

**APPROVED BY NCUTCD COUNCIL ON JANUARY 19, 2007**

**TECHNICAL COMMITTEE:** Temporary Traffic Control Committee

**DATE OF ACTION:** June 29, 2006

**TOPIC:** Proposed modification to the MUTCD, Sections 6C.08, 6G.03, 6G.05, 6G.07, and 6G.08; Figures 6H-3, 6H-19, 6H-20, 6H-32, 6H-33, 6H-34, 6H-37, and 6H-38.

**ORIGIN OF REQUEST:** Don Gordon and Task Force G Members of the TTC Technical Committee of the NCUTCD

**DISCUSSION:** The members of this Task Force and the Technical Committee have discussed these modification and received approval of the TTC after the discussion.

**COMMITTEE ACTION:** The Temporary Traffic Control (TTC) Committee recommends that the National Committee submit the following proposed MUTCD change to its sponsors and to the sponsors of the National Traffic Incident Management Coalition for comments,. **Attached are changes that where voted on.**

**VOTE:**

<b>For</b>	-25
<b>Opposed</b>	- 1
<b>Abstentions</b>	- 1

**REFERENCE TO AFFECTED PAGE NUMBERS IN MUTCD:** Pages: 6C-5, 6G-3, 6G-4, 6G-5, 6G-6, 6H-10, 6H-42, 6H-44, 6H-68, 6H-70, 6H-72, 6H-78, and 6H-80.

**A search was performed of Parts G and H for Standards that are not unique to the situation described and could therefore apply to many applications. An extensive list of Standards that appear in G and H was compiled. Then each was researched to determine if there is substantiating text in earlier sections of Part 6 or in the MUTCD.**

**Of the 68 Standards that appear in Part 6H, only six are of the type described above (None were found in 6G). For example, a Standard in TA 33 which requires devices on every side road approach within a TTC Zone on a divided highway, can be interpreted to apply to every side road approach in every TTC Zone on any type of highway, including all mobile operations.**

**The most confusing items found relate to a Standard for a shoulder taper that appears on one TA and in 6G. Nearly identical Guidance text also appears in 6G and in other TA's, and in two instances, an Option appears on the diagram where the Standard is illustrated.**

**In addition, the appropriate application of a shoulder taper in a parking lane was investigated and a proposal is presented as part of the shoulder taper proposal.**

**The other 62 Standards in 6H are unique to the TA on which they appear and cannot be interpreted to apply to additional situations. The list below identifies the subject of the six Standards found in 6H. The pages that follow detail each Standard situation and the proposed changes.**

**A. Paved or Improved Shoulder.**

**B. Shoulder Taper Standard.**

**C. Side Road Intersection Standard.**

**D. A Note that Converts a TA into a Standard.**

**E. Street Name Detour Sign Standard.**

**F. Change in Alignment Sign Standard.**

## A. Paved or Improved Shoulder

*This inconsistency showed up during the search for Standards.* “Improved” shoulder appears twice in the MUTCD, the other 18 references use the term “paved” shoulder.

Proposal to change “improved” to “paved” in the two places it appears:

### A1. 6C.08 Tapers. pg 6C-7:

Propose to change “**improved**” to “paved” in the third Guidance.

Propose to delete “**if-used**” from the beginning of the fourth Guidance.

### A2. 6G.07, Work on the Shoulder With no Encroachment, pg 6G-5

Replace “shoulders” with “Shoulder” in the first Standard to read:

“When a paved shoulder having ...”

First Guidance, second paragraph:

Propose to change “**improved**” to “paved”,

*Also an editorial change in the last line:*

Change “taper ~~or~~ channelizing devices” to “taper of channelizing devices”.

## **B. Shoulder Taper Standard.**

**The Guidance for shoulder tapers in 6C.08 is confused by Standards and additional Guidance in 6G.05 and 6G.07. It appears that the intent is to require a shoulder taper where the shoulder is at least 8 ft wide and paved, on high speed roadways, but not for mobile or short duration work. Some TA's follow this concept, others do not.**

**Text in a Standard requiring a shoulder taper appears twice, in 6G.07 and in Note 7, Figure 6H-3. Similar statements in 6G.05 and 6G.07 are Guidance, but notes for shoulder tapers on TA diagrams in 6H-34 and 6H-38 are Options. The diagrams for some high speed TA's show a shoulder taper while others do not, as tabulated on the next page:**

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***Generally, shoulders are associated with high speed roadways in rural areas. Roadways in urban areas often have parking lanes and curbs. In some suburban areas there are shoulders, sometimes paved, for use by pedestrians and bicycles. Bicycles also use shoulders in rural areas,***

***MUTCD Part 6 does not mention parking lanes. In TTC Zones shoulders and parking lanes are usually treated the same. Some***

*crews use a SHOULDER CLOSED Sign on a parking lane, others use a RIGHT LANE CLOSED Sign. Another question that arises is the application of a shoulder taper on a parking lane. Section 6C.08 should be modified to include parking lanes.*

*The text in 6C.08 where shoulder tapers are defined sets the groundwork for requirements that tapers be used in some cases when work or work vehicles occupy the shoulder (or parking lane):*

### 6C.08 (Shoulder Taper)

*Propose to modify 6C.08 to include “parking lanes”:*

**“Support:**

A shoulder taper may be beneficial on a high-speed roadway where shoulders are part of the activity area and are closed, or when a paved shoulder or a lane dedicated for parking might be mistaken as a driving lane. In these instances, the same type, but abbreviated, closure procedures used on a **normal** travel portion of the roadway can be used.

**New additional Support paragraph to follow above:**

**Support:**

Two common types of parking lanes are:

- A. A lane in which parking is allowed at least part of the time could be used for travel, creating a dual-use travel/parking lane.
- B. A lane dedicated exclusively for parking.

**“Guidance:**

**If used,** Shoulder tapers should have a length of approximately 0.33 L (see Tables [6C-3](#) and [6C-4](#)). If a shoulder or lane dedicated to parking is used as a travel lane, either through practice or during a TTC activity, a normal merging or shifting taper should be used”.

***Additional, but more restrictive, language appears in 6G.05 and 6G.07.***

#### **6G.05 - Work Affecting Pedestrian and Bicycle Facilities.**

***This Section applies where bicycles or pedestrians are frequently present, and where speeds are often low, generally in urban areas. The Guidance in 6G.05 applies to all work on any highway shoulder. In many urban areas there is no shoulder, but instead a parking lane that is usually paved and edged with a curb. Parking lanes are intended for use by vehicles, but not for driving, similar to shoulders. It could be inferred that statements regarding shoulders also apply to parking lanes, although that concept was not found in the MUTCD.***

**Propose to add “parking lane” to 6G.05.**

**Pg 6G-4, first Guidance, fourth paragraph:**

**“(Guidance:)**

**Except for short duration and mobile operations, when a highway shoulder is occupied, a SHOULDER WORK sign should be placed in advance of the activity area. ~~When a parking lane is occupied, a RIGHT LANE CLOSED sign should be used.~~ When work is performed on a paved shoulder 2.4 m (8 ft) or more in width or in a parking lane, ~~channelizing devices should be placed on a taper having a length that conforms to the requirements of a~~ shoulder taper should be used. When a dual-use land is occupied, a Right Lane Closed sign and a merging or shifting taper should be used. Signs should be placed such that they do not narrow any existing pedestrian passages to less than 1200 mm (48 in)”.**

**Option:**

**When a work area is to occupy a dual-use parking/travel lane, and parked vehicles occupy the advance warning area, the taper may be shortened or omitted.**

**When a work area is to occupy a lane available only for parking, the taper may be omitted, and a “PARKING LANE CLOSED” sign may be used.**

**B1. 6G.07, Work on the Shoulder with no Encroachment.**

*This section generally applies to the more rural, high speed roadways but it also applies to all other roadways with shoulders or parking lanes.*

**Propose to modify 6G.07 by changing the Standard to apply only to longer work operations on high speed roadways:**

**6G.07, Pg 6G-5, first Standard:**

**Standard:**

When a paved shoulders having a width of 2.4 m (8 ft) or more on a high speed roadway, ~~are~~ is closed by a short term or longer work operation, at least one advance warning sign shall be used. In addition, channelizing devices shall be used to close the shoulder in advance to delineate the beginning of the work space and direct motor vehicle traffic to remain within the traveled way.

*Since the Guidance in 6G.05 also applies here, it does not need to be repeated.*

**B2. Figure 6H-3 Work on Shoulder (of a TLTW roadway at any speed).**

**The text in Note 7 for Figure 6H-3 should be changed from Standard to Guidance and modified to reflect the above Guidance:**

**Figure 6H-3, Work on Shoulders, Note 7;**

**Standard:**

**Guidance:**

- 7. When paved shoulders having a width of 2.4 m (8 ft) or more or parking lanes are occupied by a short term or longer work operation, at least one advance warning sign ~~shall~~ should be used. In addition, channelizing devices**

**shall** should be used to close the shoulder or parking lane in advance to delineate the beginning of the work space and direct vehicular traffic to remain within the traveled way.

**B3. Figure 6H-12 Lane Closure on a Two Lane Road Using Traffic Control Signals**

*This diagram shows a shoulder taper. There is no related note.*

**Propose to add a Standard regarding use of shoulder taper with a reference note on the diagram:**

**Standard:**

**6. When a paved shoulder having a width of 2.4 m (8 ft) or more, on a high speed roadway is closed by a short term or longer work operation, a shoulder taper shall be used.**

**Also, add a note on the diagram near the shoulder taper, i.e.:**

**“See Note 6”**

**B4. Figure 6H-32, Half Road Closure on Multi-lane, High-Speed Highway**

*Note 2 is Guidance regarding the closure of a paved shoulder. For this high speed highway the similar Standard should be used.*

**The text in Guidance Note 2 for Figure 6H-32 should be modified to repeat the text in the previous Standard:**

**Guidance:**

**Standard:**

**2. When a paved shoulders having a width of 2.4 m (8 ft) or more on a high speed roadway **are**, is closed, by a short term or**

longer work operation, ~~at least one advance warning sign shall be used. In addition, channelizing devices shall be used to close the shoulder in advance to delineate the beginning of the work space and direct vehicular traffic to remain within the traveled way~~ a shoulder taper shall be used.

**B5. Figure 6H-33, Stationary Lane Closure on Divided Highway,**

*Note 3 is Guidance regarding the closure of a paved shoulder. For this high speed highway, the similar Standard is more appropriate.*

*The text in Guidance Note 3 for Figure 6H-33 should be modified to repeat the text in the previous Standard:*

**Guidance:**

**Standard:**

3. When a paved shoulder ~~s~~ having a width of 2.4 m (8 ft) or more on a high speed roadway ~~are~~, is closed by a short term or longer work operation, ~~at least one advance warning sign shall be used. In addition, channelizing devices shall be used to close the shoulder in advance to delineate the beginning of the work space and direct vehicular traffic to remain within the traveled way~~ a shoulder taper shall be used.

**B6. Figure 6H-34, Lane Closed (on a Divided Highway) with Traffic Barrier,**

*The diagram for this TA shows a shoulder taper which is labeled with:*

Shoulder  
taper  
(optional)

*This is inconsistent with earlier sections.*

Propose to delete “(optional)” from the note on the diagram.

B7. Figure 6H-37, Double Lane Closure on Freeway,

The diagram for TA 37 should include a shoulder taper.

Propose to add a shoulder taper to the diagram.

B8. Figure 6H-38, Interior Lane Closure on Freeway

The diagram for TA 38 shows a shoulder taper which is labeled:

Shoulder  
taper  
(optional)

This is inconsistent with earlier sections.

Propose to delete “(optional)” from the note on the diagram.

Lasek – Disagree with original proposal and identified several additional inconsistencies on sketches.

SECTION OR TA	SPEED	TA NOTE	REQUIREMENT	CONTEXT	PROPOSED ACTION
6C.08	High	N/A	Support	Def Of Shldr Tpr. On Hi Speed Rds, A Shldr Tpr May Help If Shldr Is Part Of The Activity Area And Is Closed, Or If Paved And Might Be Seen As A Driving Lane.	None

6G.0 5	Low	N/A	Guidance	Wk Affecting Peds; Bicycles (Urban), Except For Short Dur; Mobil Wk, If Shldr Is 8 Ft Or + And Paved, Taper Should Be Used	None
6G.0 7	Any	N/A	Standard	Wk On The Shoulder, If 8 Ft Or + And Paved, Taper Shall Be Used	Restrict Std To High Speed
6H-3	Any	# 7	Standard	Wk On TLTW Shldr – If 8 Ft Or + And Paved, Taper Shall Be Used	Restrict Std To High Speed
6H-4	Any	None		Short Duration or Mobil – No Taper Shown Or Req'd	None
6H-5	High	None		Ln Clsd On F'way W/Barrier, Shldr Taper Shown On Diagram	None
6H-6	Low	None		Wk On TLTW Shldr W/Minor Encrch, Shldr Taper Shown On Diagram; For Short Dur; May Be Repld W/Wk Veh + Flashing Lts	None
6H- 12	Any	None		Rt Ln Clsd On TLTW, Taper Shown On Diagram	Add Std For Hi Speed [problem, help, Gene]
6H- 32	High	# 2	Guidance	Outside Ln Clsd On Mult Ln; If Shldr Is 8 Ft Or + And Paved Shoulder Taper	Ch Note # 2 To Std

				should be used.	
6H-33	High	# 3	Guidance	Outside Ln Clsd On Divided. If Shldr Is 8 Ft Or +, And Paved Shldr Taper Should be Ised.	Ch Note # 3 To Std
6H-34	High	Note On Diagram	Option	Outside Ln Clsd On Divided W/Barrier, Shldr Taper Shown With "Optional" Note On Diag	Delete: (Optional)
6H-36	High	None		Outside Ln Clsd On F'way, Shldr Taper Shown	None
6H-37	High	None		Outside Ln Clsd On F'way, No Shldr Taper Shown	none
6H-38	High	Note On Diagram	Option	Interior Ln Clsd On F'way, Shldr Taper Shown With "Optional" Note On Diag	Delete; (Optional)
6H-39	High	None		Outside Ln Clsd On F'way, Shldr Taper Shown on Diagram and Labeled	None

## C. Side Road Intersection Standard.

*When there is a side road intersection within a TTC Zone, some warning may be appropriate on the side road approach. A Standard appears in Note 2 of Figure 6H-33, Stationary Lane Closure on Divided Highway, that requires additional TTC devices where a side road intersects the highway within the TTC zone. This requirement does not appear anywhere else in the MUTCD, but the text of the Standard as written applies to all side road intersections within any TTC zone, including mobile operations.*

*This requirement may be inappropriate as a Standard that applies to all roadways. It is more appropriate as Guidance. A similar Guidance statement should first appear in an earlier section. One location is at the end of Section 6G.03 where Location of Work is discussed.*

### C1. 6G.03, Location of Work, pg 6G-3

Propose to add a Guidance statement at the end of Section 6G.03, as follows:

#### Guidance:

When a side road intersects any highway or street within the TTC zone, additional TTC devices should be considered for each side road approach using the information in Chapter 6F.

### C2 Figure 6H-33, Stationary Lane Closure on Divided Highway.

Propose to change the Standard in Note 2, to Guidance as follows:

#### ~~Standard:~~

#### Guidance:

2. When a side road intersects ~~the~~ any highway or street within the TTC zone, additional TTC devices ~~shall~~ should be considered placed for ~~the~~ each side road approach using the information in Chapter 6F.

(note to editor – With this Guidance addition to 6C.03, Standard Note 2 should be deleted from 6H.33.)

#### D. A Note that Converts a TA into a Standard.

*TA 33 and TA 34 depict right lane closures and illustrate appropriate traffic control. The first note for each TA is a Standard that makes the entire TA a Standard, but only for a left lane closure. TA's are not standards but are intended to illustrate how the Standards, Guidance and Options in the MUTCD can be combined to apply to an actual situation.*

*TA's 33 and 34 illustrate work in the right lane of a divided multi-lane roadway. Note 1 for TA 33 and Note 1 for TA 34 state "This information also shall be used when work is being performed in the (left) lane..."*

*Propose to modify both to return the TA's to their intended use:*

D1. Figure 6H-33, Stationary Lane Closure on Divided Highway, Note 1.

*Replace the standard with a similar support statement:*

#### ~~Standard:~~

- ~~1. This information also shall be used when work is being performed in the lane adjacent to the median on a divided highway. When work is being performed in the lane adjacent to the median on a divided highway, the LEFT LANE CLOSED signs and the corresponding Lane Ends signs shall be substituted.~~

**Support:**

**1. This information applies to work being performed in an exterior lane on a divided highway. The diagram shows the work being performed in the right outside lane. The same procedure, in mirror image, applies to work being performed in the left lane adjacent to the median; the only difference being the substitution of LEFT LANE CLOSED and Left Lane Ends signs for the RIGHT LANE CLOSED and Right Lane Ends signs that are shown.**

**Motion to approve change 6H -33 and 6H-34 from Standard to Support – vote unanimous**

**D2. Figure 6H-34, Lane Closure with Temporary Traffic Barrier, Note 1.**

**Replace the standard with a similar support statement:**

**Standard:**

~~**1. This information also shall be used when work is being performed in the lane adjacent to the median on a divided highway. When work is being performed in the lane adjacent to the median on a divided highway, the LEFT LANE CLOSED signs and the corresponding Lane Ends signs shall be substituted.**~~

**Support:**

**1. This information applies to work being performed in an exterior lane on a divided highway. The diagram shows the work being performed in the right outside lane. The same procedure, in mirror image, applies to work being performed in the left lane adjacent to the median; the only difference being the substitution of LEFT LANE CLOSED and Left Lane Ends signs for the RIGHT LANE CLOSED and Right Lane Ends signs that are shown.**

## E. Street Name Detour Sign Standard.

*Section 6F.53, Detour Signs, states that “a street name sign should be placed above, or the street name should be incorporated into, a DETOUR sign...”, but Notes for Figures 6H-19, and 6H-20, state “if used, the street name sign shall be placed above the detour sign.”*

6F.53 Detour Signs (Reference – no change):

“A Street Name sign should be placed above, or the street name should be incorporated into, a DETOUR (M4-9) sign to indicate the name of the street being detoured.”

Propose to modify both notes to reflect 6F.53:

E1. 6H-19 Detour for One Travel Direction, Note 8:

Standard:

Guidance:

8. Where used, the street Name sign shall should be placed above, or the street name should be incorporated into, the ~~Detour~~ DETOUR signs.

E2. 6H-20 Detour for Closed Street, Note 7:

Standard:

Guidance:

7. Where used, the street Name sign shall should be placed above, or the street name should be incorporated into, the ~~Detour~~ DETOUR signs.

## F. Change in Alignment Sign Standard.

**Note 4 for Figure 6H-36, Lane Shift on Freeway, states “A warning sign shall be used to show the changed alignment”. The only support for this Standard is in 2C.06, Horizontal Alignment Signs, which requires engineering judgment to determine the need for such a sign.**

### 2C.06 (Reference – no change)

**“Standard:**

**When engineering judgment determines the need for a horizontal alignment sign, one of the W1-1 through W1-5, W1-10, W1-11 or W1-15 signs shall be used.”**

***If the Committee finds that a freeway precludes the need for engineering judgment, no change in the text for Note 4 is necessary. If it is appropriate to follow 2C.06, the following change could be made:***

### F1. Figure 6H-36

**Standard:**

**5. When engineering judgment determines the need for a warning sign ~~shall be used~~ to show the changed alignment a Turn (W1-1), Curve (W1-2), Reverse Turn (W2-3), or Reverse Curve (W1-4) sign shall be used.**