

Pinch-Points Review - Benleigh Drive

Date: December 10, 2018
To: Scarborough Community Council
From: Acting Director, Traffic Management, Transportation Services
Wards: Ward 24 - Scarborough - Guildwood

SUMMARY

This staff report is about a matter that the Community Council has delegated authority to make a final decision, provided that it is not amended so that it varies with City policy or by-laws.

This report responds to a request from the Scarborough Community Council to review the feasibility for pinch-points at the intersections of Benleigh Drive at Benlight Crescent, Benadair Court, and Benshire Drive.

RECOMMENDATIONS

The Acting Director, Traffic Management, Transportation Services recommends that:

1. Scarborough Community Council receive this report for information.

FINANCIAL IMPACT

There would be no financial impact associated with the staff recommendation.

DECISION HISTORY

At its meeting of July 4, 2018, the Scarborough Community Council requested the Director, Transportation Services, Scarborough District, to report to the January 2019 Scarborough Community Council meeting with a functional design proposal for pinch-points at the [following] three intersections:

Benleigh Drive and Benlight Crescent
Benleigh Drive and Benadair Court
Benleigh Drive and Benshire Drive

The following is the link to the decision:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.SC32.36>

COMMENTS

Existing Conditions

The following characteristics describe Benleigh Drive:

- Benleigh Drive, a 1.2 kilometre long collector road, and is located north of Lawrence Avenue East between McCowan Road and Bellamy Road North.
- Benleigh Drive has sidewalks located on both sides and provides access to abutting residential dwellings.
- Benleigh Drive has a posted 40 km/h speed limit and a pavement width of 8.6 metres.
- Benleigh Drive was rehabilitated in 2014 through a pavement resurfacing with the repair of damaged sidewalks and curbs and is currently within the five-year moratorium on further civil works.
- Benleigh Drive is not expected to be rehabilitated again for at least 25 years.

Analysis

Speed and volume studies were conducted on Benleigh Drive in 2017 at the request of Councillor De Baeremaeker's office. However, the required 25% petition or canvass has not been received by Transportation Services staff, nor is staff aware of a public meeting having been held for this initiative, although these are the normal requirements of the City's Traffic Calming Policy.

Road Classification

The following table shows the road classification and recent traffic count data on Benleigh Drive. Benleigh Drive as a collector road is intended to connect smaller local roads to the larger network of arterial roads.

Road	Classification	Typical Daily Vehicle Volume For Subject Road Classification	Recorded Daily Vehicle Volume For Subject Road
Benleigh Drive	Collector	Between 2,500 to 8,000 vehicles per day (vpd)	Wednesday, August 23, 2017 784 vpd

Despite the Collector classification, Benleigh Drive has a traffic volume of about 30% of that required for a Collector. However, the Collector classification is still suitable due to the connectivity that Benleigh Drive provides for the neighbourhood.

Minimum Traffic Speed

Recent 24 hour vehicle volume and speed studies conducted on Benleigh Drive on Wednesday, August 23, 2017 and is summarized below:

Location: Benleigh Drive, west of Benorama Crescent & east of Bendair Court
Study Date: Wednesday, August 23, 2017
Speed Limit: 40 km/h (posted)

Location	Speed Ranges – km/h					85th Percentile Speed*	Total Vehicles 24 Hours
	1 – 40	41 - 50	51 - 60	61 - 65	> 65		
Eastbound	97	118	63	9	3	45 km/h	290
Westbound	131	244	103	9	7	46 km/h	494
Both Directions	228	362	166	18	10		784

The study revealed that the 85th percentile speeds (speed at which 85 percent of motorists travel at or below) was 45 km/h for eastbound vehicles (or 74 % of motorists were travelling within 10 km/h of the speed limit). The 85th percentile speed for westbound motorists was 46 km/h (or 76 % of motorists were travelling within 10 km/h of the speed limit).

The City Council approved Traffic Calming Warrant criteria states that on a collector road, the 85th percentile speed must be a minimum of 10 km/h over the warranted speed limit in order to qualify for traffic calming. Benleigh Drive has not met this test threshold as the operating speed of 45 to 46 km/h is consistent with the currently posted 40 km/h speed limit.

Minimum Traffic Volume

As part of the above traffic speed review, recent 24 hour vehicle volume studies conducted on Benleigh Drive (Wednesday, August 23, 2017) showed that traffic volume threshold was not met. The recorded daily traffic volume on Wednesday, August 23, 2017 between Benorama Crescent and Benadair Court was 784 vehicles. The City Council approved Traffic Calming Warrant criteria for traffic volume states that a collector road must have between 2,500 and 8,000 vehicles per day to qualify for traffic calming. The vehicle volume data review shows that Benleigh Drive is well below the requirements for traffic volume and therefore, would not qualify for the installation of traffic calming devices.

Collision Data Review

A six-year, eight-month Toronto Police Service collision record review for Benleigh Drive shows that, for the period for which we have complete data, January 1, 2011 to August 23, 2017 there has been one recorded incident of a cyclist being struck at Benleigh Drive & McCowan Road (in this case, the cyclists sustained minor injuries, no charges were listed). During this time, there has been no documented cases of pedestrian collisions on Benleigh Drive. There has been four incidences of motorists losing control of their vehicles for various reasons but, speeding violations were not cited as the root cause.

Collision Information	2011	2012	2013	2014	2015	2016	2017*	Total
Pedestrian / Cyclist	0	0	0	0	0	0	1	1
Speeding, over limit	0	0	0	0	0	0	0	0
Improper Passing	0	1	0	0	0	0	0	1
Improper Reversing	0	1	0	1	0	0	0	2
Rear End Collision	1	0	0	1	0	0	0	2
Motorist Lost Vehicle Control, no speed violations	0	0	1	0	0	1	2	4

In none of the noted collisions is there any clear indication that any form of traffic calming devices would have led to the mitigation of these collisions.

Traffic Calming Design and Implementation Process

The SCC requested a report specifically on pinch-points at three intersections, as follows:

1. Benleigh Drive and Benadair Court,
2. Benleigh Drive and Benshire Drive, and
3. Benleigh Drive and Benlight Crescent (the SCC did not specify whether for the east or west intersection)

For this review, it is assumed that the SCC meant the westerly intersection of Benleigh Drive and Benlight Crescent at Benlark Court, as that would be further away from Benshire Drive.

Intersection pinch-points are measures that would replace the function of mid-block speed humps by reducing the road width to 6.6 metres, allowing vehicles to pass each other slowly through a horizontal deflection. However, such points require road reconstruction as they need careful design taking into consideration of local factors, such as the location of driveways, sewer covers, catch-basins, and road drainage. Such pinch-points would be typically 9 to 15 metres long (including typically 5.0 metre curb radius returns at the intersections and typically 6 metres of tapers to match with the existing curb line).

1. Benleigh Drive and Benadair Court/Benorama Crescent

At Benleigh Drive and Benadair Court and Benorama Crescent, pinch-points could be located along the south side of the intersection, on the eastbound approach and eastbound discharge through this intersection, where Benleigh Drive is uncontrolled.

2. Benleigh Drive and Benshire Drive

At Benleigh Drive and Benshire Drive, pinch-points could be located the north side of this intersection, on the westbound approach and westbound discharge through this intersection. However, this intersection has an All-Way Stop Control in place so pinch-points would have no effect on speeds along Benshire Drive, as vehicles must stop at the Stop controls under the Highway Traffic Act.

3. Benleigh Drive and Benlight Crescent/Benlark Court

At Benleigh Drive and Benlight Crescent/Benlark Court, pinch-points could be located along the west side of the intersection, on the southbound approach and southbound discharge through this intersection, where Benleigh Drive is uncontrolled. However, there is a catch basin located in the north approach that would need relocation.

Any reconstruction would require Benleigh Drive to be placed in the City's Capital Program and the Capital Budget would need to be approved by City Council. Hypothetically, once programmed, a detailed road design would need to be completed. Should Benleigh Drive be placed into the City's Capital Program in the short term, it would still be several years before reconstruction would occur due to the design and construction timelines for major capital infrastructure co-ordination. However, Benleigh Drive was resurfaced in 2014 and would normally not be due for major reconstruction for another 25 years or so. The expected cost of such reconstruction could exceed \$300,000 due to the construction of six separate pinch-points (two per intersection) with drainage and catch-basin impacts, but a detailed costing would require design work to be completed, and this requires this road to be placed in the Capital Program.

However, as the traffic calming study completed earlier in 2018 indicates, motorists are travelling with an operating speed of approximately 45 km/h, which is consistent with the existing 40 km/h speed limit. Considering that installing pinch-points at the All-Way Stop Control at Benleigh Drive and Benshire Drive would have no impact on vehicle speeds, and that installing isolated pinch-points at the other two locations would also have marginal impacts on vehicles speeds since the remaining 6.6 metre width would be consistent with the current operating speed, the construction of such pinch-points would have no effect on traffic safety while being a significant capital budget pressure.

CONTACT

Marko A. Oinonen, B.A.Sc., DPA, P.Eng.
Manager, Traffic Operations, Scarborough District
Tel: 416-396-7148
Fax: 416-396-5641
E-Mail: marko.oinonen@toronto.ca

SIGNATURE

Roger Browne, M.A.Sc., P.Eng.
Acting Director, Traffic Management, Transportation Services

MAO:cr

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ATTACHMENTS

1. Location Plan (Pinch-Point Review - Benleigh Drive)

