Comments on Docket No. FHWA-2020-0001 National Standards for Traffic Control Devices; the *Manual on Uniform Traffic Control Devices for Streets and Highways*; Revision

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.*
All				See other file submitted to docket which shows detailed recommended changes to the draft MUTCD text, figures, and tables.
1C.01	NO	YES	N/A	NCUTCD generally agrees with 1C.01 as presented in the NPA, but recommends adding the word "italic" in the definition of Guidance, as all MUTCD Guidance statements are displayed in italic or oblique type.
1C.02	NO	YES	N/A	NCUTCD agrees with many but not all of the proposed changes in Section 1C.02 presented in the NPA. NCUTCD recommends a number of additions, deletions, and revisions to various definitions as they appear in Section 1C.02. This includes our recommendation to move various definitions so that they are "nested" under a common topic heading. This is recommended so that MUTCD users will more readily see the interrelationships between the terms. NCUTCD also recommends locating all definitions in Section 1C.02, even if the term is used only in one particular Part or Section, so that they are conveniently located for users of the MUTCD. A list of added, revised, or deleted definitions is included below.
1C.02 (continued)				Add the following definitions: • Active Traffic Management—the dynamic management of congestion (recurring and nonrecurring) through variations in lane use and/or associated traffic control strategies and other techniques based on prevailing and/or predicted traffic conditions for improving capacity, safety, and operations. • Advance Preemption— the notification of approaching rail traffic that is forwarded to the highway traffic signal controller unit or assembly by the railroad or light rail transit equipment in advance of the activation of the railroad or light rail transit warning devices.

				• Advance Preemption Time—the period of time that is the difference between the required maximum highway traffic signal preemption time and the activation of the railroad or light rail transit warning devices. • Automated Vehicle—Any vehicle equipped with driving automation technologies as defined in SAE J3016. This term can refer to a vehicle fitted with any form of driving automation system (Level 1 through 5). • Bicycle Box—a designated area on the approach to a signalized intersection, between an advance motorist stop line and the crosswalk or intersection, intended to provide bicyclists a visible place to wait in front of stopped motorists during the red signal phase. • (under Bicycle Lane) Contra-Flow Bicycle Lane—is a bicycle lane that is one-directional and provides a lawful path of travel for bicycles in the opposite direction from general traffic on a roadway that allows general traffic to travel in only one direction. • (under Bicycle Lane) Separated Bicycle Lane—is a bicycle lane that is barrier-separated or buffer separated with vertical elements in the buffer. Vertical elements include, but are not limited to channelizing devises, parked vehicles, or raised islands in the buffer. • Bus—A self-propelled rubber tired vehicle designed to carry a substantial number of passengers commonly operated on streets and highways. Design applications may include: • Busway—a special roadway designed for exclusive use by buses. It may be constructed at, above, or below grade and may be located in separate rights-of-way or within highway corridors. • Bus Rapid Transit (BRT)—a frequent bus-based public transportation service that includes dedicated lanes, busways, and/or mixed flow lanes with traffic signal priority. • Dedicated Lane—A lane on a freeway or expressway that provides access to: either an exit lane or the mainline, but not both, at a freeway or expressway exit, or only one roadway at a freeway or expressway split. • Intersection Conflict Warning System (ICWS)—a system of signs, vehicle detection, and either flashing warning beacons or active sign element(s) installed at or near an intersection to provide real-time information about intersection conditions. • LED-Enhanced Sign—a static sign embedded with LED units as described in Section 2A.20 to improve the conspicuity or increase the legibility of sign legends, symbols, and borders. • Multiple Threat Pedestrian Crash—a crash that involves a driver stopping in one lane of a multilane road to permit pedestrians to cross, and an oncoming vehicle (in the same direction) strikes the pedestrian who is crossing in front of the stopped vehicle. • Preemption Clearance Interval—the part of a traffic signal sequence displayed as a result of a preemption request when vehicles are provided the opportunity to clear the railroad or light rail transit tracks, a movable bridge, or a busway prior to the arrival of the train, boat, or bus for which the traffic signal is being preempted • Preemption Time Variability—the result that occurs when the traffic signal controller enters the Preemption Clearance Interval with less than the maximum design Right-of-Way Transfer Time or the speed or a train approaching the grade crossing varies.

				• Right of Way Transfer Time—when used in Part 8, the maximum amount of time needed prior to display of the track clearance interval. • Two-Stage Bicycle Turn Box—a designated area at an intersection intended to provide bicyclists a place to wait for traffic to clear before proceeding in a different direction of travel.
1C.02 (continued)				Revise the following definitions: • Automatic Lane—see Exact Change Lane within the definition of Toll Collection. • Beacon—a highway traffic signal with one or more signal ~~sections~~ indications that operates in a flashing mode. • Buffered Bicycle Lane—a ~~preferential or other special purpose~~ bicycle lane that is separated from the adjacent general purpose lane~~(s)~~ or parking lane by a pattern of standard longitudinal markings ~~that is wider than a normal or wide lane line marking~~. The buffer area might include ~~rumble strips, textured pavement, or channelizing devices such as tubular markers or traversable curbs, but does not include a physical barrier~~ chevron or diagonal markings. • Crashworthy—the ability of a roadside safety hardware device or appurtenance ~~that is intended~~ to minimize risks to design vehicle occupants by allowing a vehicle impacting the appurtenance to be slowed, slowed before stopping, redirected, or to continue without significant resistance. ~~Acceptable performance of a crashworthy device is determined by a nationally established standard. Roadside appurtenances include permanent and portable sign supports, other permanent or temporary traffic control devices, and other roadside fixtures that are not traffic control devices, such as longitudinal barriers, bridge railings, barricades, crash cushions, within the clear zone. Information on the FHWA's policy on crashworthiness of devices on the National Highway System and other roadways is available at the FHWA Office of Safety Web site at https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduced_crash_severity/policy_memo_guidance.cfm~~ • Electronic Toll Collection – a cashless system for automated collection of tolls from moving ~~or stopped~~ vehicles through wireless technologies such as radio-frequency communication or optical scanning. ETC systems are classified as one of the following: (1) systems that require users to have registered toll accounts, with the use of equipment inside or on the exterior of vehicles, such as a transponder or barcode decal, that communicates with or is detected by roadside or overhead receiving equipment, or with the use of license plate optical scanning, to automatically deduct the toll from the registered user account, ~~or~~ (2) systems that do not require users to have registered toll accounts because vehicle license plates are optically scanned and invoices for the toll amount ~~are~~ may be sent through postal mail to the address of the vehicle owner, or (3) systems that allow electronic toll collection for both registered and non-registered toll accounts. • General-Purpose Lane— a highway lane or set of lanes, other than a Managed Lane (see Definition xxx) ~~other than a preferential lane (see Definition No. 122),~~ or a Preferential Lane (see Definition xxx) on which all or most traffic that is allowed on that highway is also allowed to use. Certain classes of vehicles, such as commercial vehicles or vehicles exceeding a certain weight, might be prohibited from using one or more of the general-purpose lanes. A general purpose lane might also be

				restricted to certain uses, such as passing~~, or~~ turning or as an auxiliary lane. • Highway Traffic Signal—a power-operated traffic control device by which traffic is warned or directed to take some specific action. These devices do not include power-operated signs (except as provided in Chapters 4S and 4T), steadily-illuminated raised pavement markers, gates, flashing light signals (see Section 8D.03), warning lights (see Section 6L.07), or steady-burning electric lamps. Highway traffic signals include: • Lane-Use Control Signal—a signal face or comparable display on a full-matrix Dynamic Message Sign (see Chapters 2L and 4T) displaying indications to permit or prohibit the use of specific lanes of a roadway or shoulders, or to indicate the impending prohibition of such use. • Open Road Tolling (ORT)—a system designed to allow electronic toll collection (ETC) from vehicles traveling at ~~normal~~ posted ~~highway~~ speeds. Open-Road Tolling might be used on toll roads or toll facilities in conjunction with toll plazas. Open-Road Tolling is also typically used on managed lanes and on toll facilities that only accept payment by ETC. • Option Lane— A lane ~~that widens on the approach to, then splits into two lanes at, the theoretical gore of a decision point or bifurcation to allow traffic within the lane the option to continue on either route without changing lanes.~~ on a freeway, expressway, or toll road that is neither the left-most nor right-most lane of the lanes going in one direction, and that provides access to: (a) both an exit lane and the mainline at a freeway or expressway exit; or (b) both diverging roadways at a freeway or expressway split; or (c) both an Open-Road ETC lane and a toll plaza lane on the approach to a toll collection point. • Pictograph—a pictorial representation used to identify a governmental jurisdiction, an area of jurisdiction, a governmental or other public transportation agency or provider, a military base or branch of service, a governmental approved university or college, a government approved institution, or a toll payment system. • Portable Traffic Control Signal—a temporary component of a traffic control signal on a mobile support with one or more signal faces that is designed so that it can be easily transported ~~and reused at different locations~~, deployed, or relocated as part of a temporary traffic control signal, or during construction and maintenance as a temporary part of a permanent traffic control signal installation. • Pre-Signal—traffic control signal faces that are located upstream from a signalized intersection and are operated in conjunction with the traffic control signal faces at the downstream signalized intersection in a manner that is designed to keep the area between the stop line for the upstream traffic control signal faces and the stop line for the downstream signalized intersection clear of queued vehicles. When used in conjunction with a grade crossing, the pre-signal shall be operated to prevent vehicles from queuing within the minimum track clearance distance. Supplemental near-side traffic control signal faces for the downstream signalized intersection are not considered to be pre-signals. • Preemption Interconnection—~~when used in Part 8,~~ the electrical connection between the railroad or light rail transit active warning system and the highway traffic signal controller assembly for the purpose of preemption.

				• Queue Cutter Signal—an independently-controlled traffic control signal (not operated in conjunction with the traffic control signal faces at a downstream signalized intersection) located at a grade crossing that controls traffic in one direction only on the roadway for the purpose of keeping the minimum track clearance distance clear of queued vehicles ~~minimizing vehicular queuing across the tracks minimizing vehicular queuing across the tracks~~. The display of red signal indications is activated from a downstream queue detection system, by time of day, by approaching rail traffic, by an approaching bus on a busway, or by a combination of any of these methods. • Right-of-Way, Public Highway—the limits of real property, including the traveled way, shoulders, median, and the land alongside, that are owned by the public highway agency having jurisdiction. ~~The land within these limits is dedicated to highway uses, including roadside areas such as rest areas, scenic overlooks, and weigh stations.~~ • Shoulder---a longitudinal area contiguous with the traveled way ~~that is primarily~~ used for accommodation of stopped vehicles for emergency use and for lateral support of base and surface courses, and that is graded for emergency stopping. A shoulder might be paved or unpaved. A paved shoulder might be open~~ed~~ to ~~part-time~~ travel by some ~~or all~~ vehicles, or by all vehicles at certain times, and might also be used by pedestrians. • Temporary Traffic Control Signal– a traffic control signal that is installed for a limited time-period using fixed or portable traffic control signal units. • Toll Ticket System-- a toll system ~~in which~~ where the user of a toll road must stop to receive~~s~~ a ticket from a machine or toll booth attendant ~~upon entering a toll system~~. The ticket denotes the user's point of entry and, upon exiting the toll system, the user surrenders the ticket and is charged a toll based on the distance traveled between the points of entry and exit. • Traffic Control Device—all signs, signals, markings, channelization devices, or other devices that use colors, shapes, symbols, words, sounds, and/or tactile information for the primary purpose of communicating a regulatory, warning, or guidance message to road users on a street, highway, pedestrian facility, bikeway, pathway, or site roadway open to public travel. See Section 1A.02 regarding items that are not traffic control devices. ~~Infrastructure elements that restrict the road user's travel paths or vehicle speeds, such as curbs, speed humps, and other raised roadway surfaces, are not traffic control devices. Transverse or longitudinal rumble strips are also not traffic control devices. Operational devices associated with the application of traffic control strategies such as in-vehicle electronics, fencing, roadway lighting, barriers, and attenuators are shown in the Manual for context but their design, application, and usage are not specified since they are not traffic control devices.~~ • Traffic Control Signal (Traffic Signal) – a~~ny~~ highway traffic signal ~~by which traffic is alternatively~~ placed at intersections, movable bridges, fire stations, midblock crosswalks, alternating one-way section of a single lane road, private driveways, or other locations that require conflicting traffic to be directed to stop and permitted to proceed in an orderly manner. These devices do not include pedestrian hybrid beacons (see Chapter 4J) or emergency-vehicle hybrid beacons (see Chapter 4N). Traffic

				Control Signals include vehicular signal indications, pedestrian signal indications, and bicycle symbol signal indications. Special traffic control signals include:
1C.02 (continued)				Retain/restore the following definitions from the 2009 MUTCD: • Average Day • Cantilevered Signal Structure • Maximum Highway Traffic Signal Preemption Time • Minimum Warning Time • Separation Time • Simultaneous Preemption • Wayside Equipment

1C.02 (continued)				Create the following groupings of definitions:
				• Beacon
				  ○ Hybrid Beacon
				  ○ Intersection Control Beacon
				  ○ Rapid Flashing Beacon
				  ○ Speed Limit Sign Beacon
				  ○ Stop Beacon
				  ○ Warning Beacon
				• Bicycle Lane
				  ○ Contra-Flow Bicycle Lane
				  ○ Separated Bicycle Lane
				• Bus
				  ○ Busway
				  ○ Bus Rapid Transit (BRT)
				• Highway Traffic Signal
				  ○ Flashing Beacon
				  ○ In-Roadway Warning Lights
				  ○ Dynamic Message Sign
				  ○ Traffic Control Signal (Traffic Signal)
				  ▪ Emergency-Vehicle Traffic Control Signal
				  ▪ Movable Bridge Traffic Control Signal
				  ▪ Portable Traffic Control Signal
				  ▪ Pre-Signal
				  ▪ Queue Cutter Signal
				  ▪ Ramp Control Signal (Ramp Meter)
				  ▪ Temporary Traffic Control Signal
				• Hybrid Beacon
				  ○ Emergency-Vehicle Hybrid Beacon
				  ○ Pedestrian Hybrid Beacon
				• Sign
				  ○ Static Sign
				  ○ Changeable Message Sign
				  ▪ Dynamic Message Sign
				  ▪ Hybrid Sign
				  ▪ Blank-Out Sign
				  ▪ Line Matrix Sign
				• Toll Collection
				  ○ Electronic Toll Collection
				  ▪ All-Electronic Tolling
				  ▪ Open Road Tolling
				  ○ Manual Toll Collection
				  ▪ Toll Ticket System
				  ▪ Attended Lane (Manual Lane)
				  ▪ Exact Change Lane (Automatic Lane)

1C.02 (continued)				Delete the following definitions: • Buffer-Separated Lane (replaced by Separated Bicycle Lane) • Busway (replaced by new definition above)

1C.03	YES	N/A	N/A	NCUTCD agrees with Section 1C.03 as presented in the NPA, except that we recommend adding the abbreviation “mm” for millimeter, which is used in Parts 2 and 4.