

Bay Area Incident Management Task Force



CLEAR THE WAY CAMPAIGN: I-880 DEMONSTRATION PROJECT

FINAL EVALUATION REPORT

Metropolitan Transportation Commission
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TABLE OF CONTENTS

Executive Summary 3
1 Introduction 4
2 Project Deployment 5
3 Public Information Campaign 6
4 Project Evaluation 8
5 Challenges 13
6 Findings & Recommendations 14
Appendix 15

Executive Summary

On February 15, 2007, the California Traffic Control Devices Committee (CTCDC) approved the Bay Area Incident Management Task Force (IMTF) to install “Clear the Way” signage along a 13-mile section of Interstate 880 as part of an experimental demonstration. The project was an effort to increase public awareness of a pre-existing “Clear the Way” (CTW) law passed in 1999, which requires motorists involved in collisions with only minor property damage to move out of the main travel lanes. Additionally, the signage demonstration aimed to reduce the occurrence of secondary collisions caused by inattentive drivers distracted by minor incidents. The specific goals and objectives targeted by the signage demonstration, which was conducted from July 2008 to June 2009, were as follows:

- Educate motorists on the CTW law;
- Reduce the number of secondary collisions;
- Reduce congestion delay and loss of productivity caused by minor incidents;
- Improve operational efficiency and mobility within a major trade corridor; and
- Evaluate the effectiveness of the experimental CTW sign.

Motorist surveys suggest that few people are aware of this law. Preliminary findings from this project show that the percentage of people who knew of the law increased after the installation of the CTW signs. At the same time, there has not been any evidence implying that the signage was a cause of distraction to drivers. Unfortunately, the lack of available data made it impossible to determine the effect of the signs on incident-related congestion or on secondary collisions.

Driver adaptation to the CTW signage is expected to happen gradually over time. The IMTF believes that through an ongoing education campaign, public awareness of the CTW law will be increased in the longer term. As drivers adopt a “clear the way habit” in their driving culture, the occurrence of secondary collisions, and thus the total number of collisions, will be reduced. In an on-going effort to raise public awareness of this law, it is therefore proposed that the CTCDC consider recommending that Caltrans approve this signage for statewide deployment.

1 Introduction

Initial Problem Statement

On September 16, 1999, Senate Bill 681 amended Sections 20002 and 23113 of the California Vehicle Code. This amendment allowed motorists involved in a traffic collision resulting in minor property damage, to move their vehicles off the main lanes of the highway, to a safe location in the immediate vicinity of the collision. Prior to SB 681, motorists involved in traffic collisions were required by law to “immediately stop” at the scene of the incident, to exchange license and vehicle registration information. Failure to comply was punishable as a misdemeanor.

Eight years following the enactment of the revised law, there continued to be minimal, if any, public knowledge of the new provision. The deployment of “clear the way” advisory traffic signs was proposed as a method to enhance motorists’ awareness of this law. On February 15, 2007, the California Traffic Control Devices Committee (CTCDC) approved the Metropolitan Transportation Commission’s (MTC) request, in partnership with the California Highway Patrol, Golden Gate Division (CHP, GGD), and the California Department of Transportation District 4 (Caltrans), for the experimental use of “Clear the Way” (CTW) advisory traffic signs along a 13-mile section of the I-880 corridor.

Background

An estimated 19% of all delay experienced along the I-880 corridor is caused by traffic incidents and collisions¹. This delay is compounded by motorist failure to move their vehicles out of the travel way when involved in minor traffic collisions or “fender benders”. Notes from Freeway Service Patrol (FSP) drivers taken between April 2009 and March 2010 contain evidence suggesting that many incidents found in the main travel lanes of a freeway are of a minor nature.

Through the Bay Area Incident Management Task Force, comprised of representatives from MTC, GGD CHP, and Caltrans, an incident management demonstration project along the I-880 corridor is being deployed. The purpose of this demonstration project is to measure the effectiveness of various enhanced and new system management tools. The deployment of advisory “Clear the Way” signs was one of the near-term, low cost strategies identified.

Goals and Objectives

The goals and objectives of the sign demonstration were as follows:

- Educate motorists on the “Clear the Way” law which directs motorists to move vehicles off the main lanes of the highway without affecting the question of fault;

¹ The Freeway Performance Measurement System (PeMS) operated by UC Berkeley, California Partners for Advanced Transit and Highways, and Caltrans: 2007 annual figure for the I-880 corridor.

- Reduce the number of secondary collisions caused by reduced speeds resulting from traffic impediments and rubberneckers;
- Reduce congestion delay and loss of productivity caused by minor incidents;
- Improve operational efficiency and mobility within a major trade corridor; and
- Evaluate the effectiveness of the experimental CTW sign.

Signs in Other States

“Clear the Way” signs are currently in use in the states of Florida, Tennessee, and Washington (see below). While these states have not conducted a formal evaluation of the impacts of the signs, traffic engineers from these respective states have observed changes in motorist behavior as a result of these devices. Since the implementation of the signs, there have been noted declines in the number of minor traffic collisions blocking the highway lanes. It was further reported that strong media dissemination of information contributed to enhanced motorist awareness and success of these signs.



Washington State



Florida



Tennessee

2 Project Deployment



Figure 1. Map of I-880 Corridor Clear the Way Signage Locations

Project Limits

Fifteen (15) “Clear the Way” signs were deployed along both directions of a 13-mile section of the I-880 corridor between High Street and Industrial Parkway. Caltrans District 4, in conjunction with the staff from CHP GGD and MTC, identified specific locations for sign installation, primarily based on availability of right shoulders. One sign was later removed due to conflicts with construction operations.

Budget

The total cost for the 24-month “Clear the Way” demonstration project was \$215,200.

The approximate breakdown was as follows:

- Sign fabrication: \$10,300 total (approx. \$630 per sign)
- Brochure printing costs: \$2,500
- Paper survey printing costs: \$1,500
- Business Return Mail Postage: \$500
- Survey incentive gift cards: \$400
- Media campaign with marketing contractor for radio spots and webpage development: \$200,000

3 Public Information Campaign

The following section summarizes “Clear the Way” Public Information Campaign efforts.

Press Event



Figure 2. CTW Press Event July 30, 2008

The Clear the Way press event was held on Wednesday, July 30, 2008 at the Oakland Coliseum parking lot adjacent to I-880. Fifteen signs were installed and unveiled along I-880 at pre-designated locations. Speakers included Assistant Chief John Lopey of Golden Gate Division California Highway Patrol, Caltrans District 4 Deputy District Director Sean Nozzari, and the Metropolitan Transportation Commission Chair Bill Dodd. A FSP Tow Truck, a Caltrans Tow Truck, several CHP patrol cars, and a CHP motor officer were present for this event.

Informational Brochures & Motorist Surveys

CTW informational brochures and motorist surveys were distributed by FSP drivers to motorists along the I-880 corridor. CTW informational brochures were printed in both English and Spanish and were distributed at local public transportation fairs.



Figure 3. Online CTW Survey Incentive

CTW online motorist surveys were accessible via the 511 (511.org) and FSP (fsp-bayarea.org) websites. A CTW online survey incentive (\$25 Trader Joe’s gift card) was provided to one survey respondent per month to encourage response for evaluation purposes. Currently, staff is working with DMV, the California Department of Insurance, and other appropriate agencies for future outreach

and distribution of CTW literature.

Radio Spots

Radio spots aired on popular Bay Area English, Spanish, and Mandarin/Cantonese radio networks: 35 – 40 total stations. Ten and thirty second radio spots aired during the following time periods (4 weeks total):

- Weekday AM/PM commute hours from 8/18/08 – 8/24/08: 339 total radio spots;
- Weekday AM/PM commute hours from 10/6/08 – 10/26/08: 1,068 total radio spots.

All 1,407 radio spots directed the public to visit 511.org for more information.

Website/Landing Page

A CTW website/landing page was created on 8/18/08 to coincide with the radio spots and was hosted on the Caltrans District 4, FSP and 511 websites throughout the entire demonstration period. 511 public viewing stats were as follows:

- 8/18/08 – 8/24/08: 211 total hits, 204 total visitors, 30 Avg. hits per day;
- 10/6/08 – 10/26/08: 440 total hits, 418 total visitors, 20 Avg. hits per day.

Freeway Changeable Message Signs

The CTW message was displayed on 21 Bay Area freeway changeable message signs (CMS) during the following time periods:

- Oct. 14 - 16 from 10 a.m. to 3 p.m.
- Oct. 21 - 23 from 10 a.m. to 3 p.m.

The Caltrans' approved message posted on the CMSs was:

***Fender-bender?
"Clear the Way"
Visit 511.org***

511 Phone System

CTW messages were posted on the 511 phone floodgate system during the same time periods as the freeway CMS message was displayed:

- Oct. 14 - 16 from 10 a.m. to 3 p.m.: 8,959 total 511 calls, Avg. increase of 8%
- Oct. 21 - 23 from 10 a.m. to 3 p.m.: 10,674* total 511 calls, Avg. increase of 52%*
**Numbers reflective of increased call volume on 10/22/08 due to a major incident full freeway closure on I-880. If 10/22 data is excluded, avg. increase is 3%.*

The script posted on the 511 floodgate was:

***"Did you know you should Clear the Way during non-injury accidents?
Find out more at 511.org."***

4 Project Evaluation

Evaluation Methodology

The “Clear the Way” signage demonstration project was conducted over a 24-month period — June 19, 2007 through June 18, 2009. During the first 12 months, the motorist survey was used to assess the level of public awareness of the “Clear the Way” law and to collect motorist behavior data prior to the installation of the signs and the launch the public information campaign. This information continued to be collected for the remaining 12 months of the demonstration period, for before and after comparison. The results of this demonstration project and its impacts on motorist awareness of the law and behavior were analyzed to assess the potential impacts for statewide deployment of a CHP “Clear the Way” campaign.

As mentioned previously, “Clear the Way” survey data was collected for two years. Baseline data collection occurred during the first year, whereas data collected during the second year reflected conditions after the signs were installed and the public information campaign was implemented. An extensive analysis of the survey data found the following:

1. **Survey Responses.** There was a spike in survey responses after the signs were installed (900 survey respondents for the base versus 1,264 afterwards), with a majority of the respondents taking the online survey as opposed to the paper version. The 26% increase in online survey respondents after the signs were installed could be due to the media campaign, since people were directed to 511.org for information during this time, which was one place where the online survey could be accessed.

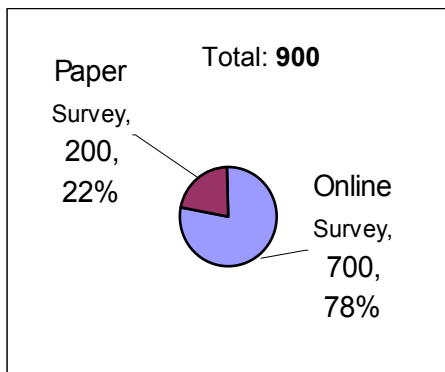


Figure 4. Survey Responses Before Signs Installed

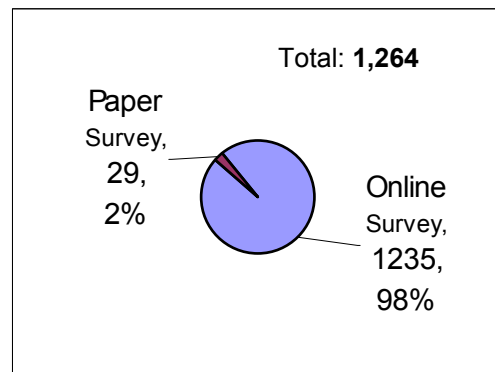


Figure 5. Survey Responses After Signs Installed

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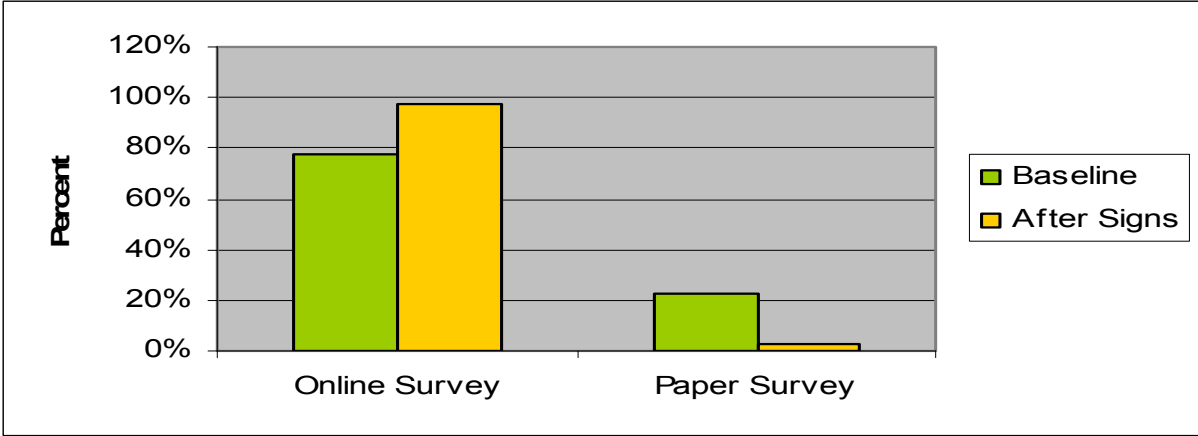


Figure 6. Online vs. Paper Survey Responses

- Motorist Awareness of the Law.** In review of the survey responses, most people still do not know about the Clear the Way law, however after the signs were installed and the media campaign was launched, there was a 36% increase in the percentage of people who knew about the law.

Table 1. Motorist Awareness of CTW Law

	Knew About CTW Law	Never Heard of CTW Law	Total Surveys		Knew About CTW Law	Never Heard of CTW Law
Baseline	198	702	900	Baseline	22%	78%
After Signs	379	885	1,264	After Signs	30%	70%

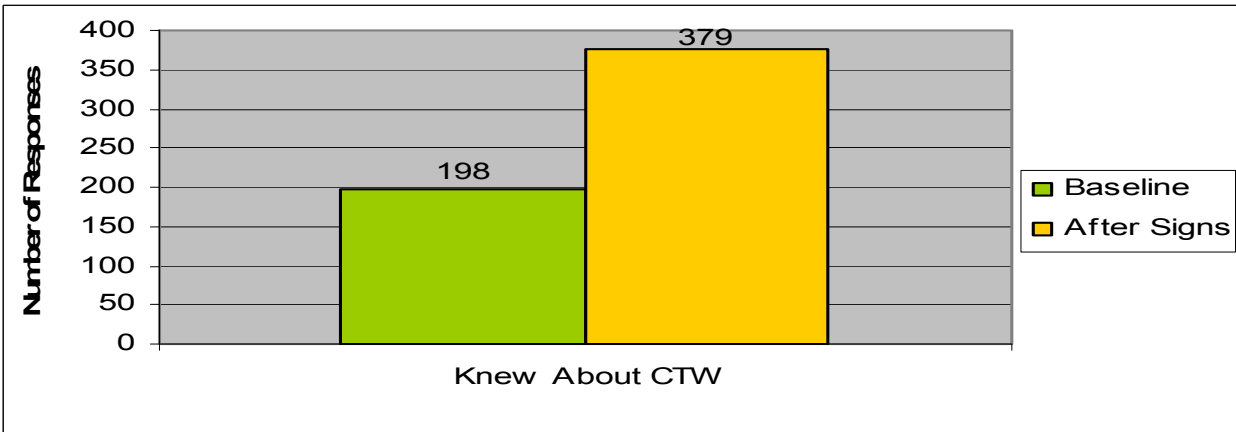


Figure 7. Knowledge of CTW Law

- CTW Signage and Media Campaign.** Prior to the sign installation and media campaign, most people learned about the Clear the Way law from other sources, including Driver's Education courses and peace officers. After the signs were installed and the media campaign was launched, the Clear the Way signs were reported by survey respondents as the #1 source of information for the law and the media was reported as the #3 source of information. As illustrated in Figure 8 below, the CTW signs and media

campaign combined resulted in a 60% increase in the survey respondents' general awareness of the law.

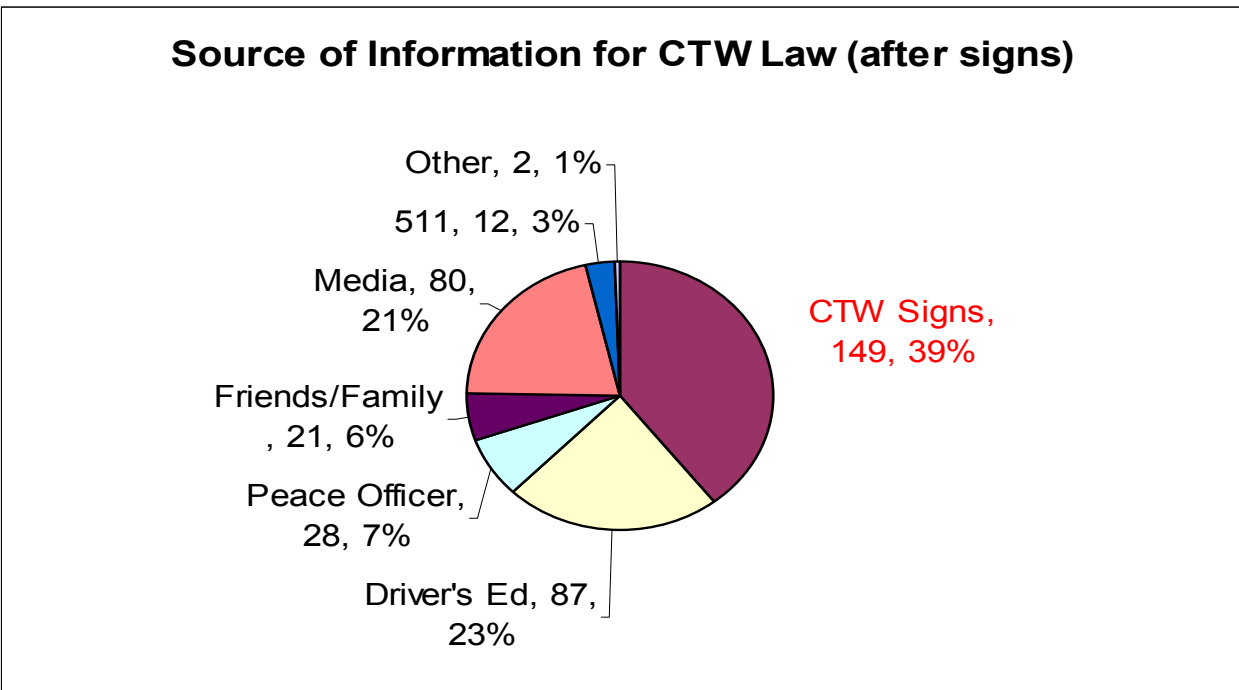


Figure 8. Source of Information for CTW Law (After Signs)

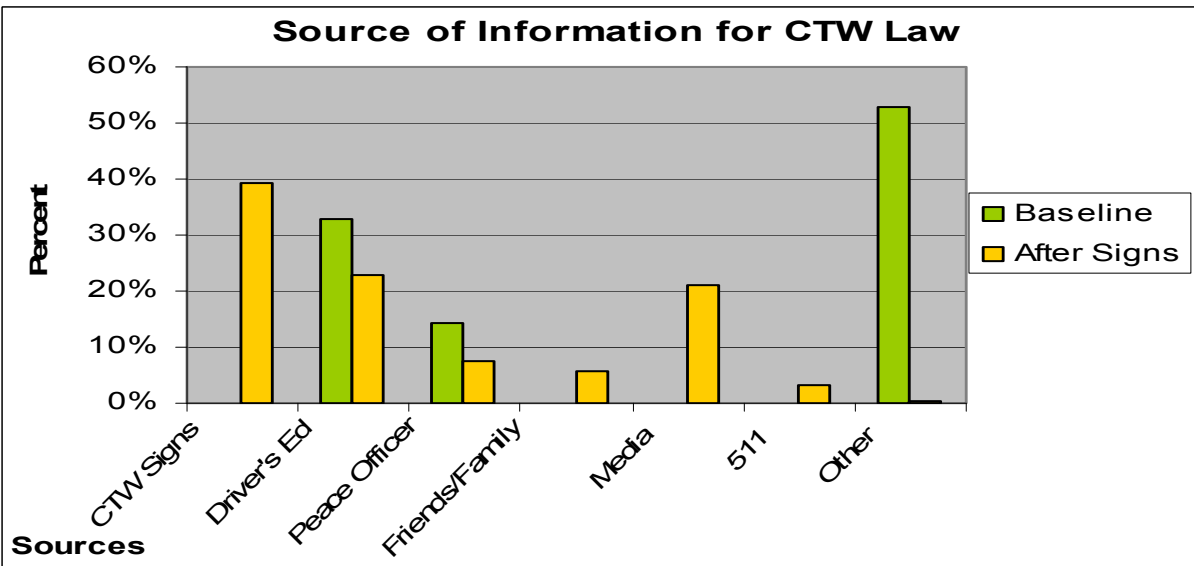


Figure 9. Source of Information for CTW Law

- 4. Surveyed Motorists Involved in a Traffic Collision.** The percentage of surveyed motorists involved in a traffic collision was approximately the same both before and after the signs were installed, suggesting that about half of the motoring public has been involved in a collision.

Clear the Way Final Evaluation Report

Table 2. Surveyed Motorists Involved in Collisions

	Collision	No Collision
Baseline	46%	54%
After Signs	48%	52%

5. **Motorists “Moved Over” to the Shoulder.** The percentage of motorists involved in collisions that moved their vehicle over to the shoulder prior to the arrival of CHP or FSP did not change once the signs were implemented – about 70% of motorists moved over to the shoulder, with only 30% staying in place. A closer inspection of the survey data showed that even for the motorists that were involved in traffic collisions after the signs went up on 7/30/08, again about 70% moved to the shoulder and 30% stayed in place. Most motorists surveyed before and after the signs were installed indicated that they moved over because of safety reasons and because they did not want to block traffic. Few motorists moved their vehicle as a direct result of seeing the CTW signs. Additionally, of the 30% that stayed in place (both before and after the signs were installed), the main reason listed was because their vehicle was disabled. The main conclusion that can be drawn from these statistics is that most motorists involved in traffic collisions will move to the shoulder for safety reasons and to keep traffic moving, and if they do not, it is largely because they are physically unable to do so.
6. **Pre & Post Signage Motorist Awareness of Law & Behavior.** Most people, surveyed both before (83%) and after (82%) the signs were installed, would have moved their vehicle out of the lane of traffic prior to the arrival of CHP or FSP (if able to do so) had they known about the CTW law. The percentage remained approximately the same both before and after, which is logical since the survey question did not relate to knowledge of the signs but rather response to the law. Even though the survey responses did not indicate a change in people’s behavior, it is believed that a greater number of people will comply with the law if they are made more aware. Therefore it is important to increase public awareness of this CA law, since it is already in effect.

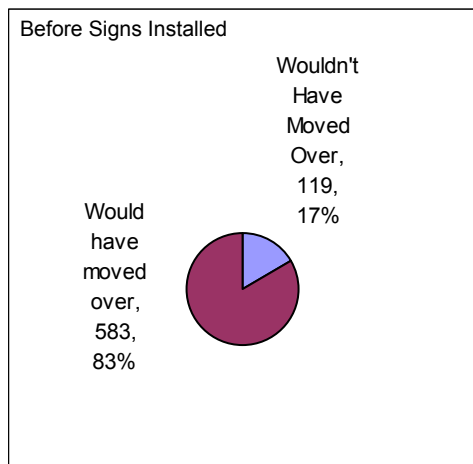


Figure 10. Pre-signage Awareness of Law & Behavior

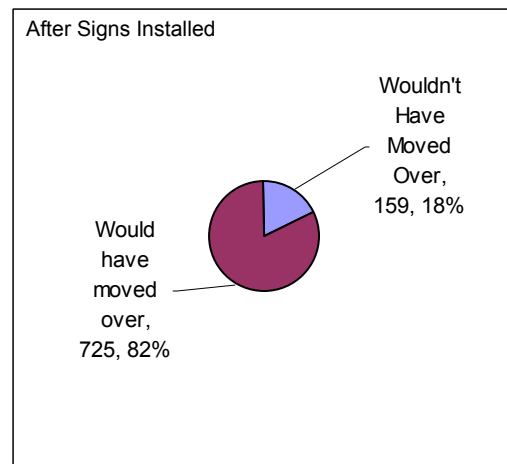


Figure 11. Post-signage Awareness of Law & Behavior

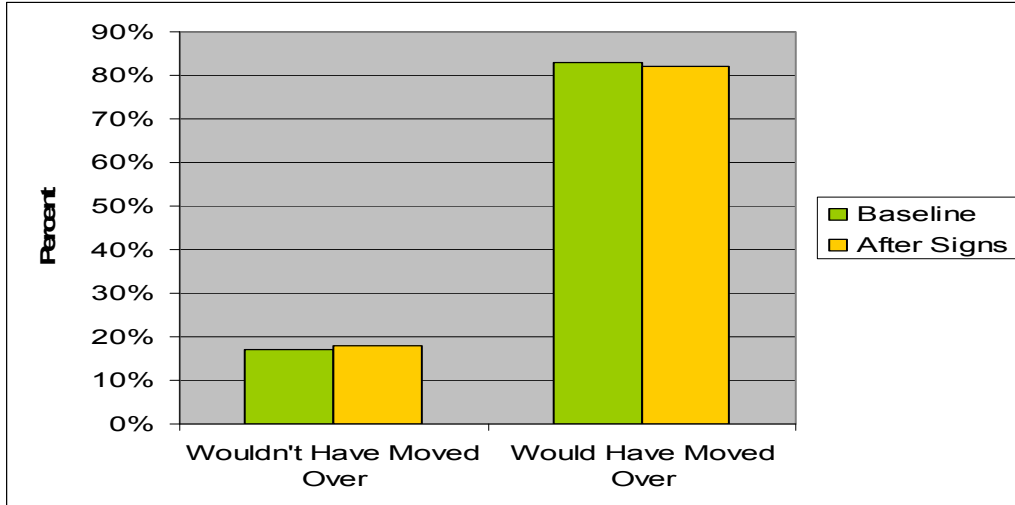


Figure 12. Motorists That Would Have Moved Over vs. Those That Wouldn't

7. **Percentage of Survey Respondents that “Moved Over” and Knew About the CTW Law.** The data did show an increase in the percentage of motorists that moved to the shoulder and knew about the CTW law from before the signs were installed to after the sign installation. This makes sense since there was increased public awareness of the law after the signs were installed and the public information campaign was launched. However, we cannot conclusively say whether this behavior is a direct result of the signs and the public information campaign.

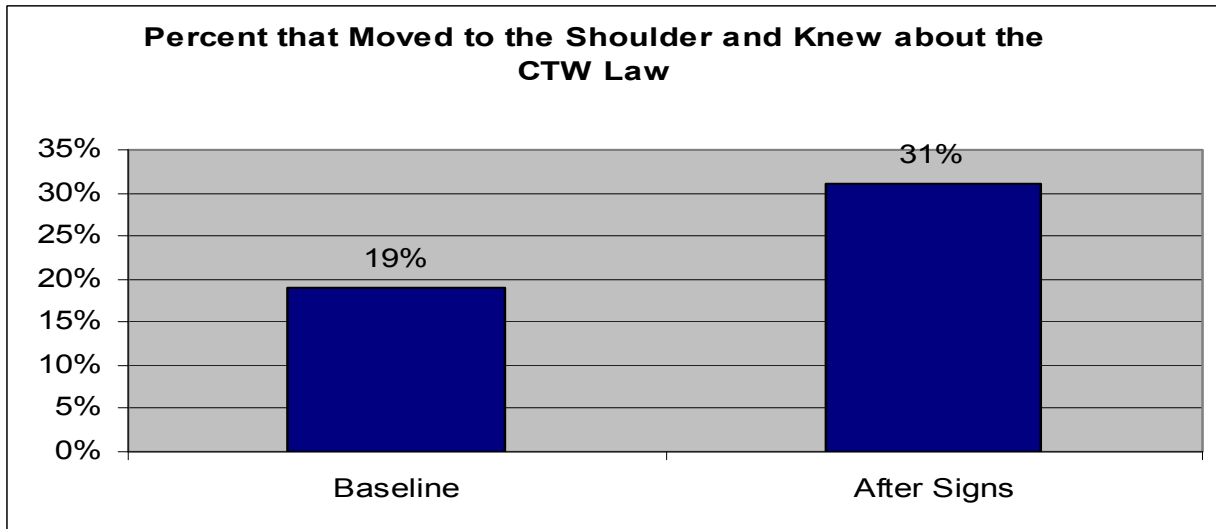


Figure 13. Percent of Survey Respondents that Moved to the Shoulder & Knew About the CTW Law

5 Challenges

Effectiveness Evaluation

Due to the lack of detailed data available, it was very difficult to determine whether the CTW signs prevented secondary collisions. The following highlights some challenges associated with the collection of the quantitative data to support evaluation of the benefits and impacts of the CTW signs:

- Opportunities to really look at secondary collisions were few because most survey respondents indicated they were already moving their vehicles over to the shoulder for safety reasons or to keep traffic moving if their vehicle was not disabled as a result of the collision.
- Few incident data sources identified the location of the lane in which the incident occurred, as well as whether the incident had been moved to the shoulder when CHP arrived on the scene. Thus, it was difficult to accurately assess driver behavior during non-injury collisions both before and after the signs were installed.
- Moreover, it is even harder to obtain data that shows causality between motorist knowledge and motorist behavior. In some cases, our survey data showed a correlation, but not a definitive causality. The availability of more detailed traffic collision data would be beneficial to assess the benefits of an incident management strategy like CTW.

Proposed Change from the Manual on Uniform Traffic Control Devices

Since the deployment of the experimentation pilot, the 2009 edition of the Manual on Uniform Traffic Control Devices (MUTCD) of the FHWA and subsequent Federal Register Amendments were released with a standard “fender bender” signage legend. Specifically, Section 2B.65 of the MUTCD gives standards for the application and the specific shapes and sizes for a “fender bender” sign. Effective January 15, 2010, Volume 74, No. 240, of the **Federal Register** (p. 66755) further specifies the adoption of the sign displayed in Figure 14. Figure 15 shows the sign that was used in the I-880 Demonstration Corridor Project.



Figure 14. The MUTCD Standardized Sign Legend



Figure 15. The IMTF Proposed Sign (Demonstrated)

While the desirability of consistent signing practices is fully acknowledged, the Bay Area Incident Management Task Force proposes to continue using the sign displayed in Figure 15 for a number of reasons. These include (1) the use of a graphic showing the collision of the two vehicles and the shorter text which are helpful in increasing comprehension of the signage by a

diverse, non-English speaking driving population, and (2) the greater clarity in defining that non-injury collisions should be moved to the shoulder.

6 Findings & Recommendations

In spite of the challenges identified in the previous section, there is evidence suggesting that people have become more aware of the CTW law as a result of the signs. Furthermore, as Appendix H shows, the signs did not become a distraction to drivers.² Approximately half of the surveyed motorists had been involved in traffic collisions, making it even more important to raise awareness of this law since we know that around 19% of overall delay on I-880 is caused by incidents, and thus the more quickly we can get these incidents over to the shoulder and out of the travel way, the better. Our survey results show that 82%-83% of the motorists would have moved over to the shoulder had they known about the CTW law.

As such, it is proposed that the CTCDC consider recommending that Caltrans approve statewide deployment of the CTW signs to heighten general public awareness of this pre-existing law.

The following is a list of recommendations for consideration for statewide deployment of a similar “Clear the Way” campaign effort:

1. Deploy a media campaign along with CTW signage.
A media campaign is costly but effective, and is therefore recommended in conjunction with sign deployment for maximum effectiveness and outreach, especially to non-English speaking motorists.
2. Display CTW message on freeway overhead CMS signs.
As compared to purchasing public service announcements, displaying the CTW message on freeway overhead CMS signs is a very cost effective method of increasing public awareness of the law. If deployed in other areas, the CTW campaign should be launched as a joint effort with Caltrans, CHP, and local agency 511/motorist information groups. A strong partnership between these agencies is essential for the successful deployment of an incident management strategy like the CTW campaign.

If the CTW signage is approved statewide by the CTCDC, Caltrans District 4 will develop a signage plan for regional deployment of the CTW signs along major Bay Area corridors.

² This result is also supported by the fact that Caltrans did not receive any motorist complaint about the signs.

Appendix

- A. Clear the Way Brochure
- B. Clear the Way FSP Paper Survey
- C. Clear the Way Webpage
- D. Clear the Way Sign Specifications
- E. Clear the Way Sign Pictures
- F. Amended California Vehicle Code: 20002 & 23113
- G. Federal Register (Comment 105)
- H. Incident Analysis of CTW Signage Impact

Appendix A. Clear the Way Brochure

(English side)

HELP PREVENT CONGESTION

FENDER BENDER?

You must move your vehicle out of traffic if:

- No one was injured
- Vehicle can be SAFELY driven to the side of road (or off the freeway).

BUT wait for an officer before moving your vehicle if:

- There are injuries or fatalities

Safely driving your vehicle to the side of the road after a minor collision will not change who is at fault:

- You'll reduce the risk of being hit by another vehicle
- You'll help prevent other collisions
- You'll help keep traffic moving.

It's the law:
...any vehicle involved in an accident resulting only in damage to any property ... shall immediately stop ... at the nearest location that will not impede traffic... CVC20002(a)

Always call 911 to report the location of your crash, and tell the police if you are going to safely drive out of the way of traffic

YOU CAN PREVENT COLLISIONS

- Follow at a safe distance
- Drive at a safe speed
- Change lanes properly
- Be awake, alert, and sober
- Always wear your seat belt

CHP

CHP 982 (Rev. 9/06) OPI 051
Designed by Graphic Services Unit

(Spanish side)

Ayude a Evitar la Congestión de Tránsito

¿ACCIDENTE LEVE?

Usted debe quitar su vehículo de la vía de circulación si:

- No hubo lesionados
- El vehículo puede conducirse de forma SEGURA hasta el costado del camino (o fuera de la autopista).

PERO espere hasta que llegue un oficial antes de mover su vehículo si:

- Hay lesiones o fatalidades

Si usted conduce su vehículo de forma segura hacia el costado del camino después de una colisión menor no significará que hacerlo cambiará la determinación de quién tuvo la culpa:

- Usted reducirá el riesgo de que otro vehículo lo atropelle
- Usted evitará otras colisiones
- Usted ayudará a mantener el tránsito en circulación

Es la ley:
...todo vehículo involucrado en un accidente que resulte solamente en daños a bienes... deberá detenerse de inmediato... en el lugar más cercano que no entorpezca el tránsito... CVC20002(a)

Llame al 911 para reportar la ubicación de su choque y dígame a la policía si va a conducir de forma segura para quitarse de la vía de circulación de tránsito.

USTED PUEDE EVITAR COLISIONES

- Conduzca a una distancia segura
- Conduzca a una velocidad prudente
- Cambie de carril de forma adecuada
- Permanezca despierto, alerta y sobrio
- Abróchese siempre su cinturón de seguridad

CHP

CHP 982 (Rev. 9/06) OPI 051
Designed by Graphic Services Unit

Appendix C. Clear the Way Landing Page Posted on 511.org

511.org - Your Bay Area travel guide

<http://511.org/promo/cleartheway/index.asp>



MY 511

TRANSIT

TRAFFIC

RIDESHARE

BICYCLING

511 INFO

LINKS



I-880 Demonstration Project "Clear the Way" Campaign



Goals and Objectives

The goals and objectives of the sign demonstration are to:

- Educate motorists on the "Clear the Way" law;
- Decrease the number of secondary collisions caused by reduced speeds resulting from traffic impediments and rubberneckers;
- Reduce delay and loss of productivity caused by minor incidents; and
- Improve operational efficiency and mobility within a major trade corridor.

Take the Motorist Survey

A "Clear the Way" motorist survey has been developed to evaluate the potential impacts of the signs and the effectiveness of the overall campaign. In addition to being distributed by the FSP tow operators to motorists involved in minor non-injury traffic collisions along the I-880 corridor, you can also complete the survey by visiting www.fsp-bayarea.org.

The results of this demonstration project and its impacts on motorist behavior will be analyzed to assess the potential for statewide deployment of the signs and implementation of the "Clear the Way" campaign.

Background

On September 16, 1999, Senate Bill 681 amended Sections 20002 and 23113 of the California Vehicle Code. This amendment allowed motorists involved in a traffic collision resulting in minor property damage to move their vehicles off the main lanes of the highway to a safe location in the immediate vicinity of the accident.

Prior to SB 681, motorists involved in traffic accidents were required by law to "immediately stop" at the scene of the incident to exchange license and vehicle registration information. Failure to comply was punishable as a misdemeanor.

Five years following the enactment of the revised law, there continues to be minimal, if any, public knowledge of the new provision. The installation of "Clear the Way" regulatory traffic signs is proposed as a method to enhance motorists' awareness of this law.

Project Overview

The Metropolitan Transportation Commission (MTC), in partnership with the California Highway Patrol (CHP) Golden Gate Division and Caltrans District 4, are conducting a signage demonstration project along the I-880 corridor to increase public awareness of the "Clear the Way" law.

"Clear the Way" signs will be deployed in 15 locations along the corridor. The length of the study area extends 20 miles from 7th Street/West Grand in the City of Oakland to Industrial Parkway in the City of Hayward.

Please do your part: If you're ever involved in a non-injury accident, be sure to pull off to the side of the road and clear the way to help keep traffic moving. It will make freeway travel safe for you, safe for others and it's the law.

If you have any questions about the "Clear the Way" Campaign on I-880, please contact Danielle Stanislaus at 510.817.5737 or email dstanislaus@mtc.ca.gov.

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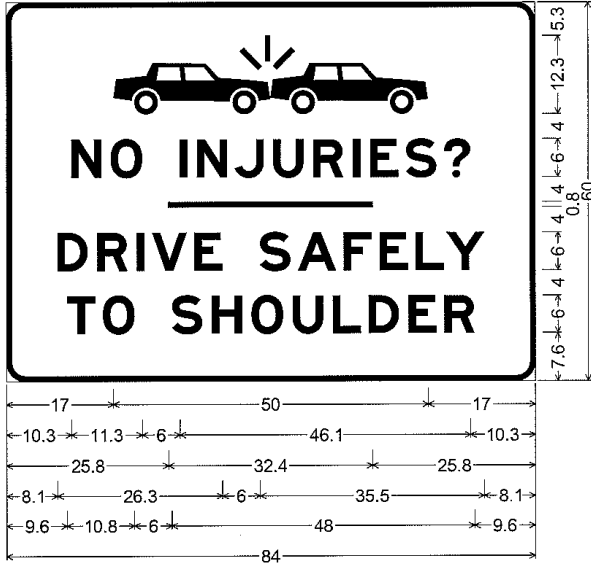
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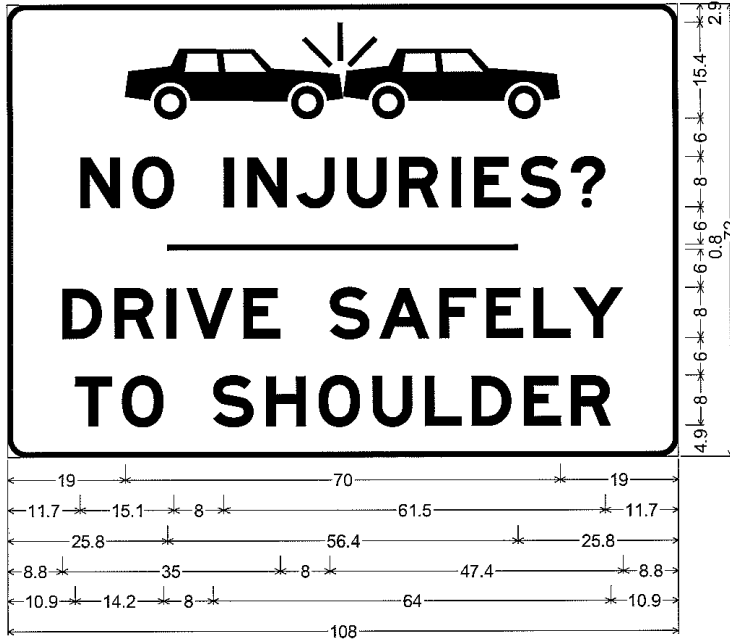
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Appendix D. Clear the Way Sign Specifications



3.0" Radius, 0.8" Border, Black on White;
 "NO INJURIES?" E Mod; "DRIVE SAFELY" E Mod;
 "TO SHOULDER" E Mod;



3.0" Radius, 0.8" Border, Black on White;
 "NO INJURIES?" E Mod; "DRIVE SAFELY" E Mod; "TO SHOULDER" E Mod;

Clear the Way Final Evaluation Report

Appendix E. Clear the Way Sign Pictures



Appendix F. Amended California Vehicle Code: 20002 & 23113

The next three pages display the amended Sections 20002 and 23113 (Senate Bill 681) of the California Vehicle Code.

Senate Bill No. 681

CHAPTER 421

An act to amend Sections 20002 and 23113 of the Vehicle Code, relating to vehicles.

[Approved by Governor September 16, 1999. Filed with Secretary of State September 16, 1999.]

LEGISLATIVE COUNSEL'S DIGEST

SB 681, Speier. Vehicles: accidents: clearing highway.

(1) Existing law requires the driver of any vehicle involved in an accident resulting in damage to any property, including vehicles, to immediately stop the vehicle at the scene of the accident. This bill would recast that provision to instead allow a driver involved in an accident resulting only in damage to any property to move the vehicle, if possible, off the main lanes of the highway to a safe location within the immediate vicinity of the accident unless that action would create a traffic hazard or cause injury to any person. The bill would specify that moving the vehicle in accordance with this provision does not affect the question of fault.

(2) Existing law authorizes, under certain circumstances, the governmental agency responsible for the maintenance of a street or highway on which certain material has been deposited to remove the material and collect, by civil action, if necessary, the actual cost of the removal operation in addition to any other damages authorized by law from the person made responsible for depositing the material. Existing law authorizes a member of the Department of the California Highway Patrol to direct a responsible party to remove the certain aggregate material from a highway when that material has escaped or been released from a vehicle.

Existing law provides that a public entity is liable for injury proximately caused by an act or omission of an employee of the public entity within the scope of his or her employment if the act or omission would, apart from this provision, have given rise to a cause of action against that employee.

This bill would provide that the government agency, the department, or the employees or officers of those agencies, may not be held liable for any damage to material, to cargo, or to personal property caused by a negligent act or omission of the employee or officer when the employee or officer is acting within the scope and purpose of the provisions specified above authorizing removal of materials from the highway. The bill would specify that nothing in this provision affects the establishment of liability for gross negligence or willful misconduct purposes, and that these provisions

apply to the negligent performance of a ministerial act and does not affect liability under any provision of law.

The people of the State of California do enact as follows:

SECTION 1. Section 20002 of the Vehicle Code is amended to read:

20002. (a) The driver of any vehicle involved in an accident resulting only in damage to any property, including vehicles, may move the vehicle, if possible, off the main lanes of the highway to a safe location within the immediate vicinity of the accident unless that action would create a traffic hazard or cause an injury to any person. Moving the vehicle in accordance with this subdivision does not affect the question of fault. The driver shall also do either of the following:

(1) Locate and notify the owner or person in charge of that property of the name and address of the driver and owner of the vehicle involved and, upon locating the driver of any other vehicle involved or the owner or person in charge of any damaged property, upon being requested, present his or her driver's license, and vehicle registration, to the other driver, property owner, or person in charge of that property. The information presented shall include the current residence address of the driver and of the registered owner. If the registered owner of an involved vehicle is present at the scene, he or she shall also, upon request, present his or her driver's license information, if available, or other valid identification to the other involved parties.

(2) Leave in a conspicuous place on the vehicle or other property damaged a written notice giving the name and address of the driver and of the owner of the vehicle involved and a statement of the circumstances thereof and shall without unnecessary delay notify the police department of the city wherein the collision occurred or, if the collision occurred in unincorporated territory, the local headquarters of the Department of the California Highway Patrol.

(b) Any person who parks a vehicle which, prior to the vehicle again being driven, becomes a runaway vehicle and is involved in an accident resulting in damage to any property, attended or unattended, shall comply with the requirements of this section relating to notification and reporting and shall, upon conviction thereof, be liable to the penalties of this section for failure to comply with the requirements.

(c) Any person failing to comply with all the requirements of this section is guilty of a misdemeanor and, upon conviction thereof, shall be punished by imprisonment in the county jail not exceeding six months, or by a fine not exceeding one thousand dollars (\$1,000), or by both that imprisonment and fine.

SEC. 2. Section 23113 of the Vehicle Code is amended to read:

23113. (a) Any person who drops, dumps, deposits, places, or throws, or causes or permits to be dropped, dumped, deposited, placed, or thrown, upon any highway or street any material described in Section 23112 or in subdivision (d) of Section 23114 shall immediately remove the material or cause the material to be removed.

(b) If the person fails to comply with subdivision (a), the governmental agency responsible for the maintenance of the street or highway on which the material has been deposited may remove the material and collect, by civil action, if necessary, the actual cost of the removal operation in addition to any other damages authorized by law from the person made responsible under subdivision (a).

(c) A member of the Department of the California Highway Patrol may direct a responsible party to remove the aggregate material described in subdivision (d) of Section 23114 from a highway when that material has escaped or been released from a vehicle.

(d) Notwithstanding any other provision of law, a government agency described in subdivision (b), the Department of the California Highway Patrol, or the employees or officers of those agencies, may not be held liable for any damage to material, to cargo, or to personal property caused by a negligent act or omission of the employee or officer when the employee or officer is acting within the scope and purpose of subdivision (b) or (c). Nothing in this subdivision affects liability for purposes of establishing gross negligence or willful misconduct. This subdivision applies to the negligent performance of a ministerial act, and does not affect liability under any provision of law, including liability, if any, derived from the failure to preserve evidence in a civil or criminal action.

Appendix G. Federal Register (Comment 105)

The next two pages are pulled from the Federal Register Vol. 74, No. 240. The language relevant to fender bender signage is shown on the next page in the boxed text.

66730 Federal Register / Vol. 74, No. 240 / Wednesday, December 16, 2009 / Rules and Regulations

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

23 CFR Part 655

[FHWA Docket No. FHWA-2007-28977]

RIN 2125-AF22

National Standards for Traffic Control Devices: the Manual on Uniform Traffic Control Devices for Streets and Highways: Revision

AGENCY: Federal Highway Administration (FHWA), (DOT).
ACTION: Final rule.

SUMMARY: The Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) (also referred to as "the Manual") is incorporated by reference within our regulations, approved by the Federal Highway Administration, and recognized as the national standard for traffic control devices used on all public roads. The purpose of this final rule is to revise standards, guidance, options, and supporting information relating to the traffic control devices in all parts of the MUTCD to expedite traffic, promote uniformity, improve safety, and incorporate technology advances in traffic control device application. The MUTCD, with these changes incorporated, is being designated as the 2009 Edition of the MUTCD.

DATES: *Effective Date:* This final rule is effective January 15, 2010. The incorporation by reference of the publication listed in this regulation is approved by the Director of the Office of the Federal Register as of January 15, 2010.

FOR FURTHER INFORMATION CONTACT: Mr. Hari Kalla, Office of Transportation Operations, (202) 366-5915; or Mr. Raymond Cuprill, Office of the Chief Counsel, (202) 366-0791, Federal Highway Administration, 1200 New Jersey Ave., SE., Washington, DC 20590. Office hours are from 7:45 a.m. to 4:15 p.m., e.t., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Electronic Access

This document, the notice of proposed amendments (NPA), and all comments received may be viewed online through the Federal eRulemaking portal at: <http://www.regulations.gov>. Electronic submission and retrieval help and guidelines are available under the help section of the Web site. It is available 24 hours each day, 365 days each year. Please follow the instructions. An electronic copy of this

document may also be downloaded from the Office of the Federal Register's home page at: <http://www.archives.gov> and the Government Printing Office's Web page at: <http://www.access.gpo.gov/nara>.

Background

On January 2, 2008, at 73 FR 268, the FHWA published an NPA proposing revisions to the MUTCD. Those changes were proposed to be designated as the next edition of the MUTCD. Interested persons were invited to submit comments to FHWA Docket No. FHWA-2007-28977. Based on the comments received and its own experience, the FHWA is issuing a final rule and is designating the MUTCD, with these changes incorporated, as the 2009 Edition of the MUTCD.

The text of the 2009 Edition of the MUTCD, with these final rule changes incorporated, and documents showing the adopted changes from the 2003 Edition, are available for inspection and copying, as prescribed in 49 CFR part 7, at the FHWA Office of Transportation Operations (HOTO-1), 1200 New Jersey Avenue, SE., Washington, DC 20590. Furthermore, the text of the 2009 Edition of the MUTCD, with these final rule changes incorporated, and documents showing the adopted changes from the 2003 Edition, are available on the FHWA's MUTCD Internet site <http://mutcd.fhwa.dot.gov>. The previous version of the MUTCD, the 2003 MUTCD with Revisions 1 and 2 incorporated, is also available on this Internet site. The 2009 Edition supersedes all previous editions and revisions of the MUTCD.

Summary of Comments

The FHWA received 1,841 letters submitted to the docket, containing over 15,000 individual comments on the MUTCD in general or on one or more parts, chapters, sections, or paragraphs contained in the MUTCD. The National Committee on Uniform Traffic Control Devices (NCUTCD), State Departments of Transportation (DOTs), city and county government agencies, Federal government agencies, consulting firms, private industry, associations, other organizations, and individual private citizens submitted comments. The FHWA has reviewed and analyzed all of the comments received. The NCUTCD comments included support for all items in the NPA except as otherwise indicated. The significant comments and summaries of the FHWA's analyses and determinations are discussed below. General comments and significant global changes throughout the MUTCD are discussed first, followed

by discussion of significant comments and adopted changes in each of the individual Parts of the MUTCD. All of the items discussed below were proposed in the NPA unless otherwise indicated.

Discussion of General Amendments to the MUTCD

1. The FHWA received several general comments from State DOTs, local agencies, associations, and citizens regarding the NPA. Two local agencies, a traffic control device vendor, an association, and two citizens expressed general support for the changes in the MUTCD, such as incorporating into the MUTCD recommendations of the Older Driver Handbook, the Synthesis of Non-MUTCD Traffic Signs, and new technologies. In addition to the overall general comments, some of the commenters had specific comments that relate to the entire MUTCD. Those topics that the FHWA considers to be substantive and non-editorial in nature are discussed in the following items within this section.

2. The NCUTCD submitted a letter suggesting that the FHWA issue a supplemental notice of proposed amendments (SNPA). Fourteen State DOTs, AASHTO, and the Chair of the NCUTCD submitted duplicate copies of the NCUTCD's letter in support of an SNPA. In addition, three State DOTs, a county DOT, an NCUTCD member, and a traffic engineering consultant also stated support for the NCUTCD's letter. The NCUTCD's letter included the following statements in support of an SNPA:

1. The NPA did not include a quantified assessment of the economic impacts of the proposed changes on public agencies and the private sector.

2. More details are needed regarding some of the proposed changes and some of the proposed changes need to be reorganized or reformatted.

3. The extent of the proposed changes and the number of expected comments is such that the final rule would be significantly different from the NPA version, and would therefore constitute a new document which should be reviewed as an SNPA prior to becoming a final rule.

4. Because of the interconnectivity between the language in the various sections, chapters, and parts, a change in one section might have impacts on multiple other sections. Therefore, an SNPA is needed in order to have the opportunity to review additional changes resulting from responses to comments to assess whether they are consistent with each other.

because NCHRP Report 493⁵¹ found that a regulatory sign is not needed to instruct drivers to yield on flashing yellow arrows.

101. In Section 2B.55 Photo Enforced Signs and Plaques (Section 2B.46 in the 2003 MUTCD) and Figure 2B-3, the FHWA adds to the word message PHOTO ENFORCED (R10-19) plaque (as it existed in the 2003 MUTCD) the option to use a new symbol plaque for Photo Enforced. The FHWA retains the existing word message plaque as an alternate. In addition, the FHWA revises the design of the TRAFFIC LAWS PHOTO ENFORCED (R10-18) sign to add the symbolic camera. Although ATSSA and a local DOT supported the new camera symbol on the Photo Enforced signs and plaques, two NCUTCD members, two State DOTs, and two local DOTs opposed the addition of the new symbol because they did not think that road users would understand the symbol. The FHWA disagrees and adopts the new symbol based on road user understanding of the symbol documented in research results of the "Evaluation of Selected Symbol Signs" study⁵² conducted by the Traffic Control Devices Pooled Fund Study. To address comments from two toll road operators and a State DOT, the FHWA also adds an OPTION and a GUIDANCE regarding the optional use of the Photo Enforced symbol or word message plaques at toll plazas to address situations where video enforcement is in use at toll plazas.

102. The FHWA adds a new section numbered and titled Section 2B.56 Ramp Metering Signs. In the NPA, the FHWA proposed to add a GUIDANCE statement describing the recommended use of new regulatory signs that should accompany ramp control signals. Based on comments from the NCUTCD and a State DOT, the FHWA adopts the language as an OPTION statement. This allows agencies to determine whether the use of the signs is appropriate for their conditions based on enforcement experience. The FHWA adds these new signs because ramp metering signals are used in several States, but there were no standard signs for them in the 2003 MUTCD, so States have developed a

⁵¹ NCHRP Report 493, "Evaluation of Traffic Signal Displays for Protected/Permissive Left-Turn Control," 2003, can be viewed at the following Internet Web site: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_493.pdf.

⁵² "Design and Evaluation of Selected Symbol Signs," Final Report, May 2008, conducted by Bryan Katz, Gene Hawkins, Jason Kennedy, and Heather Riedon Howard, for the Traffic Control Devices Pooled Fund Study, can be viewed at the following Internet Web site: http://www.pooledfund.org/documents/TPP-5_065/symbol_sign_report_final.pdf.

variety of signs, as documented by the Sign Synthesis Study.⁵³ In this new Section, the FHWA adopts two new signs, X VEHICLES PER GREEN and X VEHICLES PER GREEN EACH LANE. ATSSA and a local DOT supported these new signs. Another local agency expressed concerns that allowing more than one vehicle per green might cause driver confusion, especially if they are behind a large vehicle on a ramp. The FHWA adopts these signs based upon effective application in many States and to provide uniformity in ramp meter signing.

103. In Section 2B.60 Weigh Station Signs (Section 2B.50 of the 2003 MUTCD), the FHWA changes the text of the R13-1 sign to "TRUCKS OVER XX TONS MUST ENTER WEIGH STATION—NEXT RIGHT" to reflect that the message is regulatory, rather than guidance. A local DOT supported this change. Although three State DOTs and two NCUTCD members suggested that either the original language be retained, or other revisions be made to the sign text, the FHWA adopts the text of the sign as proposed in the NPA. The FHWA notes that a State at the time of its adoption of the MUTCD may include appropriate additional information in its supplement. In addition, in Figure 2B-30, the FHWA illustrates the customary regulatory sign color of a black legend on a white background, rather than the allowable option of the reverse color pattern, for the TRUCKS OVER XX TONS MUST ENTER WEIGH STATION—NEXT RIGHT sign. ATSSA supported this change in the illustration.

104. The FHWA adds a new section numbered and titled Section 2B.64 Headlight Use Signs, containing GUIDANCE, SUPPORT, and OPTION statements that describe the use of several new signs that may be used by States to require road users to turn on their vehicle headlights under certain conditions. ATSSA and a local DOT supported the new signs, as proposed in the NPA. An NCUTCD member opposed this new section because he felt that the installation of these types of signs is already covered in other sections in the MUTCD, and that since wording of the signs is based on laws that vary from State to State, it is not appropriate to standardize a series of signs in the MUTCD. The Sign Synthesis Study⁵⁴

⁵³ "Synthesis of Non-MUTCD Traffic Signs," FHWA, December 2005, pages 28-29, can be viewed at the following Internet Web site: http://td.tamu.edu/documents/rwstc/Signs_Synthesis-Final_Dec2005.pdf.

⁵⁴ "Synthesis of Non-MUTCD Traffic Signs," FHWA, December 2005, page 31, can be viewed at the following Internet Web site: http://td.tamu.edu/documents/rwstc/Signs_Synthesis-Final_Dec2005.pdf.

found that there is a wide variation in the legends currently being used by States for this purpose and the FHWA adopts these new signs to provide increased uniformity of the messages for road users. Based on comments from two State DOTs and a traffic engineering consultant, the FHWA does not adopt the proposed TURN OFF HEADLIGHTS sign from this final rule, because commenters felt that it might communicate an inappropriate message to road users during nighttime

conditions.

105. The FHWA adds a new section numbered and titled Section 2B.65 FENDER BENDER Sign. This new section contains an OPTION statement regarding the use of a new FENDER BENDER MOVE VEHICLES FROM TRAVEL LANES sign that agencies may use to inform road users of laws or ordinances that require them to move their vehicles from the travel lanes if they have been involved in a minor non-injury crash. As an integral part of active incident management programs in many urban areas, an increasing number of States and cities are using signs requiring drivers that have been involved in relatively minor "fender bender" or non-injury crashes to move their vehicles out of the travel lanes. A variety of sign messages are in use for this purpose, as documented by the Sign Synthesis Study.⁵⁵ Although ATSSA and a State and a local DOT supported the new sign, as proposed in the NPA, the NCUTCD and two of its members and three State DOTs provided comments about the sign design. Several of the commenters from Arizona suggested that the term "Fender Bender" be revised to reflect the wording of signs in their State. A few commenters suggested that the use of yellow and white backgrounds on the same sign is inappropriate, and many of the commenters opposed the symbol for fender bender, because they did not feel that it had been tested for road user comprehension. Based on the comments, the FHWA removes the symbol from the sign but is adopting the black on yellow header panel in the design, noting that the regulatory portion of the sign is a black legend and border on a white background. The FHWA adopts this sign because a standardized sign legend is needed.

106. In this final rule, the FHWA changes the number and title of Section

td.tamu.edu/documents/rwstc/Signs_Synthesis-Final_Dec2005.pdf.

⁵⁵ "Synthesis of Non-MUTCD Traffic Signs," FHWA, December 2005, page 31, can be viewed at the following Internet Web site: http://td.tamu.edu/documents/rwstc/Signs_Synthesis-Final_Dec2005.pdf.

Appendix H. Incident Analysis of CTW Signage Impact

This Appendix shows that CHP Computer Aided Dispatch (CAD) incident data does not suggest that the installation of the CTW signs has any immediate (i.e., within one year of sign installation) effect on the number of incidents in our demonstration site. This result complements the no-change conclusion drawn from survey responses: that one year after the sign installation, the percentage of individuals who say they would move over to the shoulder in a minor incident is unchanged from before. While the apparent note here is that the intended objective (of removing minor collisions away from traffic) has not been achieved in the short term, of equal importance is that the signs are not shown to have an adverse impact on the number of collisions. This finding establishes that the installation of the CTW signs is unlikely to become a distraction to drivers, potentially increasing the occurrence of incidents.

A before-and-after analysis was performed on the average daily number of incidents that occurred in the demonstration corridor to test the potential impact of the installation of the CTW signs.³ (The test therefore assumes that each day is an independent observation.) CHP incident data – traffic collisions and hit and runs – recorded in the PeMS⁴ database for the demonstration corridor on normal weekdays (i.e., non-holiday Tuesdays, Wednesdays, and Thursdays) were extracted. To account for the effect of inclement weather, the days with rain, fog, or thunderstorm, as recorded by wunderground.com, were also excluded from the analysis.

The final “before” and “after” samples capture incident data from April to June 2007, and from April to June 2009, respectively. Precisely, the last date sampled for each year is June 18. The selection of these date ranges is due to the following:

- The “before” sample is taken from before the start of the only known construction project in the demonstration corridor: the Route 92/880 Interchange Reconstruction Project, which began in October 2007 and ran through most of 2009.
- January to March 2007 data exhibited unusual upward and downward spikes, which could not be explained with current known information. Data from this period was excluded from analysis.
- CTW demonstration ended on June 18, 2009.
- The analysis is believed to be fair if the comparison is made using the same calendar time period in 2007 and 2009.

After carrying out the above data cleaning and day selection processes, 17 observations remain for each of the 2007 (before) and 2009 (after) samples in the demonstration corridor. The plots of the observations are shown in Figures A1 and A2. A test using a standard statistical procedure produces a probability (that the two samples came from the same underlying population) of 62%.

³ This analysis was performed on a slighter longer segment of I-880 than the demonstration corridor. Specifically, the section that extends seven miles north of High Street on I-880 was included. Since there was no known construction project in that section of the freeway during the demonstration period, changes to the daily number of incidents in the entire segment are believed to be attributable to the installed signage. This is partially supported by the fact that a statistical analysis on the Oakland section of I-880, which contains all of the seven-mile additional section, does not show any change in the number of incidents.

⁴ Performance Measurement System operated by UC Berkeley, California Partners for Advanced Transit and Highways, and Caltrans.

Clear the Way Final Evaluation Report

That is, from the data, it cannot be concluded that the average daily number of incidents changed after the CTW sign installation.

The test results here show that there is no evidence suggesting the CTW signs affected the daily number of incidents in the demonstration corridor. The finding allows the IMTF to conclude that the signage did not become a distraction to drivers during the CTW demonstration.

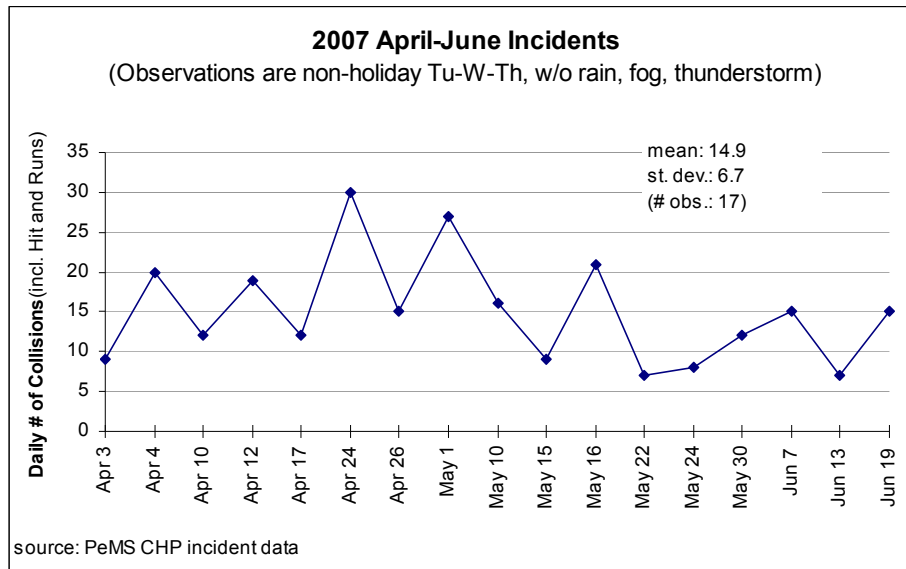


Figure A1. 2007 Daily Number of Collisions

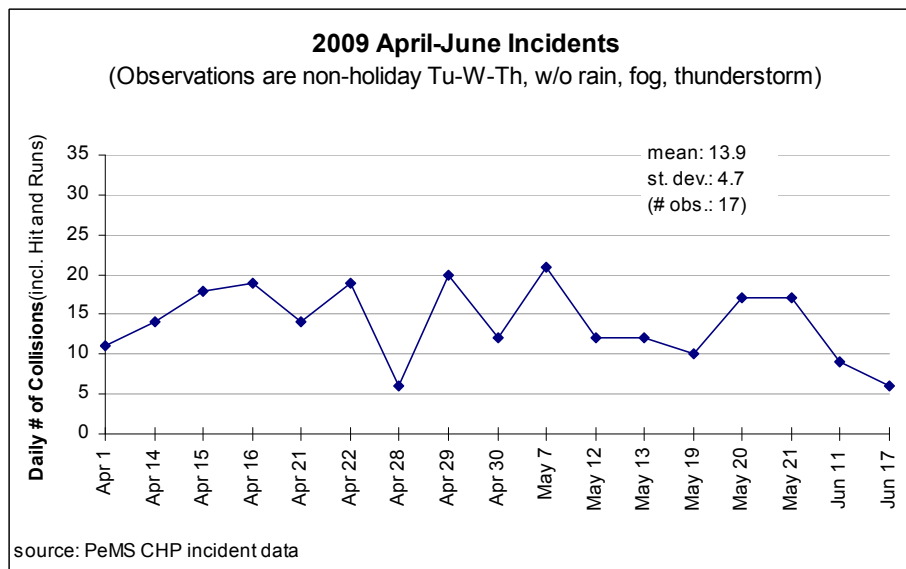


Figure A2. 2009 Daily Number of Collisions