

New Edition of the MUTCD Expected Soon

by Matt Cate, P.E., Technical Assistance Coordinator

Lately it seems that much of RoadTalk has been dedicated to discussion of issues related to the *Manual on Uniform Traffic Control Devices*, or *MUTCD*. Almost any roadway-related safety, operations, or maintenance project is affected by the *MUTCD*. From traffic signs and signals to pavement markings, the *MUTCD* is the national standard for all traffic control devices on any roadway open to public travel regardless of jurisdiction or ownership. While many of the fundamental concepts described in the *MUTCD*

have not changed in decades, the manual itself is frequently updated to reflect new or improved designs and applications for traffic control devices. In the past ten years there have been five different versions of the *MUTCD*, including two major Editions (2000 and 2003) and three revisions (2001, 2004, and 2008).

Despite the number of recent changes, the Federal Highway Administration has been hard at work to develop the next significant edition of the *MUTCD*. A Notice of Proposed Amendments

was published in the Federal Register in January 2008. A comment period followed, closing on July 31, 2008. Since that date FHWA has been working to address all comments received and develop a Final Rule on the new manual. While no date has been set, the Final Rule is expected no later than early 2010.

While the original Notice of Proposed Amendments remains the only information available to describe the next edition of the *MUTCD*, any changes made to reflect comments received will be

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Proposed amendments to the *MUTCD* will make the use of *YIELD* (pictured) or *STOP* signs mandatory at all railroad-highway grade crossings with passive control.

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RoadTalk is a publication of the Tennessee Transportation Assistance Program (TTAP). TTAP is part of a nationwide Local Technical Assistance Program (LTAP) financed jointly by the Federal Highway Administration (FHWA) and Tennessee Department of Transportation (TDOT). Its purpose is to translate into understandable terms the latest state-of-the-art technologies in the areas of roads, bridges, and public transportation to local highway and transportation personnel.

The views, opinions, and recommendations contained within this newsletter are those of the authors and do not necessarily reflect the views of FHWA and TDOT.

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From the Director

It's been a great summer for those of us at TTAP, and I hope you all have had a good one, too. There doesn't seem to be enough time to get everything done, but being busy in these times is a good thing.

Of course, the economy continues to be a big source of concern for transportation agencies as I write this. It's unclear whether the green shoots the folks in Washington are talking about represent a useful crop or just weeds. Tax revenues are way down in Tennessee, and an unscientific poll of friends in public works shows that purse strings are still pretty tight. On the other hand, some of the ARRA (i.e., stimulus) funds are getting spent on transportation projects. Also, materials prices aren't rising at the rapid rate of the past several years. Where will the economy go? Personally, I think it's too early to say we're on the road to recovery. Maybe things will be clearer at the time of my next column.

You may have noticed that the Obama administration is focusing a lot of attention on rail passenger service. There is real money behind the administration's rail initiative, with \$8 billion available immediately for high-speed rail (HSR) projects and increased funding for regular Amtrak service. In the surface transportation bill now being drafted, the administration is pushing for an additional \$50 billion in HSR funding over six years.

The United States is about the only industrialized nation in the world without a significant high-speed rail initiative. France, Japan, Spain, and Germany were pioneers in high-speed rail passenger transportation. China is presently in the midst of constructing a network that will ultimately reach 16,000 route-miles. These systems carry hundreds of millions of passengers annually, at top speeds of 200 mph, with remarkable safety and comfort. In 45 years of operation, for example, the Japanese system has never had a passenger fatality.

Will Tennessee be part of the HSR initiative? There is interest in various quarters for both expanded conventional rail passenger service and for potential HSR, but no firm plans or funding for either. I do believe that passenger rail would augment the set of transportation options available to Tennesseans, particularly those traveling from 100-500 miles. However, our state has neither the population density nor the transportation issues that propel the critical need for HSR projects in states such as California and Florida.

Our local road networks will be just as important in feeding passenger traffic to the rail system as they are to the freeway and arterial highways. So, we'll still be driving on local roads and streets, in some sort of vehicle, no matter what the future brings in terms of rail transportation. And that's a comforting thought.

As always, please feel free to contact TTAP for technical assistance, training, or information. We look forward to serving you.

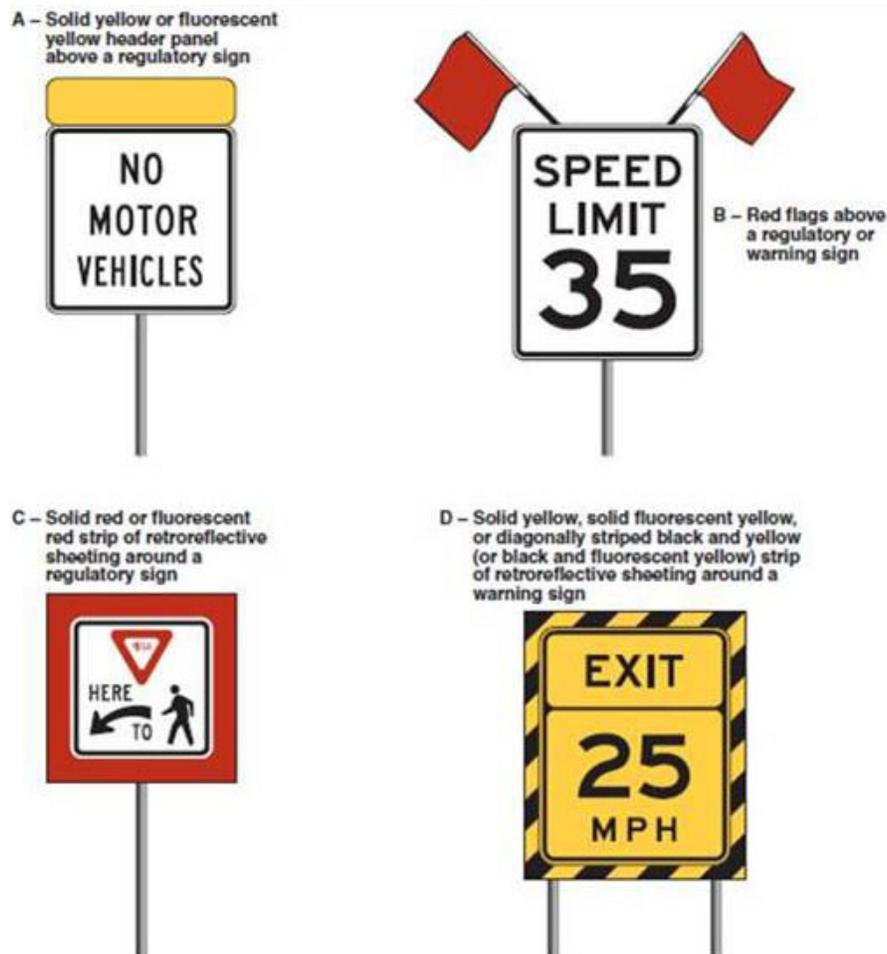


relatively minor. The list of additions and revisions to the manual is extensive. However, a limited number of these changes will have a noticeable impact on local roadway agencies. The following paragraphs offer a brief summary of these changes.

Part 2: Signs

- The option to use all upper-case letters for place name and street name signs is deleted. Research has shown that recognition and legibility are increased using lower-case with initial upper-case letters.
- The manual will include new options for sign conspicuity. These treatments will standardize practices that many agencies already utilize.
- The *MUTCD* will require increased sizes for many signs facing traffic on conventional multilane roadways. New minimum sign sizes include 36" Stop signs, 48" Yield signs, and 36" Yellow diamond-shaped warning signs. The signs will better accommodate older drivers and those with 20/40 or better corrected vision.
- New supplemental plaques may be added to regulatory speed limit signs to indicate that the speed limit is applicable to a wider area. New legends include "CITYWIDE", "NEIGHBORHOOD", "RESIDENTIAL", and "UNLESS OTHERWISE POSTED".

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New options for increased sign conspicuity

- Several new regulatory and warning signs will be added to more clearly indicate proper driver behavior at roundabouts.
- Use of Divided Highway signs will be mandatory on all approaches to divided roadways. An exception is made for divided roadways with an ADT of less than 400 vehicles per day and a posted speed limit of 25 MPH or less.
- Fluorescent yellow-green sheeting will be recommended for pedestrian, bike, and playground signs and mandatory for school signs.
- Horizontal alignment warning signs (turn, curve, reverse curve, etc.) and advisory speed plaques will be recommended for all locations where the difference between the speed limit and curve advisory speed is 5 MPH. Warning signs and advisory speed plaques will be required for all locations where the difference between the speed limit and curve advisory speed is equal to or greater than 10 MPH.
- The only alternatives to the standard green background for street name signs will be blue, brown, and black. All letters must be white.
- Object markers and barricades are now included in Part 2 of the *MUTCD*.

Part 3: Pavement Markings

- Single yellow centerline markings on two-way roads will be explicitly prohibited. This does not reflect a change in *MUTCD* policy. However, many agencies have utilized this marking configuration

because previous editions did not specifically prohibit it.

- The manual will add standardized Do Not Block Intersection markings. These designs will offer a uniform approach to a widely utilized practice.
- Delineators will be recommended for use with all guardrails and other longitudinal barriers.

Part 4: Signals

- 12-inch indications will be required for all new traffic control signals.

Part 5: Low-Volume Roads

- The reduced sign sizes and requirements of Part 5 shall not apply to neighborhood residential streets.

Part 7: Schools

- The school children symbol may be used on the in-street pedestrian sign at school crossings.
- The old word message warning sign for SCHOOL BUS STOP AHEAD is being replaced with a new symbol warning sign.
- The end of a school speed zone shall be marked with an END SCHOOL ZONE regulatory sign. This sign can be combined on the same post with a standard regulatory speed limit sign.

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Old word message School Bus Stop Ahead (left) and new symbol School Bus Stop Ahead (right) warning signs.

Part 8: Rail Crossings

- Stop or Yield signs shall be used at all passive grade crossings. This change reflects a policy memo issued by FHWA in 2006.
- A new option will allow the use of red lettering on the Crossbuck sign. Red letters may better emphasize that rail traffic has right-of-way at highway-rail grade crossings.

As in the past, a compliance period will be incorporated for each change to the MUTCD. These compliance periods allows agencies to phase-in a new or revised sign over a period of time. For changes deemed to be minor in nature, the compliance period often reflects the useful service life of any existing traffic control device. Of course, these compliance periods will be included with the final version of the new MUTCD.

If you are interested in learning more about these and other proposed changes to the Manual on Uniform Traffic Control Devices, visit the MUTCD website at http://mutcd.fhwa.dot.gov/resources/proposed_amend/index.htm. Look for information on final changes and effective dates for the new manual on the FHWA website and in future issues of RoadTalk.

Note: We have 3 copies of the MUTCD left and they will be available on a first-come-first-served basis.

FHWA Urges Road Agencies to Consider “Top Nine” Life-Saving Strategies

The FHWA Safety Program urges State and local roadway officials to consider implementation of nine safety countermeasures that show great potential to reduce highway fatalities and injuries. As State highway agencies develop plans to address the safety challenges identified in their strategic highway safety plans, they are urged to consider the benefits of investments in these proven roadway safety tools and techniques.

Road Safety Audits – A road safety audit (RSA) is a formal safety performance examination of an existing or future road or intersection. Audit teams are independent and multidisciplinary. The team reports on potential road safety issues and identifies opportunities to improve safety for all road users.

Rumble Strips and Rumble Stripes – Rumble strips are raised or grooved patterns on the roadway that provide both an audible warning (rumbling sound) and a physical vibration to alert drivers that they are leaving the driving lane. They may be installed on the roadway shoulder or on the centerline of undivided highways. Rumble stripes are rumble strips that are placed at the centerline or edgeline.

Median Barriers – Median barriers are longitudinal barriers used to separate opposing traffic on a divided highway. They are designed to redirect vehicles striking either side of the barrier. Median barriers can significantly reduce the number of cross-median crashes and the overall severity of median-related crashes.

Safety Edge – The Safety Edge asphalt paving technique minimizes vertical drop-off safety hazards. A Safety Edge shape is created by fitting resurfacing equipment with a device that extrudes and compacts the shape of the pavement edge at a specific angle as the paver passes. This mitigates shoulder pavement edge drop-offs immediately during the construction process and over the life of the pavement. Because the technique involves only a slight modification of paving equipment, it has a minimal impact on project cost. Improved compaction of the pavement near the edge is an additional benefit of the Safety Edge.

Roundabouts – A roundabout is a circular intersection where entering traffic yields to vehicles on the circulatory roadway. Roundabouts are designed to channel traffic at the entrance and provide collision deflection around a center island. Modern roundabouts are geometrically designed to reduce speeds and deflect collision forces, which substantially improves safety, while providing excellent operational performance at the intersection.



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Left- and Right-Turn Lane at Stop-Controlled Intersections

– Left-turn lanes are auxiliary lanes for storage or speed change of left-turning vehicles. Left-turn lanes reduce the likelihood of intersection crashes. They also make turning easier for drivers and improve the intersection’s operational efficiency. Right-turn lanes provide a separation at intersection approaches between right-turning traffic and adjacent through-traffic. This reduces conflicts and improves intersection safety.

Yellow Change Intervals

– Yellow signal lights that are not timed appropriately are a safety hazard. Yellow change intervals that are not consistent with normal operating speeds create a “dilemma zone” in which drivers can neither stop safely, nor reach the intersection before the signal turns red.

Medians and Pedestrian Refuge Areas in Urban and Suburban Areas

– Medians reduce traffic conflicts and increase safety by providing a buffer area between opposing lanes of traffic. Medians can be open (pavement markings only), or channelized (raised medians or islands) to separate various road users. Pedestrian Refuge Areas—also known as crossing islands, center islands, refuge islands, pedestrian islands, or median slow points—are raised islands placed in the street to separate crossing pedestrians from vehicles.

Walkways – Appropriately designed walkways increase safety for all road users. Types of walkways include:

◆ *Pedestrian Walkway (Walkway)* – A continuous way designated for pedestrians and separated from motor vehicle traffic by a space or barrier.

◆ *Shared Use Path* – A bike-way or pedestrian walkway physically separated from motor vehicle

traffic by an open space or barrier, either within a highway right-of-way, or within an independent right-of-way. Shared use paths may also be used by pedestrians, skat-

ers, wheelchair users, joggers, and other non-motorized users. Shared use paths also are referred to as “trails” or “multiple-use trails.”

◆ *Sidewalks* – Walkways that are paved and separated from the street, generally by curb and gutter.

◆ *Roadway Shoulder* – In rural or suburban areas where sidewalks and pathways are not feasible, gravel or paved highway shoulders provide a safer area for pedestrians to walk next to the roadway.

For more information on these countermeasures, visit <http://safety.fhwa.dot.gov> or contact:

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FHWA Publications Available

TTAP has several copies of two FHWA publications available for distribution. If you are interested in one or both of these books, please contact us at 1-800-252-7623 or TTAP@utk.edu.

1. *Low-Cost Treatments for Horizontal Curve Safety (FHWA-SA-07-002)*. This publication provides practical information about low-cost treatments that can be applied at horizontal curves to address identified or potential safety problems, and includes a description of maintenance activities that should be conducted to maintain countermeasure effectiveness. Available online at http://safety.fhwa.dot.gov/roadway_dept/horizontal_curves/fhwasa07002/.

2. *Good Practices: Incorporating Safety into Resurfacing and Restoration Projects (FHWA-SA-07-001)*. Including safety improvements in pavement resurfacing and restoration projects is a subject of long-standing interest. This report details results of a scan tour conducted to document and disseminate information on good practices by State Departments of Transportation and local agencies to integrate safety improvements into resurfacing and pavement restoration projects. Available online at http://safety.fhwa.dot.gov/roadway_dept/strat_approach/fhwasa07001/.



Too Busy to Train? Think Again

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Employees in many industries are now expected to produce more in less time. This unrealistic expectation could relate to why studies support that employees are currently less satisfied with their jobs than employees were a decade ago.

Many baby boomers will be replaced by younger workers as they leave the current work force. Some younger workers have different attitudes and expectations about the role of work in their lives than their older counterparts. This presents a new challenge for many employers and could be impacting employer's ability to get managers and field crews to reach their full potential.

The answer to the problem for many agencies is to provide more training to their employees. Studies support that if your field personnel get below eight hours of training per year, it will not lead to any changes in productivity. Many organizations offer more training for employers (management) than employees. It is equally important to train those doing the work, not just those making the decisions. Quality, service and productivity also happens out in the field and not just in the office.

Most public agencies don't have formal training programs in place, and making time to train employees can be challenging. However, leaving people to learn by doing is much more costly. Managers should set a goal to conduct training that will help employees excel. A good training goal should be to provide 40 hours of training per year per employee. The total

cost of this training probably won't be more than two percent of overall payroll cost but the return will be much higher in productivity and safety.

First, hold a meeting with management to select and prioritize training topics. Make it a habit to cover the same topics annually while adding new ones. There are always new employees and refresher classes reinforce correct performance.

Second, schedule training time each week, such as 30 minutes every Tuesday morning.

Third, make the training interactive. Use the common method of training:

1. tell them what you are going to tell them,
2. tell them,
3. show them,
4. let them do it, and
5. tell them again.

Coach participants through exercises until they get it right and recognize those who do a good job. Share training duties among employees based on experience and skill. Give everyone a chance to instruct.

There are times when you should use outside people to teach on new and technical tasks. Bringing in a specialist to train or sending employees offsite to workshops can be worth the investment. Ensure the information they were provided is reinforced after they get back on the job so they can implement their new skills and to show management support of their training.

Employees do not want to struggle with tasks or take longer to master new skills. Employees want to make a meaningful contribution to their job, and they want to be recognized for their efforts. Training can accomplish this. Training also fosters team morale and more enthusiasm for work.

Address safety concerns and save money by training employees. Use training to build productivity, quality of work, motivation and company loyalty. Too busy to train? Think again.

Linda Hanson, CMC, is a certified management consultant and author of 10 Steps to Marketing Success. She writes, speaks and consults on marketing, management, and customer service issues and can be contacted at www.lhenterprises.com. Sign up for her free newsletter, The Superior Performance Report.

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TALK TO TTAP

We are always looking for your comments, ideas and suggestions to help make the TTAP Program more useful to you. Please fill out and fax the form below to TTAP at (865) 974-3889 or mail to TTAP; Suite 309 Conference Center Building, Knoxville, TN 37996-4133.

1. Please send me more information on the following articles mentioned in this newsletter.

2. Please list any additional training workshops you would be interested in attending.

3. Please list topics for videos you would like TTAP to obtain.

4. Please list any other ideas or suggestions on how TTAP could assist you.

5. Please list your name and organization to verify for TTAP's mailing list.

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