Please use this form to provide comments on the Notice of Proposed Amendments for the MUTCD.

**INSTRUCTIONS:**

1. Add your name or organization name where indicted in the footer of this form.
2. Use Table 1 to provide your original comments.
3. Use Table 2 to indicate your agreement with a comment that another commenter has submitted to the docket.
4. Do not adjust formatting of the rows and columns; text will automatically wrap and expand the row height as you type.
5. To add rows to this form, use the “Insert Rows” function, or hover just outside the left edge of the row below which you would like to add a row and click the encircled “+” that appears.
6. If you choose to provide a letter to accompany this comment form, please **print the document as a PDF**; **please do not scan a hard copy**. This will assist FHWA with cataloging your comments.

**TABLE 1. ORIGINAL COMMENTS ON PROPOSED CHANGES.** Please indicate the applicable proposed Section numbers in the far-left column. In the next three columns, please indicate your agreement, disagreement, or whether the column is applicable to your response by placing a, “YES,” “NO,” or “N/A” in the appropriate column of the row. If you agree with a proposed change, then there is no need to fill out the additional columns beyond the first two. However, it can be helpful to explain why you agree with a proposed change based on your objective experience as a roadway operator and/or empirical data. If you disagree in part or in whole, then please provide additional information that FHWA may find helpful.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Proposed  Section Number(s) | Agree with concept and text as proposed | Agree with concept; suggested rewording of text in Comments | Disagree with concept | Comments  *Please include justification for your position based on objective experience and empirical data. If there is a specific statement with which you take exception, please provide the Page and Line numbers from the mark-up version of the proposed MUTCD text.* |
| 2A.20 | NO | YES | NO | Disagree that “all LEDs shall be illuminated simultaneously with no sequential (chasing)”. Some agencies prefer the chasing flash pattern to not overwhelm drivers or cause distractions. Recommend removing this statement or change “shall” to “should”. |
| 2A.20 | NO | NO | YES | Disagree with the following two statements and recommend that they be removed: “Where used in STOP or YIELD signs, flashing LED units shall operate continuously. Actuation of the LED units shall not be allowed”. By only allowing these LED-enhanced signs to flash 24/7 the result can be that they become like white noise. Allowing these signs to be activated reduces white noise effect and makes them more impactful when activated. Also, there are options to have these signs activate during specific scenarios, such as at higher speeds or the presence of other vehicles, which further increases the effectiveness of the device. Activated signs are the basis of Intersection Conflict Warning Systems which are an economical intermediate solution between a static sign-controlled intersection and a full signalized intersection. Also, activated solar-power devices can be more economical than 24/7 solutions since they operate only during pre-configured circumstances, minimizing and optimizing the solar power required for operation. Please refence findings in Advanced LED Warning system for Rural Intersections: Phase 2 (Alert-2) Report NO. MN/RC 2014-10 and Safety Evaluation of Intersection Conflict Warning Systems Publication NO. FHWA-HRT-16-035 displaying effectiveness and value of activated LED-enhanced intersection signs. |
| 2A.20 | NO | YES | NO | Recommend changing the following statement from “shall” to “should” as many agencies do not want dimming, and not all devices have the capability to dim. “The LED units shall have the capability to be dimmed automatically”. |
| 2A.20 | NO | NO | YES | Line 44-45. Recommend alternate flash rates be allowed. Please reference suggested additional research in Modern Traffic Control Devices to Improve Safety at Rural Intersections Report No. FHWA/TX-12/0-6462-1. Please reference findings achieved in Indoor Simulator and Field Study Evaluation of Sequential Flashing Chevron Signs on Two-Lane Rural Highways Report No. FHWA-SA-18-07 and Impacts of LED Brightness, Flash Pattern, and Location for Illuminated Pedestrian Traffic Control Device displaying the effectiveness and value achieved through alternative flash patterns within LED-enhanced signs. |
| 2B.60 | NO | YES | NO | For sign R10-23 recommend using previous sign wording “*stop on red – proceed on flashing red when clear*” rather than “WAIT ON STEADY RED- YIELD ON FLASHING RED AFTER STOP.” This is to ensure the solid red signal and flashing red signal maintain the same STOP meaning. |
| 2C.08 | NO | NO | YES | Line 22. Recommend changing “shall not” to “may” in the following Guidance statement: “LEDs shall not be flashed from one sign to the next along the curve or turn.” A vast majority of LED-enhanced Chevron users today have implemented configurations where the LED signs flash from one sign to the next, and agencies have commented on their value and increased safety results. Sequential flash patterns have been proven effective at guiding motorists through the duration of a curve safely. Please reference findings achieved in Highways for Life Publication No. FHWA-15-CAI-012 and Indoor Simulator and Field Study Evaluation of Sequential Flashing Chevron Signs on Two-Lane Rural Highways Report No. FHWA-SA-18-075 displaying effectiveness and value of sequential LED-enhanced Chevron systems. Also, as previously suggested to the NCUTCD, further flash pattern research is necessary to analyze and determine the most beneficial pattern for varying curve applications. |
| 2C.13 | NO | YES | NO | Recommend changing “shall” to “should” for statement “The legend YOUR SPEED shall be a black legend on a yellow retroreflective background”. Most agencies have used a white background – this change will negatively impact most agencies who will have to change their feedback signs to yellow. Also, this change will cause confusion among drivers by having two different background colors in vehicle speed feedback signs. |
| 2C.13 | NO | YES | NO | Line 1-3. Recommend changing “Shall” to “Should” for “shall not flash, strobe or use other dynamic elements integrated into the changeable legend display” - this change will negatively impact most agencies who will have to change their vehicle speed feedback signs to align with requirements. |
| 2L.04 | NO | YES | NO | Page 321 Line 22-24. Recommend changing “Should” to “Shall” “where an LED matrix is used to form the changeable legend, signs with Pixel spacing greater than 20mm Should display only word legends and no symbols or route shields. - It is believed that 20mm pixel pitch is the minimum needed to accurately emulate static sign panels and shields. |
| 4J.01 | NO | YES | NO | Recommend rewriting the “guidance” section to be more concise as the intent is unclear.  The guidance could be interpreted as half of the crossing could have a HAWK signal while the other half could have no crossing enhancement – resulting in a stranded pedestrian - which is dangerous. |
| 4L.01 | NO | YES | NO | Recommend changing “shall” to “should” for statement “An RRFB shall only be installed to function as a Warning Beacon”. This statement forbids RRFBs from use in other traffic safety applications. For example, an RRFB could be effective for enhancing visibility of warnings in over-height detection systems or wrong-way detection systems. Pedestrian application research has shown that the flash pattern is effective, not the rectangular beacon itself. |
| 4L.02 | NO | YES | NO | MUTCD should define Paragraph X (errant place holder that was not updated). |
| 4L.02 | YES | YES | NO | Sign legend and sign description does not match (R10-25, Section 2B.62, Figure 2B-26) – in multiple areas (4U.02) - “await gap in traffic” is missing. Please make signs and their written descriptions in the MUTCD match. “push button for warning lights – await gap in traffic” |
| 4L.03 | NO | YES | NO | Recommend more precise description of pedestrian detection, as added *in italics*, in the following sentence: “The predetermined flash period shall be immediately initiated each and every time that a pedestrian is detected *moving towards or entering the crossing*, either through passive detection or as a result of a pedestrian pressing a push button detector, including when pedestrians are detected while the RRFBs are already flashing and when pedestrians are detected immediately after the RRFBs have ceased flashing”. Passive pedestrian detectors may detect pedestrians moving both towards and away from the crossing but should only activate the RRFB when pedestrians are detected moving towards the crossing and not when moving away. |
| 4S.01 | NO | YES | NO | Recommend changing “shall” to “should” in the statement: “The illuminated period of each flash shall be a minimum of 1/2 and a maximum of 2/3 of the total cycle”. For some applications the ½ to 2/3 flash cycle is too long, and many agencies prefer shorter flash durations. |
| 4S.03 | NO | NO | YES | Recommend removing point “E” in section 4S.03: “In conjunction with a regulatory or warning sign that includes the phrase WHEN FLASHING in its legend or on a supplemental plaque to indicate that the regulation is in effect or that the condition is present only at certain times. It is not appropriate to use flashing light emitting diode (LED) units within the legend or border of the sign to inform road users that the regulation is in effect or that the condition is present.” Most agencies use LED-enhanced signs in these scenarios and warning beacons are decreasing in popularity. Road users are increasingly accustomed to LED-enhanced signs, and by restricting their use in favor of warning beacons, the MUTCD is stifling innovation and safety improvements desired by agencies across the country. |
| 4S.04 | NO | NO | YES | Recommend removing statement: “Flashing light emitting diode (LED) units shall not be used within the legend or border of a Speed Limit sign to indicate that the displayed speed limit is in effect.” Agencies have widely adopted LED-Enhanced signs in School Zone applications. By restricting their use, the MUTCD could be causing confusion among drivers who are accustomed to LED-Enhanced signs used in School Zones. |
| 7B.001 | YES | YES | NO | Recommend keeping the statement: “The signs used for school area traffic control shall be retroreflective or illuminated.” For other areas, especially section 4S. Agencies have used illuminated / LED-enhanced signs for school zones – and this section supports their use. |
| 7B.03 | NO | N/A | N/A | References to Sections 7B.12 (P.606, line 50) and 2B.12 (P. 607, line 50) do not seem to be correct, proper sections to be identified. |

**TABLE 2. AGREE WITH ANOTHER COMMENTER.** If you agree with another commenter, please indicate the commenter with whom you agree with and note any additional information FHWA may find helpful or any exceptions.

|  |  |  |  |
| --- | --- | --- | --- |
| Docket Comment Number and/or Commenter Name | Agree with commenter’s comments as written | Agree with commenter; with exception(s) | Additional information helpful to FHWA, or exceptions to commenter’s comments |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |