



U.S. Department
of Transportation
**Federal Highway
Administration**

1200 New Jersey Avenue, SE.
Washington, DC 20590

December 3, 2008

In Reply Refer To: HOTO-1

Theodore J. Trepanier, P.E.
State Traffic Engineer
Washington State Department of Transportation
P.O. Box 47300
Olympia, WA 98504-7300

Dear Mr. Trepanier:

Thank you for your November 7 letter requesting experimentation with a sign for the Ticketing Aggressive Cars and Trucks (TACT) program that has been deployed in conjunction with a previous study conducted by the Washington Traffic Safety Commission (WTSC). Your request involves two experimentation sites along the Routes U.S. 2 and U.S. 12 corridors, as well as two control corridors removed from the influence of outreach efforts related to the TACT program in which the experimental signing will not be installed. The experiment is planned to commence in late spring 2009 and continue through early fall 2009. Your request is conditionally approved, pending receipt of an amended work plan that addresses the items discussed herein.

We wish to make you aware of the fact that the Federal Highway Administration (FHWA), in conjunction with the Federal Motor Carrier Safety Administration (FMCSA), will be conducting a human factors laboratory evaluation of legibility of the pictorial representation of the TACT sign message, as well as an evaluation of the comprehension of the overall message. We expect this evaluation to be completed in March 2009. Once the evaluation is completed, the TACT program sign might be redesigned to include a new symbol or a word message. States using a sign for the TACT program will be required at that time to use the new sign design. The evaluation was initiated by several concerns, including the fact that there had been no documented evidence that the sign, when posted exclusive of the other elements of the overall safety campaign, had any effect on driver behavior or that motorists would understand the message in the absence of the media outreach efforts. In addition, the referenced WTSC evaluation had concluded that the presence of enhanced enforcement might have been a significant factor in changing observed driver behavior and that this change could not necessarily be attributed to the sign. The WTSC evaluation also employed a sign with an untested graphic representation. In accordance with the provisions of the *Manual on Uniform Traffic Control Devices* (MUTCD), the adoption of new symbols is subject to the results of human factors laboratory testing in which legibility and comprehension are evaluated for satisfactory performance.

MOVING THE
**AMERICAN
ECONOMY**



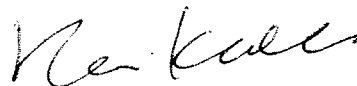
We note in Section D, "Supporting Data," of your experimentation plan that an intercept survey was used to determine whether motorists could read the sign at freeway speeds. We do not believe that an intercept survey in which subjects are surveyed after they have been exposed to the item being evaluated can adequately and quantitatively measure recognition and legibility distances. This measure can be determined only in a controlled environment, as will be done in the FHWA-FMCSA joint evaluation referenced above. In addition, because the sign is intended to communicate an enforceable regulation, a measure of comprehension must also indicate that the observer has an absolute understanding of what actions would constitute a violation. The result of the intercept survey does not explain how the participants were questioned for comprehension, nor does it indicate what response was considered to constitute a correct interpretation. The survey result also does not indicate whether comprehension was the result of the word message, the pictorial representation, or a combination thereof.

Because the results of previous evaluations are not conclusive with regard to the proposed sign design, approval cannot be granted for the experimental TACT program signs to remain in place exclusive of the other elements of the safety campaign in a particular corridor. Therefore, the experimental signs must be removed or covered once the outreach and enhanced enforcement efforts have ceased in a corridor.

Your evaluation plan includes a survey effort to measure changes in opinions and awareness of the target audience. The results of a self-reporting survey questionnaire must be supported by observed changes in driver behavior for the overall result of the experiment to be considered valid. In order for the experimental sign to continue to be used, a significant change in driver behavior must occur as a result of its use. We look forward to receiving this information with your progress reports.

Please submit an amended work plan that addresses the issues discussed herein. In addition, your amended request must include a restoration agreement and an agreement to provide semiannual and final progress reports, consistent with MUTCD Section 1A.10, Items H and I of the discussion of the contents of a request for permission to experiment. Your request has been assigned the following official ruling number and title: "2-658(E)—TACT Program Sign—Washington." Please refer to this number and title in future correspondence. We look forward to receiving your amended work plan for this experiment. If you require additional information, please contact Mr. Kevin Sylvester at 202-366-2161.

Sincerely yours,



Hari Kalla
Acting Director, Office of Transportation
Operations



**Washington State
Department of Transportation**

Paula J. Hammond, P.E.
Secretary of Transportation

Transportation Building
310 Maple Park Avenue S.E.
P.O. Box 47300
Olympia, WA 98504-7300
360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

November 7, 2008

Robert Arnold
Director of the Office of Transportation Operations
Federal Highway Administration
1200 New Jersey Avenue, S.E., HOTO-1
Washington, DC 20590

Dear Mr Arnold:

The Washington State Department of Transportation (WSDOT) requests permission to experiment with the use of a non-standard "Don't Get A Ticket - Leave More Space" sign to assist in reducing collisions and improve driver behavior between passenger vehicles and commercial motor vehicles. This use of the sign is associated with Ticket Aggressive Cars and Trucks (TACT) safety campaign in Washington State.

Enclosed for your review and approval is a detailed description of the proposed experiment developed by WSDOT traffic engineering personnel. If you need any additional information or have any revisions to the proposed experiment and evaluation plan, please contact Rick Mowlds, of our Headquarters Traffic Office, at (360) 705-7988.

Thank you for your consideration of this matter.

Sincerely,

A handwritten signature in cursive script, reading "Theodore J. Trepanier".

Theodore J. Trepanier, P.E.
State Traffic Engineer

TT:rm

Enclosures

cc: Don Petersen, FHWA - Olympia, 40943
Lt. Kevin Zeller, WSP, 42600

Washington State Department of Transportation (WSDOT)
Request to Experiment
TACT Signs (Don't Get A Ticket – Leave More Space)

A. Problem Statement

WSDOT, Washington State Patrol (WSP), and Washington Traffic Safety Commission (WTSC) are concerned that many drivers in passenger vehicles are using poor driving behavior when they cut off commercial motor vehicles (CMVs). The purpose of the Ticket Aggressive Cars and Trucks (TACT) safety program is to educate the drivers of passenger vehicles on how to share the road safely with commercial motor vehicles (CMVs).

The proposed experiment will look at traffic signing associated with a media education campaign, and added enforcement to decrease poor driving behavior and collisions between passenger vehicles and CMVs.

The purpose of this experiment is to evaluate the effectiveness of the TACT signing with a coordinated education/media campaign with added enforcement to reduce unsafe driver behavior around CMVs on rural highways.

B. Description of Proposed Changes

The proposed sign use symbols that depict a passenger vehicle motorist passing a CMV with an acceptable distance to merge in front of the CMV. The use of the green arrow is to reflect the acceptable distance and the passenger vehicle action is permissible and safe movement. The symbols are reinforced with the text “carrot” message “LEAVE MORE SPACE”. If motorists use unsafe driver behavior they are reminded with the text “stick” message “DON'T GET A TICKET”.

C. Illustration of Traffic Control Device

See Figure 1 – TACT Sign Layout

D. Supporting Data

The TACT safety project advisory committee looked at number of unsafe driving behaviors by utilizing Washington State's citation database as a resource. The unsafe driving behaviors considered included speeding, cutting off trucks, unsafe lane changes, aggressive driving, and tailgating. “Cutting off trucks” was selected because there is a specific traffic violation in Washington statutes that law enforcement officers could cite for the enforcement part of the campaign.

As a result of the committee direction seven proposed signs were developed for consideration – see Figure 2. The WTSC conducted an intercept survey at a local shopping mall in Olympia, Washington. They interviewed 100 people to gauge public attitudes and awareness levels about

D. Supporting Data (Continued)

driving behaviors around CMVs, specifically leaving one car length for every 10 miles per hour when merging in front of CMVs. The proposed signs were shown to the participants to identify their perceptions and reactions to the signs. The survey results identified that 42 percent of motorists reported that they leave three or fewer car lengths at 60 mph when merging in front of large trucks, even though they view themselves as safe drivers. Based on the feedback received from the survey the road sign was refined, see Figure 1, and tested with a second 100 – person intercept survey to ensure motorists could read the road sign while traveling at speeds between 60 and 70 mph. The decision was made to rephrase this infraction into a positive message for the driving public – “leave more space.”

As part of the Washington State’s Pilot TACT Project in 2005, a post media/education and enforcement campaigns intercept survey was conducted. A 102 people were surveyed regarding the TACT safety project regarding the radio commercial ad and the use of the TACT sign. Two questions on the survey were directly related to the TACT sign, each person was shown a visual of the sign and 87 of 102 respondents were familiar with the sign that used during the pilot project. If the respondents recognized the sign they were asked a second question to give a one-sentence description of the sign. Sixty four percent described the sign to mean leave more space or room for semi-trucks, or don’t cut off semi-trucks.

E. Legally Binding Statement

The Washington State Department hereby certifies the proposed experimental sign is not protected by a patent or copyright.

F. Time Period and Locations

The experimentation would begin in late spring of 2009 and continue through early fall of 2009. The project will have two intervention corridors and two control corridors.

Intervention- Corridors:

- 1) US Route 12 – Milepost 9.41 to Milepost 20.99 and State Route 8 – Milepost 0.00 to Milepost 7.39.
- 2) US Route 2 – Milepost 299.86 to Milepost 321.29.

Control Corridors: (No signs will be installed, no media campaign in this areas, and no added enforcement)

- 1) State Route 14 – Milepost 6.00 to Milepost 26.00.
- 2) State Route 522 – Milepost 14.09 to Milepost 24.68.

G. Evaluation Plan *(Draft)*

The evaluation study will be a comparison of two intervention corridors and two control corridors at multiple time periods including pre-project, baseline, during for each of the two enforcement waves, and after completion of the project. Data will be collected for each of the four project corridors.

G. Evaluation Plan (Draft) (Continued)

The project will be evaluated by the following criteria:

1. **Measurement of the extent to which opinions, awareness and knowledge of the target audience was changed.** This will be accomplished through surveys of the public in each of four communities selected for the project; surveys to be conducted at before implementation of project, pre and post for each of the law enforcement waves, and after completion of the project. The surveys will be conducted through phone interviews, and distributed surveys at driver licensing offices to drivers who are renewing their licenses while they are waiting.

The survey questions will include demographics, driver behavior, type of vehicle they drive, enforcement, recognition and understanding of the road sign, and media exposure.

2. **Measurement of the impact of the project in reducing CMV related crashes.** Data on crashes involving CMVs will be collected for the four corridors. The data will be analyzed for each corridor. Crash data for the 10 mile segments adjacent to both ends of projects will also be examined. The data will be analyzed for each of the four project corridors separately as well as aggregated for the two intervention corridors and two controls. Rates per AADT will be computed and analyzed. Given the number of CMV crashes in the project corridors are relatively small, monthly or quarterly time series data is not feasible. Calendar year totals for the three year priors (2006 to 2008) and the one year of enforcement (2009) will be analyzed and compared. Additionally, post project data for 2010 will be obtained and reported even though the project activities will have been completed by then.

3. **Measurement of the incidence and rates of unsafe driver behaviors in the vicinity of CMVs.** Video data will be collected will be on each of the project corridors. The video taping will consist of an unmarked law enforcement vehicle following a semi truck and documenting the behavior of drivers passing or interacting with semi trucks. Video equipment mounted on the dashboard and looking to the front of the unmarked cars recorded data. This project will follow the same protocol was developed during the pilot TACT safety project on how the observations are to be made and the judgments desired from troopers on the scene.

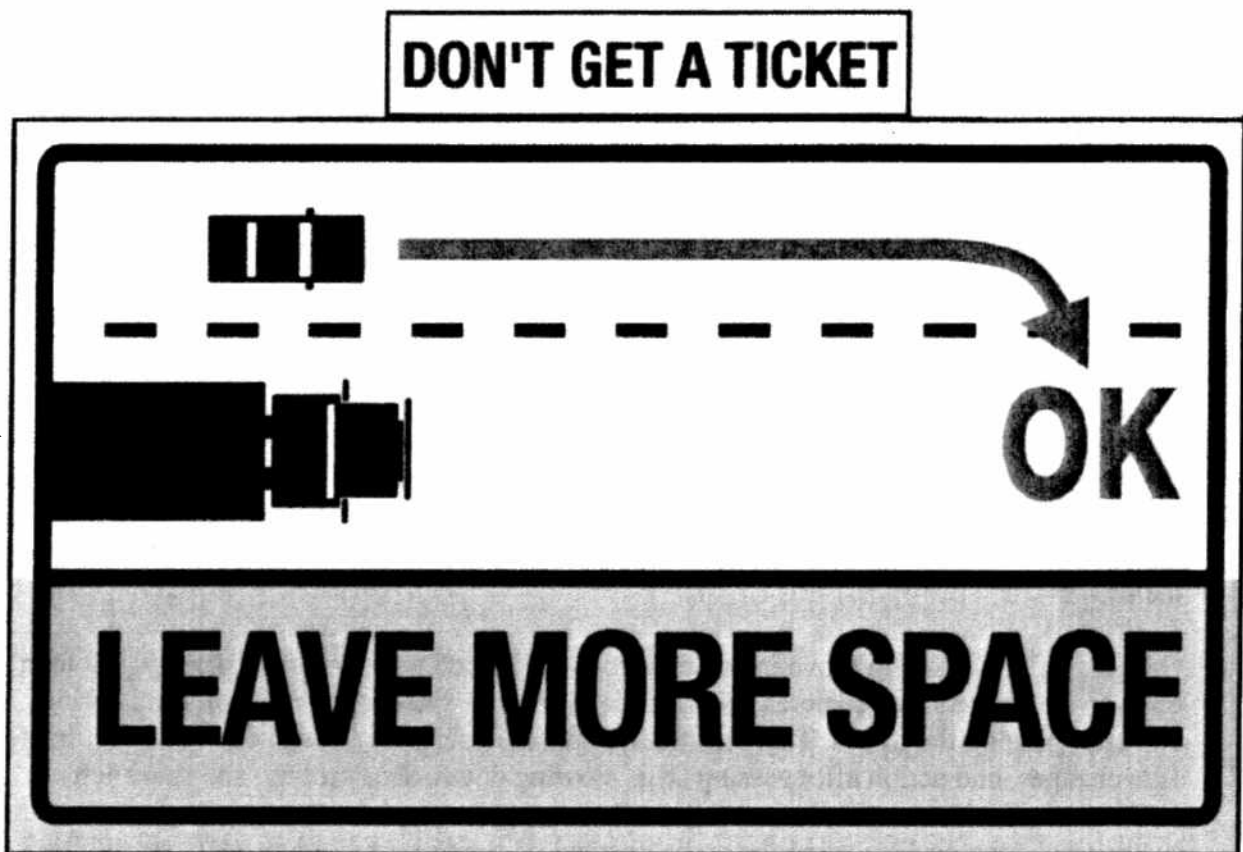
Officers will be asked to move in or out of the lane behind the semi truck when possible in order to allow the video cameras to obtain images about vehicle behaviors before, during, and after passing the trucks. This information included signaling in and out of lanes, time for lane changes, and action after passing (e.g., slowing down, accelerating, and space left). Officers were asked to identify any violations around the semi trucks or violations committed by the trucks themselves using the audio channel on the video recorders. Officers will look for speed, improper lane change, failure to signal, following too closely, reckless driving and negligent driving 2nd degree violations. Officers will be asked to verbalize what action they would take regarding the vehicle's actions so it would be caught on the audio portion of the tape, although they were asked not to stop vehicles unless absolutely necessary. For each relevant sequence, an array of information will be coded based on trooper comments, environmental and weather conditions, vehicle type, and observed vehicle behaviors

G. Evaluation Plan (Draft) (Continued)

including signaling in or out of lanes, position relative to a semi truck, and the number of highway lanes.

4. **Documentation of enforcement efforts** (i.e., numbers of enforcement actions taken against other drivers in the vicinity of CMVs). These data will be obtained from the WSP Trooper Activity Record (TAR) database. All trooper contacts with drivers are recorded in the TAR database, including citations and warnings. The data include codes to indicate if the contact was related to a CMV and if the contact was associated with aggressive driving. Numbers of CMV-related contacts with drivers of other vehicles will be analyzed for the time periods of two weeks prior to, during, and two weeks following each of the enforcement waves.

Figure 1 – TACT Project Sign



The main sign is 10'X6' with 8"D and 8"E letters. The supplemental sign is 6'X2' with 6"C letters.

Figure 2 – Proposed Signs Considered

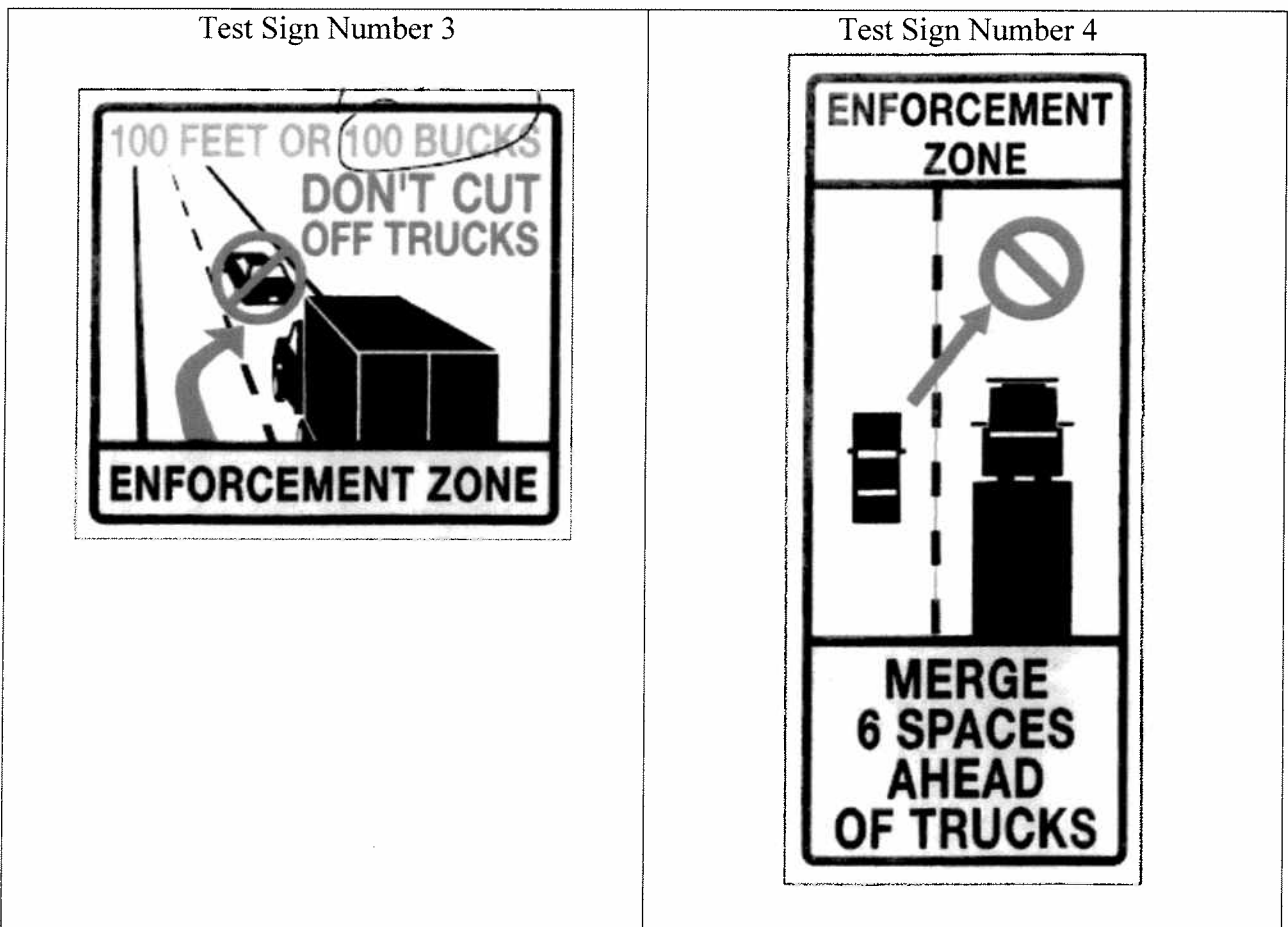
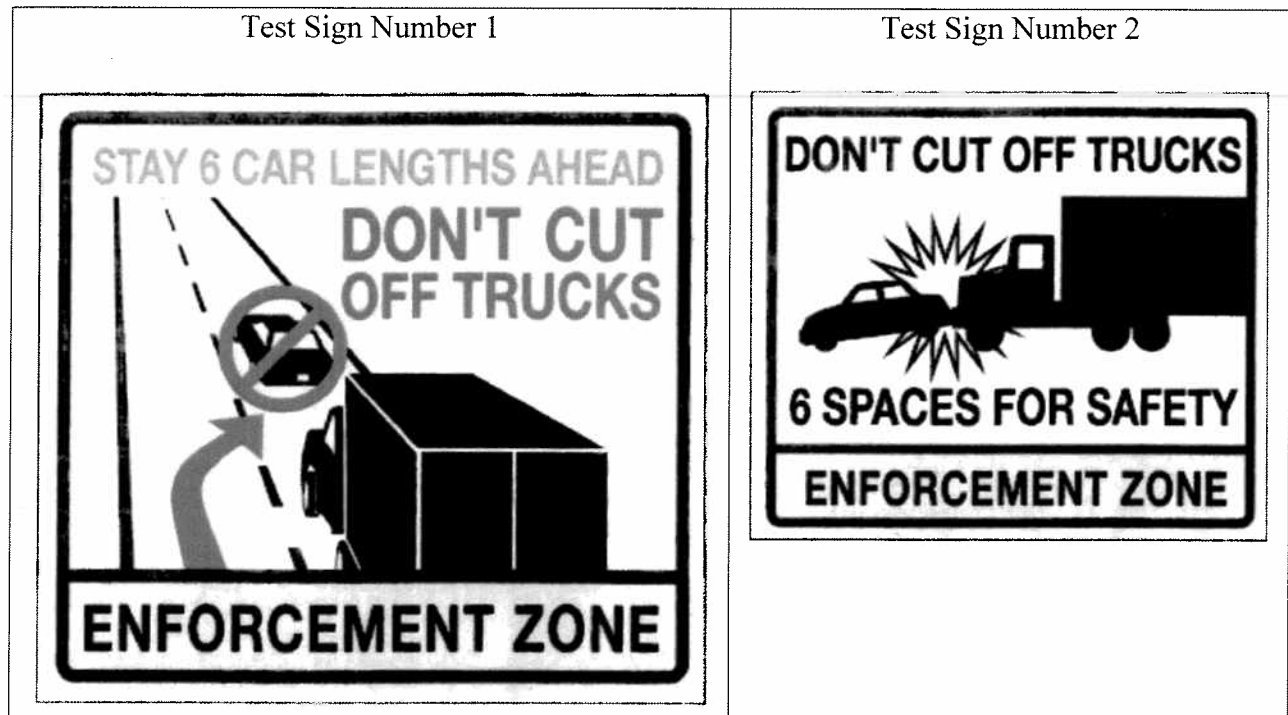


Figure 2 – Proposed Signs Considered (Continued)

Test Sign Number 5



Test Sign Number 6



Test Sign Number 7

