



**PUBLIC WORKS DEPARTMENT
MEMORANDUM # 2016 – 56**

DATE: September 26, 2016
TO: Honorable Mayor Joyce Downing and City Council Members
FROM: James A. Hayes, AICP, City Manager 
David H. Willett, Director of Public Works 
SUBJECT: **Council Resolution #99**
Traffic Calming Policy

BACKGROUND

The new Traffic Calming Policy was presented at the City Council Study Session on July 18, 2016. City Council asked staff to address their questions and to update the Policy accordingly. The Traffic Calming Policy and Petition for Comprehensive Traffic Calming have been updated according to the feedback and questions from the Council Study Session.

This new policy will provide a process and procedures to be used for traffic calming requests throughout the City. The policy is set up to encourage resident involvement during this process. The thresholds proposed were based on the analyses of local policies, along with policies across the nation. This proposed policy has been reviewed and supported by the Police Department.

TRAFFIC CALMING POLICY SUMMARY

The policy includes two types of traffic calming: *Basic Traffic Calming* and *Comprehensive Traffic Calming*.

Basic Traffic Calming: Basic traffic calming services include the installation of traffic control devices (such as crosswalks, stop signs, residential permit parking, truck restrictions, and bike lanes), and traffic enforcement by Northglenn Police Department. The application of Basic and Comprehensive devices are subject to federal, state, and local policies and guidelines.

Comprehensive Traffic Calming: Neighborhoods that are experiencing adverse traffic conditions that cannot be addressed using Basic traffic calming services may be eligible for a Comprehensive traffic calming project (these can include modifications such as speed limit signage, striping, neckdowns, bulbouts, chicanes, speed humps, raised crosswalks, and raised intersections). If an adverse traffic condition cannot be addressed through Basic traffic calming services and the thresholds are met, a Comprehensive traffic calming analysis can be initiated. The implementation of Comprehensive traffic calming projects is limited to residential, 2-lane local or minor collector streets, with a maximum posted speed limit of 25 mph.

In summary, this process will start with an application from a resident for traffic calming. The Engineering Division will then perform a speed study to determine if the location qualifies to be assessed for comprehensive traffic calming. This is determined by the following thresholds that all need to be met:

1. Functional classification = local street or minor collector street
2. Traffic volume less than 2,500 ADT
3. 20 mph posted speed limit: 85th percentile speed of 28 mph or more (8 mph over posted speed limit)
4. 25 mph posted speed limit: 85th percentile speed of 32 mph or more (7 mph over posted speed limit)

If the thresholds are not met, but there is still a traffic concern, Basic Traffic Calming can be applied. If all of the thresholds are met, the applicant is then provided a petition and a map to circulate in the neighborhood. The map will provide an area of homes that would be affected by traffic calming. A minimum of **75%** of the study area must be in favor of Comprehensive Traffic Calming.

Once a petition is completed and received by the City containing the required community support, a neighborhood meeting will be held. At this meeting, the City will discuss the findings of the study, Comprehensive traffic calming options, and the next steps in the process for design and funding. Roadway modifications incorporating proposed Traffic Calming projects will be designed by the Engineering Division and/or a Transportation Engineer.

All eligible comprehensive traffic calming projects will be evaluated for implementation based on the severity of the traffic condition. Funding for the eligible traffic calming projects must be appropriated by City Council. Projects not selected in a given funding cycle will remain on the project list for consideration the next funding cycle. All requests will be tracked and responded to through the City's Traffic Operations Request procedures.

RECOMMENDATION

Attached to this memorandum is a Resolution that, if approved, would:

1. Authorize the Mayor to adopt the proposed Traffic Calming Policy.

Staff recommends approval of this Resolution.

STAFF REFERENCE

Kent Kisselman, PE, Engineering Manager	kkisselman@northglenn.org	303.450.4005
Rachelle Plas, Civil Engineer I	rplas@northglenn.org	303.450.4079

ATTACHMENTS

- Resolution
- Questions from City Council Study Session on 7/18/2016
- Traffic Calming Policy
- Petition for Comprehensive Traffic Calming



Questions from City Council Study Session on 7/18/16:

1. Provide examples for Comprehensive traffic calming.

Examples of Comprehensive traffic calming are speed limit signage, striping, neckdowns, bulbouts, chicanes, speed humps, raised crosswalks, and raised intersections. Examples of these are attached to the Policy.

See page 1.

2. Define the time for traffic counts to be collected.

Traffic counts will be collected for 5 consecutive days, including a weekend.

See page 3.

3. Define minor collector streets.

Minor Collector Street - designed to handle traffic volumes less than 7,000 vehicles per day. These streets handle traffic volumes loading from and onto local, other collector, and arterial roadways and are continuous for less than two (2) miles. See the City of Northglenn Public Right-of-Way Standards and Specifications.

See page 3.

4. Be more specific on how the impacted area is determined for the petition.

Utilizing relevant data and community input, and based on the roadway network in the area, the Engineering Division will determine the scope and affected area for each location identified for Comprehensive traffic calming.

See page 3.

5. Specify Basic vs. comprehensive in the toolbox.

The Traffic Calming Illustrations in the attachments are for Comprehensive projects.

See page 4.

6. Clarify that if all of the signatures are collected, what the next steps are. Provide more information on the public meetings.

Once a petition is completed and received by the City containing the required community support, a neighborhood meeting will be held. At this meeting, the City will discuss the findings of the study, Comprehensive traffic calming options, and the next steps in the process for design and funding. Roadway modifications incorporating proposed Traffic Calming projects will be designed by the Engineering Division or a Transportation Engineer.

See Page 3 and the Petition.

SPONSORED BY: MAYOR DOWNING

COUNCILMAN'S RESOLUTION

RESOLUTION NO.

No. CR-99
Series of 2016

Series of 2016

A RESOLUTION ADOPTING A TRAFFIC CALMING POLICY FOR THE CITY OF NORTHGLENN, COLORADO

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTHGLENN, COLORADO, THAT:

Section 1. The Traffic Calming Policy, attached hereto as Exhibit A, is hereby adopted by the City Council of the City of Northglenn, Colorado.

DATED, at Northglenn, Colorado, this _____ day of _____ 2016.

JOYCE DOWNING
Mayor

ATTEST:

JOHANNA SMALL, CMC
City Clerk

APPROVED AS TO FORM:

COREY Y. HOFFMANN
City Attorney

CITY OF NORTHGLENN – TRAFFIC CALMING POLICY

Last Revised: August 10, 2016

Traffic Calming Objectives

Traffic calming is intended to influence motorist behavior and prevent undesirable driving practices. This can be achieved through a combination of physical and non-physical measures that reduce vehicle speeds, reduce traffic volumes, discourage cut-through traffic, and encourage non-motorized travel.

This policy should be used to address traffic issues on residential streets (local streets or minor collector streets). Streets with higher functional classifications (i.e. major collectors, minor and major arterial roadways) should not be considered under this policy.

This policy will guide residents and City staff in an effort to address neighborhood traffic safety, preserve neighborhood character and livability, and educate and encourage residents through neighborhood involvement. The goals and objectives of this policy are:

- **Improve Neighborhood Traffic Safety** – Excessive traffic speeds within the City’s neighborhoods greatly reduce the safety and security of those neighborhoods. Therefore, the first goal of this policy is to promote a safe and pleasant environment for residents, pedestrians, bicyclists, and motorists in the City’s neighborhoods.
- **Preserve Neighborhood Character and Livability** – Traffic management plays a vital role in the character and livability of neighborhoods. Traffic calming is intended to reduce the negative effect that automobile use may have in residential areas and increase the livability of the City’s neighborhoods.
- **Increase Neighborhood Involvement** – Actively involved residents in the decision-making process is essential to the successful implementation of traffic calming. Residents in the area must support the ultimate outcome. Through the process outlined in this policy, residents are strongly encouraged to participate in the assessment of the benefits and trade-offs of implementing projects within their own neighborhoods.

Basic Traffic Calming

Basic traffic calming services include the installation of traffic control devices (such as crosswalks, residential permit parking, truck restrictions, and bike lanes), speed radar trailers, and traffic enforcement by Northglenn Police Department. The application of Basic and Comprehensive devices are subject to federal, state, and local policies and guidelines.

Comprehensive Traffic Calming

Neighborhoods that are experiencing adverse traffic conditions that cannot be addressed using Basic traffic calming services may be eligible for a Comprehensive traffic calming project (these can include modifications such as speed limit signage, striping, neckdowns, bulbouts, chicanes, speed humps, raised crosswalks, and raised intersections). If an adverse traffic condition cannot be addressed through Basic traffic calming services and the thresholds are met, a Comprehensive traffic calming analysis can be initiated. The implementation of Comprehensive traffic calming projects is limited to residential, 2-lane local or minor collector streets, with a maximum posted speed limit of 25 mph.

Threshold Criteria for Comprehensive Projects

1. Functional classification = local street or minor collector street
2. Traffic volume less than 2,500 ADT
3. 20 mph posted speed limit: 85th percentile speed of 28 mph or more (8 mph over posted speed limit)
4. 25 mph posted speed limit: 85th percentile speed of 32 mph or more (7 mph over posted speed limit)

Locations that do not meet the threshold criteria may be eligible for traffic calming measures if the Engineering Division determines that a unique or unusual condition exists which results in negative traffic impacts caused by a high crash rate, vehicles traveling at excessive speeds, significant pedestrian activity or proximity to major traffic corridors or traffic generators that contribute to extraordinary changes to normal traffic conditions.

Evaluation of Eligible Comprehensive Projects

Eligible Comprehensive traffic calming projects will be evaluated for implementation based upon the severity of the traffic conditions by taking into account the following cumulative traffic impacts: speeding, volume, crash history, proximity to pedestrian generators (i.e. schools, parks, community centers) and unique roadway conditions. Data collection:

- Speed is given the most important, since high speed usually affects safety and livability the most. It is also the condition that can be improved the most using traffic calming measures.
- Traffic volume is also considered because it contributes to the general traffic conditions on the street.
- Auto accident history gives an indication of existing safety problems with the street. A high level of auto accidents can be an indicator of limitations of the street design that may be difficult to quantify. In addition, reducing traffic speed and volumes has been shown to reduce auto accidents on residential streets.
- Roadway geometry (and pavement markings) is an important factor in traffic safety in neighborhoods. Roadway geometry features can restrict visibility; creating hazards for motorists and pedestrians.
- Other criteria such as the presence of sidewalks and pedestrian generators, bus routes, area population, and drainage information.

Funding of Comprehensive Projects

Funding for projects that are eligible for comprehensive traffic calming must be appropriated by City Council and is subject to available funding. If a project is not selected in a given funding cycle, it will remain on the project list for consideration in the next funding cycle. As resources permit, projects may be reassessed to ensure that the priority ranking reflects any significant changes in land use, speed, volume, crash history, pedestrian activity or other conditions that may have occurred on any given roadway(s).

CITY OF NORTHGLENN – TRAFFIC CALMING POLICY

Community Support for Comprehensive Projects

Substantial community support is required for the installation of physical roadway devices on either a trial or permanent basis. Generally community support is defined as neighborhood property owners or residents that reside within the affected area. Utilizing relevant data and community input, and based on the roadway network in the area, the Engineering Division will determine the scope and affected area for each location identified for Comprehensive traffic calming. The *applicant* will distribute a petition (which contains a map of the affected area) developed by the Engineering Division to all households, businesses, schools, and absentee property owners within the affected area. The petition must have majority support (75%) of all affected households, businesses, and schools within the area for perusing trial or permanent installations. Once a petition is completed and received by the City containing the required community support, a neighborhood meeting will be held. At this meeting, the City will discuss the findings of the study, Comprehensive traffic calming options, and the next steps in the process for design and funding. Roadway modifications incorporating proposed Traffic Calming projects will be designed by the Engineering Division or a Transportation Engineer.

Traffic Calming Comprehensive Project Application

Residents of the City of Northglenn (City) may submit an application for traffic calming. Applications can be found online or can be picked up at either City Hall or the City's Maintenance and Operations facility. *Also see Attachment #1.* Completed applications should be returned to the City's Engineering Division.

Mailing Address: City of Northglenn
Attn: Engineering Division – Traffic Calming
12301 Claude Ct
Northglenn, CO 80241

Email Address: trafficalming@northglenn.org

The Engineering Division will initiate a Traffic Operations Request (TOR) upon receipt of the Application and notify the applicant of status/category after the preliminary data collection has been completed and assessed.

All applications will be evaluated to determine if the location of concern falls under this traffic calming policy. Data will be collected for five (5) consecutive days, including a weekend, to complete an engineering traffic analysis. This analysis will use current traffic data to confirm whether or not the neighborhood roadway system meets the threshold criteria for traffic calming measures.

Definitions

Minor Collector Street - designed to handle traffic volumes less than 7,000 vehicles per day. These streets handle traffic volumes loading from and onto local, other collector, and arterial roadways and are continuous for less than two (2) miles. See the *City of Northglenn Public Right-of-Way Standards and Specifications*.

Residential Street - designed to handle traffic volumes less than 2,500 vehicles per day. These streets handle traffic volumes primarily for residential purposes such as single-family, two-family, and multi-family units. See the *City of Northglenn Public Right-of-Way Standards and Specifications*.

CITY OF NORTHGLENN – TRAFFIC CALMING POLICY

References

American Association of State Highway and Transportation Officials (AASHTO)
Institute of Transportation Engineers (ITE)
Federal Highway Administration (FHWA)
Manual on Uniform Traffic Control Devices (MUTCD)
National Association of City Transportation Officials (NATCO)
American Public Works Association (APWA)

Attachments

1. Traffic Calming Application – Comprehensive Projects
2. Traffic Calming Illustrations – Comprehensive Projects



City of Northglenn
12301 Claude Ct
Northglenn, CO 80241

Traffic Calming Application

Traffic calming is intended to influence motorist behavior and prevent undesirable driving practices. This can be achieved through a combination of physical and non-physical measures that reduce vehicle speeds, reduce traffic volumes, discourage cut-through traffic, and encourage non-motorized travel.

Basic Traffic Calming services include the installation of traffic control devices (such as crosswalks, stop signs, residential permit parking, truck restrictions, and bike lanes), and traffic enforcement by Northglenn Police Department. Neighborhoods that are experiencing adverse traffic conditions that cannot be addressed using Basic Traffic Calming services may be eligible for a Comprehensive Traffic Calming project. The implementation of Comprehensive Traffic Calming projects is limited to residential, 2-lane local or minor collector streets, with a maximum posted speed limit of 25 mph.

In order for a location to qualify for Comprehensive Traffic Calming, the following thresholds must be met:

1. Functional classification = local street or minor collector street
2. Traffic volume less than 2,500 ADT
3. 20 mph posted speed limit: 85th percentile speed of 28 mph or more (8 mph over posted speed limit)
4. 25 mph posted speed limit: 85th percentile speed of 32 mph or more (7 mph over posted speed limit)

Applicant: _____

Address: _____

Phone #: _____ Email: _____

Location: _____

Description of Problem: _____

Please return completed applications to City's Engineering Division:

Mailing Address: City of Northglenn
Attn: Engineering Division – Traffic Calming
12301 Claude Ct
Northglenn, CO 80241

Email Address: trafficalming@northglenn.org

All applications will be evaluated to determine if the location of concern falls under this traffic calming policy. Data will be collected to complete an engineering traffic analysis. This analysis will use current traffic data to confirm whether or not the neighborhood roadway system meets the threshold criteria for traffic calming measures.

Speed Limit Signage

Description

Regulatory Speed Limit signs are installed along streets to notify and remind drivers of the legal speed limit.

Application

If used, Speed Limit signage should be installed in conformance with the MUTCD.

Advantages

Speed Limit signs provide a clear indication of the speed limit and undisputable basis for enforcement. Relatively easy and low-cost to install and do not slow emergency vehicles.

Disadvantages

Signs alone do not guarantee responsible driving behavior. The overuse of unnecessary signs creates visual clutter that detracts from the conspicuity of other important signs and leads to loss of effectiveness. Posted speed limits that are below the 85th percentile speed for a roadway, or at an unrealistically low speed will not be respected by most drivers, and will breed disrespect for speed limits in general. Signs require regular maintenance.

Effectiveness

Speed:	High
Volume:	Low
Crashes:	N/A
Ped/Bikes:	High
Cost:	\$



Cost Key:	\$ = \$0 - \$25,000
	\$\$ = \$25,000 - \$150,000
	\$\$\$ = \$150,000 +

Radar Speed Limit Sign

Description

Radar speed signs, are post-mounted signs installed on the side of the road that use radar to sense an oncoming vehicle's speed and display that speed back to the approaching driver. This is intended to give the driver an external visual indication of their speed, which if excessive, may remind them to slow down.

Application

On neighborhood local or collector streets where a problem of speeding traffic has been documented, radar speed signs may be installed to help reduce traffic speeds.

Advantages

The visual reminder of drivers' speeds has been shown to be effective in prompting some speeding drivers to slow down. Radar speed signs do not slow emergency vehicles and alert violators without affecting normal traffic.

Disadvantages

Effectiveness may reduce over time as regular drivers become desensitized. Some drivers may ignore, knowing that the radar speed signs do not include enforcement. Some drivers may also try to register a high speed.

Effectiveness

Speed:	High
Volume:	Low
Crashes:	N/A
Ped/Bikes:	High
Cost:	\$



Cost Key:	\$ = \$0 - \$25,000
	\$\$ = \$25,000 - \$150,000
	\$\$\$ = \$150,000 +

Striping

Description

While most local neighborhood streets exist without any traffic striping, centerline, edge line, and lane line striping can be used to create designated travel lanes, bicycle lanes, parking lanes, and/or medians. As a neighborhood traffic calming measure, striping is positioned to reduce travel lane widths, making drivers feel more restricted and thereby inducing them to lower their speeds.

Application

On neighborhood local or collector streets where a problem of speeding traffic has been documented, traffic stripes may be painted where there was previously none, or existing stripes may be removed and new stripes painted in the new desired configuration. This installation is most suited to long, straight, and wide streets where drivers feel unconstrained and speeds are high. On curvilinear streets, striping can reinforce lane designations, causing drivers to slow in order to maintain their travel within their lane. Striping should be installed according to the MUTCD.

Advantages

Striping is relatively easy and low-cost to install and modify. Traffic striping does not slow emergency vehicles.

Disadvantages

Regular maintenance is required and the removal of pre-existing traffic stripes in order to change the configuration may leave unsightly scars on the pavement surface. Also, the effectiveness may be low.

Effectiveness

Speed:	Medium
Volume:	Medium
Crashes:	N/A
Ped/Bikes:	High
Cost:	\$



Cost Key:	\$ = \$0 - \$25,000
	\$\$ = \$25,000 - \$150,000
	\$\$\$ = \$150,000 +

Neckdowns and Bulbouts

Description

Neckdowns are raised curb extensions at intersections that reduce the roadway width from curb to curb. Neckdowns increase pedestrian comfort and safety at intersections by shortening crossing distances for pedestrians and drawing attention to pedestrians via raised peninsulas. They also tighten the curb radii at the corners, reducing the speeds of turning vehicles. The magnitude of speed reduction is dependent on the spacing of neckdowns between points that require drivers to slow.

Application

Neckdowns implemented mid-block as a vehicular speed control measure and pedestrian enhancement are most effective when constructed with permanent raised curbs by can be implemented using striping. Bulbouts occur at the corners of intersections using raised curbs to extend the sidewalks and narrow the travel lanes. This slows vehicles by providing visual cue of pedestrian activity as well as by reducing the curb radii. Both the crossing distances and the time pedestrians are exposed to traffic are reduced.

Advantages

Decreases vehicle speeds, reduces pedestrian crossing distance, and clearly delineates areas of pedestrian activity.

Disadvantages

May reduce on-street parking, complicates drainage design, and reduces bicycle lane and/or side of road area used by bicyclists. They may also slow right-turning emergency response vehicles.

Effectiveness

Speed:	High
Volume:	Medium
Crashes:	Medium
Ped	High
Bikes:	Medium
Cost:	\$\$/\$\$\$
Cost Key:	\$ = \$0 - \$25,000 \$\$ = \$25,000 - \$150,000 \$\$\$ = \$150,000 +



Chicanes

Description

Chicanes are a series of narrowings or curb extensions that alternate from one side of the street to the other forming S-shaped curves.

Application

Chicanes should be implemented mid-block as a vehicular speed control measure. This slows vehicles by changing the course of traffic. Chicanes should be designed using vertical curb and gutter.

Advantages

Decreases vehicle speeds and provides opportunity for landscaping.

Disadvantages

May reduce on-street parking, complicates drainage design, and reduces bicycle lane and/or side of road area used by bicyclists.

Effectiveness

Speed:	High
Volume:	Medium
Crashes:	Medium
Ped	High
Bikes:	Medium
Cost:	\$\$/\$\$\$
Cost Key:	\$ = \$0 - \$25,000 \$\$ = \$25,000 - \$150,000 \$\$\$ = \$150,000 +



Speed Hump

Description

Speed humps are common traffic management devices that are familiar to most drivers. Speed humps consist of raised pavement placed across the entire roadway width creating a vertical deflection to slow vehicles. The humps are often 12 feet in length and between 3 and 3.5 inches high.

Application

Speed humps can be installed on neighborhood streets to address speed and volume.

Advantages

Decreases vehicle speeds. They are inexpensive and easy to construct.

Disadvantages

May cause speeding between humps and divert traffic to an adjacent neighborhood street. They may also increase noise levels as vehicles decelerate and accelerate.

Effectiveness

Speed:	High
Volume:	High
Crashes:	Medium
Ped/Bikes:	High
Bikes:	Medium
Cost:	\$/ea



Cost Key:	\$ = \$0 - \$25,000
	\$\$ = \$25,000 - \$150,000
	\$\$\$ = \$150,000 +

Raised Crosswalk

Description

Raised crosswalks are a speed table the width of a typical crosswalks stretching across the entire roadway.

Application

Raised crosswalks can be installed in place of a typical crosswalk on neighborhood streets to address speed and volume.

Advantages

Decreases vehicle speeds and enhance pedestrian crossing.

Disadvantages

May divert traffic to an adjacent neighborhood street. They may also increase noise levels as vehicles decelerate and accelerate.

Effectiveness

Speed:	High
Volume:	High
Crashes:	Medium
Ped/Bikes:	High
Bikes:	Medium
Cost:	\$\$\$/ea
Cost Key:	\$ = \$0 - \$25,000 \$\$ = \$25,000 - \$150,000 \$\$\$ = \$150,000 +



Raised Intersection

Description

Raised intersections consist of raised pavement placed across the entire intersection to slow vehicles.

Application

Raised intersections can be installed on neighborhood streets to address speed and volume.

Advantages

Decreases vehicle speeds and enhances pedestrian environment and crossings.

Disadvantages

May divert traffic to an adjacent neighborhood street and complicates drainage design. They may also increase noise levels as vehicles decelerate and accelerate.

Effectiveness

Speed:	High
Volume:	High
Crashes:	Medium
Ped/Bikes:	High
Bikes:	Medium
Cost:	\$\$/ea



Cost Key:	\$ = \$0 - \$25,000
	\$\$ = \$25,000 - \$150,000
	\$\$\$ = \$150,000 +



City of Northglenn
 12301 Claude Ct
 Northglenn, CO 80241

Petition for Comprehensive Traffic Calming

Location: _____

Number of homes in affected area: _____

Date: _____

Applicant Name: _____

Address: _____

Phone Number: _____ Email: _____

BY SIGNING THIS PETITION, RESIDENTS WITHIN THE AREA AFFECTED BY TRAFFIC CALMING ON THE ABOVE STREET, PETITION THE CITY TO PERFORM COMPREHENSIVE TRAFFIC CALMING IN THIS STREET/AREA.

THIS PETITION MUST CONTAIN ONE (1) ADULT SIGNATURE PER HOUSEHOLD AND BE ENDORSED BY 75% OR MORE OF THE AFFECTED HOUSHOLDS.

	NAME	ADDRESS	SIGNATURE	DATE
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				

56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				
71				
72				
73				
74				
75				
76				
77				
78				
79				
80				

Once a completed petition is received by the City, a neighborhood meeting will be held to discuss the findings of the study, Comprehensive traffic calming options, and the next steps in the process for design and funding.

Affected Area:

