

ORANGE COUNTY FIRE AUTHORITY

Community Risk Reduction

1 Fire Authority Road, Building A, Irvine, CA 92602 www.ocfa.org 714-573-6100

Traffic Calming Devices



Guideline B-11

Serving the Cities of: Aliso Viejo • Buena Park • Cypress • Dana Point • Irvine • Laguna Hills • Laguna Niguel • Laguna Woods • Lake Forest • La Palma • Los Alamitos • Mission Viejo • Placentia • Rancho Santa Margarita • San Clemente • San Juan Capistrano • Santa Ana • Seal Beach • Stanton • Tustin • Villa Park • Westminster • Yorba Linda • and Unincorporated Areas of Orange County

Traffic Calming Devices

The time required for firefighters to reach an emergency is directly related to the proper installation and maintenance of fire department access roadways. It is important to understand the risk associated with traffic calming device installation. Most types of traffic calming devices slow the fire department's response to an emergency by approximately 10 seconds per device. In responding to both fire and medical emergencies; seconds count. Consider this; irrevocable brain damage occurs within 3 to 5 minutes from when a person stops breathing, and a small fire in a trash basket can grow to a fully involved bedroom fire within 2 to 3 minutes...seconds count.

PURPOSE

The Orange County Fire Authority (OCFA) is committed to providing quality emergency services to the community as quickly and efficiently as possible. Our goal is to maintain or improve OCFA's average response time. Towards that effort, OCFA uses 5 minutes as our evaluation criteria when reviewing the installation of speed humps or other traffic calming features that impede our ability to provide emergency services. This guideline provides information pertaining to the creation and maintenance of fire department access roadways, and the evaluation process for speed calming installation requests. This guideline includes:

- Plan submittal processes
- Definitions and alternatives to speed humps
- Dimensions of OCFA approved speed cushions

SCOPE

Per the 2017 California Fire Code Section 503.4.1-Traffic Calming- Traffic calming devices shall be prohibited unless approved by the fire code official. These guidelines apply to private streets within OCFA jurisdiction to which emergency response may be necessary. The information contained in this document is intended to assist the applicant in attaining compliance and to ensure that privately owned roadways necessary for emergency response purposes will be available for use at all times and will not be obstructed in a way that increases emergency response times beyond 5 minutes.

The following definitions are provided to facilitate the consistent application of this guideline, and to provide alternative ideas when applying for traffic calming measurements.

Fire Department Access Roads - The means for emergency apparatus to access a facility or structure for emergency purposes. Roadways must extend to within 150 feet of all portions of the exterior of the first floor of any structure and must meet specified criteria for width, pavement characteristics, roadway gradient, turning radius, etc. Fire apparatus access roads are also referred to as fire lanes.

Speed Humps – Raised traffic calming devices that are constructed to a height of 3 inches plus or minus ¼ inch at the midpoint. They are parabolic in shape and are placed across the road to slow traffic. Speed humps are the most popular calming measure in the United States. Speed humps are constructed of asphalt, and are 12 feet in length to provide a gradual lift to the highest point. **(Refer to Attachment A)**

Speed Cushions – These devices are designed as small raised traffic calming devices 6 feet in width. **The first speed cushion is constructed/installed along the center of the street** with a number of speed cushions constructed/installed adjacent from curb to curb, with a minimum of 2 feet between the cushions so that a fire engine can straddle them (fire engines will primarily straddle the center speed cushion to allow for maximum clearance on either side). By straddling the cushion the fire engine is minimally impacted by the cushion and can maintain speed while traveling to the emergency. The speed cushions can be purchased as a ready-made rubber product or constructed out of asphalt (or any material that can support the imposed loads of OCFA fire apparatus with a total weight of 68,000 pounds. Apparatus weight is distributed as 46,000 pounds on tandem rear axles and 22,000 pounds on the front axle). They are 7 feet in length to provide a less gradual lift making it necessary for residential vehicles to reduce their speed while traversing them. **(Refer to Attachments B and C)**

Gates and Barriers - Devices that restrict pedestrian and vehicle ingress and egress to and from a facility.

Radar Speed Signs- A permanent sign adjacent to the roadway that displays the speed of oncoming vehicles using highly visible LED's to make motorists aware when they are driving unsafe speeds.

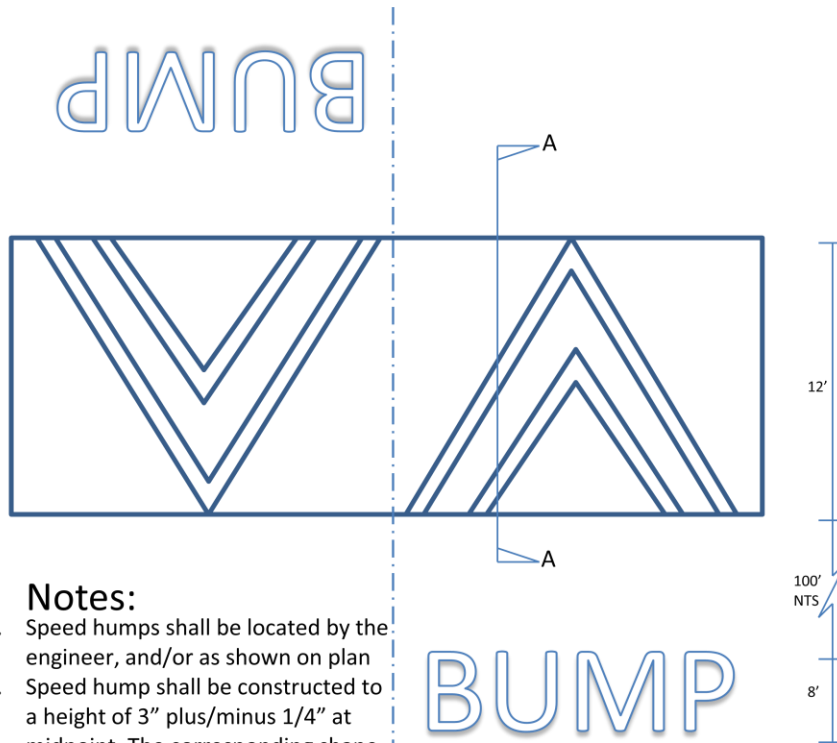
SUBMITTAL REQUIREMENTS

1. Submittals – An OCFA Service Request form is required to be completed for all requests for the installation of traffic calming devices. This form is not available on-line since it has duplicate copies. It is necessary to come to our office at 1 Fire Authority Road, Irvine, to complete the paper work and submit the following items: Two hard copies of an 8 ½" x 11" overall site plan of the community and one electronic copy in .pdf format will need to be submitted at the Orange County Fire Authority. All electronic copies may be submitted on CD, DVD, or Memory Stick. The site plan shall indicate locations of any existing speed humps and proposed locations of new speed humps or speed cushions.
2. The scope of work shall be indicated in letter form attached to the site plan. The letter needs to indicate if speed humps or speed cushions are being requested. The letter shall be on the Homeowners Association letterhead. (Public street requests are generated by the City Traffic Engineer.)

PLAN REQUEST FOR SPEED HUMPS/SPEED CUSHIONS

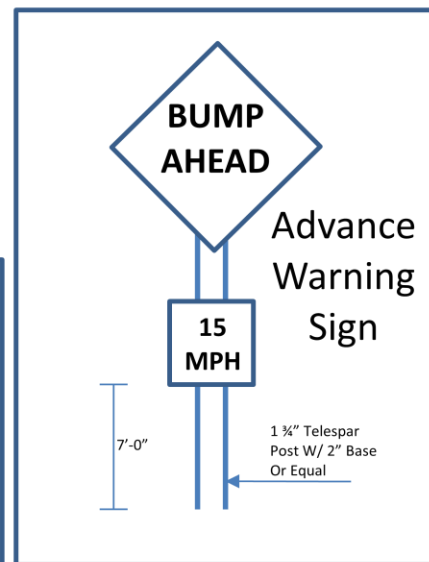
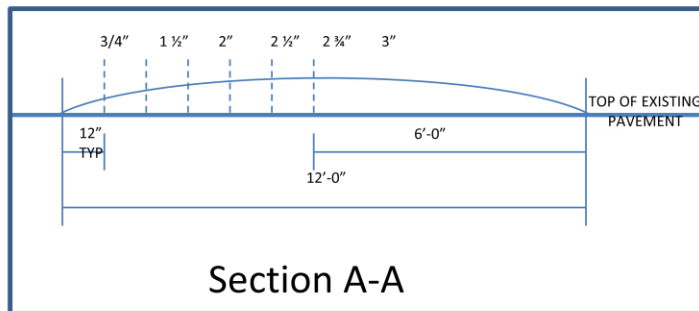
1. There is a fee of \$979 for this plan review. This fee covers a plan review, follow up paperwork and a final inspection of the speed hump installation. Once the information is submitted, the fire station located nearest to the community may conduct a 'time trial' (time trials are not necessary for speed cushion installations and are often necessary for speed hump installations). When necessary, the engine company will conduct a "time trial" using the 5 minute evaluation criteria. Once the local engine company has conducted the time trial, the applicant will receive a written response indicating an approval or denial based on the evaluation results. The applicant should allow 30 days for the response to be sent to them. Some City's within OCFA jurisdiction require that the City Traffic Engineer review and approve the proposal for traffic calming devices. This could add more time to the approval/denial response time.
2. If the speed humps/speed cushions are approved, the traffic calming device(s) shall be installed per the approved plan and OCFA specification (see Attachments A, B, and C). Once the traffic calming device(s) are installed, the applicant shall contact our inspection scheduling office (contact information is provided in approval letter) to request an inspection of the device(s) to ensure that the traffic calming device(s) are installed per the approved plan.

SPEED HUMP DETAILS Attachment A



Notes:

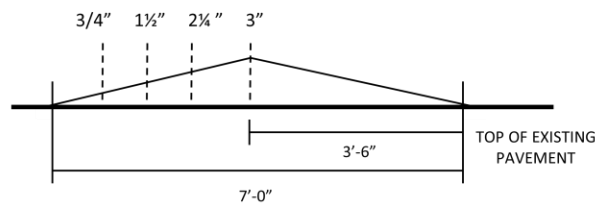
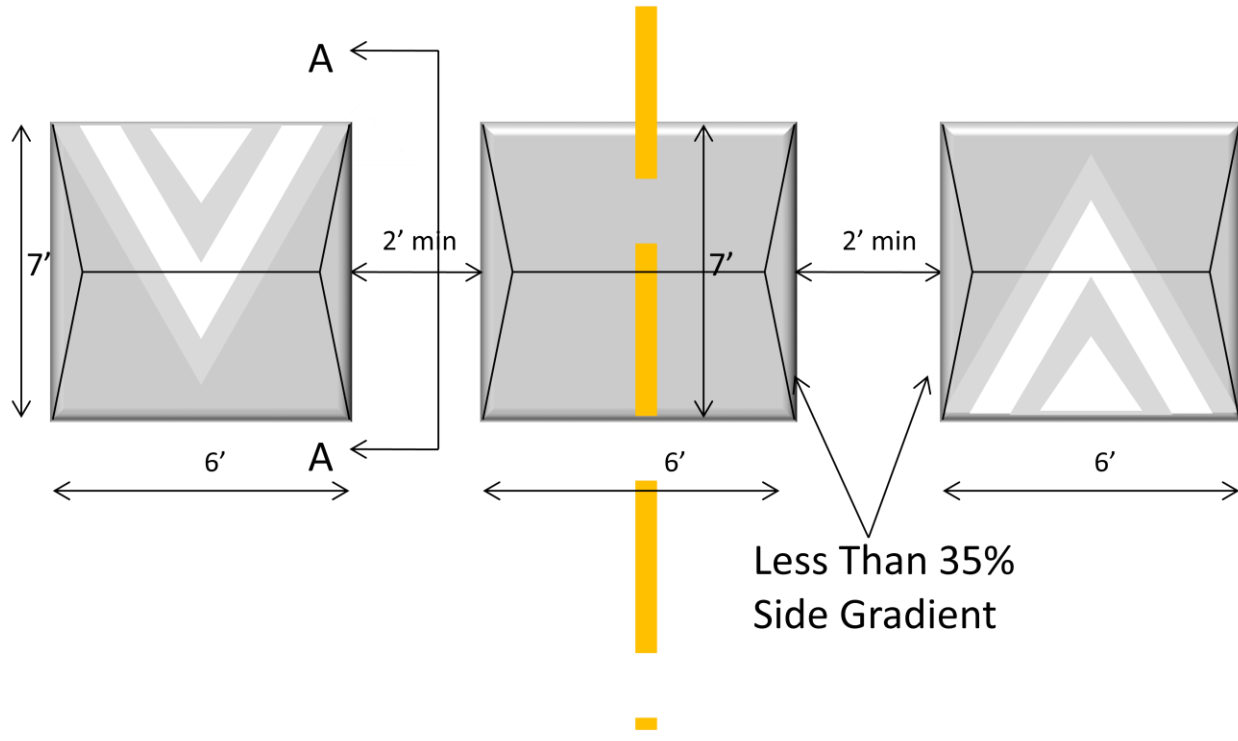
1. Speed humps shall be located by the engineer, and/or as shown on plan
2. Speed hump shall be constructed to a height of 3" plus/minus 1/4" at midpoint. The corresponding shape follows a circular arc (see Section A-A).
3. Asphalt shall be placed in 2 lifts. 1" minimum at highest point.
4. Asphalt shall be Type III-C3-AR4000 (1/2") with 6% asphalt binder or as directed by the engineer.



ATTACHMENT B

SPEED CUSHION DIMENSIONS

(First Speed Cushion
in Center of Road)



SECTION A-A
RATIO GRADIENTS
WITH 3" HEIGHT AT CENTER
(APPROXIMATE 7% GRADIENT)

ATTACHMENT C



Figure 1: Example of rubber speed cushions installed across a fire lane. Locate the first speed cushion in the center of the street.



Figure 2: Fire truck straddling speed cushions. Locate the first speed cushion in the center of the street.