

# City of Statesville

## Neighborhood Traffic Calming Policy



November 2018

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## 1. Purpose

The City of Statesville's Neighborhood Traffic Calming Policy has been developed to guide City staff and inform residents about the process and procedures for implementing traffic calming on residential streets as they relate to quality of life. Under this policy, the City Engineering Department will work with residents to identify traffic problems in their neighborhoods and seek appropriate solutions.

First, the policy outlines how citizens can request traffic calming devices for their neighborhood. Second, the policy describes in detail how the City will evaluate the need for traffic calming device(s). Finally, procedures are outlined to develop and implement a plan for the selection and installation of traffic calming projects.

Successful Implementation of this policy requires a combination of several parallel strategies, "the Five E's".

- Education –Neighborhoods receive the necessary information and tools to be active participants in addressing their traffic concerns.
- Engineering – Traffic calming strategies and measures are developed to address community – identified traffic issues.
- Evaluation – The selected traffic calming measure(s) is evaluated for effectiveness.
- Economics- Support implementation of the least restrictive and least expensive traffic calming methods.
- Enforcement – Police enforcement supports the traffic calming plan developed by residents, town staff, and public officials.

## 2. Traffic Calming Definitions

**Affected Residents** – An affected resident is a resident that lives on the street under study within the limits of the block or blocks being considered for traffic calming.

**Affected Street** – A roadway section of 3 blocks or a minimum of 1000' in length with residential land use comprising at least 75% of the properties that are directly fronting the roadway section.

**Direct Fronting** – A property is considered direct fronting when its address and driveway are oriented to the roadway section.

**Neighborhood** – The Webster's International Dictionary defines a neighborhood as "The region near where one is or resides." A neighborhood can be as small as one street or a network of homes and small businesses with shared streets, parks, and people.

**Request Petition** – Petition for traffic calming measures submitted by 75 percent of the property owners on the affected roadway section.

**Traffic Calming** – The Institute of Transportation Engineers defines traffic calming as “the combination of mainly physical measurements that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users” (ITE Journal, January 1997).

### **3. Procedure for Applying for Traffic Calming Devices**

Initially, resident(s) of the proposed traffic calming project area may initiate the process via a letter or email from the neighborhood contact person(s) to the City Engineering Department. A Traffic Calming Request packet is then mailed, e-mailed, or made available for pick up to the resident(s). The packet consists of a copy of City of Statesville Neighborhood Traffic Calming Policy and a copy of Traffic Calming Petition Form (see Appendix A).

The petition must be returned with a minimum of 75 percent of the resident signatures in the affected area in favor of the traffic calming device and a \$100 application fee. Only one signature per household will be counted to determine the 75 percent approval.

The City staff will verify the signatures match the tax records. If the required signatures are not obtained, the process is stopped and the application fee will be returned. If the resident signature requirement is met, a letter from the City Engineering Department is sent to the Neighborhood contact.

**Approval of a petition does not guarantee that a device(s) will be installed. The implementation is dependent on approval from the City Engineer, City Council, and funds available for the program in a fiscal year.**

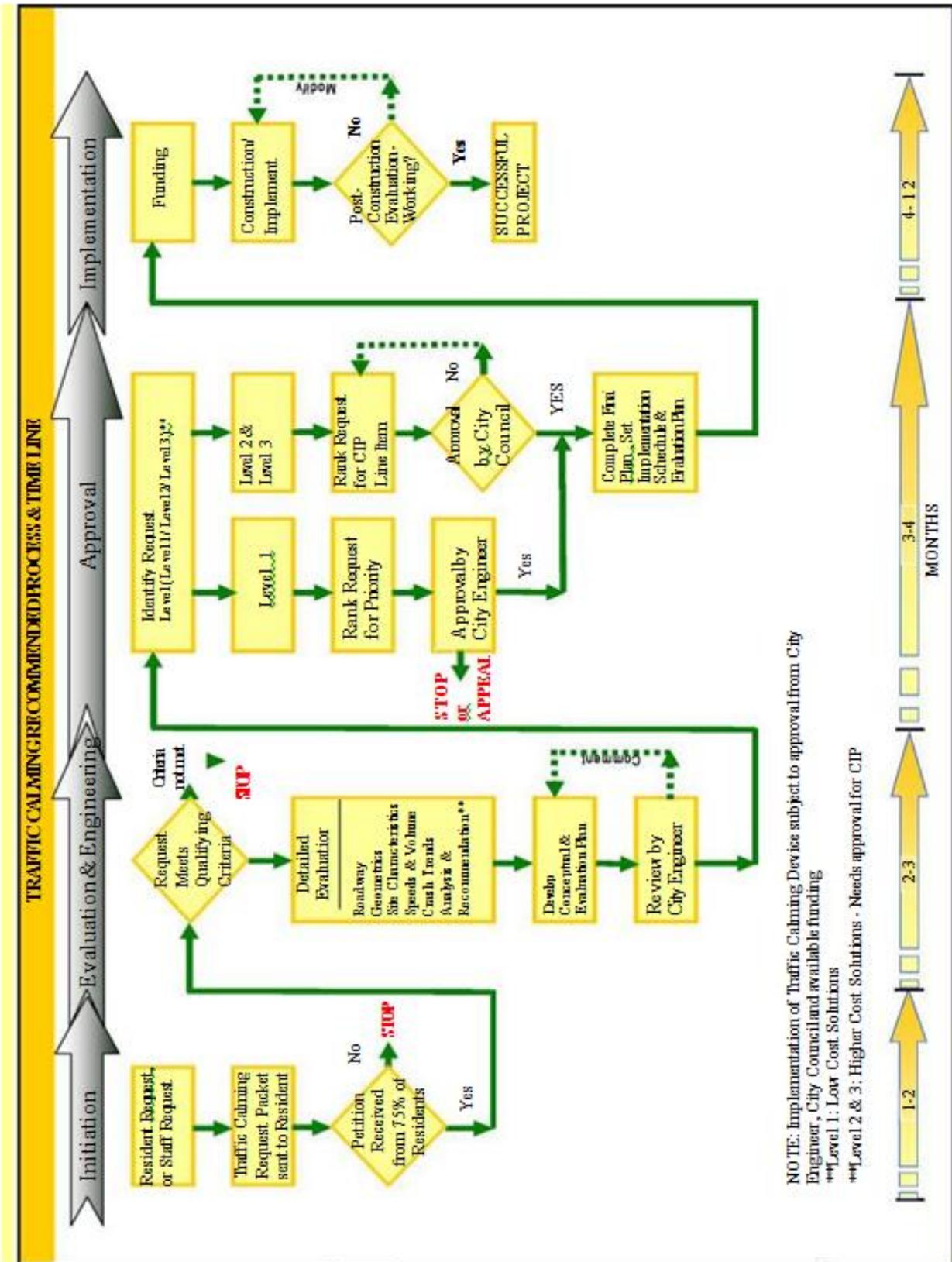
Flowchart 1 on Page 5 shows the recommended process and timeline for the implementation of a traffic calming device.

### **4. Qualifying Criteria for Traffic Calming Devices**

The City will review the request against preliminary qualifying criteria for traffic calming devices. There are many factors taken into consideration when reviewing residential traffic concerns to determine the most feasible traffic control measure. These factors include:

- Speeds and /or volume of traffic
- Accident history
- Budget considerations
- Number of neighborhood responses and response times by Fire/ EMS
- Surrounding roadway network
- Resident network and access

Flowchart 1



NOTE: Implementation of Traffic Calming Device subject to approval from City Engineer, City Council and available funding  
 \*\*Level 1: Low Cost Solutions  
 \*\*\*Level 2 & 3: Higher Cost Solutions - Needs approval for CIP

In order to qualify for traffic calming devices under the City of Statesville Neighborhood Traffic Calming Program, the roadway being considered for the traffic calming device(s) should meet all of the following:

- A city-maintained public street classified as minor, local or sub-collector. To be considered under this Policy, a collector street must be primarily residential. “Primarily residential” means that at least 75% of the properties with frontage on the street are in residential zoning or have existing land use that is residential.
- A posted speed limit of 35 mph or less.
- 15% of the traffic speed exceed the posted speed limit by at least 5 mph. (85th percentile speed exceeds 5 mph over posted speed limit). Conducted by Statesville Police Department.
- Traffic volume on the affected street less than 2000 vehicles per day (vpd) regardless of its classification.
- Roadway width of less than or equal to 30 feet (back of curb to back of curb).
- 6 documented/reported accidents in last 3 years in relation to traffic calming.
- Not a primary run route for emergency services such as Fire and Ambulance on a regular basis. This is per Fire, EMS, and Statesville PD.
- A score of at least 30 using scoring system (see Table 1)
- Application must not have been denied or become void within last 12 months.

The City staff will perform a site study and determine if the request meets the preliminary qualifying criteria for traffic calming. A letter or email will be sent to the neighborhood contact person(s) notifying them of the outcome of the study. If the data does not meet the qualifying criteria, alternative measures are offered for discussion. If the data meets the criteria, the traffic calming process is taken to further evaluation.

## **5. Evaluation & Engineering**

If the request meets qualifying criteria, a detailed study performed by a Professional Engineer will commence and include the following:

- a. A detailed field review studying roadway geometrics such as road alignment, road grade, sight distance, distance to nearest intersection, driveways, curb height etc. and site characteristics such as sign inventory, pavement markings inventory, on-street parking, school locations, emergency services, and transit route/schedule information to identify any other conditions of concern for traffic safety.
- b. Collection of traffic speed and volume data as needed for more detail or to update data with respect to peak hour volume, traffic violations, pedestrian/bicycle volumes, cut-through traffic volume and origin-destination survey.
- c. A review of crash history for the prior three years to determine the total number of collisions and to identify any significant crash trends (i.e. type of collisions, locations, time of day, and days of the week).

- d. The data will be used to rank projects as shown in Table 1. Projects with the most total points are ranked the highest and will be selected for further action based on budget availability and compatibility with other transportation projects.

**Table 1 : Scoring System**

<b>CRITERIA</b>	<b>BASIS FOR POINT ASSIGNMENT</b>	<b>POINTS</b>
Speed	0 to 50 points: 5 points assigned for every 1 mph of the 85 <sup>th</sup> percentile speed that exceeds the posted speed limit per Statesville Police Department. (example: 28 mph for 20 mph posted speed limit = 40 points)	
Pedestrian Activity	0 to 20 points: 5 points assigned for each school, church, bus stop, parks, community center, senior center, senior living facility or shopping center that is likely to generate a significant number of pedestrians crossing on the traffic calming street.	
Crash History	0 to 10 points: 2 points for every reported crash occurring on the project segment during the last 3 years of a type that is deemed correctible by traffic calming measures.	
Volume	0 to 10 points: 1 point assigned for every 400 vehicles per day	
Other Factors	0 to 10 points: 5 points assigned for each road condition (such as Sight Distance problems) that can be improved with traffic calming measures.	
<b>Total Points</b>	<b>100</b> <b>ximum Score</b>	

- e. Traffic Calming Device recommendation(s) will be made on the severity of the problem – scores between 30 and 60 are identified as low priority projects and scores above 60 are high priority projects.
- f. Further, on each priority list, the recommendation(s) are identified as Level 1, Level 2, or Level 3. (See Types of Traffic Calming Devices section of this Policy for description of each level). Level 1 recommendation(s) such as pavement markings and enforcement will be approved and implemented by City Engineering staff. Level

2 and Level 3 recommendation(s) because of their budgetary impacts, must be completed and submitted by February 15<sup>th</sup> of each year to be considered in the in the Capital Improvement Program.

- g. All designs for proposed traffic calming devices shall follow ITE (Institute of Traffic Engineers) or other nationally recognized guidelines. The City Engineer may request that Council approve contracting with a transportation consultant to assist in evaluating and designing structural traffic calming measures (measures other than striping and/or signage).
- h. City staff will prepare a conceptual plan consisting of traffic calming device(s) selection, implementation schedule and a cost-estimate. A cost estimate of recommended traffic calming device(s) will be presented in the form of a cost/benefit matrix. **Approval of a petition does not guarantee that a device(s) will be placed. The implementation is dependent on the approval from the City Engineer, City Council, and funds available for the program in a fiscal year**
- i. Also, the staff will prepare a plan to evaluate the effects on the neighborhood one year from the time of implementation. The 1-year evaluation plan should note what changes should be expected for the traffic calming to be considered a success. Lessons learned from evaluation should be used to update the policy.
- j. If the request is deemed solely on public safety, the City will appropriate funds according to an amicable resolution based on sound engineering judgment.

The following City departments will be included and consulted in the development of conceptual plan:

- Police Department
- Fire Department
- Iredell/ EMS
- Public Works (Sanitation Dept.)
- Planning and Inspections Department
- Iredell County Public Schools – Transportation

## 6. **Approval**

Upon completion of a conceptual plan, Level 1 recommendation(s) such as pavement markings, signage and enforcement will be approved and implemented by City Engineering staff on an ongoing basis and in accordance with the priorities for each project to the limit of the available funding each year. Stop sign requests must be approved by the City Council as an ordinance. Multi-way stops are typically used for capacity council (high volume intersections) and not for traffic calming. **The use of stop signs must meet MUTCD (Manual on Uniform Traffic Control Devices) warrants.**

City Engineering staff will include Level 2 and Level 3 recommendation(s) in the annual submission for the Capital Improvement Program which shall be considered in accordance with normal budget practices and procedures. Following approval of a budget for submitted traffic calming projects, the City Engineering Department will install such devices in accordance with the priorities of each project to the limit of the approved funding each year.

Appeal Process: City Engineering staff has the authority to reject a traffic calming device(s) request based on detailed engineering evaluation and/or lack of problem severity. The requesting resident(s) may appeal the City Engineer's decision to the City Council. The City Council may consider this request and may, at its discretion, choose to approve it. If the appeal is not approved by the City Council, the process is completed.

## **7. Implementation**

The proposed schedule in conceptual plan must consider the availability of funding. In the event that the traffic calming devices are very costly to install, or if the potential effectiveness of the devices is unknown, the City may elect to break up the final plan into phases to allow the most immediate needs to be addressed while lesser needs or more expensive measures wait for funding. Phasing the project should be done with caution to ensure that partial implementation does not create new problems or exacerbate the existing problems.

If in any project, residents are responsible for any portion of the cost, an agreement or agreements must be signed between City and the residents that state residents' share of project cost. Any cost owed to City shall to be paid in full by check to the City Engineering Department prior to construction.

The proposed schedule in the conceptual plan must consider the availability of funding. The final plan may be divided into phases to allow the most immediate needs to be addressed while lesser needs or more expensive measures wait for additional funding. Phasing the project should be done with caution to ensure that partial implementation does not create new problems or exacerbate the existing problems.

Many traffic calming measures include landscaping. Landscaping measures will be designed and installed in general accordance with the UDO and other relevant City ordinances. The initial cost of installing landscaping will be included in the funding agreement between the City and the residents. Responsibility for ongoing landscaping maintenance will be performed by neighborhood residents or by a licensed contractor hired by the City, but in either case will be funded by the neighborhood residents.

One year after the traffic calming device is installed, the City Engineering Department will complete an evaluation of the effects on the traffic calming device. Comments will be solicited from residents in the affected area by the use of a formal survey or through press releases. If implementation of the plan is phased, a post implementation evaluation should be performed prior to starting work on each subsequent phase to determine if the measures already installed have had the desired effectiveness and to ensure that there is still a need for the subsequent phases and/or to determine if subsequent phases should be modified. The lessons learned from traffic calming projects should be used to revise the standards and criterias set in the policy.

## **8. Budget & Funding**

When a study area is found to have more than six documented traffic incidents in the previous three years that could have been prevented by traffic calming measures, the City will fund the traffic study and installation of any approved traffic calming measures. Otherwise, the residents who reside on the affected street(s) will be required to fund 100% of any contracted studies (per Section 3.h above) and 50% of the installation cost for each traffic calming measure. Level 1 projects with no budget impacts will proceed to implementation upon approval by the City Engineer. **A funding agreement must be executed between the City and the residents, and payment by the residents must be made in full prior to the commencement of the installation.** The \$100 application fee will be applied toward the residents' share of the project.

Proposed funding agreements for Level 1 projects will be presented to the City Council. Upon approval and receipt of payment, Level 1 projects will proceed with implementation. Proposed Level 2 and Level 3 project funding agreements will be included for consideration in the annual budget process.

Yearly maintenance costs, except for landscaping associated with the traffic calming measure(s), will be covered by the City. Landscaping installed as part of a traffic calming project will be maintained by the residents. If the landscaping is within the public right-of-way, a landscape easement will be created and the residents (or representative Homeowners' Association) will sign a maintenance agreement with the City to perform maintenance services within the right-of-way.

The number of projects implemented each year will be in accordance with the funds available in the budget. In each year's budget recommendations, Engineering staff will recommend funds for the City's share of Level 2 and Level 3 projects the Capital Improvement Program (CIP). The City's share of Level 1 project(s) will be funded with operating funds. The City Engineering Department will recommend the appropriate amount of operating funds for new projects and maintenance on a yearly basis.

To reduce budget-related schedule delays, residents or a home owners association may elect to pay for 100% of the construction and/or maintenance cost to implement an interim strategy or recommended traffic calming device(s). **Even if the petition meets the required level of area-wide support for a traffic calming device(s) and the residents are willing to bear the full costs of construction and implementation, the traffic calming device(s) must be approved by the City Engineer via this policy.**

## **9. Removal of Traffic Calming Devices**

In the event a traffic calming device ceases to function properly or is no longer desired by the residents, a request for its removal may be submitted to the City Engineer. The following conditions must be met in order to remove a traffic calming device:

- The request for a removal petition must be signed by at least five separate property owners in the neighborhood of the original petition area.
- The new petition must include the same affected area as the original petition.
- The removal petition must be approved by 75 percent of the property owners in the original affected area and follow the same procedures outlined above for the installation of a device.
- The traffic calming device to be removed must be in place for a minimum of one year period.
- The cost of removal of traffic calming device must be incurred in same ratio as the installation cost distribution.

If a removal petition fails to meet majority in 90 day signature period, the location shall not be reconsidered for a period of 1 year from the date the signature period expires unless significant changes warrant it otherwise.

## **10. Types of Traffic Calming Devices**

The list of traffic calming devices mentioned in this policy is not meant to exclude other measures that may be available to solve the problem. For purpose of this policy, traffic calming measures are separated into three levels. Level 1 is the least restrictive, meaning ease of implementation and low cost options while Level 3 is the most restrictive, requiring prior planning and high cost.

- **Level 1: LEAST RESTRICTIVE, LOW COST**
  - Police Enforcement – The speed and volume data can be used to identify locations with speeding problems. The data can be utilized by Police Officers to focus their efforts on the most serious offenders. This measure may be implemented immediately with little planning.
  - Neighborhood Awareness/ Education – This effort is important for successful implementation of any traffic calming. Education is intended to remind neighbors to pay attention to their driving habits and their mutual responsibilities to the residents – particularly the children – living in the community.



- Radar Trailer – The speed data available on various streets can be used by the City to place these signs more effectively. Many drivers speed in neighborhoods without realizing how fast they are traveling. Reminding these drivers that they are exceeding the speed limit on a street can encourage them to drive more slowly.



- Signage: Placing appropriate warning and information signs and additional regulatory signs remind motorists of the various roadway conditions and hazards of the area. Restrictions such as “No Trucks” can also help reduce cut-through traffic.



- Pavement Markings – On flat terrain, removing a centerline can encourage drivers to drive more slowly. Centerlines should be maintained around curves, over hills, and on approaches to railroad crossings, bridges and intersection approaches. Pavement markings also can be used to visually narrow travel lanes in a given area. The three dimensional marking of speed hump can be used as cheaper alternative to actual speed hump.



- On-Street Parking – Removing on-street parking restrictions can reduce speeds. Altering parking from side to side along the length of the street to break up the visual continuity of long, straight streets. Removal of on-street parking restrictions will be evaluated by the Engineering and Police Departments, with any changes requiring approval by the City Council.



- Stop Signs: Stop signs may be used to calm traffic; however, their use is not encouraged strictly as a traffic calming device. Stop sign requests must be approved by the City Board as an ordinance change. Multi-way stops are typically used for capacity council (high volume intersections) and not for traffic calming. **The use of stop signs must meet MUTCD warrants.**

Research shows that:

- Unwarranted stop signs installations require regular police enforcement
- When stop signs are overused and/or unwarranted, compliance may decrease
- When stop signs are unwarranted, vehicle speeds at mid-block locations may increase as motorists try to make up for lost time.
- Safety of pedestrians is decreased at unwarranted multi-way stops, especially small children.



- One-way Street Conversion: In some situations, turning two-way streets to one-way can improve traffic problems in neighborhoods. Such conversions must be analyzed for capacity.

- **Level 2: RESTRICTIVE, MODERATE COST**



- Speed Humps: Most commonly used traffic calming device for speed control. Streets in this evaluation should not be primary emergency service route. The City Engineering Department will evaluate on type, style, and spacing, and provide a recommendation to the City Council.
  - **Advantages:**
    - Significant reduction of travel speeds at or near the devices. For effective speed reduction, a series of devices is needed along long, straight streets.
    - The device provides 24-hour, year round service in an attempt to control high speed travel speeds along residential streets.
    - May discourage cut-through traffic that is using residential streets due to congested conditions on an adjacent thoroughfare or major collector street.
    - Average daily traffic volumes may decrease on residential street, thus reassigning traffic volumes to appropriate street classification usage (collector, arterial).
  - **Disadvantages:**
    - Inability to reduce travel speeds to a desired level for the neighborhood.
    - Will increase response times for police/ emergency vehicles into the area.
    - Traffic diversion may cause increased volumes on other streets within the neighborhood.
    - Increased noise levels due to vehicle shifting cargo and acceleration/ deceleration at the device.



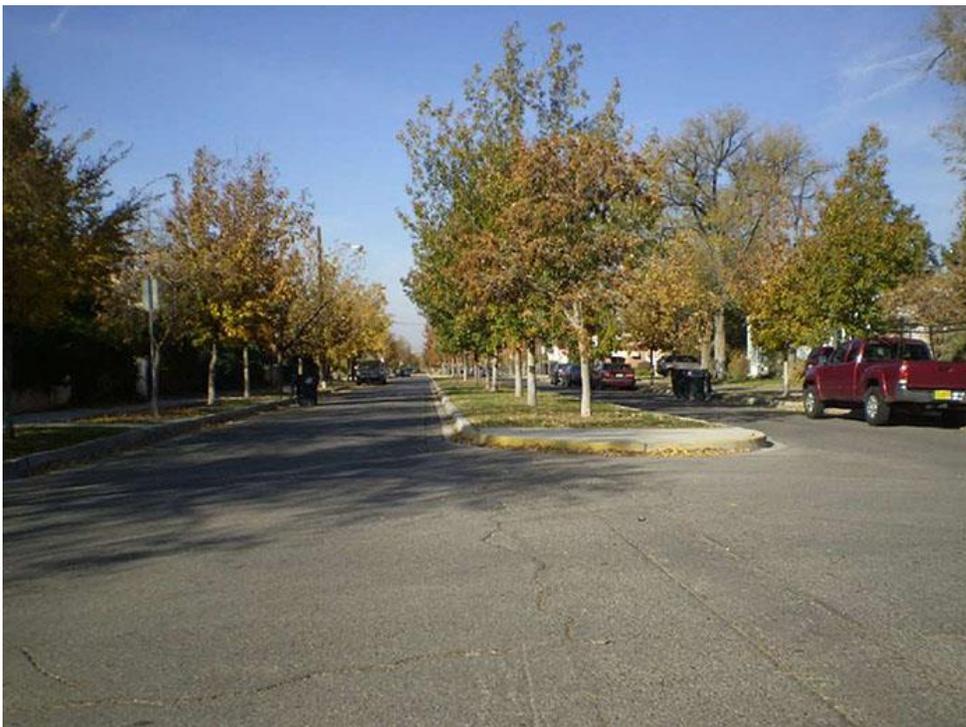
- High Visibility Crosswalks: A wirelessly activated solar-powered in-roadway warning light system, can provide energy-efficient, in-pavement lighting for crosswalks. They activate when a pedestrian is crossing, enabling drivers to learn to associate them with a need to yield or slow down for pedestrians in crosswalks. Also in-pavement flashers delineate the crosswalk and draw the driver's attention to the roadway.



- Bulbouts/ Neckdowns/ Chokers: These designs can be modified to accommodate bicyclist/pedestrian traffic.



- Chicanes: One lane chicanes can significantly reduce cut-through traffic. But it may lead to increases in head-on collisions.



- Median/ Center Island Narrowing: This measure can be easily modified to include bicyclist & pedestrians.

- **Level 3: MOST RESTRICTIVE, HIGH COST**



- Roundabouts/ Traffic Circles: They are used on higher volume streets (collector type) to allocate rights-of-way among competing movements. They are often used to substitute traffic signals or all-way stop signs. Roundabouts are often safer and more efficient than signals or all-way stops when traffic volumes are moderate to heavy and flows are balanced at the cross streets. Prior to implementing roundabout as traffic calming, a detailed operation analysis is highly recommended.



- Street Closures: Fire or emergency vehicles may oppose this traffic calming device as it can lengthen response routes. To accommodate such emergency vehicles, motorized gates can be installed at street closures. While closed to private vehicles, these gates can be activated by emergency vehicles via radio control.

Whenever implementing a traffic calming device, emergency vehicle access and response time must be carefully considered. Emergency vehicles, particularly ambulances and fire vehicles have more difficulty with “vertical” measures such as 14-foot long speed humps than with “horizontal” measures such as “neck-downs”. Longer fire vehicles and equipment such as ladder trucks may have trouble negotiating some “horizontal” measures.

Likewise, bicyclists, pedestrians and other expected street users must be kept in mind when developing a traffic calming strategy, as some measures can obstruct their movement. Many measures can be modified to allow bicyclists and pedestrians to bypass them. For instance, a choker can be fitted with a bicycle / pedestrian path to allow for those users’ to still utilize the facility.

The following chart (Chart 1) and table (Table 2) summarizes the City’s typical street cross section and where the devices included in this section may be used and their effectiveness at resolving typical traffic calming issues.



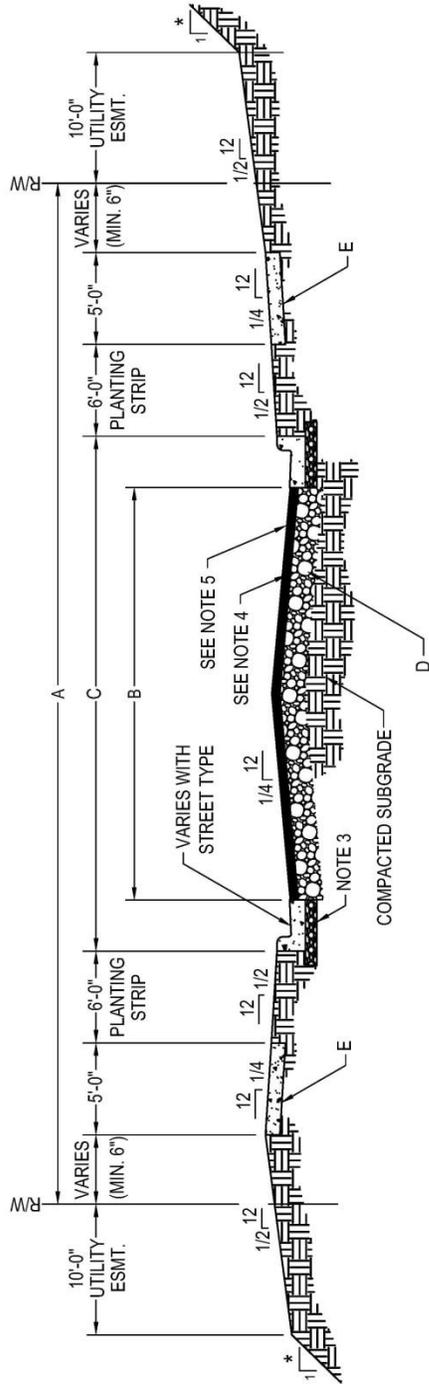
**CITY OF STATESVILLE**

PUBLIC WORKS DEPARTMENT

STREET

**ROADWAY SECTION**

<b>DETAIL #</b>	<b>REVISED</b>
ST-1	OCT 2016
<b>SCALE:</b>	<b>SHEET #</b>
N.T.S.	1 OF 1



STREET SECTION DIMENSIONS				
	A	B	C	E
STREET TYPE	MINIMUM RIGHT-OF-WAY WIDTH	MINIMUM PAVEMENT WIDTH	BACK OF CURB TO BACK OF CURB	SIDEWALK REQUIREMENT
1 COLLECTOR (100 PLUS DWELLINGS)	60'	32'	37'	BOTH SIDES OF STREET
2 SUB COLLECTOR (25-99) DWELLINGS	55'	26'	30'	ONE (1) SIDE OF STREET
3 LOCAL (10-24) DWELLINGS	50'	22'	26'	ONE (1) SIDE OF STREET
4 MINOR (1-9) DWELLINGS	50'	20'	24'	ONE (1) SIDE OF STREET
NOTE: PAVEMENT WIDTH DOES NOT INCLUDE WIDTH OF CURB AND GUTTERS. (BACK TO BACK CURB DIMENSIONS GOVERN.)				

- NOTES:
- \* = 2:1 MAX., 3:1 RECOMMENDED
  - SIDEWALK IS ONLY REQUIRED ON ONE SIDE OF STREET EXCEPT FOR COLLECTOR STREETS.
  - PLACE COMPACTED ABC UNDER CURB AND GUTTERS.
  - ONE AND ONE HALF INCH (1-1/2") SUPER PAVE S9.5B BITUMINOUS CONCRETE BINDER COURSE
  - ONE INCH (1") SUPER PAVE SF9.5A BITUMINOUS CONCRETE SURFACE COURSE ONCE CONSTRUCTION IS FINAL.
  - UTILITY EASEMENT TO BE CLEARED AND GRADED.
  - TRANSFORMER PADS TO BE WITHIN 15FT OF BACK OF CURB, UNLESS APPROVED OTHERWISE.
  - TRANSFORMER PAD LOCATION MUST BE SHOWN ON THE SITE PLAN AND GRADED DURING STREET CONSTRUCTION.

**Table 2 : Summary of Traffic Calming Devices**

(\*\* Note: costs shown in table are 2018 costs)

LEVEL 3	LEVEL 2	LEVEL 1	TRAFFIC CALMING DEVICE	DEFINITIONS	DESIGN WARRANTS/ CONSIDERATIONS	TRAFFIC/ VOLUME REDUCTION	SPEED REDUCTION	CHANGE IN % TRUCKS	IMPACT ON ADJACENT STREETS	USE ON BUS ROUTE	USE WITH DRIVEWAYS ON STREET	USE WITH CURBS & GUTTER	IMPACT PARKING	SAFETY			IMPACT ON POLLUTION (NOISE/AIR)	EMERGENCY VEHICLE ACCESS/DELAY	DEPENDENT ON POLICE ENFORCEMENT	LEVEL OF VIOLATIONS	MAINTENANCE PROBLEMS/ COST	AESTHETICS/ LANDSCAPING POTENTIALS	COST **	USEFUL FOR SPOT OR AREAWIDE PROBLEMS	
														VEHICLE	PEDESTRIAN	BICYCLE									
			Enforcement (visible & active police presence)	Extensive traffic enforcement, "emphasis patrols"	May be implemented with little planning	Not Likely	Temporary	Not Likely	Yes	Yes	Yes	-	-	Improved	Improved	Improved	Possible Reduction/ No change	-	High	Low	High cost for extended	-	\$175/hour	Both	
			Neighborhood Awareness/ Education	Distribute Safety Information	-	No	Not Likely	Not Likely	Yes	-	-	No	-	Possible Improvement	Possible Improvement	Possible Improvement	No change	-	-	-	Varies	-	Varies	Both	
			Radar Trailer	Providing the posted speed limit on the device reminds drivers to slow down if they are travelling to fast	May be implemented immediately with little planning In the long term, less expensive than police enforcement	Not Likely	Temporary	Not Likely	Yes	Yes	Yes	-	-	-	-	-	No change	-	Self enforcing	-	Varies	High	No	\$3000-\$4500	Site
			Signage	Place appropriate warning signs, information signs & regulatory signs	Must meet MUTCD warrants	No	Temporary	Possible	No	Yes	Yes	-	-	Possible Improvement	Possible Improvement	Possible Improvement	No change	No effect	-	Varies	High	No	\$200-\$400 per sign	Spot	
			Pavement Treatments Class I (Marking, Striping & Color)	Special pavement markings at entries, hazard locations or crosswalks to alert drivers of special conditions	May be implemented with little planning	No	Possible	Not Likely	No	Yes	Yes	-	No	Possible Improvement	Possible Improvement	Possible Improvement	No change	-	-	-	Low Problem/ High Cost	Yes	\$0.25ft - \$1.00/ft (paint) \$1.00 - \$5.00 /ft (plastic)	Both	
			Pavement Treatments Class II Texture/Composition, Patterns, Color	Special pavement compositions and markings to alert drivers of special conditions	May be implemented with little planning	Not Likely	Possible	Possible	No	Yes	Yes	-	No	Possible Improvement	Possible Improvement	Possible Improvement	Possible Reduction/ No change	No Constraint	-	-	-	Low	Yes	Both	
			Parking Variants Class I (Zones, Striping, Timed, Resident Restricted)	Parking Areas create narrower roadways & increased activity leading to increased attention by drivers	-	Possible	Likely	Likely	Yes	Yes	Yes	-	High	Possible Improvement	Possible Improvement	-	Possible reduction/no change	No effect	Low	Varies	Low	-	-	Spot	
			Parking Variants Class II (Shifting Traveled Way)	Alerting parking from side to side along the length of the street to break up the visual continuity of long, straight streets	-	Possible	Likely	Not Likely	No	No	Yes	Yes	High	Increased Conflicts	Possible Improvement	Varies	Possible reduction/no change	No effect	-	-	Low	Yes	Spot		
			Stop Signs	Stop signs, 2-way or 4-way, used to assign right-of-way at intersections	Must meet MUTCD warrants	Seldom	Varies	Not Likely	No	Yes	Yes	-	No	Varies	Varies	Varies	Increase	No Constraint	Low	Varies	High	No	\$75-\$200 per sign	Spot	
			Speed Humps	Raised sections of pavement across the travelled way with curved transitions	Appropriate for local streets • Posted Speed Limit - 25-30 mph • Traffic Volume 300-4000 vpd • Max. grade - 6% • Most effective if used in series, spaced 300' - 500' apart	Possible	Yes	Possible	Yes	Yes	Yes	Yes	No	Improved	Improved	Plan with care	Possible Increase/No change	Minor Constraint	Self enforcing	-	Moderate	Yes	\$2500 - \$4500	Both	
			High Visibility Crosswalks	Place at uncontrolled crosswalks to provide pedestrian safety & increase crosswalk visibility to drivers	-	No	Likely	No	No	Yes	Yes	Yes	-	Improved	Improved	Improved	No change	No effect	Self enforcing	-	10% of initial install cost	No	\$13K-\$18K	Spot	
			Bulbouts/Neckdowns/Chokers	Curb extensions at intersections and mid-block points that reduce curb-to-curb roadway travel lane widths	Design can be modified to include Bicyclists and Pedestrians	Possible	Yes	Possible	Yes	No	No	Yes	Yes - Gain	Improved	Improved	Plan with care	No change	Severe effect	Self enforcing	-	High	Yes	\$10K-\$15K	Both	
			Chicanes	Curb extensions that alternate from one side of the roadway to the other, forming s-shaped curves	-	Possible	Yes	Likely	Yes	No	No	Yes	High Loss	Increased Conflicts	Varies	Varies	No change	Severe effect	Self enforcing	-	High	Yes	\$7K-\$13K	Both	
			Median/Center Island Narrowing	Raised islands located along the centerline of a roadway that narrow the width at that location	Design can be modified to include Bicyclists and Pedestrians	Possible	Yes	Possible	Yes	No	No	Yes	Low	-	Improved	Plan with care	No change	Minor Constraint	Self enforcing	-	High	Yes	Varies on length & material used	Both	
			Traffic Circles	These geometric design features focus traffic at intersections into circular maneuvers	-	Possible	Near Circle	Yes	Yes	Plan with care	Yes	Yes	High	Improved	Varies	Varies	No change	Minor Constraint	Self enforcing	-	Moderate	Yes	\$12K-\$75K	Both	
			Roundabouts	Barriers placed in the middle of an intersection, directing all traffic in the same direction	Are used on higher volume streets (collector type) to allocate rights-of-way among competing movements.	Not Likely	Near Circle	Possible	Yes	Plan with care	No	Yes	High	Improved	Increased Conflict	Increased Conflict	No change	Minor Constraint	Self enforcing	-	High	Yes	\$20K - \$220K	Spot	
			Street Closures	Barriers placed across roadways to completely close through vehicle traffic	-	Possible	Yes	Possible	Yes	No	Yes	Yes	Low	Varies	Improved	Improved	No change	Severe effect	Self enforcing	-	Moderate	Yes	\$15K-\$30K	Spot	

# Appendix A

## Citizen Traffic Calming Petition

We, the undersigned residents, do respectfully petition the City of Statesville for traffic calming devices in the neighborhood/intersection of \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

The reasons for the petition are:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

\*\*\*\*\*Please note any additions, corrections, or vacancies to the attached map\*\*\*\*\*

Neighborhood Contact Person: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ Email Address: \_\_\_\_\_

NOTE: Persons residing on affected street of approved traffic calming device will participate in financing of the implementation.

Signature	Printed Name	Address	Apt No.

Additional sheets can be attached if necessary

Neighborhood Name: \_\_\_\_\_

Street Name & Location: \_\_\_\_\_

Reason for Petition: \_\_\_\_\_

Any questions related to the City of Statesville Neighborhood Traffic Calming Policy may be directed to:

CITY ENGINEER  
Scott Harrell, PE,  
Email: [sharrell@statesvillenc.net](mailto:sharrell@statesvillenc.net)