

**A RESOLUTION ADOPTING A REVISED
RESIDENTIAL TRAFFIC MANAGEMENT PLAN
Resolution No. 188/2004-05**

WHEREAS, the Carrboro Board of Aldermen seeks to provide ample opportunities for the public to consider modifications to existing policies; and

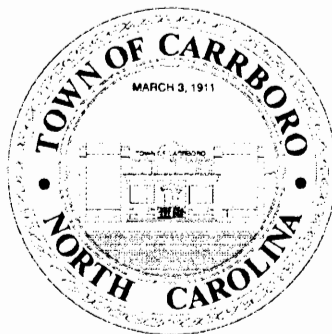
WHEREAS, the Transportation Advisory Board and the Board of Aldermen have recommended changes to the Residential Traffic Management Plan; and

WHEREAS, Town staff have revised the Residential Traffic Management Plan and incorporated changes recommended by the TAB and Board of Aldermen; and

WHEREAS, the Board of Aldermen have held a public hearing on the revised Residential Traffic Management Plan.

NOW, THEREFORE BE IT RESOLVED that the Board of Aldermen adopt the revised Residential Traffic Management Plan.

TOWN OF CARRBORO



**RESIDENTIAL TRAFFIC MANAGEMENT PLAN
FOR
SPEED AND TRAFFIC CONTROL**

**ADOPTED BY:
CARRBORO BOARD OF ALDERMEN, JUNE 1996
REVISED: MAY 6, 1997; JUNE 28, 2005**

INTRODUCTION

Many residents approach the town with concerns about speeding in neighborhoods. The Residential Traffic Management Plan represents a commitment by the Town of Carrboro to promote the safety and livability of residential neighborhoods. The Residential Traffic Management Plan provides a process for identifying and addressing existing problems related to speeding, excessive volumes, and safety on town-maintained residential streets. Based on this policy, proper actions can be taken depending on the severity of the problem.

PROCESS AND REQUIREMENTS

This section describes the process and requirements of the Carrboro Residential Traffic Management Plan.

STEP 1 — Report the Problem

If a resident believes there is a speeding or traffic problem on a residential street, the first step is to report the problem to the Town of Carrboro Planning Department staff at 918-7324 or plandept@townofcarrboro.org.

Town staff will note the concern and provide a Traffic Calming Request Form. This form is available in Attachment A. When the form is submitted, town staff will evaluate the complaint to determine the nature of the problem, and make sure that the location meets the first traffic calming criteria: the street must be a town-maintained, residential street.

The town will not implement traffic calming measures, or conduct traffic calming studies on arterial streets or on streets that are privately maintained. Staff can work with you to identify other actions if your street is not a town-maintained, residential street.

STEP 2 — Neighborhood Consensus

After the initial report, town staff will request a petition from residents in the neighborhood to verify that there is a widespread concern for the speeding or traffic issue. The petition form is available in Attachment B.

Town staff will identify an “area of influence” in the neighborhood. The area of influence includes properties abutting the street and properties on intersecting streets within a reasonable distance of the problem street. The Planning Department will provide a map and addresses for the area of influence.

The petition must be signed by at least 75 percent (based on road frontage) of the owners or residents of properties within the “area of influence.” Each property is entitled to one signature. Valid signatures include those from (1) a property owner or spouse, (2) an adult head of household, or (3) an adult renting the property.

After the petition is received it will be reviewed by town staff. Town staff will request that the neighborhood designate someone to serve as the primary contact person between the town and the neighborhood.

STEP 3 — Data Collection

After verifying the validity of a petition, town staff will collect traffic volume and speed data over a two-day period and evaluate other traffic conditions on the street, using the following criteria:

Traffic Calming Criteria

Criteria	Application	Points
<i>Traffic Volume</i>	<i>Criteria</i> – 5 points for every 20 % of volume that exceeds the expected number of vehicles per day (vpd) on the street, based on the function of the street (75 vpd for minor streets, 200 vpd for local streets, and 800 vpd for subcollector and collector streets).	
<i>85th Percentile Speed</i>	<i>Criteria</i> – 2 points for every mph that the 85 th percentile speed exceeds the posted speed limit	
<i>Pedestrian Volume</i>	<i>Criteria</i> – 1 point for every 10 pedestrians if the street has a sidewalk, 5 points per 10 pedestrians if no sidewalk. Counts are made in either the peak traffic hour or the hour when students are traveling to or from school	
<i>Bicycle Volume</i>	<i>Criteria</i> – 1 point for every 10 cyclists if the street has bike lanes, 3 points per 10 cyclists if no bike lanes. Counts are made in either the peak traffic hour or the hour when students are traveling to or from school	
<i>Bus Stops</i>	<i>Criteria</i> – 1 point for each transit stop and 2 points for each school bus stop on the street	
<i>Proximity to Pedestrian Generator (Retail and Parks)</i>	<i>Criteria</i> – 5 points if within 0-0.2 miles; 3 points if within 0.21 and 0.4 miles; 1 point if within 0.41 and 0.6 miles.	

Additional Consideration: In some situations the residents' concern is for a few drivers greatly exceeding the speed limit. In this case, town staff would also review the 95th percentile speed on the street.

STEP 4 — Town Staff Review

The street will be scored based on the criteria. Using this score and reviewing additional considerations, town staff will recommend whether the street is eligible for Stage 1 Traffic Calming alone or both Stage 1 and Stage 2 Traffic Calming.

In general, streets that receive up to 25 points are eligible for Stage 1 Traffic Calming only. Streets that receive a combined total of at least 12 points in the “Traffic Volume” and “85th Percentile Speed” criteria and more than 25 points total will be eligible for both Stage 1 and Stage 2 Traffic Calming.

For streets eligible for both Stage 1 and Stage 2 traffic calming, town staff may recommend that Stage 1 traffic calming measures be implemented prior to implementing Stage 2 measures. Once Stage 1 Traffic Calming measures are implemented, town staff will wait approximately three to six months and collect traffic speed and volume data and evaluate other traffic conditions on the street. The data would then be analyzed using the Traffic Calming Criteria to determine if the Stage 1 Traffic Calming measures were successful. If the measures were successful, then the traffic calming process will end at this point. Otherwise, town staff will move on to analyze and recommend possible Stage 2 Traffic Calming methods.

Stage 1 Traffic Calming

Stage 1 Traffic Calming does not involve the use of physical controls or impediments on the roadway system. These are primarily education and enforcement measures. These include:

Neighborhood Awareness Campaigns and Education. Many people drive too fast in their own neighborhoods. “Speeders” are not always bad guys from somewhere else – many are neighbors and friends, responsible people who want safe, peaceful neighborhoods. Several creative methods of reducing traffic problems in neighborhoods can be undertaken by residents to remind their neighbors to pay attention to driving habits:

- Write letters to local newspapers or publish articles in neighborhood newsletters.
- Hold a “slow down” block party to get people to think about their driving habits.
- Walk the neighborhood with door hangers and talk to neighbors about neighborhood traffic safety.

Radar Speed Trailer Deployment. This is a temporary device that is primarily used to remind motorists that they may be exceeding the posted speed limit. The trailer uses radar to monitor speeds and a reader board to show drivers how fast they are going but does not photograph vehicles. The use of trailers is contingent on availability.

Traffic Enforcement Actions. This is traditional enforcement activity on the part of Police Department’s traffic enforcement officers. The intent is to modify behavior to result in a safer situation for all drivers and neighbors.

Traffic Signs and Pavement Marking. Town staff will review the traffic signing and pavement markings in the area. If necessary, staff will modify or add traffic signing and pavement markings.

Alternative Transportation Modes. One of the goals of the Town of Carrboro is to promote and provide alternative transportation modes (public transit, walking, and bicycling). Traffic on the project street may decrease if people decide to use these other transportation choices instead of driving.

Stage 2 Traffic Calming

Stage 2 traffic calming methods involve physical modifications of the street intended to control traffic speeds. Possible Stage 2 modifications might include the following:

- Bulbouts / Curb Extensions
- Center island medians
- Chicanes
- Landscape treatments
- Mid-block chokers
- Neighborhood traffic circles
- Pedestrian refuge islands
- Raised crosswalks
- Realigned intersections
- Roundabouts
- Speed humps
- Speed tables

Town staff members are available to discuss traffic calming measures with residents. In addition, several publications and web sites provide definitions, descriptions, costs, and design guidelines for traffic calming measures. Residents who are interested in learning more about traffic calming on their own may make use of resources on the internet. For example, the web site for the Institute of Transportation Engineers (ITE) contains excellent information and several links concerning traffic calming at: <http://www.ite.org/traffic/index.html>

The following criteria apply to Stage 2 traffic calming measures:

1. The construction and installation of some traffic calming devices may be expensive. The least costly form of traffic calming should be considered as the primary modification in any specific case. When expensive devices are approved, the neighborhood may need to wait an extended time for installation. Once the actual date of installation is determined, the primary contact person will be notified in writing.
2. The design of traffic calming devices will follow recommended Institute of Transportation Engineers (ITE) or other national recommended guidelines, if available.

3. Streets that have traffic calming devices installed may be excluded from the Snow Removal Plan and street cleaning activities, depending on the type of device installed. Note that devices currently in use in Carrboro would not exclude a street from the Snow Removal Plan.
4. Emergency vehicle access within and through neighborhoods will be carefully considered in the evaluation process and selection of traffic calming devices. Certain traffic calming devices may result in increased emergency response times on some streets and these impacts should be carefully considered.
5. Once installed, traffic calming devices will stay in place for a minimum of three years unless residents pay the full cost of removal. However, at any time following construction completion, if it is determined that traffic calming measures should be removed for public health and safety reasons, the Board of Aldermen will be requested to authorize the removal of one or more traffic calming measures, upon notification of the neighborhood representatives. If the town has no concerns with the project but the neighborhood itself decides that the traffic calming measures should be removed or significantly altered, a petition must be signed by at least 75 percent of the owners or residents of properties within the “area of influence.” The Board of Aldermen will review petitions requesting removal or significant alteration and will be provided a staff analysis and Transportation Advisory Board (TAB) recommendation.

STEP 5 — Staff Recommendation, TAB Review, and Board of Aldermen Approval

Town staff will develop a recommendation of actions to be taken. This recommendation will be forwarded to the primary contact person of the neighborhood. The following information will be included, as appropriate:

- Information on upcoming Transportation Advisory Board (TAB) and Board of Aldermen meetings at which the staff recommendation will be discussed.
- A discussion of proposed Stage 1 education and enforcement measures.
- For Stage 2 traffic calming, the number, location, and dimensions of proposed traffic calming devices, displayed on a map of the neighborhood.
- A photograph of proposed traffic calming devices and directions to a nearby street with a similar device, if applicable.
- Information about the traffic calming device’s effects on speeds and traffic volumes.

The staff recommendation will be reviewed by the TAB, which will make a recommendation to the Board of Alderman.

The Board of Alderman makes the final decision concerning actions to be taken. The Board will review the residents’ petition, the staff analysis and recommendation, the TAB recommendation, and public comments. The Board may choose to hold a public hearing on the recommendation.

STEP 6 — Follow-up Evaluation

Following the implementation of traffic calming measures, a follow-up evaluation should be performed to ensure that the measures are effective. Town staff will wait approximately three to six months and collect traffic speed and volume data and evaluate other traffic conditions on the street.

Attachment A -- Traffic Calming Request Form

This form is used to report a speeding or traffic problem on a residential street. When this form is submitted, town staff will evaluate the complaint to determine the nature of the problem, and make sure that the location is a town-maintained, residential street. After the initial report, town staff will explain how residents may put together a petition to verify that there is a widespread concern for the speeding or traffic issue.

1. Contact Information

Name (please print): _____
Address, City, and Zip: _____
Phone Number: _____
Email: _____

2. Please describe the location of the traffic concern. Attach a map or picture if necessary: _____

3. Please describe the nature of the neighborhood traffic problem you are concerned with (attach additional sheets if necessary): _____

4. Please list possible solutions to the problem that you would like the Town of Carrboro to consider: _____

Please fill out this form and return to:

Town of Carrboro
Planning Department
301 W. Main Street
Carrboro, NC 27510
FAX: (919) 918-4454

Attachment B – Neighborhood Petition Form (Page 1)

Please fill out this form and return with attached sheets to:

Town of Carrboro
Planning Department
301 W. Main Street
Carrboro, NC 27510
FAX: (919) 918-4454

THE UNDERSIGNED AGREE TO THE FOLLOWING:

- 1. All persons signing this petition do hereby certify that they own property or reside within the following area:

- 2. All persons signing this petition do hereby agree to the following problem in the defined area:

- 3. All persons signing this petition do hereby agree that the following contact person(s) represents the neighborhood in matters pertaining to items 1 and 2 above:

Name of key contact person # 1 (please print): _____

Address, City, and Zip Code: _____

Telephone (day): _____ Fax: _____ E-mail: _____

Name of key contact person # 2 (please print): _____

Address, City, and Zip Code: _____

Telephone (day): _____ Fax: _____ E-mail: _____

Please attach additional pages if necessary to discuss the request.

Date Submitted: _____

TOWN OF CARRBORO



RESIDENTIAL TRAFFIC MANAGEMENT PLAN FOR SPEED AND TRAFFIC CONTROL

ADOPTED BY:
CARRBORO BOARD OF ALDERMEN, JUNE 1996

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PETITION: TRAFFIC CONTROL DEVICES

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INTRODUCTION

Many residents approach the town with concerns over speeding in neighborhoods. The Residential Traffic Management Plan represents a commitment by the Town of Carrboro to promote the safety and livability of residential neighborhoods. The Residential Traffic Management Plan provides a process for identifying and addressing existing problems related to speeding, excessive volumes, and safety on town-maintained residential streets. Based on this policy, proper actions can be taken depending on the severity of the problem. This document also includes traffic control devices. Some of the devices may already be in use and other devices may be new. Both advantages and disadvantages of each device will be included.

PROCESS

The following is the process that must be completed when petitioning for traffic calming devices. This process is available only to citizens who live within the municipality of Carrboro, and who reside on town-maintained, residential streets. See the appendix for the petition.

- **Petition:** A “Petition To Request Traffic Control Devices” available from the town must be submitted with the signatures of the petitioners. A brief description of the traffic control device and the street desired to be amended is required in the petition as well. The petition must be submitted to the Planning Department. The petition must be signed by at least 75% of the property owners or residents of properties located on the project street. The petitioners are allowed to present no more than three (3) traffic calming devices as alternatives for use along their street. The completed form must be hand-delivered or mailed to:

**PLANNING DEPARTMENT
TOWN OF CARRBORO
301 WEST MAIN STREET
CARRBORO, NC 27510**

- **Planning Staff Recommendation:** After receiving and verifying the validity of the petition, a two-day traffic count to monitor traffic volume and traffic speeds will be done by the Planning Department. After which, the data received and the site in question will be analyzed and a recommendation as to the appropriate action to be taken will be forwarded to the representative of the neighborhood in concern. The recommendation will then be sent to the Transportation Advisory Board (TAB).
- **TAB:** The TAB will make recommendations to the Board of Alderman.
- **Board of Alderman:** The Board of Alderman reserves the final decision concerning actions to be taken. The Board will review the residents’ petition, the staff’s analysis, and TAB recommendation. The Board reserves the right to hold a public hearing as necessary if the proposed solution is deemed questionable by the residents.
- The construction and installation of some traffic calming devices may be expensive. The least costly form of traffic calming should be considered as the primary means of discouraging traffic in any specific case. When expensive devices are approved, the

petitioners that qualify may need to wait an extended time for installation. Once the actual date of installation is determined, the neighborhood representative will be contacted in writing.

- Removal of a traffic control device: Unless the TAB initiates a general request to the Board of Aldermen, the traffic calming device will stay in place for a minimum of three years. Removal before the three-year period must necessarily be at the cost to the residents. Unless the device is determined detrimental to the health and safety of the town's citizens by the affected residents and the town's emergency service staff, the process for petition for removal will be the same as the installation of the device. A petition with 75% of the street's occupants' signatures of removal must be done to remove traffic calming devices. Traffic calming devices must be ineffective in reducing average speeds in accordance with posted speed limits and/or vehicle volumes. The 85th percentile speeds must be less than 2 MPH lower than those speeds demonstrated prior to the installation of the devices in order to be considered ineffective. A staff analysis, followed by a TAB recommendation will be forwarded to the Board during a public meeting, and if necessary, for a public hearing.
- Streets that have traffic control devices installed may be excluded from the Snow Removal Plan and street cleaning activities, **depending on the type of device installed.** [PLEASE NOTE: Current devices, as listed, **would not** exclude a street from the Snow Removal Plan.]

EVALUATION CRITERIA FOR STREETS

- The street must operate as a town-maintained residential street.
- The posted speed limit on the affected length of the street must be 25 miles per hour which is the standard speed limit for residential streets.
- The 85th percentile vehicle speeds must exceed 35 MPH (+10 MPH over posted speed limit).
- Actual volume of traffic will be based on traffic counts conducted by Carrboro Planning and Public Works staffs (as recorded through staffs' administrative process).
- Guidelines reviewed by staff as received from the Institute of Transportation Engineers (ITE) that is appropriate for town streets.

LIST OF TRAFFIC CONTROL DEVICES

A comprehensive evaluation of twenty-five (25) traffic control devices has been included in this document (see appendix). A brief definition of each device is given. Also, a chart showing the advantages, disadvantages, and cost of each traffic control device is provided in the appendix.

APPENDIX

LIST OF TRAFFIC CONTROL DEVICES

CHICANES	PORTABLE RADAR	TRAFFIC SIGNAL TIMING
CHOKERS/FAYETTEVILLE	NARROW STREET	SPEED TABLES
CHOKERS	DESIGN	
ENFORCEMENT	NO-TURN ON RED	SPEED WATCH
FORCED TURN	ON-STREET PARKING	STREET CLOSURE
CHANNELIZATION		
LOWERED STATUTORY	ONE-WAY DESIGNATION	TRUCK RESTRICTIONS
MEDIANS	PROTECTED PARKING	TURN RESTRICTIONS
MULTI-WAY STOPS	PUBLIC INFORMATION	UNDULATIONS
NO PARKING	RUMBLE STRIPS	TRAFFIC CIRCLES
PAVEMENT MARKINGS		

DEFINITION OF TRAFFIC CONTROL DEVICES

CHICANES are a form of curb extension which alternate from one side of the street to the other.

CHOKERS/FAYETTEVILLE CHOKERS involve reconstructing streets to narrow its lanes e.g. narrowing the street to a single lane to discourage traffic. Fayetteville chokers also slow traffic.

ENFORCEMENT involves two levels: 1) the standard level of enforcement, as presently provided by the Police Department, upon request by a citizen or neighborhood, and is dependent upon availability of resources; and 2) the extra enforcement level would target neighborhoods where speeding has been identified as a high level problem and would be an on-going process without citizen request (e.g. a specified number of policemen per neighborhood).

FORCED TURN CHANNELIZATION is installed in the form of a traffic island and prevents traffic from executing specific movements at an intersection.

LOWERED SPEED LIMITS such as a 25 MPH city-wide municipal speed limit.

MEDIANS can limit access from a thoroughfare into a neighborhood by controlling through traffic and reducing the number of speeders.

MULTI-WAY STOPS require a stop sign on all street corners where the streets intersect.

NARROW STREET DESIGN involves narrow street widths and tighter vertical and horizontal curves, which forces driver to drive at a slower speed. Posted speed limits should be less than 35 MPH. Existing neighborhood problems would not be addressed under this strategy since street design is the major component of this strategy.

NO-TURN ON RED involves placing "No-Turn On Red" signs at signalized entrances to neighborhoods.

NO PARKING may allow improved movement on otherwise congested residential streets.

ONE-WAY DESIGNATION involves designating a current two-way street as a one-way street.

ON-STREET PARKING requires on-street parking and may be effective because it forces motorist to slow down and to divert to other routes.

PAVEMENT MARKINGS such as 25 MPH marked horizontally on a road serves as a speed limit reminder.

PORTABLE RADAR could be placed on the road side, left unattended, and will alert motorists when they are speeding.

PROTECTED PARKING provides a landscaped island projecting out from the curb; the island creates protected parking bays.

PUBLIC INFORMATION through a continuous campaign would attack the problem of speeding by changing drivers' attitudes and habits.

RUMBLE STRIPS are ridges either cut in the pavement or laid over top of existing pavement to alert driver to slow down when driven over.

SPEED TABLES are flattened and extended long enough for both the front and rear wheels of a car to be on top of the table at once and can be comfortably crossed at 15 to 25 MPH.

SPEED WATCH is a program similar to the Neighborhood Crime Watch Program. The program helps organize neighborhoods to develop peer pressure programs to address speeding issues. One element involves neighbors reporting speeders to the police, and notifying the vehicle owner of the violation. Signs can be posted on the streets to warn motorists.

STREET CLOSURE involves closing streets to through traffic.

TRAFFIC CIRCLES are islands placed in the middle of intersections which forces the flow of traffic to form a circular pattern which a motorist would follow until exiting onto his/her desired street.

TRAFFIC SIGNAL TIMING limits the green light time motorists have to exit/enter a neighborhood, therefore reducing traffic.

TRUCK RESTRICTIONS restrict large trucks from using neighborhood streets.

TURN RESTRICTIONS do not allow turning and limits access to a neighborhood.

UNDULATIONS are designed so most vehicles can go over them at 20 mph without causing driver discomfort.

TRAFFIC CONTROL DEVICES

SPEED CONTROL DEVICES	ADVANTAGES	DISADVANTAGES	ASSOCIATED COST
STOP SIGNS	<p>Perceived effective by residents</p> <p>May allow traffic in the immediate vicinity of the stop sign.</p> <p>May reduce through traffic if travel time is increased significantly.</p>	<p>Noise level increases for residents near the stop sign</p> <p>May divert traffic to other streets</p> <p>Effects speed in the immediate vicinity of the sign, but not between intersections.</p>	\$50 - \$70 each
SPEED LIMIT SIGNS	<p>Perceived effective by residents</p>	<p>May not reduce speeding</p> <p>Increases enforcement requirements</p>	\$50 - \$70 each
TURN RESTRICTIONS	<p>Effective in reducing the number of speeding motorists by reducing through volumes.</p> <p>Can improve safety by eliminating turn movement.</p>	<p>Reduces access to or from a neighborhood for residents</p> <p>Can divert turning traffic to intersections considered less safe.</p> <p>Increases enforcement requirements</p>	\$50 - \$70 each
ONE-WAY STREET DESIGNATIONS	<p>Can be used to make travel through a neighborhood difficult thus reducing through traffic.</p>	<p>Residential street may be unsuitable for one-way operation</p> <p>Speeds may be higher on one-way streets</p> <p>Requires an increase in signage to make effective</p>	\$50 - \$70 each
TRAFFIC SIGNAL TIMING	<p>Can encourage traffic to use the main street</p> <p>Green signal time for streets exiting a neighborhood can be controlled to limit through traffic and reduce the volume of speeding motorists</p>	<p>Residents complaining about limited green signal time</p> <p>Motorists may violate red signals if they feel the controller is not working properly</p>	\$20,000 - \$30,000
NO-TURN ON RED RESTRICTIONS	<p>Can be used in conjunction with traffic signal control</p> <p>Can reduce through traffic by limiting the amount of time motorists can enter or exit a neighborhood.</p>	<p>Limits access to and from neighborhoods</p>	\$50 - \$70 each (Cost may vary if installed in conjunction with traffic signalization.)
TRUCK RESTRICTIONS	<p>Perceived to be effective in reducing truck traffic on residential streets</p>	<p>Difficult to enforce</p>	\$50 - \$70 each

SPEED CONTROL DEVICES	ADVANTAGES	DISADVANTAGES	ASSOCIATED COST
ON- STREET PARKING	Can return a "residential" character to roadway, alerting motorists that they should travel slower.	Children crossing or running into street may not be seen due to parked cars.	\$50 - \$70 each
LOWER STATUTORY SPEED LIMIT	May be adhered to better than lower speed limits in individual neighborhoods	Requires legislature approval	\$50 - \$70 each
CHOKERS/FAYETTEVILLE CHOKERS	Can reduce traffic volume under some situations Several installations are needed to be effective over a length of roadway. Improve pedestrian safety if crossings are made at the location of choker.	Fayetteville Chokers designed to have an impact on speed. Various forms of chokers may have little impact on speed.	\$7,000 - \$10,000 (Fayetteville Chokers can cost within a range of \$3,475 to \$4,600 per set.)
MEDIAN BARRIER	Aids flow of traffic on thoroughfares. Restricts through traffic and thus the volume of speeding traffic	May direct traffic to other residential streets May require street widening to install Depends on function or classification of streets	\$10,000 - \$20,000
TRAFFIC CIRCLES	May reduce speeds in vicinity of the traffic circle	Increased hazard to pedestrians and bicyclists by moving vehicle closure to intersection corners Present an obstacle to motorists Require parking restrictions, centerline marking, and traffic control signing to be safe Cannot be built within most residential street intersections due to minimum size requirements Requires lots of signage	\$5,000 - \$30,000 Cost sensitive to intersection characteristics, design radius, etc.
ENFORCEMENT	Frequent , very visible enforcement can be effective.	Redirects police officer efforts away from crime and drug enforcement Court system treats speeding as a minor offense and assigns a low priority to prosecuting speeders	No specific costs can be provided.

SPEED CONTROL DEVICES	ADVANTAGES	DISADVANTAGES	ASSOCIATED COST
TRAFFIC DIVERTERS	<p>Can reduce through traffic and ce thus reduce the volume of speeding traffic</p> <p>Can be constructed within the area of most residential inter-sections</p>	<p>Barrier system may need augmenting on private property to control motorists who would drive around the diverter</p> <p>Some diverters require enforcement to be effective</p>	\$7,000 - \$40,000
RUMBLE STRIPES AND ROUGH PAVEMENT SUCH AS COBBLESTONE	<p>May have some effect on slowing the faster drivers</p> <p>Causes driver to become more alert and/or slow down</p>	Creates noise that may be objectionable to nearby residents	N/A
CUL-DE-SACS AND STREET CLOSURES	Eliminates through traffic and thus speeding traffic	<p>Can divide a neighborhood into separate pockets</p> <p>Unpopular solution to some residents and most non-residents using the street</p> <p>Should not be installed on streets l longer than 500 ft long meaning there should be about 20 houses on a street generating 200 trips per day.</p>	(Cost varies depending upon street width and radius design. The minimum costs would be no less than \$30,000.)
LOWER DESIGN SPEED FOR RESIDENTIAL STREETS	Can effect speed since motorists tend to drive at conditions they feel are safe	<p>Requires lower statutory speed limit which requires legislative approval</p> <p>Can create a less safe street if horizontal curves, vertical profiles, and other geometric controls are not closely controlled</p>	\$50 - \$70 each
SPEED WATCH PROGRAM	Involves neighborhoods in applying peer pressure upon residents to obey speed limits	<p>Cost of city personnel to collect radar speed information on a routine basis</p> <p>Not effective on street or in neighborhoods with any significant amount of through traffic</p> <p>Application of peer pressure can make residents hostile</p> <p>Access to the Police Information Network may be restricted</p>	N/A
PUBLIC INFORMATION PROGRAMS	<p>Re-educate the public to the dangers of speeding on residential streets.</p> <p>Can seek cooperation among residents to observe speed limits everywhere.</p>	Costs depends on how information is disseminated	N/A

SPEED CONTROL DEVICES	ADVANTAGES	DISADVANTAGES	ASSOCIATED COST
NARROW STREET DESIGN	Forces drivers to slow down	Can only be implemented for new streets	Design specific
CHICANES	<p>Long term effective means of reducing speeds according to study by Seattle Transportation Division in 1988</p> <p>Do not block emergency vehicle access</p>	<p>Drivers are more likely to violate chicanes at intersections with low traffic volumes.</p> <p>To be recognized, the device requires signs, painted curbs, landscaping, reflectors and street lights..</p>	\$4,000 per bulb.

PLEASE NOTE: ASSOCIATED COSTS FOR TRAFFIC CALMING DEVICES MAY VARY BETWEEN GEOGRAPHIC REGIONS OF THE UNITED STATES DUE TO LABOR COST, MATERIAL, AND SITE SPECIFIC CONSTRAINTS.

CERTIFICATE AS TO
SUFFICIENCY OF PETITION
FOR TRAFFIC CONTROL DEVICE

TO THE MAYOR AND THE BOARD OF ALDERMEN OF THE TOWN OF CARRBORO:

I, _____, TOWN CLERK OF THE TOWN OF CARRBORO, NORTH CAROLINA, DO HEREBY CERTIFY THAT THE ATTACHED "PETITION: TRAFFIC CONTROL DEVICES" WAS PRESENTED TO ME ON THE _____ DAY OF _____, 19____; THAT I HAVE INVESTIGATED THE SUFFICIENCY OF THE PETITION; AND THAT THE RESULTS OF MY INVESTIGATION IS AS FOLLOWS:

THE TOTAL NUMBER OF PROPERTIES DIRECTLY AFFECTED BY THE REQUESTED CHANGE IS _____.

WITH RESPECT TO THE SIGNATURES ON THE ATTACHED PETITION, _____ SIGNATURES ARE THOSE OF RESIDENTS OF THE AFFECTED AREA WHICH IS 75% OF THE RESIDENTS ON THE PROJECT STREET.

THIS THE _____ DAY OF _____, 19_____.

Town Clerk's Signature (Seal)

THIS FORM MUST BE ATTACHED TO THE "PETITION: TRAFFIC CONTROL DEVICES" AFTER ALL PETITIONERS' SIGNATURES HAVE BEEN OBTAINED.

ACKNOWLEDGMENT:

INFORMATION CONTAINED HEREIN WAS RESEARCHED, ANALYZED, AND COMPILED BY KIMBERLY SLEDGE. MS. SLEDGE WAS A GRADUATE STUDENT IN THE DEPARTMENT OF CITY AND REGIONAL PLANNING AT THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL. MS. SLEDGE SERVED AS AN INTERN IN THE PLANNING DEPARTMENT FROM SEPTEMBER 1995 THROUGH JUNE 1996 UNDER THE SUPERVISION OF THE TOWN'S TRANSPORTATION PLANNER, KENNETH WITHROW.

Transportation Advisory Board Recommended Updates to the Residential Traffic Management Plan

Response to Citizen Complaint

The TAB recommends that the following procedural change for responding to citizen complaints regarding speed limit violations in their neighborhood.

As in current ordinance, upon receipt of a request for neighborhood street traffic calming signed by 75% of property owners or residents on the project street, town staff shall initiate response. That response shall include:

1. Notifying the police department to request stepped up enforcement in the neighborhood.
2. Town Staff shall evaluate traffic conditions on the street, using the criteria developed by the TAB (see next page).
3. The TAB and Staff will review evaluation results and also take into consideration other special circumstances, and classify the need as a Low, Medium, or High priority need.
4. The TAB will then make specific recommendations to the Board of Alderman, based on that classification
 - a. **Low Priority:** eligible for enforcement and neighborhood education programs
 - b. **Medium/High Priority:** – eligible for a range of traffic calming measures, including engineering improvements to the street.
5. A street with Medium/High Priority will be reviewed by the TAB and the Town to determine the appropriate courses of action.

Proposed Traffic Calming Criteria

Criteria	Application	Points
<i>Traffic Volume</i>	<i>Criteria – 5 points for every 20 % of volume that exceeds expected volume</i>	
<i>85th Percentile Speed</i>	<i>Criteria – 2 points for every mph that the 85th percentile speed exceeds the posted speed limit</i>	
<i>Pedestrian Volume</i>	<i>Criteria – 1 point for every 10 pedestrians if street has sidewalk, 5 points per 10 pedestrians if no sidewalk. Count made in either the peak traffic hour or the hour when students are traveling to or from school</i>	
<i>Bicycle Volume</i>	<i>Criteria – 1 point for every 10 cyclists if street has bike lanes, 3 points per 10 cyclists if no bike lanes. Count made in either the peak traffic hour or the hour when students are traveling to or from school</i>	
<i>Bus Stops</i>	<i>Criteria – 1 point for each transit stop and 2 points for each school bus stop on the street</i>	
<i>Proximity to Pedestrian Generator (Retail and Parks)</i>	<i>Criteria – 5 points if within 0-0.2 miles; 3 points if within 0.21 and 0.4 miles; 1 point if within 0.41 and 0.6 miles.</i>	
	Total	

Traffic Calming Educational Program

The TAB recommends that the Town Staff and Police Department, in consultation with the TAB, develop a town wide traffic calming educational program. Some of the ideas the TAB considered are:

1. The education program should include the development of a brochure concerning speed reduction for police to distribute at public events, or during routine traffic stops.
2. The education program should include an effort to reach the public wherever possible through town agencies, homeowners associations, insurance agents, civic bodies, and other private entities.
3. The education program should take advantage of radio, television, print, and other media, if possible.
4. When appropriate, there should be a targeted education program when a neighborhood notifies the town of speeding problems.

The Board of Aldermen should pursue these ideas with staff.

Speed Reduction on Neighborhood Streets Town Wide

The TAB has found some evidence that reducing neighborhood traffic speeds to 20 miles per hour could be an effective means to reduce overall traffic speed. We have also found conflicting evidence, indicating that the net effect of this reduction could be negligible. The Police department has given us a similarly mixed response to this proposal.

The TAB recognizes that a town wide policy change of this magnitude demands rigorous scrutiny and understanding from the public.

We therefore make no recommendation for or against this proposal. We instead recommend that the TAB and Board of Alderman re-consider this proposal after consultation with the public through a public hearing.

Recommendation Regarding the Use of Speed Cameras

The TAB believes that the use of speed cameras could be an effective enforcement tool for reducing speeds on neighborhood streets, as well as in other locations throughout town.

However, we also recognize that the use of speed cameras and other traffic monitoring systems raises privacy concerns. We also acknowledge the question of fairness and impartiality, when private entities managing these devices have a strong financial incentive to enforce without sufficient accountability or procedural review.

We recommend that automated traffic speed enforcement program should include

1. Adequate procedural review
2. Town ownership, so that accountability remains clearly with the town
3. Clear procedures for citizen appeal.

The TAB recommends that Town Staff continue to monitor advances in traffic speed enforcement.

Excerpt of Board of Aldermen Meeting Minutes – January 18, 2005**WORKSESSION ON THE RESIDENTIAL TRAFFIC MANAGEMENT PLAN**

At the request of the Board of Aldermen, the Transportation Advisory Board has been reviewing the Residential Traffic Management Plan (RTMP) for several months. The purpose of this item was for the Transportation Advisory Board to discuss its review and recommendations with the Board of Aldermen.

Dale McKeel made a presentation on the TAB recommendations.

Heidi Perry, a member of the Transportation Advisory Board, stated that putting a sidewalk on the street would address one of the traffic calming problems. It is part of the solution.

Heidi Perry stated that in neighborhoods where speeding occurs, it is by the people who live in those neighborhoods. She recommends meeting with those people.

Chris van Hasselt, the chair of the Transportation Advisory Board, said that there is no clear evidence saying which way the policy would take us. He said that lowering the town-wide speed limit would affect everyone and the likelihood of getting a ticket would increase because the roads are engineered at 35 mph. He said that getting information to the press would educate people about it. He said that speed camera technology can be effective but the incentive of companies that run these programs is to give out tickets, not to be fair. He recommended that staff and the TAB use the technology and that there might be a way to use it constitutionally.

The Board referred the report to Town staff for review and recommendations. The following ideas should be considered:

- Change the high/low priority to a neutral label;
- Develop a point system including credit for sidewalks and traffic calming devices;
- Provide details on an education program and enforcement;
- Identify problem areas and conduct a pilot program;
- Prepare a refresher course on traffic calming techniques;
- Consider lowering the town-wide speed limit to 20 mph; and
- Include the plan as part of the land use ordinance review.

TRANSPORTATION ADVISORY BOARD

RECOMMENDATIONS

June 16, 2005

SUBJECT: Revisions to Residential Traffic Management Plan

MOTION: The Transportation Advisory Board (TAB) recommends that the Board of Aldermen adopt the revised Residential Traffic Management Plan with the following addition: On page five at Alternative Transportation Modes, the first sentence should be revised to read "One of the goals of the Town of Carrboro is to *promote and* provide alternative transportation modes." (added language is italicized)

Moved: Adena Messinger

Second: John O'Leary

VOTE: Ayes (Charlie Hileman, Heidi Perry, Adena Messinger, John O'Leary, Tom High); Noes (None).

HEIDI PERRY (LOM)
TAB Chair

6 / 22 / 05
Date