



Town of Newmarket
395 Mulock Drive P.O. Box 328,
Newmarket, Ontario, L3Y 4X7

Email: info@newmarket.ca | Website: newmarket.ca | Phone: 905-895-5193

Traffic Calming Initiatives Follow-up Report Information Report to Council

Report Number: INFO-2021-31

Department(s): Engineering Services

Author(s): M. Kryzanowski, Manager, Transportation Services

Distribution Date: September 10, 2021

In accordance with the Procedure By-law, any member of Council may make a request to the Town Clerk that this Report be placed on an upcoming Committee of the Whole agenda for discussion.

Purpose

The purpose of this report is to highlight the results of traffic calming initiatives noted in the Town-Wide Traffic Mitigation Strategy.

Background

At the regular meeting of the Committee of the Whole on September 23, 2019, the Town-Wide Mitigation Strategy – Traffic Calming Policy Public Consultation Report (ES 2019-08) was presented. This report outlined the results of the public consultation on the Town-wide Mitigation Strategy, in particular the Traffic Calming Policy.

At that Committee of the Whole meeting, Town Council adopted the following additional recommendation:

That Staff report back to Council in up to 12 months regarding various initiatives raised in this report.

Because of the onset of the Covid Pandemic, it was decided to wait until traffic speeds and volumes stabilized under the new provincial restrictions before producing this report. The report looks primarily at results obtained in 2020. Measurements done in the field confirmed that, although the COVID-19 pandemic had an impact on traffic volumes, it had very little impact on traffic speeds.

Discussion

Before this report assesses the various traffic calming initiatives installed by the Town, it is important to look at one of the most important metrics in traffic safety, which is the number of collisions on Town streets. Appendix A shows the total annual collisions over the last 10 years.

From the graph in Appendix A, the following observations are noteworthy:

1. While the COVID-19 pandemic did not impact speeds, it did impact volumes. The collision reductions in 2020 and 2021 reflect this. Lower traffic volumes resulted in a lower number of collisions.
2. While Newmarket's population continued to increase from 2011 to 2015, resulting in more traffic, the annual number of collisions remained consistent, and began to trend downward thereafter. It should be noted that more aggressive traffic calming initiatives from the Transportation Services business unit at the Town began in 2016.
3. Collisions where there were injuries that required medical care are a relatively low percentage of the total number of collisions, at around 15%. There was, however, one collision, on a Town road, that resulted in a pedestrian fatality in 2020. This was the first pedestrian fatality in over 22 years on a Town road. This unfortunate incident was not related to speeding, as it was due to a visibility issue when a driver was making a turn onto a side street and did not see the pedestrian who was crossing the road.

Category 1 Initiative Assessment

“Category 1” initiatives under the Town's Speed Management Program consist of programs that include solar radar speed boards, traffic-calming bollards, boulevard signs, pavement markings (such as a yellow centre line being painted), regulation signage (such as additional speed limit signs), and non-construction visual narrowing of traffic lanes (such as the addition of bike lanes or painted medians).

In 2020, the solar radar board (SRB) program was deployed at 82 locations within the Town. Typically, the SRBs are rotated to a new location every month, but as a result of the COVID-19 pandemic, some SRBs were not moved and remained in place for 2 or 3 months. Every SRB location studied showed a successful decrease in speed. Of the 43 locations that were studied, staff found that there was an average speed reduction of 5.5 km/h. The highest decrease in a given location was 9.2 km/h, whereas the smallest change was a decrease of 2.1 km/h.

The 2020 traffic-calming bollard program consisted of 14 bollard locations (2 per Ward). Although staff is still assessing the best configurations for the bollards to produce the most speed reduction, the 2020 program consisted of 3 to 6 sets of consecutive bollards. All locations showed a decrease in speeds as a result of the bollards. In the 14 locations implemented in 2020, an average decrease of 4.4km/h in speed was measured. The highest decrease was 7.1 km/h at one location, while the lowest decrease was 1.3 km/h at another.

Another very interesting finding was seen as a result of the bollard program. Although speeds were measurably lower at the bollard sites, decreases in speeds were also measured on the side roads flanking the bollard locations. The four side streets that were studied showed an average speed decrease of 1.6 km/h. Although it does not seem like much of a decrease, if this

decrease can be confirmed in the future, it could indicate that the bollards may have a psychological or calming effect on drivers seen through a change in attitude towards speeding. Drivers who are slowed down by the bollards on the main collector road may in fact, continue to drive slowly, or “calmly”, on the side streets once they leave the bollard areas. This requires further study, but may show a change in driver attitude that is worth pursuing further.

It is more difficult to determine the degree of success of the boulevard sign program as the location and effectiveness of signs can change. In 2020, there were 24 boulevard signs deployed throughout the Town. These signs are deployed upon request only, and are normally rotated to different locations to maximize their effect. The number of sign requests received in 2020 was a bit low, probably due to the pandemic, but in 2021, the Town has already received about twice the number of requests for boulevard signs as of the same date last year.

Pavement markings and regulation signage components are highlighted best by the ladder markings at select intersections throughout the Town. These ladder markings are meant to highlight all-way stop intersections and provide visual contrast to keep pedestrians safe. The general trend is a decrease in collisions, but the collision numbers are relatively low to start, and trends are difficult to firmly establish. However, the goal is zero collisions.

Lane Narrowing (non-constructions) is generally the impact of bicycle lanes on roadway speeds. In 2020, the Active Transportation Implementation Plan (ATIP) implemented bicycle lanes on London Road, Alexander Road, and the western end of Bonshaw Avenue. For the requirements of the Provincial grant for these projects, traffic counts were undertaken in 2020. Typically, for an accurate reflection on the speed impact, speed data would be gathered a year afterwards. However, for reporting, the average speed decrease on London Road was 4.0 km/h. Interestingly, the average speed on Alexander Road increased by 1.1 km/h. The average speed reduction currently experienced on roads with bicycle lanes is 2.6 km/h. This would be typically a little higher on residential roads, and a little lower on industrial/commercial roads.

Category 2 Initiative Assessment

Category 2 measures are implemented when Category 1 measures have not been successful in lowering speeds to below the “policy limit”. The policy limit is breached when operating speeds (the speed at or below which 85% of vehicles are travelling) reach 10 km/h over the posted limit for local roads, and 15 km/h above posted for collector roads. For most Newmarket roads, this equals 50 km/h for local roads and 55 km/h for collector roads. When speeds are constantly exceeding the policy limit, and progressively more Category 1 measures have been applied without success, Category 2 measures can be implemented. Category 2 measures require physical construction that results in speed humps (local roads only), road diets, curb radius reductions, chicanes, pedestrian refuge islands, bump-outs, raised intersections and coloured or textured paving.

While no Category 2 measures were constructed in 2020, there are two examples constructed just shortly before 2020:

The Queen Street bump-out near JLR Bell School resulted in the narrowing of the pavement to provide a visual pinch point to slow traffic down. This narrowing allowed Low Impact Development bioswales and special plantings to soak up storm water to be incorporated in the project. In essence, this bump-out acquired a dual function of reducing speeds and

improving storm water quantity and quality. The average decrease in speed as a result of the bump-out is 2.2 km/h.

The Queen Street Pedestrian Refuge Island (PRI) was constructed as part of the road improvements to Queen Street. Road improvements such as those done on Queen Street can sometimes result in slightly increased speeds as the road surface is made smoother and drivers may feel more comfortable driving faster; however, in this case the Queen Street PRI actually reduced speeds by an average of 2.6 km/h.

Conclusion

A variety of traffic calming measures implemented by the Town of Newmarket have all resulted in lowering speeds on those roads. Studies show that the impact on speed reduction can even be seen on non-traffic-calmed streets that adjoin those having the traffic calming measure. Measured speed reductions achieved with the Town's traffic-calming initiatives have ranged between 1.3 km/h and 9.2 km/h.

Business Plan and Strategic Plan Linkages

The traffic calming initiatives address the Council Strategic Pillar entitled "Safe Transportation (Streets)". More specifically, the project addresses the following priorities under the "Safe Transportation (Streets)" Strategic Pillar:

- ii) Continue to implement the traffic mitigation strategy and Active Transportation Plan and explore/advance an off-road Mulock multi-use path;
- v) Develop a 'complete street' design and construction/reconstruction methodology to support ongoing safe street initiatives and continue to explore design options related to speed reduction, where appropriate.

Consultation

There was no consultation in the preparation of this report.

Human Resource Considerations

None

Budget Impact

None

Attachments

Appendix A – Collision Trends

Contact

For more information or questions regarding this report, please contact Mark Kryzanowski, Manager, Transportation Services, at 905-895-5193 extension 2508 or MKryzanowski@newmarket.ca.

Approval

Rachel Prudhomme, M.Sc., P.Eng.,
Director, Engineering Services

Peter Noehammer, P.Eng.,
Commissioner, Development & Infrastructure Services

Appendix A: Collision Trends

