City of Cold Lake

STAFF REPORT

Title: Council Query - Speed Bump at 1 Avenue and Tamarak Street

Meeting Date: November 26, 2024

Executive Summary:
Council has requested consideration of a speed bump on 1 Avenue at Tamarack Street to address complaints of speeding as vehicles exit the 30 km/h zone. Speed data shows frequent exceedances of posted limits, with speeds reaching up to 96 km/h in the 30 km/h zone and 148 km/h in the 50 km/h zone. Despite existing traffic-calming measures, driver behavior contributes to the issue.
Speed bumps may address localized speeding but pose challenges such as drainage, snow removal, and emergency response delays. Administration recommends addressing this concern through broader traffic-calming policies, further data collection, and alternative measures like extending speed zones or enhancing sightlines.

Background:
Administration has received a request from Council to consider installing a speed bump at Tamarack Street on 1 Avenue. This request stems from complaints that vehicles, upon exiting the 30 km/h zone heading west on 1 Avenue, tend to speed up. A site perspective of 1 Avenue at Tamarack Street is shown in Figure 1.

Figure 1. Site perspective of 1 Ave at Tamarak Street

The 1 Avenue corridor was redesigned and rebuilt as part of the Kinosoo Beach redevelopment project, incorporating several traffic-calming features to support the 30 km/h speed zone. Key features include:

- **Curb Extensions/Roadside Bump Outs**: Designed to narrow the roadway and slow traffic.
- **Raised Intersections**: Acting as speed bumps at key points along the corridor, specifically at 16 Street, 18 Street, and 19 Street intersections.

The 30 km/h zone begins at 16 Street and ends approximately 40 meters west of Tamarack Street, as depicted in Figure 2. Despite these measures, concerns persist about drivers accelerating once they exit the 30 km/h zone.

Data and Observations

The City routinely collects speed and vehicle count data for road condition modeling and future capital planning. Table 1 summarizes the available speed counter data for 1 Avenue between 19 Street and 28 Street.

Figure 2. Overview of location and extent of speed limit zone, and location of speed counters on 1 Avenue between 19 St and 28 St

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Table 1: Summary of Speed Counter data for 1 Ave between 19 St and 28 St							
Date	Location (Figure 1)		AADT	Av. Speed (km/h)	85th percentile Speed (km/h)	Posted Speed (km/hr)	Max Speed (km/h)
	Station (Fig 1)	Description					
Jun 29-Jul 05, 2021 2:0 pm to 1:00 pm (~7 days)	1	Park 1 Ave between 19 St and Tamarack St	2,505	34	44	30	***96*** at 01:23 am
Jun 24-Jun28, 2021 9:00 am-11:00 am (~5 days)	2	(Residential) 1 Ave between Tamarack St and 22 St	2,577	40	48	50	***97*** at 02:16 am
Jun 22-Jun 24, 2021 11:00 am-10:00 am (~3 days)	3	(Residential) 1 Ave between 22 St and 25 St	3,430	48	56	50	***99*** at 04:00 pm
Jun 16-Jun 21, 2020 10:00 am-11:00 am (~6 days)	4	(Residential) 1 Ave between 25 St and 26 St	2,118	56	65	50	***148*** at 02:25 am
Jun 11-Jun 15, 2021 03:00 pm-09:00 am (~5 days)	5	(Residential) 1 Ave between 26 St and 28 St	2,569	56	65	50	***127*** at 05:41 am
Jun 11-Jun 28, 2021 9:00 am-11:00 am (~5 days)	Avg Stn. 2-5	(Residential) 1 Ave between Tamarack St and 28 St	2,673	50	58	50	***118*** at 02:16 am

Many studies have shown that despite the posted speed limit on a given section of road, most drivers tend to travel at a speed that is comfortable relative to roadway conditions, and at that speed, the least amount of congestion and crashes occur. This finding lead to the theory of 85th percentile speed concept and is defined as a speed at or below which 85 percent of vehicle drive at any given location under good weather and visibility conditions and is considered as the maximum safe and reasonable speed for that location.

Key Observations

1. 85th Percentile Speed Exceedance:
    - For the 30 km/h zone, the 85th percentile speed exceeds the limit by 14 km/h.
    - For the 50 km/h zone, it exceeds by 8 km/h.
    - This indicates that speeding occurs in both zones, regardless of posted limits and traffic-calming measures.
2. Maximum Speeding Incidents:
    - Speeds as high as 96 km/h were recorded in the 30 km/h zone, and up to 148 km/h in the 50 km/h zone, typically during early morning hours when traffic enforcement is minimal.
3. Driver Behavior:
    - Evidence suggests that some drivers accelerate to "make up" for time lost at speed bumps or travelling in lower speed zones.

- Studies support the theory that drivers tend to self-regulate speeds based on road conditions rather than strictly adhering to posted limits.

Discussion

The effectiveness of speed bumps as a long-term solution is debatable. While they may reduce speed in localized areas, they can create other issues:

- Behavioral Adjustment: Drivers may accelerate between speed bumps, shifting the problem further down the corridor and in between speed bumps
- Operational Challenges: Speed bumps can hinder snow removal, drainage, emergency response, and transit operations. The City of Cold Lake recently completed a Fire Hall Feasibility Study and response time analysis should already reflects issue that will impact future building codes in Cold Lake. Administration cannot stress enough, that the addition of speed bumps throughout the community will have significant impact these discussions that is schedule for January 2025 and in turn have impacts on which parts of the building codes developments that are beyond certain response time thresholds in the community (this is exacerbated with the fact that the city only has a "volunteer" service and time is required to assemble prior to response.
- Driver Frustration: Excessive traffic controls can result in frustration, leading to aggressive driving behaviors.

Traffic engineering best practices recommend gradual improvements for traffic calming, such as:

- Extending speed zones.
- Improving sightlines.
- Introducing roadside bump-outs or alternating road patterns.

Additionally, addressing speeding requires a combination of driver education, enforcement of traffic laws, and engineering solutions.

It should be noted that this isn't the only area that the City received requests for speed bumps. We've attached a map that outlines other locations that have received recent requests.

Recommendations

Given the complexity of this issue, Administration recommends:

1. Policy-Level Review: The current request highlights the need for a broader traffic-calming policy to guide future decisions that also align with Emergency Services response requirements and/or expectations.
2. Further Data Collection: Deploy speed counters and conduct community consultations to confirm the extent and perception of the issue.
3. To deal with he specific issue - Gradual Interventions: Consider alternatives such as extending the 30 km/h zone further west, introducing additional curb extensions, or increasing enforcement in high-speed areas.

4. That an issue of community speed concerns be referred to Council's Corporate Priorities meeting review and recommendations.

A decision to install speed bumps should account for potential unintended consequences and align with best practices and public consultation.

Alternatives:
Council may consider following alternatives:

1. Accept the report as information only.
2. Refer the issue to Corporate Priorities Committee of Council for further discussion.
3. Direct administration to conduct a City-wide study on 30km speed zones and develop a policy framework for Council review.

Recommended Action:
That Council pass a motion to refer the subject matter of "Community Speed Concerns" to Council's Corporate Priorities Committee meeting for review and recommendations.

Budget Implications (Yes or No):
No

Submitted by:
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