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Town-wide Mitigation Strategy – Traffic Calming Policy Public Consultation Report
Information Report

Report Number: ES 2019-08

Department(s): Engineering Services

Author(s): Director, Engineering Services

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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.

Executive Summary

Transportation Services staff has been developing a comprehensive Town-wide Traffic Mitigation Strategy (TMS) to address traffic issues in Newmarket. In 2017, a draft Traffic Calming Policy (TCP) was presented to Council. This draft policy, which is part of the overall TMS, incorporates the following Council-approved policies (see Appendix C for a graphic representation):

- Transportation Management
- Parking
- Public Support and Consultation
- Active Transportation
- Sidewalk

Council instructed staff to take the TMS to public consultation. In order to effectively engage the public, the Town used various different techniques, including a Transportation Congress and an extensive on-line survey. The survey questions, respondents' answers and a summary of responses are available in Appendix A. Appendix B outlines revisions that are being proposed to the draft Traffic Calming Policy, based on the public consultation and on recent changes in provincial legislation. In addition, some revisions took into account feedback received through heat tickets, emails and telephone conversations with concerned residents.

Purpose

The purpose of this report is to provide the results of the public consultation on the TMS. The report also outlines the next steps to be taken.

Background

At its regular meeting of October 2, 2017, Council received Development and Infrastructure Report ES 2017-29, entitled “Town-wide Traffic Mitigation Strategy 2017” and directed staff to proceed to public consultation.

Discussion

As per Council’s direction, staff undertook various methods of public consultation. An extensive online survey was prepared, heat tickets received through our Customer Services system were reviewed, emails and telephone calls from concerned residents were taken into account, and a Transportation Congress was held on April 27, 2018 at the Old Town Hall to obtain more feedback.

Approximately 80 residents and stakeholders interested in road safety attended the Congress. A summary report, dated May 1, 2018 and entitled the Town of Newmarket’s “Active Transportation and Road Safety Congress Summary”, is posted on the Town’s website. It can be accessed at: https://www.newmarket.ca/LivingHere/PublishingImages/activetransportation/Click%20here%20to%20read%20a%20summary%20of%20the%20Congress.pdf

The online survey was prepared with the help of the Communications Department. The survey was very comprehensive and included 23 questions that encompassed traffic calming principles and public attitudes towards various traffic-calming techniques. It was available on-line to the public from its kick-off at the Town’s “Community Open House” event held on February 27, 2018, and the survey was held open until the end of May, 2018. Appendix A provides the questions and results of the survey.

To increase participation, the survey was widely advertised and promoted by various means, such as:

1. Distributing hand-outs and posters at the February 27, 2018 Community Open House;
2. Promoting the survey on the Town Page of the Era newspaper;
3. Promoting the survey in the “Newmarket Now” e-newsletter;
4. Launching a social media campaign on Facebook and Twitter;
5. Providing a dedicated tab on the homepage of the Town’s website to link directly to the TMS and the on-line survey;
6. Imbedding articles on the homepage of the Town website;
7. Displaying messages on marquees and screens at the Town’s facilities;
8. Providing survey information in the “Construction Corner” newsletters;
9. Including an editorial ad in Snap’d, a local community newspaper.

A total of 191 persons participated in the survey. The following summarizes the major findings:

1. **Diversity of Opinions:**
   Comments and opinions on all aspects of traffic calming were very diverse. Some of the respondents considered specific traffic calming measures to be very effective, while others considered the same measures to be completely ineffective. Similarly, while one person thought that a certain traffic control technique is very safe, another person would find it unsafe. Results show that individual perception rather than in-depth knowledge of a traffic calming technique drives the public's attitude towards what is thought to be safe or effective. The Traffic Calming Policy, therefore, must acknowledge this diversity of opinions while creating and maintaining a balance in our transportation systems.

2. **Basic Principles of Traffic Calming:**
   Throughout the survey, it was clear that many respondents did not have a clear understanding of basic traffic calming principles and measures. As a result, many expressed a desire to slow traffic down through stop signs or traffic circles, which are not traffic calming measures but are to be used only to help determine which driver has the right of way at an intersection, as per the warrants in the Ontario Highway Traffic Act. Scientific traffic studies done by experts have shown that stop signs and traffic circles can actually cause drivers to speed up between intersections rather than slow down. Some respondents dismissed scientifically proven methods of speed reduction because they perceived them as being ineffective or unsafe. The basic principle of traffic calming, which is to remove motorists from their "comfortable" driver state, was not fully understood by most respondents. This shows a definite need for education in the community.

3. **Education:**
   Where questions referred to the "3-E's" of traffic safety (Education, Engineering and Enforcement), respondents valued "Education" as the least effective of the three factors. Many respondents referred to "bad drivers" or "inconsiderate drivers" as the source of their traffic frustrations. However, respondents did not seem to connect with education as one of the most accepted and most effective universal tools used to correct such driving behavior. Another frequent comment in the responses was that the respondents were not familiar with the traffic safety education efforts by various organizations, including the Town.

4. **Road Jurisdiction**:
   Many survey respondents were unaware that the Town and York Region each have responsibilities for traffic issues on their own separate roads within Newmarket. Many survey respondents did not know that York Region is responsible for traffic safety measures and the control of infiltration that arise from regional construction activities, whether on Regional or Town roads. In addition, survey respondents were not aware that serious collisions and traffic fatalities have not occurred on the Town's local roads. The survey has therefore shown a

need for more education and greater collaboration and sharing of resources between different levels of government and other stakeholders (e.g.: YRP) to address traffic safety matters.

5. **Permanency of Traffic Calming Measures**:
   Respondents acknowledged that line painting fades with time and there should be ways to make them permanent to help them function as intended. Participants also knew that other traffic calming measures, such as traffic calming bollards, required removal every fall to allow snow-plowing operations to occur during the winter months.

6. **Enforcement**:
   Respondents stated that there was a lack of enforcement of traffic matters on local roads and that this rendered ineffective the "Enforcement" component of the "3-E's" of traffic safety. They also felt that enforcement was an important part of the "3-'E's" of Traffic Safety. Throughout the survey, participants noted that enforcement, combined with traffic calming installations, was important to ensure compliance with road safety rules. They also stated that a stronger presence of York Regional Police (YRP) would be very effective and would supersede any traffic calming installations. However, participants also noted (in several locations throughout the Town) that YRP must address two issues: reporting and accountability. Typically, residents direct complaints to the Town, their Ward Councillor, YRP, or through Road Watch, which is YRP's online reporting system for traffic violations. Because of the diverse forms of complaints, it is difficult for the Town to track enforcement responses by YRP. Furthermore, when the Town deploys resources and initiatives for traffic safety, staff can be relatively quick in providing reports back to Council or the public when requested. However, YRP cannot be as quick or as open with their traffic information because their reports contain sensitive personal information. As a result, it takes numerous months for Town staff to receive YRP's traffic incident reports after an accident or a radar blitz. This is mainly due to the requirements of the Freedom of Information and Protection of Privacy Act and YRP's internal privacy processes, which prevent YRP from being as responsive with traffic information when the Town requests it. This fact makes it difficult for the Town's Transportation staff to be actively involved in the "Enforcement" component of the "3-E's" of traffic safety. Town staff will continue to dialogue with YRP about the possibility of expediting the transfer of traffic enforcement information from YRP to the Town.

7. **Stop Signs, Speed Humps and Lower Speed Limits:**
   More stop signs, speed humps and lower speed limits are the most common request when dealing with any traffic issue because they are thought to be effective.
   Although most requests from residents for speed control on local roads involve the installation of stop signs, speed humps, or lower speed limits, survey participants felt that such measures were not the most effective and some felt that they would be ineffective in traffic safety and speed mitigation.

As a result of all of the input that was received during the consultation process, the Traffic Calming Policy was revised and is included as Appendix 'B'. In addition to the Traffic Calming Policy revisions, there are additional works relating directly to the Town-wide Mitigation Strategy that could be undertaken. For example, the following will be incorporated into the Transportation Services work program:

1. Review and update the 2005 Sidewalk Policy.
2. Update the School Crossing Guard section of the Transportation Management Policy to reflect changes enacted by the Province of Ontario in 2017.
3. Create and distribute communication packages to educate the public on the basics of traffic calming.
4. Coordinate with York Region Transportation and YRP to develop regional/local traffic calming, traffic safety and communications materials.
5. Work more closely with York Regional Police on targeted enforcement and use of resources.

a. Arrange for Customer Service to forward "Enforcement" requests from residents directly to York Regional Police.
b. Examine local factors and recommend enforcement levels and locations.

6. Continue the sidewalk enhancement program, in coordination with Public Works (new sidewalk connections and intersection aprons where needed).

Conclusion

The consultation strategy, and particularly the online survey, provided a good representation of residents' understanding of Newmarket transportation and traffic challenges. The data collected has helped staff revise the Traffic Calming Policy, and also provides the basis for improvements to the TMS.

Business Plan and Strategic Plan Linkages

This report links to Newmarket's Strategic Plan direction, Well Planned & Connected, by protecting vulnerable road users and improving travel within Newmarket.

This report also aligns with Council's Strategic Priority – Safe Transportation (Streets).

Consultation

This report is about the public consultation undertaken for the Town-wide Traffic Mitigation Strategy. Residents were engaged to provide feedback using various means.

Human Resource Considerations

Not applicable to this report.

Budget Impact

Operating Budget – Not applicable to this report.

Capital Budget – Not applicable to this report.

Attachments

Appendix A - Town-wide Mitigation Strategy Survey

Appendix B – Traffic Calming Policy Changes

Appendix C – Town-Wide Traffic Mitigation Strategy Schematic

Contact

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Approval

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APPENDIX A

Town-wide Mitigation Strategy Survey

The Town-wide Mitigation Strategy Survey (TMSS) consisted of 23 separate questions to refine the Town-wide Mitigation Strategy (TMS) that was presented to Town Council on October 16, 2017. The TMS was presented to Town Council as a draft, pending public input. The survey was lengthy (about 20 minutes to complete), but the number of participants (191 respondents) was considerable.

The following outlines the results, question by question, and discusses the overall results and impacts on the draft Strategy. The first group of questions (1 to 7) relate to opinions.

Question 1: Do you agree with the Traffic Mitigation Strategy vision - “to improve road safety and enhance the quality of life in Newmarket for both drivers and vulnerable road users”?

The results indicate that 86% of respondents agree with the vision, 7% disagree and 7% were not sure. Of the 7% who disagreed with the statement, the majority reported either costs, or not understanding the statement contents, as the main reason for their negative response.

This is a very good endorsement of the vision.

Question 2: Do you agree with the ‘Three ‘E’ philosophy of “Enforcement, Engineering and Education” as adopted by the Town?

The results are similar to Question 1, with 84% agreeing, 6 % disagreeing, and 10% uncertain. Of the 6% in disagreement, the majority did not provide comments as to why they responded negatively.

This is a very good endorsement of the philosophy.

Question 3: In your opinion, which is the most important ‘E’ in our traffic mitigation efforts?

The question offered the choice of Engineering, Enforcement and Education. Engineering received 47% support, followed by Enforcement at 36%, and Education at 17%. It should be noted that even though Education was selected as the least important factor, many of the responses in the next questions show a need to educate the public on mitigation measures, their effectiveness and under what circumstances they should be used.

Question 4: Which safety issue is your primary concern?

This question offered Speeding, Impaired Driving, Distracted Driving, Seatbelts, ALL or None as choices. These are the “Big 4” of vehicle fatalities. The results indicated a

division between Speeding (30%), Distracted Driving (28%) and ALL (36%). Impaired driving came in at 4%, NONE came in at 2%, and Seatbelts at zero. There were a number of interesting results with this question. It would appear that Seatbelt use was not even considered as a primary concern. This may be due to the safety systems in cars (air bags). Furthermore, upon reviewing responses from the ALL section, about 30% provided comments with a noticeable number considering Speeding and Distracted Driving together as a primary concern, and some noted that only seatbelts was not a concern, but that the other three were.

Question 5: In your opinion, which of the following is the biggest traffic concern?

Question 4 dealt with driving safety concerns in general and Question 5 dealt with the top three most requested traffic safety issues to mitigate within the Town – Speeding, Stop Compliance and Congestion, with ALL or None as options.

Again, there was a general tendency towards Speeding (27%), Congestion (26%) and ALL (32%). Stop Compliance received 12% and NONE received 3% of the results. As in Question 4, the ALL category comments were reviewed, and approximately 27% indicated that they were mainly concerned with speeding and congestion, and not as much with Stop Compliance.

It should be noted that Congestion, which translates to traffic volume and delays, are not issues that can be solved by the TMS. However, it was important for the traffic team to know how much Congestion affected our residents, because it often results in speeding or stop compliance issues as motorists infiltrate or re-route through the communities.

Question 6: Which Ward do you live in?

The results are as follows:

Ward 1 – 11.23%
Ward 2 – 11.23%
Ward 3 – 6.42%
Ward 4 – 12.30%
Ward 5 – 33.16%
Ward 6 – 8.02%
Ward 7 – 12.30%
No answer – 5.35%

All Wards have representation in the survey. Ward 5 has a significantly higher representation in the survey than the other wards. This may be due to several factors specific to Ward 5. Because they live in a more established ward, the Ward 5 residents have felt the impacts of frequent construction projects (e.g.: the construction on Queen Street, Park Avenue, and the East-West bike route, and the vivaNext projects on Davis Drive and on Yonge Street since 2009). The former “Ward 5 Traffic Committee” was also a factor contributing to the visibility of traffic issues in this downtown ward.

Question 7: In your opinion, what is the single biggest issue related to transportation in Newmarket? Please be specific.

This open-ended question resulted in 174 unique responses. The responses were grouped into major themes to get an understanding of what is the biggest issue.

Congestion was cited in 33% of the responses. These responses referred mostly to specific York Region roads or to traffic signal lights and timing.

Enforcement was noted in 25% of the responses. As with previous responses, enforcement related to speeding and distracted driving were of most concern.

Planning and coordination was cited in 14% of the responses. This group had a large variety of issues from land use planning, to roadway planning, to comments on modes of transport.

Transit was noted in 10% of the responses. These responses were generally related to poor service or lack of service for both GO Transit and York Region Transit.

Engineering and operations was noted in 9% of the responses. This category was the catch-all for comments that did not fit in any of the other categories. Generally, the comments were related to safety and road maintenance.

Education was noted as an issue in 7% of the responses. The majority of the comments cited lack of courtesy, lack of understanding of the rules of the road or poor driver behaviour as the issues to resolve.

Bike Lanes were noted in 2% of the responses. This small group was split between not enough bike lanes or against the idea of bike lanes.

The first seven questions of the survey were aimed at gauging opinions and gathering information from the respondents. The analysis shows that there was good town-wide representation and that the opinions and concerns were quite diverse. The Town can try to mitigate some of the issues brought forward, but others, like congestion, are a symptom of larger issues that are beyond the Town's control, but the Town must try to mitigate the indirect impacts (such as speeding and infiltration).

What was noticed is that the results from the first part of the survey closely align with Council's Strategic Priorities (2014-2018). Under the Traffic Safety and Mitigation main theme, there are three sub-priorities, which are "Ensuring Safe Streets", "Improving Traffic Congestion", and "Supporting Major Transit Service Enhancements" (which could help reduce congestion).

The next series of questions (8 to 21) looks specifically at content within the draft policy. Each question asks the respondent to rate the perceived effectiveness and to provide

comments. An effectiveness rating of 1 means “not effective at all”, whereas a rating of 5 means “very effective”.

The analysis showed that all the responses had an average effectiveness rating around 3, which would indicate that each method is perceived as being “somewhat effective”. Ratings were supplemented by a large number of comments, as summarized below. The section is divided into Category 1 measures (questions 8 to 12), which are lower cost and less invasive, and Category 2 measures which cost more and are more intrusive, as well as education and pilot projects (questions 13 to 21).

Question 8: This question asked the participant to rate the effectiveness of the Speed Management program, which includes the radar boards and trailers, and the boulevard lawn signs.

Responses showed a rating of 3.11 out of 5.00 for effectiveness. There were an equal number of positive comments, negative comments and suggestions made. The general sense was that these measures are working, that more would be better, but that they have a limited impact. It should be noted that when the solar speed boards were first introduced, a study was undertaken to determine their impact. This was done by measuring the percentage of cars that slowed down or applied their brakes when the sign registered their presence. Staff found that after about 1 month, drivers grew accustomed to seeing the signs and their impact was reduced.

Question 9: This question asked the participant to rate the effectiveness of pavement markings at intersections and yellow centre lines.

The effectiveness rating is 3.26. While the effectiveness rating was good, there were significantly more negative comments about this measure. While it was acknowledged that pavement markings provide effective guidance, there were negative comments about motorist behaviour and durability of the markings. While motorist behaviour requires a longer-term program that includes education and enforcement, the pavement marking program can be addressed by moving to more durable markings (either “cold pour” or thermoplastic). Durable markings are more expensive, but should last at least five years whereas lower cost paint lasts a year or two.

Question 10: This question asked the participant to rate the effectiveness of the Road Watch program conducted by York Region Police.

The effectiveness rating is 2.24 and it is the lowest in the survey. The majority of the comments indicated that they were not aware of the program. The remaining comments were about the difficulty in obtaining the necessary information for the Road Watch form (e.g. “speeding cars are moving too fast to get a license plate number”).

Question 11: This question asked the participant to rate the effectiveness of creating side-friction on roadways like benches, trees, LID features.

The effectiveness rating is 3.01. Based on some of the comments, this measure probably created some confusion. There are not many existing examples of this in use in the Town, with the best example being along downtown's Main Street. Some respondents thought this measure should work, others said it does not and others had no idea. The idea of side-friction to slow traffic speeds is one of the basic principles of traffic calming and therefore, education or more applications of this measure should be undertaken.

Question 12: This question asked the participant to rate the effectiveness of pavement markings for the specific purpose of visually narrowing the roadway.

The effectiveness rating is 3.07. Much like side-friction, narrowing the travel path is another basic principle of traffic calming. The comments on this vary from positive to negative. There are some examples in the Town that have proven effective. However, similar to Question 9, the maintenance and durability of pavement markings and the behaviour of motorists dictate the effectiveness. It should be noted that there are a number of comments stating that they would be unsafe (moving drivers too close to the sidewalk or to each other), but this is the purpose of the narrowing. The basic principle of traffic calming is to take away the comfort of motorists so that they need to pay more attention to the roadway.

This ends the questions related to Category 1 measures. In broad terms, the results indicate that most Category 1 measures are perceived as being somewhat effective, as long as they are maintained and motorists abide by the rules of the road. It is clear that education is key. YRP's Road Watch program received the lowest effectiveness score. YRP may want to consider revamping the program, increasing its visibility, or creating a new program that is better suited to the community needs.

The next series of questions (13 to 21) relate to Category 2 measures and to the quality of communications regarding traffic safety.

Question 13: This question asked the participant to rate the effectiveness of speed humps.

The effectiveness rating is 3.24. This is an interesting result, since speed humps are the speed reduction measure that is most frequently requested by the community. It is interesting to note that there were more positive than negative comments from the respondents about speed humps. The positive comments were that they are perceived to be effective and that there should be a larger number of them installed. The negative comments included that they are irritating and do not really work well. There was very little mention of safety concerns due to slowing down emergency vehicles, damages to emergency vehicles, costs of installing, maintenance challenges in winter, the Town's council-approved policy to not place them on collector roads and the fact that most drivers will speed up to make up for lost time after a speed hump. So again, education is needed to inform residents of the challenges with speed hump installations.

Question 14: This question asked the participant to rate the effectiveness of curb extensions and radius reductions at intersections.

The effectiveness rating is 3.19. This rating may have been due to not having enough knowledge of curb extensions and radius reductions. There are few examples in Newmarket for drivers to see. A significant number of respondents did not understand what these are or where they can be seen. However, people understood the concept of shorter crossing distances for pedestrians at altered intersections.

Question 15: This question asked the participant to rate the effectiveness of centre medians and pedestrian refuge islands.

The effectiveness rating is 3.59. There are significantly more positive comments on the effectiveness of this measure, with a fair number referring to the Water Street Pedestrian Crossing Island. Along with the positive comments, there were a number of improvements that were suggested by respondents that will certainly be taken into consideration on future installations. While a pedestrian island is there to provide a safer crossing for pedestrians and slow the traffic down, the majority of the negative comments are related to safety.

Question 16: This question asked the participant to rate the effectiveness of s-curves or chicanes.

The effectiveness rating is 2.49 and is the lowest of the Category 2 measures. The majority of the comments were negative, citing faded lines, road sections that are too narrow and sight line issues. Chicanes are not widely used in Newmarket, so there could be respondents who know generally about these, but have never experienced them.

Question 17: This question asked the participant to rate the effectiveness of physical road narrowing.

The effectiveness rate is 2.81. This is a very concerning result because one of the main premises in traffic calming is to narrow roadways to restrict the movement of vehicles. Even the specific negative comments indicate that narrowing works, but there seems to be a safety or ‘danger’ element perceived with this type of traffic calming. The very basic principle of traffic calming is to create a driving environment that causes the driver to slow down, making it less comfortable to speed.

Question 18: This question asked the participant to rate the effectiveness of the communication packages supporting Newmarket’s “Safety Driven” campaign.

The effectiveness rate is 2.80. This is quite disappointing since the Safety Driven campaign has been in effect since 2008, and the amount of communication and educational packages that have been distributed has increased tremendously. Transportation staff has manned a booth at numerous public events, and has increased the amount of outreach done using various types of media, including social media. The

comments for this question are varied, but there is an indication that more is needed on a broader scale and in a more targeted fashion for specific traffic safety messages.

Question 19: This question asked the participant to rate the effectiveness of pedestrian safety measures, particularly physical improvements in road rights-of-way.

The effectiveness rate is 3.65, which is the highest in the survey. There were numerous positive comments on this measure, with requests being made for more improvements in certain areas and/or throughout the Town.

Question 20: This question asked the participant to rate the effectiveness of the Active Transportation network (primarily bike lanes) in terms of road safety.

The effectiveness rate is 3.14. This is an interesting result since there were a limited number of on-street bicycle lanes in the Town at the time of the survey. There were equal numbers of positive and negative comments, but as with responses to previous questions (see question 17), it was obvious that some of the negative comments were based on the fact that on-street cycling facilities have a traffic calming effect and slow cars down.

Question 21: This question asked the participant to rate pilot projects, specifically, the in-street flexible bollards.

The effectiveness rate is 2.97. Again, the comments paint a mixed message about this specific type of traffic calming. Comments range from very effective, to completely ineffective, to very safe, to utterly dangerous. Some of the negative comments reflected a participant's displeasure at being slowed down (i.e. the measure actually works), or the fact that they just did not like the look. One frequent comment that was seen was the temporary nature of the installations.

The general results of the second series of questions (regarding Category 2 traffic calming and communication regarding traffic safety) indicate that there needs to be more focused and more wide-spread communication on a variety of traffic safety topics. There also needs to be specific education on what basic traffic calming consists of. There was a general perception from respondents that permanent measures are better than temporary ones. A large number of the comments on all of the Category 2 measures showed a particular emphasis on vulnerable road users (pedestrians and cyclists).

The last series consists of two questions (22 & 23) which are more general in nature.

Question 22: This question asked the participant to state what other traffic calming measures the community would like to see. The question received 78 individual responses. Several were duplications, some were for enhancements, and some suggested specific traffic calming measures for specific areas. All comments were taken into consideration, but the following offers a sampling of additional measures that have been considered by staff:

Yield signs instead of Stop signs - This is a very interesting concept, and has been used in Ontario in the past. However, many of the yield signs have been replaced by stop signs. Two important factors in designing roads are consistency and expectation. Having a mixture of yield and stop signs would confuse drivers and negate the consistent application of right-of-way control, which would then create challenges with driver expectations.

Increased School zone signs with signage for designated school routes - Currently, each school zone in Newmarket has advanced signage that was changed to the fluorescent yellow-green signs. When the school zone has a crossing location, there is even more signage. All schools in Newmarket, with the exception of Newmarket High School, are on local roads. During busy school times (i.e. morning drop-off and afternoon pick-up), the vast majority of the cars that cause congestion within the school zones are either dropping off or picking up children. Speeding is usually not an issue at such times, since the type of traffic around the school would be such that it prohibits speeding. The congestion and circulation are essentially a passive form of traffic calming. The greater danger in school zones, based on field observation, is distracted driving.

Designating school routes, in addition to school zones, might be a good idea. However, school populations, boundaries and catchment areas change and therefore, school routes would need to be reviewed every school year.

Increase the number of Speed Signs - This is a common request from residents. Typically, each road has two speed signs for incoming traffic (i.e. one at each end). If the road is relatively long, it would have additional speed signs along its right-of-way. The Ontario Traffic Manual dictates a maximum distance between signs, but the Town can add more signs where deemed necessary. Every motorist on a street should pass at least one speed sign for them to be effective.

Arterial vs collector and local roads - This concept that can take many forms. When the Regional road system had speed limits of 80 km/h, many motorists would continue at a high speed after turning off the arterials onto local roads, which have a speed limit of 40 km/h. After going 80 km/h for several kilometers, it takes time for a driver to re-adjust, making 40 km/h seem excessively slow for a short period of time.

Variations on Speed Humps - Speed humps, bumps, tables, cushions, wells, etc. are all intended to “bounce” motorists, depending on their speeds. Currently, the Town uses a standard speed hump, and any alteration would be very site- or area-specific.

Roundabouts - The Town currently has two roundabouts. Roundabouts exist to help with right-of-way control. Research has shown that they do not reduce speeds, are not pedestrian/cyclist friendly, and require a fair amount of land to install properly. Retrofitting an existing intersection with a roundabout can be costly, as land expropriation of residential properties is often required.

Enhanced bike lane designs - The East-west bikeway through Town is an example of a cycling facility with an enhanced design (i.e. it is designed to exceed the minimum

standards for cycling facilities). Enhanced designs are desirable, but they require road widening to accommodate the additional improvements such as buffer zones and bollards. Enhanced designs are considered for all bicycle lane projects, but they cannot always be implemented.

Synchronized Traffic Lights – The majority of traffic signals in the Town are on Regional roads. York Region is continually monitoring and improving signal timing to move traffic efficiently and to avoid traffic infiltration on local roads.

Crosswalks - Crosswalks or pedestrian crossovers (PXOs) are being phased out in York Region for safety reasons. York Region is replacing these, and any other protected crossings, with pedestrian signals and with full signalization, where warranted. Because the Town has few signalized intersections, pedestrian refuge islands are being constructed for added safety.

Construction Coordination - This sounds like a simple solution, but it is a difficult one to achieve. Budgets, designs, permitting and approvals, public consultation, asset management and scheduling of contractors are many factors that make it difficult to coordinate construction activities. Luckily, with the imminent completion of the vivaNext construction on Yonge Street, the only remaining regional roads that will be reconstructed are Yonge Street north of Davis Drive, and Prospect Street resurfacing from Mulock Drive to Gorham Street. Town staff are working very closely and frequently with York Region staff to enhance the coordination of construction activities as much as possible.

Lower Speed Limits – Although there have not been any fatalities on Newmarket's local roads, many residents realize that collision survival rates are better at lower speeds. Therefore, the community is often requesting lower speed limits as a preventative measure. However, a car travelling at any speed can kill. In fact, a large number of deaths on roads are as a result of vehicles backing out of a driveway. Lowering the speed limit places the emphasis on enforcement. Placing a 30 or 20 km/h speed sign on a street will not compel drivers to comply. In reality, drivers will drive at the speed at which they feel most comfortable, based on road conditions. Most roads are designed for a specific speed, and then the posted speed limit can be 10 or 20 km/h less. For example, most Town local roads are designed for 50 or 60 km/h, and are posted at 40 km/h. So drivers will drive somewhere between 40 and 50 km/h. Lowering the posted speed limit will not have any impact on speeds unless it is in coordination with police speed enforcement.

Wider Sidewalks - The minimum standard width required for an AODA-compliant sidewalk is 1.5 metres. Some older sidewalks are less than this standard. The Town has been implementing a program that increases sidewalks to 1.8 metres, where possible. Sidewalks are an important part of a "complete street" design.

One-way traffic - One-way streets can be effective, but there must be a pair of one-way streets for traffic flow to run seamlessly. General subdivision design in the Town does not easily allow for one-way paired streets.

Red light cameras - Red light cameras are fairly expensive. York Region has installed them at several regional intersections, with a few interspersed at arterial intersections within the Town. The Town encourages York Region to continue to expand the program, but this would not be an initiative undertaken by the Town because of the infrastructure and resources required for just the few traffic signals that we have.

Photo radar - Photo radar is making its way back into use in Ontario. Much like red light cameras, photo radar is expensive and will likely be operated by York Region. The Town is supportive of this measure, but may not have the resources to be able to have its own equipment and installations.

Different Enforcement practices - This idea is worth pursuing with YRP. Enforcement can be one of the most effective tools for traffic calming, however its effects can be short-lived. For example, residents can request enforcement by several different ways, which makes the process inefficient. Requests through Engineering Services at the Town would normally go through the Council-approved policy and would be the subject of a study to determine the best traffic calming practice if certain criteria are met. But experience has shown that requests that are made directly to YRP by the Ward Councillor or by residents will obtain a faster response than requests made to YRP by Engineering Services.

Question 23: The final question in the survey was an open-ended question asking for any additional comments or concerns. The survey received 75 responses with 40 responses related to general statements about the Town (traffic and otherwise). There were 12 responses requesting specific items and/or in specific locations. The remaining 23 responses were specifically related to York Region road or transit operations.

What was learned from the Survey?

The following is a list of major themes from the survey results:

Diversity of Opinion - One of the most salient features of the survey responses is the diversity of comments or opinions on all aspects of traffic calming. This indicates that safety has perceptual meaning, so that what one person considers being safe is considered unsafe by another. In all cases, measures that were considered very effective by some, were deemed completely ineffective by others. The only area where the community agreed was with the Vision (Question 1) and the “3-E’s” of traffic safety (Question 2).

Understanding Traffic Calming - Throughout the survey, it became clear that many respondents did not have a clear understanding of basic traffic calming theory and measures. For example, many comments were received about slowing down traffic using stop signs or traffic circles, which are both measures to control right-of-way and not speed. Plus, proven methods of speed reduction were dismissed because they were considered ineffective or unsafe. The traffic calming concept of disturbing motorists out of their driving comfort zone did not seem to be fully understood.

Education – Education is a very important component of the “3-E’s” of traffic safety, but it received the lowest ranking among the 3 factors (see Question 3). Education was generally perceived as not as effective as Engineering and Enforcement. However, the responses to the survey appeared to indicate a great need for more education. The terms “bad drivers” and “inconsiderate drivers” were used quite often to describe traffic challenges. Education is a reasonable tool to “correct” driver behaviour.

Jurisdiction and Coordination - While each jurisdiction (i.e. York Region and the Town of Newmarket) is responsible for the safety of their own road system, the survey respondents did not see jurisdiction as a factor in traffic calming. For example, construction on Davis Drive resulted in traffic infiltration on local streets. Furthermore, speeding “starts and ends in the driveway”, meaning that speeding drivers often live on the street where they are transgressing. Naturally, residents would blame speeding on infiltration of non-resident drivers but, often, speeding drivers are, in fact, neighbours. In terms of safety within the Town, despite the fact that there are significantly more Town roads (measured in length) than Regional roads, there are more serious collisions and fatalities on Regional Roads. Speeding, more traffic volume, and other factors can account for this, but these are still fatalities that are within the Town’s boundaries and therefore, they are of concern.

Permanency - Another theme that was prevalent through the different traffic calming methods was permanency. Respondents perceive that solutions need to be permanent in nature in order to work effectively. Line painting fades and other measures need to be removed for snow ploughing operations.

Enforcement – Enforcement, which is one of the “3-E’s” of traffic safety, is an important part of the entire road safety philosophy (Question 3). Throughout the survey, it was noted that follow-up enforcement is important to ensure that measures are adhered to, and even pre-installation would be effective. However, it was noted in several comments that Enforcement as it currently stands is ineffective. There are probably two issues that need to be coordinated with YRP: reporting and accountability. Typically, enforcement complaints can come into the Town, to the Ward Councillors, to the police or via Road Watch. This is not an efficient system and this makes it difficult to track residents’ requests and YRP responses. This leads into the issue of accountability. Town staff are accountable to the public for where and when resources are deployed, and the net impacts of those resources. However, YRP does not have that same requirement to report back. It would be helpful if YRP could communicate this type of information to the public.

More stop signs & speed humps, and lower speeds. Stop signs, speed humps and lowering the speed limit seem to be the most common requests when dealing with any traffic challenge because they are perceived as being effective. Nonetheless, these methods are not the most effective, or even effective at all, in traffic mitigation and traffic safety. Measures like these and others need to be considered based on their particular effectiveness and how these would provide balance in the transportation network.

APPENDIX B

Traffic Calming Policy Changes

The changes to the policy will be noted with a '#' symbol and will be underlined.

The TMP highlighted traffic calming measures and showed the conditions under which they could be implemented. An incremental approach was proposed, which determined the appropriate measure to put in place at any given time. This provided the greatest impact and effectiveness for each proposed measure.

Category 1 measures were implemented first, followed by Category 2 measures. The TMP established limits and warrants to ensure an objective analysis of appropriate mitigation measures. The following Table illustrates some of these limits and warrants:

Issue	Limits and Warrants
All-way stop request	Town variation of OTM Book 5
Speeding on Local Roads	10km/h over speed or less = Category 1, > 10km/h over speed = Category 2
Speeding on Collector Roads	15 km/h and less – Category 1, > 15km/h – Category 2
Traffic Infiltration	20% of normal road volume – Category 1
School Crossing request	OTC 2006 Guide, with Town amendments

The 2017 OTC Manual is now available and will be integrated in the Transportation Management Policy.

All of the TMP warrants and limits are currently valid.

To mitigate speeding, infiltration and right-of-way control, the following traffic calming measures are endorsed:

Category 1

- Speed Management Program
- Pavement Marking and Signage
- Enforcement
- Road-side Improvements
- Lane Narrowing (non-construction)

Category 2

- Speed humps (not applicable on Active Transportation Routes or Collector Roads)
- Curb radius reductions
- Curb radius extensions
- Centre medians/pedestrian refuge islands

- Chicanes #remove Chicanes#
- Lane Narrowing (construction)

Lane narrowing (non-construction) is achieved by installing pavement markings or bollards, while lane narrowing (construction) is achieved by constructing curbs in new locations to physically narrow the travelled road widths.

1.0 Category 1 Measures

1.1 Speed Management Program

The Speed Management Program is an education package intended to make motorists more aware of their chosen speeds. Currently, the Town has the following radar-type speed display boards:

- boulevard speed display trailers – 2
- battery powered, pole-mounted speed display signs – 1
- solar powered, pole-mounted speed display signs – 7

At each speed display location and at other locations (upon request) boulevard lawn signs are placed for up to 4 weeks.
The battery powered pole-mounted speed display signs remain in place for one week before they are removed to recharge the batteries. The solar powered pole-mounted speed display signs can remain in place indefinitely; however, they are moved every month or so to reduce driver apathy.
To balance both the resources required for placement and the impact on motorists, the new direction is to slowly decommission the trailers, and five more solar pole-mounted speed display signs were purchased in 2017 for a total of seven units. Additional battery pole-mounted speed display signs would be purchased as the trailers are decommissioned. Boulevard lawn signs will be continued to be deployed in the current manner, however, the message will be refreshed every 2 to 3 years.

1.2 Pavement Marking and Signage

Pavement Markings and signage are regulated under the Ontario Traffic Manuals (OTM) to ensure consistency for all motorists. The placement and use criteria for the Town is based on the OTM standards. To achieve consistency within the Town for speed reduction, stop compliance, and pedestrian safety, all collector roads should have a yellow centre line. Collector roads are typically wider, straighter, and tend to have higher

recorded speeds. For these reasons, a yellow centre line is required, which visually divides the roadway and narrows the travel path.
Stop bars and pedestrian lines should be implemented at all intersections, where appropriate. These lines create a visual ‘stop’ for motorists and provide a designated travel path for pedestrians. Not all intersection legs in Newmarket include pedestrian lines. Some intersections do not have the required intersection platform (apron) or sidewalk connections at every leg, therefore pedestrian lines are omitted in these locations.

1.3 Enforcement

The Town supports the Road Watch program operated by the York Regional Police; however, many residents are not aware of the program or how to access it. Currently, the Town has a web site link to the York Regional Police web site. Seven Road Watch signs have been placed on the major arterial roads leading into the Town. Additional signs should be installed at major collector road/arterial road intersections.

#All enforcement requests are to be referred to York Region Police first for enforcement.# All petitions or the process outlined in the Public Support and Consultation Policy, as approved by Council, will be reviewed by Town staff.

1.4 Road-side Improvements

One fundamental traffic calming measure is to provide ‘side-friction’ on roadways. Side-friction is defined as an element near the road which creates a visual reduction in the travel path of a vehicle. The most common side-frictions include cars (parked in driveways near the curb line) and pedestrians (on sidewalks). Landscaping elements and street furniture are also successfully utilized to create side-friction. Benches and garbage receptacles can be placed in key locations, and additional trees, landscaping, and LID (low impact development) features can reduce the number of ‘flat boulevards’, creating the visual effect of a narrower roadway.

#Road-side improvements of a permanent nature are preferred for visibility and durability, and they should be in effect all year long.#

#Entry features or road-side improvements along Regional arterial roads should be considered in all reconstruction projects and particularly where bicycle lanes connect or cross a Regional arterial road. #

1.5 Lane Narrowing (non-construction).

The most common technique to narrow lanes is applying pavement markings, typically edge lines and centre-lines. The Town has narrowed two streets (Queen Street and Bristol Road) by implementing a painted wide median to ‘push’ vehicles to the curbs. This creates a narrower lane, providing further separation between vehicles in curved sections. Edge lines are applied along the curb and can be painted as much as 0.5-metres away from the curb. This can be effective; however, the preferred practical application is to install a proper bicycle lane.

More permanent solutions shall be considered.#

2.0 Category 2 measures

Category 2 measures are more expensive, more intrusive and more permanent solutions compared to Category 1 measures. Category 2 measures also require extensive public engagement.

2.1 Speed humps (not on Active Transportation Routes)

Speed humps are only effective if properly spaced, and in groups of three to four. The Town has used speed humps in two communities: Kingston/Malton/Lancaster and Cotter/Oak.

Speed humps may be effective, but are difficult to place. Because speed humps cause a vertical deflection (bump), great care must be taken during the design phase to ensure that other road geometrics would not cause the motorist to lose control. Speed humps, therefore, should not be considered in the following locations:

a) Active Transportation Routes
b) Road grades exceeding 5%
c) Road curves
d) Near intersections (controlled or uncontrolled)
e) Roadways with daily volumes exceeding 5,000 vehicles per day
f) Industrial areas

Other factors that require consideration when assessing speed hump locations are:

a) Public Transit Routes
b) Primary or minor collector roads
c) Proximity to schools

2.2 Curb radius reduction

Reducing an intersection curb radius increases the sharpness of a vehicle turning movement. The turning travel path at a reduced radius is shortened, and in order to make the turn, drivers must take more care and slow down more than with a conventional radius. In addition, an intersection with reduced curb radii creates shorter distances for pedestrians to cross streets, generally improving pedestrian safety.

The radius of a typical local road curb is 8.0 metres; 9.0 metres for collector roads. This radius is sufficient for the majority of larger service and emergency service vehicles, and forms part of our current Engineering Standards. Curb radii reduction will be considered for all road rehabilitations.

2.3 Curb radius extension

Curb radius extensions or curb extensions are a more aggressive form of treatment at intersections. The curbs are extended out, creating a pinch point at the intersection approaches. The Town has not utilized this type of treatment, but Main Street South, in the parking areas on the east side, approximates this treatment. The curb extensions shorten the crossing distance for pedestrians, thereby enhancing pedestrian safety. Curb extensions are effective; however, they must be designed differently to accommodate roads with bicycle lanes.

2.4 Centre median/pedestrian refuge islands

Currently, the Town has two pedestrian refuge islands; one on William Roe Boulevard, just east of Yonge Street, and a second one located on Water Street, just west of Doug Duncan Drive. The pedestrian refuge island allows pedestrians to cross one lane at a time with an area of safe refuge in between. Refuge islands are very effective for locations where trails and roads intersect, which are generally isolated from signalized intersections.

Chicanes #remove section #

As with speed humps, chicanes require placement in groups of 3 or 4, and at appropriate spacing. More importantly, to be effective, chicanes should be constructed on roads with constant volumes travelling in both directions. Chicanes constructed on roads with low or uni-direction volume provide poor results, as motorists tend to drive down the middle of a chicane, and not closer to the right curb line.

Given the lack of support and effectiveness, this measure will be removed.

2.5 Lane Narrowing (construction).

As a result of road reconstructions, the Town has been narrowing the travelled portion of existing roads from 8.5 metres to 8.0 metres for local roads, and 9.7 metres to 9.0 metres for collector roads. This is the current standard for new subdivision construction. As noted above, the physical narrowing of the lanes is an effective traffic calming measure.

Lane narrowing could include the creation of mid-block pinch points.#

3.0 Pedestrian Safety

Pedestrian safety is a multi-facetted issue where motorists and pedestrians must work together to reduce safety risks. When there is a collision between a car and a pedestrian, the pedestrian always loses. On average in Newmarket, one pedestrian is involved in a collision every month. The ideal goal is zero collisions. The current trend indicates collisions have been declining even though the population has been increasing. Pedestrians are most vulnerable where vehicle and pedestrian paths conflict (mainly at intersections, but also at mid-block locations) and where pedestrians choose to walk on the road. It is best to have a physical separation between motorists and pedestrians, but when this is not achievable, clear indications of rights-of-way and the ability for each to see the other is very important.

There are two distinct themes to improve pedestrian safety – communication/education, and physical improvements.

3.1 Communication/Education

Speed Management Program - The Speed Management program consists of the trailer and pole-mounted, radar speed display signs. The signs remind passing drivers of their speeds. A slower driver or a driver travelling at the posted speed is more likely to be able to avoid a collision. In addition, lawn boulevard signs are placed at the speed display sign

locations. After the speed display signs are removed, the boulevard signs are left for a few weeks. The driver is the target audience for this education package.

Safety Cone Sam - Safety Cone Sam and his friends are the mascots for the Speed Management program and the overall Safety Driven Campaign. Vulnerable road users, mainly youth, are the target audience for this education package. Safety Cone Sam, through displays at Town events, and in social media, provides messages and information. Give-away items and handouts, which have a defined theme, are also distributed. Most of the items focus on improved or increased visibility between drivers and pedestrians, and usually take the form of reflective material. Safety Cone Sam also has a presence on the Town Web page, but is more effective at community special events.

3.2 Physical Improvement

The following are a number of low cost, physical improvements that can greatly add to pedestrian safety:

Visibility Improvement at Intersections - This initiative is currently underway. Chosen intersections receive additional pavement markings in the form of the ladder-style pedestrian markings. For the motorist, ladder markings provide better visual contrast between the pedestrian and the roadway. Currently, the program has seen 7 successful installations, one in each Ward. The locations were chosen based on traffic/pedestrian volume as well as collision rates. Going forward, the program will install one additional location per Ward for the next 2 to 3 years.

<u>This program will be extended by adding ladder style markings, particularly at collector-to-collector intersections</u>.#

Pedestrian Crossing lines - Currently, the Town has a policy in regards to the installation of stop bars and pedestrian crossing lines. These markings are generally found at all four-way and three-way stop controlled intersections, and select minor stop controlled intersections. Intersections located directly on a school route take precedence. The ultimate goal is to install stop bars and pedestrian crossing lines at all intersections. Not only do the crossing lines provide guidance to pedestrians and motorists, they also improve visibility at intersections. Lateral lines painted across the road generally elicit a higher motorist response than signage, or in combination with signage.

Sidewalks - The Sidewalk Policy, developed in 2005, requires sidewalks on one side of all streets, two sides for collector roads with some criteria, and two sides for all arterials roads. The Town has been installing sidewalks on one side of local streets during reconstructions, pertaining mainly to the older areas of Town, however, there are a

number of collector roads which currently have a sidewalk on one side only. Some of these streets are not scheduled for reconstruction and sidewalk placement for many years. To increase pedestrian safety, and to conform to the Complete Street philosophy, a program is necessary to construct sidewalks on collector roads with only one sidewalk. Priority must be given to locations near school sites and other areas of high pedestrian activity.

Aprons - How a sidewalk intersects with the roadway is very important. A sidewalk apron is a widening of the sidewalk at an intersection to allow pedestrians a convenient and safe location to cross the road, and can be designed to accommodate road crossings in two directions. At intersections, most sidewalks have a wide apron for accessibility and ease of crossing. However, some intersections (especially where additional stop controls have been constructed) may not include an accessible apron. A program is required to address this issue, to provide accessibility and ease of use.

At a minimum, each intersection that is scheduled for ladder style pavement marking should have appropriately implemented aprons.#

4.0 Cyclist Safety - Active Transportation

In 2014, the Town adopted the Urban Centres Secondary Plan (OPA#10), as well as Official Plan amendment #11 (OPA #11). OPA #11 amended Schedule D, the Active Transportation Network, which identifies Primary and Secondary facilities for both on-road and off-road users.

The majority of on-road facilities are located on residential collector roads. When OPA #11 was being drafted, Ontario Traffic Manual #18 (OTM Book #18) was created, which set standards for bicycle facilities in Ontario. The design criteria utilized in OTM Book #18 were instrumental in determining the type of on-road facilities for the routes identified in OPA#11.

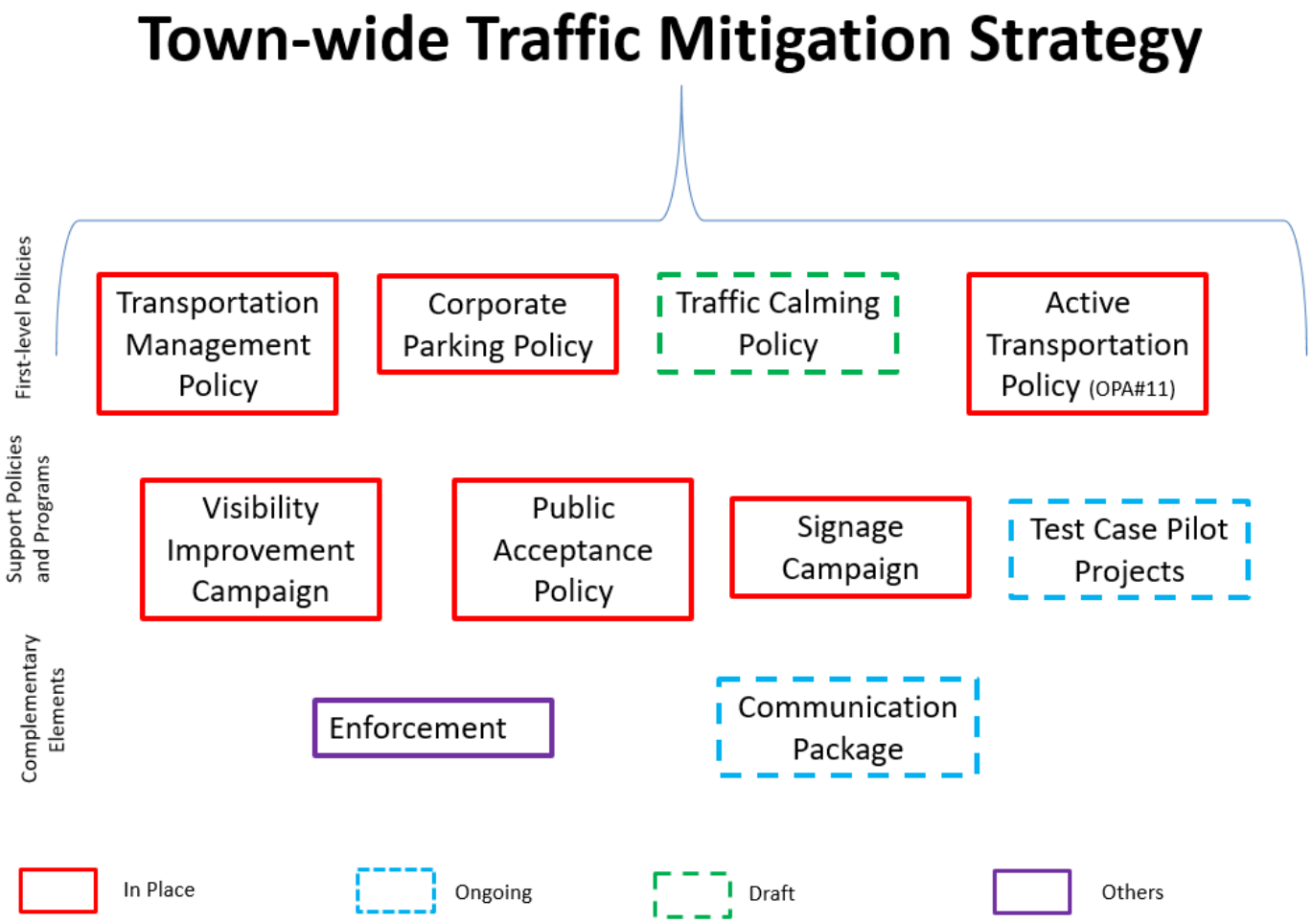
The majority of the residential collector road system has an asphalt or road width of up to 9.7 metres, sufficient for one vehicular lane and one standard 1.5-metre bicycle lane on each side. A few residential collectors, however, were constructed at a road width of 8.5 metres, providing sufficient space only for a reduced 1.25-metre bicycle lane on each side. Fortunately, these narrower roads generally have less traffic volumes and lower speeds.

The purpose of the Active Transportation Plan is three-fold:

- Provide alternative non-automobile methods of travel for work-based, school-based, and recreational trips from our residential communities outward to the commercial, institutional, retail, and recreational areas of the Town.
- Provide protected travel paths for cyclists in the form of appropriate cycling facilities. These facilities will increase cyclists' comfort level by reducing safety risks.
- Provide traffic calming to the residential collector streets by narrowing the travel lanes. Narrower travel lanes typically have a slowing impact on traffic, resulting in complete streets for community use.

The Active Transportation Plan has set out two timeframes, 1) a short-term (0-5 year), and 2) a longer-term (6-10 year) timeframe. On-road cycling facilities function much like a road network, and when considering the implementation schedule, the broader network and its connections should not be ignored based solely on timeframes. The Active Transportation Plan consists primarily of bicycle lanes, with travel lane narrowing, therefore, the use of other forms of physical traffic calming measures, as noted in Category 2, is not advisable. To further refine the Active Transportation Plan, an Active Transportation Implementation Plan is currently being crafted which would better define time frames, costs and accessary infrastructure.

Appendix C


Town-wide Traffic Mitigation Strategy
First-level Policies
Transportation Management Policy
Corporate Parking Policy
Traffic Calming Policy
Active Transportation Policy (OPA#11)
Support Policies and Programs
Visibility Improvement Campaign
Public Acceptance Policy
Signage Campaign
Test Case Pilot Projects
Complementary Elements
Enforcement
Communication Package
In Place
Ongoing
Draft
Others