

U.S. Department of Transportation
Federal Highway Administration
400 Seventh St., S.W.
Washington, D.C. 20590

March 21, 2003

Refer to: HOTO-1

Mr. David B. Rush
Virginia Department of Transportation
Engineer I - State Work Zone Safety Coordinator
Mobility Management Division
1401 East Broad Street
Richmond, VA 23219

Dear Mr Rush:

Thank you for your inquiry on the use of "Arrow Panels" in temporary traffic control zones. Provisions on the use of "Arrow Panels" in TTC zones to supplement other traffic control devices to close one or more lanes are covered in Part 6, Section 6F.53, of the Manual on Uniform Traffic Control Devices (MUTCD). For recordkeeping purposes, your request is numbered and titled, "Interpretation 6-191(I) Number and placement of Arrow panels for lane closure." Please refer to this official ruling number in future correspondence.

Our interpretation of the provisions in 6F.53 concludes that when an arrow board is used to supplement other traffic control devices to close a single lane, only one arrow board should be used.

Clearly, for multiple lanes closures, when arrow panels are used as a supplement to other devices to close lanes, there must be one arrow panel for each lane that is closed. This is prescribed as a "**Standard**" in Section 6F.53 as follows:

Standard:

When arrow panels are used to close multiple lanes, a separate arrow panel shall be used for each closed lane.

For single lane closures, the use of arrow panels to supplement other traffic control devices, is covered by "*Guidance*" statements, as follows:

Guidance:

An arrow panel in the arrow mode should be used to advise approaching traffic of a lane closure along major multilane roadways in situations involving heavy traffic volumes, high speeds, and/or limited sight distances, or at other locations and under

other conditions where road users are less likely to expect such lane closures.

Guidance:

For a stationary lane closure, the arrow panel should be located on the shoulder at the beginning of the shifting or merging taper.

There are two key words in the guidance statements on the use of arrow panels which indicate that only one arrow panel should be used for a single lane closure. The first "Guidance" paragraph begins ..."**An** (emphasis added) arrow panel...should be used..." A further "Guidance" paragraph states..."For a stationary lane closure, **the** (emphasis added) arrow panel should..." When these guidance statements are considered along with the **Standard** statement on multiple lane closures, these provisions support our interpretation of Section 6F.53 on the use of arrow boards, that only one arrow board should be used for a single lane closure.

The use of multiple arrow boards for a single lane closure could create several driver errors, particularly at night, or in other challenging driving conditions. For example, changing or moving over more lanes than needed when only one lane is closed, creating unnecessary vehicle/vehicle conflicts.

Section 1A.02, Principles of Traffic Control Devices of the MUTCD, prescribes five requirements that relate to the "effectiveness" of traffic control devices. The Federal Highway Administration believes the use of multiple arrow boards for single lane closures is not consistent with these requirements, particularly point C. as follows from Section 1A.02: **C. Convey a clear, simple meaning**; (Note: If multiple arrow boards are used for both single and multiple lane closures, the message is neither clear nor simple).

The use of a Changeable Message Sign should be considered if additional emphasis is deemed to be necessary to encourage road users to move over sooner for a single lane closure. The CMS allows more information to be conveyed to the approaching motorists. For example a message set could be... LEFT LANE CLOSED;...XX MILES AHEAD;...MERGE RIGHT.

Again, thank you for your email and your interest in this matter.

Sincerely yours,

Shelley J. Row, P.E.
Director, Office of Transportation
Operations