

CITY OF ROCK HILL, SOUTH CAROLINA

Neighborhood Traffic Calming Program A Policy for Use of Traffic Calming on Local (Residential) Streets

I. Statement of Purpose:

This program provides a process and a procedure for the Traffic Commission to use to consider, evaluate, and implement (based on City Council approval), the placement of traffic calming devices on local (residential) streets within the city limits of Rock Hill. Streets that are classified as minor collectors may be eligible under this policy under certain circumstances. Streets classified as major collectors, arterials or above are not eligible for traffic calming under this policy (see SCDOT Functional Classification Map).

For the purposes of this program, traffic calming refers to the use of engineering measures to make permanent physical changes that can result in a reduction of traffic speed and / or volume, thereby improving safety and livability for street users and residents. These measures are typically employed when passive controls (such as signage or speed limits) or administrative controls (enforcement) have proven ineffective. However, passive controls and / or administrative controls may be prescribed in lieu of or prior to consideration to install traffic calming devices.

II. Definitions

Local (or Residential) Street: Any two lane street with a primary purpose of providing direct access to abutting residential properties and identified as local on the street functional classification map. Any local residential streets maintained by the state and considered for traffic calming under this policy will require coordination / approval from the SCDOT prior to implementation of any calming devices.

Neighborhood Traffic Calming Devices: Traffic calming devices include those used on local streets and are not otherwise governed or warranted by standard or uniform traffic control policy and procedures. Generally this includes calming devices, traffic circles or diverters which are constructed within the roadway and operate to slow vehicles down, but not restrict access to a street.

Calming Devices: Calming devices include, but are not limited to the following: speed humps, chokers, raised sidewalks, crosswalk refuges, chicanes, and other generally accepted traffic calming devices, as deemed appropriate.

Intersection Traffic Circles: Intersection traffic circles are traffic islands installed in intersections for the purposes of reducing the intersection collision rate or decreasing traffic speeds. Generally, these conform to a standard engineering design.

Traffic Diverter Devices: Traffic diverter devices include restrictive curb extensions and other devices constructed within the roadway that restrict access to a street, and under extenuating circumstances, could include street closures. Generally, this category will be used only as a last resort, after other traffic calming measures have been deemed ineffective.

III. Identification of Traffic Related Issues (Speeding / Cut-Through Traffic) (see Appendix 1 – Traffic Calming Flow Chart)

Speeding and / or other related traffic complaints (i.e. cut-through activity), are typically identified by local residents, neighborhood associations or others, and are directed to the Rock Hill Police Department. In some instances, traffic concerns may also be identified by City Council whereby staff will forward this information to the Police Department and / or directly to the Traffic Commission for further action.

IV. Initiation of Traffic Calming Study (Data Collection)

- A. Police Department Recommendation: A traffic calming study may be initiated based on a recommendation from the Rock Hill Police Department ó Traffic Enforcement Unit. If in the opinion of the police department, passive measures such as a speed limit reduction and / or targeted enforcement activities are not / will not be effective in slowing traffic, then the street(s) or street segment(s) in question will be referred to the Traffic Commission for appropriate follow-up.
- B. Traffic Commission Authorization: A traffic calming study may be initiated by a majority vote of the Traffic Commission members present at any one meeting.
- C. City Council Recommendation: A traffic calming study may also be initiated at the direction of the City Council.

V. Phases of Traffic Calming Study

- A. Data Collection Phase: The following data and information may be collected as required for each street or street segment in the study:
 - 1. Street classification
 - 2. Traffic volumes (average weekday or other available count data)
 - 3. Traffic speeds (85th percentile speed)
 - 4. Existing passive or administrative controls
 - 5. Posted speed limits
 - 6. Physical data (number of lanes, width, grade, and alignment)
 - 7. Accident data reports (if available)
 - 8. Location of community facilities and schools
 - 9. Emergency vehicle routes
 - 10. Current or potential bus routes (school buses)
 - 11. Through truck routes
 - 12. Alternate routes that traffic may take if traffic calming devices are installed
 - 13. Existence of sidewalks
 - 14. On street parking restrictions

VI. Neighborhood Traffic Calming Plan and Design Criteria (see Appendix 2)

- A. Criteria: The following criteria shall be used in determining eligibility for the development of a traffic calming plan on a local (residential) street:

1. Street type: limited to streets classified as local, which are predominately residential in character but may under special circumstances include minor collector streets, as long as they are not expected to carry more than 3,000 vehicles per day (vpd).

Additionally, it should be noted that city funding for traffic calming is only available on streets which serve more than a single neighborhood and / or impacted area. If a neighborhood or impacted area would like traffic calming devices installed on streets which only serve that area, then all related costs should be addressed by the neighborhood / affected area requesting this action.
2. Speed limit: the posted speed limit may not be more than thirty (30) miles per hour with a desired limit of 25 mph. Additionally, the minimum posted speed limit should be at least 25 mph to be considered for traffic calming measures.
3. Lanes of traffic: limited to streets designed to have a maximum of two lanes of moving traffic.
4. Emergency routes: streets that are considered primary routes for fire and rescue service should generally be avoided.
5. Traffic volume: barring unusual traffic or operational circumstances, a road should exceed a normal residential volume of 1,000 vehicles per day (vpd) on an average weekday, depending on design.
6. Traffic speed: barring unusual traffic or operational circumstances, the 85th percentile speed must be equal to or greater than seven (7) miles per hour above the posted speed limit. The 85th percentile speed is the speed under which 85 percent of vehicles travel and is the traffic engineering standard for design purposes and speed studies.
7. Grades and sight distance: at the discretion of the Traffic Commission, streets with curves or obstacles that create an unsafe condition for motorists driving at normal speed, under average driving conditions, are not eligible for traffic calming.
8. Community facilities: the location of and access to community facilities including, but not limited to schools and other activity centers, can be considered in determining eligibility for traffic calming regardless of speeds and / or volumes.
9. Bus routes: streets with mass transit routes shall be considered for traffic calming only if such routes can be redirected to other streets and there is no negative impact to service.
10. Truck routes: the street may not be a through truck route or be designated as a truck route unless an acceptable alternate route for trucks is identified.
11. Pedestrian / bicycle safety: the traffic calming plan shall not adversely affect pedestrian or bicycle safety.

12. Drainage: the traffic calming plan shall not adversely affect street drainage.
 13. Planned improvements: planned capital improvements (resurfacing) may impact the sequence of traffic calming plan implementation, since linking projects may be preferable and more cost effective.
- B. Traffic Diversion: If a traffic calming plan is expected to divert a significant amount of traffic to a parallel street, such street shall also be considered for traffic calming.
 - C. Traffic Safety: in the judgment of the Traffic Commission, and at its sole discretion, the speed criteria may be modified to address a speed-related accident problem if such accident problem could be corrected by installing a traffic calming device(s).
 - D. Approved Traffic Calming Devices: The city shall develop and maintain a list and description of approved traffic calming devices. The list shall be an attachment to the Traffic Calming Policy and be amended as necessary as new devices are introduced and / or existing devices modified (see Appendix 3).

VII. Evidence of Support from an Impacted Area

Before proceeding into Plan Development, the city must receive evidence that the neighborhood and / or impacted area is supportive of implementing traffic calming measures. A two-thirds majority of the property owners (one signature per household) in the proposed impacted area, must demonstrate either by petition or other means acceptable to the city, that there is favorable support for the development of a traffic calming plan; and acknowledge that implementation will involve financial obligations on the part of the property owners. The local Neighborhood Association and / or other residents in the impacted area (if a Neighborhood Association has not been established), are responsible for securing this required documentation.

VIII. Traffic Calming Plan Development

- A. Authorization to Proceed with Plan Development: Based on receiving sufficient evidence of support from the street segment or impacted area as indicated above, the Traffic Commission will authorize the completion of a traffic calming plan. All traffic calming plans will be reviewed at a regularly scheduled meeting of the Traffic Commission (currently the 2nd Wednesday of each month). Residents / property owners from the impacted area will be invited to attend the meeting to provide input. Traffic calming plans will include the following information:
 - Area of impact that is subject to the assessment (Planning Department)
 - Proposed calming device and recommended locations where the device(s) will be installed, will be jointly developed by the Engineering, Public Works and Planning Department(s). In those cases where residents of a neighborhood or impacted area prefer to retain their own consulting firm (at their own expense), any resulting recommendations and / or plans will

need to be reviewed / approved by the Director of Public Works and other departments as appropriate before presentation to City Council.

- Additionally, it is important to note that prior to any work being initiated, residents of the impacted area are required to secure an encroachment permit from the Public Works Department ó which will outline all the conditions, terms, and expectations associated with the installation of traffic calming devices. Lastly, all installed devices must be inspected and approved by the Public Works Department.
 - Estimated costs (Public Works), that specifically identifies each individual property owners assessment based on the shared cost provision.
- B. Traffic Commission Approval: Upon approval of the traffic calming plan by the Traffic Commission, the petition process will be initiated.
- C. Signatures: A petition approving the proposed traffic calming plan shall include a signed list (one adult per household) representing 66% of the property owners in the impacted area. By signing the petition, property owners are committing to pay 50% of the total costs for implementing the traffic calming plan (see Appendix 4 ó Traffic Calming Petition for requirements and method of calculation).
- D. Petition Authentication & City Council Approval: Based on receipt of the signed petition and verification that the two-thirds requirement (66%) has been met, staff will present a recommendation to the City Council to authorize implementation of the traffic calming plan as approved by the Traffic Commission.

IX. Traffic Calming Plan Approval

- A. Review: The City Council shall review the traffic calming plan and the recommendation from the Traffic Commission.
- B. Decision: The City Council shall provide a decision on whether or not to implement or modify the traffic calming plan as appropriate.
- C. Funding: One-half (50%) of the funds will be provided out of the approved city budget that has been designated for the traffic calming program, assuming that the minimum applicable speed and volume levels are present. It should also be noted that a project's cost estimate will reflect the engineering, maintenance and installation expenses associated with implementing any traffic calming measures in which city funding participation is requested.

The other half of the funds that are necessary to implement the plan will be obtained through individual property assessment and / or other means identified by property owners located within the impacted area. If an assessment program is utilized to generate the local share, the City's Finance Department will set up the appropriate accounts and mail one-time assessments to property owners in the impacted area.

- D. Alternative Funding: In the event that city funds budgeted for the purposes of

traffic calming have been exhausted, the petitioning area can pay 100% of the costs of implementation based on a traffic calming plan that has been approved by the Traffic Commission and City Council.

Additionally, it is important to note that if a neighborhood and / or impacted area has an interest in traffic calming devices, and does not meet the applicable speed and volume requirements ó but wishes to proceed with the installation of traffic calming devices, all associated engineering, maintenance and installation costs would be the responsibility of the petitioning neighborhood and / or impacted area.

X. Neighborhood / Impacted Area Participation in Traffic Calming Improvements

The city will agree to install and maintain traffic calming improvements based on an approved plan. However, property owners in the impacted area as defined in the traffic calming plan may be required to participate. In some cases this may require a neighborhood (or some subset of individuals or homeowner organizations) to be responsible for ongoing maintenance of a portion of the improvements (i.e. landscaping).

A. Landscaping:

1. If landscaping of calming devices is feasible and desired by the neighborhood and / or impacted area, the landscaping costs will be included in the cost-sharing calculation.
2. Responsibility for maintaining landscaping in conformance with city criteria on the permanent devices rests with the neighborhood and / or impacted area. If the impacted area fails to fulfill the responsibility and the landscaping obstructs the view of traffic, becomes unsightly, or is otherwise potentially hazardous, the Director of Public Works shall have the authority to remove the landscaping.

XI. Project Implementation

The traffic calming plan shall be scheduled for implementation by the Director of Public Works upon approval by City Council and based on funding availability. Project implementation shall be subject securing local share, work crew schedules and / or coordinated consultant lettings, materials availability, and weather conditions.

XII. Project Evaluation, Modification, Removal

- A. Evaluation: The Traffic Commission shall evaluate the traffic calming project from a safety standpoint within a one-year period after installation. The evaluation will include those studies deemed appropriate by the Traffic Commission.
- B. Modification or Removal: Upon a finding by the Traffic Commission of a

hazardous situation or other negative impact as a result of implementing the traffic calming plan, and upon approval of the City Council, such situation or condition shall be immediately corrected through modification or removal of a traffic calming device(s).

Additionally, it should be noted that all installed traffic calming devices will be replaced at city expense for a period of 5yrs from the original date of installation should a design / maintenance related issue be identified or a street resurfacing occur which would necessitate the replacement of traffic calming measures. This 5yr time period shall apply to all neighborhoods / impacted areas irrespective of the original funding arrangement.

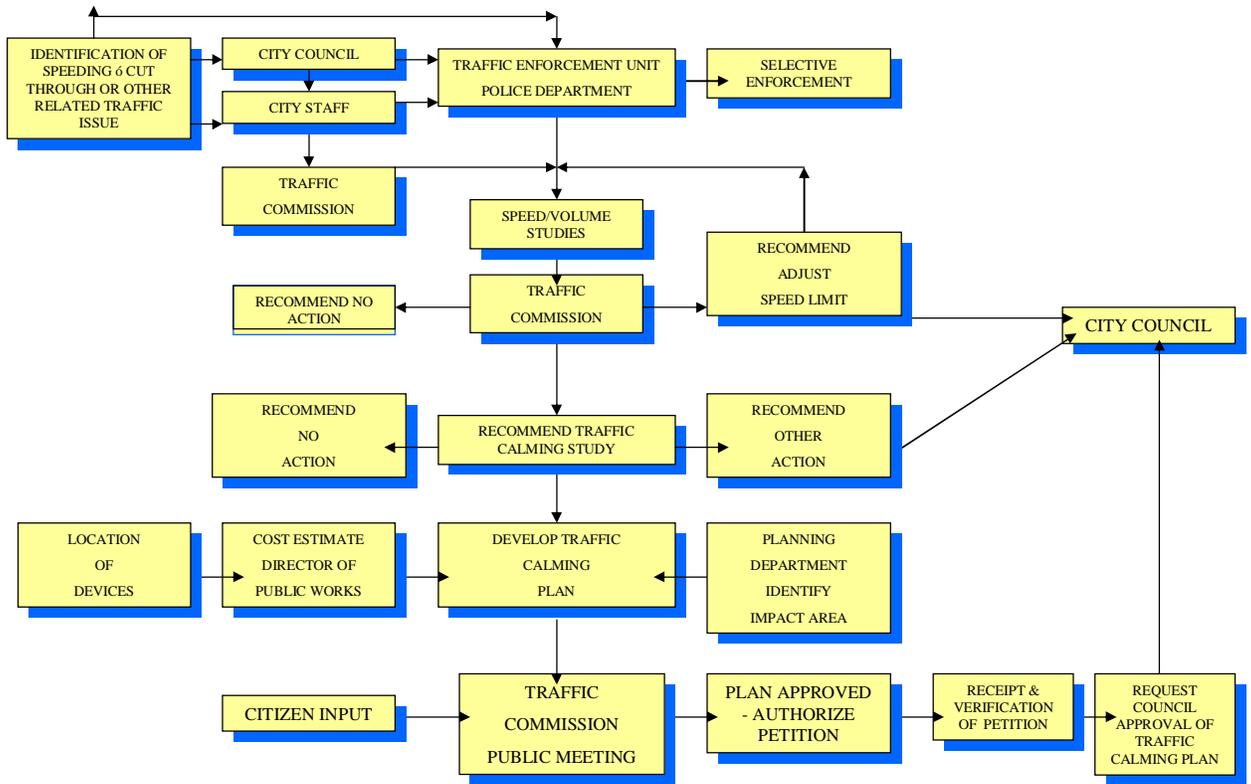
With regard to the status of traffic calming measures at the time of a street resurfacing (beyond the 5yr time period), the neighborhood / impacted area would need to complete the petition process at that time confirming continued support for the re-installation of traffic calming devices as well as the associated re-installation expenses. It should be noted that the traffic calming policy, as periodically amended, will govern all currently installed traffic calming devices beyond the original 5 year period effective January 1, 2014.

Property owners located in the affected area may also request removal of a traffic calming device(s) upon submission of a petition signed by sixty-six (66) percent of the owners in the impacted area. In such instances where a petition for removal is validated, the city will require the owners of properties in the impacted area to pay for the full cost of removal of the device(s).

Lastly, if a neighborhood and /or impacted area has installed traffic calming devices removed; and then at a later point request that such devices be re-installed ó that neighborhood and / or impacted area would be required to begin the evaluation process as a new matter, and would be responsible for 100% of all related re-installation and maintenance costs.

Appendix I

TRAFFIC CALMING FLOW CHART



Appendix 2 - Checklist for Design of Traffic Calming Devices

At a minimum, the following items shall be reviewed by the design professional for each installation:

I. Geometric

- A. Alignment
- B. Turning radius
- C. Horizontal and vertical curves
- D. Super-elevation
- E. Major geometric features such as sidewalks, curbs, etc.
- F. Roadway width
- G. Sight distances

II. Safety

- A. Channelization
- B. Illumination
- C. Signing
- D. Safety zone (clearance of obstructions from traveled roadway)
- E. Crosswalk locations

III. Utilities

- A. Water and sewer
- B. Franchise utilities (such as gas, power, telephone, etc.)
- C. Storm drainage
- D. Location of fire hydrants

IV. Design Vehicles

- A. Local emergency vehicle characteristics
- B. Minimum design vehicle (bus, single-unit truck, or passenger car)
- C. Public transit and school bus stops and routes
- D. Bicycles and wheelchairs

V. Other

- A. Landscaping
- B. Pedestrians and bicycles
- C. Handicapped access
- D. Parking
- E. Mail delivery routes
- F. Emergency access

Appendix 3 - Residential Traffic Calming Devices

- XI. Speed Hump: A raised hump (a pavement undulation) in the roadway with a parabolic top, extending across the road at right angles to the direction of traffic flow. The spacing between humps shall be appropriate to achieve the desired 85th percentile speed. Speed humps shall be easily visible for 200 feet and placed at least 200 feet from intersections.

Advantages: Effectively reduces speeds.

Disadvantages: Slows emergency vehicles and buses; increases noise and maintenance costs.

Speed Hump



- XII. Speed Table: A flat-topped speed hump often constructed with brick or other textured materials on the flat section. Speed tables are long enough for the entire wheelbase of a passenger car to rest on the flat section. Their long fields, plus ramps are more gently sloped than Speed Humps.

Advantages: Smoother on large vehicles (such as fire trucks). Effective in reducing speed, though not to the extent of Speed Humps.

Disadvantages: Questionable aesthetic, if no textured materials used. Textured material can be expensive. They may increase noise levels.

Speed Table



- XIII. Choker: A physical constriction built at the curbside of the roadway effectively reducing the width of the travel lane. Normal turning radii shall be accommodated. Visibility shall be a key design consideration with features such as advance warning signs, reflective channelization, reflectors on curbs, and elevated landscaping.

Advantages: Effective lane narrowing results in lower speeds, provides parking protection, and shortens pedestrian crossing distance.

Disadvantages: Potential drainage problems; increases maintenance costs.

Choker



- XIV. Raised Sidewalk: A raised hump (a pavement undulation) in the roadway with a flat top, extending across the road at right angles to the direction of traffic flow. Used where significant number of pedestrians cross the roadway. Speed hump placing considerations apply.

Advantages: Effectively reduces speeds; provides improved visibility for crossing pedestrians

Disadvantages: Slows emergency vehicles and buses; increases noise and maintenance costs.

Raised Sidewalk



XV. Traffic Circle: Provides circular, counter-clockwise operations at intersections by placing an elevated area in the middle of the intersection. Approaching vehicles yield to traffic already in the circle. Street grades approaching the intersection shall not exceed ten percent.

Advantages: Effectively reduces speeds; reduces left turn accidents; can be visually attractive.

Disadvantages: Placement of circle may require parking removal.

Traffic Circle



XVI. Crosswalk Refuge: A physical constriction (a median) built in the middle of the roadway with a cut provided for the crosswalk. Used where significant number of pedestrians cross the roadway.

Advantages: Provides refuge for pedestrians when crossing the roadway; effective lane narrowing results in lower speeds.

Disadvantages: Increases maintenance costs.

Crosswalk Refuge



XVII. Chicane: Physical constrictions (three per set) built at the curbside of the roadway to create a 45-degree bend in a formerly straight street. This forces cars to negotiate the narrowed street in a snake-like fashion. The 45-degree bend can also be achieved by alternating parking from one side of the street to the other. Normal turning radii shall be accommodated. Sets are to be placed 400 to 600 feet apart. Visibility should be a key design consideration with features such as advance warning signs, reflective channelization, reflectors on curbs, and elevated landscaping.

Advantages: The snake-like alignment and the lane narrowing results in lower speeds; parking protection is provided; pedestrian crossing distance is shortened.

Disadvantages: May contribute to head-on collisions; potential drainage problems; higher maintenance costs.

Chicane



Appendix 4 – The Petition

CITY OF ROCK HILL TRAFFIC CALMING PETITION

We, the undersigned property owners in Subdivision A, request that the City of Rock Hill install **SPEED HUMPS** at the locations shown on the attached exhibit. At least two-thirds of the property owners in the Subdivision must be represented on the petition. Only one signature from each household / property will be counted during validation.

We understand that this request is subject to approval by the Rock Hill City Council.

We understand that traffic calming devices may have the following consequences:

- Emergency services response times will be marginally impacted
- Portions of the street where devices are to be installed may be closed for a short time during construction
- Appropriate street signs will accompany traffic calming device installation

We agree that the neighborhood will equally share the cost of the traffic calming device installation including signage with the City. The Homeowner's Association and / or residents of an impacted area will deposit with the City the agreed upon amount based on a 50/50 cost sharing arrangement as specified in the adopted Traffic Calming Policy. This cost reflects engineering, installation, and maintenance expenses and is summarized below:

Total Cost =	\$XX (unit cost to be multiplied by number of units)
City Share =	\$XX (50% of total costs)
Neighborhood Share =	\$XX (50% of total costs)

We understand that the City of Rock Hill will install the devices and will be responsible for their maintenance. It should be noted that installed traffic calming devices will be replaced at city expense for a period of 5yrs from the original date of installation should a design / maintenance related issue be identified and / or a street resurfacing occur. When a neighborhood has their street(s) resurfaced beyond the 5yr time period, the neighborhood and /or impacted area will need to complete the petition process at that time to confirm that continued support exist for the re-installation of traffic calming devices as well as the associated re-installation expenses. It should be noted that the traffic calming policy, as periodically amended, will govern all currently installed traffic calming devices beyond the original 5 year period effective January 1, 2014.

We understand that if the neighborhood requests removal of the devices (approval by two-thirds of the property owners is needed), the city may elect to assess the owners of property in the neighborhood and / or impacted area for the total cost of removal of the device(s), unless the city has evidence of a safety problem and / or other design related issue that was unforeseen when the device(s) were installed. In such a case, there will be no cost to the owners of property in the Subdivision for such removal.

Petition contact person: _____

Phone# _____