

BOARD OF ALDERMEN

ITEM NO. D(4)

AGENDA ITEM ABSTRACT

MEETING DATE: January 10, 2006

TITLE: A Review of the High Street Traffic Calming Request

DEPARTMENT: PLANNING	PUBLIC HEARING: YES ___NO__X__
ATTACHMENTS: <ul style="list-style-type: none">A. ResolutionB. PetitionC. Traffic Count LocationsD. Traffic Calming Criteria WorksheetE. Photos of Speed TableF. Proposed Location of Speed TablesG. TAB RecommendationH. Residential Traffic Management Plan	FOR INFORMATION CONTACT: Dale McKeel – 918-7329

PURPOSE

Residents of High Street have expressed concerns about speeding and petitioned the Town of Carrboro to install traffic calming measures on the street. Town staff has collected data and evaluated traffic conditions on High Street and recommend the installation of two speed tables. A resolution has been prepared for the Board's adoption (Attachment A).

INFORMATION

High Street is a residential street consisting of single-family detached and two-family residences. The street is approximately 1180 feet in length and has a 25 mph speed limit. The right-of-way width is 46 feet and the pavement width is approximately 21 feet. The street does not have curb and gutter or a sidewalk. High Street provides a connection between Main Street and Hillsborough Road. Two streets, Goldston Drive and Cheswick Court, are accessed from High Street. The Chapel Hill Transit CW bus travels down High Street more than 40 times on a typical weekday.

The Town of Carrboro's Residential Traffic Management Plan (RTMP) provides a mechanism for addressing residents' concerns about speeding on residential streets. Residents of High Street first contacted Town staff in 2003 regarding their concerns about speeding and desire for traffic calming devices. However, Town staff was not processing petitions until modifications to the RTMP had been adopted. Modifications to the RTMP were adopted by the Board of Aldermen in June 2005 (Attachment G).

In November, residents of High Street submitted a petition requesting the installation of speed humps, a lower speed limit, and law enforcement monitoring (Attachment B). Please note that the residents collected signatures using the old RTMP petition form and Town staff accepted this

form. The petition was signed by 23 of 25 owners or residents of properties with frontage on High Street (92 percent), exceeding the 75 percent threshold in the RTMP.

TRAFFIC COUNTS AND VEHICLE SPEEDS

Public Works staff recorded traffic counts and vehicle speeds at two locations on High Street in December 2003, April 2004, and October 2005. Attachment C shows the locations where recordings were made:

- Near 101 High Street, the 85th percentile speeds ranged from 29.83 mph (under rainy conditions) to 32.49 mph and the vehicles per day ranged from 1049 to 1157 vehicles per day.
- Near 115 High Street, the 85th percentile speeds ranged from 29.58 mph (under rainy conditions) to 34.41 mph and the vehicles per day ranged from 1070 to 1149 vehicles per day. Note that in one direction an 85th percentile speed of 35.54 mph was recorded at this location.

The “vehicles per day” is the total number of vehicles that passed the point in both directions during a 24-hour period. The “85th percentile speed” is that speed at or below which 85 percent of the vehicles were moving during a 24-hour period. For instance, if the 85th percentile speed is 35 mph, then 85 percent of the vehicles were going 35 mph or lower, while 15 percent of the vehicles were going faster than 35 mph.

TRAFFIC CALMING CRITERIA AND STAFF REVIEW

The Residential Traffic Management Plan provides six criteria to be used in evaluating the traffic conditions on a street. The six criteria are traffic volume, 85th percentile speed, pedestrian volume, bicycle volume, bus stops, and proximity to pedestrian generators.

Using the worksheet on page 3 of the RTMP, High Street received a score of 42 (see Attachment D). Since High Street received a combined total of at least 12 points in the “Traffic Volume” and “85th Percentile Speed” criteria and more than 25 points total, the street is eligible for both Stage 1 and Stage 2 Traffic Calming. Note that Stage 1 involves primarily education and enforcement measures, while Stage 2 includes physical modifications to the street such as speed humps.

STAFF RECOMMENDATION

The characteristics and function of High Street suggest that traffic calming devices are needed to address the residents’ concerns about speeding traffic. Town staff recommends that two speed tables be built in the vicinity of 103A and 112 High Street. Speed tables are 8 feet longer than speed humps (22 feet versus 14 feet), and have a more gradual rise with a flat area on top of at least ten feet (Attachment E). Speed tables are recommended because they effectively reduce speeding but are less jarring than speed humps to transit buses, fire trucks, and emergency vehicles. As noted earlier, High Street is on a Chapel Hill transit route.

Two speed tables were constructed in 2003 on Lake Hogan Farm Road, and both residents and Town staff have been pleased with these devices. The speed tables proposed for High Street are similar to those built in Lake Hogan Farm Road except that the brick coloring and imprint is not proposed for the High Street tables. The coloring and imprint was used on Lake Hogan Farms Road because one of the speed tables functions as a raised crosswalk on the Bolin Creek Trail. The marking and signage for the speed tables on High Street will be similar to that used on Lake Hogan Farms Road and will follow the recommendations of the *Manual of Uniform Traffic Control Devices*.

The exact location of the speed tables will be determined in the field by the Town Engineer and Public Works Department. This is to ensure that the speed tables do not negatively impact drainage on the street or impede other operations, such as driveway access, street sweeping, and snow removal. The Town Engineer has reviewed the proposed location of the speed tables and stated that the locations should present no problem from a stormwater drainage perspective.

In order to be effective, traffic calming devices such as speed tables are typically spaced 300 to 600 feet apart. The proposed speed tables on High Street are about 430 feet apart and about 325 feet from the intersections with Main Street and Hillsborough Road. High Street residents had requested three speed tables, but two tables should be adequate. Pine Street, which is about 470 feet longer than High Street, has two speed humps.

The staff Traffic and Parking Committee, made up of representatives from the community and economic development, fire, police, planning, public works, and recreation and parks departments, on December 28 reviewed and by consensus supported the recommendation for two speed tables on High Street.

The installation of speed tables on High Street has been discussed with Chapel Hill Transit staff, and they do not foresee a problem with transit buses negotiating speed tables on High Street

OTHER ALTERNATIVES CONSIDERED BY STAFF

Other measures that were considered included the following:

- Lower speed limit. This option was listed on the neighborhood petition. In its report to the Board of Aldermen last January, the Transportation Advisory Board stated that there was conflicting evidence about whether reducing the speed limit to 20 mph would reduce travel speeds on neighborhood streets, and stated that the Police department has given a similarly mixed response to this proposal. The Board of Aldermen has requested a follow-up report on reducing the speed limit to 20 mph on residential streets town-wide, and staff recommends that no action be taken to reduce the speed limit on High Street at this time.
- Multi-way stop at the intersection of High Street and Cheswick Court. Town staff reviewed the guidelines for multi-way stops in the *Manual of Uniform Traffic Control Devices* and determined that a multi-way stop is not warranted at this intersection. Research has found that multi-way stops are generally not effective at controlling speeds in residential neighborhoods. Among the reasons stated in this research are the following: (1) Stop compliance is poor at unwarranted multi-way stop signs, based on the drivers feeling that the

signs have no traffic control purpose and there is little reason to yield the right-of-way because there are usually no vehicles on the minor street; (2) Before-After studies show multi-way stop signs do not reduce speeds on residential streets; (3) Unwarranted multi-way stops lead to increased speed some distance from intersections; the studies hypothesize that motorists are making up the time they lost at the "unnecessary" stop sign; (4) Multi-way stop locations contribute to higher vehicle operating costs, travel times, fuel consumption, and emissions.

- Stage 1 traffic calming measures. Because much of the traffic on High Street is moving between Main Street and Hillsborough Road, it is felt that Stage 1 traffic calming measures (such as education and enforcement) would likely have limited impact on speeding. For example, much of the traffic is from outside of the neighborhood and may not be reached by an education campaign, and while the Police Department has periodically enforced speed limits on High Street, follow-up speed data suggests that these efforts have not led to long-term compliance.
- Other traffic calming devices. The RTMP lists several traffic calming devices that rely on roadway narrowing (e.g., mid-block choker, bulbout, center island median) or horizontal shift (e.g., chicane, neighborhood traffic circle) to reduce speed. Because High Street is already narrow, at 21 feet, the use of these devices was not considered feasible.

SUMMARY OF TAB REVIEW

The Transportation Advisory Board (TAB) reviewed this request on January 5. The TAB recommends that the Board of Aldermen support the staff recommendation for speed tables on High Street and also recommends that a sidewalk on High Street be moved up in priority to be constructed as soon as possible (but the speed tables should be constructed independent of the sidewalk). The TAB recommendation is Attachment G.

FISCAL IMPACT

The estimate installation cost for each speed table is in the range of \$1900 to \$2000 and includes asphalt work, pavement markings and signage. The work will be performed "In-house" by Public Works crews and will be paid for by operational funds. The speed tables on High Street could be scheduled for installation this coming summer. Funds are available in the current fiscal year to construct one or two more speed tables should there be additional requests, however, depending on the Public works Department work load, other installations may need to be scheduled later in 2006.

RECOMMENDATION

Staff recommends that the Board of Aldermen adopt the attached resolution approving the placement of two speed tables on High Street at such time as funding is available (Attachment A).