Duke Street Cycling Improvements (Francis Street to Frederick Street) City of Kitchener

Public Engagement
Frequently Asked Questions (FAQ)

Dates: Monday, February 14, 2022 – Sunday March 13, 2022
Online Review and Comment Period

(https://www.engagewr.ca/duke-street-cycling-improvements)

What: The Region of Waterloo, in collaboration with the City of Kitchener, is reviewing the feasibility of improving cycling conditions along Duke Street in downtown Kitchener.

Where: Duke Street from Frederick Street to Francis Street.

Why: To provide continuity and connectivity in the City of Kitchener's Downtown Cycling Network while maintaining access for other essential transportation users.

When: 2023 Construction (subject to scheduling and budget approvals)

Who: Region of Waterloo Project Manager
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There is a survey provided on the EngageWR project page. Please complete the survey to share your comments.

Duke Street context within the Downtown Kitchener Cycling Network

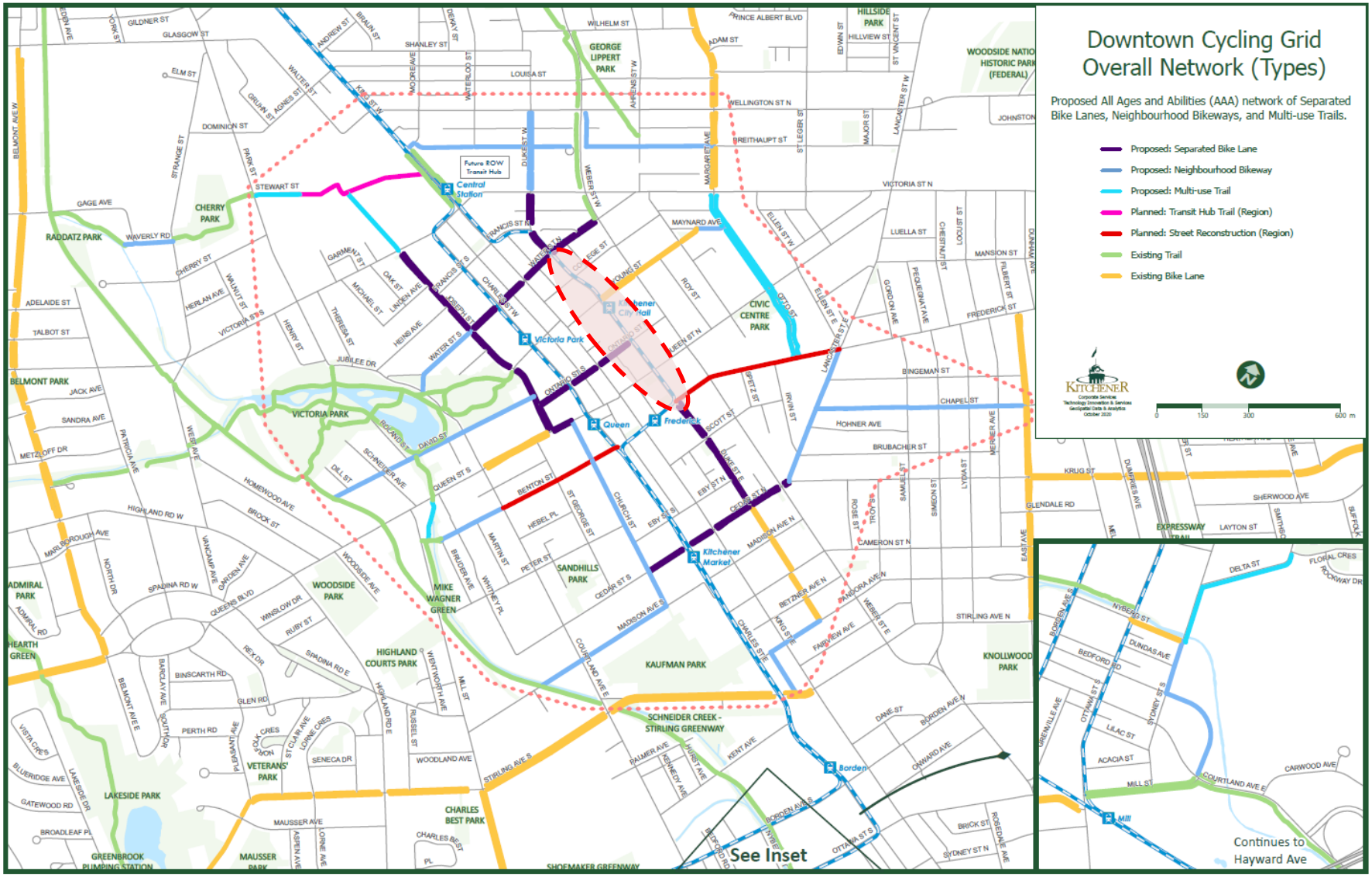


Figure 1: Duke Street context within the Downtown Kitchener Cycling Network

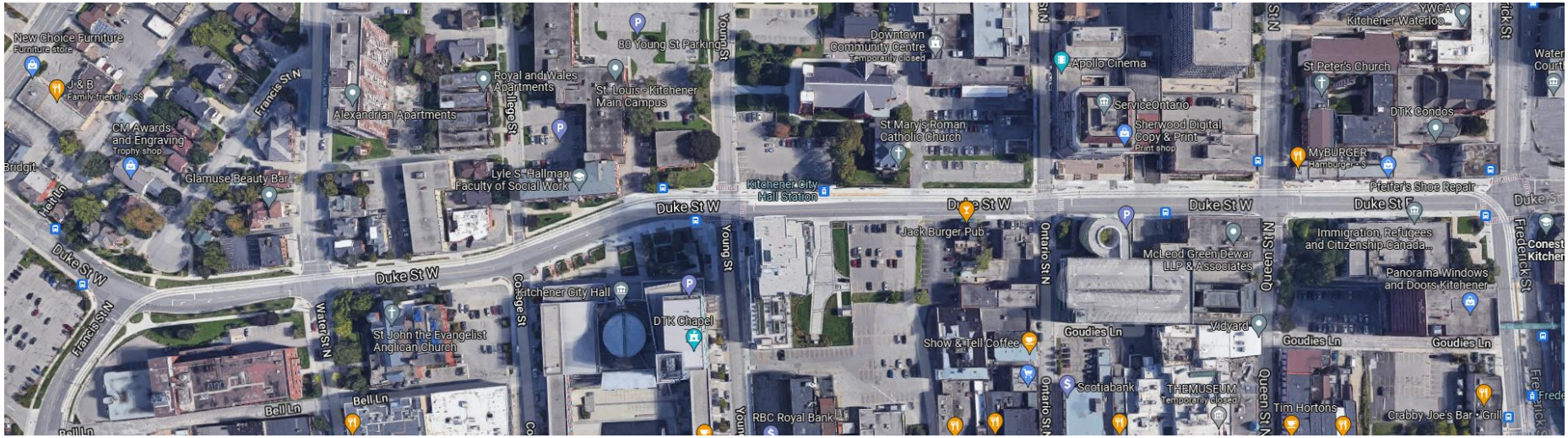


Figure 2: Aerial image of Duke Street

1. Why is the Region considering this project?

The Region of Waterloo, in collaboration with the City of Kitchener, is looking at opportunities to improve the cycling conditions along the Region's portion of Duke Street between Frederick Street and Francis Street in support of the City's Downtown Cycling Network. In addition to complementing the City's downtown cycling grid, including separated bike lanes on Duke Street between Victoria Street and Francis Street and between Frederick Street and Cedar Street, this specific Duke Street link will also provide a good cycling connection to the future Regional King-Victoria Transit Hub location. A main goal of the Region's 2018 Transportation Master Plan is to get more people cycling, rather than driving cars on a daily basis and one of the most effective ways to accomplish this is through improved cycling infrastructure.

2. What is the purpose of this public engagement?

This public engagement gives Region staff an opportunity to share information about all the options being considered and the preferred option, and listen to the public to understand their level of support and concerns for this project to help staff determine a recommendation to Council. Region and City staff are available before, during, and after the survey period to answer any questions you may have related to this project. Contact information is provided at the end of this information package.

3. What cycling facility types are being considered for this project?

The project team assessed the feasibility of 11 different cycling facility types typically seen throughout the province:

1. Physically separated bike lanes
2. Cycle tracks
3. Boulevard multi-use trail
4. Painted bike lanes
5. Buffered bike lanes
6. Contraflow bike lanes
7. Advisory bike lanes
8. Neighbourhood bikeways / transit mall
9. Shared use / mixed traffic operation
10. Paved shoulders
11. Bus and bike only lanes

Each of these cycling facility types were subject to a series of criteria including unique physical space constraints, limitations to the quality of the facility, and/or the ability to coexist with the other transportation modes.

The complete set of criteria applied and the screening results for the feasibility of the individual cycling facility types is provided separately on the Region's EngageWR project page.

4. What are the main considerations for facility selection on this section of Duke Street?

There are three main considerations that dictate the feasibility of the various cycling facility types along Duke Street: (i) physical space constraints; (ii) the need to maintain two-directional high quality transit services; and (iii) the need to maintain vehicular access to addresses along Duke Street. Due to the urban nature of this corridor, and to ensure a high level of accessibility among the facilities, the project team concluded that there is a requirement to separate pedestrians and cyclists meaning that multi-use trails were deemed inappropriate for this setting.

i. Physical Space Constraints

Along Duke Street, there are physical space constraints in some sections that limit the ability to provide the highest quality facilities for all transportation users. This is especially prevalent in light of the ION LRT that is the highest priority for Duke Street. For the section from Francis Street to College Street, there is adequate space within the Region's road allowance to allow the implementation of separated cycling lanes without affecting the other users. However, for the section from College Street to Frederick Street, the narrower road allowance and the prevalence of private buildings within close proximity to the road allowance means that separated cycling facilities cannot "fit" while maintaining two traffic lanes for the other users. **Figure 3** shows a typical section of the physically-constrained portion near Ontario Street.



Figure 3: Physical constraints along Duke Street near Ontario Street

ii. High-Quality Transit Service

The Region's transit authority, Grand River Transit (GRT), has recently redesigned its bus network to provide optimal transit service for downtown Kitchener, and to feed and support the ION LRT. There are currently four GRT routes that operate along Duke Street:

- 301 ION LRT Northbound + Shuttle buses as required;

- 8 Weber (2-way);
- 20 Victoria-Frederick (2-way); and
- 204 iXpress Highland-Victoria (2-way)

At present there are 12 buses per hour in each direction and six trains per hour along Duke Street. As ridership grows over time, the goal is to increase those frequencies to at least 20 buses per hour and eight trains per hour. All of the Duke Street transit routes use the Kitchener City Hall ION Station that is used by hundreds of passengers each day. Operating along Duke Street in both directions also allows these core bus routes to effectively serve Frederick Station between Duke and King Street, and other bus stops connecting to LRT stations in downtown Kitchener.

While converting this section of Duke Street to one-way travel was considered to provide additional space for a two-way separated cycling facility, the negative impact of one-way travel on bus transit service was considered prohibitive. Due to the importance of these transit routes within the Regional transit network, two-way transit service must be retained along Duke Street. The current transit routing through Duke Street is shown in **Figure *4***.

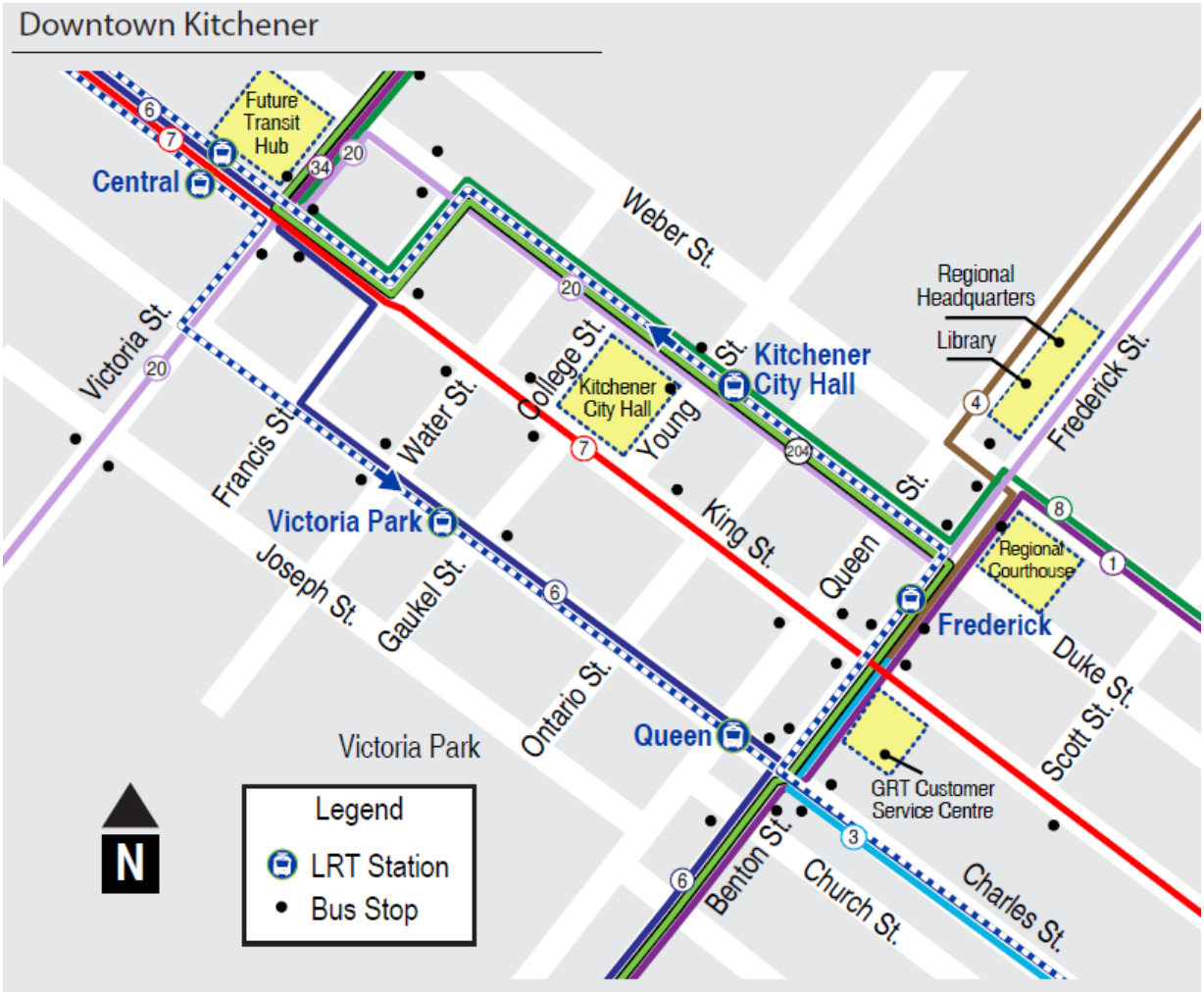


Figure 4: GRT routes through downtown Kitchener

iii. Vehicular Access

At present, Duke Street has a posted speed limit of 50 km/h, carries between 3,400 and 4,900 two-way vehicle trips per day, and provides sole access to more than 1,600 off-street parking spaces. The roadway also supports two-way emergency services routing, and waste management and loading operations. For the section from College Street to Frederick Street where a Neighbourhood Bikeway is proposed, there is an opportunity to limit the use of Duke Street for personal automobiles. This would be achieved by prohibiting motorists to travel straight through at signalized intersections, but there is no opportunity to remove automobile traffic entirely in order to adopt an exclusive walking, cycling and transit corridor.

5. What are the preferred cycling facilities?

There are two sections within the Region's portion of Duke Street with different preferred cycling facility types based on the unique characteristics of those two sections.

i. Francis Street to College Street: Two-Way Separated Bike Lanes

To provide a seamless connection to the proposed two-way separated bike lanes between Francis Street and Victoria Street, Regional Staff are proposing to extend the two-way separated bike lanes from Francis Street to College Street where physical space permits. **Figure *5*** shows a conceptual rendering for Duke Street at Francis Street that includes two-way separated bike lanes and **Figure *6*** shows an illustration of the proposed cross-section. These all ages and abilities (AAA) separated cycling lanes would provide a good transition from the proposed neighbourhood bikeway beyond College Street to the cycling lanes planned for Duke Street near the future King-Victoria Transit Hub, and the AAA cycling lanes recently implemented by the City on Water Street.



Figure 5: Artist rendering of Duke Street at Francis Street

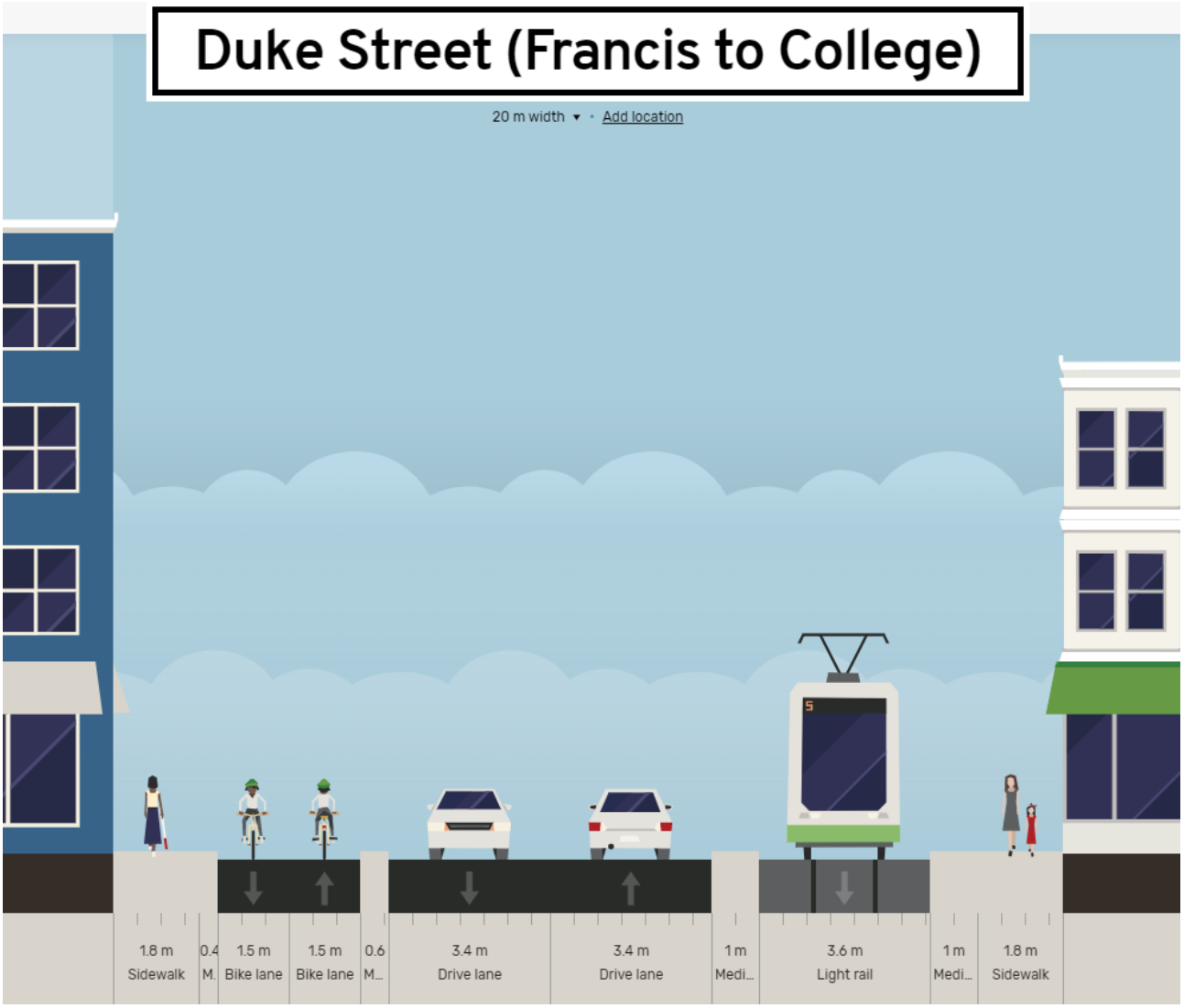


Figure 6: Preferred typical cross-section between Francis Street and College Street

A comprehensive screening process and public consultation was undertaken as part of the City's Downtown Cycling Network project to determine the appropriate facility type up to Water Street. Accordingly, Region staff is recommending the continuation of the two-way separated cycling lanes to College Street as a means to transition to the proposed neighbourhood bikeway on Duke Street toward Frederick Street and provide a safe, protected intersection to transition between the existing separated bike lanes on Water Street and proposed separated bike lanes on Duke Street. The City of Kitchener's Council endorsed the implementation of two-way separated cycling lanes along the Region's portion of Duke Street between Francis Street and Water Street.

ii. College Street to Frederick Street: Neighbourhood Bikeway

For the section of Duke Street from College Street to Frederick Street, the project team is proposing the adoption of a Neighbourhood Bikeway design. Neighbourhood Bikeways are low-volume, low-speed streets that have been optimized for bicycle travel and are typically implemented in corridors where providing separated space for cyclists is not feasible.

To achieve a Neighbourhood Bikeway, traffic measures are needed to reduce the current typical traffic volumes and speeds. For Duke Street between College Street and Frederick Street, the proposed approach involves prohibiting through movements for personal automobiles at the signalized intersections (i.e. Young Street, Ontario Street and Queen Street) to limit the vehicle trips along Duke Street to only those trips originating from or destined to addresses along Duke Street. The design would also include consideration of a reduced speed limit and the use of enhanced signage and pavement markings to heighten the awareness of cyclists in the corridor. A high-level illustration of the design concept and an illustration of the proposed cross-section are shown in **Figure *7*** and **Figure *8***, respectively.



Figure 7: Neighbourhood Bikeway concept for Duke Street from College Street to Frederick Street

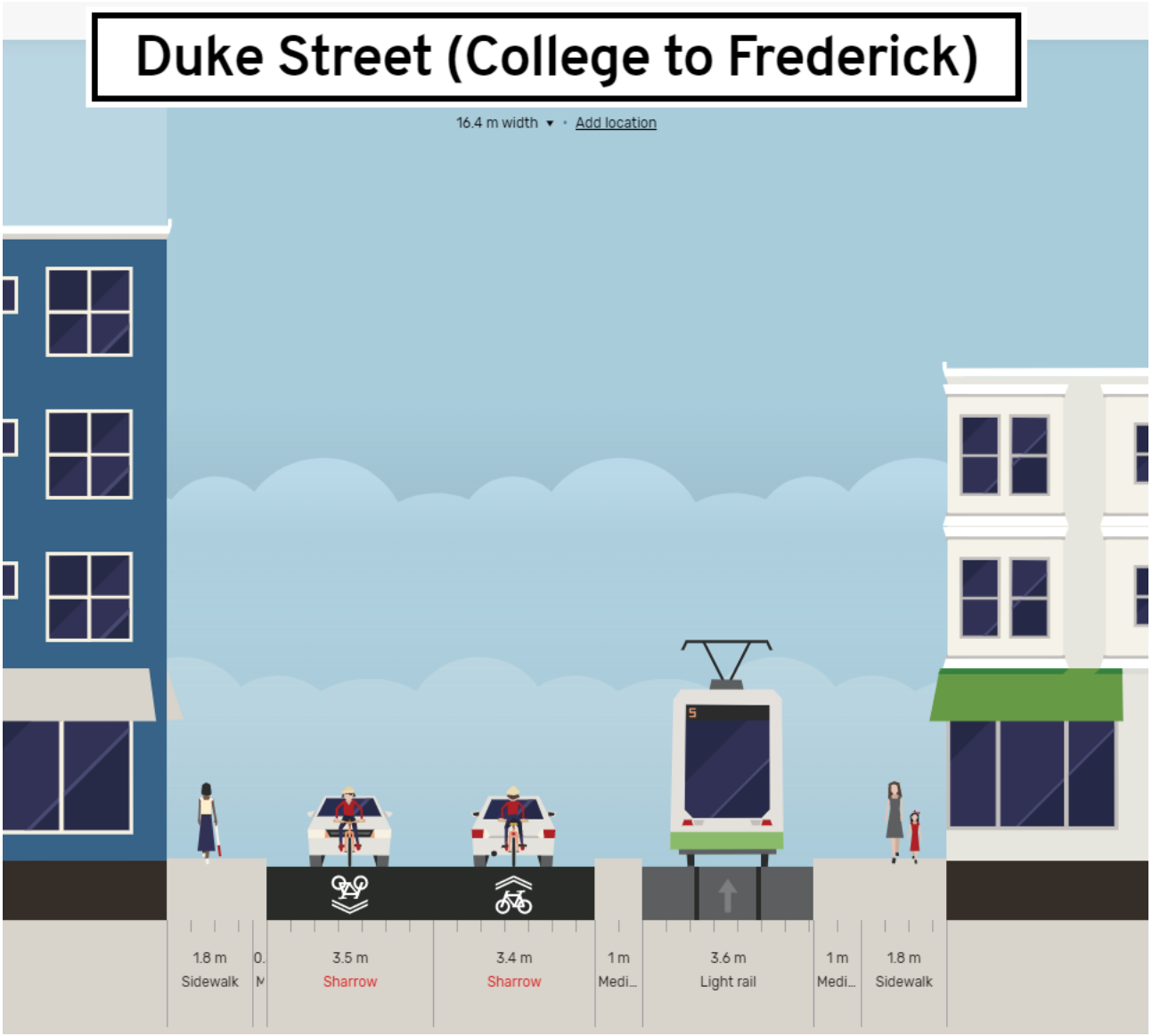


Figure 8: Preferred typical cross-section between College Street and Frederick Street

The Region will also be investigating opportunities to provide cycling facilities along Frederick Street east and west of Duke Street and the proposed Neighbourhood Bikeway along Duke Street would provide improved connectivity with any future facilities along Frederick Street.

6. Could ideal conditions be achieved for a Neighbourhood Bikeway on Duke Street?

Per provincial guidance, Neighbourhood Bikeways are suitable for streets with up to 1,500 two-way vehicle trips per day or less (ideally, 500 trips per day), and posted speed limits of 40 km/h or less (ideally, 30 km/h). The Region's most recent traffic data shows that the current traffic levels along Duke Street between College Street and Frederick Street range between 3,400 and 4,900 two-way vehicle trips per day. Through a preliminary analysis of available traffic data, Region staff estimate that a reduction in traffic volumes around 75 to 80 percent could be achieved on Duke Street with the introduction of straight-through prohibitions (effectively removing non-essential vehicle trips) which would bring the two-way vehicle trips per day down to between 850 and

1,250. These traffic volume reductions would provide an improved cycling environment along Duke Street and provide a good connection between the separated cycling lanes planned for Duke Street north of College Street and south of Frederick Street. Staff would also investigate the feasibility of reducing the posted speed limit from 50 km/h to 40 km/h to meet the Provincial guidance.

7. Could bus routes be shifted to another street to provide dedicated space for cyclists on Duke Street between College Street and Frederick Street?

A review completed as part of the comprehensive screening process determined that Duke St is the optimal corridor for the existing routes, as it allows for convenient connections to ION LRT stations, access to downtown destinations, and an improved operating environment and passenger environment over alternatives such as King St and Weber St, respectively. Changing service to operate one-way on another street would have negative impacts on existing travel patterns, network comprehension, and stop locations.

8. Has the Neighbourhood Bikeway concept been tried elsewhere?

The City of Toronto first piloted a similar concept along King Street through downtown Toronto starting in November 2016 which was ultimately successful and adopted as a permanent solution after a one-year trial period. The King Street re-design in Toronto included the prohibition of straight-through movements for motor vehicles at most signalized intersections, except for certain users (i.e. cyclists, transit vehicles, taxis, etc.) The nature of the City's project was slightly different in that the main goal of the traffic reduction was to facilitate faster, more reliable streetcar transit service along King Street through Toronto with a secondary goal of providing a desirable route for cyclists. A study of traffic volumes along the affected King Street section showed reductions in the range of 60 to 90 percent in the weekday peak periods.

9. What are the anticipated impacts for transit users in Downtown Kitchener?

Should the preferred cycling improvements be implemented, transit users should expect the same transit accessibility and overall service. The preferred cycling improvements would allow GRT to maintain 2-way bus service along Duke Street, and would not impact the northbound LRT services currently running along Duke Street. There would also be no change to stops at the Kitchener City Hall ION Station. Reducing through traffic could improve the reliability of transit service and accommodate future frequency growth.

In terms of accessing transit, the improved cycling facilities, in addition to the existing pedestrian facilities, would provide better connection options for transit users accessing the buses and light rail vehicles running on Duke Street. The improved cycling facilities could also be leveraged to provide future bike-share facilities and operating space for the growing use of electric bicycles and scooters (i.e. better "first mile" and "last mile" options).

10. What are the anticipated impacts for drivers on and near Duke Street?

The proposed cycling improvements along Duke Street, particularly the Neighbourhood Bikeway proposed for the section between College Street and Frederick Street where through movements would be prohibited, would effectively eliminate Duke Street as a thoroughfare and re-purpose it as an access road for addresses on Duke Street. The idea is that motorists would still be permitted to drive on Duke Street, but could only travel up to one block before being obligated to turn right or left at their destination address on Duke Street, or the next signalized intersection (whichever comes first). This approach would ensure that vehicle access is still provided to all parking facilities with driveways on Duke Street, but would result in an overall reduction of vehicular activity to a level that is more comfortable for a shared space with cyclists. The idea of limiting use for motorists on Duke Street fits nicely with future plans to close Duke Street to motor vehicle traffic at the railroad crossing north of Victoria Street, and the City's plan to convert Duke Street to a one-way facility for motor vehicles between Frederick Street and Cedar Street.

Exemptions would apply to the through movement prohibition for transit vehicles, emergency service vehicles, and bicycles. A traffic study conducted as part of the City of Kitchener's Downtown Cycling Network project showed that there is capacity on Weber Street to handle traffic that would be displaced from Duke Street because of the new traffic restrictions.

There are seven on-street parking spaces between Water Street and College Street that would need to be removed to fit separated bike lanes and maintain two-way vehicle and bus traffic.

11. Why is the Region prioritising transit and cycling over traveling in personal vehicles in downtown Kitchener?

The need to reduce car dependency has been recognised by both the Region and the City. Significant population growth is expected in downtown Kitchener in the coming years and the resulting increased travel demand can be accommodated only by increasing the number of residents who primarily rely on walking, cycling and transit to get around.

12. Is any property required for the proposed improvements?

The proposed improvements would fit within the existing road allowance and the Region would not need to acquire any property to implement the improvements.

13. Who will be responsible for the winter maintenance of cycling facilities?

Maintenance of new cycling facilities along Duke Street would be the responsibility of the municipality.

14. What is the estimated cost of this project?

Cost estimates have been developed at a high level at this time and will be subject to further review as the project progresses into the design stages.

The implementation of the separated cycling lanes along Duke Street from Francis Street to College Street are anticipated to carry a capital cost of approximately $1.1 Million and an additional annual maintenance and operation cost of $24,000.

The implementation of the neighbourhood bikeway along Duke Street from College Street to Frederick Street is anticipated to carry a capital cost of approximately $440,000 with no additional maintenance and operation costs.

15. What is the project schedule and what are the next steps for improvements on Duke Street?

At the conclusion of this public engagement period, Region staff will compile and analyze the survey results and take a recommendation to Regional Council in mid-2022 that captures the technical considerations, best practices, staff expertise and community engagement. Subject to Regional Council approval of the recommended improvements, Region and City staff would aim to implement the improvements as part of the City's 2023 capital construction program so that the Duke Street facilities are open for use by the end of 2023.

16. How can I provide my comments?

In order to assist the Project Team in addressing any comments or concerns you might have regarding this project, we ask that you fill out the survey available on the Engage Region of Waterloo page at **https://www.engagewr.ca/duke-street-cycling-improvements**.

17. How can I view project information following this public engagement?

All of the public engagement materials and other relative project information, notifications of upcoming meetings, and contact information are available for viewing at the Region of Waterloo municipal office as identified in the contact information below. Alternatively, you may visit the Engage Region of Waterloo site at www.engagewr.ca/hub-page/regionofwaterloo.

We thank you for your involvement and should you have any questions or concerns please contact one of the following:

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