

SECTION 3

3.0 TRAFFIC CALMING

3.1 TRAFFIC CALMING PROCESS SUMMARY

Traffic calming is a means in which to reduce speeds and minimize vehicular traffic on local neighborhood streets. Citizen involvement in neighborhood traffic management activities is strongly encouraged. This section is intended to aid citizens in resolving traffic problems in residential areas. In the City, traffic calming techniques are limited to local residential streets. A *local residential street* is defined as all minor streets, marginal access streets, residential collectors and cul-de-sacs primarily serving residential property.

The following procedures are considered typical for receiving, responding to, and managing citizens' requests for residential traffic management on their streets or in their neighborhoods. Variations in this process may be approved by the City Council when deemed appropriate due to unique circumstances.

When a neighborhood representative contacts City Staff to discuss neighborhood traffic problems or concerns, the representative will be asked to complete a Traffic Calming Request Form and submit it to the Traffic Engineer's office. These forms may be obtained by contacting the Public Works Department - Traffic Engineering Division. A Traffic Calming Request Form is provided in Appendix I and is also available online. Once the application has been submitted, the Traffic Engineer will evaluate the need for a traffic calming technique and, if one is warranted, will determine the type of technique to be installed.

If physical traffic calming measures are warranted, a neighborhood petition from the "affected area" is required, and the Traffic Engineer will notify the representative of this additional requirement. The "affected area" is defined as those properties along streets expected to receive traffic calming techniques, those streets whose access is substantially dependent upon the streets to be calmed, and any streets expected to receive significant increases in traffic volume or type as a result of the traffic calming technique installation. The City Engineer shall be responsible for final approval of the affected area to be petitioned.

Once the completed petition reflecting a positive response has been returned to the Traffic Engineer, the City Engineer will make the final recommendation to the City Manager. The City Manager will place the item on the agenda for consideration by the City Council. If approved by the City Council, the project will be scheduled for construction by the City Engineer.

3.2 EXISTING CONDITION ANALYSIS

The Traffic Engineering Division of the Public Works Department will perform any necessary data collection and analysis to assess and quantify the traffic and safety conditions in the neighborhood. The Public Works Department staff will identify the tentative study area, collect preliminary information from their files and other potentially affected agencies, and complete any needed traffic analysis. While there are no absolute minimum criteria or warrants established for use of traffic calming techniques, staff will refer to the following guidelines when evaluating the magnitude of traffic and safety problems, potential for improvement using traffic calming techniques, and establishment of priorities for project implementation.

3.2.1 Minimum Vehicular Volume

Traffic volumes on residential streets will determine the appropriate traffic calming measures as follows:

- Less than four thousand (4,000) vehicles per day: Education; Enforcement; Increased police enforcement for traffic violations (i.e. speeding); and Physical techniques;
- More than four thousand (4,000) vehicles per day: Education; Enforcement; Increased police enforcement for traffic violations (i.e. speeding); Alternative actions only - no physical techniques.

3.2.2 Speed

The ideal, acceptable and not acceptable traffic speeds on local streets are as follows:

TABLE 3.1
Vehicle Speeds on Local Streets

	Ideal	Acceptable	Not Acceptable
Average Speed – All Vehicles	0-25 mph	26-30 mph	31-35 mph
85 th Percentile Speed	0-30 mph	31-35 mph	36-40 mph
95 th Percentile Speed	0-35 mph	36-40 mph	41-45 mph
Percent of Vehicles in 10 mph Pace Speed	70%	60%	50%

3.2.3 Cut Through Traffic

A vehicle that detours through a neighborhood for the convenience of decreasing the amount of time it takes to reach a destination is known as cut through traffic. The volume of cut through traffic is typically quantified by estimating the expected traffic generated by a neighborhood based on the Institute of Transportation Engineers (ITE) *Trip Generation Land Use 210 – Single Family Housing*. The expected daily volume is divided by the actual daily traffic volume to calculate the percent of cut through traffic.

The acceptable and not acceptable percentages of cut through traffic are as follows:

TABLE 3.2
Cut Through Traffic

Classification	Acceptable	Not Acceptable
Local Street	0% - 25%	≥ 25%
Collector Street	0% - 50%	≥ 50%

3.2.4 Accidents

Accident problems are considered significant when there are three (3) or more reported accidents, including pedestrian, bicycle and auto accidents, along a residential street or within a neighborhood during a period of twelve (12) consecutive months.

3.2.5 Street Grades and Alignment

Traffic calming are not typically installed on streets with grades exceeding eight (8%) percent, or where a combination of vertical and horizontal alignment would result in inadequate stopping sight distance for motorists encountering traffic calming measures.

3.2.6 Transit, School and Emergency Routes

Traffic calming techniques are not typically installed on streets serving as designated transit routes or primary emergency access routes. School authorities should be consulted in conjunction with proposed traffic calming techniques if a school route is considered.

3.3 RESULTS OF TRAFFIC CALMING ANALYSIS

Utilizing the information gathered from analysis and speed studies, the Traffic Engineer will determine the type of technique to be installed.

Table 3.3 “Recommended Traffic Calming Techniques” is a listing of speed requirements and recommended devices that could be used to address speeding. These techniques are in order from less intrusive to more intrusive. No traffic calming measures will be recommended for any collector or arterial street as shown on the Major Street Plan or any street with a traffic volume of over four thousand (4,000) vehicles per day.

TABLE 3.3
Recommended Traffic Calming Techniques

85th Percentile Speed above posted speed limit	Traffic Calming Technique Recommended
0 – 5 mph	Not recommended
5 – 10 mph	Street narrowing or surface roughing
10 mph and above	Speed table or combination of techniques

Examples of various traffic calming measures are provided in Appendix J of this Manual.

3.4 NEIGHBORHOOD PETITIONS AND COST SHARE

When a proposed technique is approved by the City Engineer, the Traffic Engineer will prepare a petition package to be circulated by the Applicant. The petition will include the name and address of each of the property owners in the affected area as well as the description and detail of the proposed technique. The Applicant can pick up the petition package or arrange to have it mailed.

It is the responsibility of the representative to circulate the petition within the affected area. The petition must be delivered (in a legally acceptable manner) or offered to all property owners in the affected area. A positive response must be obtained by sixty-six (66%) percent or more of the total number of properties in the affected area to proceed further with the traffic calming project design and implementation. The petition must be returned to the Traffic Engineer within three (3) months of receipt of the petition package by Applicant.

At the request of the representative, the City will circulate the petition in the form of mailout postcards. A positive response of sixty-six (66%) percent or more must still be achieved. Those properties that do not submit a response after three (3) attempts by the City will be counted as a negative response.

Any neighborhood that does not meet the traffic calming warrant outlined in this manual may request City Council approval to circulate a petition for installation of a physical device. This petition shall require a positive response of eighty (80%) percent or more for installation of the device to be considered by City Council.

The installation cost of calming techniques may be shared with the City and the neighborhood requesting the technique. If the City's standard materials are used, there will be no cost to the neighborhood. If decorative or non-standard measures are desired, the neighborhood will incur the additional cost for the specialty items.

3.4.1 Standard Materials

The standard technique will be either a rubberized speed hump or City mountable curb surrounding a planted island. Yellow three (3) button delineators will be installed for visibility around the outer perimeter on City standard green U-channel posts.

3.4.2 Standard Landscaping

A standard island may contain drought tolerant landscaping or hardscape. A tree may be positioned in the center as necessary for visibility concerns. Vegetation will be installed as designated by the City Arborist. A water spigot may be included as standard landscaping for maintenance of vegetation. Any necessary property dedication or landscape maintenance agreement shall be completed prior to final project design.

3.4.3 Exceptions – Special Material/Landscaping Requests

Should a neighborhood prefer a more decorative final product, a request of the design preferences shall be made to the Traffic Engineer. The request will be reviewed by the Traffic Engineer and the City Engineer for safety and maintenance issues. If approved, the

neighborhood shall be responsible for any additional costs incurred for all decorative elements. An agreement must be signed between the City and representatives of the subdivision and approved by the City Council. This agreement may also include a maintenance element, if the subdivision elects to maintain the landscaping.

3.5 REVIEW AND ANALYSIS OF APPLIED SOLUTIONS

All installations will be monitored and evaluated by Public Works Department Staff for desired effectiveness. The City will perform a review to evaluate the effectiveness of the applied technique after the residents and motorists have had adequate time to adjust to the change. Evaluation of the project includes resident and motorist reaction, field observation, traffic counts, speed studies, and other data collection as needed. If the project has not met its objectives within the monitoring period, the City Engineer will provide additional information to the City Manager who will inform the City Council.

3.5.1 Removal

Removal will only be considered after one (1) year and after a new petition with sixty-six (66%) percent response for removal is approved by the City Council, or if field conditions have changed which justify removal as recommended by the City Engineer and approved by the City Council.

3.5.2 Re-Evaluation

The re-evaluation of a previously denied request may only be reviewed after a period of one (1) year with the submission of a new application.

3.6 CONSTRUCTION

When a traffic calming project has received the necessary petition support, the City Engineer will schedule design and implementation of the project within budgetary constraints. All designs shall follow ITE or other nationally recommended guidelines, if available. Depending upon the number of traffic calming requests received, a project may be placed on a waiting list and prioritized based on relative need. Certain techniques may be installed for a "test period" while others may be installed in a permanent fashion.

3.6.1 Material Submittal

Specifications are required to be submitted for all decorative elements requested by the Applicant. Installation of requested material is based on the approval of the City Engineer.

3.6.2 Test Requirements

The subdivision/home owners association will be responsible for the costs incurred for all testing services required for non-standard, decorative elements through the neighborhood cost share program.

3.6.3 Inspection

The subdivision/home owners association will be responsible for the costs incurred for all inspection services required for non-standard, decorative elements through the neighborhood cost share program.

3.6.4 Maintenance

Maintenance of traffic calming techniques will be the responsibility of the City, unless a subdivision or home owners association has a written agreement with the City to maintain the area.

APPENDIX I. Traffic Calming Request Form

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City of Auburn

Public Works Department
Traffic Engineering Division
365-B North Donahue Drive
Auburn, AL 36832
334. 501 .3029
Fax: 333.826.5049

Traffic Calming Request Form

The online form can also be found at <http://www.auburnalabama.org/pw/Default.aspx?PageID=824>

Please complete the following information:

Date: _____

Name: _____

Address: _____

Home Phone: _____

Work Phone: _____

Email: _____

Major Issue: (Circle one) Speeding Cut-through Traffic

Please describe the area in your neighborhood where the problem with speeding or cut-through traffic is most evident. List specific streets and intersections.
(Example: Traffic on Street A between Street B and Street C travels at speeds that make it unsafe for residents leaving their driveways.)

(Signature)

If you have any questions, please call Brandy Ezelle, Traffic Engineer, at 334.501.3029, or email bezelle@auburnalabama.org.

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APPENDIX J. Examples of Traffic Calming Measures

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APPENDIX J. Examples of Traffic Calming Measures:

Traffic calming involves two (2) types of devices to influence vehicle operation and driver behavior: 1) Vertical devices, such as speed humps or speed cushions; and 2) Horizontal devices, or street narrowing, such as chicanes, pinch points, traffic circles, and median islands.

J-1 Speed Humps / Speed Tables

Speed humps/cushions are rounded raised areas placed across the roadway. They are generally ten (10) to fourteen (14) feet long, and are three (3) to four (4) inches high. The profile of a speed hump can be circular, parabolic, or sinusoidal. They are often tapered as they reach the curb on each end to allow unimpeded drainage. Speed humps may increase noise due to braking, acceleration and vertical displacement of vehicles.

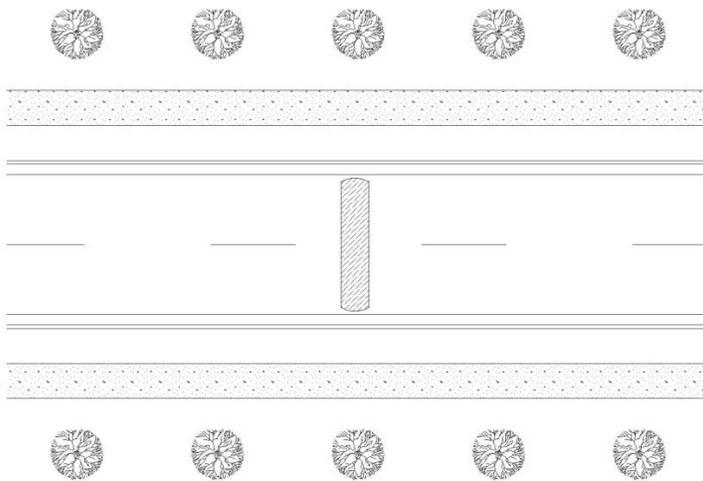


FIGURE 1
Example of a Speed Hump

Speed tables are flat-topped speed humps often constructed with brick or other textured materials on the flat section. Speed tables are typically long enough for the entire wheelbase of a passenger car to rest on the flat section. Their long flat fields give speed tables higher design speeds than Speed Humps. The brick or other textured materials improve the appearance of speed tables, draw attention to them, and may enhance safety and speed-reduction. Speed tables are good for locations where low speeds are desired but a somewhat smooth ride is needed for larger vehicles, or where flat surface is needed to function as a raised crosswalk.

J-2 Textured Pavements / Surface Roughing

Textured pavements, or surface roughing, are a traffic calming measure consisting of a change in typical roadway surface material with the use of brick, concrete pavers, stamped asphalt/concrete, or rumble strips. This treatment can be used on the entire footprint of an intersection or on individual raised or at-grade crosswalks. A textured treatment has the effect of increasing driver awareness to the idea that vehicles share the

space pedestrians and bicyclists. Textured pavements are also associated with reduced travel speeds. This type of traffic calming measure is useful in areas where the loss of on-street parking would be unacceptable.

J-3 Pinch Points

Pinch points are curb extensions at intersections or in mid-block areas that reduce the roadway width from curb to curb. They create a pedestrian-friendly environment by shortening crossing distances for pedestrians. When applied at intersections, they also tighten the curb radii at the corners, reducing the speeds of turning vehicles.

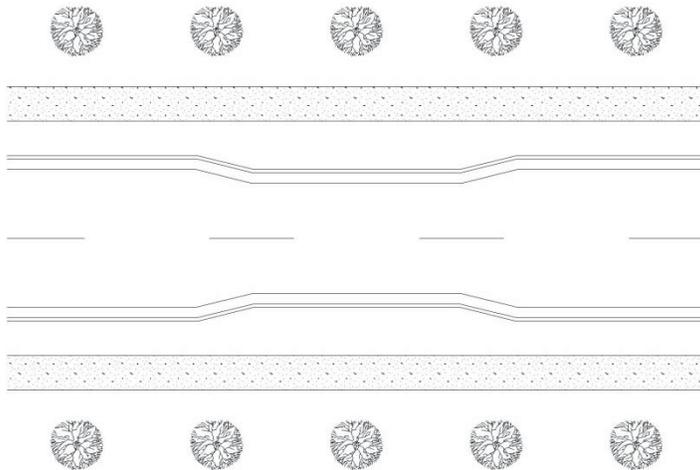


FIGURE 2
Example of a Pinch Point

J-4 Chicanes

Chicanes are mid-block curb extensions that alternate from one side of the street to the other, forming S-shaped curves. Chicanes can also be created by alternating on-street parking, either diagonal or parallel, between one side of the street and the other. Each parking bay can be created either by restriping the roadway or by installing raised, landscaping islands at the ends of each parking bay. This technique is also suitable for use with pairs off-set T-intersections.

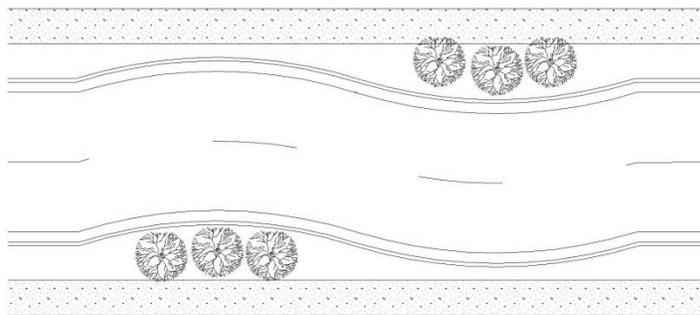


FIGURE 3
Example of a Chicane

J-5 Traffic Circles

Traffic circles are raised islands, placed in intersections, around which traffic circulates. Traffic circles, or mini-roundabouts, reduce the number of conflict points in an intersection and physically reduce speeds.

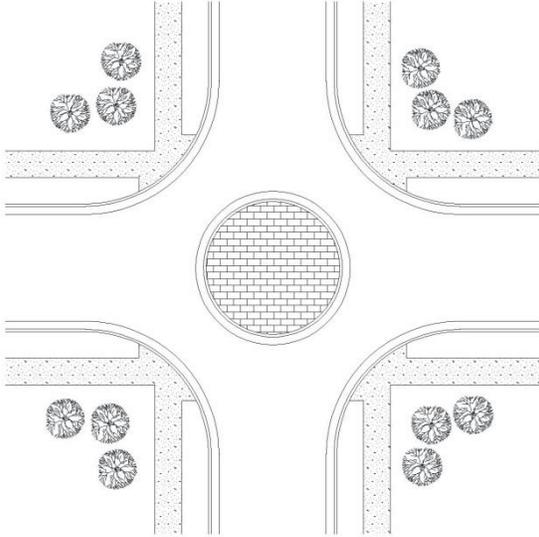


FIGURE 4
Example of a Traffic Circle

J-6 Median Islands

A median island is a raised barrier located along the centerline of a street that narrows the travel lanes at that location. When placed at the entrance to a neighborhood, it can provide positive indication that a driver is entering a residential area. If designed well, median islands can have positive aesthetic value, providing a landscaping opportunity.

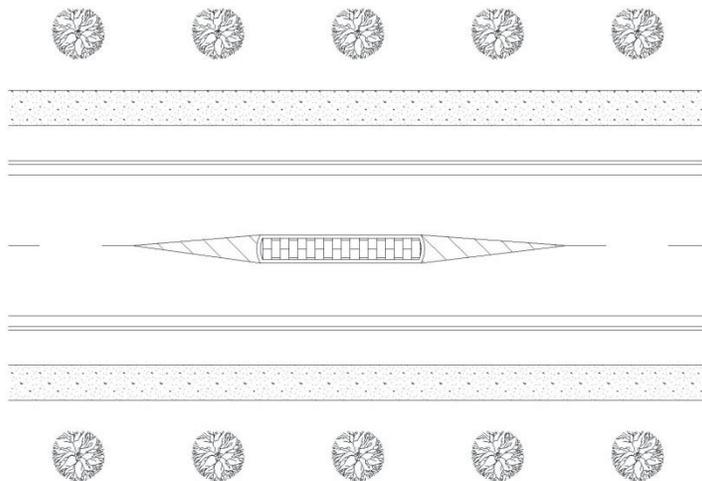


FIGURE 5
Example of a Median Island

J-7 Cut Through Closures

Partial or full road closures are often used to address the issue of cut through traffic. Full street closures can include landscaped islands, walls, gates, or bollards or any other type obstruction constructed in existing roadways to prevent the passage of vehicles. Barriers can also be constructed diagonally across an intersection to divert traffic and prohibit the through movement across the intersection.

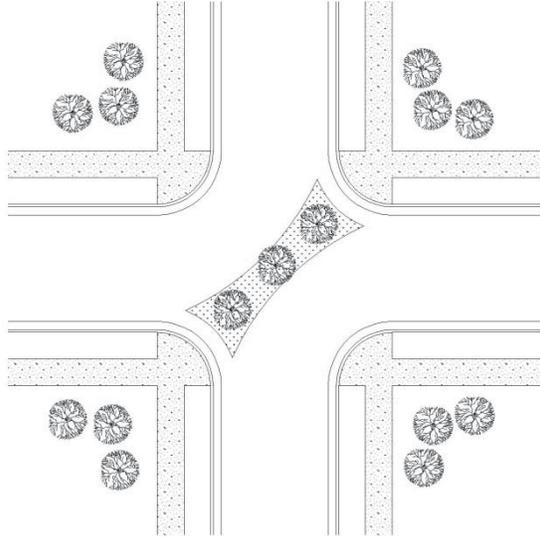


FIGURE 6
Example of a Full Road Closure

Partial or half closures are barriers that restrict traffic to one-way travel for a distance approaching or departing an intersection.

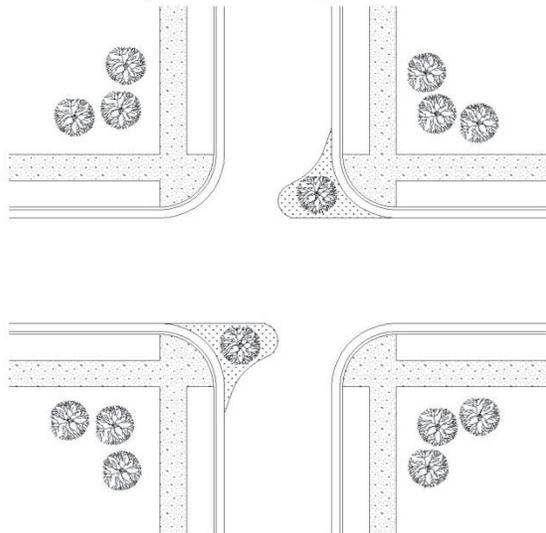


FIGURE 7
Example of a Partial Road Closure