



Municipal Class Environmental Assessment

University Avenue (Huron Church Road to McDougall Street)

Victoria Avenue (Chatham Street West to Park Street West)

Virtual Public Information Centre #2

July 27, 2021

Purpose of the Study

The purpose of this study is to review existing and future conditions along the **University Avenue and Victoria Avenue** corridors and evaluate alternatives to create a safe, efficient, comfortable and convenient travel experience for roadway users of all ages, abilities and modes for the 20-year study horizon.



University Avenue

Purpose of the Study

The existing right-of-way will need to consider the space for all of these elements, specific to the immediate context: vehicular traffic, utilities, parking, pedestrian environment, cycling facilities, transit, boulevards, and streetscaping (street furniture, greening, lighting, etc.).



Purpose of the Study

Development and determination of the preferred alternative(s) followed a Schedule C Municipal Class Environmental Assessment Process.



Municipal Class Environmental Assessment Process and Study Progress



This Study follows the Class EA process for Schedule C projects and will complete Phases 1 to 4.

Public Information Centre (PIC) No. 1



- PIC #1 was held on November 1, 2018, from 5pm – 8pm at the Windsor International Aquatic and Training Centre
- The PIC was an opportunity to hear comments from the public on existing conditions, problems identified within study area, and alternative planning solutions.

Public Information Centre (PIC) No. 1



- Many of the comments noted support for protected cycle lanes (either off-road or physically protected with a curb).
- The comments also indicated support for additional trees, landscaping, street furniture and wider sidewalks.

Other Engagement Opportunities



- As part of the public consultation process, the City took advantage of the Open Streets as it engaged many residents through the study area.
- Preliminary information regarding the Study was presented and interested residents offered their feedback.
- Working meetings with a variety of stakeholders were conducted as part of the Study on November 1st, 2018, and December 6th, 2018.
- The meetings provided an opportunity to stakeholders to meet the project team, review the received public feedback and discuss the potential alternatives for the corridors under study.

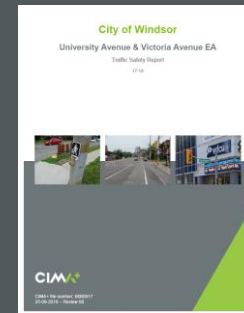
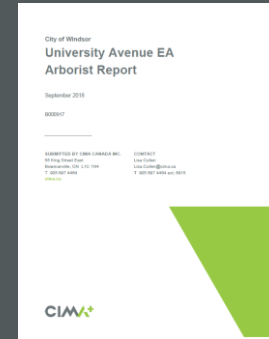
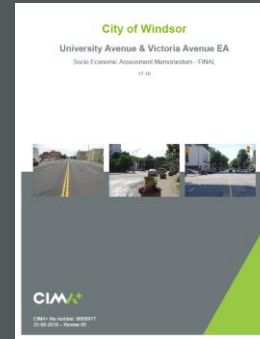
Overview of Materials Presented at PIC 1

- Existing Conditions
 - The Study Area encompassed the University Avenue corridor between Huron Church Road to McDougall Street and the Victoria Avenue corridor between Chatham Street West to Park Street West.
 - Existing conditions along the corridors under study were determined based on background information provided by the City and other stakeholders, as well as data collected by the consulting team.



Overview of Materials Presented at PIC 1

- Projected Scenarios
 - Relevant factors such as socio-economic environment, traffic operations and safety, parking, cultural and heritage as well as natural environment were documented as part of this stage of the Study.
 - The results of these technical studies provided the basis for identifying opportunities as well as the review of alternative solutions.



Overview of Materials Presented at PIC 1

- Opportunity

Optimize roadway elements in the balance of the right-of-way to:

- Create a safe and pleasant experience for:
 - Pedestrians
 - Cyclists
 - Transit users
- Increase green areas and pervious surface for the mitigation of urban heat island effects
- Incorporate street furniture and amenities within the right-of-way

Overview of Materials Presented at PIC 1

- Various road cross-sections options were generated for University Avenue and Victoria Avenue considering the following Urban Design Qualities.

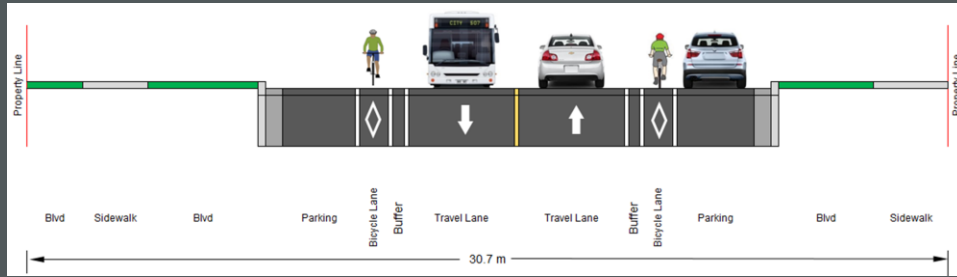
Urban Design Qualities	Description	Evaluation Factors
Connectivity	Introduce or enhance opportunities for integration of other modes of transportation	<ul style="list-style-type: none"> • Vehicular capacity • Level of Service • Input from related projects
Accessibility	Meet or surpass the AODA requirements.	<ul style="list-style-type: none"> • Sidewalk design elements (i.e. width, clearance, intersection treatments)
Behavioural Factors	Create a physical environment that encourages safe roadway user behaviour and minimizes conflict between different modes of transport.	<ul style="list-style-type: none"> • Safety of all roadway users
Spatial Experience	Introduce or enhance opportunities for street furniture, landscaping and other urban design amenities	<ul style="list-style-type: none"> • Urban heat island reduction • Improvements to the pedestrian realm
Parking Availability	On-street parking provision	<ul style="list-style-type: none"> • Number of parking spaces

Overview of Materials Presented at PIC 1

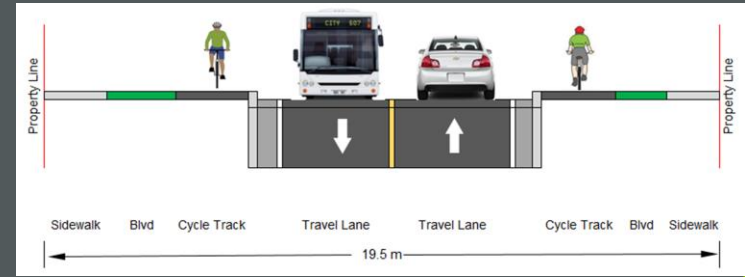
- Three options for the implementation of protected bike facilities were developed:
 - Physically Protected Bicycle Lanes
 - Buffered Bicycle Lanes, and
 - Cycle Tracks (One-way)

Overview of Materials Presented at PIC 1

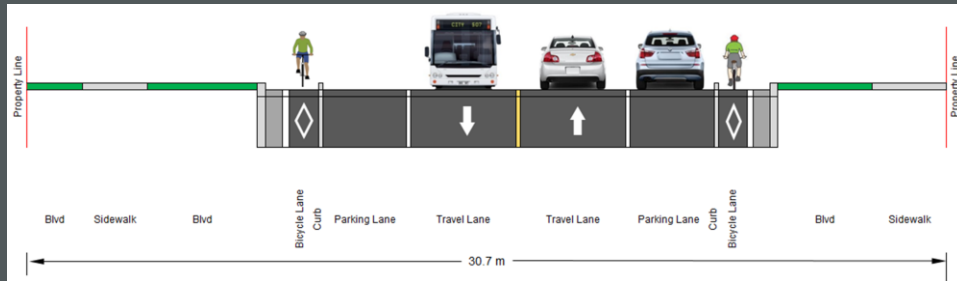
- University Avenue



Physically Protected Bicycle Lanes



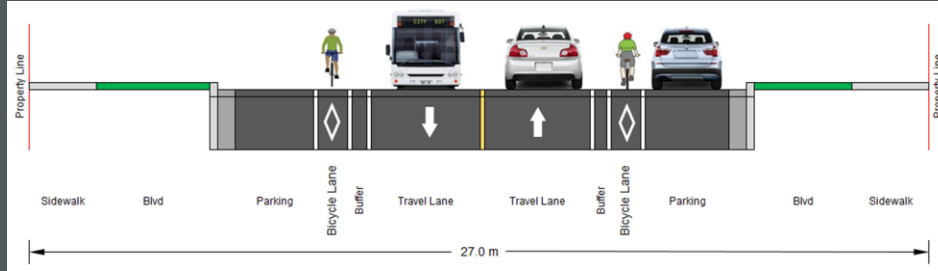
Cycle Tracks (One-way)



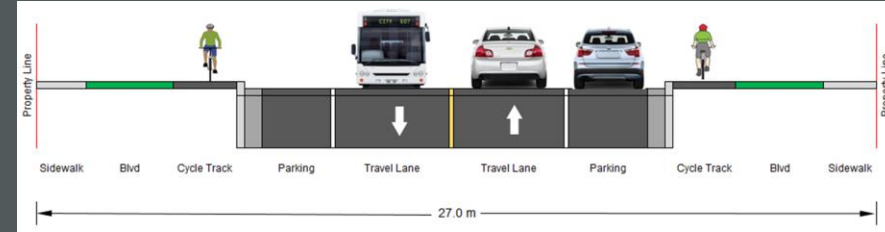
Buffered Bicycle Lanes

Overview of Materials Presented at PIC 1

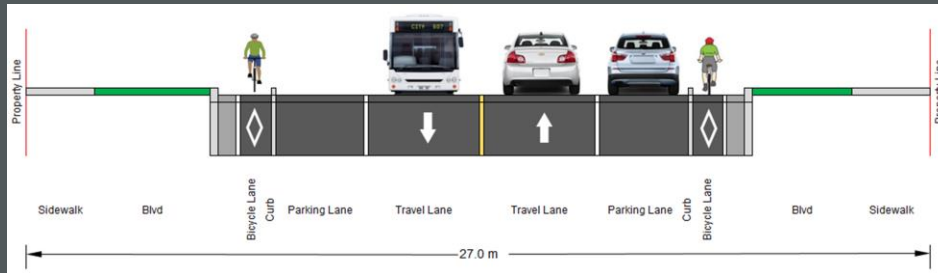
- Victoria Avenue



Physically Protected Bicycle Lanes



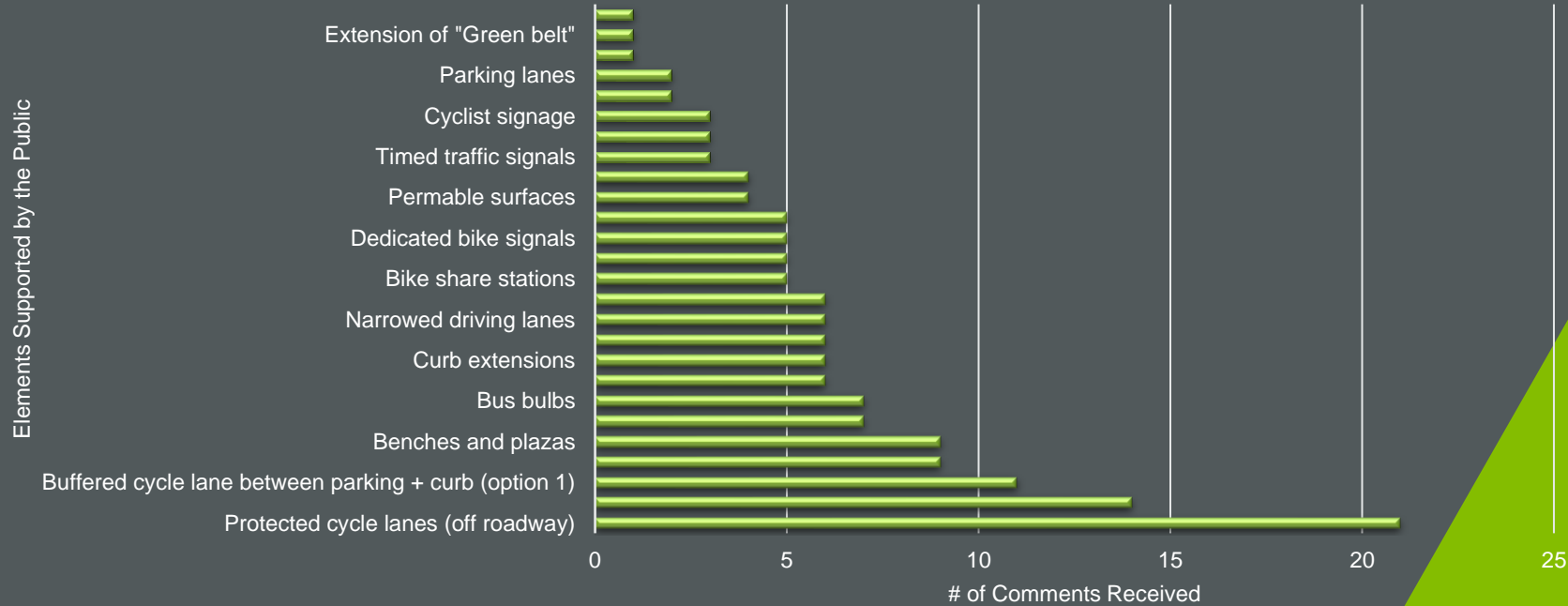
Cycle Tracks (One-way)



Buffered Bicycle Lanes

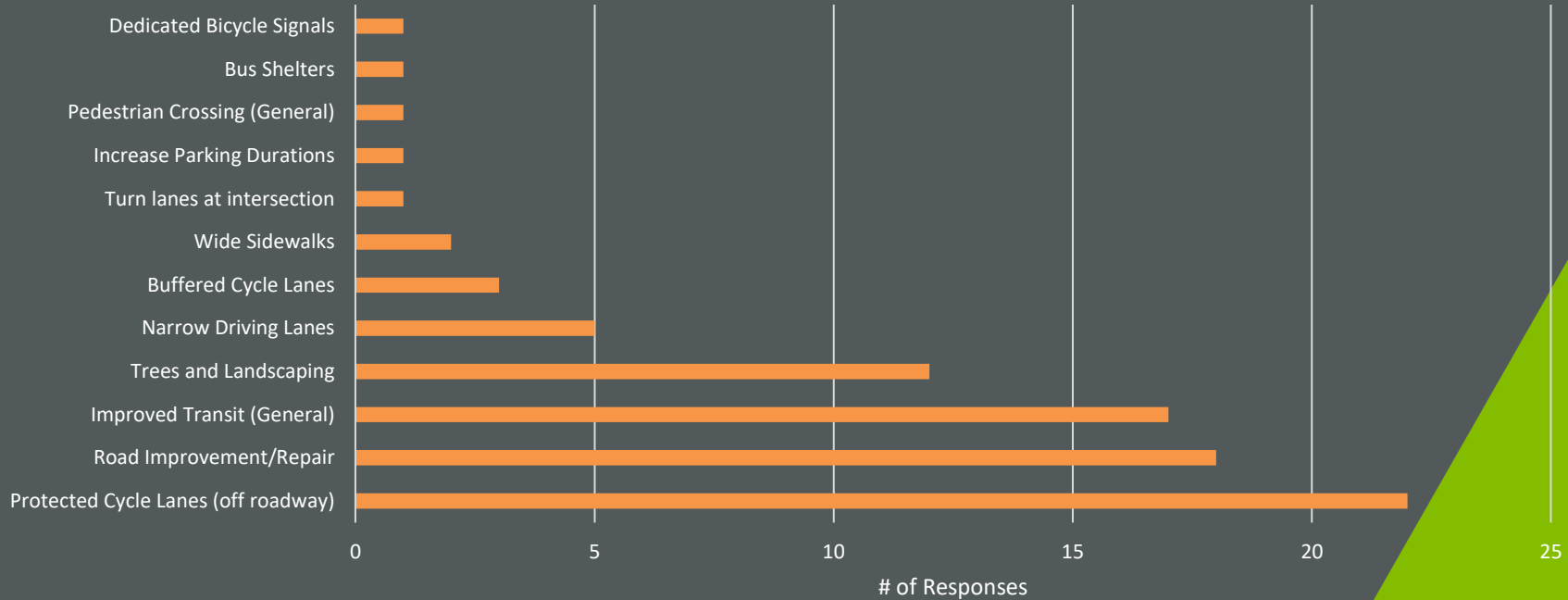
“What We Heard”

Summary of Public Support



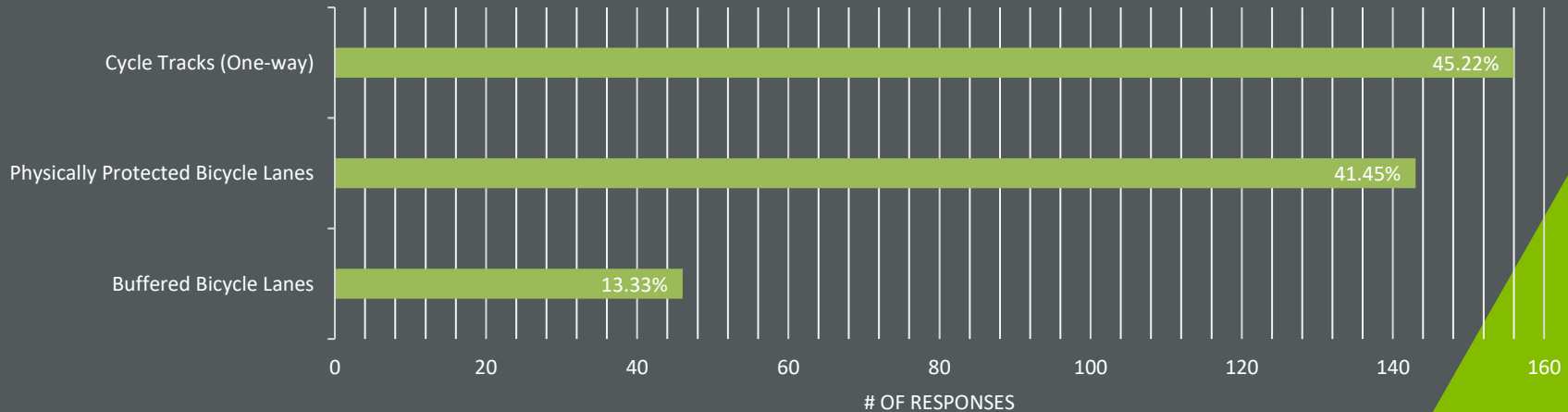
“What We Heard”

Summary of Additional Comments and Suggestions

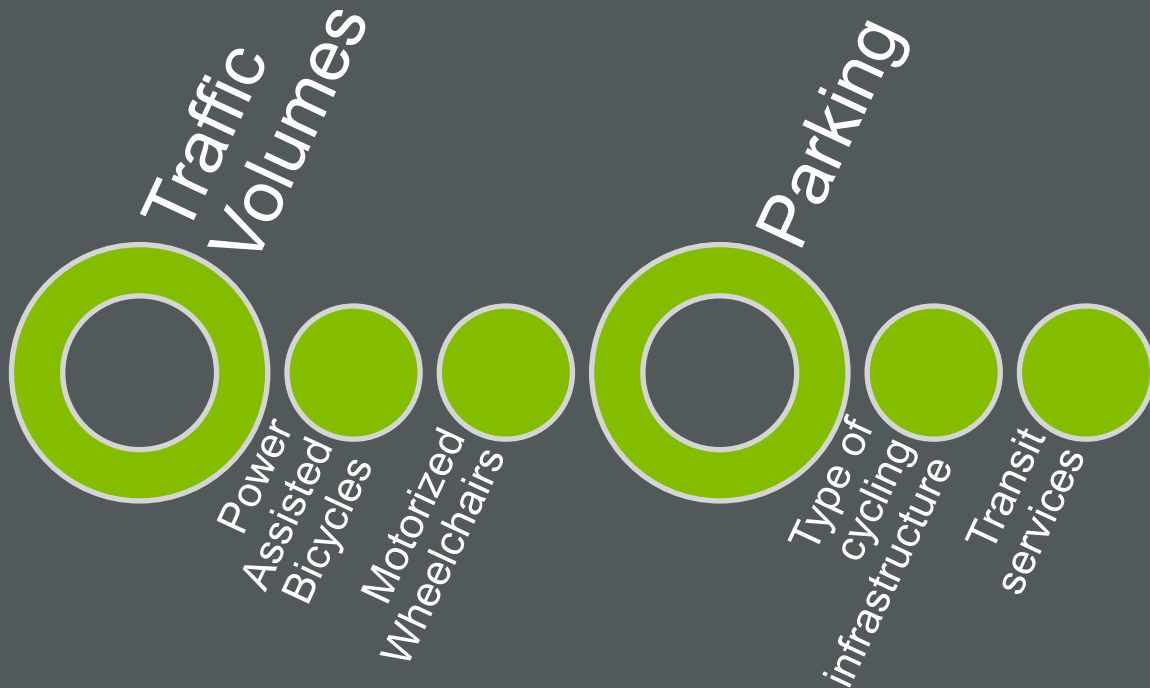


“What We Heard”

Three different types of protected cycling facilities are considered for the University Avenue and Victoria Avenue corridors. Which of these options do you recommend to support the project goals?



“What We Heard”



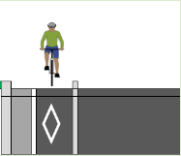

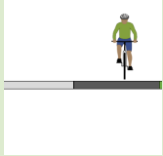
Preferred Solutions

- Based on the results of the technical studies, comments from general public and feedback from stakeholders the elements of the preferred solution were identified as follow:
 - **Public Transportation.** Shared Lanes with Vehicular Traffic
 - **Pedestrian infrastructure.** Sidewalks at 1.5 minimum as per AODA
 - **Cycling Infrastructure.** Protected Bike Facilities
 - **On-Street Parking.** Context specific solution based on availability of space
 - **Boulevards and Streetscaping.** Context specific solution based on availability of space.

Phase 3 – Alternative Design Concepts for Preferred Solution

University Avenue.

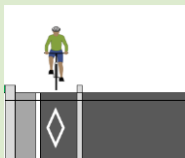


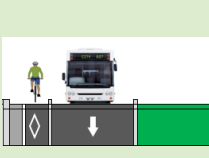
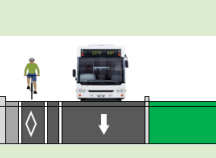
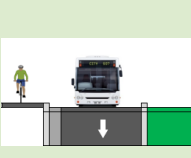
- Alternative design concepts for the preferred solution considered as part of this Study are the following:

Alternative 1 Physically Protected Bicycle Lanes	Alternative 2 Buffered Bicycle Lanes	Alternative 3 Cycle Tracks (One-way)	Alternative 4 Cycle Track and Buffered Bicycle Lane (Hybrid)
			<p>Context specific solution</p>

Phase 3 – Alternative Design Concepts for Preferred Solution

Victoria Avenue.

- Alternative design concepts for the preferred solution considered as part of this Study are the following:

Alternative 1 Physically Protected Bicycle Lanes	Alternative 2 Buffered Bicycle Lanes	Alternative 3 Cycle Tracks (One-way)	Alternative 4 Physically Protected Bicycle Lanes with Flex Boulevard	Alternative 5 Buffered Bicycle Lanes with Flex Boulevard	Alternative 6 Cycle Tracks (One-way) with Flex Boulevard
					

Phase 3 – Alternative Design Concepts for Preferred Solution

All alternative design concepts for the preferred solution were evaluated based on the following evaluation criteria:

Traffic Operations and Safety

- Future traffic operations
- Motorist safety
- Pedestrian safety
- Cyclist safety
- Pedestrian and cyclist security and comfort
- Parking
- Transit
- Compliance with concurrent studies

Natural Environment

- Stormwater management
- Opportunities for landscaping

Socio-Economic Environment

- Opportunities for streetscaping
- Cultural heritage
- Archaeological impacts
- Accessibility
- Network connectivity
- Implications to stakeholders

Implementation

- Utility relocation
- Operations and maintenance
- Construction staging
- Constructability
- Cost





















Phase 3 – Alternative Design Concepts for Preferred Solution

University Avenue – Evaluation Matrix

Phase 3 – Alternative Design Concepts for Preferred Solution

Technical Criteria	Alternative 1 Physically Protected Bicycle Lanes	Alternative 2 Buffered Bicycle Lanes	Alternative 3 Cycle Tracks (One-way)	Alternative 4 Cycle Track and Buffered Bicycle Lane (Hybrid)
University Avenue				
Future Traffic Operations	●	●	●	●
Motorist Safety	◐	◐	◐	◐
Pedestrian Safety	●	●	●	●
Cyclist Safety	●	◐	●	◐
Pedestrian and Cyclist Security and Comfort	◐	◐	●	◐
Parking	●	●	●	●
Transit	◐	●	◐	◐













Phase 3 – Alternative Design Concepts for Preferred Solution

Technical Criteria	Alternative 1 Physically Protected Bicycle Lanes	Alternative 2 Buffered Bicycle Lanes	Alternative 3 Cycle Tracks (One-way)	Alternative 4 Cycle Track and Buffered Bicycle Lane (Hybrid)
University Avenue				
Compliance with Concurrent Studies				
Stormwater Management				
Opportunities for Landscaping				
Opportunities for Streetscaping				
Cultural Heritage/Archaeological Impacts				

Phase 3 – Alternative Design Concepts for Preferred Solution

Technical Criteria	Alternative 1 Physically Protected Bicycle Lanes	Alternative 2 Buffered Bicycle Lanes	Alternative 3 Cycle Tracks (One-way)	Alternative 4 Cycle Track and Buffered Bicycle Lane (Hybrid)
University Avenue				
Accessibility	●	●	●	●
Network Connectivity	●	●	●	●
Implications to Stakeholders	◐	◐	◐	◐
Utility Relocation	◑	◐	◑	◐
Operations and Maintenance	◐	●	◐	●

Phase 3 – Alternative Design Concepts for Preferred Solution

Technical Criteria	Alternative 1 Physically Protected Bicycle Lanes	Alternative 2 Buffered Bicycle Lanes	Alternative 3 Cycle Tracks (One-way)	Alternative 4 Cycle Track and Buffered Bicycle Lane (Hybrid)
University Avenue				
Construction Staging and Constructability				
Cost				
Recommendation				
	Not recommended	Not recommended	Recommended	Not recommended































Phase 3 – Alternative Design Concepts for Preferred Solution

Victoria Avenue – Evaluation Matrix

Phase 3 – Alternative Design Concepts for Preferred Solution

Technical Criteria	Alternative 1 Physically Protected Bicycle Lanes	Alternative 2 Buffered Bicycle Lanes	Alternative 3 Cycle Tracks (One-way)	Alternative 4 Physically Protected Bicycle Lanes with Flex Boulevard	Alternative 5 Buffered Bicycle Lanes with Flex Boulevard	Alternative 6 Cycle Tracks (One-way) with Flex Boulevard
Victoria Avenue						
Future Traffic Operations	●	●	●	●	●	●
Motorist Safety	●	●	●	●	●	●
Pedestrian Safety	●	●	●	●	●	●
Cyclist Safety	●	◐	●	●	◐	●
Pedestrian and Cyclist Security and Comfort	◐	◐	●	◐	◐	●
Parking	●	●	●	◐	◐	◐



















Phase 3 – Alternative Design Concepts for Preferred Solution

Technical Criteria	Alternative 1 Physically Protected Bicycle Lanes	Alternative 2 Buffered Bicycle Lanes	Alternative 3 Cycle Tracks (One-way)	Alternative 4 Physically Protected Bicycle Lanes with Flex Boulevard	Alternative 5 Buffered Bicycle Lanes with Flex Boulevard	Alternative 6 Cycle Tracks (One-way) with Flex Boulevard
Victoria Avenue						
Transit						
Stormwater Management						
Opportunities for Landscaping						
Opportunities for Streetscaping						
Cultural Heritage/Archaeological Impacts						

Phase 3 – Alternative Design Concepts for Preferred Solution

Technical Criteria	Alternative 1 Physically Protected Bicycle Lanes	Alternative 2 Buffered Bicycle Lanes	Alternative 3 Cycle Tracks (One-way)	Alternative 4 Physically Protected Bicycle Lanes with Flex Boulevard	Alternative 5 Buffered Bicycle Lanes with Flex Boulevard	Alternative 6 Cycle Tracks (One-way) with Flex Boulevard
Victoria Avenue						
Accessibility	●	●	●	●	●	●
Network Connectivity	◐	◐	◐	◐	◐	◐
Implications to Stakeholders	●	●	●	◐	◐	◐
Utility Relocation	◐	◐	◐	◐	◐	◐
Operations and Maintenance	◐	●	◐	◐	◐	◐

Phase 3 – Alternative Design Concepts for Preferred Solution

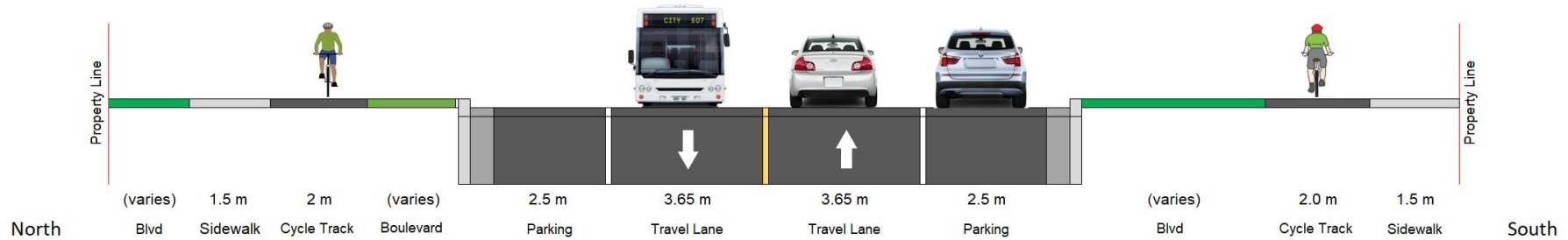
Technical Criteria	Alternative 1 Physically Protected Bicycle Lanes	Alternative 2 Buffered Bicycle Lanes	Alternative 3 Cycle Tracks (One-way)	Alternative 4 Physically Protected Bicycle Lanes with Flex Boulevard	Alternative 5 Buffered Bicycle Lanes with Flex Boulevard	Alternative 6 Cycle Tracks (One-way) with Flex Boulevard
Victoria Avenue						
Construction Staging and Constructability						
Cost						
Recommendations						
	Not recommended	Not recommended	Recommended	Not recommended	Not recommended	Not recommended

Phase 3 – Alternative Design Concepts for Preferred Solution

- Based on the results of the evaluation process, the alternative design concept that considers the implementation of cycle tracks (one-way) on both sides of the University Avenue and Victoria Avenue is recommended.
 - The Cycle Track is preferred to be behind the boulevard in all instances throughout the project and not against the curb area.
 - This provides an area for snow storage during the winter months from both the road and the cycle tracks
 - Additionally, it eliminates a hazard to both cyclists and pedestrians exiting and leaving vehicles.
 - Utilities relocation including hydro poles is acceptable for a project of this scope and scale.

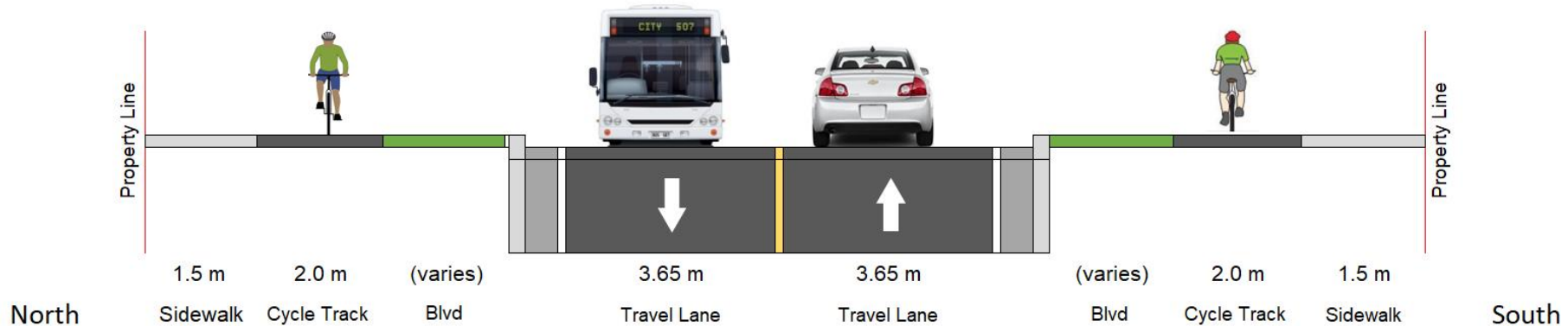
Phase 3 - Recommended Design – University Avenue

Huron Church Road to Salter Avenue



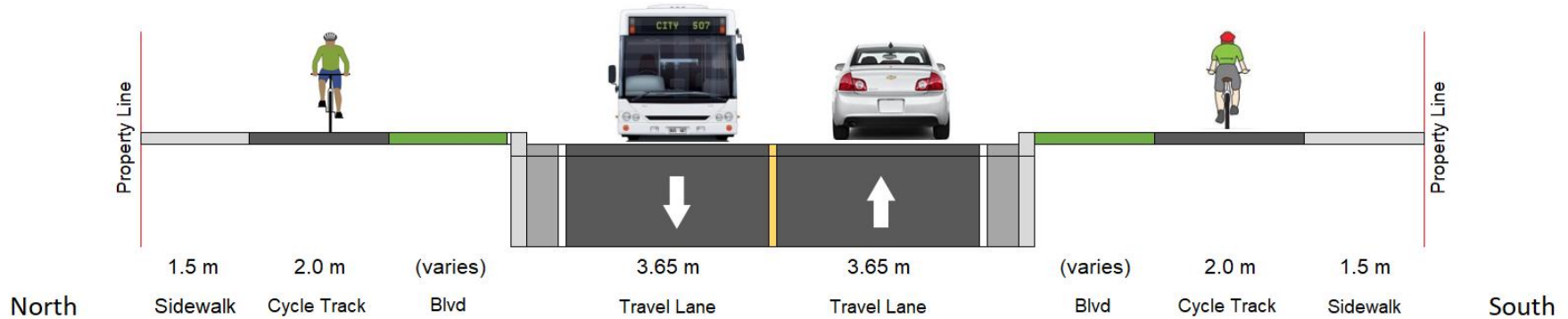
Phase 3 - Recommended Design – University Avenue

Salter Avenue to Pelissier Street



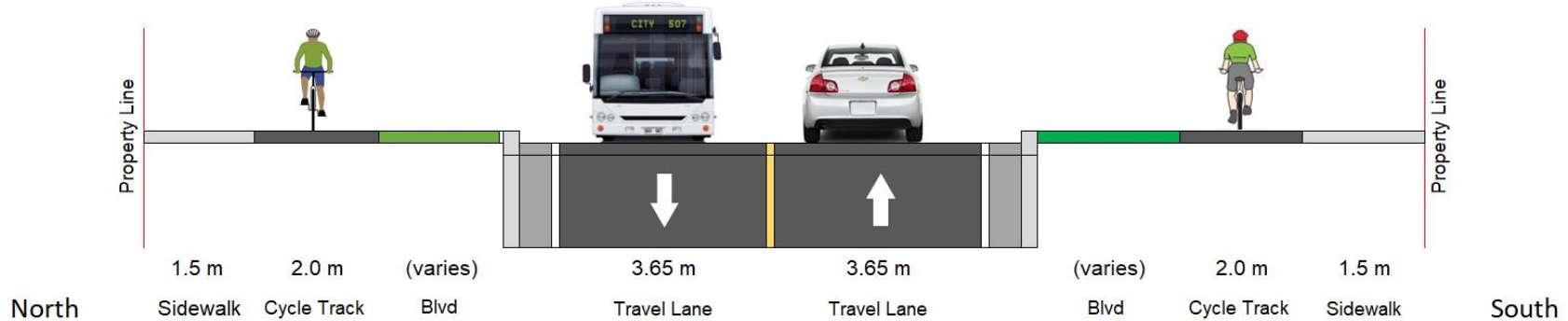
Phase 3 - Recommended Design – University Avenue

Oullette Avenue to Freedom Way



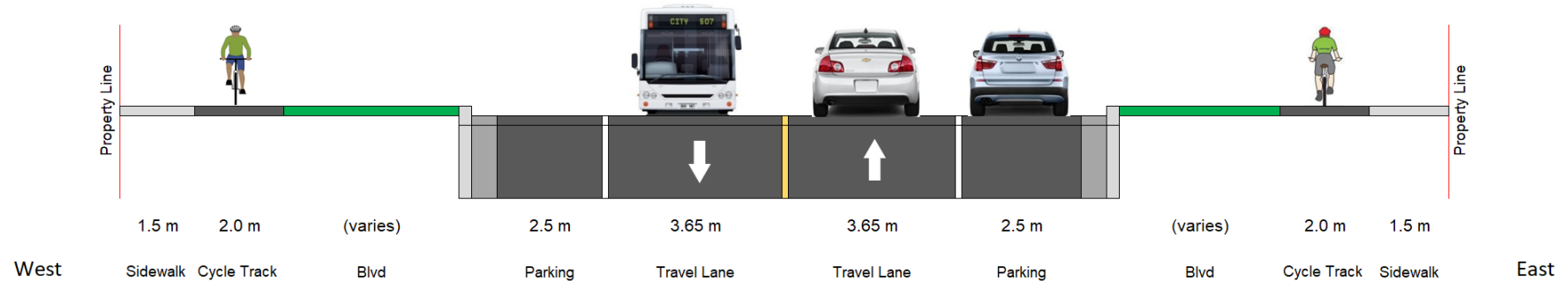
Phase 3 - Recommended Design – University Avenue

Freedom Way to City Hall Square



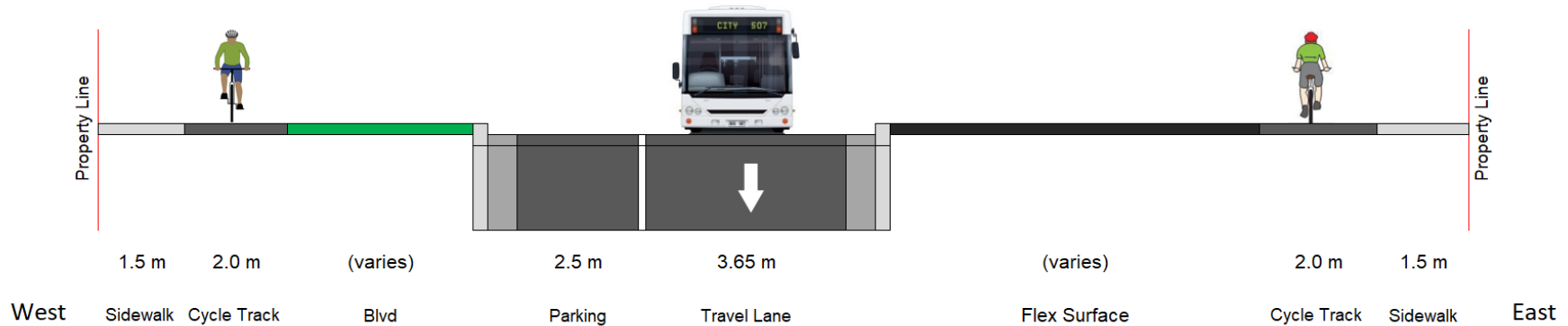
Phase 3 - Recommended Design – Victoria Avenue

Chatham Street to University Avenue



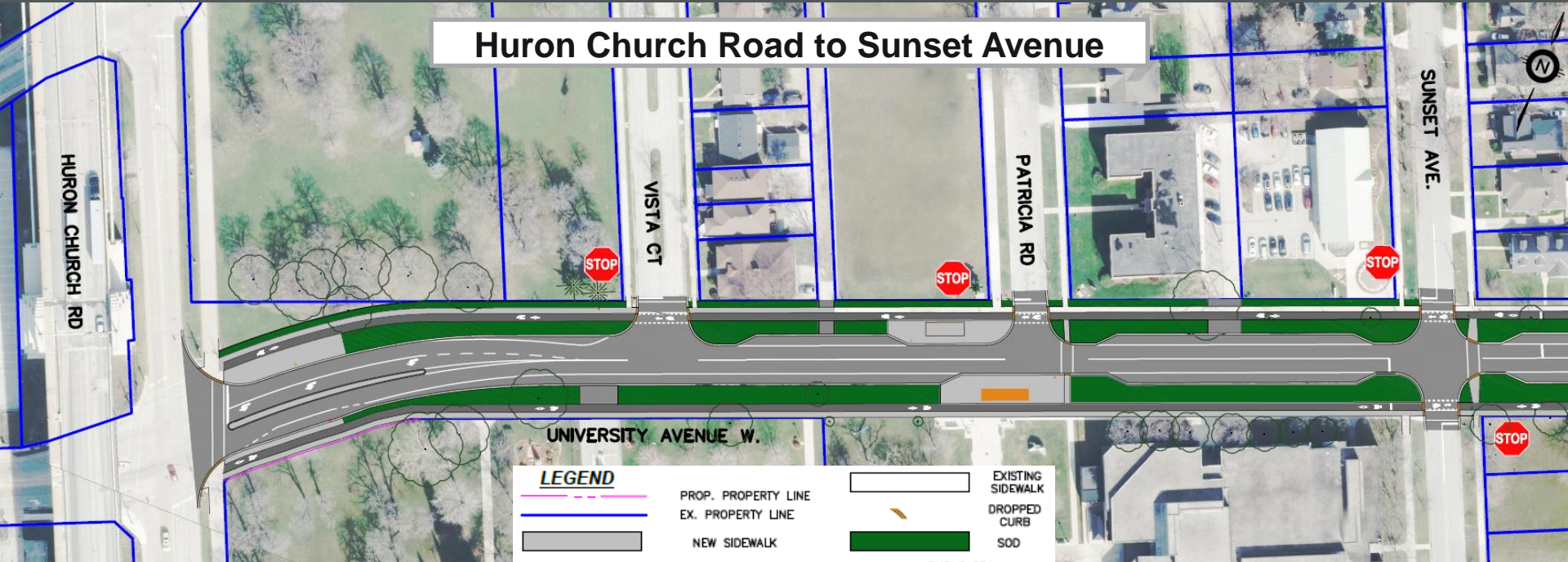
Phase 3 - Recommended Design – Victoria Avenue

University Avenue to Park Street



Phase 3 - Recommended Plan – University Avenue

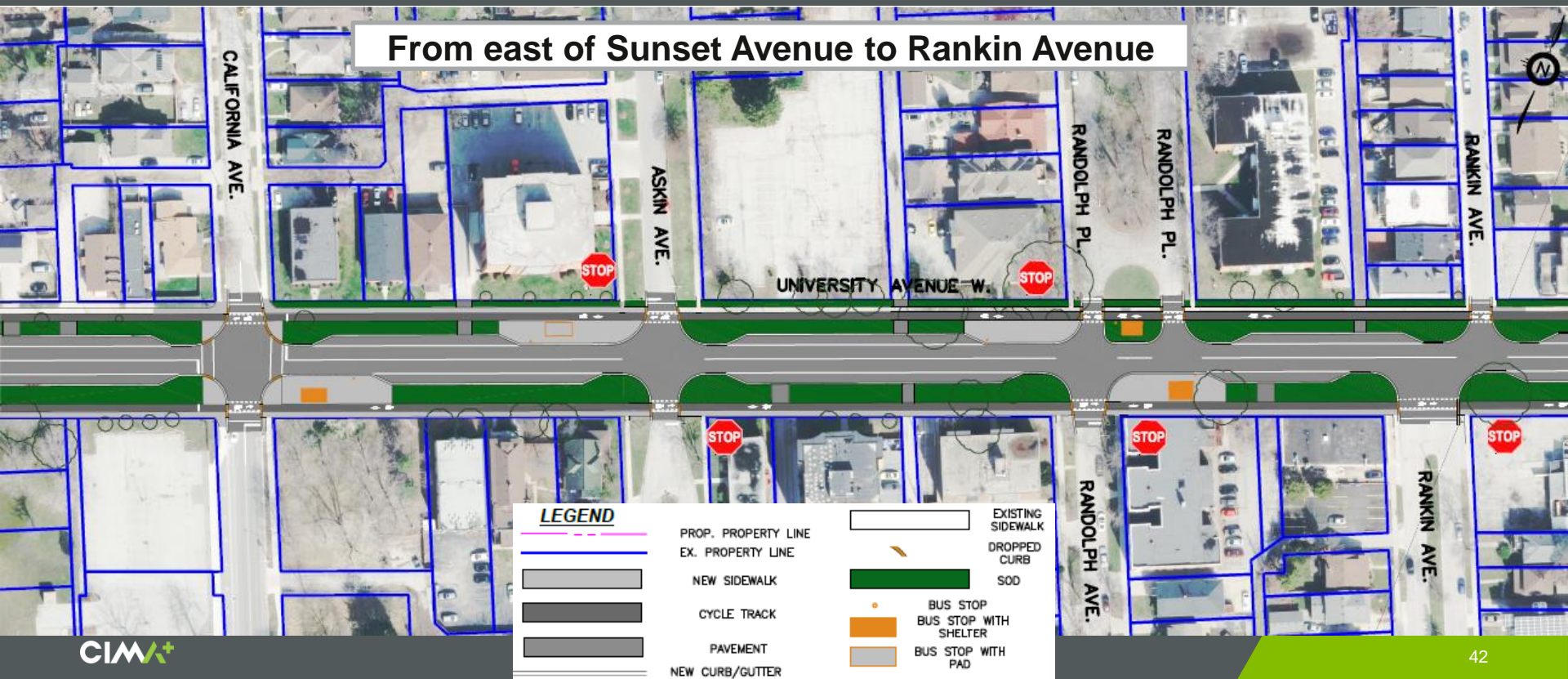
Huron Church Road to Sunset Avenue



LEGEND	
	PROP. PROPERTY LINE
	EX. PROPERTY LINE
	NEW SIDEWALK
	CYCLE TRACK
	PAVEMENT
	NEW CURB/GUTTER
	EXISTING SIDEWALK
	DROPPED CURB
	SOD
	BUS STOP
	BUS STOP WITH SHELTER
	BUS STOP WITH PAD

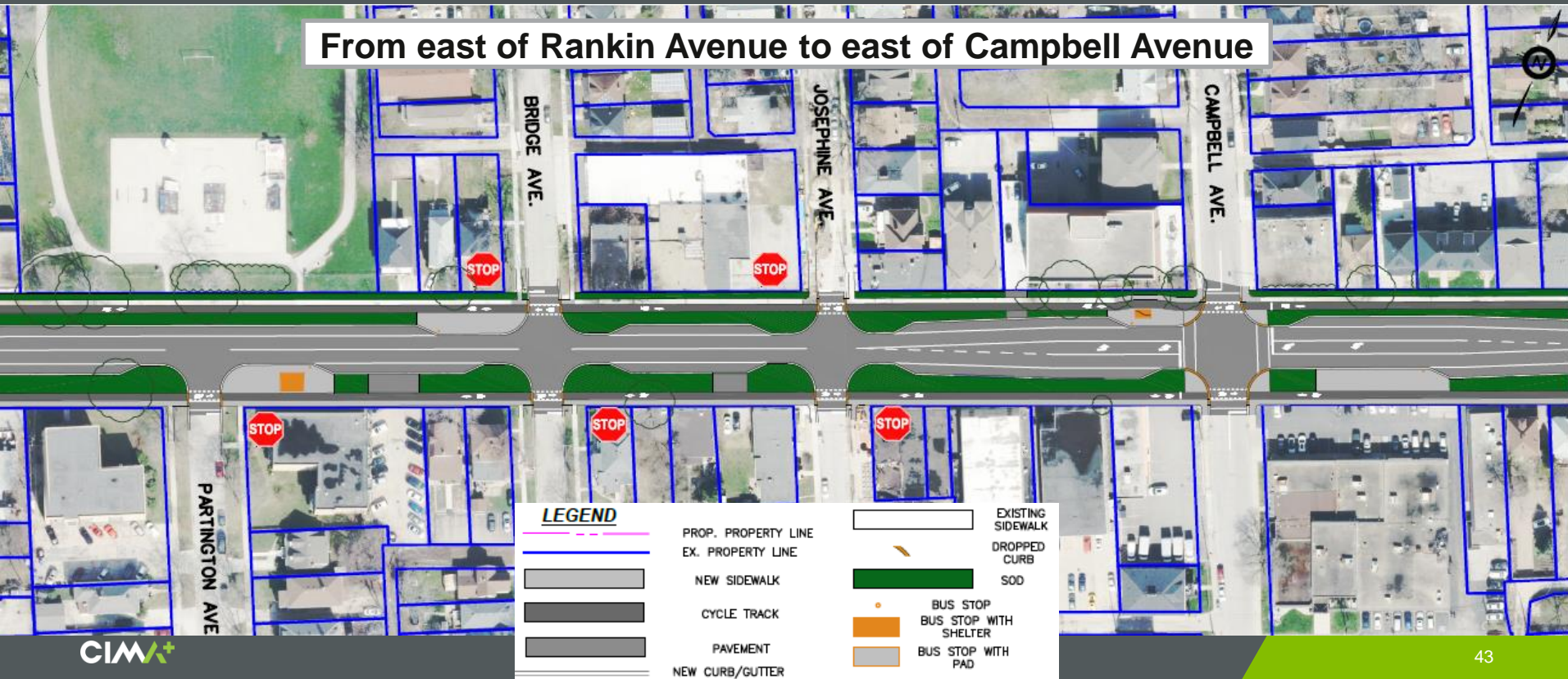
Phase 3 - Recommended Plan – University Avenue

From east of Sunset Avenue to Rankin Avenue



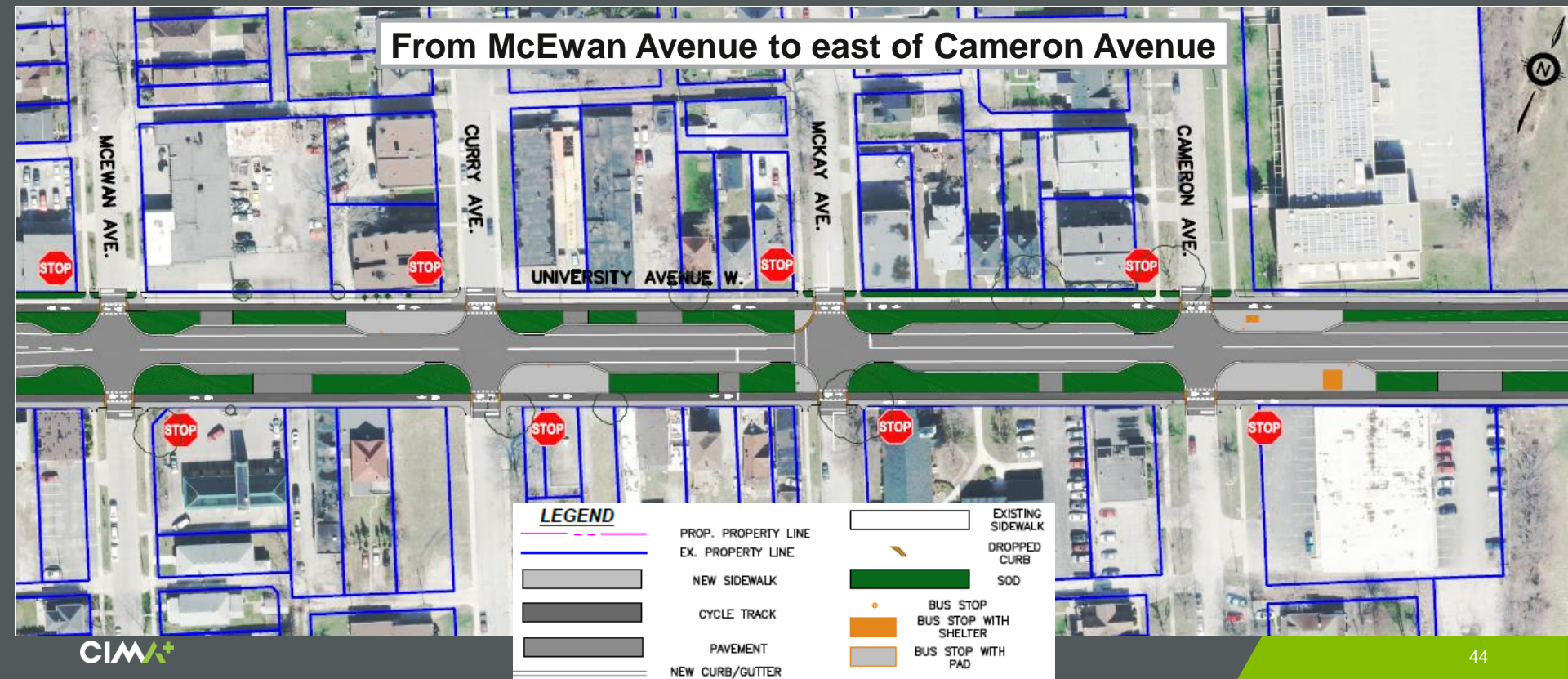
Phase 3 - Recommended Plan – University Avenue

From east of Rankin Avenue to east of Campbell Avenue



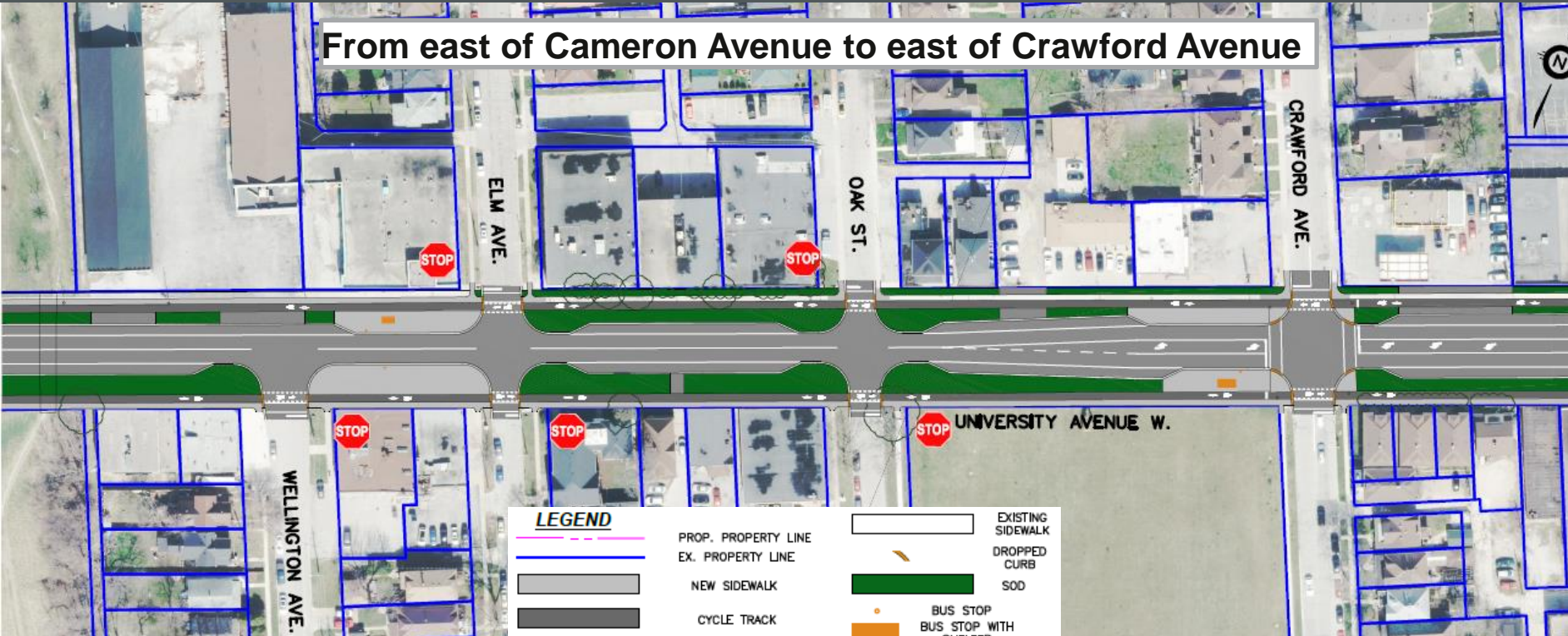
Phase 3 - Recommended Plan – University Avenue

From McEwan Avenue to east of Cameron Avenue



Phase 3 - Recommended Plan – University Avenue

From east of Cameron Avenue to east of Crawford Avenue













LEGEND	
	PROP. PROPERTY LINE
	EX. PROPERTY LINE
	NEW SIDEWALK
	CYCLE TRACK
	PAVEMENT
	NEW CURB/GUTTER
	EXISTING SIDEWALK
	DROPPED CURB
	SOD
	BUS STOP
	BUS STOP WITH SHELTER
	BUS STOP WITH PAD

Phase 3 - Recommended Plan – University Avenue

From east of Crawford Avenue to east of Bruce Avenue

Potential Bridge Replacement

LEGEND		EXISTING SIDEWALK
	PROP. PROPERTY LINE	
	EX. PROPERTY LINE	
	NEW SIDEWALK	
	CYCLE TRACK	
	PAVEMENT	
	NEW CURB/GUTTER	
		
		BUS STOP WITH SHELTER
		BUS STOP WITH PAD

Phase 3 - Recommended Plan – University Avenue

Bridge at Salter Avenue



Potential removal of the existing bridge will be reviewed and evaluated as part of the completion of the Environmental Study Report. Communication with stakeholders – including Canadian Pacific Railway will take place as part of the review process.

Phase 3 - Recommended Plan – University Avenue

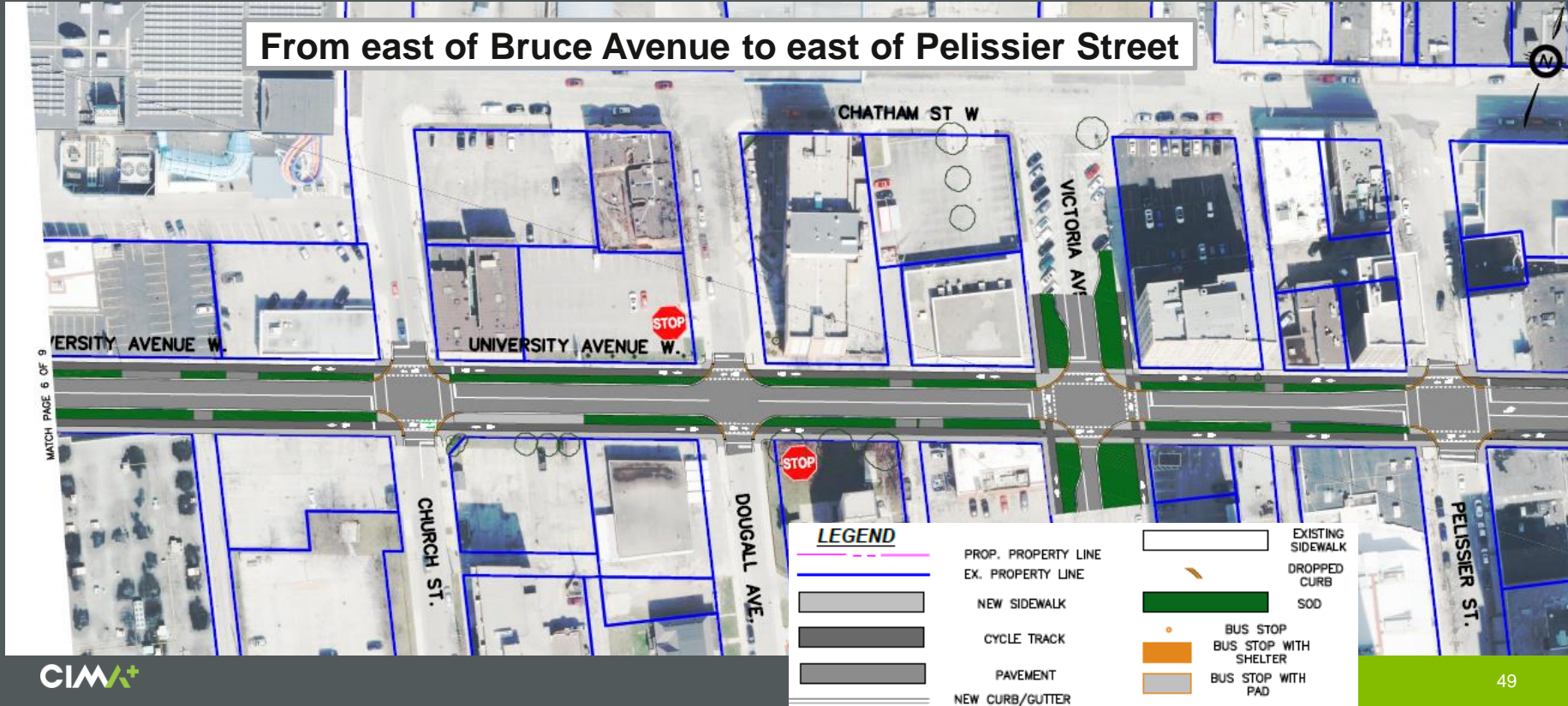
Bridge at Salter Avenue



A Heritage Impact Assessment will be undertaken to provide heritage advice and mitigation measures for the demolition process as well as guidance with the design of the replacement structure. This will ensure that the heritage value and attributes of adjacent cultural heritage resources are considered.

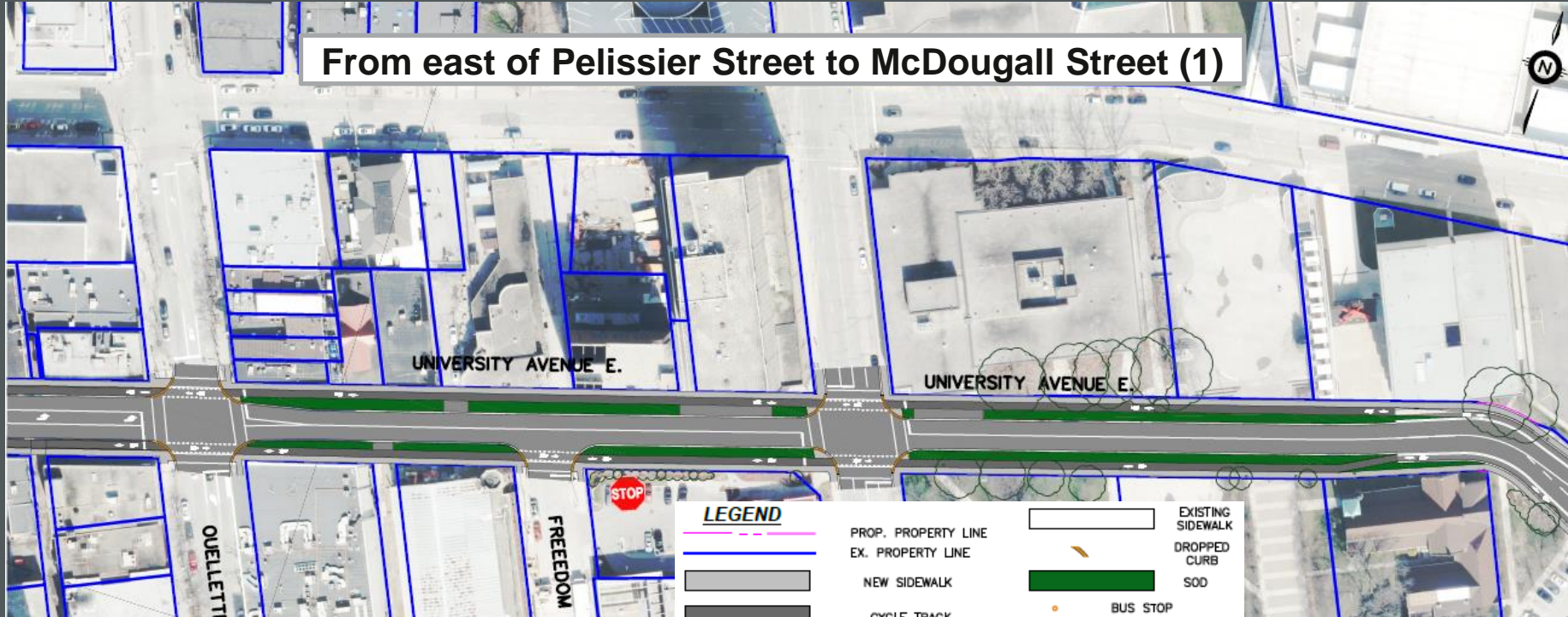
Phase 3 - Recommended Plan – University Avenue

From east of Bruce Avenue to east of Pelissier Street



Phase 3 - Recommended Plan – University Avenue

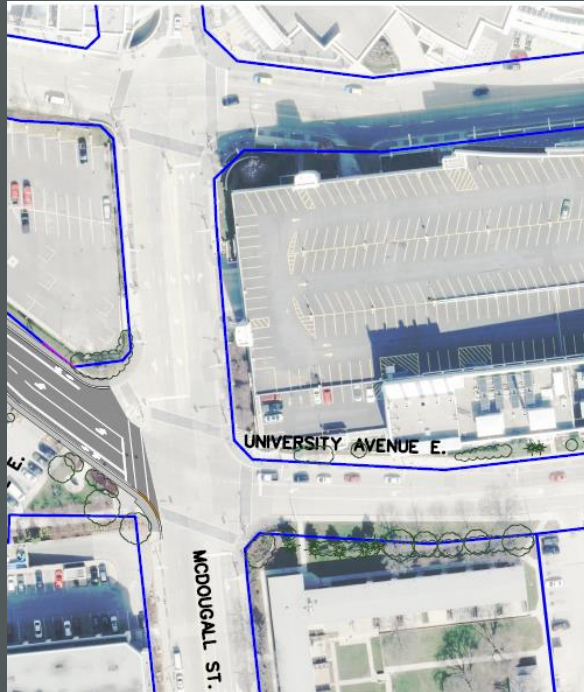
From east of Pelissier Street to McDougall Street (1)















LEGEND	
	PROP. PROPERTY LINE
	EX. PROPERTY LINE
	NEW SIDEWALK
	CYCLE TRACK
	PAVEMENT
	NEW CURB/GUTTER
	EXISTING SIDEWALK
	DROPPED CURB
	SOD
	BUS STOP
	BUS STOP WITH SHELTER
	BUS STOP WITH PAD

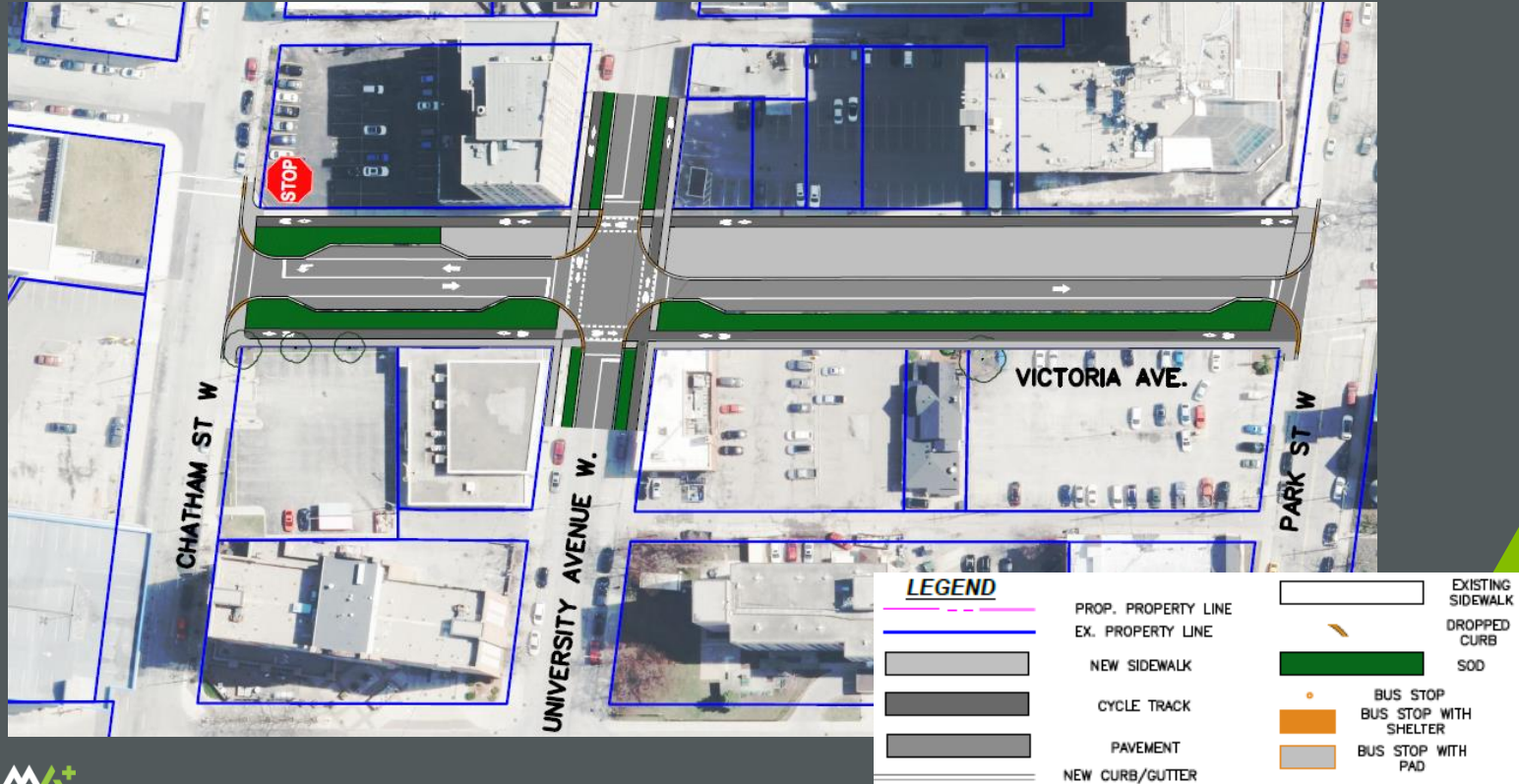
Phase 3 - Recommended Plan – University Avenue

From east of Pelissier Street to McDougall Street (2)



LEGEND			
	PROP. PROPERTY LINE		EXISTING SIDEWALK
	EX. PROPERTY LINE		DROPPED CURB
	NEW SIDEWALK		SOD
	CYCLE TRACK		BUS STOP
	PAVEMENT		BUS STOP WITH SHELTER
	NEW CURB/GUTTER		BUS STOP WITH PAD

Phase 3 - Recommended Plan – Victoria Avenue



Phase 3 – Alternative Design Concepts for Preferred Solution

- **Next Steps**

- Review public and agency comments
- Incorporate refinements based on feedback and finalize the design plates for the Recommended Plan
- Prepare Environmental Study Report (ESR)
- File the ESR for a 30 day public review period
- Following the completion of the EA process, the City moves forward with implementation including determination of property requirements, detailed design and construction.

Comments and Feedback

- Comments need to be received by August 24, 2021
- Provide your comments by calling 311 or by contacting the study team directly:

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Visit www.windsoreas.ca for updated project information.