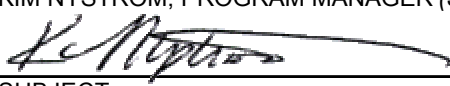


**PROGRAM DIRECTIVE**

TR-0011 (New 3/14/2000)

<b>TRAFFIC OPERATIONS PROGRAM DIRECTIVE</b>	NUMBER <b>00-05</b>	PAGE 1 OF 2 (plus attachments)
KIM NYSTROM, PROGRAM MANAGER (Signature) 	DATE ISSUED November 21, 2000	EFFECTIVE DATE Immediately upon issue
SUBJECT  Crashworthy Traffic Control Devices in Work Zones	DISTRIBUTION  <input type="checkbox"/> All District Directors <input checked="" type="checkbox"/> All District Division Chiefs - Traffic Operations <input checked="" type="checkbox"/> All District Division Chiefs - Maintenance <input checked="" type="checkbox"/> All District Division Chiefs - Construction <input checked="" type="checkbox"/> All District Division Chiefs - Project Development <input checked="" type="checkbox"/> Administrative Service Center Director <input checked="" type="checkbox"/> Engineering Service Center Director <input checked="" type="checkbox"/> All Headquarters Program Managers (for Maintenance, Construction & Project Development)	
DOES THIS DIRECTIVE SUPERSEDE ANOTHER DOCUMENT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, DESCRIBE	
WILL THIS DIRECTIVE BE INCORPORATED IN THE TRAFFIC MANUAL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	IF YES, DESCRIBE Chapter 5, Manual of Traffic Controls	

DIRECTIVE

In accordance with Federal Highway Administration (FHWA) memoranda dated July 25, 1997 and August 28, 1998, work zone traffic control devices shall be crashworthy as defined by National Cooperative Highway Research Program (NCHRP) Report 350, dated 1993. Traffic control devices are divided into four categories, with each having its own level of testing requirements and compliance dates. FHWA requires all state and local agencies to meet NCHRP Report 350 criteria for work zone traffic control devices on the National Highway System (NHS) routes that apply within their jurisdictional boundaries. Caltrans is implementing NCHRP 350 criteria for crashworthy traffic control devices in work zones on all state highways. Crashworthiness of work zone traffic control devices shall be substantiated.

**PROGRAM DIRECTIVE**

TR-0011 (New 3/14/2000)

Continuation

Page 2 of 2

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**IMPLEMENTATION**

Crashworthiness of work zone traffic control devices shall be substantiated as follows:

Category 1 devices shall be employed based on the vendor's self-certification. Self-certification shall be based on crash testing, crash testing of similar devices, or years of demonstrable safe performance. The compliance date is October 1, 1998.

Category 2 devices shall be on the FHWA list of Acceptable Crashworthy Category 2 Hardware for Work Zones which meet NCHRP Report 350 criteria for crashworthiness. The compliance date is October 1, 2000. Category 2 devices that have not received FHWA acceptance, and were purchased before October 1, 2000, may continue to be used until they complete their useful service life or until January 1, 2003, whichever comes first. Category 2 devices in use that have received FHWA acceptance shall be labeled with the FHWA acceptance letter number and the name of the manufacturer by the start of the project. The label shall be readable. After January 1, 2003, all Category 2 devices without a label shall not be used on the project.

Category 3 devices shall be crash tested in accordance with NCHRP Report 350 criteria. The compliance date is October 1, 1998 for truck mounted attenuators and work zone crash cushions. The compliance date for other devices within this category is October 1, 2002.

Category 4 devices should be delineated or shielded. A determination of a requirement for crash testing will be delayed until October 1, 2003.

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**BACKGROUND**

The categories are defined as follows:

Category 1 includes devices that are small and lightweight (less than 45 kg). These include traffic cones, plastic drums, portable delineators, and channelizers. The Category 1 self-certification form can be accessed at the following intranet address: <http://adsc.caltrans.ca.gov/CEFS>. Select *Forms* from the left menu screen. Under *Search by Form Number*, type in *tr0030* and press enter. Select tr0030. A copy of this form is attached.

Category 2 traffic control devices are defined by FHWA, as those items that are small and lightweight (less than 45 kg), that are not expected to produce significant vehicular velocity change, but require individual crash testing. Such devices include: barricades and portable sign supports. Category 2 devices shall be on the FHWA list of Acceptable Crashworthy Category 2 Hardware for Work Zones. This list is maintained by FHWA and can be located at the following internet address: <http://safety.fhwa.dot.gov/fourthlevel/hardware/listing.cfm?code=workzone>. The Department maintains a secondary list at the following internet address: <http://www.dot.ca.gov/hq/traffops/signtech/signdel/pdffiles.htm>. A copy of this list is attached.

Category 3 includes hardware that is expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include barriers, fixed sign supports, crash cushions, and other work zone devices not meeting the definitions of Category 1 or 2.

Category 4 includes portable or trailer-mounted devices. Examples are Arrow Displays, Temporary Traffic Signals, Area Lighting Supports, and Portable Changeable Message Signs. The FHWA will be considering whether to establish crash test requirements for some types of Category 4 devices such as flashing arrow panels. The FHWA will continue to monitor the in-service crash performance of Category 4 devices and encourage the design and testing of crashworthy versions.

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**WORK ZONE CATEGORY 1 TRAFFIC CONTROL DEVICE**

**CERTIFICATE OF CRASHWORTHINESS**

TR-0030 (NEW 8/2000)

DATE _____	FED-AID# _____
<b>(This certificate shall not be reproduced except in full.)</b>	EA# _____
	DIST/CO/RTE/JKP(PM) _____
NAME OF CERTIFYING VENDOR _____	NAME OF CERTIFYING PERSON (Print) _____
MAILING ADDRESS _____	NAME OF CERTIFYING PERSON (Signature) _____
CITY' _____ ISTATE _____ IZIPCOOE _____	TITLE OF CERTIFYING PERSON (Print) _____
	PHONE NUMBER _____

Check all that apply:

MANUFACTURER(S)

MODEL NUMBER(\$)

CONES




DRUMS, Warning Light (Optional)




PORTABLE DELINEATORS




CHANNELIZERS




**Category 1 traffic control devices are defined as those items that are small and lightweight (less than 45 kg) that have been in common use for many years and are known to be crashworthy by crash testing, crash testing of similar devices or years of demonstrable safe performance.**

**A vendor is defined as any person or organization (commercial or governmental) that designs, manufactures, sells, or deploys highway safety hardware or traffic control devices.**