

SHS Review

From: Richard Moeur [RMoeur@azdot.gov]

Sent: Friday, February 18, 2005 6:07 PM

To: Ranck, Fred

Cc: Richard Moeur (E-mail); Jim Pline (E-mail) Subject: RE: Final SHS Review

Importance: High

Attachments: R3-17new.pdf; W13-lmetric.pdf; M4-9.pdf; R2-lmetric.pdf

Mr. Ranck:

I finally had a chance to review the 2004 Standard Highway Signs book published by FHWA on the MUTCD website earlier this week. I do appreciate your and FHWA's efforts in getting this document out and available to practitioners and the public.

However, I'm a bit dismayed that very few of the comments that I submitted on the draft SHS made it into the final edition. By my estimate, the revised SHS reflects changes agreeing with less than 10% of the comments I made (see below).

Can you possibly let me know at your earliest convenience if and when FHWA intends to make any of these other suggested changes, so we at ADOT will know exactly how many sheets will need to be generated in our Arizona Manual of Approved signs to correct these problems for Arizona applications.

Thanks, and I look forward to your reply rcm

Original Message

From: Ranck, Fred [Fred.Ranck@fhwa.dot.gov]

Sent: Friday, June 04, 2004 6:32 AM To: Richard Moeur

Subject: RE: Final SHS Review

Richard: your comments, almost all in total, will result in changes to the SHS Fred

original Message

From: Richard Moeur

Sent: Thursday, June 03, 2004 8:04 PM

To: 'Fred Ranck - FHWA (E-mail)'

CC: 'Richard Moeur (AOL) (E-mail)'; 'Jim Pline (E-mail)'; Bruce Friedman (E-mail); Al

zubi; Larry Lopez; David Duffy

Subject: RE: Final SHS Review

More comments on the final SHS draft:

Pages 1-53 to 1-56: R3-14 series signs - to keep the arrows simple & consistent, use a 24" x 16 1/2" down arrow on the 72" and 96" wide signs and use a 32" x 22" down arrow on the 144" wide sign (also see comments regarding Page 6-3 below).

Page 1-58: R3-17 - the BIKE LANE legend should be 5" C with reduced spacing, and the white area at the bottom of the sign should be 8" tall & rounded on all corners. The bicycle symbol should be 18" wide by 10.22" tall. See the attached R3-17new.pdf format.

Page 1-59: Consider using the Caltrans R34-2 design for the R3-18 (I tried, but couldn't do any better than they did).

RE Final SHS Review

Page 1-74: R5-1b - Consider making the bicycle symbol 4.5" tall to be more proportional to the rest of the legend.

Page 1-80: R5-6 - Dimension the bicycle by total height & width, not by axle location (see R3-17, R5-1b for examples).

Page 1-85: Label signs R6-1L & R6-1R.

Page 1-117: use a .375 border on the R9-3c

Pages 1-120 to 1-122: R9-5 to R9-7 - Dimension the bicycle by total height & width not by axle location (see R3-17, R5-1b for examples).

Page 1-150: R10-22 - It would be best to use the symbol as shown on page 9C-9 of the MUTCD & page 10-17 of the SHS. That yields an 2.25" wide by 8" tall symbol.

Page 1-170: The R15-1 drawing on this page doesn't show the minimum space between the "RAIL" & "ROAD" dimensions & the edge of the overlapping "CROSSING" plank.

Page 1-171: R15-1 - use "Shared-use Path", not "Bike Path", in all instances. consider consolidating this as an optional size on Page 1-170.

Page 2-2, 2-3: Show horizontal location for metric advisory speed circle on w1-la & w:L-2a (it shouldn't have to adjust for optical spacing).

Pages 2-7, 2-8: ADOT occasionally uses oversize 96" x 48" w1-6 & W1-7 arrows in certain locations. Consider adding this size.

Page 2-20: This page (W3-1 design) missing from my review set.

Page 2-28: Agree that English version of the W3-5a should be primary.

Page 2-34: why not allow all these size options on the W4-1 & W4-3 as well?

Page 2-40: only size needed for the W5-4a is 18", since it's intended for path traffic (and thanks for helping me spot another minor error in Table 9B-1).

Pages 2-42, 2-43, 2-46: Is a 24" size needed for divided highway/road word legends?

Page 2-76: w10-1 If A is a radius, then a 7.5" size will be needed (see Table 98-1).

Page 2-91: W11-1 - Dimension the bicycle by total height & width, not by axle location (see R3-17, R5-1b for examples).

Page 2-93, 2-94: should the w11-3 & w11-4 be labeled deer & cattle 'traffic'? Consistency is good, but this is a bit absurd...

Page 2-109 - 2-115: see the attached w13-lmetric.pdf format for improved W13-1 metric formats with larger numeral sizes for a given panel size. Consider a similar design for the w13-2 thru w13-5 metric signs as well.

Page 2-119: Recommend changing the following dimension labels on the w14-3 for clarity: E to 3, J to K, K to P, 0 to E.

Pages 2-174 to 2-176: The symbols are disproportionately small on these M4-9 series signs. Recommend increasing the symbol size to 7.1" height & decreasing DETOUR legend height to 4". See the attached M4-9.pdf format.

Page 3-7: M1-6 show legend lighter than background

RE Final SHS Review

Page 3-9: M1-8 - Dimension the bicycle by total height & width, not by axle location (see R3-17, R5-1b for examples).

Page 3-10: M1-9 - Dimension the bicycle by total height & width and show its location, just in case an agency chooses not to use page 6-39.

Pages 3-20 to 3-22: PLEASE consider adding an optional 24" x 18" size for the M5 & M6 auxiliaries to indulge those states (such as Arizona) that use a m5 or M6 that matches the width of the M1 marker & M3 plaques.

Page 3-27: D1-1 (path sizes) - The 1.5" radius and 0.5" border seem a bit too large for such a small panel size. Recommend a more proportional 0.5" radius & 0.25" border.

Page 3-83: D10-5 - use 12" route marker shields (exactly 1/2 standard size) and 2.75" spacing top & bottom.

Page 3-84: D11-1 - Dimension the bicycle by total height & width, not by axle location (see R3-17, R5-1b for examples).

Page 3-94: see if a larger numeral can fit in the II-1 (metric). Adjust circle & other dimensions as needed.

Page 4-3: The old CD-4 used series F for "TOP" for emphasis. Recommend going back to F or using E Modified for the "TOP" legend on the EM-4.

Page 5-7: Format the S4-5 similar to the W3-5 for larger speed legend (even if the speed numerals won't be quite as large as the comparable w3-5).

Page 5-11: Lots of room to make the 55-1 speed numerals larger, a la the R2-1 metric design (again attached).

Page 6-3: There should be a smaller 24" x 16 1/2" down arrow option for overhead signs on conventional roadways & expressways (such as the R3-14 series). This is consistent with current practice in many state DOTs, including Arizona & California.

Page 6-25: The word "(correct)" is written on this sheet. Comparing this to the MUTCD, this seems to be the correct deer symbol, so I would hope no changes are planned.

Page 6-56: In these days of Homeland Security & FEMA, is the CD symbol still used?

Page 10-16: The Bicycle Trail symbol is not in the MUTCD, and is sometimes mistakenly used for bike lanes - recommend deletion. Also need to add the bicycle outline symbol for bike lanes from page 9C-8 of the MUTCD.

That should do it for now... rcm

original Message

From: Richard Moeur

Sent: Thursday, June 03, 2004 3:26 PM To: Fred Ranck - FHWA (E-mail)

Cc: Richard Moeur (AOL) (E-mail); Jim Pline (E-mail) Subject: Final SHS Review - R2-1 (metric)

Fred:

I received your final 2003 SHS draft via FedEx today. Thanks, but how long do we have to make final comments? (that's a lot of paper to review!)

RE Final SHS Review

I've been pondering the R2-1 metric signs, and I think I've come up with a design that uses the 2003 MUTCD panel sizes and allows for the same numeral heights as the corresponding standard R2-1s. See attached PDF file.

rcm

original Message

From: Ranck, Fred [Fred.Ranck@fhwa.dot.gov] Sent: Monday, may 24, 2004 3:27 PM

To: Richard Moeur

Cc: jplineinc@aol.com; Bruce.Friedman@kimley-horn.com Subject: RE: Latest SHS Review

Richard: thanks for your hard work; the SHS is in final revision now. Here are the resolutions to your comments:

1. Yes, it is necessary to go to three decimal places; there is a whole lot to technicians out there with fancy electronic CAD design systems who send me every addition/subtraction anomaly they find at the 3rd decimal place level.

2. R1-2a: Legend is too close to border - use smaller G dimension and reduced spacing for ONCOMING. Sorry, tried that and the sign legend does not have a enough spacing between the lines of legend.

3. R3-1a, R3-2a: Lousy design - too many lines again. Legend too close to border - increase panel size or reduce letter size. sorry, sign design has to remain as published in the 2003 MUTCD; let's look at redesigning this design to a 3 line sign in the next revision.

4. R3-5b thru R3-5g: Series B is hard to read - recommend using series C with reduced spacing if needed. Agree; are redesigning with series C letters for the R3-5b,e, f

5. R3-6 and R3-8: placement of the Arrows with "OK", Agree, will show position and that the OK is 6"D letters

6. R3-9d: use a 32" / 16" top bottom split. use series C (not B) as default for times. Agree

7. R3-9f: Switch the 2.625" & 2" dimensions on each side of DO NOT USE to add visual space between DO NOT USE & the times. Agree

8. R3-12a: why not use series E? Agree for the 48 x 84 with 8" letters

9. R3-17, R3-17a, R3-17b: It was the intent of the NCUTCD Bicycle Technical Committee that the R3-17 be 24" x 18" (similar to the D11-1), and the R3-17a & R3-17b be 24" x 8". However, the NPRM for the 2003 MUTCD called for a 30" x 24" size for the R3-17, and 30" x 18" for the R3-17a & R3-17b plaques.. This was not caught or corrected in rulemaking, so we're stuck with the too-large sizes for now.

See attached formats (R3-17.gif) for correct layout details. The final 2003 MUTCD lists the sizes as 30 x 24 for the R3-17 and 30 x 12 for the R3-17a and b. sizes for the SHS will match the 2003 MUTCD.

11). R7-203 sorry, the text of the legend was established by rulemaking for the 2003 MUTCD.

11. R9-3, R9-4: why not series E for the NO? sorry, the letter height is only 3 inch; C width letters look best.

RE Final SHS Review 1.2 R8-9: use a 3-line design. Agree

1.3. R10-8: Another 5-line sign. Can this be reformatted to 3-4 lines without having to go back to rulemaking? sorry, the text of the legend was established by rulemaking for the 2003 MUTCD.

14. R10-11: Column L is same as Column E - consider replacing L with E. Agree

15. R10-20a: yes we do need two designs; one is for a 2-line plaque and the 2nd is for a three-line plaque. Agree to add 30" and 48" wide plaques.

16. R15-1: Show a minimum space between inside of RAIL & ROAD legend & extension of edge lines to make sure that there's no coverup/overlap in case the sign is made in 2 crossed-over pieces. On 2nd page, use the correct term "SHARED-USE PATHS" instead of the incorrect "BIKE PATHS". Agree

17. W2-6: agree to add width of arrow shaft + width of arrow head+ radius to inside of arrow shaft.

18. W3-5: agree to revise design to conform to Richard Mohr's comments to the Docket.

19. W14-3: The E dimension is correct for the distance between the bottom of ZONE & the bottom of the sign, but not the distance between the top of the sign & the top of NO (the legend is offset toward the top of the sign). Add a new column for this top dimension - 5.5" for 40x30, 6.375" for 48x36, 9.125" for 64x48. Agree. Also recommend using series E lettering for NO for emphasis.

20. w25-1, w25-2: Lousy idea, lousy design. 5 lines that don't manage to say anything. (end editorial comment) Sorry, designs added by final rule for the 2003 MUTCD. 21. All D5, D6 signs: 12" copy is OK for freeways, but is too large for conventional roadways (these are D Series signs, not freeway). ADOT intends to use 6" copy for these signs for conventional roads, 12" for expressways/freeways. Also recommend use of series E(M) copy for enhanced legibility. D5-1a: Use 9" numeral / 6" MILES distance legend on conventional roads, 15" numeral / 10" MILES legend on expressways & freeways. D5-5b: why the odd split dimension and length on the bottom arrow? D5-7 thru D5-11: Use 9" numeral / 6" MILES distance legend on conventional roads, 15" numeral/ 10" MILES legend on expressways & freeways. Recommend making the top edge of the horizontal divider coincident with an even foot dimension to ease fabrication on panels made of extruded aluminum. Also, making the panel height divisible by even feet (108" instead of 102") eases fabrication for states that have standardized on 12 extrusions for larger sign

panels. on the D5-8 & D5-10, why is the state name centered on the panel instead of on the WELCOME CENTER legend? D6-2: Use 9" numeral / 6" MILES distance legend on conventional roads, 15" numeral / 10" MILES legend on expressways & freeways. D6-1: why the odd split dimension and length on the bottom arrow? These designs are illustrated in the 2003 MUTCD and any change will have to be made as a change to the 2003 MUTCD.

22. D5-2, D5-2a: Arrow pointing into sign body conflicts with standard in 2E.18. Recommend redesign per attached file (D5-2.jpg)2 sorry, these designs are as illustrated in the 2003 MUTCD and any change will have to be made as a change to the 2003 MUTCD. 23. D6-3: Center the arrow vertically on the panel - don't top-justify Also recommend a 60 degree arrow. Agree

RE Final SHS Review

24. D9-13b, D9-13d: why not use 3" C for better legibility? Agree

25. D9-13c: why not use 4" C (reduced spacing on top line) for better legibility? Agree

26. D9-17: Legend is too close to edges. use 3" interior vertical space - or use a 30" panel with a 9"/6" distance legend (see D5 comments above). Increase vertical size to 30"

27. D9-18a, D9-18c: Legend is too close to edges. use 4" or 3" interior vertical spacing. No

28. D10-4: Use a 5" top space and a 12" (exactly 1/2 standard) shield height "km" should be lower case. Agree

29. D12-2: Tighten up space between TRAVEL & INFO for better readability. sorry dimension should match interline spacing between Info and CALL 511 30. E1-5 for motorist services: use 30" panel height, 15" space between EXIT & numeral. Agree

31. E2-3 for motorist services: "m" should be lower case. Agree

32. Diagrammatic: First letter of cardinal directions should be larger. Agree

original Message

From: Richard Moeur [RMoeur@dot.state.az.us] Sent: Monday, May 03, 2004 1:53 PM

To: Ranck, Fred; Jim Pline (E-mail)

Cc_: Al Zubi; Larry Lopez

Subject: Latest SHS Review

I've lost track of where I last left off in my submittals of draft standard Highway signs drawing comments, so this might have some repeated info. First, is it really necessary to go to three decimal places, especially on dimensions that aren't fractional equivalents? It seems a bit ridiculous sometimes to look at a 5.364" sign dimension when a simple 5.35"

(rounded to nearest .05") would be sufficient. W14-3:

The E dimension is correct for the distance between the bottom of ZONE & the bottom of the sign, but not the distance between the top of the sign & the top of NO (the legend is offset toward the top of the sign). Add a new cc lumn for this top dimension - 5.5" for 40x30, 6.375" for 48x36, 9.125" for 64x48. Also recommend using series E lettering for NO for emphasis. w25-1, w25-2: Lousy idea, lousy design. 5 lines that don't manage to say anything.- (end editorial comment)

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D5-7 thru D5-11: use 9" numeral / 6" MILES distance legend on conventional roads, 15" numeral / 10" MILES legend on expressways & freeways.

Recommend making the top edge of the horizontal divider coincident with an even foot dimension to ease fabrication on panels made of extruded aluminum. Also, making the panel height divisible by even feet (108" instead of 102") eases fabrication for states that have standardized on 12" extrusions for larger sign panels. on the D5-8 & D5-10, why is the state name centered on the panel instead of on the WELCOME CENTER legend?

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D10-4: use a 5" top space and a 12" (exactly 1/2 standard) shield height. "km" should be lower case.

D10-4: use a 2.75" (not 2.25") top & bottom space and a 12" (exactly 1/2 standard) shield height. "km" should be lower case.

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E1-1 for Motorist services: Use 30" panel height, 15" space between EXIT & numeral

E2-3 for motorist services: "im" should be lower case.

RE Final SHS Review

Diagrammatic: First letter of cardinal directions should be larger

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on 2nd page, use the correct term "SHARED-USE PATHS" instead of the incorrect "BIKE PATHS".

That's it for now. More comments when I have time to review the submittals << File: D5-2.jpg >> << File: R3-17.gif >>