

**RESCINDED
JANUARY 2024**

This Recommended
Change to the MUTCD
was rescinded by the
NCUTCD Council on
January 12, 2024.

ATTACHMENT NO. 3

RW No. 1, January 2011

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**National Committee on Uniform Traffic Control Devices
RWSTC RECOMMENDATION FOLLOWING SPONSOR COMMENTS**

TECHNICAL COMMITTEE: Regulatory/Warning Signs
TOPIC: Lane End Signs
DATE OF ACTION: (TASK FORCE): May 25, 2010
RWSTC APPROVAL DATE: June 30, 2010
RWSTC APPROVAL FOLLOWING SPONSOR COMMENTS: January 19, 2011
TRANSMITTAL TO SPONSORS DATE: October 28, 2010
COUNCIL APPROVAL DATE: 1-20-11

ORIGIN OF REQUEST: RWSTC Review of the 2009 MUTCD
AFFECTED PORTIONS OF MUTCD: Section 2C.42, Figure 3B-14

SUMMARY:
The 2009 MUTCD revised Section 2C.42 Lane Ends Signs (W4-2, W9-1, W9-2) from the 2003 MUTCD and the 2007 NPA. Some inconsistencies were identified
The requirement in the second Guidance statement (paragraph 03) of Section 2C.42, to place the RIGHT (LEFT) LANE ENDS (W9-1) sign adjacent to the Lane Reduction pavement marking arrow may not agree with the placement of the “Lane Ends” sign (W4-2) shown on Figure 3B-14. There should be consistency between Section 2C.42 and Figure 3B-14. Figure 3B-14 is included for reference at the end of this document.
The reference to a “Lane Ends word sign” in the third Guidance statement (paragraph 06) in Section 2C.42 is confusing. It is not clear whether reference is being made to a LANE ENDS MERGE LEFT (RIGHT) sign (W9-2), a RIGHT (LEFT) LANE ENDS (W9-1) sign or a simple LANE ENDS word sign that is not shown in the MUTCD. The statement needs to be clarified.
The first Guidance statement (paragraph 01) of Section 2C.42, allows the use of either the LANE ENDS MERGE LEFT (RIGHT) sign (W9-2), or the “Lane Ends” sign (W4-2) as the primary sign at a lane drop. There was considerable discussion in the RWSTC over whether for consistency there should be one primary sign used at drops or whether the States should be allowed to choose which sign they prefer. The RWSTC polled the State’s on this issue in February 2010. They were asked:

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lane reductions, other than at the end of an acceleration lane, the 2003 and 2009 MUTCD allow the use of either a "Lane Ends" symbol sign (W4-2) or a LANE ENDS MERGE LEFT (RIGHT) legend sign (W9-2).

50 **Do you prefer the option to use either sign or do you favor defining one sign as the**
51 **primary sign?**

52
53 **If you favor one sign, which sign?**
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55 Twenty-five States replied. Twelve favored retaining the option. Thirteen States
56 preferred a primary sign. Twelve States favored the W4-2 "Lane Ends" as the preferred
57 sign. Based on research that the W4-2 "Lanes Ends" symbol sign was not understood,
58 Texas prefers using the W9-2 LANE ENDS MERGE LEFT (RIGHT) sign.
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60 Interestingly, Oregon reported that they had at least one road-rage situation where
61 they eliminated the merge left signs and replaced them with "merge ahead" and "merge
62 here" signs placed on both sides of a divided roadway with downward pointing arrows
63 below the "merge here" signs. They said that this unconventional approach reduced the
64 queue jumping and road rage very inexpensively.
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66 Based on the lack of a clear consensus to change, the RWSTC believes that the
67 existing approach of allowing the State's to decide their primary sign should be retained.
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W4-2



W9-1



W9-2

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73 **DISCUSSION:**

74 The first Guidance statement (paragraph 01) in Section 2C.42 defines the use of the
75 LANE ENDS MERGE LEFT (RIGHT) sign (W9-2) or the "Lane Ends" sign (W4-2) as
76 the primary warning sign in a lane drop situation. The first Option statement (paragraph
77 02) in Section 2C.42 defines the RIGHT (LEFT) LANE ENDS (W9-1) sign as a
78 supplemental sign. The second Guidance statement (paragraph 03) says that, if used, the
79 RIGHT (LEFT) LANE ENDS (W9-1) sign should be placed adjacent to the Lane
80 Reduction pavement marking arrow. Figure 3B-14 "Examples of Applications of Lane-
81 Reduction Transition Markings" shows a "Lane Ends" sign (W4-2) placed in advance of
82 the initial arrow shown on the Figure. If the RIGHT (LEFT) LANE ENDS (W9-1) sign

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used it has to be placed in advance of the “Lane Ends” sign (W4-2). It may have to be placed before the beginning of the Lane Reduction pavement marking arrows.

Figure 3B-14 shows a “Lane Ends” sign (W4-2) a distance “d” from the beginning of the taper. The first Guidance statement (paragraph 01) in Section 2C.42 says that the LANE ENDS MERGE LEFT (RIGHT) sign (W9-2) may be used instead of the “Lane Ends” sign (W4-2). Figure 3B-14 should be revised to show the optional use of both signs.

Neither Section 3B.09 “*Lane Reduction Transition Markings*” nor Section 3B.20 “*Pavement Word, Symbol and Arrow Markings*” give any guidance to how many lane reduction arrow pavement markings to use. If the requirements of the second Guidance statement are followed, the sign and arrows would be off of the drawing and off of the page.

The Marking Committee should review the situation and, if necessary, revise Figure 3B-14.

The original “LANE ENDS” sign was replaced by the symbol W4-2 “Lane Ends” sometime well before the 2000 MUTCD. It was always felt, and studies confirmed, low driver comprehension for this symbol sign. It was removed from Part 2C of the 2000 MUTCD but it was retained in Section 6F.24. For consistency with Part 6 and because of some practitioner support, the W4-2 “Lane Ends” sign was added back into the 2003 MUTCD in Section 2C.33. The phrase “LANE ENDS word sign” is in the 2003 MUTCD. This probably a reference to the original LANE ENDS legend sign that is no longer in the MUTCD. The legend sign is antiquated and should not be used. It is contrary to present practice to recommend the use of signs not shown and discussed in the MUTCD. Since the first Option statement (paragraph 02) of Section 2C.42 defines the RIGHT (LEFT) LANE ENDS (W9-1) sign as a supplementary sign, it appears that the only appropriate sign to consider with the “Lane Ends” sign at this location is the LANE ENDS MERGE LEFT (RIGHT) sign (W9-2).

Replacing the phrase “Lane Ends word sign” in the third Guidance statement (paragraph 06) in Section 2C.42 with the LANE ENDS MERGE LEFT (RIGHT) sign (W9-2) results in a statement that is essentially the same as the first Guidance statement.

Compare:

“The LANE ENDS MERGE LEFT (RIGHT) (W9-2) sign or the Lane Ends (W4-2) sign should be used to warn of the reduction in the number of traffic lanes in the direction of travel on a multi-lane highway (see Figure 2C-8).

With:

Where an extra lane has been provided for slower moving traffic (see Section 2B.31), a LANE ENDS MERGE LEFT (RIGHT) (W9-2) sign or a Lane Ends (W4-2) symbol sign should be installed in advance of the downstream end of the extra lane.

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The only difference seems to be the purpose of the lane that is ending. The first statement covers all lanes that are ended and the second statement only considers lanes that are being provided for slow moving traffic. There does not seem to be a need for the latter statement and the third Guidance statement should be deleted.

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RECOMMENDATION: Amend Section 2C.42 and Figure 3B.14

Note: Proposed changes to the MUTCD are shown in underline red and the items removed from the text are shown in ~~strikethrough red~~.

RECOMMENDED WORDING:

Section 2C.42 Lane Ends Signs (W4-2, W9-1, W9-2)

Guidance:

The LANE ENDS MERGE LEFT (RIGHT) (W9-2) sign or the Lane Ends (W4-2) sign should be used to warn of the reduction in the number of traffic lanes in the direction of travel ~~on a multi-lane highway~~ (see Figure 2C-8).

Option:

The RIGHT (LEFT) LANE ENDS (W9-1) sign (see Figure 2C-8) may be used in advance of the Lane Ends (W4-2) sign or the LANE ENDS MERGE LEFT (RIGHT) (W9-2) sign as additional warning or to emphasize that the traffic lane is ending and that a merging maneuver will be required.

Guidance:

~~*If used, the RIGHT (LEFT) LANE ENDS (W9-1) sign should be installed adjacent to the Lane-Reduction Arrow pavement markings.*~~

The LANE ENDS MERGE LEFT (RIGHT) (W9-2) sign or Lane Ends (W4-2) sign should be installed in accordance with Table 2C-4 (see Figure 3B-14).

Option:

On one-way streets or on divided highways where the width of the median will permit, two Lane Ends signs may be placed facing approaching traffic, one on the right-hand side and the other on the left-hand side or median.

Support:

Section 3B.09 contains information regarding the use of pavement markings in conjunction with a lane reduction.

Guidance:

~~*Where an extra lane has been provided for slower moving traffic (see Section 2B.31), a Lane Ends word sign or a Lane Ends (W4-2) symbol sign should be installed in advance of the downstream end of the extra lane.*~~

Lane Ends signs should not be installed in advance of the downstream end of an acceleration lane.

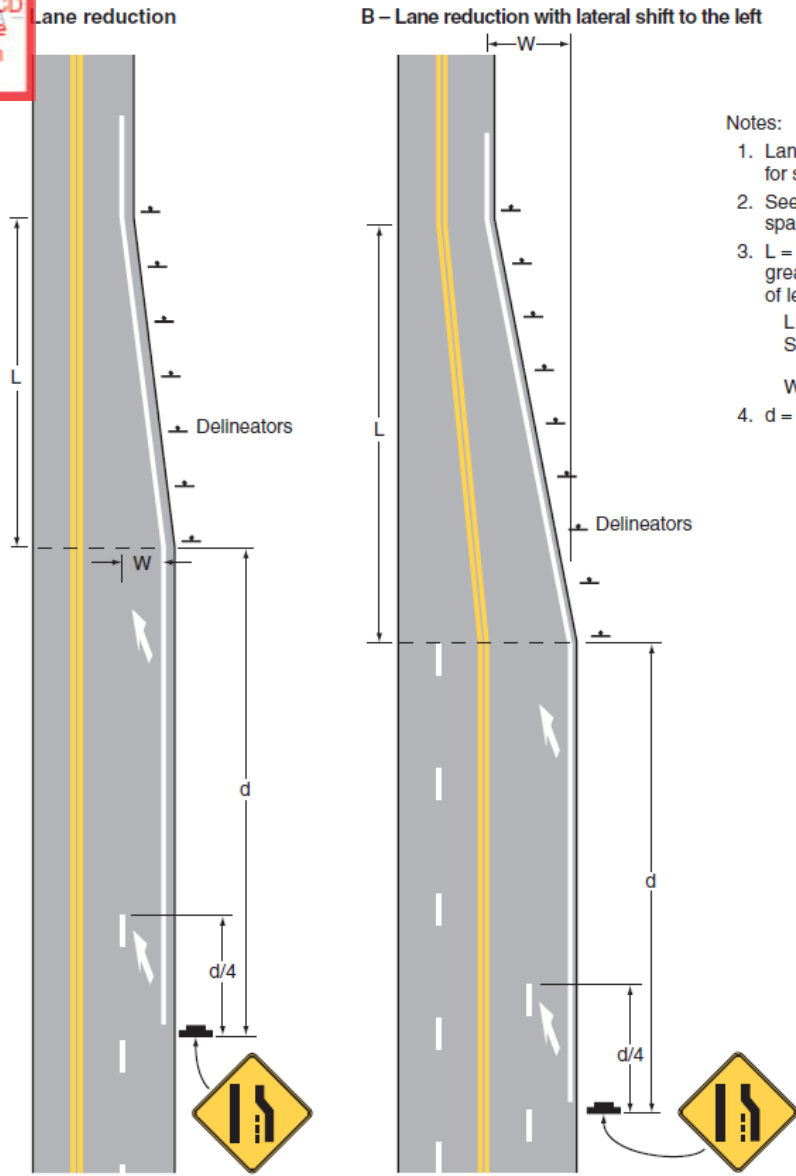
Standard:

In dropped lane situations, regulatory signs (see Section 2B.20) shall be used to inform road users that a through lane is becoming a mandatory turn lane. The W4-2, W9-1, and W9-2 signs shall not be used in dropped lane situations.

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Figure 3B-14. Examples of Applications of Lane-Reduction Transition Markings



Notes:

1. Lane-reduction arrows are optional for speeds of less than 45 mph
2. See Section 3F.04 for delineator spacing
3. $L = WS$ for speeds of 45 mph or greater and $L = WS^2/60$ for speeds of less than 45 mph, where:
L = Length of taper in feet
S = Posted, 85th-percentile, or statutory speed in mph
W = Offset in feet
4. d = Advance warning distance (see Section 2C.05)



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176 RWSTC VOTE: For: 20
177 Opposed: 2
178 Abstentions: 0
179 Approved
180
181 COUNCIL VOTE: For: unanimous
182 approved Jan 2011
183 C:ncutcd/January 2011/ agenda IV.1 Lane ends signing
184 Section2C42Figure3b14revision2 6-30-10, revised 1-19-11, 1-20-11
185