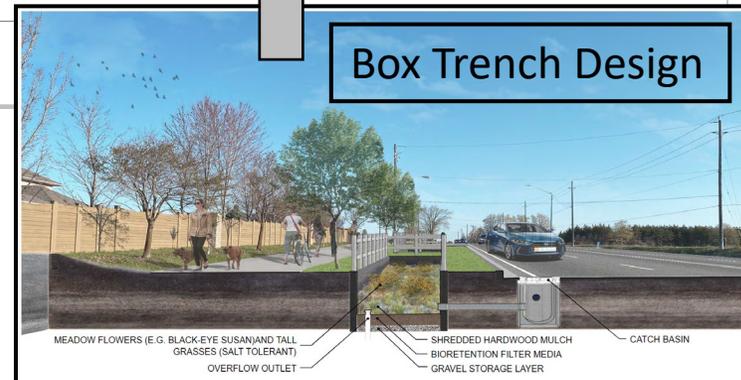
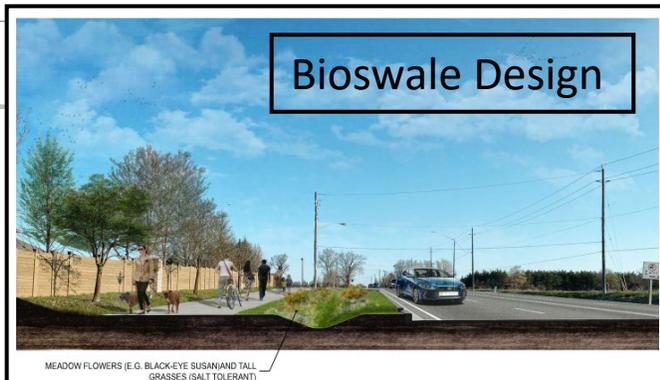
Possible Examples for Separated Sidewalk and Cycle Track



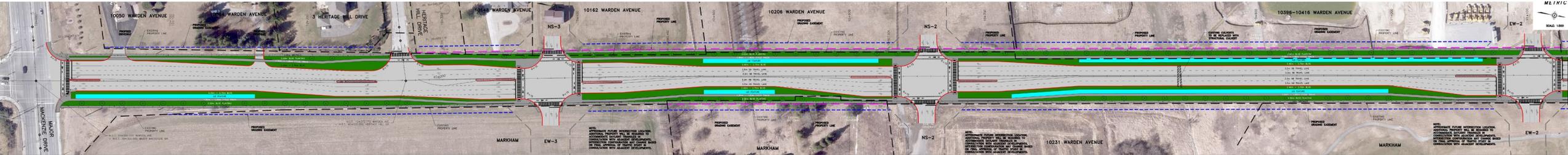
Source: Alta. <https://altago.com/separated-bike-lanes/>



Source: York Region Millway Avenue



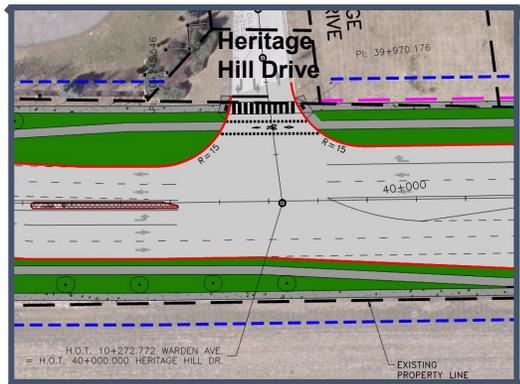
Preferred Design Concept - Warden Avenue - Plan View



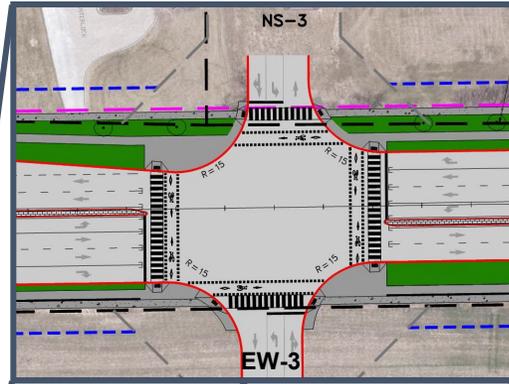
LEGEND

	PROPOSED SIDEWALK		PROPOSED BOULEVARD TREE
	PROPOSED CYCLE TRACK		PROPOSED CURBLINE
	PROPOSED BLVD / PLANTING		PROPOSED GRADING EASEMENT
	PROPOSED LOW IMPACT DEVELOPMENT		PROPOSED PROPERTY LINE
	PROPOSED ASPHALT		EXISTING PROPERTY LINE
			FUTURE RIGHT-OF-WAY

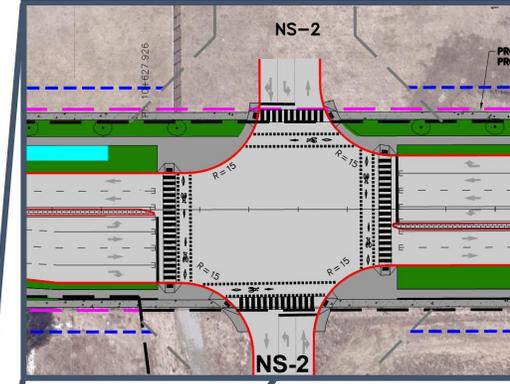
Preferred Design Concept - Warden Avenue - Intersections



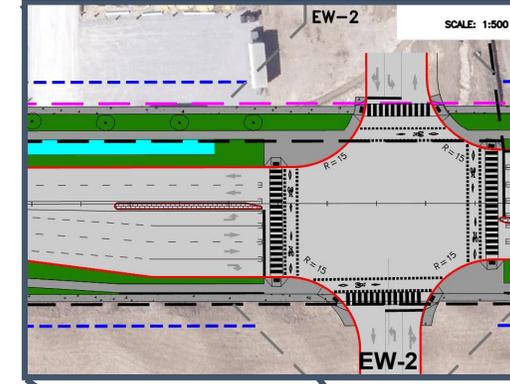
Improved Intersection



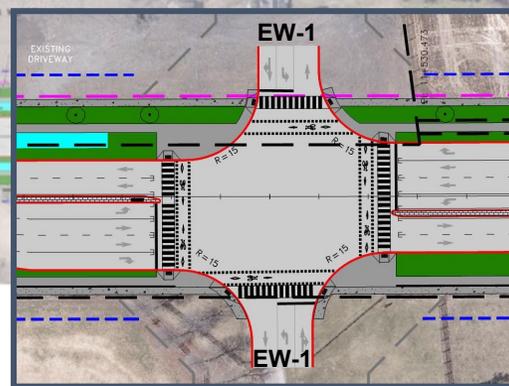
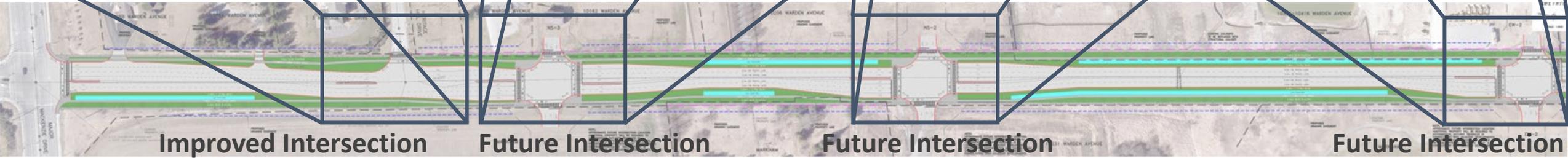
Future Intersection



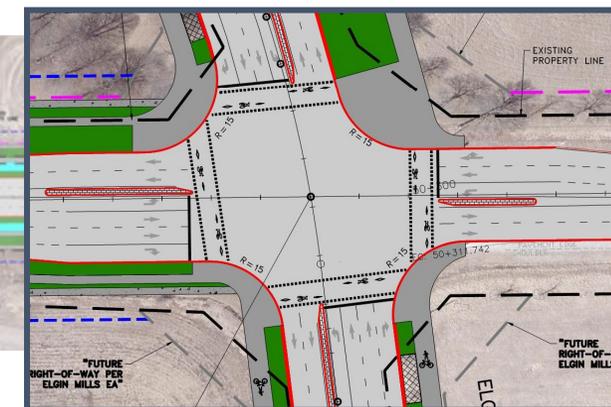
Future Intersection



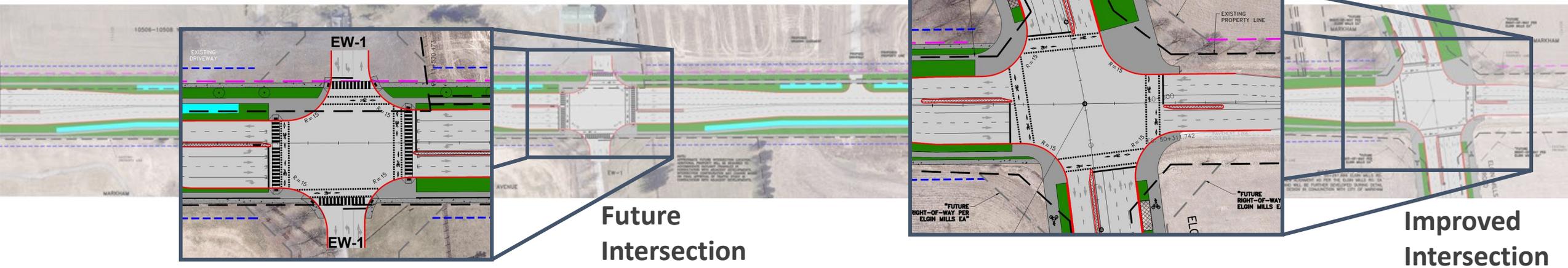
Future Intersection



Future Intersection



Improved Intersection



Preferred Design Concept - Kennedy Road - Plan View

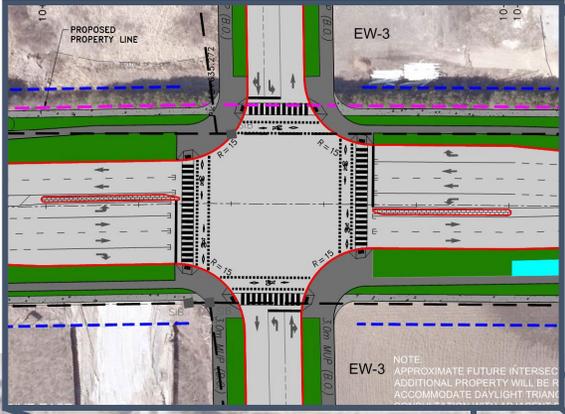


LEGEND

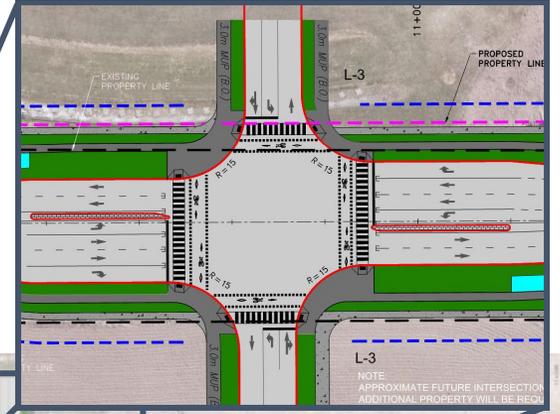
-  PROPOSED SIDEWALK
-  PROPOSED CYCLE TRACK
-  PROPOSED BLVD / PLANTING
-  PROPOSED LOW IMPACT DEVELOPMENT
-  PROPOSED ASPHALT

-  PROPOSED BOULEVARD TREE
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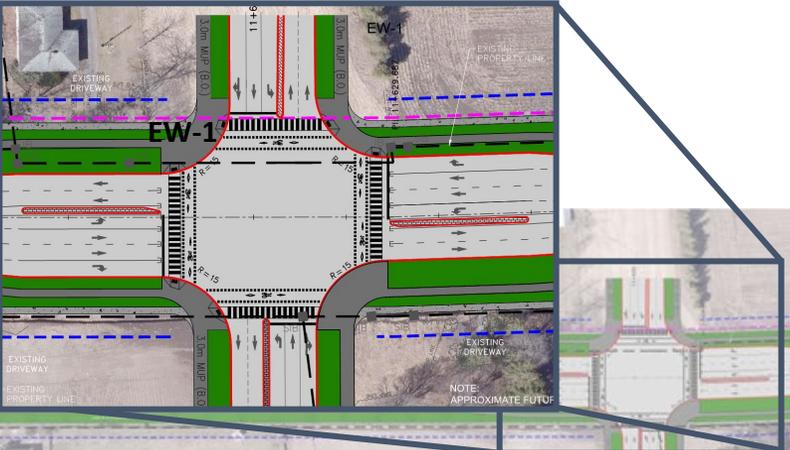
Preferred Design Concept - Kennedy Road - Intersections



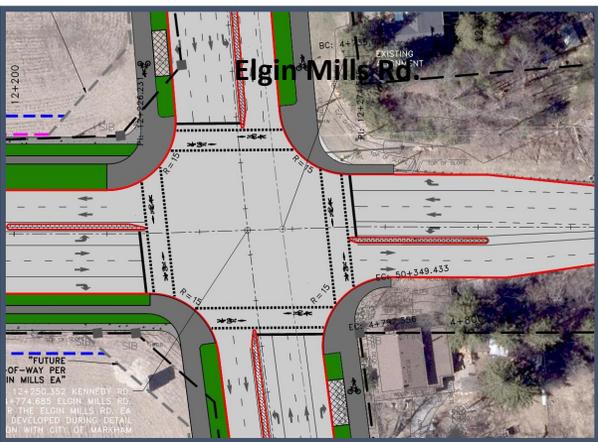
Future Intersection



Future Intersection

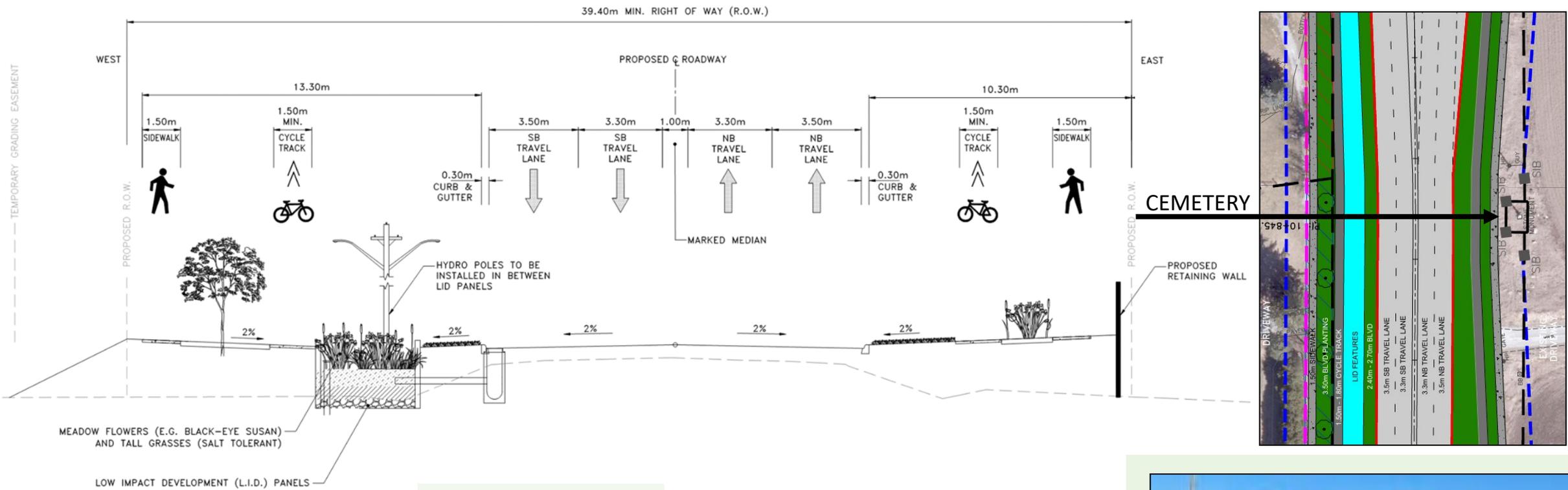


Future Intersection



Improved Intersection

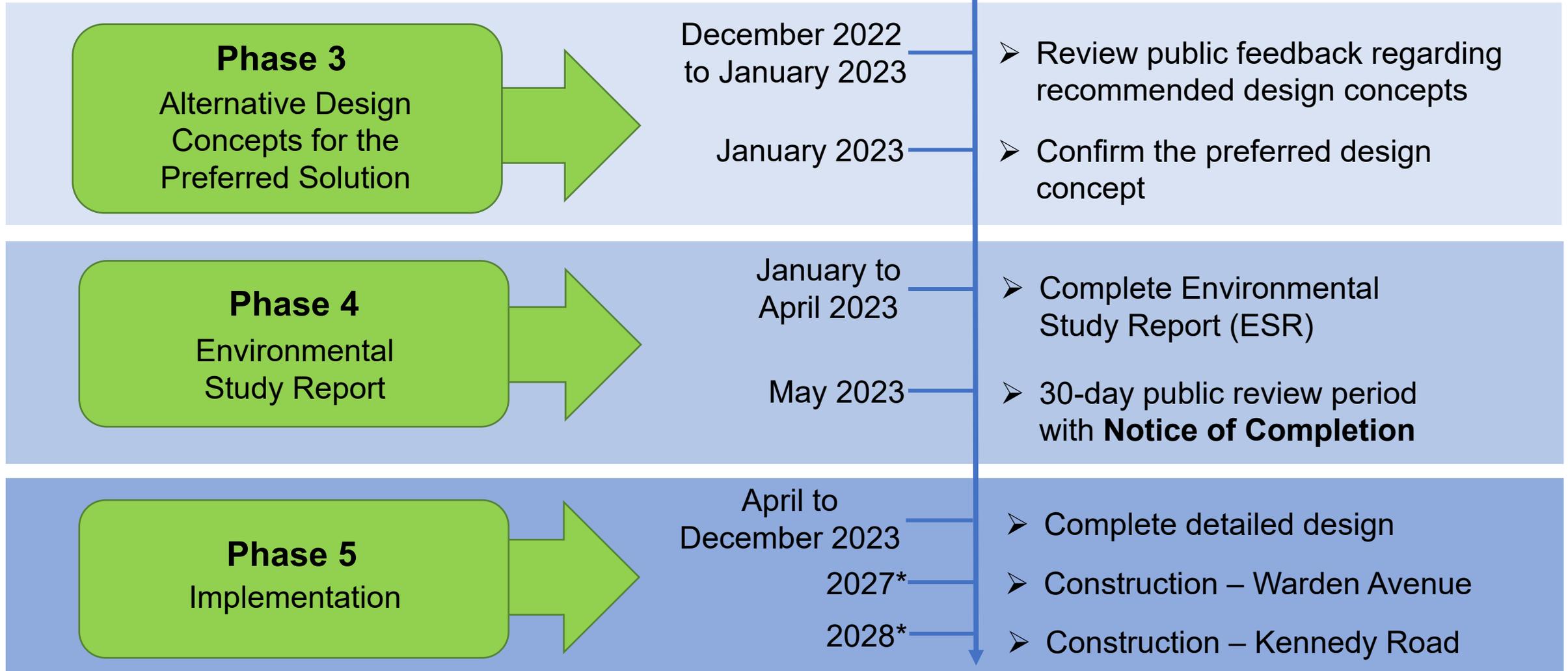
Preferred Design Concept — Constraints and Mitigation



Project Timeline

Municipal Class Environmental Assessment Process

Next Steps



*The year of construction is based on York Region's 2022 10-year roads and transit capital construction program.

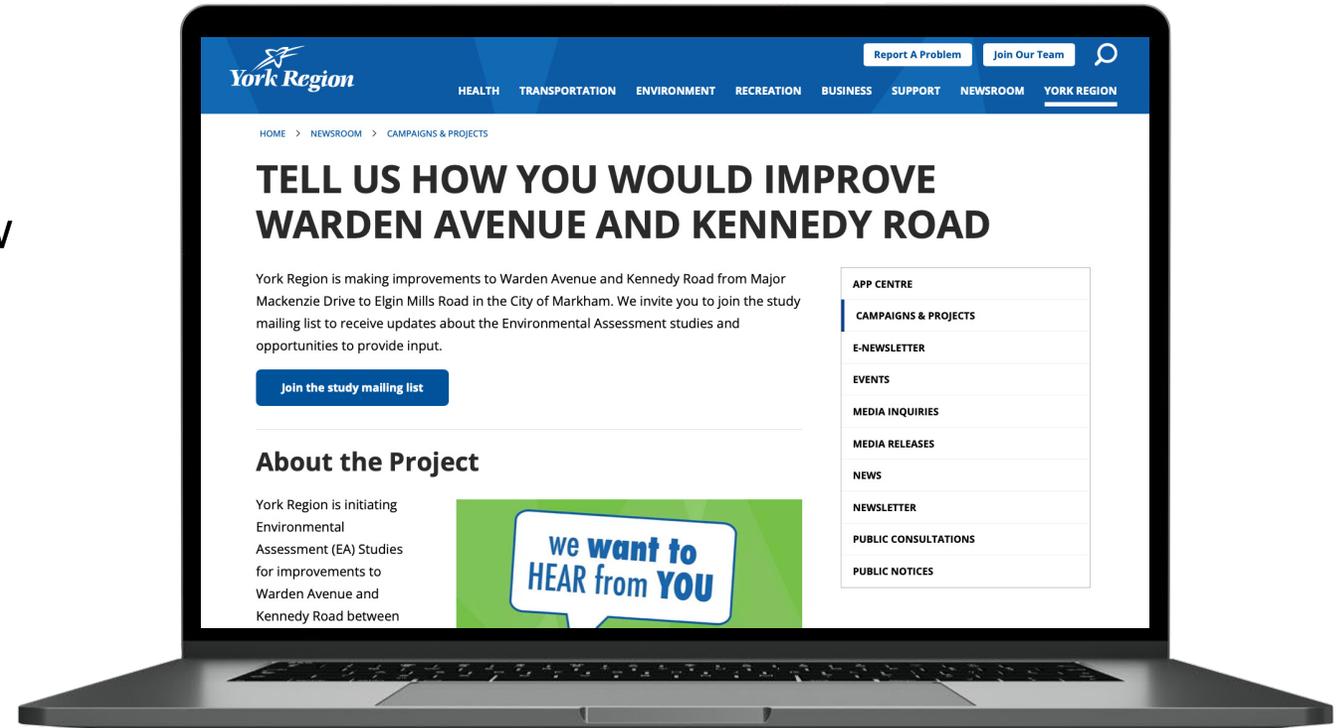
We Value Your Input

We invite you to complete the comment form available at

www.york.ca/WardenKennedyStudy

Online open house materials are also posted and will remain available for review and comment until **January 6, 2023**.

A summary of your written comments along with responses will be provided in an Online Open House #2 Summary Report, which will also be posted on the study webpage in spring 2023.



THANK YOU

For more information please contact:

York Region Transportation, Public Works

Phone: 1-877-464-9675 ext. 75000

TTY: 1-866-512-6228

Email: transportation@york.ca

