LAST MINUTE AGENDA INFORMATION
8/15/12 Special Meeting

(Agenda Related Writings/Documents provided to a majority of the City Council after distribution of the Agenda Packet for the August 15, 2012 Regular meeting.)

ITEM NO. **DESCRIPTION**

5.1	**RESOLUTION NO. 2012-7229 OPPOSING AN INCREASED STATE ROUTE 75 SPEED LIMIT FROM 40 MILES PER HOUR TO 45 MILES PER HOUR EAST OF DELAWARE STREET TO THE WESTERN CITY LIMITS IN BOTH DIRECTIONS. (0740-10 & 0750-60)** a. E-mail message and Fact Sheet on Effects of Raising and Lowering Speed Limits on Selected Roadway Sections from Charles Gray, Branch Chief, Operations Planning & Engineering Support for the CA Dept. of Transportation

From: Charles Gray
Sent: Monday, August 13, 2012 4:11 PM
To: Hank Levien
Cc: Jacque Hald; Joe Hull
Subject: RE: SR-75 E&TS with Unsigned Order, Imperial Beach

2012 AUG 13 PM 5:51

CITY MANAGER &
CITY CLERK OFFICES

Good afternoon Mr. Levien,

Joe Hull and I will attend the public hearing scheduled for August 15, 2012. We would like to provide additional information related to the proposed change so it can be distributed to the appropriate City staff before the public hearing takes place.

The California Department of Transportation (Department) prepares Engineering and Traffic Surveys in accordance with the California Vehicle Code (CVC) and California Manual on Uniform Traffic Control Devices (MUTCD). CVC Section 627 and CA MUTCD Section 2B.13 require the speed limit to be established at the rounded 85th percentile speed also known as the Prevailing Speed or Critical Speed*.

In accordance with California MUTCD Section 2B.13, the engineering study shall include an analysis of the current speed distribution of free-flowing vehicles. Speed measurements should be taken during off-peak hours between peak traffic periods on weekdays.

*California MUTCD Section 2B.13 requires the speed limit to be posted at the nearest 5 mile per hour (mph) increment of 85th percentile speed except as shown in the two options below:

a) The posted speed limit may be reduced by 5 mph from the nearest 5 mph increment of 85th percentile speed.**

b) For cases in which the nearest 5 mph increment of the 85 percentile speed would require rounding up, then the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed, if no further reduction is used.

With regard to the vehicle speed survey taken between 7th Street and Rainbow Drive, the Department calculated an 85th percentile speed of 46 mph.

**The California MUTCD includes provisions that allow an optional 5 mph reduction below the rounded 85th percentile speed, however, the 5 mph reduction must be in compliance with CVC Sections 627 and 22358.5.

CVC Section 627 allows consideration of the following:

a) Collision History - The Department reviewed the most recent 3-year collision data available from January 1, 2008 through December 31, 2010, and determined speed was not a primary collision factor in a majority of the collisions.
b) Highway, traffic and roadside conditions not readily apparent to the driver - Based on the most recent 3-year collision data available and review of the highway segment, no unapparent conditions exist.
c) Residential Density - The Department determined the highway segment of interest does not meet CVC residential density requirements.
d) Pedestrian and bicyclist safety - based on the most recent 3-year collision data available, the Department determined speed was not a primary collision factor with regard to the single collision involving a pedestrian. There were no collisions involving a bicyclist for the time period of study.

CVC Section 22358.5 reads as follows:

a. 1

Date: 8/15/12 Item No. 5.1
Last Minute Agenda Information

"It is the intent of the Legislature that physical conditions such as width, curvature, grade and surface conditions, or any other condition readily apparent to a driver, in the absence of other factors, would not require special downward speed zoning, as the basic rule of Section 22350 is sufficient regulation as to such conditions."

The Department also considers driver compliance rates when determining speed limits. Section 2B.13 of the California MUTCD includes the following language:

"Speed limits cannot be set arbitrarily low, as this would create violators of the majority of drivers and would not command the respect of the public." "A majority of drivers comply with the basic speed law. Speed limits set at or near the 85th percentile speed provide law enforcement officer with a limit to cite drivers who will not conform to what the majority considers reasonable and prudent."

With regard to the proposed 45 mph speed limit, approximately 79 percent of the motorists would be in compliance. If the speed limit were maintained at 40 mph, only 42 percent of motorists would be in compliance.

Based on the Department's analysis, a 5 mph reduction below the rounded 85th percentile speed of 45 mph would not be in compliance with the CVC or California MUTCD. A speed limit of less than 45 mph may be declared as a speed trap by the traffic court judge(s) and result in significant speed limit enforcement challenges.

On the concern of speed creep, FHWA prepared a report on posted speed limits and found that raising and lowering the speed limit had marginal effects on actual vehicle speeds. For your convenience, I have attached a FHWA fact sheet regarding the effects on raising and lowering the speed limit:

If possible, can you send me the latest Staff Report before the August 15th City Council meeting?

On similar topic, the Department is also proposing to raise the SR-75 speed limit from 40 mph to 45 mph between Interstate 5 and the San Diego City/Imperial Beach City limit. The San Diego Police Department has already concurred with the Department's recommendation.

Caltrans also replaced the 40 mile per hour speed limit sign on northbound SR-75 located just east of Saturn Boulevard. Thank you.

Sincerely,

Charles Gray, P.E.
Branch Chief, Operations Planning & Engineering Support
District 11-Traffic Operations
California Department of Transportation

FACT SHEET

This fact sheet is an archived publication and may contain dated technical, contact, and link information

Publication Number: FHWA-RD-97-002
Date: 1997

Effects of Raising and Lowering Speed Limits on Selected Roadway Sections

Introduction

All too often, speed limits are considered as a cure-all for a community's traffic ills. Citizens frequently demand speed zoning changes in an effort to develop a quick solution to a complicated traffic problem. There is a need, therefore, to determine the effects of changing speed limits on traffic operations and safety for surface (non-freeway) rural and urban roadways.

Data Collection

Speed and accident data were collected in 22 States at 100 sites before and after speed limits were altered. The speed limits were lowered at 59 sites and raised at 41 sites. The sites included 63 rural sites, 22 small urban sites, and 15 urban sites. The section lengths varied from 0.3 mi to 12.6 mi (0.5 km to 20.3 km, with an average of 1.7 mi [2.7 km]). Speed and accident data were collected at 83 similar comparison sites (where the speed limits were not altered) to control for time trends and other factors.

The researcher was notified about sites where speed limits were to be changed by State traffic engineers. Traffic data were collected before and after the speed limits were changed for 24-h periods using automated roadside units connected to inductive loop mats to record speeds, headways, and types of vehicle. Data were collected for more than 1.6 million vehicles.

Accident data included more than 6,000 reported accidents. For most sections, accident data were collected for a 3-yr period before and a 2-yr period after the speed limits were changed. Data were coded for accident type, severity, and light and surface conditions.

Data Analysis

The free-flow speeds (vehicles with headways of 4 s or greater) were used for the speed analyses. mean speed, standard deviation of the speed distribution, percentile speeds, and percentage of vehicles exceeding the posted speed limits by 5, 10, 15, and 20 mi/h (8, 16, 24, and 32 km/h) were computed for all sites.

Comparisons were made for groups of sites where the speed limits were lowered by 5, 10, 15, and

a.3

15 mi/h (8, 16, and 24 km/h).

A variety of statistical tests were applied to the accident data. The analyses included a check for comparability, paired comparison ratios, cross-product ratios or odd ratios, an empirical Bayes method, and the weighted average logit method. Because the sample sizes were small when divided up by the increments to limits that were raised or lowered, the main analyses combined all the sites where the speed limits were raised, and all the sites where the speed limits were lowered.

Results

Neither raising nor lowering the speed limit had much effect on vehicle speeds. The mean speeds and the 85th percentile speeds did not change more than 1 or 2 mi/h (1.6 or 3.2 km/h), even for speed limit changes based on the amount the posted speed limit was altered.

The percent compliance with the posted speed limits improved when the speed limits were raised. When the speed limits were lowered, the compliance decreased.

Lowering the speed limit below the 85th percentile or raising the limit to the 85th percentile speed also had little effect on drivers' speeds.

The changes in accidents at the study sites are shown in figure 2. These changes were not statistically significant at the 95th percentile confidence level.

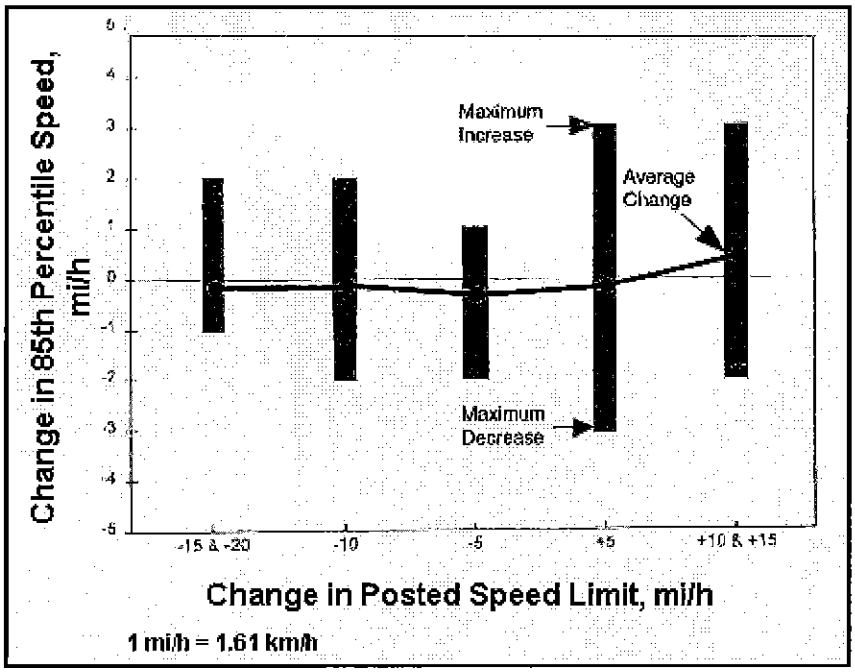

Figure 1. Maximum and average changes in 85th percentile speed at the sites where speed limits were altered.

a.4

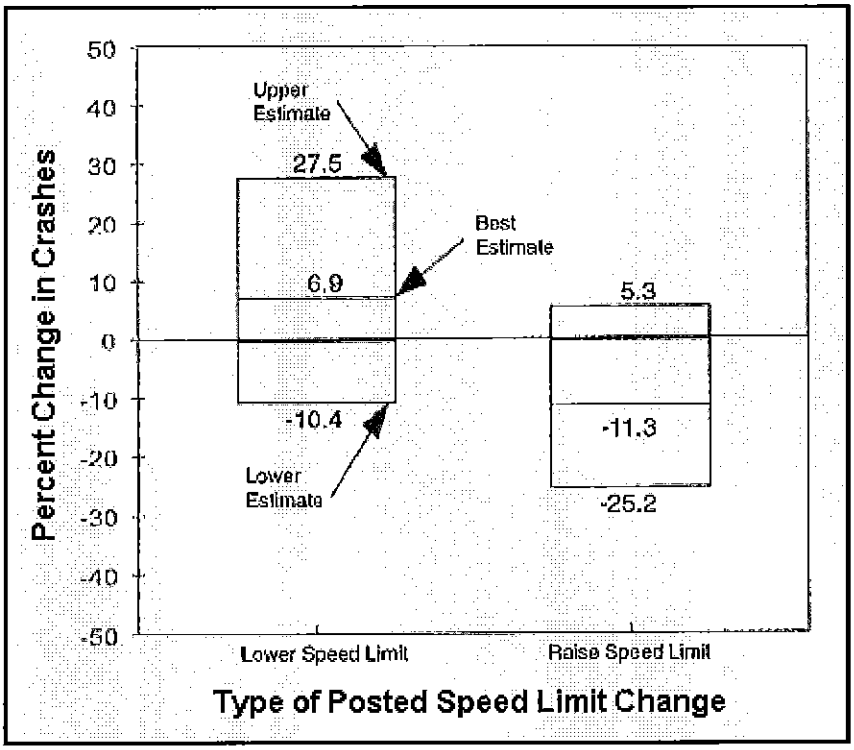

Figure 2. Summary of crash effects at sites where posted limits were altered.

FHWA-RD-97-002

Page Owner: Office of Research, Development, and Technology, Office of Safety, RDT
Scheduled Update: Archive - No Update
Technical Issues: TFHRC.WebMaster@dot.gov

Topics: research, safety, human factors, speed management
Keywords: research, safety, human factors, speed limits
TRT Terms: speeding

Updated: 04/12/2012

Research Home | FHWA Home | Feedback

FHWA

United States Department of Transportation - Federal Highway Administration

a.5