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| **State of California** | **Public Utilities Commission** |
|  | **San Francisco** |
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| **M E M O R A N D U M** |  |
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**Date:** **April 28, 2021**

**To: The Commission**

**(Meeting of May 6, 2021)**

**From: Roger Clugston, Director, Rail Safety Division**

**Antranig Garabetian, Program Mgr.,   
Rail Crossings and Engineering Branch**

**Helen M. Mickiewicz, Asst. General Counsel**

**Lisa-Marie Clark, Public Utilities Counsel IV**

**Subject: Federal Highway Administration’s *Notice of Proposed Amendments*  
(Manual on Uniform Traffic Control Devices), 23 CFR Parts 470, 635, and 655, Docket No. FHWA–2020–0001**

**RECOMMENDATION**: The CPUC should file comments in response to the *Notice of Proposed Amendments* (*NPA*) to the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)released by the Federal Highway Administration (FHWA), an agency within the U.S. Department of Transportation, on December 14, 2020.**[[1]](#footnote-2)** Public comments must be filed on or before May 14, 2021.

**BACKGROUND:** The FHWA issued the *NPA* seeking comments on proposed changes to the MUTCD, which is incorporated in FHWA regulations and recognized as the national standard for traffic control devices used on all public roads. The FHWA’s proposed changes are intended to promote uniformity and incorporate advances in traffic control device application. Staff from the Rail Crossings and Engineering Branch of the California Public Utilities Commission’s (CPUC or Commission) Rail Safety Division staff (Staff) is concerned that some of the proposed changes to design requirements may impact safety projects or might be interpreted to dilute Commission’s regulatory authority. On February 2, 2020, the FHWA extended the comment period to allow commenters additional time to discuss, evaluate, and submit responses to the docket. Staff seeks authority to submit comments addressing the concerns below.

California’s well-established regulatory framework addresses the safety of railroads,**[[2]](#footnote-3)** rail transit systems,**[[3]](#footnote-4)** and grade crossings.**[[4]](#footnote-5)** Specifically, the CPUC exercises exclusive jurisdiction to determine and prescribe the configuration of rail crossings, such as tracks which cross at the same level with roadways or pathways (grade crossings).**[[5]](#footnote-6)** The CPUC delegates review of grade crossing safety to its Rail Crossings and Engineering Branch.

The CPUC’s regulatory authority works in tandem with the California Department of Transportation (Caltrans). Caltrans is required to adopt a version of the MUTCD, the *California MUTCD*, that is in “substantial conformance” with the national standard.**[[6]](#footnote-7)** The CPUC routinely evaluates MUTCD compliance at grade crossings throughout the state. In all, the CPUC oversees more than 6,500 grade crossings that are subject to MUTCD requirements (open, at-grade, public), including over 650 locations with railroad preemption of traffic signals.

In 2008, the CPUC commented on the preceding *NPA* to adopt changes to the MUTCD. The FHWA published its revisions to the MUTCD in 2009. In the current *NPA,* the FHWA proposes extensive revisions to the standards, guidance, options, and definitions within the MUTCD that directly relate to grade crossing safety. Consequently, the proposed national standard will affect many aspects of the design and safety of grade crossings that are within the jurisdiction of the CPUC.

The Commission should file comments in line with Staff’s recommendations below on matters that impact both state authority and technical safety details related to grade crossing design. Staff’s recommendations address the increased influence of the Diagnostic Team which could possibly dilute the CPUC’s authority, the expanded use of a provision that permits legal protections, and changes in grade crossing design requirements, including traffic signals and preemption, pedestrian safety, warning devices, signs, and markings. Staff conferred with Caltrans about the proposed MUTCD to maintain coordination between the two agencies.**[[7]](#footnote-8)**

The MUTCD is a large document with broad applicability to public roadways and pathways. The proposed text includes 700 pages throughout nine major parts, with many additional pages of proposed figures and tables. Multiple parts of the MUTCD discuss traffic control devices which are used near grade crossings. Details that are specific to grade crossings are primarily included in Part 8 titled “Traffic Control for Railroad and Light Rail Transit Grade Crossings.” Staff analysis and recommendations focus primarily on proposed revisions identified in Part 8 of the MUTCD.

**DISCUSSION AND RECOMMENDATIONS**: Staff recommends the CPUC file comments as summarized below.**[[8]](#footnote-9)**

# Diagnostic Team and the CPUC’s authority

While Staff supports the general concept of a Diagnostic Team process, the *NPA* language creates fundamental conflicts with the existing regulatory framework on grade crossing safety at both railroad and light rail transit (LRT) tracks. The Diagnostic Team must defer to the state regulatory authorities to mandate public safety improvements at grade crossings.

The *NPA* would mandate that a Diagnostic Team reach consensus and determine the design of new or modified grade crossing traffic control systems. Requiring consensus of a Diagnostic Team may have the unintended effect of diminishing the CPUC’s authority. The CPUC exercises constitutional and statutory authority over grade crossings pursuant to California Public Utilities Code §§ 1202, *et seq.*, and 99152. The CPUC places public safety as the primary focus when approving construction or modification of grade crossing traffic control systems.**[[9]](#footnote-10)** A Diagnostic Team consists of stakeholders, including local governments and the railroads, who may not always place public safety as a top priority and may have competing concerns about costs. There also may be professional differences of opinion among stakeholders, which often includes multiple agencies and railroads.

Staff’s primary recommendation is that FHWA add an Option statement clarifying that the regulatory agency holds exclusive authority to determine and prescribe the grade crossing traffic control system. The CPUC recommends the following language be adopted:

*Option: The regulatory agency with statutory authority (if applicable) may determine and prescribe the grade crossing traffic control system.*

The CPUC’s authority over grade crossings is not jointly administered with regulated entities; it is exclusive to the state government. In cases where a Diagnostic Team cannot reach agreement, the Diagnostic Team process does not provide a mechanism for dispute resolution. The CPUC provides a formalized process[[10]](#footnote-11) for an administrative law judge to resolve disputes regarding grade crossing projects.

# II. Grade Crossing Design Requirements

**Topic 1: Traffic Signals and Preemption**

The *NPA* proposes extensive revisions regarding traffic signal preemption at grade crossings. These changes may significantly change the requirements for traffic signal design and operation at or near grade crossings, which may impact public safety. Staff proposes comments on this topic including the following:

* Extend the proposed 10-year target compliance date regarding traffic signal preemption.
* Provide various technical definitions and descriptions for preemption (advance preemption, maximum preemption time, separation time, minimum warning time, etc.).
* Do not specify the frequency of periodic joint inspections of traffic signal preemption.
* Do not require all traffic signal faces within 50 feet of track to display red upon preemption.
* Correct an error in the reference to IEEE 1570 standard.
* Allow flexibility in the selection and operation of blank-out turn prohibition signs (do not require TRAIN text, allow turn-prohibition under multiple conditions).
* Delete a proposed requirement for extended queue clearance time when pre-signals are used.
* Reduce or eliminate proposed requirements that would prohibit left-turn green arrow, right-turn green arrow, and circular green indications in pre-signal faces.
* Reduce a proposed requirement that would require use of “lane signal” signs and visibility-limited signal faces on pre-signals.
* Modify the proposed requirement to place turn prohibition signs at a pre-signal, rather than beyond a pre-signal at the downstream intersection.
* Delete guidance language which suggests using a bell in conjunction with traffic control signals.

**Topic 2: Pedestrian Safety**

The *NPA* proposes extensive revisions regarding sidewalks and pathways. These changes may significantly change the requirements for pedestrian and bicycle treatments at or near grade crossings, which may impact public safety. Staff proposes comments on this topic including the following:

* Allow some signs to use smaller sizes for pedestrian and bicycle use.
* Make various corrections to figure numbers, figure titles, table numbers and sign codes.
* Revise guidance to discourage a narrow angle of approach to tracks, rather than emphasizing a perpendicular angle.
* Clarify that detectable warning should be placed at both swing gates and automatic gates.
* Clarify that detectable warning should be placed two feet in advance of warning devices.
* Allow placement of detectable warning at less than 12 feet from the nearest rail in certain situations, such as pedestrian crossings at LRT stations.
* Clarify multiple figures through changes including:
  + Remove detail in example figures that is unnecessary, redundant, or confusing.
  + Clarify that the stop line is optional along sidewalks.
  + Relocate the detectable warning to be shown two feet in advance of warning devices.
  + Reference most dimensions to the nearest rail, rather than center of track.
  + Show location of advance warning sign adjacent to advance warning markings.
* Allow use of the “Light Rail Transit (Trolley) Crossing / LOOK BOTH WAYS” sign.
* Provide refuge area if there is 30 feet or more, rather than 38 feet or more, between nearest rails.
* Use the term “emergency escape” term rather than “emergency exit.”
* Do not specify a maximum height for a “horizontal hanging bar.”

**Topic 3: Warning Devices, Signs, and Markings**

The *NPA* proposes revisions regarding placement requirements for warning devices, signs, and markings at grade crossings, such as minimum clearance of warning devices from track, selection of signs, and related details. These are minor updates primarily to promote uniformity and consistency with typical practices. Staff proposes comments on this topic including the following:

* Require a Crossbuck sign at each highway-LRT grade crossing on a semi-exclusive alignment.
* Remove requirements that state an exact minimum clearance distance from track to allow for differences between requirements of railroad and LRT systems.
* Discuss regulatory requirements for minimum clearance distance from track.
* Include figures that illustrate all signs discussed in the text.
* Review consistency of requirements for retroreflective strips on a Crossbuck Assembly post.
* Add exception to omit advance warning signs at highway-LRT crossings where Crossbuck sign is not required.
* Limit the use of DO NOT STOP ON TRACKS signs to where queues extend over tracks.
* Require Emergency Notification System signs at highway-LRT crossings along semi-exclusive alignments.
* Do not specify a particular orientation of the Emergency Notification System sign in MUTCD.
* Provide guidance that centerlines, in addition to edge lines and lane lines, should continue through the track area.

**SUMMARY:** Staff recommends filing detailed comments with FHWA because of concerns with the proposed revisions including issues of both state authority and technical safety details related to grade crossing design.

**Assigned Staff:** Legal Division **-** Lisa-Marie Clark (916-327-6772);

Rail Safety Division – Antranig Garabetian (213-576-5778)

1. *See*, National Standards for Traffic Control Devices; Manual on Uniform Traffic Control Devices for Streets and Highways; Rev. NPA, 85 Fed. Reg. 80898 (Dec. 14, 2020). [↑](#footnote-ref-2)
2. In 1911, the CPUC was established by Constitutional Amendment as the Railroad Commission. [↑](#footnote-ref-3)
3. Pub. Util. Code § 99152, enacted in 1978, provides the CPUC with safety oversight of public transit fixed-rail guideways. [↑](#footnote-ref-4)
4. Pub. Util. Code § 1202 *et seq.* [↑](#footnote-ref-5)
5. Pub. Util. Code § 1202 et seq. [↑](#footnote-ref-6)
6. *See,* 2009 MUTCD, para.19; 23 CFR 655.603(b); and Cal. Vehicle Code § 21400. [↑](#footnote-ref-7)
7. Staff met with Caltrans in a series of meetings between December 2020 and April 2021. Staff shared the scope of draft comments with Caltrans. [↑](#footnote-ref-8)
8. The list of detailed comments will be submitted in a table format that has been provided by FHWA. All references in comments submitted to FHWA will refer to the specific page and line numbers based on the supporting document, “Corrected MUTCD\_11ed\_NPA\_Text-Mark-up.pdf,” as published in December 2020 in federal docket FHWA-2020-0001. [↑](#footnote-ref-9)
9. Pub. Util. Code § 309.7(a). [↑](#footnote-ref-10)
10. CPUC Rules of Practice and Procedure, Cal. Code Regs., Title 20, Div. 1, Ch. 1. [↑](#footnote-ref-11)