



City of Port Moody

Report/Recommendation to Council

Date: October 8, 2024
Submitted by: Engineering and Operations Department – Infrastructure Engineering Services Division
Subject: Guildford Way Bicycle Facility Improvements Project

Purpose

To provide an update on the Guildford Way bicycle facility improvements project and recommend next steps.

Recommended Resolution(s)

THAT staff be directed to proceed with the detailed design and implementation strategy for an all ages and abilities protected bicycle facility along Guildford Way between the Coquitlam border and loco Road as recommended in the report dated October 8, 2024, from the Engineering and Operations Department – Infrastructure Engineering Services Division regarding Guildford Way Bicycle Facility Improvements Project;

AND THAT the project budget for the Guildford Way Bicycle Facility Improvements Project be updated to \$2,059,000 to incorporate the secured TransLink grant of \$1,059,000;

AND THAT staff be directed to implement a pilot project to test the relocation of bidirectional bike lanes to the roadway by removing the curbside vehicle/parking lane on Murray Street between loco Road and Klahanie Drive (west).

Background

Guildford Way currently has painted bicycle lanes on both sides of the road, which do not meet current guidelines for physical separation, given the speed and volume of traffic. The City of Coquitlam has implemented protected bicycle lanes on its portion of Guildford Way through the Guildford Greenway Micromobility Project. As a result, Port Moody's section of Guildford Way is now the only segment without all ages and abilities (AAA) cycling facilities in the Guildford/Murray corridor. Upon reviewing the existing cross-section of Guildford Way, staff determined that the roadway lacks sufficient width to accommodate protected bicycle lanes while maintaining the current two lanes of traffic in each direction. To address this gap and ensure integration with Coquitlam's Guildford Greenway Micromobility Project, further work on a concept plan for Guildford Way is required.

On March 14, 2023, Council directed staff to develop a concept plan and implementation strategy for an all ages and abilities bicycle facility along Guildford Way from the Coquitlam border to loco Road.

RC23/051

THAT the findings of the Bike Route Review project be accepted as recommended in the report dated February 16, 2023, from the Engineering and Operations Department – Infrastructure Engineering Services Division regarding Completion of Bike Route Review and Recommended Follow-up Studies;

AND THAT staff be directed to develop concept plans for protected bicycle lanes or off-street bicycle lanes along Heritage Mountain Boulevard and the south side of Murray Street;

AND THAT staff be directed to develop a concept plan and implementation strategy for an all ages and abilities protected bicycle facility for along Guildford Way between the Coquitlam border and loco Road, and Clarke Street from Moody Street to Barnet Highway;

AND THAT the cost of up to \$24,000 be funded from the Master Transportation Reserve to pay for the Guildford Way all ages and abilities concept plan and implementation strategy.

Based on Council's direction, staff completed conceptual designs for an all ages and abilities protected bicycle facility along Guildford Way between the Coquitlam border and loco Road. The recommendations from these conceptual designs were presented at the Transportation Committee meeting on June 19, 2024. During this meeting, the committee resolved:

TC24/019

THAT the Transportation Committee recommends:

THAT completion of a detailed design and implementation strategy for Concept 2 to accommodate protected bidirectional bicycle lanes along the north side of Guildford Way between the Municipal Border and loco Road be endorsed.

TC24/020

THAT the Transportation Committee recommends:

THAT implementation of a pilot project to test the relocation of the bidirectional bike lanes to the roadway by removing the curb vehicle/parking lane on Murray Street between loco Road and Klahanie Drive (west) be endorsed.

TC24/021

THAT the Transportation Committee recommends:

THAT staff ensure acceptable traffic analysis results are included as part of next steps, in the project.

As a follow-up to the Transportation Committee meeting, the traffic analysis results were presented to the Committee on September 11, 2024. This report outlines the recommended

conceptual design for an all ages and abilities protected bicycle facility along Guildford Way between the Coquitlam border and Ioco Road. It also includes the analysis and recommendations from the traffic modelling conducted as part of this project.

Discussion

Guildford Way is part of the Major Road Network (MRN), running primarily in an east-west direction, connecting the City of Coquitlam in the east to Murray Street in the west. It is a four-lane divided roadway with sidewalks on both sides and a posted speed limit of 50 km/h. Currently, there are 1.5m wide (including the gutter pan) painted bicycle lanes on each side for eastbound and westbound cyclists. However, these lanes do not meet all ages and abilities standard, and there is no physical separation between the bicycle lanes and the travel lanes. As a result, this section of Guildford Way represents a critical gap in the bicycle network.

To address this gap, the City retained R.F. Binnie & Associates Ltd. (Binnie) to help in preparing conceptual designs for an all ages and abilities protected bicycle facility along Guildford Way from the Coquitlam border to Ioco Road. During the concept development process, the project team considered two options for integrating protected bicycle lanes along the corridor:

- Concept 1: Protected unidirectional bicycle lanes on both sides of Guildford Way from the Coquitlam border to Ioco Road.
- Concept 2: A protected bidirectional bicycle lane on the north side of Guildford Way from Ioco Road to Ungless Way, where it transitions into unidirectional protected bicycle lanes that continue to the Coquitlam border.

Recommended Concept: Bidirectional Bicycle Lane on the North Side of Guildford Way

Following further investigation, the project team identified that maintaining unidirectional bicycle lanes on both sides of Guildford Way would be challenging due to the existing right-of-way constraints. Given the primary objective of providing an AAA protected bicycle facility, based on standard design guidelines, and ensuring physical separation from vehicle lanes, the recommended concept for this section is a bidirectional bicycle facility on the north side of Guildford Way from Ioco Road to Ungless Way. This facility will tie into protected unidirectional lanes that continue to the Coquitlam border. West of Ioco Road, it will connect to existing bidirectional bicycle lanes and the multi-use path along Murray Street. The recommended concept design is provided in **Attachment 1**. Key features of the recommended concept include:

- a 3.0m wide bidirectional bicycle lane on the north side of Guildford Way, buffered from traffic by 0.5m between intersections. At Ungless Way, it transitions into protected unidirectional lanes on both sides of the road to the Coquitlam border;
- eastbound cyclists will cross at the west approach of the Guildford Way and Ungless Way intersection to access the eastbound unidirectional lane;
- curbs and sidewalks will generally be maintained, but the median will be narrowed or removed in some sections to accommodate the bicycle lanes while retaining the existing lane configuration;
- channelized right turns at the three intersections (Guildford Way/Ioco Road, Guildford Way/Ungless Way, and Guildford Way/Hospital Access) will be removed to improve safety for pedestrians and cyclists;

- at intersections, traffic signals will be modified to restrict right turn movements during red phases and allow only protected left turns to mitigate conflicts between vehicles, cyclists, and pedestrians; and
- additional safety and traffic operations improvements may be considered as the design progresses.

While the recommended concept may require some cyclists to cross Guildford Way to access the bidirectional lane, it will provide a safer and more comfortable facility for the majority of users. Safe crossings will be provided at intersections for both pedestrians and cyclists. In the future, developments on the south side of Guildford Way may provide an opportunity to add an eastbound bicycle lane, although the timeline for this is currently unknown.

As mentioned above, several significant changes are proposed to provide an all ages and abilities protected bicycle facility along this corridor. The following section outlines the proposed modifications to Guildford Way as well as the changes at key intersections within this segment of the roadway.

Channelized Right Turn Lane Removal

Three of the four intersections along the Guildford Way corridor (Loco Road, Ungless Way, and Hospital Access/Carlsen Place) currently have channelized right turn lanes. These lanes create additional conflict points between vehicles, pedestrians, and cyclists. The existing configuration forces pedestrians and cyclists to cross additional lanes at intersections, increasing their exposure to vehicular traffic. The intersection at Guildford Way and Loco Road is already the second highest crash location in the City. While the detailed crash report for 2023 from ICBC is pending, an analysis of crashes from 2016 to 2022 has been completed as part of this project (Figure 1). This analysis highlights that channelized right turn lanes were involved in a higher number of injury incidents, including rear-end collisions and one cyclist-related incident. Channelized right turn lanes also result in poor yielding compliance to pedestrians, making it difficult for them to cross safely, especially when turning vehicles fail to notice or prioritize crossing pedestrians. As a result, to improve safety and reduce conflicts between pedestrians, cyclists, and vehicles, the recommended concept includes the removal of all existing channelized right turn lanes from intersections along Guildford Way.

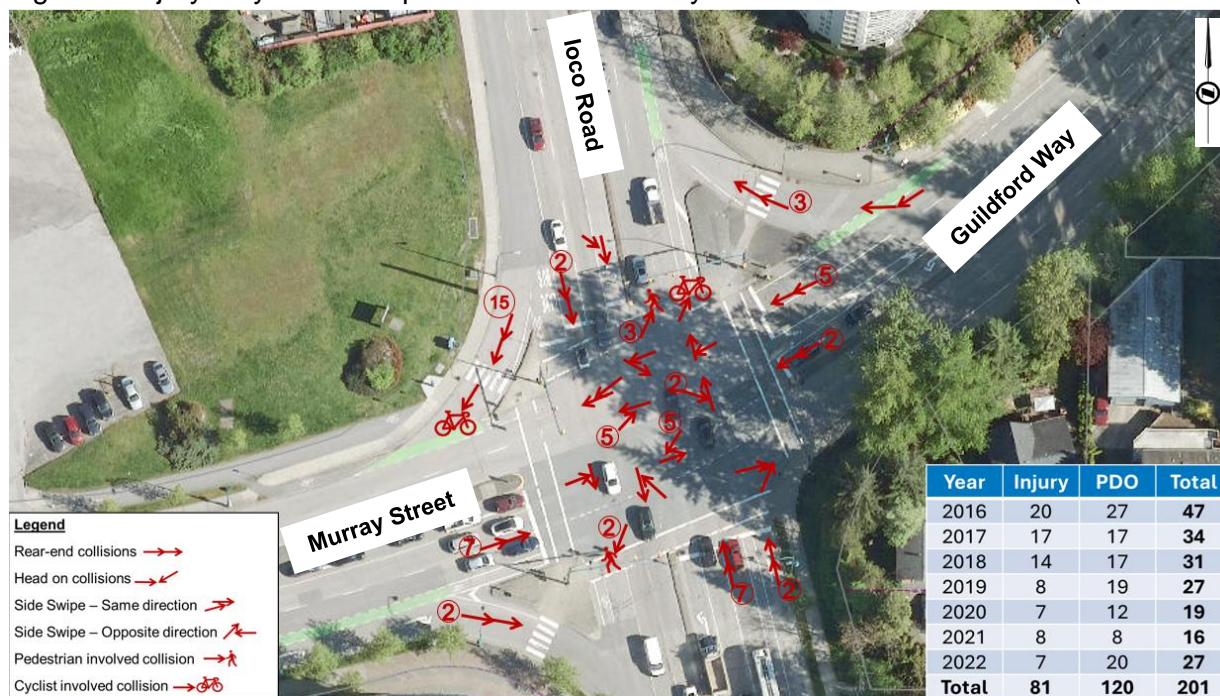
Protected Left Turn Movements and No right Turn on Red Configuration

As shown in the crash map analysis (Figure 1), a significant number of injury related crashes at the Guildford Way and Loco Road intersection are associated with left turn movements. Many of these crashes involve vehicles colliding with pedestrians or cyclists within the crosswalk. Currently, left turns are permitted under a permissive green phase, meaning vehicles can turn left while through traffic is allowed to proceed in the opposite direction. This creates a scenario where drivers focus more on finding a gap in oncoming traffic and less on monitoring pedestrians or cyclists crossing the street.

To mitigate these safety concerns, left turns at intersections along Guildford Way will be changed to protected only movements. This means that left turns will only be permitted when a dedicated green arrow is displayed, ensuring that vehicles are not turning across pedestrian or cyclist. Additionally, a no right turn on red configuration will be introduced at these intersections. This measure will prevent right turning vehicles from crossing paths with pedestrians or cyclists

when the signal is red, further reducing the potential for conflicts and improving safety for all road users.

Figure 1: Injury-only Crash Map for the Guildford Way and Loco Road Intersection (2016–2022)



Strategic Changes to the Traffic Signal Timing

The removal of channelized right turn lanes, combined with the introduction of protected left turn movements and no right turn on red configurations, comes with a trade-off of increased delays for drivers making left and right turns at intersections. To quantify the impact of these changes, staff conducted a traffic operations analysis along the corridor. The traffic operation analysis was evaluated based on the volume-to-capacity (v/c) ratio, approach delay, level of service (LOS), and the 95th percentile queue length. A v/c ratio of 1.0 or higher typically indicates that traffic volumes exceed the intersection’s capacity. Delay, measured in seconds, represents the wait time experienced by a driver approaching the intersection. LOS is a grading system for intersection performance, where LOS A indicates minimal delay, and LOS F signifies significant delay. The traffic operation results at the intersection of Guildford Way and Loco Road are provided in **Attachment 2**.

The analysis shows that while vehicles making right turns, particularly on loco Road, will experience longer queues, the corridor can still accommodate peak hour volumes. However, significant queuing is observed in the traffic modelling for vehicles making eastbound left turns from Murray Street onto loco Road and westbound left turns from Guildford Way onto loco Road. During peak hours, these turning movements may exceed capacity under the current intersection design.

To address these issues, the recommended concept design includes additional eastbound left turn lanes from Murray Street onto loco Road and extended westbound left turn storage lanes from Guildford Way onto loco Road. These changes will ensure that turning vehicles do not obstruct through traffic, particularly westbound vehicles on Guildford Way. Furthermore,

strategic adjustments to traffic signal timing will be implemented to minimize the impact of these changes on drivers and reduce overall delay where possible.

Changes to the Guildford Way and Carlsen Place/Hospital Access Intersection

During the concept design process, staff reviewed the sightlines and visibility for vehicles making left turns from Carlsen Place or Hospital Access onto Guildford Way. The analysis revealed that the combination of horizontal and vertical curves along this stretch of roadway significantly limits visibility, creating unsafe conditions for left-turning vehicles. This poor visibility, combined with the volume of traffic, has contributed to five crashes at this intersection between 2019 and 2023. Additionally, staff are aware of several near miss situations at this location.

To improve safety, the recommended concept includes a right-in, right-out configuration for Carlsen Place, eliminating the left turn movement from Guildford Way onto Carlsen Place. For the Hospital Access, a protected left turn movement will be introduced, allowing vehicles to turn left from the hospital access onto Guildford Way and merge into the eastbound traffic lanes. These changes will improve safety for vehicles exiting both Carlsen Place and Hospital Access by reducing conflict points and ensuring better visibility.

Loss of Southbound Bus Lane/Bus Queue Jump at Guildford Way and loco Road Intersection

The removal of the channelized right turn lane at Guildford Way and loco Road will result in the loss of the southbound bus lane/bus queue jump on the north leg of the intersection. This change may negatively impact bus travel times and reliability for southbound routes.

To address the potential impact, staff will coordinate with TransLink to explore opportunities for improving bus travel times along this corridor. However, these changes are outside the scope of the Guildford Way Bicycle Facility Improvements Project and will require coordination with adjacent intersections, particularly loco Road and Newport Drive.

Murray Street between loco Road and Klahanie Drive (west)

Staff have received complaints about cyclists on the existing multiuse pathway along the north side of Murray Street between loco Road and Klahanie Drive (west) who are not complying with the signage instructing them to “dismount and walk” near the CP Rail crossing, resulting in pedestrian-cyclist conflicts. This one section of pathway narrows to the width of a sidewalk due to constraints at the CP Rail crossing.

As a potential mitigation measure, staff propose a pilot project to test the relocation of the bidirectional bike lanes to the roadway by removing the curbside vehicle lane on Murray Street between loco Road and Klahanie Drive (west). This lane currently accommodates vehicle travel but merges back into the centre lane before a section of on-street parking. The transition of the bidirectional bike facility from the boulevard to the roadway would begin near the works yard parking lot entrance and continue along the roadway to where the bidirectional bike facility resumes after the multiuse pathway diverts into Rocky Point Park. The pilot concept design for this section is provided in **Attachment 3**.

Financial Implications

The approved 2024-2028 Capital Plan includes a budget of \$1,000,000 for the Guildford Way Bicycle Facility Improvements Project. In addition, the project has secured a TransLink grant of \$1,059,000. The City will continue to pursue additional grant funding opportunities for this project. Should the project advance to the detailed design phase, staff will provide Council with an updated cost estimate.

Communications and Public Engagement Initiatives

If the Guildford Way Bicycle Facility Improvements Project proceeds, communications with directly affected stakeholders and general road users will be incorporated into the development of the implementation plan. There is no public engagement initiative planned as part of this implementation.

Council Strategic Plan Goals

The recommendations in this report align with the following Council Strategic Plan Goal(s):

- Strategic Goal 2.2 – Advance climate change mitigation and adaptation; and
- Strategic Goal 3.2 – Provide safe, efficient, and accessible transportation options.

Attachment(s)

1. Guildford Way Bicycle Facility Improvements Project – Recommended Concept.
2. Traffic Operation Analysis Results for Guildford Way and Ioco Road Intersection
3. Pilot Project Concept of Bidirectional Bike Lanes on Murray Street.
4. Professional Certification of Engineering Work.

Report Author

Nobinur Rahman, P.Eng.
Transportation Engineer

City of Port Moody
Permit to Practice Number 1002766
Professional seal affixed via Attachment 4

Report Approval Details

Document Title:	Guildford Way Bicycle Facility Improvements Project.docx
Attachments:	<ul style="list-style-type: none">- Attachment 1 - Guildford Way Bicycle Facility Improvements Project – Recommended Concept.pdf- Attachment 2 – Traffic Operation Analysis Results for Guildford Way and Ioco Road Intersection.pdf- Attachment 3 - Pilot Project Concept of Bidirectional Bike Lanes on Murray Street.pdf- Attachment 4 - Professional Certification of Engineering Work.pdf
Final Approval Date:	Sep 30, 2024

This report and all of its attachments were approved and signed as outlined below:

Stephen Judd, Manager of Infrastructure Engineering - Sep 25, 2024

Tracey Takahashi, Deputy Corporate Officer - Sep 26, 2024

Jeff Moi, General Manager of Engineering and Operations - Sep 26, 2024

Stephanie Lam, City Clerk and Manager of Legislative Services - Sep 27, 2024

Lindsay Todd, Manager of Communications and Engagement - Sep 27, 2024

Paul Rockwood, General Manager of Finance and Technology - Sep 28, 2024

Anna Mathewson, City Manager - Sep 30, 2024