

Update on the FHWA Notice of Proposed Amendment to the MUTCD

Presented to the Dallas Section of TexITE
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NPA – Let Me Explain



December 13, 2020 FHWA issued NPA ID:FHWA-2020-001-001

First FHWA revision to the MUTCD in approximately 12 years. This will be the 11th Edition since the 1st was published in 1935.

The MUTCD is adopted by reference in accordance with Title 23, United States Code, Section 109(d) and Title 23, Code of Federal Regulations, Part 655.603, and is approved as the national standard for designing, applying, and planning traffic control devices.

16 states have adopted the current manual as-is

25 states, including Puerto Rico and D.C. have adopted the Manual with State supplements.

11 states have adopted a State Manual in substantial compliance with the National Manual.

NPA Access

The Notice of Proposed Amendment (NPA) can be found online at:

<https://www.regulations.gov/docket?D=FHWA-2020-0001>

The text of the NPA as published in the Federal Register, which mainly consists of the 647 FHWA summary of changes comments can be found at:

<https://www.regulations.gov/document?D=FHWA-2020-0001-0001>

NPA Access

First twist: There are actually 22 documents you will need to access to actually assess the proposed changes.

- The FHWA NPA summary of changes:

<https://www.regulations.gov/document?D=FHWA-2020-0001-0001>

- The Corrected MUTCD 11ed Text-Mark-up and Text-Clean:

<https://www.regulations.gov/document?D=FHWA-2020-0001-0038>

- Neither the Text-Mark-up nor Text-Clean includes any of the proposed Figures or Tables inline in the documents. The nine documents showing the proposed figures, separated into each Part:

<https://www.regulations.gov/document?D=FHWA-2020-0001-0005>

- The proposed tables are available, but there isn't a link to them from the main docket page:

<https://www.regulations.gov/document?D=FHWA-2020-0001-0006>

- Finally, your favorite copy of the current Texas MUTCD.

NPA Process

The NPA is NOT the final rule. The final rule will be different, possibly significantly, from the NPA documents.

The MUTCD is produced by a 6-member team at FHWA, and each member has responsibility for 2-3 Parts.

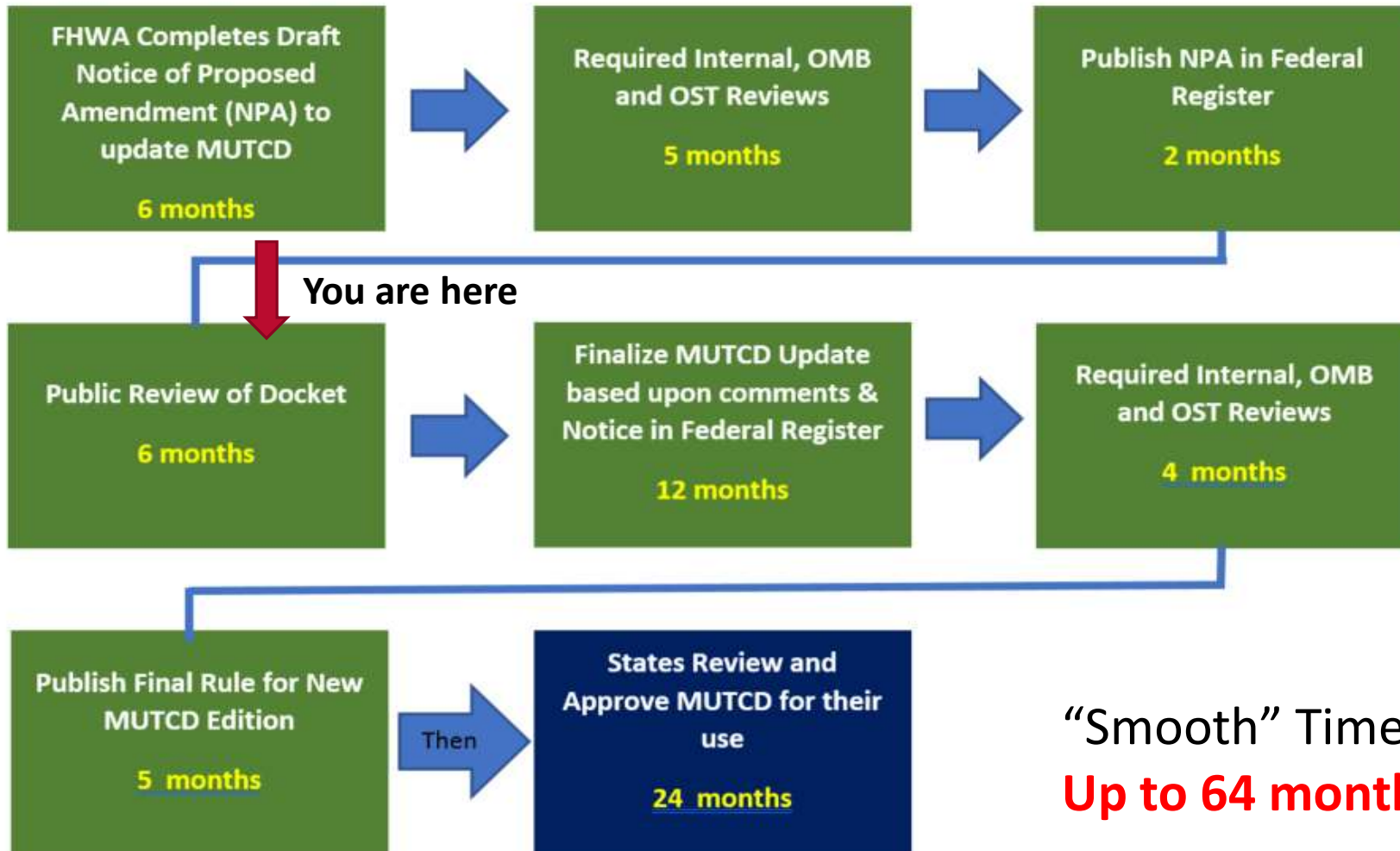
Notice was posted December 13, 2020 with a comment period through March 15, 2021. On February 2, the comment period was extended through May 14, 2021.

After the comment period closes:

- 9-12 months to analyze comments and finalize any edits and the Federal Register notice
- 4 months for internal, OMB and OST reviews
- 5 months to publish the Final Rule and new edition of the MUTCD

New version expected November 2022 - February 2023

Estimated Time Line for 11th Edition



NPA Process

The NPA is NOT the final rule. The final rule will be different, possibly significantly, from the NPA documents.

What might, and probably won't, change:

- There will definitely be editorial changes. Some minor, as in correcting misspellings and general grammar. Some may be significant adding missing words, or even removing or adding words like “not” that were unintentionally included.
- New Standard statements, or statements upgraded to Standard, may be reduced to Option, Guidance, or Support statements, if commenters give sufficient reasoning.
- Existing Standard statements that were downgraded or removed may be kept or restored.
- The Final Rule is almost certain to not contain new Standard statements that don't already exist or are not in the NPA language.

NPA General Issues

First, the GOOD news:

- About 75% of the proposed changes are purely editorial or cosmetic.
- A lot of the changes are clarifying language intending to reduce ambiguity.
- There are a lot of improvements over the 2009 Manual.
- A lot of the substantive changes are based on:
 - Existing FHWA Official Rulings, Interpretations, Interim Approvals, and Memorandum;
 - Existing Federal legislation that overrides the 2009 Manual;
 - NTSB recommendations;
 - Official Change Requests by the National Committee;
 - USDOT sponsored research results.

NPA General Issues

Now, the BAD news:

- Many of the proposed substantive changes are not mentioned in the FHWA Register comments and will only be found by a detailed reading of the proposed Text.
- Many of the substantive changes have never been seen or discussed outside of the FHWA team and aren't provided with research supporting the changes.
- The comments by the FHWA in the Mark-up version indicating that text was simply moved from one section to another, frequently does not mention that edits were made in the process, significantly changing the meaning or intent.

NPA Example – Mark-up

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OTHER GUIDE SIGNS

Section ~~2E-34~~2E.45 Next Exit Plaques (E2-1P, E2-1aP)

Option:

Where the distance to the next interchange is unusually long, a Next Exit (E2-1P or E2-1aP) plaque (see Figure ~~2E-23~~2E-51) may be installed to inform road users of the distance to the next interchange.

Guidance:

The Next Exit plaque should not be used unless the distance between successive interchanges is more than 5 miles.

Where the Next Exit plaque is used, the E2-1P plaque should be used where the width of the Advance guide sign is equal to or greater than the width of the E2-1P plaque. The E2-1aP plaque should be used where the width of the E2-1P plaque exceeds the width of the Advance guide sign.

Standard:

The Next Exit plaque shall ~~carry~~ display the legend NEXT EXIT XX MILES. If the Next Exit plaque is used, it shall be placed below the Advance Guide sign nearest the interchange. It shall be mounted so as to not adversely affect the breakaway feature of the sign support structure.

~~Option:~~

~~The legend for the Next Exit plaque may be displayed in either one or two lines as shown in Figure 2E-23.~~

~~Support:~~

~~The one line message on the Next Exit plaque is the more desirable choice unless the message causes the sign to have a horizontal dimension greater than that of the Advance Guide sign.~~ **Incorporated into Guidance above.**

Figure 2E-51. Next Exit Plaques

NPA General Issues

More BAD news:

- Throughout the Manual, references are made to specific Paragraph numbers within Sections; however, neither the Mark-up nor Clean versions include Paragraph numbers.
- Neither of the provided Text versions have the Figures or Tables included. The documents that show the Tables and Figures are Clean versions that don't show what is being proposed as changes.
- Many of the Official Requests for Change by the National Committee have not been included in the proposed changes.

NPA Bigger Issues

This proposed revision to the Manual is a major reorganization of the existing material, in addition to the significant additions and deletions.

The most obvious of the alterations is the removal of the existing Part 5 for Traffic Control on Low-Volume Roads and its replacement with a new Part 5 for Automated Vehicles. Most of the language from the existing Part 5 was distributed throughout the rest of the Manual, in the appropriate Sections.

A more subtle and significant alteration is the FHWA's direction to reduce the size of the Manual. There has been a comprehensive effort to eliminate any redundant text throughout the proposal.

NPA Bigger Issues

Many practitioners who use the Manual only reference a single Part, i.e. Part 2 - Signs or Part 7 - School Areas.

Previous philosophy has been to try to ensure that each Chapter could stand on its own with reference to other Sections as appropriate. This resulted in significant amounts of text repeated, generally at the beginning of each Part.

There also are frequent passages in Support statements to explain the logic and additional considerations around certain Standards and Options, that don't explicitly relate to standardizing traffic control devices.

NPA Bigger Issues

The new NPA philosophy is that practitioners are expected to read and remember all Parts of the Manual and know if there are Sections in other Parts that are relevant to the Section they are reading. So, all the duplicative material that could be reasonably deleted was taken out.

Also, if a portion of the text was not directly relevant to standardizing a traffic control device or was information that is included in one of the reference documents, that was generally removed as well. The expectation being that a practitioner is responsible for knowing where to look for additional information.

The result is a lot of knowledge inherent in the Manual has been removed. It is a more functional document, but at the cost of being less of a knowledge base and training tool.

NPA Significant Impact Items

So, what about Part 5?

The existing Part 5 covering Low-Volume Roads was spread across the other 8 Parts of the Manual as appropriate, Low-Volume Signs to Part 2, Low-volume Markings to Part 3, etc.

The new Part 5 on Autonomous Vehicles is, almost completely, a series of Guidance and Support statements to help practitioners be better informed on issues and needs related to the deployment of vehicles that provide various levels of autonomy and driver assistance.

There is only a single Standard statement in the entire Chapter. It is a restatement of new requirements contained in Part 6 on Temporary Traffic Control, and it will have significant impact on how markings are handled through long term temporary traffic control zones.

NPA Significant Impact Items

List of New Sections That Might Have Notable Impact

These are generally Sections with new or revised Standard statements that alter current practice, roughly sorted in priority order vertically by column.

Critical	4L Complete	Important		
1B.06	5B.02	1B.08	2L.01	4F.08
2A.17	5B.03	2A.04	2L.02	4F.19
2B.06	5B.04	2A.20	2L.04	4I.05
2B.30	6C.05	2A.22	3B.07	4K.04
2B.60	6H.08	2B.12	3B.19	6K.02
2C.13	6N.19	2B.29	3C.02	8D.10
2C.24	6M.02	2B.47	3C.03	8D.12
2H.05	6P-28 Figure	2B.50	3C.05-3C.09	8E.01-8E.10
3A.04	6P-29 Figure	2B.66	3H.01	9B.01
3C.01	6P-52 Figure	2C.02	3H.03	9B.18
4D.01	6P-53 Figure	2C.45	3J.03	9D.13
4D.02	6P-54 Figure	2C.66	3J.05	9E.11
4F.17	8A.01	2D.46	4A.05	9D.03
4H complete	8A.05	2D.55	4C.02	9E.06
4J.02	8B.26	2G.25	4E.01	9E.07
4K.03	8D.02	2I.02	4F.01	
			4F.02	

NPA Significant Impact Items

List of New Sections That Might Have Notable Impact

These are generally Sections with new or revised Standard statements that alter current practice, roughly sorted in priority order vertically by column.

Significant	2G.26	4S.03	9E.12	Notable	3C.10	9D.08
1A.04	2H.09	6N.04		1A.03	3D.04	9E.09
1A.05	2H.13	7B.03		1A.06	3E.03	
1C.01	2H.14	8A.07		1B.01	3E.04	
1C.02	2L.05	8A.08		2B.09	4F.06	
1D.01	3B.11	8A.13		2B.19	6G.11	
1D.05	3B.14	8B.04		2B.20	7B.06	
1D.06	3B.31	8B.07		2B.40	8D.07	
2B.03	3H.04-3H.08	8C.02		2B.54	8D.13	
2B.21	3I.02	8D.05		2C.04	8D.14	
2B.45	3J.07	9B.02		2E.22	9B.15	
2B.47	4D.08	9B.03		2E.53	9B.17	
2C.06	4E.02	9B.12		2G.11	9B.22	
2C.25	4F.16	9E.01		2H.03	9C.06	
2D.05	4I.06	9E.02		2H.07	9D.04	
2D.45	4J.03	9E.03		2I.15	9D.05	
2D.59	4P.02	9E.08		3B.17	9D.06	

NPA Details

Impact to agencies (What is this going to cost me?):

- FHWA is required to provide an analysis to the OMB on the anticipated cost to implement new rules and identify any unfunded mandates.
- By not requiring compliance dates and allowing changes to be part of the normal installation and maintenance process, they can claim no budgetary impact.
- FHWA identified 8 substantive revisions with quantifiable economic impacts.
- Only 3 of the revisions have costs that can be quantified.
- For the 3 substantive revisions where costs can be quantified, the total 10-year estimated cost measured in 2018 dollars is \$541,978 when discounted to 2018 at 7 percent and \$589,667 when discounted at 3 percent.

NPA Details

Eight substantive revisions:

- Weight Limit Signs (proposed Section 2B.66);
- Normal longitudinal line widths (proposed Section 3A.04);
- Wide longitudinal line widths (proposed Section 3A.04);
- Stop and yield lines (proposed Section 3B.19);
- Markings for diamond interchange with transposed-alignment crossroad (proposed Section 3B.31)
- Markings for part-time travel on a shoulder (proposed Section 3E.04)
- Accessible pedestrian signals and audible information devices (proposed Sections 4K.01, 4J.02, 4L.02, 4S.03, and 4U.02);
- Stop and Yield signs on bicycle facilities (proposed Section 9B.01)

NPA Details

Normal and Wide longitudinal line widths (proposed Section 3A.04)

Standard:

The widths and patterns of longitudinal lines shall be as follows:

A. Normal width line— 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph, 4 to 6 inches for all other roadways.

B. Wide line—at least 8 inches in width if 4 inch or 5 inch normal width lines are used and at least 10 inches in width if 6 inch normal width lines are used

NPA Details

Accessible pedestrian signals and audible information devices (proposed Sections 4K.01, 4J.02, 4L.02, 4S.03, and 4U.02)

4K.01 has no new requirement to install APS; however, it does have new rules on placement and speech messages versus percussive tones and vibrotactile arrows.

4L is the entirely new section regarding RRFB's.

4L.02, 4J.02, 4S.03, 4U.02 say APS should be installed at pedestrian actuated RRFB, pedestrian hybrid beacons, pedestrian actuated warning beacons, and pedestrian actuated in-roadway warning lights at crosswalks.

NPA Details

Stop and yield lines (proposed Section 3B.19)

Standard:

If used, a yield line pavement marking shall not be installed without a Yield (R1-2) sign, a Yield Here To Pedestrians (R1-5 or R1-5a) sign, a Bicycles Yield to Peds (R9-6) Sign (see Figure 3B-16), or some other traffic control device that requires vehicles to yield. **This paragraph changed from the previous Option to Standard and edited.**

Standard:

If yield (stop) lines are used at a crosswalk that crosses an uncontrolled multi-lane approach, Yield Here To (Stop Here For) Pedestrians (R1-5 series) signs (see Section 2B.11 2B.20) shall be used.

When used to supplement a Yield Here To (Stop Here For) Pedestrians (R1-5 series) sign in advance of a crosswalk that crosses an uncontrolled multi-lane approach, the yield (stop) line shall be placed 20 to 50 feet in advance of the nearest crosswalk line. **Relocated from Guidance above and changed to a Standard**

NPA Details

Weight Limit Signs (proposed Section 2B.66)

Standard:

The symbols shown on the R12-5 and R12-6 Weight Limit sign shall apply to all trucks of that configuration (single-unit, single-trailer or multi-trailer) regardless of the shape of the vehicle. Symbolic representations of other vehicle shapes or modifications of standard symbols shall not be used.

Standard:

If the R12-5 sign depicts only one single-unit vehicle symbol, the weight limit associated with that single-unit vehicle symbol shall apply to all single-unit vehicles, regardless of number of axles.

The weight limit associated with the single-trailer vehicle symbol shall apply to all single-trailer vehicles, regardless of number of axles or vehicle shape.

The weight limit associated with the multi-trailer vehicle symbol shall apply to all multi-trailer vehicles with two or more trailers, regardless of number of axles or vehicle shape.

NPA Details

Stop and Yield signs on bicycle facilities (proposed Section 9B.01)

Standard:

STOP (R1-1) signs shall be installed on shared-use paths, **separated bikeways, or other bicycle facilities** at points where bicyclists are required to stop.

YIELD (R1-2) signs shall be installed on shared-use paths, **separated bikeways, or other bicycle facilities** at points where bicyclists have an adequate view of conflicting traffic as they approach the sign, and where bicyclists are required to yield the right-of-way to that conflicting traffic.

A STOP sign or a YIELD sign shall not be installed in conjunction with a bicycle signal face (see Chapter 4H).

NPA Details

Markings for diamond interchanges with transposed-alignment crossroad (proposed Section 3B.31) Figure 3B-29 is not included in the Figure file.

Markings for part-time travel on a shoulder (proposed Section 3E.04)

Entirely new sections for diverging diamonds and allowing shoulder running operations.

NPA Significant Impact Items

The current FHWA opinion is more restrictive than permissive. If something is not mentioned in the MUTCD, that does not mean it is allowed.

- New Section 1B.06 forbids using non-compliant devices and gives very explicit and strict rules for experimentation.
- Section 1D.01 is a new Standard requiring all Traffic Control Devices to comply with the MUTCD.
- New Sections state that the MUTCD is for use by “authorized and qualified” individuals and gives a strict definition of Professional Engineer.

NPA Significant Impact Items

- Section 1C.01 Does allow deviation from a Standard with a **documented** engineering study.
- **Section 1D.05** The application of engineering study and engineering judgment is a fundamental tenet of the application of traffic control devices. It is for this reason that, in most cases, the selection of a particular device is not required by a Standard provision but is determined by engineering study or engineering judgment. Many Standard provisions in this Manual specifically require, by explicit language in the individual provisions or by implication, the application of engineering study or engineering judgment in applying those Standards. Site-specific conditions might result in the determination that it is impossible or impracticable to comply with a Standard. In such a case, a deviation from the requirement of a particular Standard at that location might be the only possibility. In such limited, specific cases, the deviation is allowed, provided that the agency or official having jurisdiction fully document, through engineering study, the engineering basis for the deviation.

NPA Significant Impact Items

Part 8 – Railroad At-Grade Crossings and Part 9 – Bicycle Facilities have both had major additions and revisions. Entire presentations could be made on just each of these individually.

I do recommend anyone in charge of at-grade crossing signing, marking, or preempted signal operations should dedicate enough time reading the NPA, or certainly the eventual Final Rule, to understand the new requirements and guidance in Part 8.

Likewise, anyone with bicycle facilities needs a good understanding of the new requirements, and opportunities being added in Part 9.

NPA Significant Impact Items

Section 8A.03

Standard:

Before any new grade crossing traffic control system is installed or before modifications are made to an existing system, approval shall be obtained from the highway agency with jurisdiction the regulatory agency with statutory authority(if applicable), and from the railroad company and/or transit agency.

The Diagnostic Team members shall reach a determination, documented in an engineering study (see Section 8A.05), on new grade crossing traffic control systems and on proposed changes to an existing grade crossing traffic control system. The Diagnostic Team determination shall be made after the Diagnostic Team members reach a consensus during site visits, meetings, conference calls, or a combination of some or all of these methods.

Except as provided in Paragraph 5, operational changes made to a grade crossing traffic control system requiring the use of engineering judgment or an engineering study shall be conducted and approved by a Diagnostic Team. Among the types of changes at a grade crossing for which a Diagnostic Team shall conduct an engineering study are additions to or modifications of the lanes approaching or traversing the grade crossing; additions or modifications to sidewalks; additions or modifications to bicycle lanes, especially if a counter-flow bike lane is added on a one-way street; changes to roadway use, including conversion to or from one-way operation or reversible lanes; implementation of quiet zones; and the installation of or significant operational changes to traffic control signals that might affect the grade crossing.

NPA Significant Impact Items

- Section 2A.04 forbids using a word sign in place of an allowed symbol sign and forbids using an alternate worded sign where an approved word sign exists. If there are no approved options, a new word sign may be developed, but it must be evaluated for clarity and comprehension. **FYA Symbol sign still not allowed.**
- Section 2A.22 – Median opening treatments. Figure 2A.05, The 30' or wider median rule has been replaced by the criteria of left turn paths crossing and storage space for a vehicle. Reducing the requirement for ONE WAY signs; however, KEEP RIGHT signs, at a minimum, are still required for all median noses.
- Section 1A.03 – Target Road Users are defined as operators of vehicles, including bicycles, and pedestrians.

NPA Significant Impact Items

- Section 2B.06 – Standard: Yield or Stop signs SHALL NOT be used for speed control.
- Section 4D.02 – Guidance: Pedestrian signal heads **should** be installed at each marked crosswalk at a location controlled by a traffic control signal.
- Section 4F.17 – Yellow and Red signal clearance interval Support and Guidance has been revised to include the new, controversial ITE recommended practice.
 - Yellow times between 3 and 7 seconds.
 - The Guidance restricting maximum Red Clearance interval duration has been deleted.

NPA Significant Impact Items

- Section 2C.24 – If used, No Outlet/Dead End additions to street name signs must also have full size Warning signs for through movements.
- Section 8B.26 – Emergency Notification System signs are now required at all railroad grade crossings.

NPA Significant Impact Items

- Section 4F.19 – Standard: During transition into preemption control the pedestrian change interval (flash don't walk) is allowed to be shortened for boat or rail preemption, NOT emergency vehicle preemption.
- Section 4J.02 – HAWK signals can now be located AT intersections. The 200' distance requirement is being removed.
- Section 6K.02 – Pedestrian Channelizing Devices. Significant new requirements and Guidance on handling pedestrians in or around work zones.

NPA Significant Impact Items

- Section 6M.02 –

Standard:

The need for longitudinal traffic barrier and other positive protection devices shall be based on an engineering study. At a minimum, positive protection devices shall be considered in work zone situations that place workers at increased risk from motorized traffic, and where positive protection devices offer the highest potential for increased safety for workers and road users. Guidance changed to Standard to reflect CFR 630.1108 Work Zone Safety Management Measures and Strategies (subpart K) and relocated from below.

NPA Significant Impact Items

- Language has been added generally to allow LEDs inside the border of signs to increase conspicuity. There are strict limitations on how they may be used. They may not be used to indicate when a particular condition or regulation is in effect, and they must flash simultaneously, not in a sequence.
- Section 2B.21 and 2C.13 – New Sections on Vehicle Speed Signs
 - White/Black for variable Speed Limit Signs only.
 - Black/Yellow for Speed Feedback signs and mounted in conjunction with a static regulatory Speed Limit sign. Strict design standards.

Figure 2C-4. Vehicle Speed Feedback Signs



NPA Significant Impact Items

- Section 2C.66 – Deleting “Share the Road” sign. Use Bicycle Symbol with “In Street” or “In Road”
- Section 2D.46 – Advance Street Name Signs are specifically called out to be Guide signs and must be White on Green.
- Section 2D.55 – New strict Standards for Community Wayfinding Signs.
- Section 2H.05 – New strict Standards for City Limit (jurisdictional boundary) signs.
- Section 2L.02 – New strict Standards for Changeable Message Sign messages. Traffic Control or National Amber Alert messages ONLY. Strict wording requirements.

NPA Significant Impact Items

- Section 3C.01 – Requires crosswalk markings at mid-block pedestrian crossings.
- Section 3C.02 – 3C.06 New crosswalk warrants, guidance, and design requirements.
- Section 4H – Completely new section on bicycle signals, including Standards and Warrants.

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Presented to the Dallas Section of TexITE
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972-941-5341