



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

Memorandum

via Electronic Mail

Subject: **INFORMATION**: Traffic Control Strategies for Toll Plazas

Date: October 12, 2006

From: Jeffrey F. Pantani
Associate Administrator for Operations
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Associate Administrator for Safety

Reply to HOTO-1
Attn. of: HSA-1

To: Associate Administrators
Chief Counsel
Directors of Field Services
Resource Center Director and Operations Managers
Division Administrators
Federal Lands Highway Division Engineers

Background

Our national transportation system is experiencing an increase in the use of toll collection facilities. This trend will grow significantly as SAFETEA-LU offers States and other qualifying transportation agencies more opportunities to enact tolls as a means of financing various operating, construction, or reconstruction projects.

One challenge for engineers, designers, planners, and other decision makers in the transportation field is that there are few, if any, traffic control standards for operating toll plazas in a consistent and uniform manner. Consistency and uniformity of traffic control strategies are important safety factors to consider because of the potential benefits they present for promoting efficient traffic flow, improving driver familiarity, as well as creating quicker recognition and response time.

The FHWA, in collaboration with the International Bridge, Tunnel and Turnpike Association (IBTTA), recently completed a study of traffic control strategies at toll plazas and issued a report entitled, "State of the Practice and Recommendations on Traffic Control Strategies at Toll Plazas." This report is posted on the Manual on Uniform Traffic Control Devices (MUTCD) Web site at <http://mutcd.fhwa.dot.gov>. The recommendations in this policy memorandum are based on that report. We believe that the findings and recommendations contained in the report will be useful to agencies

- (1) seeking new solutions to improve safety and operations of existing toll plazas;
- (2) contemplating replacement or modification of an existing toll plaza; or
- (3) planning a new toll plaza.



Purpose

The purpose of this policy memorandum is to provide guidelines on certain traffic control strategies and devices used at mainline toll plazas. The recommendations discussed in this policy memorandum are intended to provide a consistent strategy for guiding and controlling the movement of vehicles through mainline toll plazas in an orderly manner so that safety is enhanced, and better efficiency and economy of design is achieved.

Action

We strongly encourage the implementation of the recommendations prescribed in this memorandum by all public and private agencies that operate toll plazas particularly when addressing facility retrofits, reconstruction, or any new construction. The FHWA is considering proposing some of these provisions in the notice for proposed rulemaking (NPRM) for the next edition of the MUTCD. This NPRM would clearly identify the proposed standards, guidance, and options and would provide the public an opportunity to review and comment.

Specific Guidance for Traffic Control Strategies and Devices at Toll Plazas

- **Advance Signing** is necessary and recommended especially where Electronic Toll Collection (ETC) and other mixed payment types are combined at mainline toll plazas. Advance signs should be placed at the 1-mile and ½-mile points before a mainline toll plaza and may also be placed at the 2-mile point, if feasible. (For toll plazas on entrance and exit ramps, advance signs should be provided on the ramp if there is sufficient distance). The advance signs should warn of the Toll Plaza Ahead and, if appropriate, regulatory signs should identify which lanes to use for each payment type and any vehicle restrictions. Toll rate information should also be included on the advance signs or supplemental signs to give motorists notice of the required payment at the toll booths.
- **Lane Assignment** guidance is important to travelers when approaching and navigating through the toll plaza. Providing clear and consistent advance orientation information helps the traveler to make early decisions on lane selection. There are 3 primary lane payment types: ETC, Automatic Coin Machines (ACM)/exact change, and attended lanes for other cash transactions. Lanes for each payment type should be grouped together. Also, for mainline toll plazas all ETC dedicated lanes should be clustered to the left in the toll plaza since the left lane is understood to be the lane where motorists travel at higher speeds. In general, the lanes with an attendant are considered the slower processing lanes and should be located to the right in the plaza. The ACM lanes are considered faster than attended lanes but slower than ETC lanes. They should be located in the center between the attended and express

lanes. (In some cases, where needed to serve traffic entering from or exiting to ramps immediately before or after the toll plaza, some lanes for specific payment types may have to be provided separate from their main cluster).

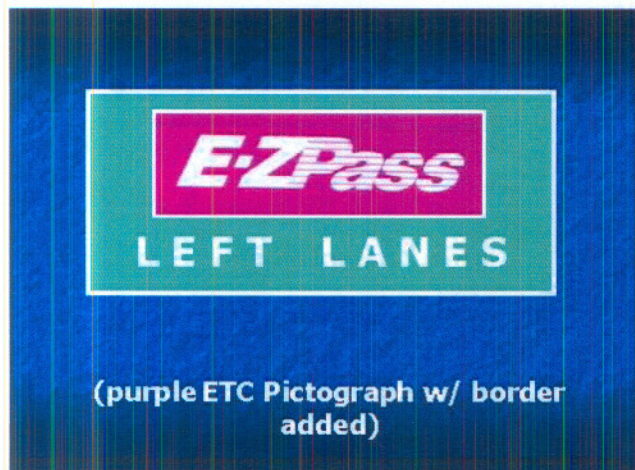
- Color of Toll Signs: The Federal Highway Administration recommends that the background color for toll guide signs should be green. When the ETC pictograph is used, it should have a white underlay and should be placed on a purple square panel with a wide white border that is then incorporated into the green guide sign (see attached examples 3 and 6); or the ETC pictograph with a white underlay should be placed on a purple rectangular panel located above the green sign (see attached examples 2, 4, and 5). The white underlay provides the color contrast between the purple and green colors. If the color of the ETC pictograph is white as in the case of E-ZPass, then a white underlay should not be needed (see attached example 1). The FHWA is accepting requests for experimentation from those agencies that are interested in using this application. Please send your request to the Office of Transportation Operations (HOTO), 400 7th Street, SW., Washington, DC 20590.
- Pavement Markings should be used to effectively extend the toll lanes upstream and downstream of the toll island to reduce the incidence of lane changes. Dedicated ETC lanes within a conventional plaza should be separated from the cash lanes by the use of both pavement markings and either channelizers or barriers that extend upstream of the plaza to the approximate point where approaching vehicle speeds drop below 30 mph during off peak hours. Channelizers and barriers are intended to prevent or discourage vehicles from entering a dedicated ETC lane. Impact attenuators or crash cushions should be installed at the approach end of the conventional plaza lanes to provide protection to the user and the attendant operators. Gore or chevron pavement markings should be installed immediately in front of the impact attenuator.
- Lane-Use Signals should be used over a toll lane to indicate an open or closed status. Lane-use signals are not needed for open-road, ETC lanes. Use of the traditional traffic signal heads may cause confusion because the circular red and green signal indications are generally recognized as meaning "stop" and "go." The lane-use control signal with the downward pointing green arrow should be used to indicate the lane is open and the red X should be used to indicate the lane is closed. Static or changeable message signs may accompany the lane use signals on the toll plaza canopy as needed. Flashing beacons should not be installed together with lane-use signals. Flashing yellow beacons are effective to draw attention to certain signs and to objects in the roadway, but when positioned adjacent to lane-use signals, may be confusing. To highlight a particular lane to approaching traffic, flashing beacons may be used with an overhead canopy sign but these should be located in a manner that is distinctly associated only with the sign and separated from the lane-use signals (see attached example 8).

We believe the best practice recommendations discussed in this policy memorandum represent a positive first step in promoting uniformity and consistency of toll plaza design and operation. We welcome your questions and comments as we continue to identify appropriate strategies for traffic control at toll plazas. Please contact Ms. Linda L. Brown of my staff at 202-366-2192 or via e-mail at Linda.L.Brown@dot.gov.

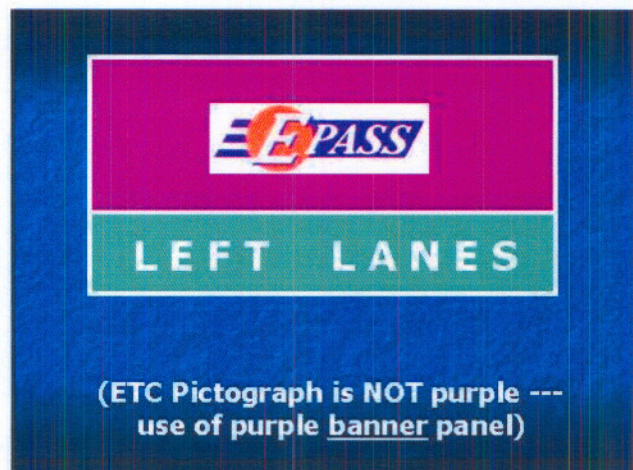
Attachment

(Example Diagrams for Toll Sign Colors and Use of Flashing Beacons)

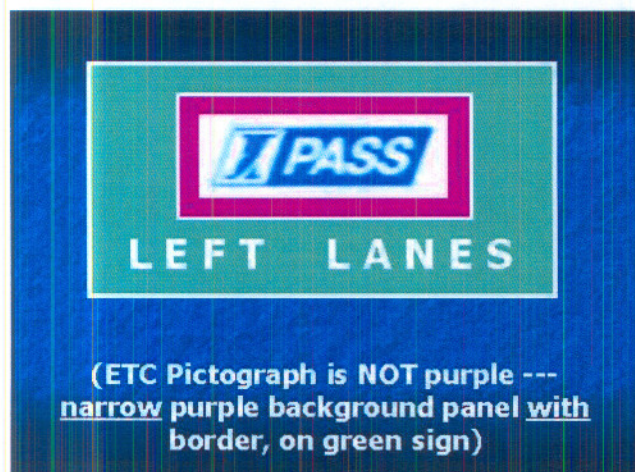
Example Diagrams for Toll Sign Colors and Use of Flashing Beacons



Example 1



Example 2



Example 3



Example 4

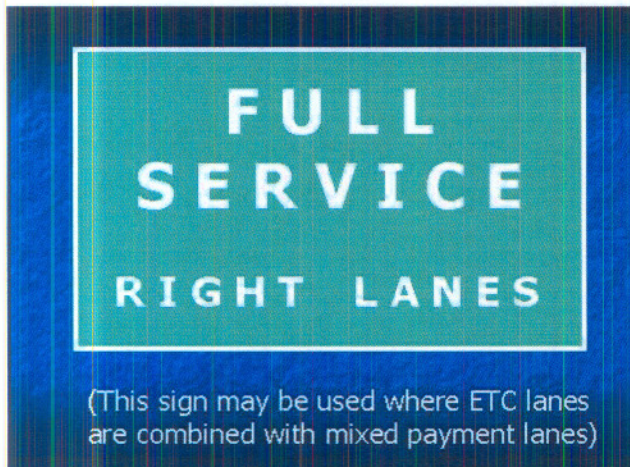
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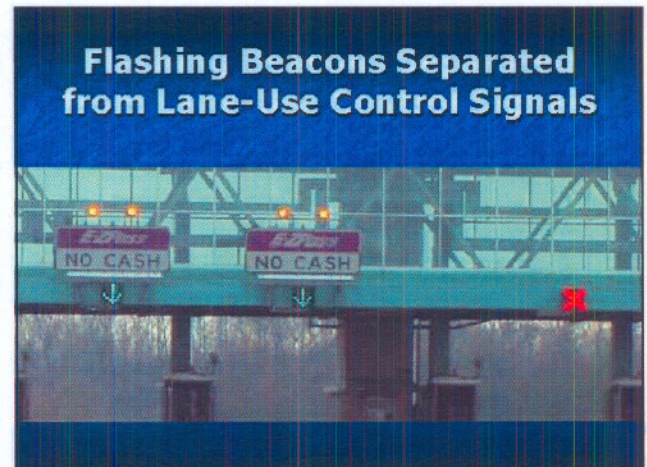
Example 5



Example 6



Example 7



Example 8