

City of Crystal Lake
Traffic Calming Policy

I. Introduction

The City of Crystal Lake is committed to the high quality of life enjoyed by the citizens of the Crystal Lake community. Safe streets in Crystal Lake neighborhoods are important for residents to enjoy a high quality of life. The goal of this policy is to maintain that quality of life by creating safe and attractive streets while maintaining satisfactory levels of vehicular access and emergency response.

The City continually receives requests from citizens for traffic calming solutions throughout the City. Traffic calming is the act of balancing the need for vehicular access with neighborhood needs for safe, quiet environments. The purpose of this policy is to establish a formal procedure to investigate concerns, determine which concerns warrant further action, and detail options for traffic calming that are acceptable.

Traffic concerns are referred to staff from Public Works, Engineering, Police and Fire, hereafter referred to as “staff”. Staff reviews and investigates traffic safety concerns, collects data, and implements strategies for reducing traffic conflicts.

When investigating traffic concerns, staff is guided by legal and professional standards and practices as established by the Institute of Transportation Engineers (ITE), the Manual on Uniform Traffic Control Devices (MUTCD), the Illinois Vehicle Code (IVC), policies from the Illinois Department of Transportation (IDOT), and other industry practices.

II. Procedure

Step 1: Submitting a concern

Anyone may contact the City with a traffic concern using one of several methods:

1. Telephoning the City at 815-356-3605.
2. Submitting a request via email to tsc@crystallake.org.
3. Submitting a request through the Citizen Support Center at www.crystallake.org.
4. Mailing a letter to: Traffic Safety Committee, 100 West Woodstock Street, Crystal Lake, IL 60014.

Note that there are streets in the Crystal Lake corporate limits that are not under the jurisdiction of the City. Concerns about safety on these streets should be directed to the appropriate agency.

- *McHenry County Division of Transportation:* Ackman Road, Pyott Road, Walkup Road (north of Route 176), Virginia Road, Rakow Road, and Randall Road
- *Illinois Department of Transportation:* Route 14 (Northwest Highway or Virginia Street), Route 176 (Terra Cotta Avenue), and Route 31

Step 2: Collection of data, finding of facts

When the City receives a traffic concern, it is referred to staff. Staff will determine the relevant data that needs to be collected to assist in the evaluation of the request. The data collection may include taking measurements, counting vehicles or pedestrians, or field verification. With speeding concerns, cut-through traffic concerns, or stop sign requests, the first step will be to

measure the prevailing speed and traffic volume of the roadway. Appendix A outlines the procedure for the most common requests: speeding concerns and stop sign requests.

Step 3: Analysis of data, determining outcome

When the relevant data has been collected, staff will analyze the data by comparing it to the criteria in Section III below. Staff will contact the original requestor to inform them of the results of staff's decision and advise them of the next steps. If a request is actionable under the criteria, staff will start discussions about traffic calming strategies for the area.

Step 4: Implementation of traffic calming strategy

Low-level traffic calming actions, such installing signage or pavement striping will be scheduled to be completed as quickly as possible. These do not need additional actions such as resident notifications or City Council approval. Staff may also develop multi-step strategies that involve increasingly intensive traffic calming strategies.

If the recommended traffic calming action is more intensive and will have a significant impact on the residents in the area, staff will conduct outreach efforts with the area residents to gather feedback and/or achieve consensus. Staff may do this through notification letters for lower level modifications, or staff may host a neighborhood meeting to discuss the issues and present options.

Intensive traffic calming options that are more costly will have to be planned for in the City's budgeting process. Such projects will be presented to the City Council for their ultimate feedback and approval.

III. Criteria for Traffic Calming

Staff uses the following criteria for determining whether a traffic concern is actionable and warrants further study. This further study may lead to the implementation of traffic calming measures.

- A. Traffic volume greater than 1,200 vehicles per day on a local or residential street.
- B. An 85th percentile¹ speed exceeds 6 miles per hour over the posted speed limit. (MUTCD)
- C. A greater than average crash experience in a pattern that is related to the traffic concern.
- D. A significant amount of pedestrian or bicycle traffic generated by a single source or several identifiable sources, such as proximity to parks, schools, Metra Station, or Downtown Crystal Lake.
- E. Review of existing conflict points such as driveways, existing parking, and pavement widths.
- F. An unusual condition that warrants additional study as determined by staff. *A large number of children living on a street or vehicles routinely, legally parked on a street does not constitute an unusual condition.*

¹ 85th-Percentile Speed: the speed at or below which 85 percent of the motor vehicles travel. Source: MUTCD

IV. Traffic Calming Methods

Staff has done extensive research and review of traffic calming options. Not all traffic calming options used throughout the country are suggested to be utilized in Crystal Lake due to snow plowing operations and the character of the City. For example, traffic diverters can be an effective method of calming traffic and reducing cut-through traffic; however, they are effective in a grid arrangement of streets, which is not prevalent in the City. Innovation in the field continues, and staff may consider other traffic calming methods beyond the ones listed here, where appropriate.

The applicable options can be categorized in four ways:





- 1) Speed Monitoring
- 2) Signage
- 3) Roadway Narrowing Modifications
- 4) Other Improvements

As mentioned in Section II above, staff may develop multi-step strategies that involve increasingly intensive traffic calming strategies. For example a speed monitoring and/or signage technique may be put in place first, data recollected and if the results are not favorable, a roadway narrowing technique may be completed next.

Speed Monitoring: This technique uses radar to monitor the speeds of drivers.

<i>Technique</i>	<i>Implementation</i>	<i>Pros</i>	<i>Cons</i>	<i>Cost</i>
Mobile Radar Speed Display	Speed trailer placed at any location.	Provides immediate feedback for drivers not paying attention to speed; easy to implement	Can only be deployed to one location at a time; traffic calming benefits may be short-term	Police officer's time; City owns the unit
Traditional Police Enforcement	A patrol officer uses radar to monitor a stretch of roadway. Police issue a special enforcement order that lasts for 30 days.	Provides a visual reminder of the presence of law enforcement; provides visual reassurance to area residents	Implementation can be sporadic due to other Police calls; traffic calming benefits are likely short-term	Police officer's time





Signage: Several signage options exist.

<i>Technique</i>	<i>Implementation</i>	<i>Pros</i>	<i>Cons</i>	<i>Cost</i>
Speed Limit Signs 	Placed appropriately to properly inform drivers	Easy to implement	May add to sign clutter; long term effectiveness at slowing traffic unknown	Installed by Public Works staff
Electronic Speed Limit Display 	Solar powered with LED display	Provides consistent and immediate feedback for drivers not paying attention to speed; generally most effective when drivers have been traveling a distance at a higher rate of speed. ²	Effectiveness at lowering speeds is temporary ³	\$3,000 - \$12,500 each
Blinking Stop Signs 	Solar powered with LED display	Denotes new or reinforces existing regulation	Effectiveness at stop sign compliance is unknown	\$1,500 - \$2,000 each
Yield Signs 	Installation of yield signs on residential streets at t-intersections with clear sight lines	Reduces the perception of making up for lost time due to too many stop signs	Effectiveness at reducing vehicles making up for perceived lost time is unknown	Installed by Public Works staff

² *Methods and Practices for Setting Speed Limits: An Informational Report, FHWA, April 2012*

³ *DelDOT Traffic Calming Manual, Page III-9*

Roadway Narrowing Modifications: Drivers naturally slow down on narrower streets due to the perception that there is a lesser margin of error if they do speed. The perception of a more confined driving area causes drivers to drive more cautiously.

<i>Technique</i>	<i>Implementation</i>	<i>Pros</i>	<i>Cons</i>	<i>Cost</i>	<i>Speed Reduction</i>
<p>Bike or Parking Lanes</p> 	Use pavement striping to designate parking or bike lanes	Easy to implement; serves a dual purpose	Roadway needs to be wide enough to accommodate; maintenance costs	Parking lanes \$2,700 per mile Bike lanes \$10,000 per mile	1-5 mph ⁴
<p>Center Island</p> 	Creation of an elongated median in middle of the roadway	Often used as refuge island for pedestrians	Eliminates parking in adjacent area	Average: \$13,520 Range: \$2,140 to \$41,170 ⁵	1-5 mph ⁶
<p>Bump Outs</p> 	Curb bump outs at intersection or midblock	Shortens pedestrian crossing distance; protects on-street parking	Eliminates parking in adjacent area	Average: \$13,000 Range: \$1,070 to \$41,170 ⁷	1-2 mph ⁸
<p>Chicanes</p> 	A series of curb extensions to create a weaving pattern along the roadway	Could add green space; protects on-street parking	Eliminates parking in adjacent area, difficult to implement in areas with many driveways.	Average: \$9,960.00 Range: \$2,140 to 25,730 ⁹	5-13 mph ¹⁰

⁴ Pennsylvania's Traffic Calming Handbook, Pennsylvania Department of Transportation, Page 76

⁵ Costs for Pedestrian and Bicyclist Infrastructure Improvement Projects, UNC Highway Safety Research Center, October 2013, Page 15.

⁶ Pennsylvania's Traffic Calming Handbook, Pennsylvania Department of Transportation, Page 71




⁷ Costs for Pedestrian and Bicyclist Infrastructure Improvement Projects, UNC Highway Safety Research Center, October 2013, Page 14.

⁸ Pennsylvania's Traffic Calming Handbook, Pennsylvania Department of Transportation, Page 27

⁹ Costs for Pedestrian and Bicyclist Infrastructure Improvement Projects, UNC Highway Safety Research Center, October 2013, Page 13.

¹⁰ Pennsylvania's Traffic Calming Handbook, Pennsylvania Department of Transportation, Page 29

Other Improvements: There are several additional techniques to aid in traffic calming.

<i>Technique</i>	<i>Implementation</i>	<i>Pros</i>	<i>Cons</i>	<i>Cost</i>	<i>Speed Reduction</i>
<p>Speed Table or Speed Hump</p> 	<p>Install a gently raised (few inches) textured material mid-block</p>	<p>Easier for larger vehicles such as fire trucks to cross; also can serve as visual for mid-block crosswalk</p>	<p>Eliminates parking in adjacent area, may delay emergency vehicle response.</p>	<p>Average: \$8,170 Range: \$1,290-\$30,880¹¹</p>	<p>6 mph in vicinity¹²</p>
<p>Raised Intersection</p> 	<p>Install a gently raised (few inches) textured material at an intersection</p>	<p>Calms two streets at once; helps demarcate pedestrian crossings by elevating them</p>	<p>Results in an average delay of 4 to 6 seconds for emergency vehicles¹³</p>	<p>Average: \$8,170 Range: \$12,500 to \$114,150¹⁴</p>	<p>Minor¹⁵</p>
<p>Roundabout/ Neighborhood Traffic Circle</p> 	<p>Install a circular raised concrete area in the middle of the intersection which emergency vehicles can drive over, if necessary</p>	<p>Traffic flows more efficiently; improve safety; calms two streets at once</p>	<p>May cause initial driver confusion; costly to implement</p>	<p>Average: \$85,370 Range: \$5,000 to \$523,080¹⁶</p>	<p>4-6 mph in vicinity¹⁷</p>

V. Unacceptable Traffic Calming Methods

There are some traffic calming methods that are perceived to mitigate traffic problems; however, these measures have no demonstrable traffic calming benefits, and are not used within the City.

Artificially Lowering Speed Limits: Speed limits are set to inform drivers of the appropriate driving speed in good conditions.¹⁸ Drivers tend to adjust their speed to the roadway conditions (width, conflict points, pedestrians, parked cars, etc)

¹¹ *Pennsylvania's Traffic Calming Handbook, Pennsylvania Department of Transportation, Page 16*

¹² *Ibid, Page 38*

¹³ *Ibid, Page 51*

¹⁴ *Ibid, Page 16*

¹⁵ *Ibid, Page 51*

¹⁶ *Costs for Pedestrian and Bicyclist Infrastructure Improvement Projects, UNC Highway Safety Research Center, October 2013, Page 17.*

¹⁷ *Pennsylvania's Traffic Calming Handbook, Pennsylvania Department of Transportation, Page 34*

¹⁸ *Methods and Practices for Setting Speed Limits: An Informational Report, FHWA, April 2012*

Stop Signs: The purpose of stop signs is to manage traffic at an intersection, not to slow down traffic. The perception is that people will stop for the signs therefore lowering the speed along the roadway. Stop signs are not effective traffic calming measures.¹⁹ Any new all-way stops at an intersection enacted by the City must meet the warrants in the MUTCD.

Speed Bumps: Speed bumps are not permitted on City streets per the City Code.²⁰ Please note that this policy differentiates between speed humps and speed tables. Speed humps are more gradual in nature where speed bumps are very abrupt.

Children at Play/Deaf Child/Blind Child Signs: These types of signs have been used in other communities across the United States; however, the City of Crystal Lake does not install these signs. There is no evidence that these signs affect driver behavior or have any traffic calming benefits.²¹ The MUTCD does not include these types of signs among its regulations.

VI. Miscellaneous Traffic Safety Policies and Procedures

A. Crosswalks: Staff frequently receives requests for adding crosswalk striping at un-striped crosswalks. Adding pavement striping of crosswalks mid-block or between two intersections is not recommended. The presence of crosswalk striping gives the appearance that the risk has somehow been mitigated and that the crossing is safer. In reality, the crosswalk striping does not provide any additional protection for pedestrians.

B. Parking Restrictions: Staff investigates requests for adding and changing parking restrictions on a street. When a request is received, staff will investigate the situation and develop a recommendation. Whenever staff recommends a new or modified parking restriction, staff will send notifications to the affected residents to gather feedback. Staff will evaluate the feedback received and use it to finalize the parking proposal. If there is significant resistance to a proposal, staff will not recommend its approval. The City Council approves all new and modified parking restrictions through the passage of an ordinance.

¹⁹ *Speed Control in Residential Areas, ITE, February 1998*

²⁰ *City Code Section 650-4-100D.1.j*

²¹ *Illinois Department of Transportation Circular Letter 2011-08*

Appendix A: Typical Workflow for the most common complaints handled staff

Chart 1: Speeding Complaints

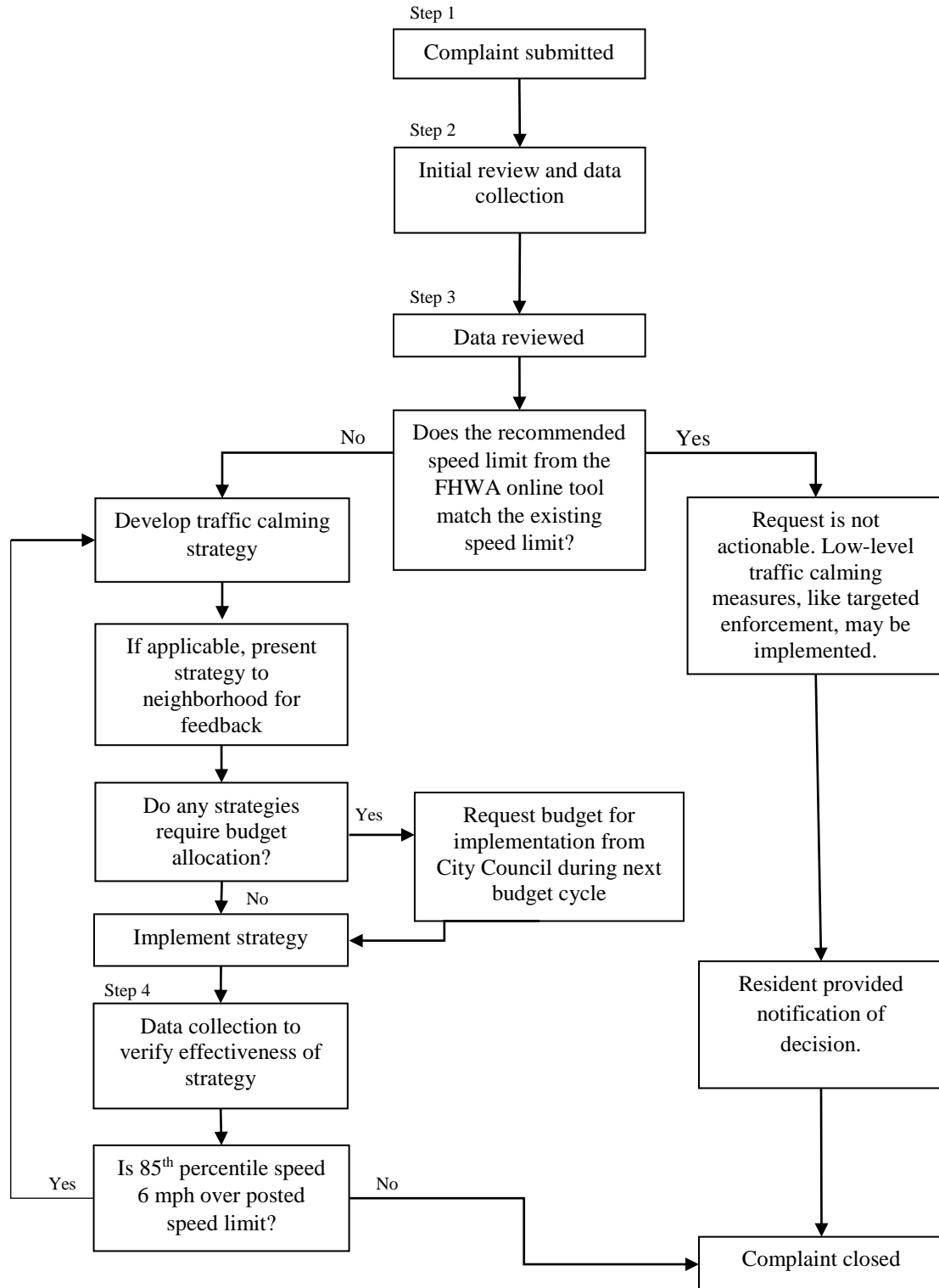
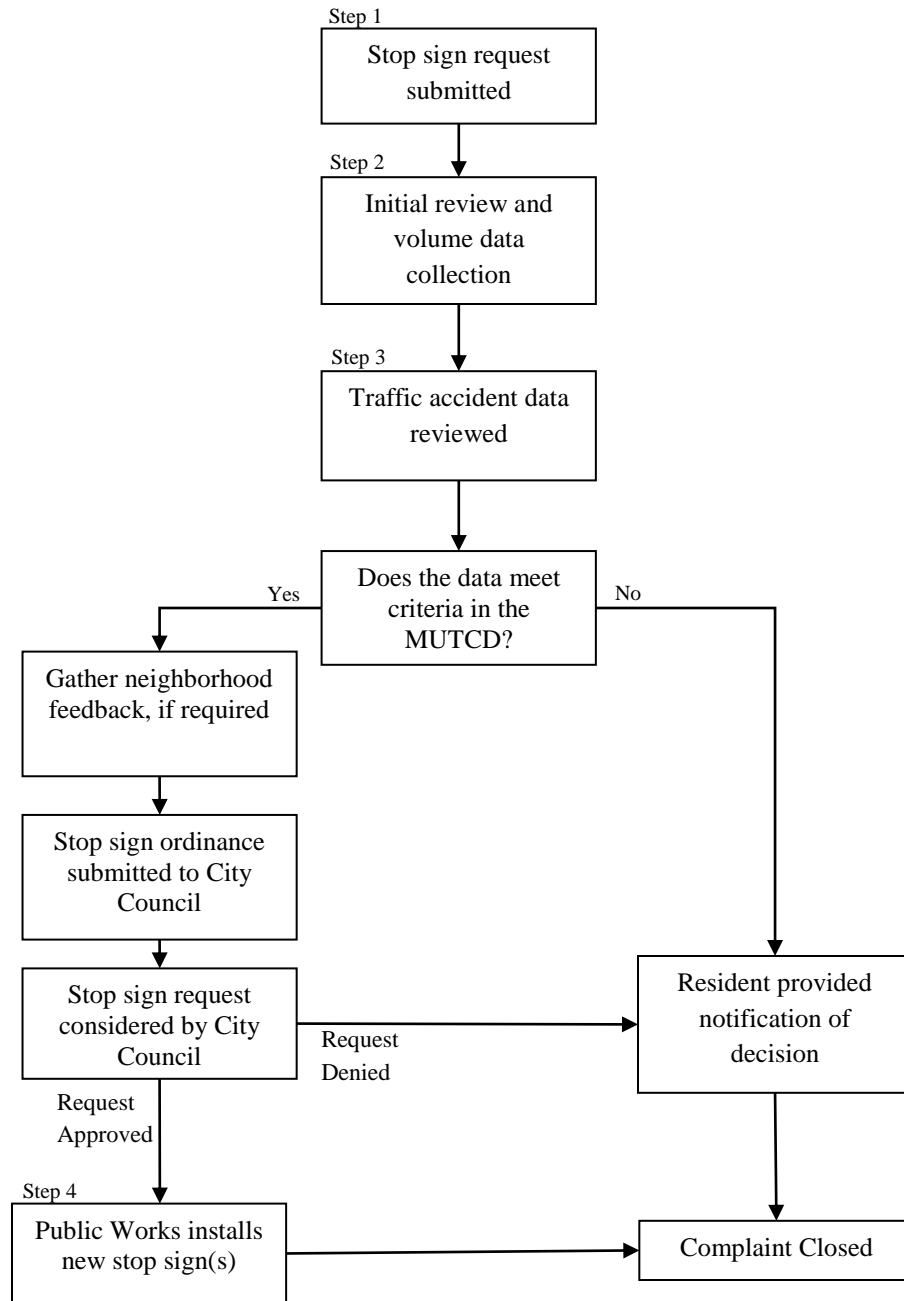


Chart 2: Stop Sign Request



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