

2022 Traffic Calming Update

Presented To:	Operations Committee
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Recommended by:	General Manager of Growth and Infrastructure

Report Summary

This report provides recommendations regarding the 2022 ranking for traffic calming eligible roadways, as well as the temporary flexible bollard traffic calming program. The report will also provide a response to Resolution OP2021-13-A1.

Resolutions

Resolution 1:

THAT the City of Greater Sudbury approves the 2022 ranking for traffic calming eligible roadways;

AND THAT the City of Greater Sudbury initiates the public support component of the traffic calming process based on the ranking order;

AND THAT the City of Greater Sudbury provides the results of the associated traffic studies to the Greater Sudbury Police Services, and requests increased enforcement on roadways identified with speeding concerns as outlined in the report entitled “2022 Traffic Calming Update”, from the General Manager of Growth and Infrastructure, presented at the Operations Committee meeting on February 16, 2022.

Resolution 2:

THAT the City of Greater Sudbury establishes a Temporary Flexible Bollard Traffic Calming Program;

AND THAT the City of Greater Sudbury directs staff to prepare a business case for consideration during the 2023 Budget process to fund the Temporary Flexible Bollard Traffic Calming Program for the ten highest ranked locations on the annual traffic calming ranking, as outlined in the report entitled “2022 Traffic Calming Update”, from the General Manager of Growth and Infrastructure, presented at the Operations Committee meeting on February 16, 2022.

Relationship to the Strategic Plan, Health Impact Assessment and Community Energy & Emissions Plan (CEEP)

The implementation of traffic calming supports the achievement of strategic objectives under the Create a Healthier Community strategic initiative.

The implementation of traffic calming has no direct connection to the Community Energy and Emissions Plan.

Financial Implications

If approved, the first year of a temporary flexible bollard traffic calming program for the ten highest ranked locations on the annual traffic calming ranking would require \$50,000 of funding with subsequent years requiring approximately \$30,000 for the annual installation and removal of the bollards. Staff will submit a business case as part of the 2023 Budget to seek funding for this new program.

Backgrounds

The City's Transportation and Innovation Support section receives numerous requests each year to install traffic calming measures such as speed humps, pavement markings and additional signage to reduce speeding and improve safety on its roadways. In February, 2008, the City of Greater Sudbury retained IBI Group to develop a traffic calming policy to aid staff in evaluating requests and the application of traffic calming devices. This policy was adopted by City Council on May 12, 2010.

What is Traffic Calming?

The Institute of Transportation Engineering defines traffic calming as "the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for non-motorized street users."

Traffic Calming Warrant

The City's traffic calming warrant is based upon the review of the best practices of over twenty (20) jurisdictions throughout North America. In addition, public input was solicited through surveys posted on the City's website and at the Citizen Services Centres. Two (2) stakeholder workshops were also held with City departments and agencies including City Councilors, Greater Sudbury Police Service, Fire Services, Paramedic Services, Planning Services, Roads and Transportation and Engineering Services.

The traffic calming warrant consists of an initial screening where a combination of requirements must be met for a site to be eligible for traffic calming. The threshold criteria and screening process can be found in the attached Exhibits "A" and "B".

Sites that pass the initial screening are then ranked against each other using a weighted point criteria based on the classification of the road. Each eligible site is awarded points based on its score for each factor, with a maximum score of 100 points. A score of 30 points has been established as a minimum threshold to qualify for traffic calming consideration. The scoring criteria for local and collector roads is outlined in the attached Exhibit "C".

Initial Screening and Ranking of City of Greater Sudbury Roads

In 2021, 12 requested locations were evaluated for traffic calming. One location met the minimum criteria and has been added to the final ranked list (see Exhibit "E") while eleven locations did not. See Exhibit "D" for the list of road segments which did not qualify.

Overall, the initial screening process has been completed for 336 road segments on 197 different roads. Of the 336 road segments reviewed, 35 qualified for the ranking process and scored more than 30 points to qualify for traffic calming consideration. As part of the final ranking process, any abutting road segments that each scored greater than 30 points were combined into one segment and assigned the higher score of the

two abutting road segments.

Final Ranking

As indicated in the attached Exhibit “E”, a total of 32 roadways qualify for traffic calming.

In addition to the eligible roadways, Exhibit “E” shows the project length and indicates whether the road is a transit route or primary emergency services route. It is noted that the cost estimates may vary greatly depending on the devices preferred by the residents. For example, on a 1 km road, you could add pavement markings for bicycle infrastructure for \$10,000 or construct physical devices for \$150,000. Roadways that are not transit routes or primary emergency service routes may qualify for vertical traffic calming measures such as speed humps. Speed humps are not only effective in reducing vehicle speed but are also less expensive to construct than many other calming devices.

Roadways that are eligible for traffic calming and are also identified under the Roads Capital Program for infrastructure improvements, will have the recommended traffic calming measures incorporated as part of the design and construction. Kathleen Street and Churchill Avenue are examples of where traffic calming was incorporated as part of the capital contract.

Status of Traffic Calming Requests 2022

Due to the Covid-19 pandemic all traffic studies, including traffic calming requests, were suspended in 2020. As a result, there is a backlog of over 80 traffic calming requests that need to be evaluated. In 2021 staff had enough resources to prioritize and evaluate 12 requests that came through a petition or a request through City Council. In 2022 staff will continue to prioritize traffic calming requests and work on the remainder of the requests which staff anticipate to be completed over the next two to three years.

Initiated Projects

Since 2010, staff has initialized several traffic calming projects throughout the City, some of which were stand-alone projects and others which were incorporated into other infrastructure improvements carried out under the Roads capital program. The April 2016 report entitled “[Traffic Calming – 2015 Ranking](#)” contains more information on completed projects. In addition, the report entitled “[Southview Traffic Calming Update](#)” contains a history of traffic calming on Southview Drive and how the current traffic calming plan was created and implemented.

Project Updates

In 2022, staff will begin the public consultation process for Michelle Drive, which is the top priority on the 2022 traffic calming ranking list.

Minimum Response Rates – Other Municipalities

At the July 2021 Operations Committee meeting, resolution OP2021-13-A1 was passed and stated the following:

“AND THAT a report be brought back to the Operations Committee meeting in Q1 of 2022 to report on the results of the traffic calming pilot project and provide the Committee with updated information regarding minimum response rates required by other municipalities prior to proceeding with traffic calming measures.”

In 2019 Transportation and Innovation Support staff presented a list of 10 Ontario municipalities and their minimum response rates and minimum support rates as part of the Traffic Calming – 2019 Ranking report. At that time five of the municipalities had minimum response and support rates while 5 did not have those requirements.

The Traffic Calming Policy requires a minimum 50 percent response rate from affected residents with a minimum support rate of 60 percent from all respondents for a traffic calming project to advance to proceed with development of a traffic calming plan.

Staff updated the data for the 10 municipalities as outlined in Figure 1 below. As the results show there is a reduction in the number of municipalities that require minimum response and support rates to proceed with traffic calming. However, those municipalities are still engaging residents and other community stakeholders for feedback before finalizing any traffic calming plans.

Municipality	2019 Minimum Response Rate	2019 Minimum Support Rate	2022 Minimum Response Rate	2022 Minimum Support Rate
City of London	25%	25%	N/A	51%
City of Ottawa	N/A	N/A	N/A	N/A
City of Kingston	N/A	N/A	N/A	N/A
City of Barrie	N/A	N/A	N/A	N/A
City of Brampton	N/A	N/A	N/A	N/A
City of Burlington	50%+1	N/A	N/A	N/A
City of Guelph	60%	60%	N/A	N/A
City of Kitchener	25%	60%	50%	60%
City of Windsor	25%	60%	N/A	60%
City of Vaughn	75%	75%	75%	75%

Figure 1: Minimum response rates and support rates to proceed with traffic calming by municipality

Temporary Traffic Calming Measures



Figure 2: Temporary Traffic Calming Bollards Installed on Auger Avenue

In 2019, a two year pilot project was initiated to install temporary traffic calming bollards as a potential method of traffic calming with minimal costs that could be implemented in increased number of locations in the community. The three locations chosen were Riverside Drive, Michelle Drive and Auger Avenue as they were the top three locations in the 2019 Traffic Calming Ranking List. These bollards were installed for a portion of the summer and removed in the fall. Due to the Covid-19 pandemic, the pilot project was temporarily paused and the bollards were not installed in 2020.

In 2021, staff continued the pilot project by installing bollards on the top three locations in the 2021 traffic calming ranking. This meant bollards were installed on Michelle Drive, Brenda Drive and Lansing Avenue. Based on feedback received from area residents a staggered bollard pattern was implemented on Michelle drive to make it more difficult for motorists to drive on the gravel shoulders to move around the bollards.

In order to determine the effect the bollards were having on the roads, staff conducted speed studies before and after the bollards were installed and surveyed the residents on Michelle Drive, Brenda Drive and Lansing Avenue to measure their satisfaction with the pilot project.

Impact on Operating Speeds

The results of the speed studies conducted before and after the temporary traffic calming bollards were installed indicate a varying reduction in speeds in all three locations.

Figure 3 below shows the locations where speed studies were completed. Each location shows the 85th percentile speed which is the speed at which 85 per cent of vehicles are travelling or lower.

Study Location	85th Percentile Speed Before Bollards (km/h)	85th Percentile Speed with Bollards (km/h)	Difference (km/h)
Michelle Drive between Municipal Road 80 and Francis Street (staggered bollard layout)	59	55	-4
Michelle Drive between Morrie Court & Morrie Court	59	57	-2
Brenda Drive between St Charles Lake Road & Ursa Court	58	48	-10
Lansing Avenue between Lamothe Street & Melbourne Street	59	52	-7
Lansing Avenue between Graywood Drive and Cedarview Crescent	60	55	-5

Figure 3: 85th percentile speeds by location pre and post bollard installation

The results of the studies show a range of speed reductions in all locations. Brenda Drive had the highest speed reduction while both locations on Lansing Avenue showed results consistent with other streets that had traffic calming installed. On Michelle Drive the results show the location with the staggered bollard layout had more of an effect than the location with a single bollard layout.

Resident Satisfaction Survey

Staff developed a resident satisfaction survey based on the themes of feedback that residents were providing during the first few weeks the bollards were installed. The survey asked residents how the bollards impacted safety, on street parking, driveway accessibility and aesthetics on the road. It also provided a comment area where residents could provide feedback on the pilot project. Exhibit H includes the survey that was sent to residents of Brenda Drive, Lansing Avenue and Michelle Drive. The same questions were posted to the City's Over to You engagement website as well.

Overall staff received 128 responses to the survey. Out of the total responses, 100 surveys were received from residents who lived on the street where the bollards were installed. The remainder of the responses were from residents who lived outside of those areas. Figure 4 below shows the breakdown of the number of responses and the response rates from the three study locations.

Study Location	Number of Responses	Response Rate
Brenda Drive	40	36%
Michelle Drive	34	40%
Lansing Avenue	26	22%
Outside Study Area	28	N/A

Figure 4: Survey Responses by Location

The first question in the survey asked residents if they felt the flexible bollards impacted the safety of the public using the road. The overall response from residents for all three locations showed 38% of respondents felt the road was less safe while 38% of respondents felt the road was safer while 22% of respondents felt there was no impact.

Figure 5 below shows the results for the same question but broken out by study location.

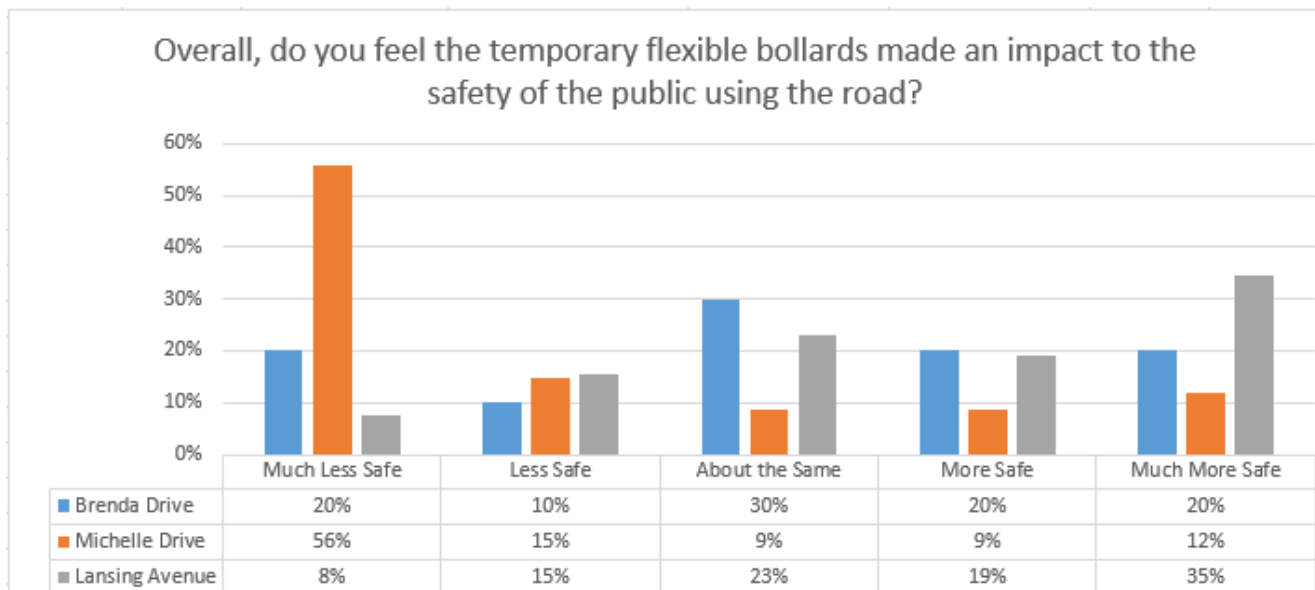


Figure 5: Responses to the impact of safety by study location

Figure 5 shows that over 50% of respondents on Lansing Drive feel the bollards made the street safer, while 40% respondents on Brenda Drive felt there was an improvement in safety. The responses for Michelle Drive indicate most respondents felt the bollards made the street much less safe. A review of additional feedback from respondents on Michelle Drive showed the issue of vehicles using the gravel shoulders to maneuver around the bollards was still a concern for pedestrians and other vulnerable road users.

The second question of the survey asked residents if the installation of the bollards impacted the availability of on-street parking. As shown in Figure 6 below, the majority of respondents from all three locations indicated that there was no impact on the number of vehicles that could park on the street.

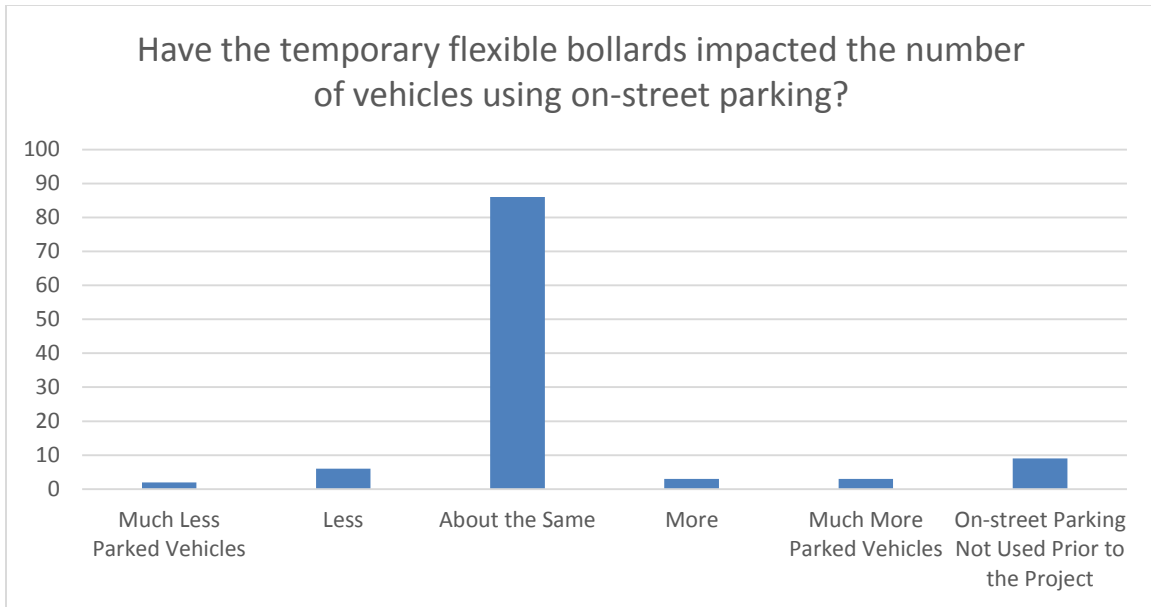


Figure 6: Responses to the impact on number of vehicles using on-street parking.

The third question of the survey asked residents if the installation of the bollards impacted how they accessed their driveway. As shown in Figure 7 below, the majority of residents indicated no change. However, when the results were further refined for residents that had bollards installed adjacent to their driveways, 50% of respondents indicated no change while the other 50% indicated increased difficulty access their driveways as indicated in Figure 8.

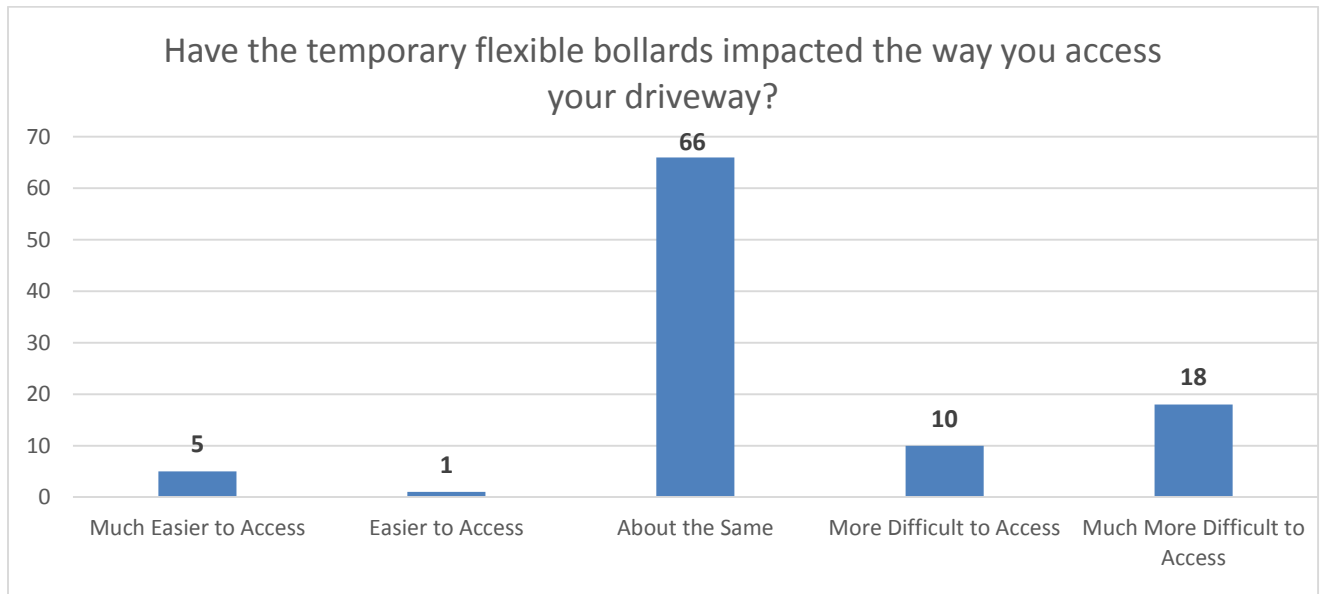


Figure 7: Impact of bollards on driveway access – all respondents

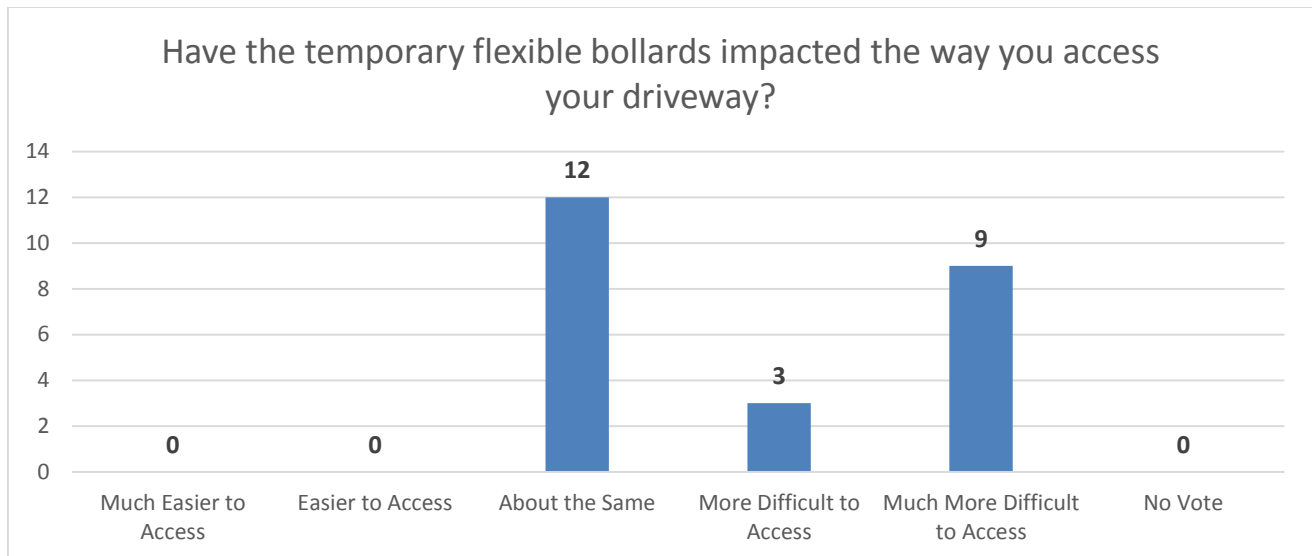


Figure 8: Impact of bollards on driveway access – respondents with bollards adjacent to their driveway.

The final question from the survey asked residents if they felt the installation of the bollards impacted the aesthetics of the road. As shown in Figure 9 below, 32% of respondents indicated an improvement or no change, 41% of respondents indicated a reduction in aesthetics while 27% indicated aesthetics were not a concern.

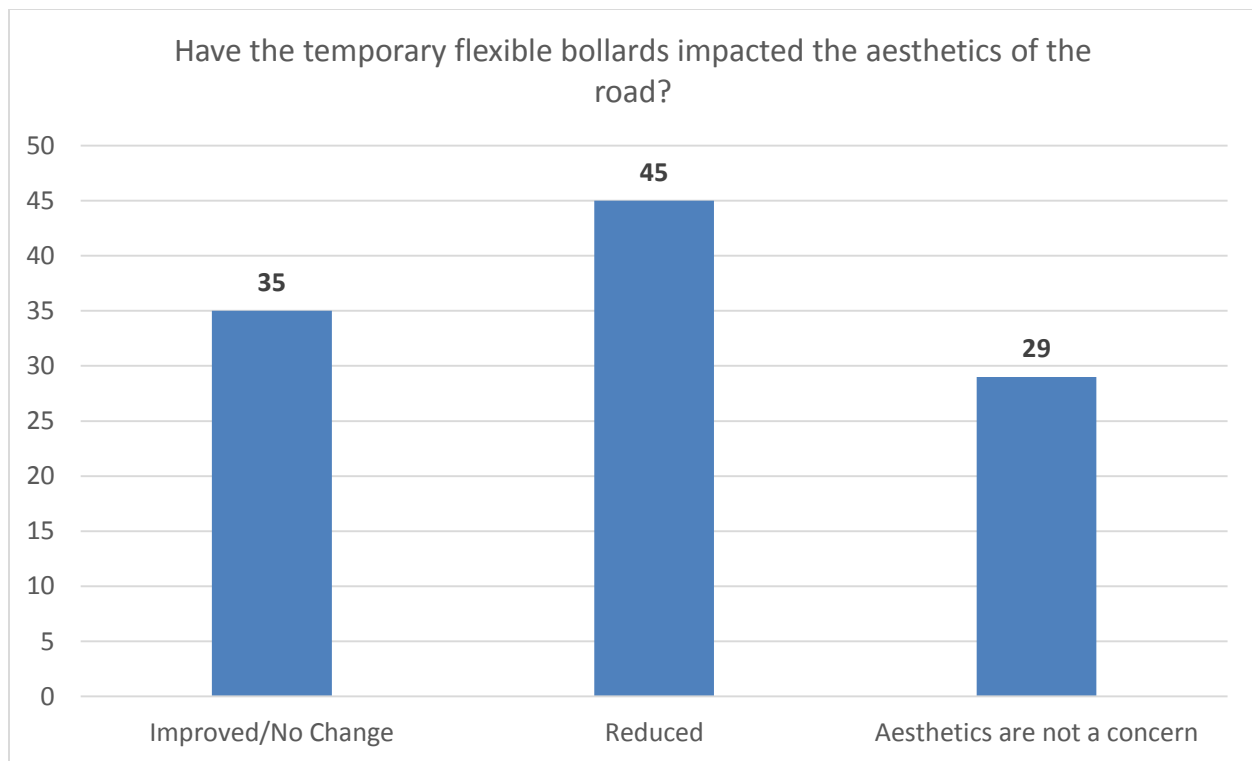


Figure 9: Impact of bollards on aesthetics of road

Pilot Project Cost Summary

The total cost of the pilot project was \$37,500. Thirty-nine sets of bollards were installed on the 5 roads over the 2 year pilot project. Of that total the cost of the equipment was \$16,500 while the total cost for installing and removing the bollards was \$21,000. Based on a 3 bollard setup, each location has a capital of \$500 and an annual installation and removal cost of \$450 for a total cost of \$950. Exhibit G shows estimated costs to install bollards on all locations in the traffic calming ranked list. The number of installation locations is determined by a spacing of 150 metres between bollards. If the temporary traffic calming bollard program

were implement on all roads that currently qualify for traffic calming, the estimated cost for the first year of the program would be approximately \$125,000 and would require approximately \$65,000 on an annual basis for the installation and removal of the bollards.

Pilot Project Recommendations

For urban roads, the speed studies demonstrate that the temporary flexible traffic calming bollards are effective at reducing operating speeds and the results of the resident survey show that the majority of residents felt the bollards improved safety and were not concerned with the impacts to parking, driveway access or aesthetics. Staff recommends temporary traffic calming bollards be utilized on urban roads with sidewalks.

For rural roads, the speed studies demonstrate that the temporary flexible traffic calming bollards were not as effective at reducing speeds. The results of the resident survey show that residents of Michelle Drive felt there was a decrease in safety for pedestrians and cyclists when motorists are using the shoulders of the road to avoid slowing down and the staggered bollard layout that was adopted in 2021 did not reduce the instances of vehicles using the shoulder. Staff do not recommend utilizing temporary flexible traffic calming bollards on rural roads.

Further, staff recommend a temporary traffic calming program be established that installs temporary flexible traffic calming bollards on urban roads with sidewalks that are included in the annual traffic calming street ranking. Staff recommends the following framework for a temporary flexible traffic calming bollard program:

- Only urban Roads on the ranking will be considered
- Temporary flexible bollards to be used until permanent traffic calming measures are considered
- Flexible bollards will not be considered as part of permanent traffic calming plan
- If residents turn down permanent traffic calming, the road would be removed from the ranking and would no longer qualify for temporary traffic calming
- Bollards would be installed after street sweeping was completed and removed by Oct. 31st (weather pending)

Based on the staff resources that will be required to administer this program, it is recommended that the temporary flexible traffic calming bollard be limited to ten highest ranked locations on the annual traffic calming ranking. Based on the estimates from Exhibit G, the first year of the program would require \$50,000 of funding with subsequent years requiring approximately \$30,000 for the annual installation and removal of the bollards.

It is recommended that staff be directed to bring forward a business case as part of the 2023 budget which seeks funding to implement the temporary flexible traffic calming bollard program as described in the report.

Next Steps

Speeding on residential roads continues to be one of the most common concerns Transportation and Innovation Support staff receive. Traffic calming offers a long term solution to these concerns by modifying roads in a way that makes it less comfortable to drive a vehicle above the speed limit. Over the next year, staff will initiate the public support component of the traffic calming process for the highest ranked road, Michelle Drive and at the direction of City Council, submit a business case for the 2023 budget to implement a temporary flexible traffic calming program

Resources Cited

Canadian Institute of Transportation Engineers and Transportation Association of Canada, Canadian Guide to Neighbourhood Traffic Calming, 1998

City of Greater Sudbury, Traffic Calming Policy, Accessed online:

<https://pub-greatersudbury.escribemeetings.com/filestream.ashx?documentid=27780>

City of Greater Sudbury, Traffic Calming – 2019 Ranking, Accessed online:

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