



# Town of Carrboro

Town Hall  
301 W. Main St.  
Carrboro, NC 27510

## Legislation Details (With Text)

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**File created:** 2/28/2013      **In control:** Board of Aldermen  
**On agenda:** 3/5/2013      **Final action:**  
**Title:** Rossburn Way Traffic Calming Request Follow-Up Report

**PURPOSE:** A follow-up report on traffic calming on Rossburn Way will be presented to the Board of Aldermen.

**Indexes:**

**Code sections:**

**Attachments:** [RES - Rossburn Way traffic calming](#)  
[TAB rec - 2013-02-21 - Rossburn Way traffic calming - follow-up](#)  
[Rossburn Way - Stage 2 Traffic Calming - Alternative 1](#)  
[Rossburn Way - Stage 2 Traffic Calming - Alternative 2](#)  
[Rossburn Way - Stage 2 BOA flyer](#)  
[Area of Influence](#)  
[Rossburn Way RTMP petition](#)  
[Traffic count locations](#)  
[Rossburn Way evaluation](#)  
[Ped generator distance](#)

Date	Ver.	Action By	Action	Result
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**TITLE:**  
**Rossburn Way Traffic Calming Request Follow-Up Report**

**PURPOSE:** A follow-up report on traffic calming on Rossburn Way will be presented to the Board of Aldermen.

Body

**DEPARTMENT:** Planning

**CONTACT INFORMATION:** Jeff Brubaker, 918-7329

**INFORMATION:**

*\* Abbreviations: RTMP = Residential Traffic Management Plan; ITE = Institute of Transportation Engineers.*

**Timeline summary**

November 2010

- Traffic calming request submitted
- Area of Influence determined
- Petition submitted

April 2011

- Data collection and evaluation

July

- Additional evaluation (95th-percentile speed)

August 25, 2011

- Traffic and Parking Committee recommendation

September 15, 2011

- TAB recommendation

October 18, 2011

- Board of Aldermen resolution

November 1, 2011

- Board of Aldermen ordinance establishing stop condition; stop sign subsequently installed.

December 6-7 and 13-14, 2011

- Post-implementation speed and volume evaluation

February 21, 2013

- Traffic and Parking Committee meeting
- Transportation Advisory Board meeting and recommendation

## Background

On October 18, 2011, the Board of Aldermen received a traffic calming report on Rossburn Way and recommended the following Stage 1 traffic calming measures:

- Outreach to the neighborhood;
- Provide informational signage, including but not limited to, the installation of a stop sign
- Enforcement by the Carrboro Police Department

A stop sign was installed in November at the Rossburn Way-Palomar Pt. intersection by the Public Works Department, after the Board amended the Town Code to legally establish the stop condition on November 1, 2011.

At the October 18, 2011, meeting, the Board also directed Town staff to research the potential for Stage 2 traffic calming measures, present them to the Transportation Advisory Board for a review and recommendation, inform the community on the recommended measures, and report back to the Board of Aldermen. This agenda item presents the research on Stage 2 measures and the TAB recommendation.

### *Follow-up evaluation*

Follow-up data were collected on traffic speed after the installation of the stop sign. Data were initially collected on December 5-6; however, due to a counter malfunction at the Palomar Pt. (400 block) location, data were recollected December 13-14. The table below shows the 85<sup>th</sup>-percentile speed data. The average of the two Bixley Dr. data collection periods is used.

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	95th percentile speed (MPH)
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	85 <sup>th</sup> -percentile speed (MPH)			
	Palomar Pt (400 block)		Bixley Dr (300 block)	
	NB	SB	NB	SB
<b>April 5-6</b>	29.33	29.97	28.33	28.16
<b>December 6-7</b>	No data		26.82	23.38
<b>December 13-14</b>	23.09	24.7	28	24.32
<b>Dec. average</b>	23.09	24.7	27.41	23.85
<b>Dec. - Apr. change</b>	-6.24	-5.26	-0.92	-4.31

As the table indicates, speed reductions were measured for each direction at each count location. The largest reduction, over 6 MPH, was at Palomar Pt. in the northbound direction. Next largest was the southbound direction, at 5 MPH. This is likely the result of the Palomar Pt. intersection changing from uncontrolled to controlled.

A speed reduction of 4 MPH was measured near Bixley Dr. in the southbound direction, while a slight reduction (1 MPH) was seen in the northbound direction.

For more background on the traffic calming request, the October 18, 2011, meeting agenda materials are available here: [http://townofcarrboro.org/BoA/Agendas/2011/10\\_18\\_2011.htm](http://townofcarrboro.org/BoA/Agendas/2011/10_18_2011.htm).

## Options for Additional Traffic Calming

### Option 1. Maintain Stage 1 measures (staff recommended, TAB recommended)

The speed data show the effectiveness of the stop sign in calming traffic. This option maintains the Stage 1 measures, including continuing education efforts such as distributing Watch for Me NC materials. Periodic traffic counts by the Town could help determine whether speeds have rebounded and identify changes in traffic volumes.

### Stage 2 measure alternatives

If additional traffic calming measures are desired, several factors should be considered:

**Evaluation** . The scoring of the northern (just north of Palomar Pt.) location did warrant Stage 2 measures (some caveats explained in the 10/18/11 abstract). The scoring of the southern (just north of Bixley Dr.) location in the original evaluation did not warrant Stage 2 measures. However, post-treatment 85<sup>th</sup> percentile speeds appear to be the highest in the northbound direction at this count location (27 mph).

**Grade** . The grade of the street north of Palomar Pt. at points exceeds 8%, according to GIS records. ITE guidelines do not recommend speed humps be placed where this grade is exceeded. However, the U.S. Traffic Calming Manual states that vertical speed measures may be installed if their design is modified to adapt to the grade. There is a hill south of Palomar Pt., but GIS records show the grade to be generally in the 5-7% range.

modified to adapt to the grade. There is a hill south of Palomar Pt., but GIS records show the grade to be generally in the 5-7% range.

**Emergency vehicles** . Consideration should be given to how Stage 2 traffic calming measures could affect the operation of emergency response vehicles and school buses. The N.C. Fire Code requires a 20 ft. clearance or “unobstructed width”. Buses generally require a minimum 40-45 ft. turning radius, with the smaller number accommodating the raw turning radius and the larger number providing more room for the “swept path” of the bus (i.e. the path covered by the entire width of the vehicle).

**RTMP.** The RTMP (pp. 5-6) includes additional considerations and provisions on Stage 2 measures.

**Speed.** If Stage 2 measures are desired, consideration should be given to the speed to which they will calm traffic. The posted speed limit is 25 mph. Post-stop-sign 85<sup>th</sup> percentile speeds are between 23 and 27 mph, as shown above. As stated in the U.S. Traffic Calming Manual:

Drivers accelerate between slow points. To counter this tendency and limit midpoint speeds, many U.S. jurisdictions have established guidelines for the spacing of slow points. Prescribed spacing is typically in the range of 300 to 500 feet...

...Specifically, midpoint speed levels off with increase spacing of slow points at a speed somewhat below the 85<sup>th</sup>-percentile speed of the street itself prior to traffic calming.

In summary, spacing is a major factor in whether midpoint speeds are closer to either the measures’ design speed or the pre-installation 85<sup>th</sup>-percentile speed.

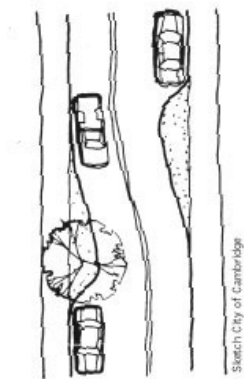
*\* The following alternatives are conceptual. Further investigation is required to develop designs that can physically fit given the dimensions of the street. Rossburn Way is ~25 ft. in width.*

### Stage 2 Alternative 1

This would involve the placement of a chicane approximately 400 ft. south of Palomar Pt. Chicanes are midblock curb extensions staggered to induce S-shaped movements. The purpose is to reduce 85<sup>th</sup> -percentile speeds near Bixley Dr. Before a chicane could be installed, driveway access should be considered to determine feasible designs. The design speed of horizontal traffic calming devices such as a chicane is determined in part by the curve radius it induces; sharper turns will need to be made at slower speeds. Typically, a chicane will have a depth of 8 ft., and often it will be offset from the curb to allow the gutter pan to remain open for drainage. On a 25 ft. street, this may result in yield flow due to the narrowed 15 ft. street width at the point of the chicane. EMS access will also need to be considered; mountable curbs are typical designs for chicanes.

Chicane (Source: FHWA)

### Chicane (Source: FHWA)

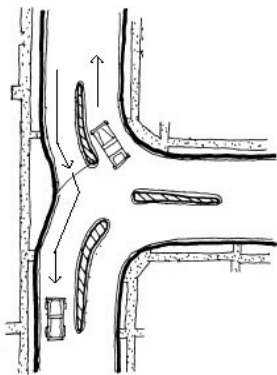


### Stage 2 Alternative 2

This alternative involves intensive Stage 2 measures and would incur the highest cost. Its goal is to reduce 85<sup>th</sup>-percentile speeds to 20 mph, which can be challenging given that the design speed of many measures can range above 25 mph. Before this alternative could be installed, driveway access should be considered to determine feasible designs. In particular, the design at the Rossburn-Palomar intersection would need to accommodate the driveway just south of the intersection.

This intersection treatment would induce a lateral shift and replace the current stop sign.

### Modified T-intersection (Source: FHWA)



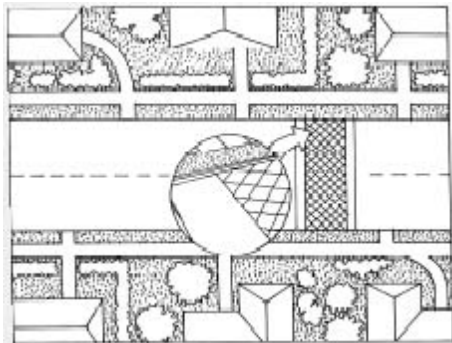
This would also involve the chicane mentioned in Alternative 1.

Near Bixley Dr., this alternative would include a raised crosswalk or narrowing (a.k.a. choker) at the existing unmarked crosswalk. This is in the vicinity of open space belonging to the HOA that includes a small playground.

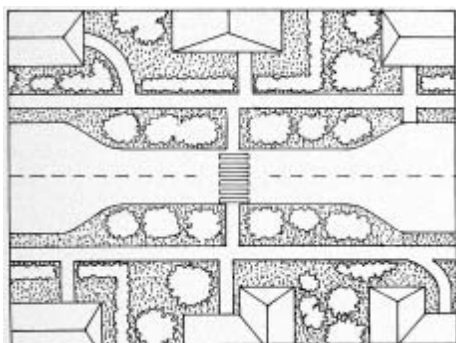
### Raised crosswalk (Source: FHWA)

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Raised crosswalk (Source: FHWA)



Choker or narrowing (Source: FHWA)



One note is that this is immediately adjacent to Town limits.

### **RTMP notice requirement**

Per the RTMP, prior to the Transportation Advisory Board or Board of Aldermen considering a recommendation for Stage 2 measures, a meeting notice must be mailed to residents in the “area of influence” at least 10 days in advance of the meeting at which the discussion is held. The flyer in *Attachment D* was mailed on February 12.

### **Traffic and Parking Committee**

The staff-level Traffic and Parking Committee met on Thursday, February 21. A discussion among staff members present favored the continuation of Stage 1 measures.

### **Transportation Advisory Board recommendation**

The Transportation Advisory Board reviewed the staff recommendation at its Thursday, February 21, meeting, and heard input from residents. The TAB recommendation is included in *Attachment B*.

### **Police enforcement**

## **Police enforcement**

The Carrboro Police Department conducted speed and stop sign compliance enforcement on Friday, February 22, and Sunday, February 24. Two citations and two warnings were given for failure to stop at the stop sign.

## **Education**

The neighborhood liaison and Town staff have coordinated on the distribution of “Watch for Me NC” pedestrian safety campaign resources, such as posters, brochures, and bumper stickers to the neighborhood. Also, neighbors have informed Town staff and the TAB that the neighborhood has an active list serve where traffic safety has been discussed.

## **FISCAL & STAFF IMPACT:**

There is no capital cost for the recommended Stage 1 option. Operating costs would be incurred depending on the level of police enforcement that occurs and staff time devoted to distributing education materials.