



2013

Byron Avenue Area Traffic Management Study and Byron-Tyndall-Gladstone Corridor Cycling Improvement Study

Comments and Answers



Transportation Planning Branch
City of Ottawa
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1 FLAT-TOP SPEED HUMPS

1. *There is no speed problem on Byron Avenue.*

According to the results of a speed survey conducted on May 27, 2010, the 85th percentile speeds (speed which 85 percent of vehicles travel at or below) on Byron Avenue between Mayfair and Granville were 54 km/h westbound, 59 km/h eastbound. The speed on Byron Avenue is higher than the posted speed limit of 50 km/h.

2. *All-way stops at Byron and Clarendon and Byron and Harmer should calm traffic. The proposed flat-top speed hump in a short block of Byron between Clarendon and Harmer is not necessary.*

The distance between Clarendon Avenue and Harmer Avenue is approximately 250m, which is long enough for vehicles to accelerate to high speed. The recommended spacing of speed humps to achieve 50km/h 85th percentile speed is 125 meters.

3. *The proposed flat-top speed hump between Mayfair and Granville will be a winter hazard for traffic proceeding uphill.*

The proposed flat-top speed hump location avoids the higher grade areas as practically as possible. It is desirable to install a speed hump where grade is lower than 5%, but it can be installed where grade is up to 8%. The flat-top speed hump will be located where grade does not exceed 5%.

4. *The proposed flat-top speed humps will divert traffic to Wellington Street.*

We expect that traffic diversion to Wellington Street will not be significant, considering higher traffic volumes on Wellington Street. Traffic diversions to Wellington Street, if this did occur, would not be considered a significant concern, given that Wellington Street is an arterial.

5. *Speed humps cause disruption and discomfort.*

Speed humps will not cause considerable discomfort to drivers when they travel over speed humps at or below the recommended speed.

6. *Speed humps damage cars.*

There is no damage to cars that travel over speed humps at or below the recommended speed.

7. *Speed humps are dangerous for cyclists.*

Speed humps have no effects on cyclists at moderate speed. In general, cyclists do not require extensive special provision. Cyclists may be concerned that the vertical deflection of a speed hump will be uncomfortable and inconvenient and that abrupt slopes could even throw a cyclist from their bicycle. To accommodate cyclists the following elements will be included in the design:

- Using flat-top speed humps so the impact would be less than with a standard speed hump;
- Providing adequate warning signs and markings; and
- Ensuring that speed humps are not installed where vertical grade is greater than 5 percent.

8. Speed humps will negatively affect property values.

Traffic calming measures such as speed humps may actually increase property values. Most homebuyers prefer homes on streets with lower traffic speeds.

9. Speed humps will create zigzagging.

According to our observation of traffic at existing speed hump locations, zigzagging at a speed hump has not been a significant concern in Ottawa.

10. Speed humps will increase noise level.

Although drivers who negotiate speed humps by using an ‘acceleration-deceleration’ pattern may increase their noise, these have minor effects on overall noise levels. Studies have shown reduction rather than increases in measured and perceived noise following the installation of speed humps.

2 PATHWAY REALIGNMENT

11. Realignment of the pathway is not necessary.

We revised our previous plan to realign the pathway at Clarendon Avenue and Harmer Avenue. The realignment of the pathway at Granville Avenue will also be minimized. Now we recommend installing wider raised crosswalks at the crossing locations to minimize pedestrian inconvenience while ensuring safety of pedestrians.

12. Bike lanes on Byron would negate the need for widening or realignment of the pathway.

City policies support cycling by all kinds of people having different cycling skill levels and abilities. The type of cyclists who use bike lanes will be different from the type of cyclists who use multi-use pathways. In general, more experienced cyclists prefer to ride along with vehicular traffic on the street. The pathway widening between Island Park and Granville was recommended to provide an alternative route to cyclists who want to avoid the narrow, hilly section of Byron Avenue.

13. The pathway should be widened.

It would be ideal to widen the entire length of the Byron pathway, but in consideration of limited resources, the recommendation for the widening is limited to the section between Island Park Drive and Granville Avenue, which is an alternative cycling route to avoid the narrow, hilly section of Byron Avenue.

14. Slope is too steep at Byron and Granville. The realignment west of Granville is very awkward to navigate.

The crosswalk on Granville north of Byron will be raised and widened. The realignment of the pathway at Byron and Granville will be minimized due to the widened crosswalk.

15. Pathway realignment puts cyclists on crosswalks and sidewalks, and increase conflicts with pedestrians.

Considering that there are already mixed pedestrian and cyclist traffic on the pathway, additional conflicts between pedestrians and cyclists are unlikely to be significant. The benefit of safe protected crossings of pedestrians and cyclists likely outweighs the disbenefit of additional conflicts.

16. Cyclists will not dismount at crosswalks. Cyclists should not be directed to the intersections and they should be allowed to go straight ahead.

Widened raised crosswalks will provide additional space for cyclists and pedestrians, reducing conflicts between them.

17. Fix pathway surface to prevent puddles in the spring.

For pathway maintenance issues, you can submit a request calling 3-1-1 or at the following link:

<http://ottawa.ca/en/serviceottawa/roads-and-transportation/sidewalk-and-path-maintenance>

18. Add more signs on the Byron pathway to indicate the names of the cross streets.

Street name signs are provided at nearby intersections.

19. Paint the road green where the pathway crosses the road and put up warning signs.

Regular crosswalk lines where the pathway meets road intersections will demarcate the area where pedestrians have right of way over turning vehicles. Use of green pavement is currently restricted to areas where bicycles would be riding; however, the current Ontario Highway Traffic Act does not permit cyclists to ride along crosswalks, therefore coloured pavement cannot be used at this location. This law may be changed soon but we still must conform to it in our facility design.

20. Build a raised crosswalk at the pathway crossings.

We revised our plan and now recommend raised crosswalks at the pathway crossings.

21. Pathway realignment is aesthetically not appealing.

Please refer to the answer to the comment no. 11.

22. Byron pathway should not have mixed cyclist and pedestrian traffic

This pathway has been recognised for many years as a mixed cycling and pedestrian facility despite its design being of substandard width. As such, it is well used by cyclists, in particular cyclists who are either inexperienced with riding on the roadway or are too young to ride on the roadway. Many cyclists would oppose a ban on cycling on this facility because of its historic use. With respect to conflict between users, we anticipate some of the users would shift from the pathway to the roadway once the new bike facilities (bike lane and sharrows) are added to Byron, thus reducing potential for conflicts between pathway users.

3 PATHWAY REHABILITATION

23. Widening of the pathway is not necessary.

Three metre minimum pathway width is recommended for multi-use pathways. The current width of the pathway is approximately 2 metres, significantly less than the recommended width.

4 CYCLING FACILITIES

24. *Is the pathway in the Byron Tramway Park a sidewalk or a multi-use pathway? If it is a multi-use pathway, it should be signed that bicycles are allowed.*

The pathway in the Byron Tramway Park is a multi-use pathway. Multi-use pathways are intended to accommodate walkers, runners and cyclists. Separate signs to indicate that cyclists are allowed are normally not required; however due to the substandard width (less than 3.0 m) the city may consider implementing either Share the Pathway signage or installing a yellow centerline that generally signals to all users that the pathway is open to cyclists

25. *Cyclists should be encouraged to ride on Byron Avenue by providing appropriate measures such as bike lanes.*

A bike lane will be provided on westbound Byron Avenue. On eastbound Byron Avenue, sharrow markings will be provided due to the need to accommodate parking (parking is not permitted where there are bike lanes). The intention of these measures is to encourage cyclists to ride on the road and also to improve conditions for those who already do.

26. *A bike lane on Byron Avenue is not necessary because there is a safe pathway.*

Please refer to the answers to comments no. 12 and 22.

27. *On Byron Avenue, instead of bike lanes, use sharrow markings throughout for consistency.*

A bike lane is the preferred alternative to accommodate cyclists safely and conveniently, therefore we would like to recommend a bike lane when there is sufficient right-of-way. Bike lanes also tend to give the perception of narrowing the roadway that results in a desirable reduction in motorist speeds.

28. *Short bike lanes on Byron at Holland and on Tyndall at Holland are not appropriate. When a vehicle is turning right, it should be close to the curb and a cyclist should not turn right.*

These bike lanes are intended to make turning right safer for cyclists by creating better predictability and expectations from motorists. On Tyndall at Holland, we recently revised the plan to add a bike box, which will also assist left-turning of cyclists.

29. *Bike lanes will make turning onto Parkdale or Holland difficult for vehicular traffic.*

Bike lanes will not make turning onto Parkdale or Holland more difficult for vehicular traffic except eastbound left-turns from Tyndall onto Parkdale which will be prohibited.

30. *Bike lanes will remove parking for my friends and guests.*

Reallocation of road space to accommodate road users other than vehicular traffic sometimes requires necessary reduction of parking spaces. A balancing of cyclist needs and on-street parking has been made throughout this project. For example, on Byron bike lanes are being introduced where parking is prohibited but sharrows are being used where on-street parking demand exists.

31. *Sharrow markings should be painted through the intersections on Byron Avenue.*

Sharrow markings may be placed through the intersections. Exact locations of the markings will be determined during the detailed design stage.

32. *Fisher Park is heavily used by children. A bike lane through Fisher Park is not good.*

We do not have a plan to implement a bike lane through Fisher Park, although consideration was made then rejected of introducing a multi-use pathway through the park.

33. *Left-turning for cyclists from Holland to Byron or from Holland to Tyndall is difficult. A more bicycle and pedestrian-friendly design will make these turning movements easier.*

The northbound left-through shared lane on Holland at Byron will be converted to a left-turn only lane to make turning left safer for cyclists. Also a median will be placed on the other side of the left-turn lane to ensure through moving motorists comply. The southbound left-through shared lane on Holland at Tyndall will also be converted to a left-turn only lane to assist left-turning of cyclists. Many other design alternatives were also considered (one such was adding new traffic signals) and redesignation of lane functions on Holland was determined to be the best implementable solution to improving safety of making these turning movements by cyclists.

34. *The proposed cycling facilities at Holland and Parkdale may not be sufficient. Additional protective measures such as bike boxes should be provided to left-turning cyclists.*

Bike boxes are implemented only at signal-controlled intersections and neither Byron/Holland nor Tyndall/Parkdale has traffic signals. A left-turn bike lane on eastbound Tyndall at Parkdale will assist left-turning of cyclists. Notwithstanding the fact that the city is providing more-cycling friendly road infrastructure, a certain ability to ride in traffic will always be required and it is acknowledged that not all protective measures taken will accommodate the cycling needs of all residents.

35. *Buy three properties and cut a bike lane right from Holland to Parkdale avoiding Tyndall.*

Acquiring properties would require significant capital investment and has not been considered in the study process.

36. *Widen the sidewalk on the north side of Tyndall to create space for an elevated bike lane that is shared by pedestrians and cyclists.*

Bike lanes are not intended to be shared with pedestrians, for a variety of reasons. One important reason is that cyclists ride vehicles as defined by the Highway Traffic Act and when they travel in lanes, it must be one-directional like all lanes. This is incompatible with a sidewalk where people move in both directions. Also, Tyndall Street is not wide enough to accommodate an elevated bike lane.

37. *A bicycle-only left turn from Tyndall to Parkdale will encourage cyclists to turn left and cyclists will be at greater risks.*

We expect that the left-turn bike lane and left-turn prohibition of vehicular traffic will improve safety of cyclists by increasing predictability of how cyclists will turn left,

since the vast majority of eastbound cyclists approaching Parkdale at Tyndall are turning left anyway in order to continue along the Byron-Tyndall-Gladstone cycling route. Currently cyclists are making this left turn in a wide variety of unpredictable and illegal manoeuvres that increase risk of collision with motor vehicles, pedestrians and other bicycles.

38. *The sharrow markings are a waste of money as they will require constant repainting and they are a slippery hazard to cyclists when wet.*

The sharrow markings provide significant benefits to cyclists and drivers by guiding cyclists to the safest and most appropriate location within a travel lane shared with motor vehicles. They encourage cyclists to ride where it is safest for them while at the same time remind motorists to expect and accept the positioning of the cyclists within shared lanes. Periodical repainting can be done with other pavement markings. The surface of pavement markings can be treated to prevent slippery conditions.

39. *A bike lane on Gladstone to Bronson or further would be good.*

Gladstone Avenue is a shared use lane signed route in the Ottawa Cycling Plan that has been evaluated for bike lanes in the past. Some segments of it do not have adequate width to add bike lanes while on all other segments the demand for on-street parking, which is incompatible with bike lanes, has been deemed of greater importance to the public than the advantages of bike lanes. Gladstone Avenue is not within the geographic scope of this study.

40. *Cyclists can walk to cross Holland and Parkdale.*

The intent of this study is to assist cyclists who are sharing the road with vehicular traffic and improve cyclist safety, and it is driven by strong city policies to increase the amount of cycling transportation. An important principle in building a cycling-friendly city is to never expect cyclists to be required to dismount. This is similar to asking a motorist to get out of their car to push a button to get a green light at a traffic signal.

41. *Create a two-way cycling lane along one side of Parkdale from Gladstone to Tyndall.*

This suggestion has been reviewed for its potential. The review indicates a two-way multi-use pathway could be constructed on the west side of Parkdale Avenue for the 115 metres between Tyndall and Gladstone based on the availability of city-owned land. The problem is that private land owners would unanimously oppose what would be interpreted as encroachment on their own property. In addition, one to two mature trees, four small hydro poles and one traffic plant pole on city lands would all have to be relocated.

42. *Paint the intersection of Tyndall and Parkdale green and use signage to warn drivers.*

There does not appear to be a legal reason why this could not be attempted; however, it would be extremely unusual as nothing like this has ever been implemented in Ottawa. Consequently, traffic operations staff responsible for the approval of pavement marking would need to be in full agreement and a special case made for doing this.

43. *There's no need for a bike box for right-hand turns at Gladstone and Parkdale. You CANNOT put a bike box for LEFT turns on the RIGHT side of the street.*

The proposed westbound coloured pavement is to highlight an advanced stop bar rather than act as a left turn bike box. The purpose of the advanced stop bar is to give cyclists space to pass motorists queued at red lights and to legally permit them to wait for the signal change at a point ahead of the motorists. The rationale here is to provide guidance for motorists and cyclists as to how cyclists should negotiate this intersection and to place cyclists in a position where they can be seen by motorists. In terms of making a left turn, a cyclist on green would have a head start on motorists and therefore be in a better position to make a left turn from this location. Cyclists making right turns would be exempt from the No Right Turn on Red restriction and this right would be made more visible by the distinct coloured pavement and bike lane.

5 MINI-ROUNDBABOUTS

Thank you for the comments regarding previously planned mini-roundabouts along Tyndall Street. The proposed mini-roundabouts will be replaced with other type of speed reduction measures. Staff will review what type of alternative measures will be best to address speeding concerns along Tyndall Street.

6 LEFT-TURN PROHIBITION AT TYNDALL AND PARKDALE

44. *A left-turn prohibition at Tyndall and Parkdale will divert traffic to Wellington Street and nearby residential streets.*

According to the results of a traffic volume survey conducted on May 19, 2010, left-turn traffic volume on eastbound Tyndall Street at Parkdale Avenue was estimated to be 129 vehicles per day, which is less than 10% of the estimated right-turn traffic volume of 1,537 vehicles per day. While it is difficult to estimate how much of the left-turn traffic will be diverted to Hamilton Avenue N., most of the left-turn traffic is expected to be diverted to Holland Avenue and Wellington Street, which are higher class roads than Tyndall Street. The impact on nearby residential streets is unlikely to be significant.

45. *Left-turn prohibition should be applied during peak hours only.*

A left-turn prohibition was recommended to eliminate conflict between left-turn cyclists and vehicles. To ensure safety of cyclists, a left-turn prohibition is required at all times.

46. *Traffic on Parkdale may not expect left-turning cyclists given that no vehicular traffic is turning left.*

It is advised that left-turning cyclists exercise care during the turning movement. Cyclists should not assume that approaching traffic on Parkdale Avenue will see them and stop, given that cyclists do not have priority.

47. Left-turn prohibition at Tyndall and Parkdale requires advance signage at Holland and Byron and Holland and Tyndall to advise drivers in advance.

Such advance signs will be difficult for drivers to interpret because actual turn prohibition is several intersections away on the road of which orientation is perpendicular to the road where drivers are on. It will take some time for drivers to be accustomed to the turn prohibition but they will eventually be aware of the turn prohibition over time.

48. Prohibiting left turns from Tyndall to Parkdale would only be effective if the City also prevented traffic making left turns from Parkdale on to Sims to get to Gladstone via Beverley.

Suggested turn prohibition is intended to prohibit cut-through traffic on Sims and Beverley Avenues, but as noted in the answer to comment 44, traffic diversion onto the nearby residential streets is unlikely to be significant. Considering that the suggested left-turn prohibition will also limit the access of local residents and will increase total travel length in the area due to required detour, it is not recommended to prohibit left-turns on southbound Parkdale at Sims.

7 OTHER COMMENTS

7.1 Byron Avenue

49. "No Heavy Trucks" signs on Byron should be replaced with larger and more visible signs.

The current 'No Heavy Trucks' signs on Byron Avenue conform to the standard specified in the Ontario Traffic Manual.

50. Heavy vehicles should be enforced.

Residents may contact Ottawa Police to request enforcement. Please note that a heavy truck prohibition does not apply to deliveries by a heavy truck to premises.

51. Can speed limit be lowered to 40 km/h on Byron Avenue?

Lowering the speed limit alone may not be sufficient to reduce actual speed. Traffic calming measures such as speed humps are more effective in speed reduction.

52. Para Transpo bus parked on Byron near Mayfair blocks driver's view.

Parking near an intersection can reduce visibility for other road users and is not permitted within nine metres of an intersection. Residents may contact OC Transpo if they find that a Para Transpo vehicle is parked within nine metres of an intersection.

7.2 Byron and Piccadilly

53. Provide safer pedestrian crossing at the intersection of Byron and Piccadilly. Cut roadside plants to improve visibility.

Crosswalks on Byron Avenue at Piccadilly Avenue are not recommended without stop control because it can give a false sense of security to pedestrians.

According to a site investigation conducted on July 2012, from the pavement edge on the southbound pathway from Bassett Lane to Byron Avenue, across from Piccadilly Avenue the sight lines are over 100 m, looking west and east onto Byron Avenue.

Visibility is adequate in both directions. Branches on the north side of Byron Avenue do not hinder the sight lines from the pathway.

7.3 Byron and Clarendon

54. Ladder crosswalk marking on Byron and Clarendon.

Vehicular and pedestrian traffic volumes at the intersection of Byron Avenue and Clarendon Avenue meet only 2-7% of the warrant for ladder crosswalk markings.

7.4 Byron and Holland

55. Prohibit left-turns from Byron onto Holland.

Suggested left-turn prohibition from eastbound Byron Avenue to northbound Holland may divert traffic onto nearby local residential streets. In general, a turn prohibition is not recommended without an obvious safety reason because it will limit access of local residents and increase total travel length within the community due to required detour. The left-turn traffic volume at this intersection is 320 vehicles per day, which is higher than 129 vehicles per day at the intersection of Tyndall and Parkdale where left-turn will be prohibited.

7.5 Wellington and Holland

56. Provide left-turn lane on northbound Holland at Wellington.

The intention of the suggestion is to reduce congestion at Holland and Wellington to reduce cut-through traffic on Byron and Harmer Avenues.

Holland and Wellington has two lanes in the northbound direction. There is a shared through-left and a shared through-right lane. Designating a left turn only lane would not make left turning easier. The existing lane configuration is preferred.

7.6 Holland and Tyndall

57. Provide advance pedestrian signal time.

A pedestrian conflict study will be scheduled for the intersection of Holland and Tyndall in the Fall when school resumes to determine whether an advance pedestrian walk would be necessary or suitable.

58. Provide Flashing crosswalk signals.

Holland and Tyndall is a fully signalized intersection with pedestrian signals.

59. More enforcement is required for speeding and red light running.

Residents may contact Ottawa Police to request enforcement.

60. At Holland and Tyndall, there needs to be a way for southbound left-turning cyclists to trigger the traffic signals.

The proposed plan is based on current signal detection and southbound left turn cyclists would make their manoeuvre in the same way as motorists, from the exclusive left turn lane. Since Holland has a higher road classification than Tyndall, the traffic signal default is that it always is green on Holland except when vehicles arrive on Tyndall approach. The intersection signal control timer will automatically revert to green on Holland after a preset green phase on Tyndall and neither motorists nor cyclists have a signal detector in the southbound left-turn lane.

7.7 Tyndall Street

61. Parking space on Tyndall Street should be available.

Removal of parking on Tyndall Street may be required to provide space for cycling facilities. According to the result of a parking survey conducted October 2011, the average number of parked vehicles on Tyndall Street was 2.4. Considering this

relatively small demand for parking and the potential benefits of cycling measures, reduction of parking could be considered along Tyndall Street.

7.8 Hamilton Avenue N.

62. There are through traffic and speeding problems on Hamilton Avenue N. between Wellington Street West and Tyndall Street. Speed humps are required on Hamilton Avenue N.

According to the results of a traffic volume survey that was conducted on May 11, 2010, daily traffic volumes on Hamilton Avenue N. north of Tyndall Street were 854 vehicles, which is smaller than the minimum threshold of 1,000 vehicles per day necessary to consider traffic volume as a valid concern in Area Traffic Management process.

The 2009 speed survey conducted on Hamilton Avenue N., between Tyndall Street and Wellington Street, indicated that the average vehicle speed was 43 km/h, which is acceptable given that the speed limit for Hamilton Avenue N. is 50 km/h. The calculated 85th percentile speed (speed at which 85% of the vehicles travel at or below) was 51 km/h.

There are not expected to be any significant traffic diversions from Tyndall Street onto Hamilton as a result of the recommendations of this study.

7.9 Tyndall and Parkdale

63. Tyndall Street and Parkdale Avenue should be signalized. Push buttons should be provided for cyclists and pedestrians.

The intersection of Tyndall and Parkdale would not be recommended for signalization due to its close proximity with existing traffic signals. Maintaining minimum distances between signals ensures proper sight lines to signal displays. Also, with two closely spaced signals there will be operational issues such as queues from either signal backing up into the upstream intersection.

Also based on the most recent traffic volume counts in 2010 at the intersection, it met only 57% of the volume warrant for traffic control signals.

64. Tyndall Street and Parkdale Avenue should be all-way stop controlled.

All-way stop control would not be appropriate on arterials such as Parkdale Avenue, in particular within close proximity to signalized intersections. Nearby traffic signal controlled intersections are Parkdale and Gladstone, and Parkdale and Westmount/Highway 417 ramp, which are approximately 110 m and 100 m, respectively, from Tyndall and Parkdale. All-way stop would have to be located sufficiently far enough away such that any queues resulting from the all-way stop would not impact the operation of the traffic signal and vice versa.

65. A traffic circle should be installed at Tyndall and Parkdale.

We do not recommend a traditional traffic circle, because of the following reasons:

- Large vehicles may have to turn left in advance of the central traffic island, which is a violation of the Ontario Highway Traffic Act.
- Potential for large vehicles encroaching onto pedestrian areas when negotiating a turn.

- Snow removal is difficult. Either special equipment has to be called out or some snow will be left.
- Drivers can be confused with different driving rules for traffic circles and roundabouts.

A mini-roundabout is also not recommended at Tyndall and Parkdale, because of the following reasons:

- A mini-roundabout is not recommended where the sum of the maximum peak hour entry flows for all approaches exceeds 500 veh/hr. That of Tyndall and Parkdale is significantly higher, 1,700 veh/hr.
- Also, it is best to avoid installing a mini-roundabout where traffic flows or turning proportions differ widely between approaches, or where approach speeds are high.
- A mini-roundabout will increase delay on Parkdale Avenue. Traffic signals on Parkdale Avenue are coordinated to maximize vehicle progression. A mini-roundabout will break the progression and therefore will increase average delay of traffic on Parkdale Avenue.
- A mini-roundabout is not recommended where approaching speed is more than 50 km/h. While recent speed data for Parkdale Avenue at Tyndall Street are not available, the results of speed surveys on other sections of Parkdale Avenue show that the speed on Parkdale Avenue is significantly higher than 50 km/h.

66. *Prohibit northbound left-turn from Parkdale to Tyndall.*

Prohibition of left-turn on northbound Parkdale to westbound Tyndall Street is not recommended because significant traffic will be diverted to Wellington Street. According to the result of a traffic volume survey conducted on May 19, 2010, the northbound left-turn traffic volume during the morning peak hour was 217 vehicles per hour.

The suggested left-turn prohibition will increase total traffic volumes in the area due to detour, and limit access of local residents.

67. *The curb extension on south of Tyndall Street at Parkdale should not be removed. Traffic may encroach on pedestrian sidewalk to make right turns.*

The removal of the curb extension on south of Tyndall at Parkdale is necessary to provide a left-turn bike lane at the intersection. During the detailed design stage, the curb will be designed to discourage encroachment of vehicular traffic.

68. *Removing the curb extension will create illegal two lanes.*

With left turns for this approach being prohibited, and with the being only one southbound lane along Parkdale for accepting right turning vehicles, this is unlikely to become a problem.

69. *Raise the intersection of Tyndall and Parkdale, and paint the intersection green, to slow traffic down.*

We do not recommend a raised intersection due to relatively low expectations of effectiveness in reducing travel speeds, and high construction cost. While the height of the centre of a raised intersection is same as the height of a speed hump, its length is much longer than that of a speed hump. Therefore grade change through a

raised intersection is more gradual, and tends to have less impact on traffic speeds than would a speed hump.

As noted in the answer to comment no. 19, use of green pavement is limited to exclusive cyclist areas only. It may confuse drivers.

7.10 Parkdale and Gladstone

70. No Right Turn On Red (RTOR) on Gladstone to Parkdale

No Right Turn on Red had been recommended on this approach.

71. Adjust traffic signal timings at the intersection of Parkdale and Gladstone, and the intersection of Highway 417 and Parkdale to make longer gaps in traffic so cyclists and motorists can turn left from Tyndall to Parkdale more easily.

Designing synchronization to purposely introduce stops and delays would lead to unnecessary fuel consumption and emission of vehicle generated pollutants. A poorly coordinated arterial would also lead to increased driver frustration as motorists are very aware of unnecessary delays at traffic signals. Furthermore, studies have demonstrated a strong correlation between poor synchronization and collision frequency.

72. Change to a mini-roundabout.

Refer to the answer to comment no. 65.

7.11 Gladstone Avenue

73. Repair uneven sewers, cracks and potholes on Gladstone Avenue to improve cycling.

For road maintenance issues, you can submit a request calling 3-1-1 or at the following link:

<http://ottawa.ca/en/serviceottawa/roads-and-transportation/pothole-road>

7.12 Hamilton and Wellington

74. Improve safety of pedestrians who cross Wellington Street West at Hamilton Avenue N.

There is no traffic control on Wellington Street at this intersection. Pedestrians are encouraged to use the protected pedestrian crossing at a nearby intersection, Parkdale and Wellington. Uncontrolled crossing is not recommended within 100 metres from the nearest controlled crossing. The distance between Hamilton Avenue N. and Parkdale Avenue is 62 metres.

7.13 Traffic Volumes

75. High traffic volume concerns on Holland Avenue, Parkdale Avenue and Tyndall Street should be addressed.

Holland, Parkdale and Tyndall are all either collector or arterial streets. One of the functions of such streets is to effectively accommodate relatively high traffic volumes.

Through its TravelWise/Sage Virage Program, the City have implemented comprehensive Transportation Demand Management (TDM) efforts to encourage individuals to reduce the number of trips they make, to travel more often by non-driving alternatives, to travel outside peak periods, and to reduce the length of their trips. An effective TDM program will help reduce traffic volumes on streets throughout the city.