

National Committee on Uniform Traffic Control Devices

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RWSTC agenda item IV. 2 June 2011

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

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TECHNICAL COMMITTEE: NCUTCD Regulatory/Warning Signs Technical Committee

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- 14 DATE OF ACTION: 12-18-10 revised 12-20-10, revised 12-26-10, revised 1-4-11,
- revised 1-4-11(2), revised 1-4-11(3), revised 1-20-11, revised 6-5-11, 6-8-11 and 6-11-
- 16 11 following sponsor comments,
- 17 Reviewer: Tom Heydel
- 18 Task force: Ron Lipps, Jim Pline, Dan Paddick
- 19 RWSTC APPROVAL DATE: January 19, 2011
- 20 TRANSMITTAL TO SPONSORS DATE: Spring 2011
- 21 RWSTC APPROVAL FOLLOWING SPONSOR COMMENT: June 22, 2011
- 22 COUNCIL APPROVAL DATE: 6-24-11

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TOPIC: Review of Standard Statements in Part 2B – impacted by 2009 MUTCD Section 1A.09 Engineering Study and Engineering Judgment and Section 1A.13 Definitions of Headings, Words, and Phrases in this Manual

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AFFECTED PORTIONS OF MUTCD: Part 2B

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DISCUSSION/QUESTION: The 2009 MUTCD revised Section 1A.09 and a number of definitions in Section 1A.13. Most importantly, it revised the definition of "standard" to read, in part: "standard statements shall not be modified or compromised based on engineering judgment or engineering study". What are examples of how this added definition impacts ones ability to apply judgment or study to the installation of devices? The following provisions in Part 2B illustrate how the 2009 MUTCD changes could impact ones ability to apply engineering judgment or study findings to decisions

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impact ones ability to apply engineering judgment or study findings to decisions regarding the use of traffic signs.

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The 2009 MUTCD Section 1A.13 paragraph (01) reads as follows:

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41 **Standard:**

- 42 of When used in this Manual, the text headings of Standard, Guidance, Option, and
- 43 Support shall be defined as follows:

A. Standard—a statement of required, mandatory, or specifically prohibitive practice regarding a traffic control device. All Standard statements are labeled, and the text appears in bold type. The verb "shall" is typically used. The verbs "should" and "may" are not used in Standard statements. Standard statements are sometimes modified by Options. Standard statements shall not be modified or compromised based on engineering judgment or engineering study.

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The task force first listed all the sections of the MUTCD in part 2B and recommended which sections should be looked at further in terms of the standard statement possibly being compromised by engineering judgment that may require rewording the standard or changing the standard to a guidance statement. At the June 2010 meeting RWSTC reviewed the recommendations by the task force and commented on which sections to pursue.

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The task force has further developed these sections and the language changes are indicated in the following sections.

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DISCUSSION OF SECTIONS WHERE MODIFICATIONS ARE RECOMMENDED BY THE TASK FORCE AND APPROVED BY RWSTC:

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Section 2B.03 Size of Regulatory Signs

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Standard:

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Except as provided in Section 2A.11, the sizes for regulatory signs shall be as shown in Table 2B-1.

Support:

Section 2A.11 contains information regarding the applicability of the various columns in Table 2B-1.

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Standard:

77 lane column of Table 2B-1. 78

Option:

Where the posted speed limit is 35 mph or less on a multi-lane highway or street, other than for a STOP sign, the minimum size shown in the Single Lane column in Table 2B-1 may be used.

signs facing traffic on multi-lane conventional roads shall be as shown in the Multi-

Except as provided in Paragraphs 4 and 5, the minimum sizes for regulatory

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Where a regulatory sign, other than a STOP sign, is placed on the left-hand side of a multi-lane roadway in addition to the installation of the same regulatory sign on the right-hand side or the roadway, the size shown in the Single Lane column in Table 2B-1 may be used for both the sign on the right-hand side and the sign on the left-hand side of the roadway.

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Standard:

A minimum size of 36 x 36 inches shall be used for STOP signs that face multi-lane approaches.

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94 95 96 97 98 99 100 101	Discussion: The standard in paragraph (07) requires that all stop signs from sideroads that intersect with multi-lane streets of 45 MPH or higher speed limits be 36" x 36" STOP signs even if the sideroad is not multi-lane. This standard was added to the 2009 MUTCD by FHWA following the NPA and following review by NCUTCD council. Safety benefits based on increased STOP sign sizes have shown in FHWA research. However, this places an undo burden on agencies to change to the 30"x 30" signs allowed for sideroad approaches to multi-lane highways and streets to be 36" x 36". Changes proposed to paragraph 7 and 8 are as follows:
102	RECOMMENDED WORDING:
103 104	Note: Proposed changes to the MUTCD are shown in <u>underline red</u> and removed text are shown in strikethrough red.
105 106 107 108 109 110 111 112 113 114	Standard: (07) Where side roads intersect a multi-lane street or highway that has a speed limit of 45 mph or higher, the minimum size of the STOP signs facing the side road approaches, even if the side road only has one approach lane, shall be 36 x 36 inches. 08 Where side roads intersect a multi-lane street or highway that has a speed limit of 40 MPH or lower, the minimum size of the STOP signs facing the side road approaches shall be as shown in the Single Lane or Multi-lane columns of Table 2B-1 based on the
115 116 117 118 119 120 121 122 123 124 125	Guidance: The minimum sizes for regulatory signs facing traffic on exit and entrance ramps should be as shown in the column of Table 2B-1 that corresponds to the mainline roadway classification (Expressway or Freeway). If a minimum size is not provided in the Freeway column, the minimum size in the Expressway column should be used. If a minimum size is not provided in the Freeway or Expressway Column, the size in the Oversized column should be used. VOTE: COUNCIL For: 33, Opposed: 1 Abstentions: 2
126127128	Section 2B.10 STOP Sign or YIELD Sign Placement
129 130 131 132 133 134 135	Standard: 1 The STOP or YIELD sign shall be installed on the near side of the intersection on the right-hand side of the approach to which it applies. When the STOP or YIELD sign is installed at this required location and the sign visibility is restricted, a Stop Ahead sign (see Section 2C.36) shall be installed in advance of the STOP sign or a Yield Ahead sign (see Section 2C.36) shall be installed in advance of the YIELD sign.
136 137	Discussion: Several Sponsor comments suggest that the near side stop sign can sometimes be blocked by trucks and thus allowing the far side stop sign for these special

138 139	cases based on engineering judgment to enhance visibility be allowed. Therefore, keep 2009 MUTCD language as is.
140	RECOMMENDED WORDING:
141	NO CHANGE to MUTCD language.
142	<u>Guidance:</u>
143	A STOP sign should not be placed on the far side of any intersection.
144	VOTE: COUNCIL: For: Unanimous
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146 147 148	The STOP or YIELD sign shall be located as close as practical to the intersection it regulates, while optimizing its visibility to the road user it is intended to regulate.
149	03 STOP signs and YIELD signs shall not be mounted on the same post.
150 151 152	No items other than inventory stickers, sign installation dates, and bar codes shall be affixed to the fronts of STOP or YIELD signs, and the placement of these items shall be in the border of the sign.
153 154 155	No items other than official traffic control signs, inventory stickers, sign installation dates, anti-vandalism stickers, and bar codes shall be mounted on the backs of STOP or YIELD signs.
156 157 158	No items other than retroreflective strips (see <u>Section 2A.21</u>) or official traffic control signs shall be mounted on the fronts or backs of STOP or YIELD signs supports.
159 160 161 162 163 164 165	Guidance: STOP or YIELD signs should not be placed farther than 50 feet from the edge of the pavement of the intersected roadway (see Drawing F in Figure 2A-3). A sign that is mounted back-to-back with a STOP or YIELD sign should stay within the edges of the STOP or YIELD sign. If necessary, the size of the STOP or YIELD sign should be increased so that any other sign installed back-to-back with a STOP or YIELD sign remains within the edges of the STOP or YIELD sign.
166 167 168 169 170 171 172 173	Option: Where drivers proceeding straight ahead must yield to traffic approaching from the opposite direction, such as at a one-lane bridge, a TO ONCOMING TRAFFIC (R1-2aP) plaque may be mounted below the YIELD sign. Support: Figure 2A-3 shows examples of some typical placements of STOP signs and YIELD signs.
174 175 176	Section 2A.16 contains additional information about separate and combined mounting of other signs with STOP or YIELD signs. <i>Guidance:</i>

- 177 12 Stop lines that are used to supplement a STOP sign should be located as described in Section 3B.16. Yield lines that are used to supplement a YIELD sign should be located as described in Section 3B.16.
 - Where there is a marked crosswalk at the intersection, the STOP sign should be installed in advance of the crosswalk line nearest to the approaching traffic.
- Except at roundabouts, where there is a marked crosswalk at the intersection, the YIELD sign should be installed in advance of the crosswalk line nearest to the approaching traffic.
 - Where two roads intersect at an acute angle, the STOP or YIELD sign should be positioned at an angle, or shielded, so that the legend is out of view of traffic to which it does not apply.
- 187 If a raised splitter island is available on the left-hand side of a multi-lane roundabout approach, an additional YIELD sign should be placed on the left-hand side of the approach. Option:
- 190 If a raised splitter island is available on the left-hand side of a single lane roundabout approach, an additional YIELD sign may be placed on the left-hand side of the approach.

 192 At wide-throat intersections or where two or more approach lanes of traffic exist on the signed approach, observance of the right-of-way control may be improved by the installation of the signed approach.
 - At wide-throat intersections or where two or more approach lanes of traffic exist on the signed approach, observance of the right-of-way control may be improved by the installation of an additional STOP or YIELD sign on the left-hand side of the road and/or the use of a stop or yield line. At channelized intersections or at divided roadways separated by a median, the additional STOP or YIELD sign may be placed on a channelizing island or in the median. An additional STOP or YIELD sign may also be placed overhead facing the approach at the intersection to improve observance of the right-of-way control.

Standard:

More than one STOP sign or more than one YIELD sign shall not be placed on the same support facing in the same direction.

Option:

For a yield-controlled channelized right-turn movement onto a roadway without an acceleration lane and for an entrance ramp onto a freeway or expressway without an acceleration lane, a NO MERGE AREA (W4-5P) supplemental plaque (see Section 2C.40) may be mounted below a Yield Ahead (W3-2) sign and/or below a YIELD (R1-2) sign when engineering judgment indicates that road users would expect an acceleration lane to be present.

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Section 2B.11 <u>Yield Here To Pedestrians Signs and Stop Here For Pedestrians Signs (R1-5 Series)</u>

Standard:

Yield Here To (Stop Here For) Pedestrians (R1-5, R1-5a, R1-5b, or R1-5c) signs (see Figure 2B-2) shall be used if yield (stop) lines are used in advance of a marked crosswalk that crosses an uncontrolled multi-lane approach. The Stop Here for Pedestrians signs shall only be used where the law specifically requires that a driver must stop for a pedestrian in a crosswalk. The legend STATE LAW may be displayed at the top of the R1-5, R1-5a, R1-5b, and R1-5c signs, if applicable.

Guidance: 222 *o2 If* 1

If yield (stop) lines and Yield Here To (Stop Here For) Pedestrians signs are used in advance of a crosswalk that crosses an uncontrolled multi-lane approach, they should be placed 20 to 50 feet in advance of the nearest crosswalk line (see Section 3B.16 and Figure 3B-17), and parking should be prohibited in the area between the yield (stop) line and the crosswalk.

227 228 229	Yield (stop) lines and Yield Here To (Stop Here For) Pedestrians signs should not be used in advance of crosswalks that cross an approach to or departure from a roundabout.
230 231 232 233 234	Option: Yield Here To (Stop Here For) Pedestrians signs may be used in advance of a crosswalk that crosses an uncontrolled multi-lane approach to indicate to road users where to yield (stop) even if yield (stop) lines are not used.
235 236 237 238 239	A Pedestrian Crossing (W11-2) warning sign may be placed overhead or may be post-mounted with a diagonal downward pointing arrow (W16-7P) plaque at the crosswalk location where Yield Here To (Stop Here For) Pedestrians signs have been installed in advance of the crosswalk.
240 241 242 243 244 245	Standard: Of If a W11-2 sign has been post-mounted at the crosswalk location where a Yield Here To (Stop Here For) Pedestrians sign is used on the approach, the Yield Here To (Stop Here For) Pedestrians sign shall not be placed on the same post as or block the road user's view of the W11-2 sign.
246 247 248	<u>Discussion:</u> Paragraph 06. There is engineering judgment involved in terms of if a sign is blocked or not. A support statement is needed defining a distance for when it is blocking the sign
249	RECOMMENDED WORDING:
250 251 252 253 254 255 256 257 258	If a W11-2 sign has been post-mounted at the crosswalk location where a Yield Here To (Stop Here For) Pedestrians sign is used on the approach, the Yield Here To (Stop Here For) Pedestrians sign shall not be placed on the same post as or block the road user's view of the W11-2 sign. Guidance: The Yield Here To (Stop Here For) Pedestrians sign should not block the road user's view of the W11-2 sign.
259 260	Vote: Council: For: Unanimous
261 262 263 264 265	Option: Option: An advance Pedestrian Crossing (W11-2) warning sign with an AHEAD or a distance supplemental plaque may be used in conjunction with a Yield Here To (Stop Here For) Pedestrians sign on the approach to the same crosswalk.
266 267	In-Street Pedestrian Crossing signs and Yield Here To (Stop Here For) Pedestrians signs may be used together at the same crosswalk.
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269	Section 2B.13 Speed Limit Sign (R2-1)
270 271 272 273 274	Standard: Speed zones (other than statutory speed limits) shall only be established on the basis of an engineering study that has been performed in accordance with traffic engineering practices. The engineering study shall include an analysis of the current speed distribution of free-flowing vehicles.
275 276	<u>Discussion</u> : Paragraph 01. Engineering judgment is involved in what "traffic engineering practices" are defined as and therefore what an engineering study is and

277 278 279	encompasses. The engineering study shall include evaluation of the parameters listed in standard statement and option statement. Section 1A.13 defines what the engineering study parameters are. No change needed.
280 281 282 283	The Speed Limit (R2-1) sign (see <u>Figure 2B-3</u>) shall display the limit established by law, ordinance, regulation, or as adopted by the authorized agency based on the engineering study. The speed limits displayed shall be in multiples of 5 mph.
284 285 286	OB Speed Limit (R2-1) signs, indicating speed limits for which posting is required by law, shall be located at the points of change from one speed limit to another.
287 288 289 290 291	At the downstream end of the section to which a speed limit applies, a Speed Limit sign showing the next speed limit shall be installed. Additional Speed Limit signs shall be installed beyond major intersections and at other locations where it is necessary to remind road users of the speed limit that is applicable.
292 293	Discussion: Paragraph 04. Judgment involved in what is a major intersection. Change standard of last sentence in paragraph 04 to guidance.
294	RECOMMENDED WORDING:
295	Standard:
296 297 298 299 300	(04) At the downstream end of the section to which a speed limit applies, a Speed Limit sign showing the next speed limit shall be installed. Additional Speed Limit signs shall be installed beyond major intersections and at other locations where it is necessary to remind road users of the speed limit that is applicable.
301	(note: move the following Guidance statement after paragraph 05
302	Guidance:
303 304	Additional Speed Limit signs should be installed beyond major intersections and at other locations to remind road users of the speed limit that is applicable.
305	Vote: COUNCIL: For: Unanimous
306	Standard:
307 308 309	OF Speed Limit signs indicating the statutory speed limits shall be installed at entrances to the State and, where appropriate, at jurisdictional boundaries in urban areas.
310	Support
311 312 313 314	In general, the maximum speed limits applicable to rural and urban roads are established: A. Statutorily – a maximum speed limit applicable to a particular class of road, such as freeways or city streets, that is established by State law; or B. As altered speed zones – based on engineering studies.

315 316 State statutory limits might restrict the maximum speed limit that can be established on a 317 particular road, notwithstanding what an engineering study might indicate.

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If a jurisdiction has a policy of installing Speed Limit signs in accordance with statutory 80 requirements only on the streets that enter a city, neighborhood, or residential area to indicate the speed limit that is applicable to the entire city, neighborhood, or residential area unless otherwise posted, a CITYWIDE (R2-5aP), NEIGHBORHOOD (R2-5bP), or RESIDENTIAL (R2-5cP) plaque may be mounted above the Speed Limit sign and an UNLESS OTHERWISE POSTED (R2-5P) plaque may be mounted below the Speed Limit sign (see Figure 2B-3).

Guidance:

- A Reduced Speed Limit Ahead (W3-5 or W3-5a) sign (see Section 2C.38) should be used to inform road users of a reduced speed zone where the speed limit is being reduced by more than 10 mph, or where engineering judgment indicates the need for advance notice to comply with the posted speed limit ahead.
- States and local agencies should conduct engineering studies to reevaluate non-statutory speed limits on segments of their roadways that have undergone significant changes since the last review, such as the addition or elimination of parking or driveways, changes in the number of travel lanes, changes in the configuration of bicycle lanes, changes in traffic control signal coordination, or significant changes in traffic volumes.
- No more than three speed limits should be displayed on any one Speed Limit sign or assembly.
- When a speed limit within a speed zone is posted, it should be within 5 mph of the 85th percentile speed of free-flowing traffic.
- Speed studies for signalized intersection approaches should be taken outside the influence area of the traffic control signal, which is generally considered to be approximately 1/2 mile, to avoid obtaining skewed results for the 85th-percentile speed.

Support:

Advance warning signs and other traffic control devices to attract the motorist's attention to a signalized intersection are usually more effective than a reduced speed limit zone.

Guidance:

An advisory speed plaque (see Section 2C.08) mounted below a warning sign should be used to warn road users of an advisory speed for a roadway condition. A Speed Limit sign should not be used for this situation.

Option:

- Other factors that may be considered when establishing or reevaluating speed limits are the following:
- 357 358 359 A. Road characteristics, shoulder condition, grade, alignment, and sight distance; 360
 - B. The pace;
 - C. Roadside development and environment;
 - D. Parking practices and pedestrian activity; and
 - E. Reported crash experience for at least a 12-month period.
 - Two types of Speed Limit signs may be used: one to designate passenger car speeds, including any nighttime information or minimum speed limit that might apply; and the other to show any special speed limits for trucks and other vehicles.

369 370 371 372	A changeable message sign that changes the speed limit for traffic and ambient conditions may be installed provided that the appropriate speed limit is displayed at the proper times.
373 374 375	¹⁹ A changeable message sign that displays to approaching drivers the speed at which they are traveling may be installed in conjunction with a Speed Limit sign. <i>Guidance:</i>
376 377 378	If a changeable message sign displaying approach speeds is installed, the legend YOUR SPEED XX MPH or such similar legend should be displayed. The color of the changeable message legend should be a yellow legend on a black background or the reverse of these colors.
379 380	Support:
381 382 383 384	Advisory Speed signs and plaques are discussed in Sections 2C.08 and 2C.14. Temporary Traffic Control Zone Speed signs are discussed in Part 6. The WORK ZONE (G20-5aP) plaque intended for installation above a Speed Limit sign is discussed in Section 6F.12. School Speed Limit signs are discussed in Section 7B.15.
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386	Section 2B.14 Truck or Other Vehicle Speed Limit Plaque (R2-2P)
387 388 389 390 391	Standard: 01 Where a special speed limit applies to trucks or other vehicles, the legend TRUCKS XX or such similar legend shall be displayed below the legend Speed Limit XX on the same sign or on a separate R2-2P plaque (see Figure 2B-3) below the standard legend.
392 393	<u>Discussion:</u> Paragraph 01. What is similar legend? Judgment needed. Move "similar legend" to a option statement. Change title to include or other vehicle.
394	RECOMMENDED WORDING:
395 396 397 398 399	Standard: 01 Where a special speed limit applies to trucks or other vehicles, the legend TRUCKS XX or such similar legend shall be displayed below the legend Speed Limit XX on the same sign or on a separate R2-2P plaque (see Figure 2B-3) below the standard legend, except as provided in the option below.
400	Option:
401	A legend similar to TRUCKS XX, may be used for other vehicles.
402 403	VOTE: Council: For: Unanimous
404 405 406	RWSTC Vote: For: Unanimous
407 408 409	Council Vote: see individual votes above

c: NCUTCD/June 2011 meetings/Part 2B – review of standard statements impacted by Section 1A.13 12-18-10 revised 12-20-10, revised 12-26-10, revised 1-4-11, revised 1-4-11 (2), revised 1-4-11(3), revised 1-20-11, revised 6-5-11, revised 6-8-11, revised 6-11-11, revised 6-22-11 following sponsor comments, 6-24-11