

**MARKINGS TECHNICAL COMMITTEE
NEW BUSINESS ITEMS**

FHWA ITEMS FOR THE MARKINGS TECHNICAL COMMITTEE – FROM SCOTT WAINWRIGHT

1. List of Official Rulings on Part 3 (January to May 2004): See attached sheet. FHWA plans on providing these committee-specific lists of experimentations, interpretations, requests for changes, and interim approvals every 6 months (for each NCUTCD meeting.) Incoming letters and replies can be viewed on the ATSSA website. [NOTE: Technical Committee should review and determine if they wish to develop recommended MUTCD text and figures for any of these issues.]
2. List of Selected Recent FHWA Experimentations and Interpretations: See attached sheet. This list covers all parts of the MUTCD and includes many (but not all) experimentations and interpretations over approximately the past 2 years. It is for information only.
3. Issues from January 2003 “FHWA Items for MTC” List – Status with MTC?: The following items (text repeated below from January 2003 list) are those for which it appears MTC has not yet started any consideration:
 - a. Urbanization Issues:
 - i. Lane drop markings for non-freeway “trap lane” applications
 - ii. Transverse lines to mark start and end of school zones
 - iii. Guidance for location and placement of blue RPMs for hydrants
 - iv. low-cost marking pattern to identify the center of low-speed residential roadways, without implying whether or not passing is prohibited.
 - b. Yield Line Use for Left Turn Lane on Divided Highway: In some areas, yield lines are being used at the front end of a left turn bay, at unsignalized intersections, to remind left turn drivers to yield before turning across oncoming thru traffic. The left turn movement does not have a yield sign, but is required by the normal “rules of the road” to yield to oncoming thru traffic. In some cases, the yield line has been supplemented by a word legend “YIELD” on the pavement in the left turn lane, just in back of the yield line. FHWA believes this application is consistent with the intended meaning of the yield line and would not be confusing. Should Section 3B.16 be modified to specifically allow this practice?
 - c. Object Marker Issues: In Section 3C.01, the Standard for Type 3 marker specifies a minimum width of the yellow stripe, but not a maximum, and does not require the black and yellow stripe widths to be equal, nor does it contain any dimensions for the black stripes. In the Support statement, it encourages black stripes to be wider than yellow “for a better appearance”. Should there be minimum and maximum dimensions for the black stripes? Also in this section, does the MTC believe it is appropriate for the color orange to be substituted for yellow when object markers are placed in TTC zones? (Part 6 is silent on this except for 6F.58 Vertical Panels.)
 - d. End-of Roadway Marker Mounting Height: Section 3C.04 specifies minimum mounting height of this marker as 4 feet. It does not indicate whether this is measured to the top or bottom of the marker, nor whether it is measured above the

ground level, shoulder, or edge of pavement. There is no definition of the term “mounting height” in the MUTCD. Does the MTC have recommendations for this specific issue?

- e. Colored Pavements: FHWA’s official interpretation and the 2003 MUTCD text have hopefully clarified this issue somewhat, but questions remain, such as: What specific colors are OK to use in the area between the white crosswalk lines, and which are not? What color pavements should be used for a bike lane or a bus lane? A new product called “Rippleprint” simulates rumble strips but colors the pavement red throughout the length of the longitudinal area treated with the “undulations” in pavement surface--is this a traffic control device? This subject of colored pavements and use of colored pavement marking materials (thermoplastic) to simulate colored pavement needs more investigation and MTC recommendations.
4. “Emerging Issues” Presented to MTC at January 2004 Meeting:
 - a. Horizontal Signing: More encouragement in MUTCD text and figures for use in conveying regulatory, warning, and guidance (route numbers, destinations) information.
 - b. Detectable Warnings: Recommendation of MTC on color of domes?
 - c. Edge Line Striping Over Grooved Shoulder Rumble Strips: What marking should be used to avoid appearance as a double solid line?
 - d. U-Turn Arrow Pavement Marking: Need design for figure 3B-21 and/or SHS Book.
 - e. Pavement Markings at Tollbooths and Their Approaches: Electronic Toll Collection Lanes, Lane Use, Transverse and Longitudinal Markings.
 - f. Crosswalk Marking Patterns: MUTCD allows a variety of crosswalk patterns. Are too many patterns allowed? Need more uniformity for what drivers expect a crosswalk to look like?
 - g. Strings of Daylight-Visible LED RPMs as Substitute for Traditional Markings: Criteria? Flashing or Steady?
 5. Additional New Issues:
 - a. RPMs along Edge Lines: Criteria for where they should be considered for allowable use, despite bicyclist concerns?
 - b. Figure 3B-15: Use of stop lines (and different signs) at midblock crosswalks if State law requires STOP for peds rather than yield?
 - c. Meaning of Solid Yellow Centerline for No-Passing: Should MUTCD (and UVC) specify a uniform meaning (i.e., must complete pass before start of solid yellow vs. OK to start passing maneuver on broken yellow and finish on solid yellow.)?
 - d. Uniformity in Marking No-Passing Zone Approaching Stop Sign or Signal: Should MUTCD recommend or require solid yellow line for some distance in advance of stop sign or signal, if centerline markings are used?
 - e. Red RPMs: Used now to denote wrong-way movements on “roadways that shall not be entered or used.” Normally assumed to mean one-way roadways of a divided highway or a one-way ramp or street. Hawaii uses red RPMs on back of white RPMs on the lane lines and edgelines of 2-lane and 4-lane UNDIVIDED two-way roadways, and claims it helps drivers turning onto the road from side street make their turn onto the correct half of the roadway. (Lots of Japanese

tourists who are accustomed to driving on left.) Does Part 3 text need clarification or modification to address this use?

RUMBLE STRIPE EDGE LINE MARKING PATTERNS – SCOTT WAINWRIGHT

Michigan is going to be applying rumble stripes on another long section of freeway after it is resurfaced within about a week, and they are willing to use some other pattern for the 3 inch wide second stripe if we want them to. Other than going to 90'-10', do you have any ideas that would be good to try out and see what they look like?

RRPM DAYTIME COLOR – FROM PAUL CARLSON

The daytime requirement for RRPM is not reasonable and should be removed. RRPMs during the day appear dark because of the design of the retroreflective element. This was a topic of discussion at the ASTM meeting and something that MTC should consider removing from the MUTCD (in my opinion).

Section 3B.11 Raised Pavement Markers Standard:

A raised pavement marker shall be a device with a height of at least 10 mm (0.4 in) mounted on or in a road surface that is intended to be used as a positioning guide or to supplement or substitute for pavement markings or to mark the position of a fire hydrant.

The color of raised pavement markers under both daylight and nighttime conditions shall conform to the color of the marking for which they serve as a positioning guide, or for which they supplement or substitute.

CONCEPTUAL WHITE PAVEMENT MARKING FOR LANE CHANGING – FROM JOE MARCUSON

My thought was a new type of white lane line marking, based somewhat on yellow centerline applications. A broken line means passing is allowed, a double line means passing is prohibited, and a combination broken and solid line mean passing is prohibited on one side only.

I was wondering if there was potential use for the combination broken and solid line application, for white?

A potential use might be for parallel exit and entry ramp lanes, getting on and off the freeway. On an exit ramp, you would be able to cross into, but not back out of the off ramp. Likewise, on an entry ramp, you would be allowed to cross over from the on-ramp side, but not from the freeway mainline side. I have seen people move over into these parallel lanes by mistake (or maybe not). This type of striping may help, if they were obeyed.

What do you think? Does this make sense, are there any other potential applications?

CROSSWALK MARKING PATTERNS – FROM MURRAY BODIN, JOHN LAPLANTE, AND DAN CENTA

From Murray Bodin

Would you please include some discussion of one standard crosswalk design, the BAR, or Continental being the most universal used. It is the most crosswalk most easily recognized by the driver (the pedestrian knows what it is, he is going at about 3-5 fps vs. 25-50 MPH for the driver). It is an issue that has taken on more meaning in light of the Older Driver problems. We older drivers (I'm 70) don't think as fast as you younger drivers. Memory (of what the rules are) is the second thing to go. I can't remember the first.

From John LaPlante

I did have a question regarding your request for discussion on using the Continental or Zebra crosswalk designs. I agree that in order to be seen by a driver, the crosswalk has to have some horizontal elements parallel to the direction of travel (bars, ladders, crosshatching). There will be a new AASHTO Guide for the Planning, Design and Operation of Pedestrian Facilities coming out sometime this Spring. This guide, which will be a companion piece to the Green Book, will make that very point, noting that the standard two parallel lines across a roadway can only be seen by pedestrians and stopped motorists, and are therefore only recommended for crosswalks at signalized intersections. Once this book is published, the Markings Committee may want to revisit the wording on crosswalks in the MUTCD. We can discuss that at the June NCUTCD Ped Task Force meeting.

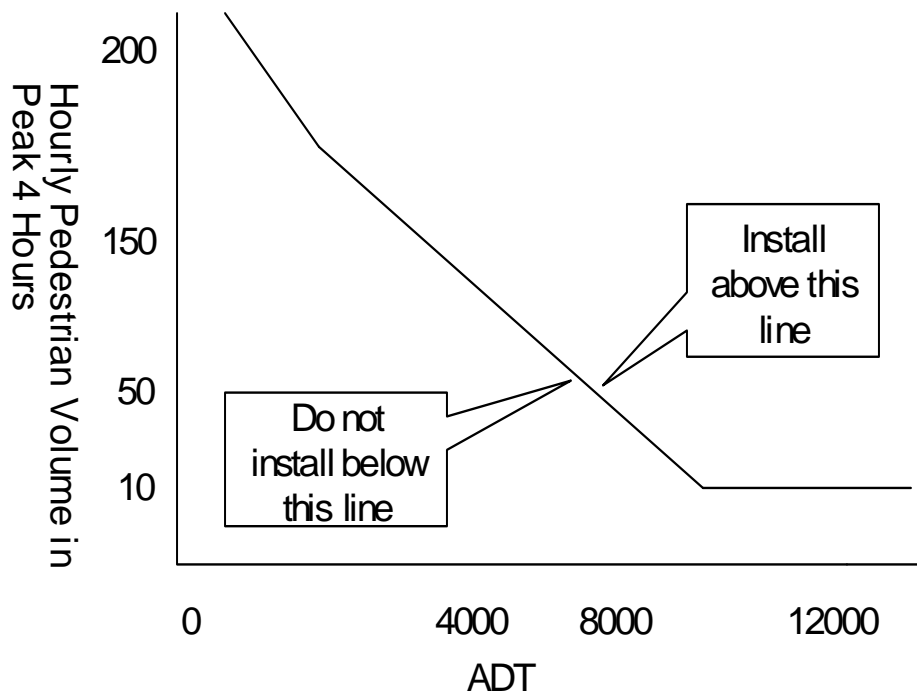
From Dan Centa

The "back door" approach concerns me and the recommendation of having an AASHTO type guide that gives direction in conflict with the general guidance in the manual really concerns me. A "Hamiltonian" approach to crosswalk markings is dangerous.. I have significant philosophical problems with standardized crosswalk design.

PEDESTRIAN CROSSWALK WARRANTS FROM ROGER DYER

I know there is lots or research out there and a LOT of controversy about when and where to mark mid-block crosswalks and perhaps even some for signalized locations.

Seems to me all signalized intersections should have marked crosswalks unless at a signal on a controlled or limited access facility which does not allow pedestrians or bikes. Otherwise for non-signalized locations, what do you think about starting with something like the attached which is a take-off on work by Smith and Knoblauch? The attached figure is NOT to scale and the break points are my own just to get something down on paper. I "lifted" this from the TTI report for project number 0-2136 by Turner and Carlson. Their draft recommendations on page 21 also have merit.



a la Smith and Knoblauch Crosswalk Marking Guidelines for Non-signalized and Mid-block locations with speed limit under 45 mph. Provide percentage adjustments for speed over 45 mph and/or for locations with predominantly young, elderly or handicapped pedestrians.

COLOR OF PARKING LINES – FROM BOB CANFIELD

In teaching an MUTCD class in Wyoming recently I invited attendees to email me with any concerns that I couldn't answer in class. This was one of them. It concerns parking lane lines along streets. Seems that since probably 90% of the country gets snow (obviously some more than others) maybe there is some merit in this request. I understand the philosophy of the yellow edge line on the left side and maybe this should be the controlling factor. Might be interesting enough to throw out for discussion at Alaska meeting. With FHWA sold on a single color system from their scope tour of Europe, maybe the color should be yellow and not white.

My Question was on the White (Diagonal) Parking lines that are a "SHALL BE" versus the Yellow that our public likes (They have had it this way for who knows how long). But they do have a valid point....

The Yellow parking lines reveal themselves through the snow/Ice very well and so even if we have had a couple inches of snow, Or when we have cleaned up larger storms, they show through rather rapidly in the down town area and orderly parking seems to remain, or reorganize itself, rather quickly.

To date the yellow doesn't seem to be a problem to any motorist as it is not a "Solid Line" on the Right Hand Side and does not seem to confuse anyone as to the purpose.

My question (I Guess) is , would it be possible to list the white parking as a "SHOULD BE" Rather Than a "SHALL BE" thereby allowing us who can make a "Judgement" Call to put down yellow as Diagonal parking?