Attachment 1
TMP Executive Summary

Executive Summary

The Town of Aurora has initiated a Master Transportation Study (MTS) to review and address existing transportation needs within the Town, as well as provide support for the growth of the Town to 2041, through long-term infrastructure planning and policy solutions. This study builds upon the Town's 2013 Master Transportation Operations Study Update, which took a multi-modal approach to identifying road network improvements and active transportation connections to meet future traffic demands.

As the population, employment, and economic activity within the Town continues to increase, there is an opportunity to consider the new mobility challenges and rising parking demand in conjunction with the development of local and regional initiatives such as The Aurora Promenade Concept Plan and the Barrie Rail Corridor Expansion (BRCE). The MTS seeks to develop an integrated set of road network and infrastructure solutions that continue to accommodate vehicles, cyclists, pedestrians, and transit users, while streamlining the improvements to preserve the small-town community characteristics of the Town, and particularly, the Town's historic downtown core. The MTS also seeks to encourage alternative mobility options and provide more accessible, convenient, and direct connections to Major Transit Stations and public transit.

This report documents the findings and recommendations from several inter-related studies including a Future Conditions Assessment, Traffic Operations and Safety Review, Traffic Infiltration Assessment, Parking Needs Assessment, and a Sidewalk Priority Plan.

The key findings and recommendations of each of these analyses is summarized in the following sections.

Future Conditions

The Town of Aurora is planned to grow from approximately 63,000 persons and 29,000 jobs today to approximately 79,000 persons and 38,000 jobs by 2041. With consideration for planned Regional infrastructure improvements, an assessment of 2041 conditions was completed to understand the need for further action and investment by the Town to plan for growth.

Four Alternative Solutions were identified:

1. Do Nothing
2. Travel Demand Management (TDM), Transit and Active Transportation Improvements
3. Operational Improvements
4. Road Widenings

Based on the analysis presented, Alternatives 1 and 4 were screened out while Alternative 2 and 3 were recommended to be carried forward.

It is thus recommended that the Town's transportation strategy to accommodate growth to the year 2041 focus on managing the existing network while improving connectivity and safety particularly for pedestrians and cyclists. This includes focus on travel demand management (TDM), supporting and encouraging transit use, and active transportation improvements including completing the sidewalk network and implementing the recommendations of the 2011 Trails Master Plan. To keep vehicular traffic moving efficiently, operational improvements are recommended such as traffic signal timing adjustments, travel lane modifications, safety improvements, and parking management.

It is noted that after accounting for planned Regional improvements, no major vehicular capacity improvements, such as lane widenings, are required by 2041.

Traffic Operations and Safety

Traffic Signal Progression Analysis

Following the optimization process, improvements were minor in nature. It appears that the corridor has already been coordinated, and this existing conditions analysis confirms that the implemented improvements continue to be operating well.

Safety Review

A desktop review of the top five intersections for most collisions spans Yonge Street from Orchard Heights Boulevard/Batson Drive to Murray Drive/Edward Street. Based on the collision analysis it was noted that the most frequent collisions that occurred were turning movement and rear-end. These accidents could be attributed to the fact that most of the road segment along Yonge Street (Aurora Heights Drive/Mark Street to Golf Links Drive/Dunning Avenue) consists of two travel lanes in each direction with no dedicated left turn or right turn lanes. This, coupled with the number of private driveways along Yonge Street is problematic because drivers may suddenly slow down to turn, while other drivers may be following too closely, or being distracted.

Exclusive left-turn lanes for driveway access and opposing left-turn lanes at intersections would benefit both traffic operations and safety. However the constrained right-of-way along Yonge Street through the Aurora Promenade area would not be able to accommodate a fifth lane without significant property acquisition to increase available right-of-way. As such, making these improvements would require a "road diet" reducing the number of through travel lanes from four to two.

Yonge Street Road Diet

A road diet is a technique used in transportation planning whereby the number of travel lanes on the road is reduced. A potential road diet of Yonge Street from south of

Orchard Heights Boulevard/Batson Drive to Golf Links Drive/Dunning Avenue is recommended for further study. Based on the analysis in this document, a road diet would have benefits to safety and operations at Yonge-Wellington and at other intersections along the corridor. Following the completion of the Master Transportation Study, it is recommended that the Town conduct further public consultation and detailed study in coordination with York Region to better understand the impacts on the community as well as on the planned transit services along Yonge Street.

Traffic Diversion Analysis

The following Town streets identified as commuter routes[1] through a traffic diversion analysis should be considered for enhanced safety measures to minimize speeds and prioritize safety for all road users:

- Aurora Heights Drive from Bathurst Street to Yonge Street
- Mark Street, Walton Drive
- Maple Street
- Catherine Avenue
- Centre Street

As these routes are in the vicinity of the Yonge-Wellington intersection, improvements at that location may also mitigate speeding along these commuter diversion routes.

Finally, while it is noted that traffic diversion has occurred on Elderberry Trail from April 2017 to March 2018, the causes are not apparent. It is recommended that the Town continue to monitor the situation to determine whether the issue is due to one-time incidents or if there is a broader contextual issue which is not apparent through this analysis.

Parking Needs

A parking utilization study was conducted to provide direction on short-term and long-term needs for parking particularly in the Old Town and surrounding the GO Station.

Short-term Recommendations

GO Station Parking Demand: The Aurora GO Station should be monitored closely to ensure that there is no overflow during its actual peak hours on busy weekdays. If there is a consistent lack of supply to address high parking demand at the GO Station parking lots, temporary parking solutions should be provided to minimize conflict with neighbouring business owners and residents, including formalizing usage of the Town Park / Farmers Market parking spaces, the Sheppard's Bush Parking Lot on Industry

[1] A road or transit line that is periodically used to travel between one's place of residence and place of work

Street, and the Sheppard's Bush Soccer Field. Supplemental works would be required to provide sidewalks and/or lighting to improve safety between the GO station and these potential overflow parking lots.

On-Street Parking on Yonge Street: If the traffic demand along Yonge Street from Wellington Street to Church Street increases, the on-street parking along this segment should be strictly enforced to maximize safety and reduce congestion. On-street parking along a high demand corridor will increase.

Long-term Needs and Recommendations

Consolidate private lots in the Old Town: Consolidation of private lots into municipally owned and managed lots promotes efficiency in land use, creates land for new development, and results in increased pedestrian activity in the area. This change could be considered alongside potential changes to on-street parking along Yonge Street through a potential Road Diet.

215 Industrial Parkway South: This is a property owned by the Town of Aurora and is currently leased as the headquarters for the Queen's York Rangers Army Cadet Corps. Although this property is located outside of the study limits, there is a possibility of this property being served as an additional parking lot in the future, if necessary. Given its distance from high demand locations in the Town, this site is likely best utilized or considered as an off-site parking location for autonomous vehicles. While policy and legislation regarding these vehicles remains to be determined, it is recognized that the Town should proactively protect lands for this type of use which may effectively reduce parking needs within its growth and intensification areas.

Implement on-street parking policies: Consideration for on-street parking policies should be developed through further study to prevent GO commuters from parking on quiet residential streets, including clear signage and information on where the appropriate over-flow parking is located.

Implement permitting for on-street parking: provide residents the opportunity to apply for on-street parking permits for accessible users. Further study is required to determine an appropriate solution to site-specific needs.

Sidewalk Priority Plan

A gap analysis was conducted to identify and prioritize the construction of new sidewalks in the Town. Based on the Sidewalk Gap Map and Aurora's 10-year Road Reconstruction Map, it is recommended that sidewalks along Harriman Road and Industrial Parkway South (Engelhard Drive to Industry Street) be constructed in 2020/2021 along with the planned road reconstruction in order to save on costs.

Based on the evaluation, eleven streets have been identified as having high priority for sidewalk installation and should be considered to be included in the 1-5 year plan. The medium to low priority sidewalk installation should be considered to be included

in the 5-10 year plan. The revised plan for sidewalk construction is provided in **Table ES-1**.

Table ES-1: Revised Sidewalk Construction Plan

STREET NAME	REVISED PROPOSED YEAR OF CONSTRUCTION						
	2019	2020	HIGH	2023	MEDIUM	2026	LOW
Adair Drive		✓					
Bailey Crescent		✓					
Baldwin Road		✓					
Bathurst Street							✓
Bayview Avenue							✓
Berczy Street					✓		
Collins Crescent			✓				
Corbett Crescent			✓				
Davidson Road		✓					
Duncton Wood Crescent							✓
Edward Street	✓						
Harriman Road		✓					
Henderson Drive		✓					
Hillview Road							✓
Holman Crescent		✓					
Hutchinson Road			✓				
Industrial Parkway North		✓					
Industrial Parkway South (Vandorf Sideroad – Industry Street.)		✓					
Industrial Parkway South (Yonge St. – Vandorf Sideroad)		✓					
Industry Street				✓			
Johnson Road		✓					
Kitimat Crescent	✓						
Knowles Crescent			✓				
Limeridge Street			✓				
Morning Crescent			✓				
Patrick Drive			✓				
St. John's Sideroad East	✓						
St. John's Sideroad West							✓
Stoddart Drive			✓				

STREET NAME	REVISED PROPOSED YEAR OF CONSTRUCTION						
	2019	2020	HIGH	2023	MEDIUM	2026	LOW
Vandorf Sideroad	✓						
Webster Drive			✓				
Wellington Street West							✓
Woodland Hills Boulevard						✓	
Yonge Street		✓					

✓	Current proposed construction
✓	Revised from current proposed construction
✓	**High Priority**
✓	Medium Priority
✓	Low Priority

Cycling Facilities

A study was conducted to identify opportunities for new on-street cycling facilities with a focus on appropriately designating space for cyclists between existing curbs, which can be implemented in a cost effective manner. Recommendations build on the Town's existing and planned cycling network and are supported by a best practices review of design guidelines including travel and parking lane widths and considerations at intersections.

Based on existing pavement width, road type, and vehicle speed and volumes on the road, **Figure ES-1** builds on the existing cycling network in the Town of Aurora and illustrates the recommended cycling facilities.

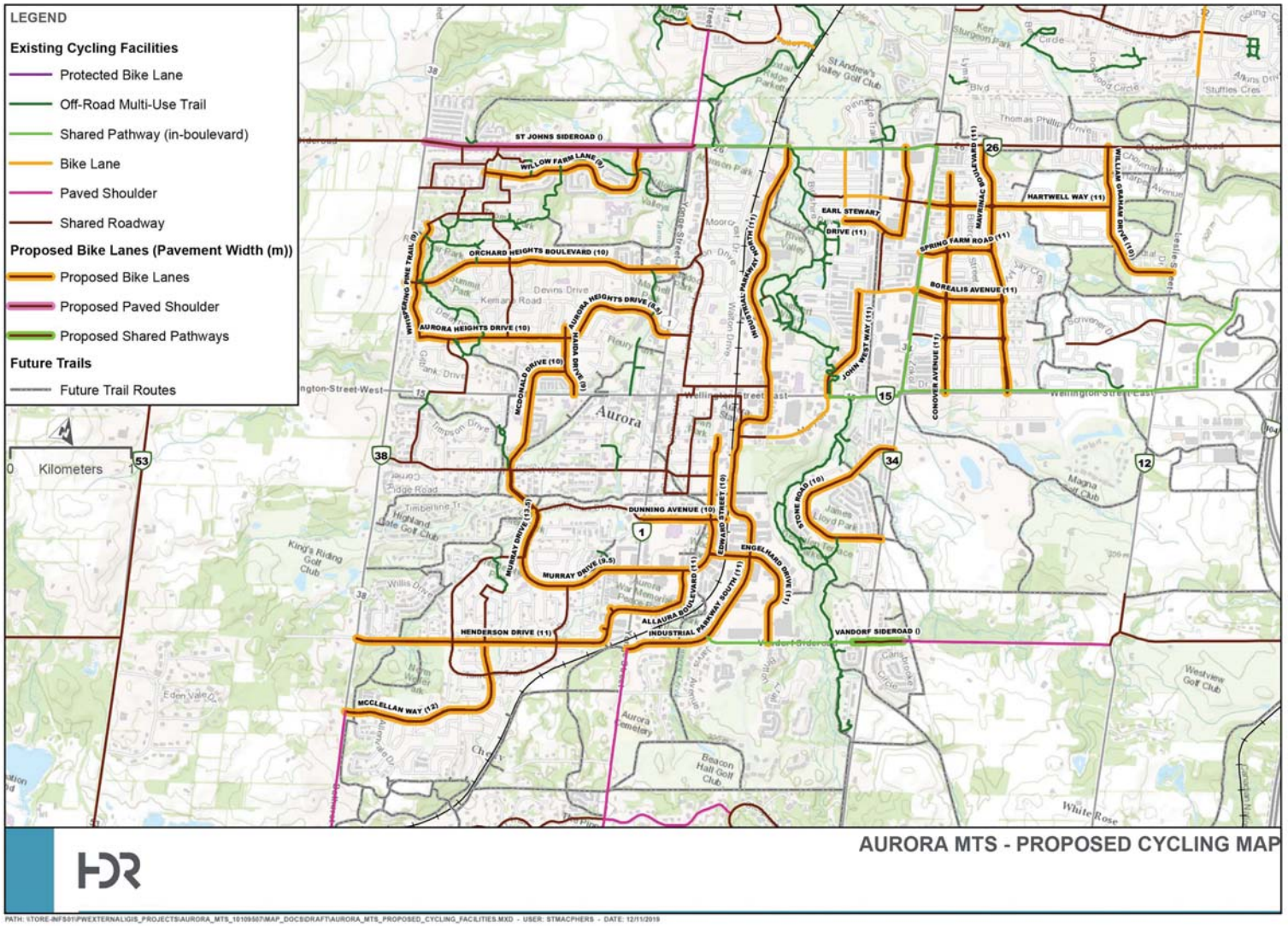


Figure ES-1: Recommended Cycling Facilities

a) Alternative No. 1 – Do Nothing:

Beyond the planned Regional improvements, this alternative assumes that the Town will not invest in any additional transportation programs or infrastructure improvements to the year 2041. Given the traffic congestion issues identified, Alternative No. 1 is not recommended.

b) Alternative No. 2 – TDM, Transit, and Active Transportation Improvements:

This alternative proposes that the Town continue to work in partnership with York Region, SmartCommute Central York, Metrolinx, and the development industry to implement Travel Demand Management (TDM) policies and programs that encourage non-automobile travel to and from key destinations within and surrounding the Town.

Based on Provincial and Regional directions to encourage transit oriented development and sustainable travel, as well as the Town's own Strategic Plan, Alternative No. 2 is recommended.

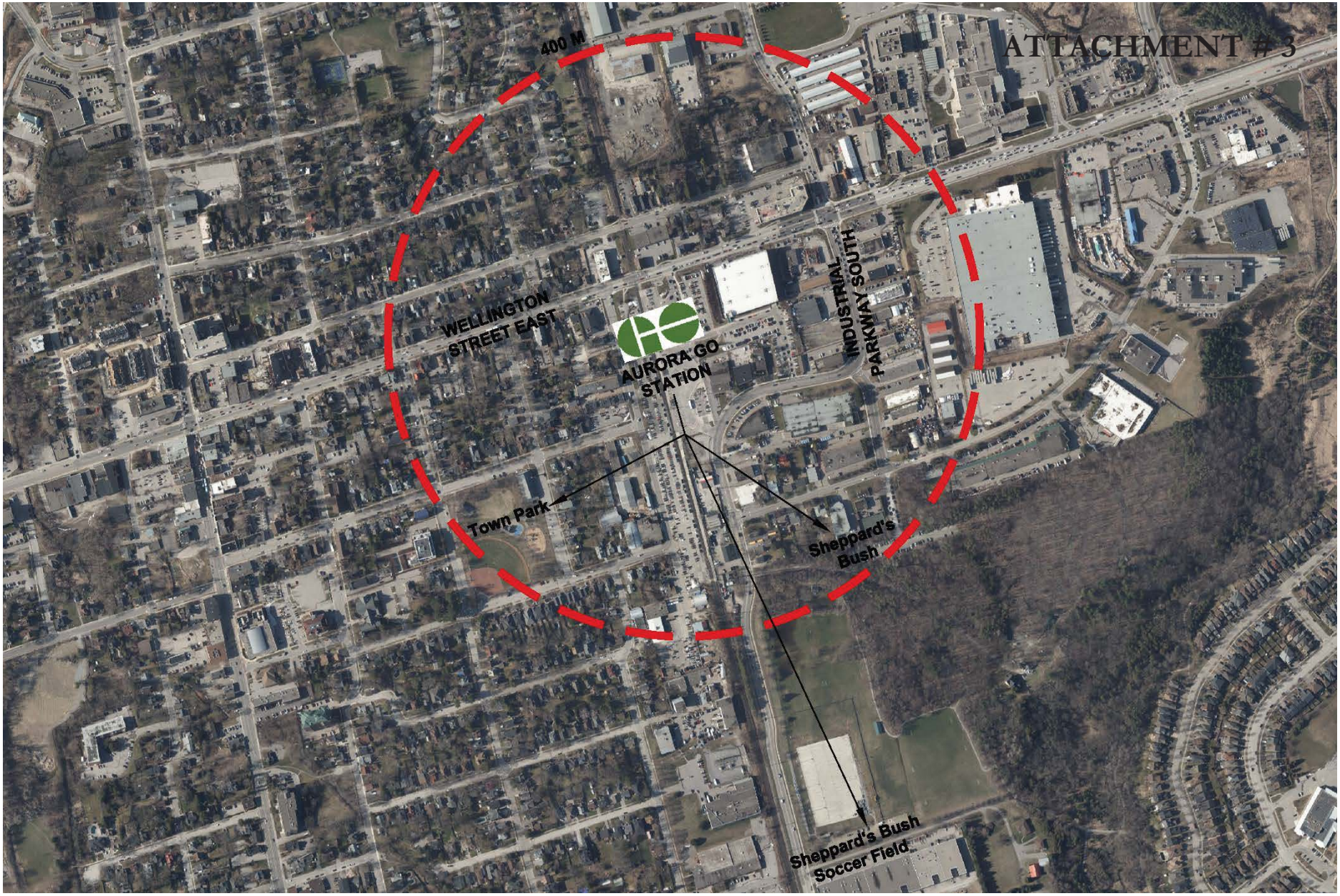
c) Alternative No. 3 – Operational Improvements:

Operational improvements may take the form of traffic signal timing adjustments, traffic lane changes, safety improvements, parking modifications and sidewalk network improvements. On the basis that these have little impact to the existing built form of the Town with the ability to provide significant operational benefits, Alternative No. 3 is recommended.

d) Alternative No. 4 – Road Capacity Improvements:

Road capacity improvements involve vehicular traffic lane widenings. While there are some localized congestion hotspots, major roadworks associated with vehicular lane widenings on Regional roads within the Town are not recommended at this time. Since roadway capacity are generally within the moderate congestion zone, it is recommended that mitigation through TDM and operational improvements be considered a first priority without investing heavily into infrastructure improvements. As such, Alternative No. 4 is not recommended.

ATTACHMENT # 3



POSSIBLE ADDITIONAL PARKING AREA FOR AURORA GO STATION
MASTER TRANSPORTATION STUDY UPDATE FINAL REPORT

AURORA
You're in Good Company

CAC20-002

Map created by the Town of Aurora Planning and Development Services Department, December 20th, 2019.
Air photos taken Spring 2018 © First Base Solutions Inc., 2018 Orthophotography. Base data provided by York Region and Aurora - GIS. This is not a legal survey.

Attachment 4
Recommended Sidewalk Construction Plan

STREET NAME	REVISED PROPOSED YEAR OF CONSTRUCTION						
	2020	HIGH	2024	MEDIUM	2026	LOW	Sidewalk Construction Not Approved by Council
Adair Drive							*
Bailey Crescent							*
Baldwin Road							*
Bathurst Street						✓	
Bayview Avenue						✓	
Berczy Street				✓			
Collins Crescent		✓					
Corbett Crescent		✓					
Davidson Road							*
Duncton Wood Crescent						✓	
Harriman Road							*
Henderson Drive							*
Hillview Road						✓	
Holman Crescent							*
Hutchinson Road		✓					
Industrial Parkway North			✓				
Industrial Parkway South (Yonge St. – Engelhard Dr.)	✓						
Industry Street			✓				
Johnson Road							*
Kitimat Crescent	✓						
Knowles Crescent		✓					
Limeridge Street		✓					
Morning Crescent		✓					
Patrick Drive		✓					
St. John's Sideroad West						✓	
Stoddart Drive		✓					
Webster Drive		✓					
Wellington Street West						✓	
Woodland Hills Boulevard					✓		
Yonge Street				✓			

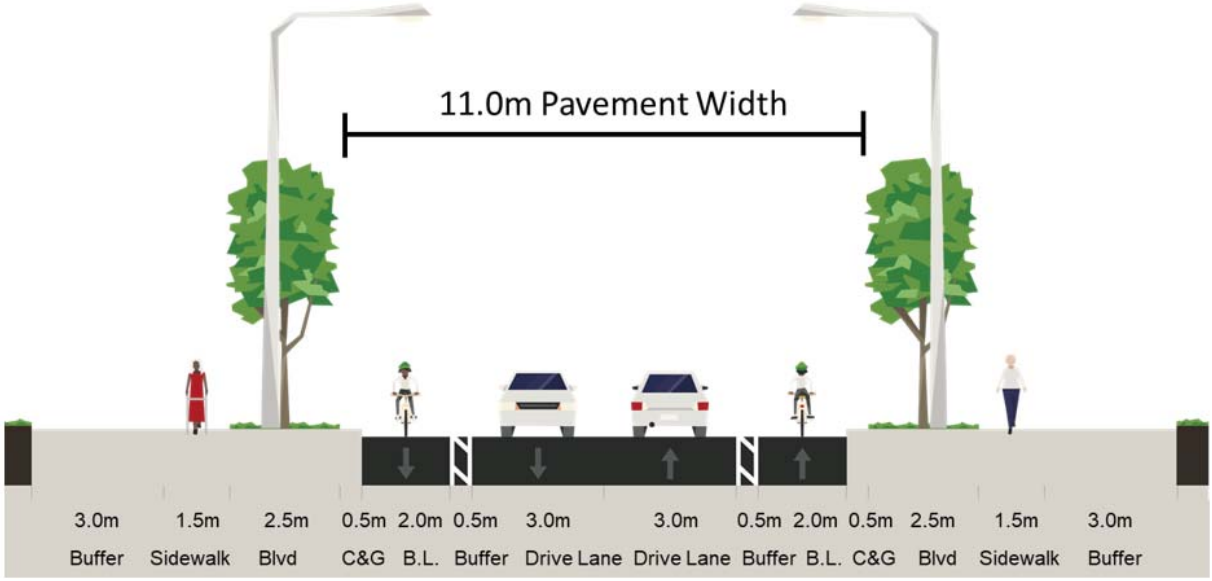
✓ Current proposed construction
✓ Revised from current proposed construction
✓ **High Priority**
✓ Medium Priority
✓ Low Priority
* Construction Not Approved by Council

a) Bicycle Lanes:

Bicycle lanes are on-road facilities designated by pavement markings and signage. Bicycle lanes are typically on the right side of the street between the vehicle travel lane and curb or parking lane, and flow in the same direction of traffic. Buffered bicycle lanes offer an enhancement by using painted buffers to provide additional space between motor vehicles and cyclists.

Example of a Bicycle Lanes is illustrated in Figure 1

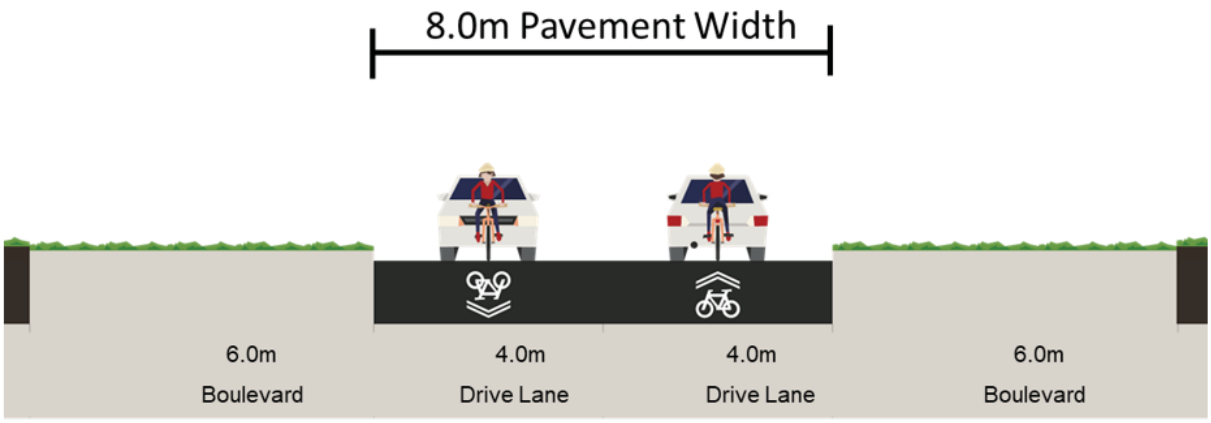
Figure 1: Example of Bicycle Lanes



b) Shared Lane Markings (Sharrows): sharrows are road markings that indicate a shared lane for bicycles and vehicles. It is a pavement marking that indicates a variety of uses to support a complete bikeway network; however, it is not a facility type. Sharrows are typically implemented to reinforce the legitimacy of bicycle traffic on the street, recommend proper bicyclist positioning, and maybe configured to offer directional wayfinding guidance. They should not be considered a substitute for bike lanes, cycle tracks, or multi-use trails where these types of facilities are a warranted or space permits.

Example of a Sharrows is illustrated in Figure 2

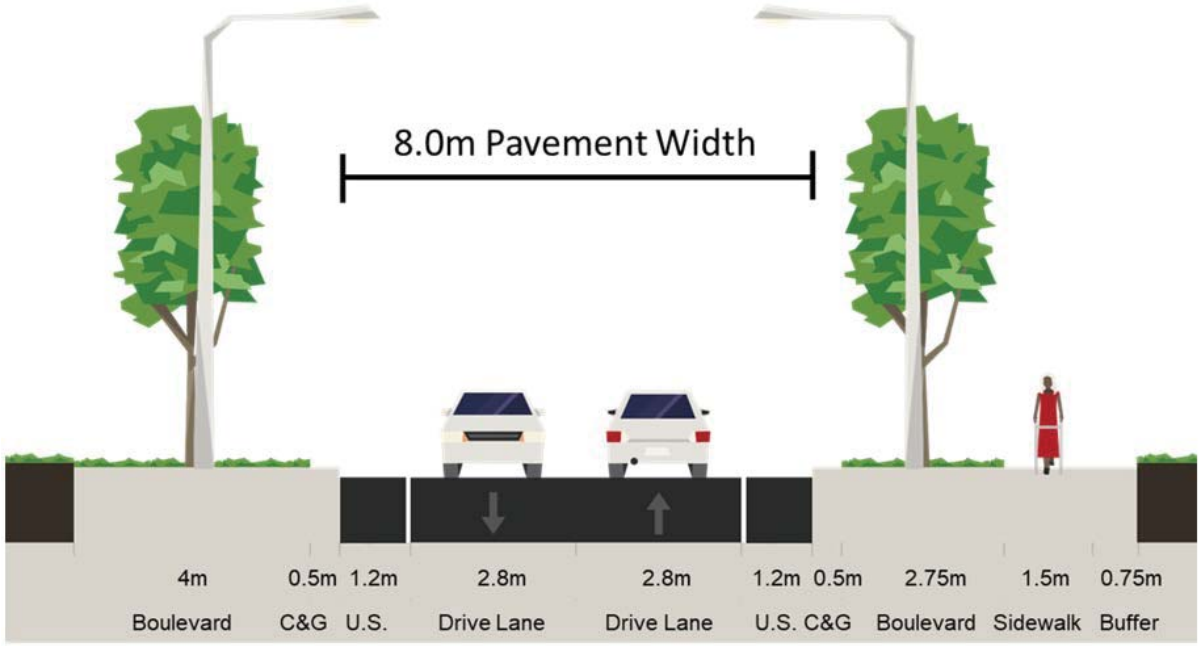
Figure 2: Example of Sharrows



c) **Urban Shoulder:** an urban shoulder is a space, delineated by an edge line that a cyclist may ride in instead of riding in the vehicular shared lane where dedicated cycling facilities are not provided. An urban shoulder is not an alternative to a dedicated cycling facility and may be used for snow storage in the winter. Based on the City of Toronto Road Engineering Design Guidelines, the minimum width of an urban shoulder delineated by an edge line shall be 1.2m and may be as wide as 2.3m where space is available.

Example of an Urban Shoulder is illustrated in Figure 3

Figure 3: Example of Urban Shoulder



Attachment 6
Recommended Cycling Network

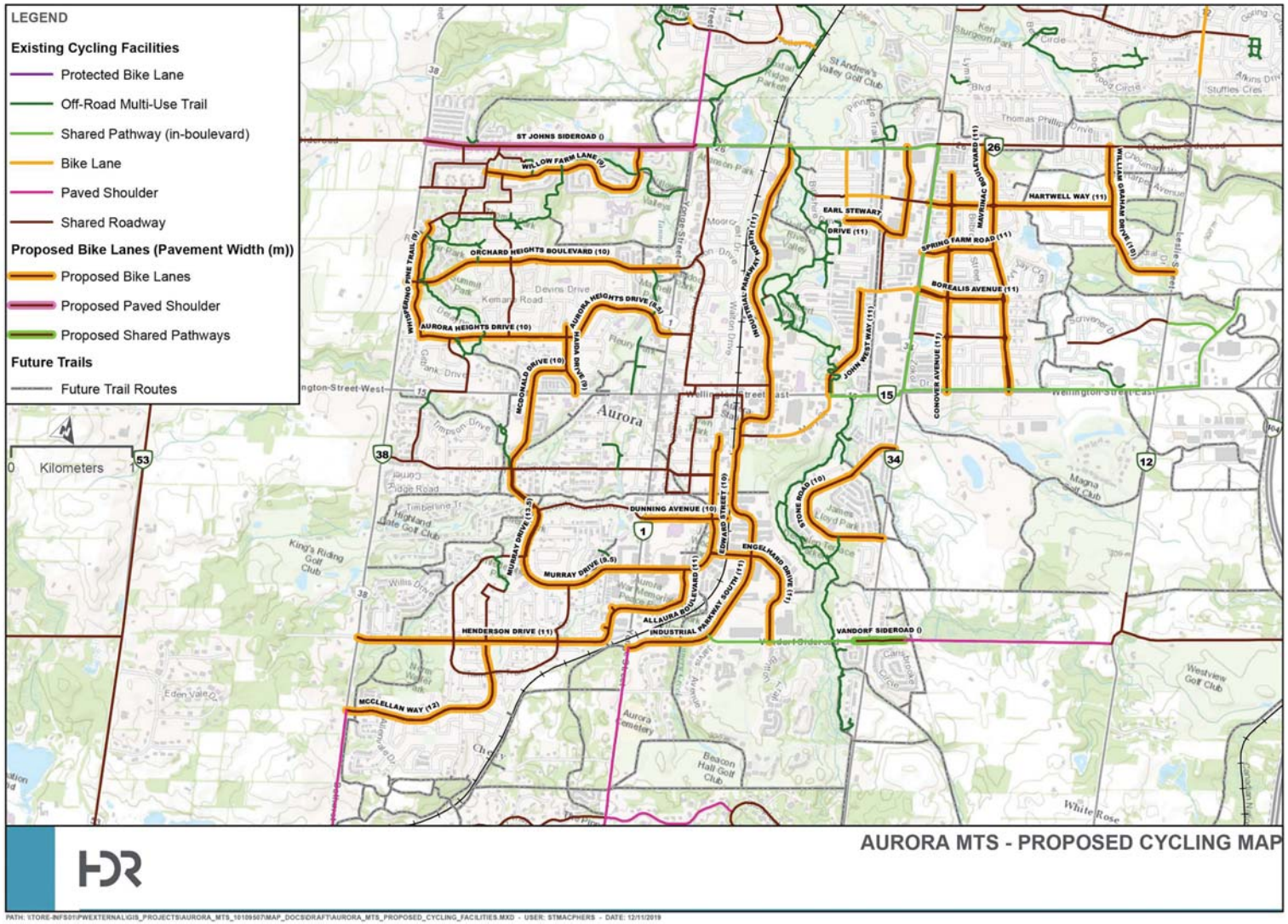


Figure 9-1: Recommended Cycling Facilities