

NCUTCD Bicycle Technical Committee 1/3/2001

Present: Pete Rusch, Richard Moeur, Bob Carrigan, Tim Oliver, Ed Dressler, John LaPlante, Dorin Fera, Alex Sorton, Maggie Cusack, Sue McNamara, Michelle DeRobertis, Ron Van Houten, Bill Fox, Shawn Dikes

Guests: Steve Garren - Avery Dennison, Cherie Kittle - FHWA, George Schoene - FHWA

CK Future FHWA rulemakings will be published via the FHWA website. Expect that the CD ROM will not be updated. A revision is expected by fall of 2001. Some experiments are never submitted for approval to FHWA, but some approved experiments are never reported back to them.

PR Errata changes to FHWA MUTCD is needed by 1/26. FHWA may also host websites for peer to peer discussions. Manual is geared towards highways but bicycling is more urban.

RM Experiment process - clarification is needed.

PR Training for the new manual- need photos for training. James Rust at the Volpe Center is putting this together. His email address is rust@volpe.dot.gov.

CK Volpe will be doing the training. Peer to peer program - need expertise that is not available from FHWA. Can hire experts for occasional responses to local government letters.

June 2000 Minutes

JL move to approve

2nd Dorin

Unanimous - Minutes approved.

Final Rule Review - Recommendations for Future Rulemaking

PR FHWA has deferred a number of our recommendations for a future rulemaking.

9A3 Item four - need space between “informational” and “route”.

9B.1 Standard statement on Overhead Sign Clearance AASHTO uses 2.5 meters for a sign vertical clearance (not 2.4 meters as FHWA has here).

9B Table 9B-1 Sign sizes

JL This is an errata item change to Minimum Sign Sizes (not ...”for shared use paths”). Want FHWA to republish this as an errata change.

9B-16

NPA - Resubmit our text since ours is more clear and the other signs defined by FHWA are not supplemental plaques. Examples: metal bridge decks, loose sand, slippery when wet plaques, etc. Move supplemental paragraph to below the actual sign.

9B.16 other bike warning signs - NPA add W11-1 and W15-1 back in.
Justification - are needed on off street facilities.

Figure 9-2 Errata change the FHWA caption to read “Typical Signing for the Beginning and End of a Designated Bike Route on a Shared-Use Path.”
Justification - this is a more specific caption.

Errata - W11-1 sign spacing varies - see 9B.15

JL our Figure 9-2 was never submitted to the NPA.

Figure 9B-3 Errata change text to “Intersection Traffic Control on **Either Facility** as Warranted, Dependent on Conditions”. Justification: to make it consistent with the language adopted in section 9B-3.

JL Motion to adopt the FHWA Final Rule version of Figure 9B-3, including the stop sign control, with the exception of adding “on either facility” to the intersection traffic control devices

DF 2nd

Vote - motion passes 10 for, 3 opposed.

JL NPA - Submit to NCUTCD for 1) inclusion of the stop signs and 2) removal of crossing markings in 9B-3. Justification: leave crossing markings as an option to local standards.

9C

Format of Markings Table of Contents - NPA change

9C.01 NPA - Delete useless first sentence in Support because it is not needed. Justification - See Final Rule #259

9C.02 Errata correction change the Support statement to reference “...**Figures 9B-3 and 9C-1 through 9C-7.**”

9C.03 NPA FHWA placed standard statement in section 9C.03 not 9C.02. Change back to 9C.02. Justification - NCUTCD’s reworking of 9C makes it more sensible to have this in 9C.02, not 9C.03.

Figure 9C-1 Errata - show dotted line in figure

9C.02 NPA - change standard statement

Figure 9C-2 Errata - change dimension from 2 feet to one foot on solid yellow marking offset from the edge of the obstruction.

9C.04 Make changes as an NPA. Comments 12, 13, 14, 15, 16, 17 and 18 (Our comment 18 correlates to FHWA’s Future Rulemaking comment #9).

Figure 9-3 NPA - change back to bike outline symbol - to make the same pavement marking symbol the same as the bike lane sign. Also reverse the pavement marking to make the symbol “leftbound”. Justification - change both of these back to what was approved by NCUTCD.

Figure 9C-4 NPA change bike symbol to “leftbound”

Figure 9C-5 NPA change bike lane signs to NCUTCD approved versions.

Figure 9C-6 NPA - change symbol height, show alternate symbol markings, bicycle outline symbol, “LANE”, put helmet back on bicyclist pavement marking symbol.

9C.05 Word Messages - NPA

9C.06 Object Markings - NPA on comments 35 and 36, but 37 is OK.

9C.6 Bicycle Detector Symbol - NPA comment to add this back in (correlates with FHWA Proposed Future Rulemaking Comment #3).

9D Signals

9D.02 NPA change to make text “Signal timing and ACTUATION...”. replacing existing “signal timing to be reviewed”. Justification - correlates to FHWA Proposed Future Rulemaking - comment #2.

Summary of Erratas:

- 1) Table 9B-1 - change name from Sign Sizes for Shared-Use Paths back to **Sign Sizes for Bicycle Facilities**. Justification - Items included in Table 9b-1 such as the R4-4 Begin Right Turn Lane Yield to Bikes, R7-9, and R7-9a No Parking Bike Lane, W11-1 Bicycle Crossing sign and W16-1 Share the Road Plaque are not used on shared use paths.
- 2) Table 9B-1 - the W5-2a sign name should be changed from Road Narrows to **Narrow Bridge**. Justification- the W5-2a is a Narrow Bridge sign.
- 3) Section 9B.03 Stop and Yield Signs - Change Guidance statement “When considering STOP sign placement, assignment of priority at a shared-use path/roadway intersection should consider the following:” to include **or YIELD** so that sentence reads “When considering STOP **or YIELD** sign placement...” Justification - upholds the NCUTCD approved language “Assignment of priority at a path/roadway intersection should consider the following:”
- 4) Delete the R3-17a sign - it was never approved by the Bicycle Technical Committee or the NCUTCD and should be viewed as a mistake. Justification - It could cause roadway user confusion and dangerous maneuvers by bicyclists.
- 5) Section 9B.10 Shared-Use Path Restriction Sign R9-7 Change the default layout to show the bicycle on the left and the pedestrian on the right as proposed by NCUTCD. Justification - overtaking bicyclists pass to the left of pedestrians.

6) Figure 9-2 Change name to Typical Signing for the Beginning and End of a Designated Bike Route on a Shared Use Path. Justification - it is a more specific caption

7) Figure 9-2 The spacing shown for the W11-1 sign in advance of the intersection is actually variable. Justification - see 9B.15

8) Figure 9B-3 change text to Intersection Traffic Control on **Either Facility** as Warranted Dependent on Conditions. Justification - change becomes consistent with the language adopted in section 9B-3.

9) 9C.02 Support statement should be changed to “**Figures 9B-3** and Figures 9C-1 through 9C-7....” Justification - is needed.

10) Figure 9C-2 (PENDING) take to NCUTCD

11) Some specific figures with “Typical” in their name will be changed to “Example” This includes: 9B-2, 9B-3, 9C-1, 9C-3, 9C-4, 9C-5, 9C-6. Justification - Typical is defined elsewhere in the Manual as a minimum standard and a number of the signing treatments shown in these figures are actually optional.

12) Table 9B-1 - Add signs, change sign number, and add/correct sign dimensions for:

1) R10-3 “Push Button for Green Light” 300mm x 225mm (9” X 12”) [Both path and roadway sizes],

2) W16-7 Supplemental Arrow Plaque 600mm x 300mm 24” x 12”) [Both path and roadway sizes], and;

3) D1-1b Bicycle Guide Sign (was D1-1 Supplemental Bike Route Plaque in FR)

Summary of NPAs

1) Table 9B-1 add Path sign sizes. Justification - signs that are defined for both path and roadway usage need to be specified in both sizes.

2) Table 9B-1 R5-1b Bicycle Wrong Way signs should be added. Justification - these were proposed by the NCUTCD in their section 9B.6.

3) Table 9B-1 Add W8-10 plaque sizes to table (below W8-10 Bicycle Surface Condition) Justification - these W8-10 series plaques are used with the W8-10.

- 4) Table 9B-1 D1-1 Supplemental Bike Route Plaque - change name back to NCUTCD recommended Bicycle Guide Signs and add Roadway size dimensions of 600mm x 150mm (24" x 6"). Justification - NCUTCD recommendations and sign dimensions are needed.
- 5) Change names of the M1-9 Bicycle Route Marker and M4-11, 12 and 13 Supplemental Bicycle Route Guide to Interstate Bicycle Route Marker and Bike Route Supplemental Plaques. Justification - these sign names were recommended by NCUTCD.
- 6) Change the R3-16, R3-16a and R3-17 series Bike Lane signs to the R3-17, R3-17a, R3-17b and R3-17c series signs proposed by the NCUTCD. The FHWA versions of these signs were **never** approved by the NCUTCD. Justification - the FHWA signs are not consistent and had been rejected by the NCUTCD Bicycle Technical Committee. Additionally, the RIGHT LANE designation could cause road user confusion, the ONLY designation conflicts with the intended use of the lane and the text of the MUTCD. The NCUTCD recommended signs offer advantages of lower cost and lower complexity, greater flexibility and better adaptability to field conditions.
- 7) Add R5-1b Bicycle Wrong Way and R9-3d Ride With Traffic signs as proposed by the NCUTCD. Justifications - Wrong Way travel by bicyclists is a major cause of conflicts and should be discouraged at every opportunity.
- 8) Add the NCUTCD proposed R10-13 Bicycle Signal Actuation Sign in NCUTCD proposed section 9B.12. Justification - corresponding pavement marking is defined in AASHTO
- 9) Section 9B.14 W8-10 Bicycle Surface Condition Warning Sign - change text back to NCUTCD recommended language. Move "A supplemental plaque may be used to clarify the type of specific surface condition" to below the W8-10 sign graphic. Justification - clarifies road conditions, other signs are actually signs and **not** "supplemental plaques".
- 10) 9B.18 Other Bicycle Warning Signs - add W11-2 and W15-1 signs. Justification - inclusion of these signs were approved by the NCUTCD these hazards frequently exist on shared-use paths adjacent to high speed bicycle travel.

11) Add Figure 9-2 Typical Bike Route Signing. Justification - layout of D11-1 Bike Route signs on a roadway is a much more common use of these signs.

12) Figure 9B-3 - remove crossing markings. Justification - leave as an option for local standards.

13) 9C sections - Rearrange and reformat in order to group marking information for similar types of facilities (as previously proposed by NCUTCD). Justification - the FHWA text remains in the same order as originally presented in the NPA.

14) 9C.01 Delete the first sentence from the support statement “Markings are important on roadways that have a designated bicycle lane.” Justification - is not needed - see FHWA Final Rule #259.

15) 9C.02 Include standard statement proposed by NCUTCD (which was placed in 9C.03 by FHWA). Justifications - NCUTCD’s reworking of 9C makes it more sensible to have this in 9C.02 (and **not** 9C.03.)

16) 9C.03 Delete Support statement. Justification - the use of centerline markings should not be discouraged where such markings are appropriate.

17) 9C.02 Add the Guidance statement recommended by NCUTCD regarding “Markings as shown in Figure 9C-2 should be used at the locations of bollards or other obstructions in the center of the path.” Justification - it is shown in Figure 9C-2.

18) 9C.02 Add option statements “Option word and symbol markings shown in Figure 9-7 may be used” and “Smaller size letters and symbols may be used on shared-use paths.” Justification- this is applicable to shared-use paths.

19) 9C.04 *Add comments from Richard 12, 13, 14, 15, 16, 17, 18 and 19.*and remove Exclusive use from final rule support statement.

20) Figure 9C-3 Change the Bicycle Lane symbol to the bicycle outline symbol and make it a “leftbound” symbol. Justification - the standard symbol should be shown as a recommended practice, and in the correct, “leftbound” direction. The standard symbol most closely resembles the symbol on the Bike Lane sign.

- 21) Figure 9C-4 Change the Bicycle Lane symbol to the bicycle outline symbol and make it a “leftbound” symbol. Justification - The standard symbol most closely resembles the symbol on the Bike Lane sign.
- 22) Figure 9C-5 Change R3-17 Bike Lane signs to NCUTCD approved versions. Justifications - NCUTCD recommended a new R31-7 sign design.
- 23) Figure 9C-6 *Copy & Paste comments from Richard*
- 24) Section 9C.05 *Copy and Paste comments from Richard*
- 25) Section 9C.06 Should be incorporated into the Shared-Use Path Marking section 9C.03 Marking Colors and Patterns on Shared-Use Paths. CHECK TERMS
- 26) Section 9C.06 Comment 36 *cut & paste from richard*
- 27) Bicycle Detector Symbol add this section Justification - Was approved by the NCUTCD. Additionally, AASHTO recommends this marking in Figure 29 of their Bicycle Facility Guidelines (1999).
- 28) 9D.02 change final Standard sentence to - “On bikeways, signal timing and actuation shall be reviewed and adjusted to consider the needs of bicyclists.” Justification - this requires the actual review and adjustment of signals for bicyclists.
- 29) Will Support inclusion on the M4-11, M4-11a, and M4-11b bike/ped, ped, bike detour signs for Part 6 (to support the TTCTC’s efforts). Note: include sign details as part of the submittal.

Thursday NCUTCD

PR Discussed committees proposed changes to FHWA Final Rules. No committee feedback or from attendees at large.

KK Proposed changes should be sent to Shelly Row at FHWA.

Thursday afternoon BTC

Present: Pete Rusch, Richard Moeur, Maggie Cusack, Tim Oliver, Bob Carrigan, Bill Fox, Shawn Dikes, Dorin Fera, Ed Dressler, John La Plante, Alex Sorton, James Mackay, Michelle DeRobertis, Ron Van Houten

Guests: Cherie Kittle,

RM Agrees to be on NCUTCD website committee.

PR Errata to be transmitted by electronic format.

CK Want redline version to show the changes. Need Errata by 1/26, NPA text by 2/15. Define changes from and to. Confirmation of new Transportation Secretary could influence FHWA response time line. Will have annual updates to the MUTCD.

MC Can set up a listserv for our committee to use and discuss upcoming topics.

JL James to work on Errata, Richard will do the NPA. R3-17a sign has text with it that needs to be deleted as well.

PR Lee Billingsley - TTC committee will handle the bike and ped detour signs as part of their committee's comments.

MDR San Francisco has been using a variation of the M1-8 route markers.

CK Nevada would like to conduct a similar experiment.

JM Recommend destination and directions be shown above the M1-8 sign.

JL Signal warrants - Signal TC have agreed to include bicycle signal warrant information in their comments to FHWA.

RVH bike in a house arrow - wan to streamline experiment to make less costly to collect and analyze the data.

JM Comments

JL Chicago has used in wide curb lanes, outside of parked cars, and throat widening to encourage taking the lane.

MDR Bicycle Traffic Signalheads

JL Need warrants, standards, and guidance to take to Signals committee.

RVH Go with the best single application to get into the manual. Define usage to where it will improve safety.

MC Will write the first draft language for bicycle traffic signals. Will check Cambridge, Mass, Davis, CA., Toronto, Ontario, etc. and will provide advance copies prior to our meeting.

PR Can schedule to present to the Signals TC at the June meeting.

AS City of Davis has a video of their bicycle signal.

DF Will get Davis video.

Arrow

JL Recommend that Denver send some 4' versions to SF to use.

RVH Keep as a single use marking.

Roundabouts

JL FHWA roundabout guide is now available. ASSHTO bike guide already addresses this to some extent. Bring examples of bicycle related treatments and signs for roundabouts.

PR Provide information to Bill Fox.

Solid Colored Lanes

MC Can use for transit and bikes - will develop an experiment design and bring back in June

SMN Have solid red colored bus/bike lane in Philadelphia.

BF Recommend we choose green.

TO Recommend focus on conflict Zones.

Wheels and Heels Trails

RVH did a human factors evaluation with college students - all in black and white. Had 100% comprehension of both “fast” and “beginner” skater. The skate only symbol was only 85% comprehension. Had no responses related to speed interpretation of fast or beginner skater. The legs only version was not well comprehended. Recommend the use of the FHWA skater symbol, since already defined by FHWA.

JL Will want to take signs to sponsors this spring, and then propose Shared Use Path Regulation Signs text for next meeting.

RM Have language and section location drafted and ready to submit - Travel Mode Regulation Signs.

Tunnel/Special Areas Bicyclist Actuated signs

TO Distributed draft paper on topic. Would like to develop language for section 9B.16, referencing Section 2C.1