

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC, Deputy City Manager,
Environment & Infrastructure

Subject: Waterloo and Piccadilly Area Traffic Study Recommendations

Date: June 22, 2021

Recommendation

That, on the recommendation of the Deputy City Manager, Environment & Infrastructure, the following actions be taken with respect to the Waterloo and Piccadilly Area Traffic Study:

- a) the staff report dated June 22, 2021 entitled “Waterloo and Piccadilly Area Traffic Study Recommendations”, **BE RECEIVED**; and,
- b) the Civic Administration **BE DIRECTED** to implement the improvements within the Piccadilly Area Neighbourhood as set out in Section 2.4 of the report noted in a) above;
- c) the Civic Administration **BE DIRECTED** to consider the recommendations of the study as part of any future planning applications for non-residential uses in the study area; and,
- d) the Civic Administration **BE DIRECTED** to continue to monitor the study area as identified in the report noted in a) above.

Executive Summary

This report provides the results of a Council-directed traffic and parking study undertaken in the Piccadilly Area Neighbourhood. This study resulted from a planning application for the property located at 745-747 Waterloo Street, which was considered by the Planning and Environment Committee on September 24, 2018. After considering concerns raised by the neighbourhood with respect to traffic volumes and parking from non-residential uses, Administration was directed to study the traffic and parking concerns raised by the neighbourhood and to report back at a future Planning and Environment Committee meeting. The City completed this study in early 2021, which included two public engagement opportunities that were held prior to the recommendations being finalized.

Note that, while the original direction to staff was to report back to the Planning and Environment Committee, the application that instigated this study has been approved and all outstanding traffic considerations are within the mandate of the Civic Works Committee. As a result, this topic was placed on the Deferred Matters list for the Civic Works Committee and this report is being submitted to the same committee for its consideration.

Linkage to the Corporate Strategic Plan

The following report supports the 2019–2023 Strategic Plan through the strategic focus areas of Building a Sustainable City, Growing Our Economy and Leading in Customer Service by contributing to improved mobility options with a complete streets lens and a focus on climate change mitigation and adaptation.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

Planning and Environment Committee report September 24, 2018 – Public Participation Meeting – Application – 745-747 Waterloo Street (Z-8921)

2.0 Discussion and Considerations

2.1 Purpose

At a September 24, 2018 Public Participation Meeting, a by-law was introduced to amend the Zoning By-law No. Z-1 for the properties at 745-747 Waterloo Street. As part of that by-law, based on concerns from residents, a resolution was made that the Administration be requested to review, in consultation with the neighbourhood, the traffic and parking congestion concerns arising from this development and to report back at a future Committee meeting. The resolution can be seen below:

“That, on the recommendation of the Managing Director, Planning and City Planner, the following actions be taken with respect to the application of The Y Group Investments and Management Inc., relating to the property located at 745-747 Waterloo Street:

b) the Civic Administration BE REQUESTED to review, in consultation with the neighbourhood, the traffic and parking congestion concerns raised by the neighbourhood and to report back at a future Planning and Environment Committee meeting;”

Following this council direction, the Transportation Planning & Design Division retained a consultant to investigate these concerns and propose transportation and parking improvements for the area. The study purpose was to collect and review traffic and parking information, assess traffic operations and safety, and develop mitigation measures as needed. These measures could include changes to traffic control, signage, or parking restrictions. Consideration was also given to speed reduction measures that would promote a safe pedestrian environment, especially near the schools/daycares and Piccadilly Park.

2.2 Current Conditions

The study area approximates the Piccadilly Area Neighbourhood and is bounded by Richmond Street to the west, Oxford Street to the north, Adelaide Street to the east, and the Canadian Pacific Rail tracks to the south. A map of these limits is can be seen in the below Figure 1 – Study Area.

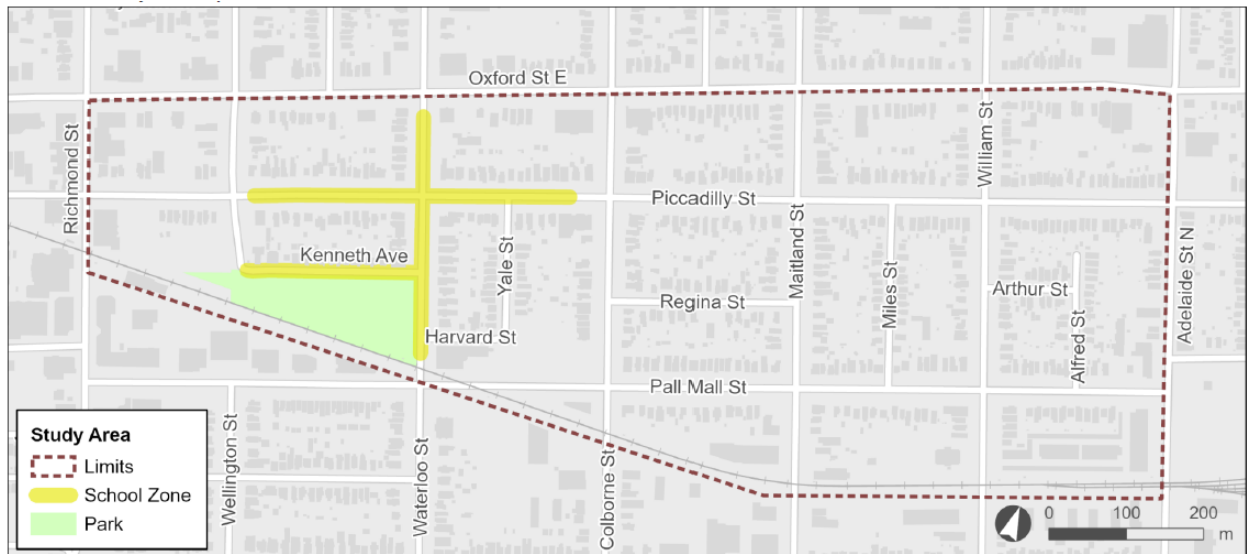


Figure 1 – Study Area

The map also shows the extents of the signed school zone located on sections of Piccadilly Street, Kenneth Avenue and Waterloo Street. The school zone, which includes road segments bordering Piccadilly Park, represents an important focus area for the study. It's important to note this entire neighbourhood is part of the Central London 40km/h speed limit area, as part of the City's area speed limits program.

Site visits were conducted in October 2020 to observe current traffic and parking conditions during weekday peak travel times, as well as to document speed limits, parking restrictions, intersection controls, and turning restrictions. They were also used to identify potential locations for speed data collection, as further described below.

It is noted that these site visits were conducted during the ongoing COVID-19 pandemic, which has impacted travel patterns and resulted in a reduction in overall traffic demand. It is likely that traffic and parking demand within the study area was likewise impacted when the site visits were undertaken, and this was accounted for when evaluating existing conditions and potential mitigation measures.

Data Collection

As part of this study, staff installed several speed stations to collect speed information as well as relied on previous traffic data counts to inform the recommendations. The map of the locations where the specific speed stations were installed can be seen in the below Figure 2 – Locations of Speed Stations

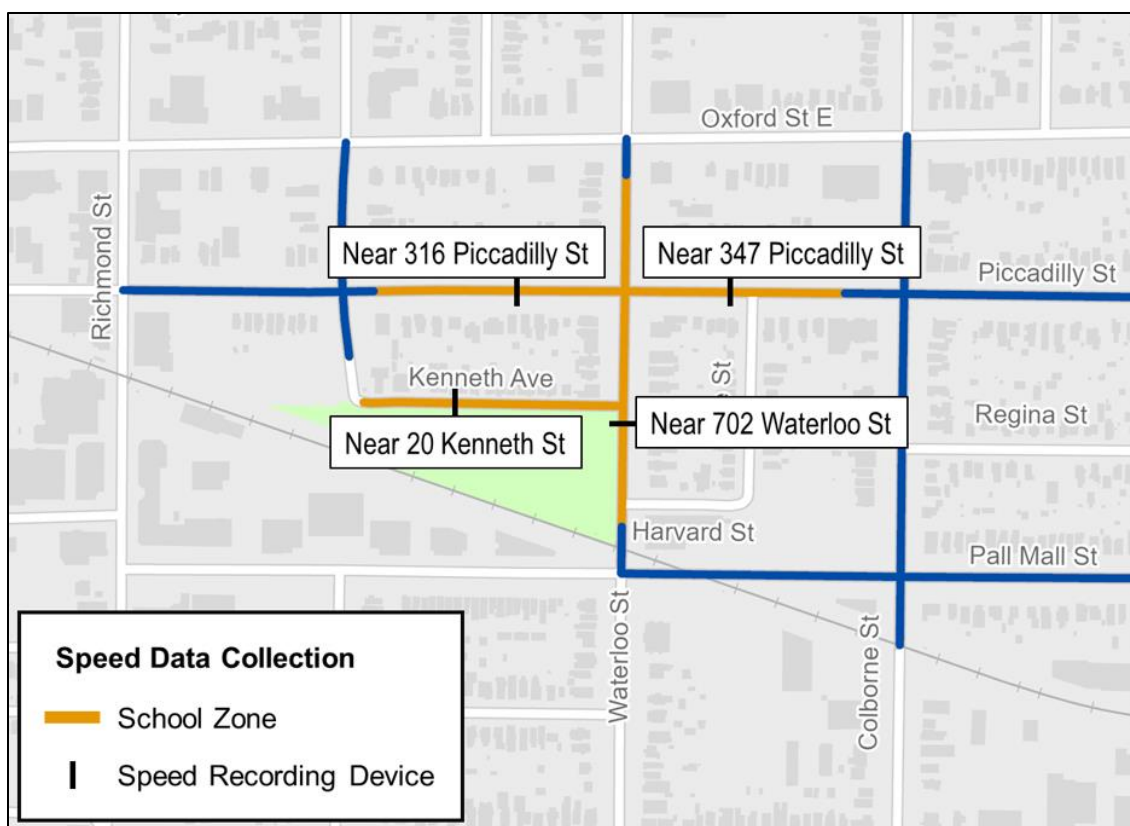


Figure 2 - Locations of Speed Stations

Land Uses and Street Parking

The neighbourhood is primarily residential, however land use conversions have enabled several schools and daycares to operate in the area, while office/commercial uses are starting to appear near Oxford Street. Residents have raised several concerns related to traffic and parking, including:

- Frequent traffic speeding, particularly within the signed school zone;
- Limited on-street parking availability near schools and businesses; and
- Traffic congestion in peak commuting times

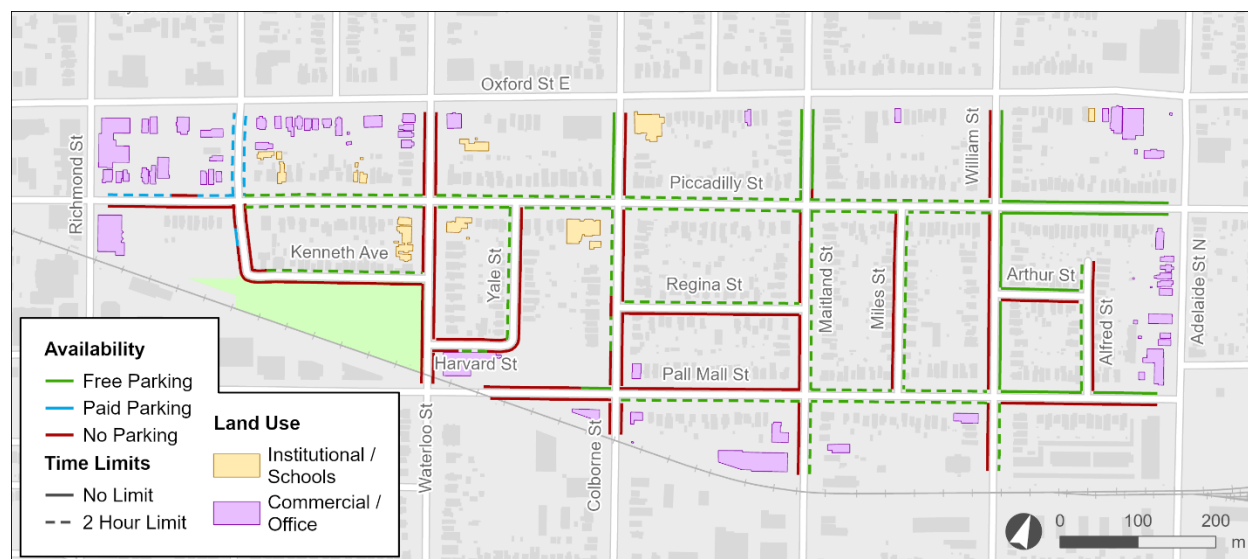


Figure 3 – Existing parking

Figure 3 highlights current on-street parking regulations, which vary across the Piccadilly Neighbourhood. Many streets allow free on-street parking, although 2-hour maximum parking limits are permitted, to minimize free parking for other uses.

Parking conditions were observed during the site visits throughout the month of October. Most of the schools and daycares in the area rely on curbside pick-up and drop-off operations using available street parking. As a result, there is a high demand for on-street parking near the Piccadilly Street & Waterloo Street intersection during

peak pick-up and drop-off times, which were generally observed from 8:30 to 9:00 a.m. in the morning, and from 3:30 to 4:00 p.m. in the afternoon. The peak drop-off time overlaps with the morning peak commuting time (8:00 to 9:00 a.m.), while the peak pick-up time occurs earlier than the afternoon peak commuting time (4:15 to 5:15 p.m.).

Traffic Speeds

Several residents raised concerns of traffic speeding in the study area, and particularly within the school zone. Speed recording devices were temporarily installed at four locations within the speed zone to observe traffic speeds over multi-day periods. Figure 4 summarizes the percentage of vehicles exceeding the speed limit by more than 10 km/h at the measured locations. The level of speeding on Waterloo Street south of Kenneth Avenue is noticeably higher than other locations in the study area and around the city.

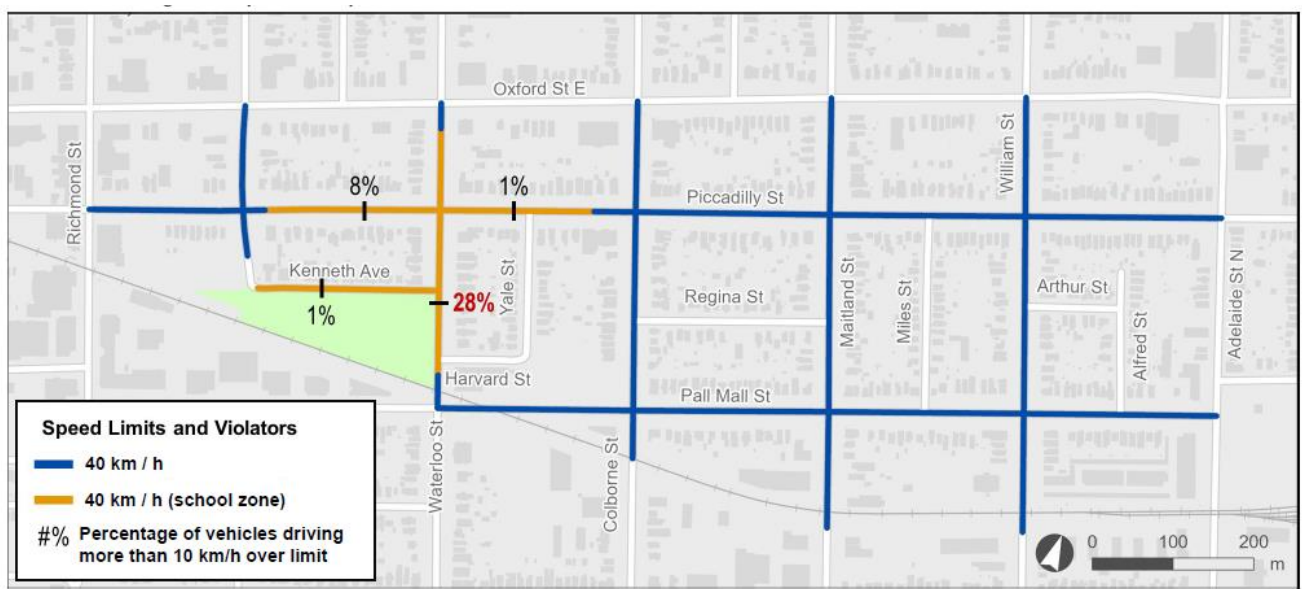


Figure 4 – Speed limits and speeding station results

It is possible that the current cross-section on Waterloo Street may be contributing to these higher speeds, as wider roads are more conducive to traffic speeding. Waterloo Street carries three traffic lanes south of Piccadilly Street, including two in the northbound direction. Traffic count data (recorded prior to the COVID-19 pandemic) for the Piccadilly Street & Waterloo Street intersection shows recorded northbound volumes of 302 vehicles per hour (vph) in the morning peak hour, and 635 vph in the afternoon peak hour.

Typically, a single lane can provide approximately 800 to 1200 vph of capacity, depending on traffic control and turning lanes. As such, northbound volumes do not appear high enough to require two lanes, and the extra lane may be increasing the effective road width without providing significant operational and traffic benefit.

Intersection Controls

Within the study area, there are a number of different intersection controls that include traffic signals, all way stops, intersections with median/turning restrictions and at grade crossings. Figure 5 highlights the locations of these intersection controls within the study area.

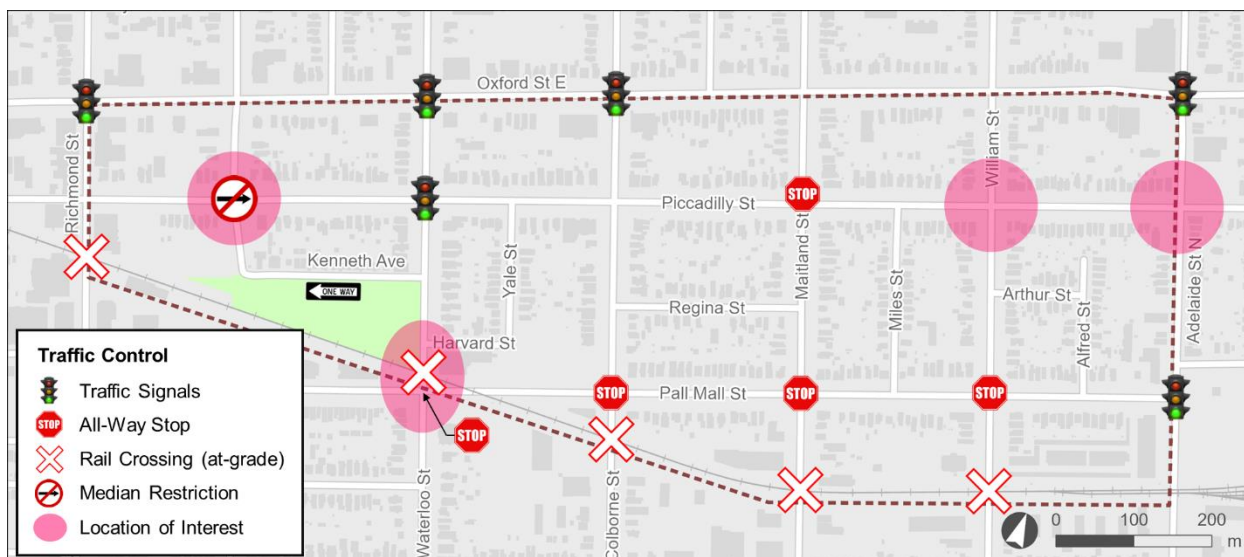


Figure 5 – Intersection Controls

1) Piccadilly Street & Waterloo Street/Kenneth Avenue

The intersection of Piccadilly Street & Wellington Street/Kenneth Avenue has a long history of traffic calming. Curb medians were installed in 2001 to restrict traffic to and from Piccadilly Street (easterly), with the southbound left-turn, eastbound through, and westbound through movements restricted. In the following years, further additions and modifications were undertaken to limit driver non-compliance observed at the time.

These curb medians provide several traffic calming benefits. They deter drivers from using Piccadilly Street as a short-cut route, thereby reducing traffic volumes through the study area. In turn, they also act to limit traffic speeds through the school zone as short-cut traffic is typically more prone to speeding.

2) Waterloo and Pall Mall Streets

Trains crossing Waterloo Street routinely cause significant traffic backups during peak travel periods, with southbound queues often extending to Oxford Street. At present, these queues take a long time to clear after the train has passed, since traffic flow is limited by the existing all-way stop at Waterloo Street and Pall Mall Street.

3) Piccadilly and William Streets

Residents have expressed concerns at the raised intersection of Piccadilly Street & William Street, which is two-way stop controlled. Stop signs are present on the eastbound and westbound approaches, while northbound and southbound traffic is free-flow and does not stop. However, residents note that traffic on Piccadilly Street often fails to stop, even when traffic is approaching from the north or south. Despite concerns from residents, a review of collision history indicates this raised intersection control treatment has improved safety at this location. In the five years prior to its installation, three collisions occurred that resulted in injury. In the five years since its installation, only one collision has occurred which resulted in injury.

4) Piccadilly and Adelaide Streets

Residents have also expressed concerns at the intersection of Piccadilly Street & Adelaide Street. This intersection is also two-way stop controlled, with stop signs present on the minor east/west approaches on Piccadilly Street.

Conflicts exist between the left-turn to and from Piccadilly Street and north/south traffic on Adelaide Street, particularly in peak commuting times when northbound queues form the nearby Oxford Street & Adelaide Street intersection routinely extend to Piccadilly Street.

2.3 Public Consultation

Resident engagement was a critical part of this neighbourhood study as this study. Staff had extensive engagement on this study from residents, which allowed staff to appreciate all the resident concerns and attempt to address these through the study recommendations.

As part of the study, an online engagement period was held between December 2, 2020 and January 7, 2021 to introduce the project and present initial findings. Public feedback was gathered through an online forum, with the public asked to provide input on existing transportation needs and opportunities, as well as to comment on the potential mitigating measures. Comments could also be submitted by calling or emailing the project team directly.

Following this formal engagement period, staff prepared a draft report with recommendations and followed up with an additional engagement period for residents. The draft report was posted on the City's Get Involved website on April 9, 2021 to May 10, 2021 allowing residents an additional opportunity to review and become familiar with the study next steps.

2.4 Recommendations

The following recommendations are being brought forward as a result of this study. Staff have received positive feedback on these recommendations as well as the commitment to continue to review the study area after these improvements are complete.

1) Road Diet – Waterloo Street

A road diet is recommended on Waterloo Street to reduce traffic speeding within the school zone while providing additional on-street parking capacity in a high demand area.

At present, nearly 30% of vehicles are driving more than 10 km/h above the posted speed limit, which is 40 km/h on Waterloo Street inside the school zone. The extra traffic lane may be widening the effective road width without providing major operational benefit, and wider roads are more conducive to speeding. Implementing a road diet on Waterloo Street would involve converting one northbound traffic lane to on-street parking, between Harvard Street and Piccadilly Street.

The analysis shows that the northbound approach will continue operating with little delay and provides sufficient traffic capacity following the proposed removal of one traffic lane (converted to on-street parking). While the longest northbound queues at Piccadilly Street are predicted to increase from 24 to 64 metres with a single lane, these queues will not reach Kenneth Avenue, which is located 85 metres upstream of Piccadilly Street. Impacts to the other intersection approaches are negligible.

Based on these findings, a road diet is recommended on Waterloo Street, with one northbound traffic lane to be converted to on-street parking between Harvard Street and Piccadilly Street. This change is expected to yield approximately 22 parking spaces, which could be signed with a maximum 2-hour limit to match current restrictions along Piccadilly Street. Parking could be restricted near the intersection at Piccadilly Street to accommodate either a short left-turn or right-turn lane.

Further consideration will be given to extending this road diet and implementation of on-street parking further south in conjunction with the traffic signal design at Waterloo Street and Pall Mall Street.

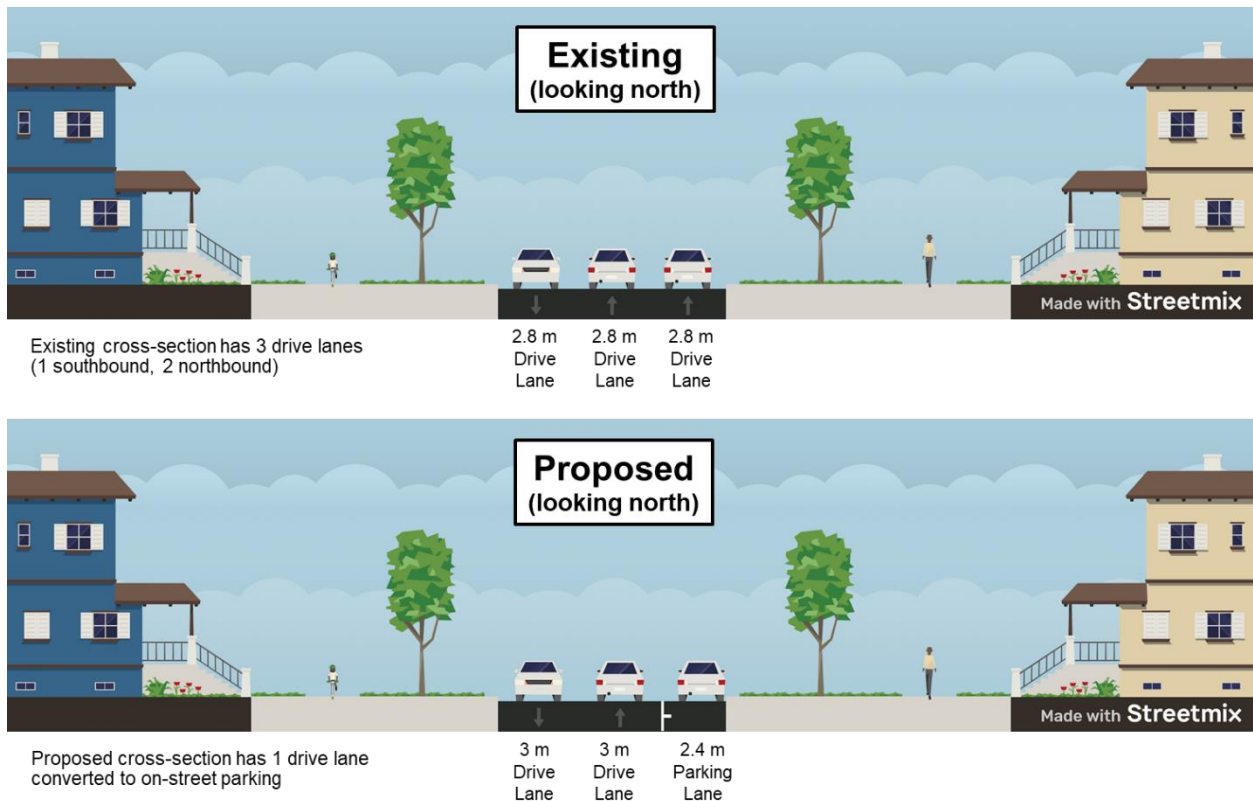


Figure 6 – Road Diet on Waterloo Street

2) Speed Reinforcement - Waterloo Street

While the proposed road diet is expected to naturally slow down traffic, additional speed reinforcement measures can be considered on Waterloo Street within the school zone.

Council has recently directed administration to implement automated speed enforcement in London. The program will start with two speed cameras rotated through school zones around the city. It is recommended that the Waterloo Street school zone be considered for inclusion in the program based on the measured speeding issue.

After the road diet and on-street parking on Waterloo Street is in place, staff will review speeds to determine if any additional physical speed reduction techniques are required noting that this is a high volume route and also considering potential impacts to emergency services response times. The consideration of this location in the informational radar speed board program to display the speed of vehicles and raise awareness can also be part of reinforcement actions.

3) Waterloo & Pall Mall Streets

Signalization of the Waterloo Street and Pall Mall Street intersection is recommended to improve peak hour traffic operations and safety at the railway crossing.

This intersection, which currently operates under all-way stop control, is located immediately south of the at-grade railway crossing on Waterloo Street. Train crossings routinely cause significant traffic backups in peak travel periods, with southbound queues often extending to Oxford Street. These queues presently take a long time to clear after a train has passed, as traffic flow is limited by the all-way stop at Pall Mall Street. Concerns also exist with vehicles stopping on the railway crossing on the southbound approach to the stop sign.

Therefore, it is recommended that traffic signals be implemented at Waterloo Street & Pall Mall Street to allow queues to dissipate more quickly after a train crossing. This would reduce peak hour traffic delays within the study area and will also help reduce vehicle stopping on the rail crossing approach to the intersection.

4) Piccadilly & Adelaide Streets

The introduction of turning restrictions was considered at the intersection of Piccadilly Street and Adelaide Street to address resident concerns.

This intersection is currently two-way stop controlled, with stop signs on the eastbound and westbound approaches on Piccadilly Street.

A curb median and signage is recommended in the entrance to Piccadilly Street to prohibit eastbound left-turn and through movements from Piccadilly Street at Adelaide Street. Eastbound traffic would be restricted to making right-turns onto Adelaide Street only. In addition to reducing turning movement conflicts, this restriction may also mitigate the use of Piccadilly Street as a short-cut route. An entrance island on Piccadilly is proposed because there is not space available for a centre median on Adelaide Street.

As the implementation of the new Adelaide Street underpass is expected to positively change traffic patterns in the area, Staff will further evaluate this intersection control after this new project has been completed.

2.5 Future Monitoring of Study Area

Piccadilly Street & Wellington Street/Kenneth Avenue

Despite the observed non-compliance of several vehicles during peak times at the intersection of Piccadilly Street and Wellington Street/Kenneth Avenue, the curb medians are still providing important traffic calming benefits. They are deterring drivers from using Piccadilly Street as a short-cut route (e.g. to avoid traffic congestion on Richmond Street or Oxford Street in peak travel periods), thereby reducing traffic volumes. In turn, they are also likely acting as a speed reduction measure for traffic through the school zone, as short-cut traffic would typically be more prone to speeding.

Staff will continue to monitor this intersection to see if any improvements can be implemented following the proposed cross section change on Waterloo Street as well as the implementation of the Adelaide Underpass.

Piccadilly & William Streets

As detailed previously, several residents expressed concerns at the two-way stop controlled raised intersection Piccadilly Street and William Street intersection, noting that east/west traffic occasionally fails to stop. It may also largely be due to driver disregard, particularly since that this intersection appears susceptible to short-cutting traffic between Oxford Street and Adelaide Street, and given that short-cut traffic is typically more prone to speeding and non-compliance. As part of the review of this intersection, the report determined that there are no sightline issues that limit driver's abilities to see the stop signs as they approach the intersection.

The intersection was reviewed for conversion to all-way stop control but has yet to meet the required traffic volumes. Similar intersections with existing unwarranted all-way stop signs installed are also particularly prone to non-compliance, particularly in the higher volume direction.

It is noted that the proposed right-out restrictions on Piccadilly Street at Adelaide Street would likely reduce the amount of cut-through traffic on Piccadilly Street, and therefore may reduce stop sign non-compliance at Piccadilly Street and William Street.

Further monitoring of the Piccadilly Street and William Street intersection is recommended.

Active Transportation Facilities

Finally, several residents requested dedicated cycling facilities to be introduced within the study area, to make the neighbourhood more active transportation friendly.

Currently, there are no plans for cycling infrastructure on Piccadilly Street, as new routes are guided by the Cycling Master Plan. Existing routes in the area include a signed east/west route along Central Avenue that is proposed to be improved with the implementation of dedicated bike lanes, and new north/south bike lanes being constructed on Colborne Avenue. One challenge specific to the study area would be the balancing of dedicated cycling facilities with on-street parking needs.

The Cycling Master Plan is planned for an update in the near future, and this presents an opportunity for additional routes to be evaluated.

Conclusion

The purpose of this report was to review the traffic and parking concerns raised by residents in the Piccadilly Neighbourhood area, as a result of a specific zoning property change from residential to a commercial use at 745-747 Waterloo Street. Through the Waterloo and Piccadilly Area Traffic Study, staff have recommended a road diet on Waterloo Street to provide new on street parking, speed reinforcement measures on Waterloo Street, a signalized intersection at Waterloo Street and Pall Mall Street and turning restrictions at Piccadilly Street and Adelaide Street. In addition to these improvements, staff are recommending monitoring of this study area after the improvements are in place. The completion of the Adelaide Street Underpass project is also expected to positively influence traffic patterns in the area and reduce neighbourhood cut through traffic.

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Recommended by: Kelly Scherr, P. Eng., MBA, FEC, Deputy City Manager, Environment & Infrastructure

June 14, 2021