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Mobility Choices through Public Transit





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**Mobility Choices
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The MUTCD Turns 80: Time for a Makeover?

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The *Manual on Uniform Traffic Control Devices* (MUTCD) is arguably the most prominent reference document used by traffic engineers in the United States. Most users know that it is the national standard for all traffic control devices in the United States and that it is produced and published online by the Federal Highway Administration (FHWA). Fewer may be aware that the MUTCD celebrates its 80th birthday on November 7, 2015. During its life, it has grown tenfold in size as well as in significance. Although the MUTCD has evolved over ten editions, the basic concept of the document—to provide guidelines for the meaning, design, application, installation, and operation of traffic control devices—has remained essentially the same. But while the MUTCD has served the profession well for 80 years, it is time to evaluate how it can best serve the needs of the profession in the years ahead.

To address this, the National Committee on Uniform Traffic Control Devices (NCUTCD) recently completed a multi-year effort to evaluate the future of the MUTCD, supported in part by funding from the National Cooperative Highway Research Program. The result is the *20-Year Long-Range Vision and Strategic Plan for the MUTCD*, approved by the NCUTCD in January 2014¹. As the primary author of that document, I spent a great deal of time identifying, evaluating, and questioning the MUTCD from a high-altitude perspective. I believe that it is time to make some fundamental changes in the MUTCD and I believe others feel the same way, as evidenced by a session at the 2015 ITE Annual Meeting, “The MUTCD: Can the Current Process Keep Pace with the Demand for Change. And Should It?” FHWA has also taken on the task of assessing the MUTCD’s future and intends to publish a request for comments (RFC) in the *Federal Register* in

the fall of 2015 to solicit input on key questions regarding the MUTCD and its future. FHWA will announce the RFC on the MUTCD website when it is published.² It is important for all MUTCD users to evaluate these efforts and contribute to the discussion on the future of the MUTCD. This article offers my thoughts on how I believe the MUTCD should evolve in the future and I encourage readers to submit their own thoughts.

MUTCD Evolution

Early in my career, I devoted significant effort into documenting the evolution of the MUTCD³, which gives me a slightly different perspective on the document than general MUTCD users. Its origins are important because when the MUTCD was created in 1935, the traffic control device environment was significantly different than it is today. Key differences include:

- In 1935, there were significant differences in the design of traffic control devices from one state to another, so the first MUTCD was intended to make traffic control devices look and mean the same. Today, our system is highly developed and there is a need to distinguish between standards for uniformity (always the same with no deviations ever) and guidelines for consistency (generally the same with flexible deviations).
- The first MUTCD was created by a “Joint Committee” that was established by the American Association of State Highway Officials and the National Conference on Street and Highway Safety. A successor committee still exists today as the NCUTCD⁴, but its current role is one of sending recommended changes to the FHWA, which began maintaining the MUTCD after the 1971 edition.

- In the early MUTCD decades, there was little concern for legal liability when making traffic control device decisions. The challenges of tort liability with respect to the MUTCD began to arise in the 1970s. Today, the MUTCD is often an element in tort claim cases.
- The MUTCD originally was available for purchase. Today, it can be freely downloaded, giving many more individuals access to the document as a reference tool for all types of traffic engineering activities.

Since its initial publication, other factors have come to impact the MUTCD, including:

- The MUTCD was adopted as a federal regulation, meaning that it can only be revised through the time-consuming rulemaking process, which often includes competing public comments on proposed content. There were more than 15,000 comments submitted on the draft version of the 2009 MUTCD.
- There is greater emphasis on the transportation system accommodating a wider range of users, including pedestrians, bicyclists, and older drivers. Some organizations have developed their own recommendations for traffic control devices, beyond the MUTCD content, to serve specific user groups.
- Differences in state traffic laws, state engineering practice laws, and state tort liability laws have led some states to create a state MUTCD supplement or a state MUTCD that addresses state-specific application of MUTCD principles.

Having devoted most of my 30-plus working years to using and improving the MUTCD, I believe it is time to ask challenging questions about what the MUTCD should be, what it can be expected to do and not do, and how it can best serve the profession. The most important question is: “What is the best way to provide practitioners with guidelines to make informed and appropriate

decisions regarding the use of traffic control devices?”

What the MUTCD Cannot Be

To begin answering these questions, I believe that it is appropriate to state what the MUTCD cannot be. The MUTCD cannot be a document that establishes absolute requirements (standards) for all elements of traffic control devices that will apply equally in all field applications under all circumstances with no exceptions. There is great variability from one site to another and it is not possible to write absolute standards for many elements of traffic control devices that apply in all cases without exception. Nor can the entire MUTCD be a step-by-step instruction manual for individuals with limited experience or expertise with respect to traffic control devices. While some parts of the MUTCD contain ministerial content that provides specific instructions on how to do something related to traffic control devices, much of the MUTCD includes discretionary content that provides decision-making guidelines, but that leaves the final decision to the engineer. In addition, the MUTCD cannot be a standard that applies and is used equally in every state due to differences in traffic, engineering, and tort liability laws, as mentioned earlier.

The MUTCD cannot be a document that responds quickly to the development of new devices or operational practices. Because changes to the MUTCD require federal rulemaking, the fastest that a new MUTCD edition can be published is about five years, with 8–10 years being more realistic. Furthermore, MUTCD rulemaking is subject to the rulemaking priorities within the executive branch. As an example, FHWA originally planned to publish a proposed draft of the next MUTCD in May 2015, but the proposed rulemaking for the next MUTCD has been delayed due to the need to focus attention on higher priority rulemaking activities. The MUTCD’s slow change process contrasts

with technology advances that have established a societal expectation for near-instant responses to changing circumstances.

While the MUTCD is defined in federal code as a United States national standard, it is worth noting that a “shall” statement in the MUTCD does not always mean shall. This issue was at the heart of Revision 1 to the 2009 MUTCD. It can be difficult for a practitioner to know when a mandatory condition must be followed and when deviation is appropriate. And if that is confusing to a practitioner, how can a jury be expected to understand the nuances of a unique field situation when an attorney states that the agency did not follow the mandatory requirements of the MUTCD? There is a need to distinguish between uniformity (always exactly the same, no exceptions—ever) and consistency (generally the same with flexibility to adapt to local conditions). This is why the NCUTD recommends four mandate levels instead of the current three levels.

The current MUTCD also has an undefined target audience. While it was originally written by and for traffic engineers, MUTCD users have expanded to include agency field personnel, contractors, manufacturers, administrators, legal professionals, and other groups. The first rule of effective communication is to write for your audience. The MUTCD cannot effectively be all things to all people. The larger the intended audience is, the less effective it will be in meeting the needs of each segment of that audience.

What the MUTCD Should Be: Recommendations

So if it is time to make changes to the MUTCD, the key question is “what should the MUTCD be?” I believe it is time to redefine the MUTCD and the current MUTCD content. I propose that the actual MUTCD be a document that contains only traffic control device standards from which there can be no deviation whatsoever. For the most part, this would

limit the MUTCD to defining the meaning of traffic control devices, establishing requirements for their general appearance/design, and selected other standards that would not change over a period of decades. In essence, I propose that the MUTCD consist only of shall statements that really mean shall and for which there can be no deviation for any reason. This approach would remove all of the discretionary content from the MUTCD, which is an appropriate approach for a national standard. It is difficult to define discretionary content as a standard, given that such content requires decision-making and judgment leading to variability in application. This new MUTCD would be owned and administered by the FHWA and would require rulemaking to make changes. However, because the need for changes would be greatly reduced, the long length of time between editions would not be an issue.

The remainder of the existing MUTCD content would be moved to an MUTCD companion document. This document would have an organizational structure similar to the standards-only MUTCD so that content in each document could be coordinated. Given the capabilities of digital publishing, it is feasible that the two documents could be merged into a single user manual that would combine all relevant material but distinguish between MUTCD and companion document content. The companion document could focus on specific user groups for different types of guidelines. Content related to the selection and use of traffic control devices would be prepared for traffic engineers with an appropriate background. Content related to field installation of devices would be written for field personnel and could rely upon graphics more than words.

The concept of splitting the MUTCD is not new. The most recent discussion was in the fall of 2013, when the FHWA published an RFC in the *Federal Register* asking for input on splitting the MUTCD into two documents.

The public response to that RFC was overwhelmingly against the proposal, in part because the NCUTCD was in the process of developing the vision and strategic plan and commenters wanted to see the results of that effort before making a decision on dividing the MUTCD.

Another key question is “who would be responsible for the MUTCD companion document?” I believe that the NCUTCD would be the best organization to prepare and administer the applications guide, as it is the only organization that is dedicated solely to traffic control devices with a comprehensive consensus-building process that solicits input from a wide range of user groups. Those user groups include public agencies, road builders, manufacturers, suppliers, road users, law enforcement, railroads, bicycles, pedestrians, safety advocates, and professional societies. During its twice-a-year meetings, approximately 270 NCUTCD members focus only on MUTCD content. If the NCUTCD were to be responsible for the MUTCD companion document, it could be revised on a frequent basis without rulemaking. This would provide a more responsive means of implementing new traffic control device practices and technologies as they are developed, rather than waiting on the rulemaking process. But having the NCUTCD assume responsibility for the new document will likely necessitate changes in the NCUTCD, such as adding sponsoring organizations, increasing activity between meetings, and developing a publication and distribution capability.

Summary

The MUTCD has served the traffic engineering profession very well over the last 80 years. But with changes in the traffic engineering profession, demand for additional transportation options, increasing regulatory burdens, increasing concerns for tort liability, and an increasing appetite for near-instant implementation of new

ideas and technologies, I believe it is time to consider some fundamental changes in the MUTCD. I also believe the profession and transportation user community can best be served by establishing the MUTCD as a standards-only document that defines the meaning and general appearance of traffic control devices and a selected portion of the current MUTCD related to other aspects of traffic control devices that can be included as standards with no ability to deviate from the content. Other traffic control device guidelines, principles, and practices should be moved from the MUTCD to a companion document that can be revised on a more frequent basis so that it provides the best possible guidance regarding traffic control devices. [itej](http://community.ite.org)

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4. Fisher, John E. “The NCUTCD: The Little-Known Organization Behind the MUTCD.” *ITE Journal*, Institute of Transportation Engineers, August 2015, pp. 11–13.

The opinions expressed in this article are those of the author and do not necessarily represent those of the NCUTCD or ITE. To continue the dialogue, contribute online through the ITE Community at <http://community.ite.org>.