




INFORMATION REPORT

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	July 6, 2022
SUBJECT/REPORT NO:	In-Service Road Safety Review of the Intersection of Barton Street and Wellington Street (PW22054) (Ward 2/3) (Outstanding Business List Item)
WARD(S) AFFECTED:	Ward 2/3
PREPARED BY:	Chris Day (905) 546-2424 Ext. 2433 Khaled Hawash (905) 546-2424 Ext. 2064
SUBMITTED BY:	Mike Field Acting Director, Transportation Operations & Maintenance Public Works Department
SIGNATURE:	

COUNCIL DIRECTION

On October 28, 2021, a resident was struck and killed in the intersection at Barton Street and Wellington Street.

On November 15, 2021 Transportation, Operations and Maintenance was directed by Public Works Committee through a motion to undertake a roadway safety audit, based on Vision Zero principals, of the intersection of Barton Street and Wellington Street to assess potential safety enhancements and report back to Public Works Committee by end of Q2 2022. Report PW22054 is the follow up to this direction.

INFORMATION

The City of Hamilton approved the Vision Zero Action Plan in February 2019, which is a comprehensive road safety plan to eliminate collisions that involve serious injuries or fatalities. As part of this program, roadway safety improvements should be considered particularly in areas where there is a high volume of vulnerable road users.

The City of Hamilton retained the services of True North Safety Group (TNS) to undertake an In-Service Road Safety Review (ISRSR) at the intersection of Barton

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OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

Street East at Wellington Street North (“the intersection”) to identify roadway safety measures to improve the overall safety for all modes of travel.

Existing Conditions

Barton Street East is a two-way, four-lane minor arterial road with a posted speed of 50 km/h. Wellington Street North is a one-way, four-lane major arterial road, southbound, with a posted speed of 50 km/h.

The intersection of Barton Street and Wellington Street is a four-leg signalized intersection. The lane configuration at the intersection consists of the following:

- Eastbound approach: one through lane and one shared through/right -turn lane;
- Westbound approach: one exclusive left turn lane and two through lanes; and
- Southbound approach: one shared through/left -turn lane, two through lanes, and one exclusive right-turn lane.

The historical collision data (January 1, 2016, to December 31, 2021) identified the following main patterns in the collision history:

- Nine collisions involving pedestrians were recorded:
 - Four occurred on the eastbound approach including three with a vehicle making a right-turn;
 - Three occurred on the westbound approach including two with a vehicle travelling straight at the intersection;
 - Four occurred under dark conditions; and
 - One fatal collision occurred in 2021. A pedestrian was struck by an eastbound dump truck. The road surface condition was dry, and the lighting condition was daylight.
- No cyclist collisions were recorded during the study period;
- The predominant collision type was rear end with 18 collisions (33%). Twelve (67%) of these collisions involved vehicles travelling eastbound. Six (33%) of these collisions occurred in 2019; and
- Seven angle collisions were recorded at the intersection. Six of the angle collisions involved southbound and westbound motorists. Five of the angle collisions resulted in an injury.

A review of the traffic operations was also undertaken by TNS, as well as a field investigation to assist in determining a number of roadway safety measures at the intersection.

Roadway Safety Measures

As noted in the Summary of Findings and Recommendations within the ISRSR (attached to Report PW22054 as Appendix “A”) the identified measures are categorized into three categories: Short-term actions, medium/long-term recommendations and potential improvement options.

Short-term actions include relatively inexpensive measures that can be implemented in the short-term without major physical changes to the layout of the intersection. Medium/long-term recommendations are more costly, which require long-term planning and design. Potential improvement options represent a subset of longer-term measures that could be implemented but are not currently required for implementation based on the safety performance and lower collision risk. These improvements could be considered in the future if any substantial changes in the number of collisions, conflicts, or traffic volumes occur.

Short-term Actions:

- Implement a Leading Pedestrian Interval (LPI) at the intersection.
- Resurface the eastbound lanes and south crosswalk.
- Remove the gap near the curb ramp on the northeast corner of the intersection.
- Address the tripping hazards present along Barton Street north’s sidewalk.
- Replace the utility pole grey guy wire sleeve with a yellow guy-wire sleeve to increase conspicuity of the hazard.
- Install reflective outline to the eastbound secondary signal backboard.
- Install advance street name signs on eastbound and southbound approaches.

Medium/Long-term Recommendations:

Reallocate space by implementing one of the following options:

- ✓ Option 1: install curb extension on the northeast and southeast corners;
- ✓ Option 2: install curb extension on the northeast and southeast corners and remove the right curb lane but maintain an exclusive southbound right turn lane;
- ✓ Option 3: install curb extension on the northeast and southeast corners and remove the right curb lane and extend it to Barton Street; and
- ✓ Option 4: convert Wellington Street to a two-way street.
- Enhance lighting levels along Wellington Street’s east sidewalk and on the southeast corner of the intersection to increase the visibility of pedestrian approaching the intersection;

- Relocate the utility poles located on the south sidewalk outside of the clear zone; and
- Upgrade crossings to AODA standards

Potential Improvement Option:

Install a red-light camera on the southbound approach: Given that the installation of curb extensions will reduce the likelihood of angle collisions, the City should closely monitor the number of rear end, angle and turning movement collisions at the intersection for a couple of years after the installation of curb extensions and install red-light cameras at the intersection should a significant number of angle collisions continue to be recorded at the intersection.

The short-term actions for the intersection are scheduled to be completed in 2022, except for the resurfacing related road safety measure which is scheduled to be completed in 2023. Short-term actions will be funded through existing capital and operating budgets.

With respect to the Medium/Long-term Recommendations, on May 11, 2022 Council put forward a motion “That staff update and reassess all remaining one-way streets in the City of Hamilton utilizing the street conversion framework identified in the Transportation Master Plan and report back to Council.”. The potential for converting Wellington Street to a two-way street will therefore be considered as part of that review, which in turn would also influence the remaining medium/long-term recommendations except for the recommendation regarding improved lighting levels. The lighting levels at the intersection will be further reviewed in 2022 and upgraded as needed to meet the required lighting levels.

The potential improvement option to install a red-light camera on the southbound approach will be closely monitored by the City, after the installation of the medium/long-term recommendations (such as curb extensions), as part of the Red-Light Camera Program.

Combined, the safety enhancements identified in Report PW22054 will serve to better protect all road users and are in alignment with the City of Hamilton’s Vision Zero principals. The results of which are monitored through the annual review of the collision history for intersections and road segments, as summarized in Annual Collision Reports. It will take a number of years after the implementation of safety enhancements to statistically gauge the effect as meaningful analysis takes into account five years of collision history to determine reliable intersection and road segment collision frequency.

APPENDICES AND SCHEDULES ATTACHED

Appendix “A” to Report PW22054 – ISRSR, Summary of Findings and
Recommendations