



# National Committee on Uniform Traffic Control Devices

13236 North 7th Street, Suite 4-259, Phoenix, Arizona 85022  
Phone/Text: 231-4-NCUTCD (231-462-8823)  
E-mail: secretary@ncutcd.org

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14

## National Committee on Uniform Traffic Control Devices (NCUTCD) Recommended Changes to Proposed Text for 11<sup>th</sup> Edition of the MUTCD Docket Number: FHWA-2020-0001

15  
16  
17  
18  
19  
20  
21  
22

**Federal Register Item Numbers:** 16-18

**NPA MUTCD Section Number:** Sections 1C.01 – 1C.03

**Legend:** Base text shown in proposal is the NPA “clean” proposed text.

- [NCUTCD recommendation for text to be added in final rule.](#)
- ~~NCUTCD recommendation for text to be deleted in final rule.~~
- [NCUTCD recommendation for text to be moved/relocated in final rule.](#)
- NPA text that was not previously approved by NCUTCD but is now approved.
- Explanatory note: [\[Note that explains purpose of recommended change.\]](#)

The following pages present NCUTCD recommendations for changes to the MUTCD NPA proposed text, tables, and figures for Chapter 1C. Below is a short summary of the NCUTCD position for each section of this chapter. A more detailed summary is provided at the beginning of each section.

- NPA #16, Section 1C.01: Changes recommended based on Council action in spring 2021.
- NPA #17, Section 1C.02: Changes recommended based on Council action in spring 2021.
- NPA #18, Section 1C.03: Changes recommended based on Council action in spring 2021.

23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40

---

**Federal Register Item Number:** 16

**Section 1C.01 Comments:** 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.

### Section 1C.01 Definitions of Headings Used in this Manual

#### Standard:

When used in this Manual, the text headings of Standard, Guidance, Option, and Support shall be defined as follows:

- Standard**—a statement of required, mandatory, or specifically prohibitive practice regarding a traffic control device. In limited, location-specific cases, the results of a documented engineering study (see Section 1D.05) might indicate a deviation from one or more requirements of a Standard provision to be appropriate. All Standard statements are labeled, and the text appears in bold type. The verb “shall” is typically used. The verbs “should” and “may” are not used in Standard statements. Standard statements are sometimes modified by Option statements.
- Guidance**—a statement of recommended practice in typical situations, with deviations allowed if engineering judgment or engineering study (see Section 1D.05) indicates the

41 deviation to be appropriate. All Guidance statements are labeled, and the text appears in  
42 unbold italic type. The verb “should” is typically used. The verbs “shall” and “may” are  
43 not used in Guidance statements. Guidance statements are sometimes modified by Option  
44 statements.

45 C. **Option**—a statement of practice that is a permissive condition and carries no requirement  
46 or recommendation. Option statements sometimes contain allowable modifications to a  
47 Standard or Guidance statement. All Option statements are labeled, and the text appears  
48 in unbold type. The verb “may” is typically used. The verbs “shall” and “should” are not  
49 used in Option statements.

50 D. **Support**—an informational statement that does not convey any degree of mandate,  
51 recommendation, authorization, prohibition, or enforceable condition. Support statements  
52 are labeled, and the text appears in unbold type. The verbs “shall,” “should,” and “may”  
53 are not used in Support statements.

---

54  
55  
56 **Federal Register Item Number: 17**

57 **Section 1C.02 Comment:** NCUTCD agrees with many but not all of the proposed changes in  
58 Section 1C.02 presented in the NPA. NCUTCD recommends a number of additions, deletions,  
59 and revisions to various definitions as they appear in Section 1C.02. This includes our  
60 recommendation to move various definitions so that they are “nested” under a common topic  
61 heading. This is recommended so that MUTCD users will more readily see the interrelationships  
62 between the terms. NCUTCD also recommends locating all definitions in Section 1C.02, even if  
63 the term is used only in one particular Part or Section, so that they are conveniently located for  
64 users of the MUTCD.

65  
66 **Section 1C.02 Definitions of Words and Phrases Used in this Manual**

67 **Standard:**

68 Unless otherwise defined in this Section, or in other Parts of this Manual, words or phrases  
69 shall have the meaning(s) as defined in the most recent editions of the “Uniform Vehicle Code,”  
70 “AASHTO Transportation Glossary (Highway Definitions),” and other publications referenced in  
71 Section 1A.05.

72 The following words and phrases, when used in this Manual, shall have the following meanings:

- 73 1. **Accessible Pedestrian Signal**—a device that communicates information about pedestrian  
74 signal timing in non-visual format such as audible tones, speech messages, and/or vibrating  
75 surfaces.
- 76 2. **Accessible Pedestrian Signal Detector**—a device designated to assist the pedestrian who has  
77 visual or physical disabilities in activating the pedestrian phase.
- 78 3. **Active Grade Crossing**—a grade crossing equipped with automatic traffic control devices,  
79 such as flashing-light signals, gates, and/or traffic control signals, that are activated upon  
80 the detection of approaching rail traffic.

81 **X. Active Traffic Management—the dynamic management of congestion (recurring and**  
82 **nonrecurring) through variations in lane use and/or associated traffic control strategies and**  
83 **other techniques based on prevailing and/or predicted traffic conditions for improving**  
84 **capacity, safety, and operations**

85 NCUTCD recommends adding definition in accordance with NCUTCD recommendation 20B-  
86 RW-03. The phrase is used in several places in the MUTCD.

- 87 4. Actuated—a type of traffic control signal operation in which some or all signal phases are  
88 operated on the basis of actuation.
- 89 5. Actuation—initiation of, a change in, or an extension of a traffic signal phase or a sign  
90 legend through the operation of any type of detector.
- 91 X. Advance Preemption—the notification of approaching rail traffic that is forwarded to the  
92 highway traffic signal controller unit or assembly by the railroad or light rail transit  
93 equipment in advance of the activation of the railroad or light rail transit warning devices.  
94 NCUTCD recommends retaining definition from 2009 MUTCD and locating it here in  
95 Section 1C.02.
- 96 X. Advance Preemption Time—the period of time that is the difference between the required  
97 maximum highway traffic signal preemption time and the activation of the railroad or light  
98 rail transit warning devices.  
99 NCUTCD recommends retaining definition from 2009 MUTCD and locating it here in  
100 Section 1C.02.
- 101 6. Advisory Speed—a recommended speed for all vehicles operating on a section of highway  
102 and based on the highway design, operating characteristics, and conditions.
- 103 7. Agency—an organization with the responsibility for providing, maintaining, and/or  
104 operating a public or private road system.
- 105 8. Alley—a street or highway intended to provide access to the rear or side of lots or buildings  
106 in urban areas and not intended for the purpose of through vehicular traffic.
- 107 9. Altered Speed Zone—a speed limit, other than a statutory speed limit, that is based upon an  
108 engineering study.
- 109 10. Application—in regard to a traffic control device, the act of deciding to use a device,  
110 generally or at a particular location for a particular condition.
- 111 11. Approach—all lanes of traffic moving toward an intersection or a midblock location from  
112 one direction, including any adjacent parking lane(s).
- 113 12. Arterial Highway (Street)—a general term denoting a highway primarily used by through  
114 traffic, usually on a continuous route or a highway designated as part of an arterial system.
- 115 ~~13. Attended Lane (Manual Lane)—a toll lane adjacent to a toll booth occupied by a human toll~~  
116 ~~collector who makes change, issues receipts, and perform other toll-related functions.~~  
117 ~~Attended lanes at toll plazas typically require vehicles to stop to pay the toll.~~  
118 Moved to nested definitions of “Toll Collection”.
- 119 14. Automatic Lane—see Exact Change Lane within the definition of Toll Collection.
- 120 xx. Automated Vehicle – Any vehicle equipped with driving automation technologies as defined  
121 in SAE J3016. This term can refer to a vehicle fitted with any form of driving automation  
122 system (Level 1 through 5).  
123 NCUTCD recommends this new definition for Automated Vehicle, as the term is used in Part  
124 5 and is likely to appear elsewhere in the future.
- 125 15. Average Annual Daily Traffic (AADT)—the total volume of traffic passing a point or  
126 segment of a highway facility in both directions for one year divided by the number of days  
127 in the year. Normally, periodic daily traffic volumes are adjusted for hours of the day  
128 counted, days of the week, and seasons of the year to arrive at average annual daily traffic.
- 129 16. Average Daily Traffic (ADT)—the average 24 hour volume, being the total volume during a  
130 stated period divided by the number of days in that period. Normally, this would be  
131 periodic daily traffic volumes over several days, not adjusted for days of the week or  
132 seasons of the year.
- 133 xx. Average Day—a day representing traffic volumes normally and repeatedly found at a  
134 location , typically a weekday when volumes are influenced by employment or a weekend  
135 day when volumes are influenced by entertainment or recreation.

136 NCUTCD recommends restoring this 2009 MUTCD definition. The NPA preamble indicates  
137 that the definition is to be deleted because it isn't used; however, it is used in the following  
138 sections of the NPA: 2B.16, 4C.01, 4C.02, 4C.03, 4C.04, 4C.05, 4C.08, and 4J.01.

139 17. Backplate—see Signal Backplate.

140 18. Barrier-Separated Lane—a preferential lane or other special purpose lane that is separated  
141 from the adjacent general-purpose lane(s) by a physical barrier.

142 19. Beacon—a highway traffic signal with one or more signal ~~sections~~ indications that operates  
143 in a flashing mode.

144 (a) Hybrid Beacon- a special type of beacon (see Hybrid Beacon)

145 (b) Intersection Control Beacon- a beacon used only at an intersection to control two or  
146 more directions of travel.

147 (c) Rapid Flashing Beacon-a beacon actuated by a pedestrian or bicyclist with a rapid-  
148 pulsing flash rate to enhance conspicuity of pedestrian, school, or trail crossing  
149 warning signs at or in advance of uncontrolled, marked crosswalks

150 (d) Speed Limit Sign Beacon-a beacon used to supplement a SPEED LIMIT sign.

151 (e) Stop Beacon-a beacon used to supplement a STOP sign, a DO NOT ENTER sign, or a  
152 WRONG WAY sign.

153 (f) Warning Beacon-a beacon used only to supplement an appropriate warning or  
154 regulatory sign or marker.

155 NCUTCD recommends adding a definition for Rapid Flashing Beacon and moving the other  
156 existing beacon-related definitions as shown to create a set of “nested” definitions, per  
157 NCUTCD 20B-RW-03

158 20. Bicycle—a pedal-powered vehicle upon which the human operator sits.

159 xx. Bicycle Box-a designated area on the approach to a signalized intersection, between an  
160 advance motorist stop line and the crosswalk or intersection, intended to provide bicyclists  
161 a visible place to wait in front of stopped motorists during the red signal phase.

162 This term is used exclusively in Part 9, but NCUTCD recommends that all definitions be  
163 included in Section 1C.02, the section reserved for definitions, so that they are conveniently  
164 located for users of the MUTCD. This definition was previously recommended by NCUTCD  
165 (13B-BIK-01)

166 21. Bicycle Facilities—a general term denoting improvements and provisions that  
167 accommodate or encourage bicycling, including parking and storage facilities, and shared  
168 roadways not specifically defined for bicycle use.

169 22. Bicycle Lane—a portion of a roadway that has been designated for preferential or exclusive  
170 use by bicyclists by pavement markings and, if used, signs. Types of bicycle lanes include:

171 (a) A buffered bicycle lane is a ~~preferential or other special purpose~~ bicycle lane that is  
172 separated from the adjacent general purpose lane(s) or parking lane by a pattern of  
173 standard longitudinal markings that is wider than a normal or wide lane line  
174 marking. The buffer area might include ~~rumble strips, textured pavement, or~~  
175 channelizing devices such as tubular markers or traversable curbs, but does not  
176 include a physical barrier chevron or diagonal markings.

177 (b) A contra-flow bicycle lane is a bicycle lane that is one-directional and provides a  
178 lawful path of travel for bicycles in the opposite direction from general traffic on a  
179 roadway that allows general traffic to travel in only one direction.

180 (c) A separated bicycle lane is a bicycle lane that is barrier-separated or buffer separated  
181 with vertical elements in the buffer. Vertical elements include, but are not limited to  
182 channelizing devices, parked vehicles, or raised islands-in the buffer.

183 NCUTCD recommends adding definitions per NCUTCD 14A-BIK-05, NCUTCD 14A-BIK-  
184 06, and current sponsor items modified based on sponsor comments. (See Part 9 NCUTCD  
185 recommendations.) NCUTCD recommends that these definitions be “nested” under “Bicycle  
186 Lane” and included in the Section 1C.02, the section reserved for definitions, so that they are  
187 conveniently located for users of the MUTCD.

- 188 23. **Bicycle Signal Face**—a signal face that displays only bicycle symbol signal indications, that  
189 exclusively controls a bicycle movement from a designated bicycle lane or from a separate  
190 facility such as a shared use path, and that displays signal indications that are applicable  
191 only to the bicycle movement.
- 192 24. **Bicycle Symbol Signal Indication**—a red, yellow, or green signal indication that displays a  
193 bicycle symbol rather than a circular or arrow indication.
- 194 25. **Bikeway**—a generic term for any road, street, path, or way that in some manner is  
195 specifically designated for bicycle travel, regardless of whether such facilities are designated  
196 for the exclusive use of bicycles or are to be shared with other transportation modes.

197 ~~26. **Blank-Out Sign**—a sign that displays a single predetermined message only when activated.  
198 When not activated, the sign legend is not visible.~~

199 Moved to “nested” definitions under “Sign”.

200 ~~27. **Buffer Separated Lane**—a preferential lane or other special purpose lane that is separated  
201 from the adjacent general purpose lane(s) by a pattern of standard longitudinal pavement  
202 markings that is wider than a normal or wide lane line marking. The buffer area might  
203 include rumble strips, textured pavement, or channelizing devices such as tubular markers  
204 or traversable curbs, but does not include a physical barrier.~~

205 Moved to recommended “nested” definition of Bicycle Lane and edited there for clarity.

- 206 xx. **Bus**—A self-propelled rubber tired vehicle designed to carry a substantial number of  
207 passengers commonly operated on streets and highways. Design applications may include:
- 208 (a) **Busway**—a special roadway designed for exclusive use by buses. It may be constructed  
209 at, above, or below grade and may be located in separate rights-of-way or within  
210 highway corridors.
- 211 (b) **Bus Rapid Transit (BRT)**—a frequent bus-based public transportation service that  
212 includes dedicated lanes, busways, and/or mixed flow lanes with traffic signal priority.

213 NCUTCD recommends a revised definition for Busway and new definitions for Bus and Bus  
214 Rapid Transit. These terms are used in several Part of the MUTCD. Nesting under the  
215 general term Bus is recommended.

216 ~~28. **Busway**—traveled way that is used exclusively by buses.~~

217 NCUTCD recommends moving to a “nested” group under Bus, as revised per NCUTCD 20B-  
218 RW-02 and 18A-Edit-01

- 219 xx. **Cantilevered Signal Structure**—a structure, also referred to as a mast arm, that is rigidly  
220 attached to a vertical pole and is used to provide overhead support of highway traffic signal  
221 faces or grade crossing signal units.

222 NCUTCD recommends retaining definition from 2009 MUTCD and locating it here in  
223 Section 1C.02.

- 224 29. **Center Line Markings**—the yellow pavement marking line(s) that delineates the separation  
225 of traffic lanes that have opposite directions of travel on a roadway. These markings need not be  
226 at the geometrical center of the pavement.

- 227 30. **Changeable Message Sign**—~~see “Sign” a sign that is capable of displaying more than one  
228 message (one of which might be a “blank” display), changeable manually, by remote  
229 control, or by automatic control. Electronic display changeable message signs are referred  
230 to as Dynamic Message Signs in the National Intelligent Transportation Systems (ITS)~~

~~Architecture and are referred to as Variable Message Signs in the National Electrical Manufacturers Association (NEMA) standards publication.~~

NCUTCD recommends moving definition to be nested within definition of sign, per NCUTCD 20B-RW-03

31. Channelizing Line—a solid wide or double white line marking used to form islands where traffic in the same direction of travel is permitted on both sides of the island.
32. Circular Intersection—an intersection that has an island, generally circular in design, located in the center of the intersection where traffic passes to the right of the island. Circular intersections include roundabouts, rotaries, and traffic circles.
33. Circulatory Roadway—the roadway within a circular intersection on which traffic travels in a counterclockwise direction around an island in the center of the circular intersection.
34. Clear Storage Distance—when used in Part 8, the distance available for vehicle storage measured between 6 feet from the rail nearest the intersection to the intersection stop line or the normal stopping point on the highway. At skewed grade crossings and intersections, the 6-foot distance shall be measured perpendicular to the nearest rail either along the center line or edge line of the highway, as appropriate, to obtain the shorter distance. Where exit gates are used, the distance available for vehicle storage is measured from the point where the rear of the vehicle would be clear of the exit gate arm. In cases where the exit gate arm is parallel to the track(s) and is not perpendicular to the highway, the distance is measured either along the center line or edge line of the highway, as appropriate, to obtain the shorter distance.
35. Clear Zone—the total roadside border area, starting at the edge of the traveled way, that is available for an errant driver to stop or regain control of a vehicle. This area might consist of a shoulder, a recoverable slope, and/or a non-recoverable, traversable slope with a clear run-out area at its toe.
36. Collector Highway—a term denoting a highway that in rural areas connects small towns and local highways to arterial highways, and in urban areas provides land access and traffic circulation within residential, commercial, and business areas and connects local highways to the arterial highways.
37. Conflict Monitor—a device used to detect and respond to improper or conflicting signal indications and improper operating voltages in a traffic controller assembly.
38. Constant Warning Time Train Detection—a means of detecting rail traffic that provides relatively uniform warning time for the approach of through trains that are not accelerating or decelerating after being detected.
39. Contiguous Lane—a lane, preferential or otherwise, that is separated from the adjacent lane(s) only by a normal or wide lane line marking.
40. Controller Assembly—a complete electrical device mounted in a cabinet for controlling the operation of a highway traffic signal.
41. Controller Unit—that part of a controller assembly that is devoted to the selection and timing of the display of signal indications.
42. Conventional Road—a street or highway other than an expressway or freeway.
43. Counter-Flow Lane—a lane operating in a direction opposite to the normal flow of traffic designated for peak direction of travel during at least a portion of the day. Counter-flow lanes are usually separated from the off-peak direction lanes by tubular markers or other flexible channelizing devices, temporary lane separators, or movable or permanent barrier.
44. 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~~

282 ~~fixtures that are not traffic control devices, such as longitudinal barriers, bridge railings,~~  
283 ~~barricades, crash cushions, within the clear zone. Information on the FHWA's policy on~~  
284 ~~crashworthiness of devices on the National Highway System and other roadways is~~  
285 ~~available at the FHWA Office of Safety Web site at~~  
286 ~~[https://safety.fhwa.dot.gov/roadway\\_dept/countermeasures/reduce\\_crash\\_severity/](https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduce_crash_severity/policy_memo_guidance.cfm)~~  
287 ~~[policy\\_memo\\_guidance.cfm](https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduce_crash_severity/policy_memo_guidance.cfm).~~

288 NCUTCD recommends deleting the portion of the proposed definition that is not consistent  
289 with and goes beyond a definition of a term, and creating new Section 1D.13 to provide an  
290 edited version of the deleted material (see NCUTCD docket comments on Chapter 1D.).

- 291 45. Crosswalk—(a) that part of a roadway at an intersection included within the connections of  
292 the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs  
293 or in the absence of curbs, from the edges of the traversable roadway, and in the absence of  
294 a sidewalk on one side of the roadway, the part of a roadway included within the extension  
295 of the lateral lines of the sidewalk at right angles to the center line; (b) any portion of a  
296 roadway at an intersection or elsewhere distinctly indicated as a pedestrian crossing by  
297 pavement marking lines on the surface, which might be supplemented by contrasting  
298 pavement texture, style, or color.
- 299 46. Crosswalk Lines—white pavement marking lines that identify a crosswalk.
- 300 47. Cycle Length—the time required for one complete sequence of signal indications.
- 301 48. Dark Mode—the lack of all signal indications at a signalized location. (The dark mode is  
302 most commonly associated with power failures, ramp meters, hybrid beacons, beacons, and  
303 some movable bridge signals.)

304 XX. Dedicated Lane – A lane on a freeway or expressway that provides access to:

- 305 (a) either an exit lane or the mainline, but not both, at a freeway or expressway exit, or  
306 (b) only one roadway at a freeway or expressway split.

307 NCUTCD recommends new definition to complement the definition of “Option Lane”.

- 308 49. Delineator—a retroreflective device mounted at the side of the roadway in a series to  
309 indicate the alignment of the roadway, especially at night or in adverse weather.
- 310 50. Design Vehicle—the longest vehicle permitted by statute of the road authority (State or  
311 other) on that roadway.
- 312 51. Designated Bicycle Route—a system of bikeways designated by the jurisdiction having  
313 authority with appropriate directional and informational route signs, with or without  
314 specific bicycle route numbers.
- 315 52. Detectable—having a continuous edge within 6 inches of the surface so that pedestrians who  
316 have visual disabilities can sense its presence and receive usable guidance information.
- 317 53. Detector—a device used for determining the presence or passage of vehicles or pedestrians.
- 318 54. Diagnostic Team – a group of knowledgeable representatives of the parties of interest in a  
319 grade crossing or group of grade crossings (see 23 CFR Section 109, Part 646.204).
- 320 55. Downstream—a term that refers to a location that is encountered by traffic subsequent to  
321 an upstream location as it flows in an “upstream to downstream” direction. For example,  
322 “the downstream end of a lane line separating the turn lane from a through lane on the  
323 approach to an intersection” is the end of the lane line that is closest to the intersection.
- 324 56. Driveway – an access from a roadway to a building, site, or abutting property.
- 325 57. Driving Aisle - circulation area for motor vehicles within a parking area, typically between  
326 rows of parking spaces. Driving aisles provide a one-way or two-way travel. Driving aisles  
327 are exempted from compliance with MUTCD provisions.
- 328 58. Dropped Lane—a through lane that becomes a mandatory turn lane on a conventional  
329 roadway, or a through lane that becomes a mandatory exit lane on a freeway or  
330 expressway. The end of an acceleration lane and reductions in the number of through lanes  
331 that do not involve a mandatory turn or exit are not considered dropped lanes.

- 332 59. Dual-Arrow Signal Section—a type of signal section designed to include both a yellow  
333 arrow and a green arrow.
- 334 60. Dynamic Envelope—the clearance required for light rail transit traffic or a train and its  
335 cargo overhang due to any combination of loading, lateral motion, or suspension failure (see  
336 Figure 8B-8).
- 337 61. Dynamic Exit Gate Operating Mode—a mode of operation where the exit gate operation is  
338 based on the presence of vehicles within the minimum track clearance distance.
- 339 62. Dynamic Message Sign—see **Changeable Message Sign**.

340 NCUTCD recommends moving definition to be nested within definition of sign, per  
341 NCUTCD 20B-RW-03

- 342 63. Edge Line Markings—white or yellow pavement marking lines that delineate the right or  
343 left edge(s) of a traveled way.
- 344 ~~64. Electronic Toll Collection (ETC)—a system for automated collection of tolls from moving or  
345 stopped vehicles through wireless technologies such as radio-frequency communication or  
346 optical scanning. ETC systems are classified as one of the following: (1) systems that  
347 require users to have registered toll accounts, with the use of equipment inside or on the  
348 exterior of vehicles, such as a transponder or barcode decal, that communicates with or is  
349 detected by roadside or overhead receiving equipment, or with the use of license plate  
350 optical scanning, to automatically deduct the toll from the registered user account, or (2)  
351 systems that do not require users to have registered toll accounts because vehicle license  
352 plates are optically scanned and invoices for the toll amount are sent through postal mail to  
353 the address of the vehicle owner.~~

354 NCUTCD recommends moving definition to be nested within definition of Toll Collection.

- 355 65. Electronic Toll Collection (ETC) Account Only Lane—a non-attended toll lane that is  
356 restricted to use only by vehicles with a registered toll payment account.
- 357 66. Emergency-Vehicle Hybrid Beacon—[see Hybrid Beacon](#) ~~a special type of hybrid beacon  
358 used to warn and control traffic at an unsignalized location to assist authorized emergency  
359 vehicles in entering or crossing a street or highway.~~

360 NCUTCD recommends moving definition to be nested within definition of Hybrid Beacon per  
361 NCUTCD 20B-RW-03

- 362 67. Emergency-Vehicle Traffic Control Signal—[see Highway Traffic Signal](#) ~~a special traffic  
363 control signal that directs all conflicting traffic to stop in order to permit the driver of an  
364 authorized emergency vehicle to proceed into the roadway or intersection.~~

365 NCUTCD recommends moving definition to be nested within definition of Highway Traffic  
366 Signal per NCUTCD 20B-RW-03

- 367 68. Engineer—see Professional Engineer.
- 368 69. Engineering Judgment—the evaluation of available pertinent information, and the  
369 application of appropriate principles, provisions, and practices as contained in this Manual  
370 and other sources, for the purpose of deciding upon the appearance, use, installation, or,  
371 operation of a traffic control device. Engineering judgment shall be exercised by a  
372 professional engineer (see Definition 169) with appropriate traffic engineering expertise, or  
373 by an individual working under the supervision of such an engineer, through the  
374 application of procedures and criteria established by the engineer. Documentation of  
375 engineering judgment is not required.
- 376 70. Engineering Study—the analysis and evaluation of available pertinent information, and the  
377 application of appropriate principles, provisions, and practices as contained in this Manual  
378 and other sources, for the purpose of deciding upon the appearance, use, installation, or  
379 operation of a traffic control device. An engineering study shall be performed by a  
380 professional engineer (see Definition 169) with appropriate traffic engineering expertise, or



- 381 by an individual working under the supervision of such an engineer, through the  
382 application of procedures and criteria established by the engineer. An engineering study  
383 shall be documented in writing.
- 384 71. Entrance Gate—an automatic gate that can be lowered across the lanes approaching a  
385 grade crossing to block road users from entering the grade crossing.
- 386 ~~72. Exact Change Lane (Automatic Lane)—a non-attended toll lane that has a receptacle into~~  
387 ~~which road users deposit coins totaling the exact amount of the toll. Exact Change lanes at~~  
388 ~~toll plazas typically require vehicles to stop to pay the toll.~~
- 389 **NCUTCD recommends moving to be nested within definition of “Toll Collection”.**
- 390 73. Exclusive Alignment—a light rail transit track(s) or a bus rapid transit busway that is  
391 grade-separated or protected by a fence or traffic barrier. No grade crossings exist along  
392 the track(s) or busway. Motor vehicles, bicycles, and pedestrians are prohibited within the  
393 right-of-way. Subways and elevated structures are included within this definition.
- 394 74. Exit Gate—an automatic gate that can be lowered across the lanes departing a grade  
395 crossing to block road users from entering the grade crossing by driving in the opposing  
396 traffic lanes.
- 397 75. Exit Gate Clearance Time—for Four-Quadrant Gate systems at grade crossings, the  
398 amount of time provided to delay the descent of the exit gate arm(s) after entrance gate  
399 arm(s) begin to descend.
- 400 76. Exit Gate Operating Mode—for Four-Quadrant Gate systems at grade crossings, the mode  
401 of control used to govern the operation of the exit gate arms.
- 402 77. Expressway—a divided highway with partial control of access.
- 403 78. Fail-Safe—when used in Part 8, a railroad signal design philosophy applied to a system or  
404 device such that the result of a hardware failure or the effect of a software error shall either  
405 prohibit the system or device from assuming or maintaining an unsafe state or shall cause  
406 the system or device to assume a state that is known to be safe.
- 407 79. Flagger—a person who actively controls the flow of vehicular traffic into and/or through a  
408 temporary traffic control zone using hand-signaling devices or an Automated Flagger  
409 Assistance Device (AFAD).
- 410 80. Flasher—a device used to turn highway traffic signal indications on and off at a repetitive  
411 rate of approximately once per second.
- 412 81. Flashing—an operation in which a light source, such as a traffic signal indication or LEDs  
413 in a sign, is turned on and off repetitively.
- 414 82. Flashing-Light Signals—a warning device consisting of two red signal indications arranged  
415 horizontally that are activated to flash alternately when rail traffic is approaching or  
416 present at a grade crossing.
- 417 83. Flashing Mode—a mode of operation in which at least one traffic signal indication in each  
418 vehicular signal face of a highway traffic signal is turned on and off repetitively.
- 419 84. Four-Quadrant Gate System – an exit gate system that includes entrance and exit gates that  
420 control and block road users on all lanes entering and exiting the grade crossing.
- 421 85. Freeway—a divided highway with full control of access.
- 422 86. Full-Actuated—a type of traffic control signal operation in which all signal phases function  
423 on the basis of actuation.
- 424 87. Gate—an automatically-operated or manually-operated traffic control device that is used to  
425 physically obstruct road users such that they are discouraged from proceeding past a  
426 particular point on a roadway or pathway, or such that they are discouraged from entering  
427 a particular grade crossing, ramp, lane, roadway, or facility.
- 428 88. General-Purpose Lane— a highway lane or set of lanes, other than a Managed Lane (see  
429 Definition xxx) other than a preferential lane (see Definition No. 169), or a Preferential  
430 Lane (see Definition xxx) on which all or most traffic that is allowed on that highway is also

431 allowed to use. Certain classes of vehicles, such as commercial vehicles or vehicles  
432 exceeding a certain weight, might be prohibited from using one or more of the general-  
433 purpose lanes. A general-purpose lane might also be restricted to certain uses, such as  
434 passing, ~~or~~ turning or as an auxiliary lane.

435 **NCUTCD recommends revisions shown above for accuracy and clarity.**

436 89. Gore Area—see Physical Gore, Theoretical Gore.

437 90. Grade Crossing—the general area where a highway and a railroad and/or light rail transit  
438 route cross at the same level, within which are included the tracks, highway, and traffic  
439 control devices for traffic traversing that area.

440 91. Grade Crossing Warning System—the flashing-light signals, with or without automatic  
441 gates, together with the necessary control equipment used to inform road users of the  
442 approach or presence of rail traffic at grade crossings.

443 92. Guide Sign—a sign that shows route designations, highway names, destinations, directions,  
444 distances, services, points of interest, or other geographical, recreational, or cultural  
445 information.

446 93. High-Occupancy Vehicle (HOV)—a motor vehicle carrying at least two or more persons,  
447 including carpools, vanpools, and buses.

448 94. Highway—a general term for denoting a public way for purposes of vehicular travel,  
449 including the entire area within the right-of-way.

450 95. Highway-Light Rail Transit Grade Crossing—the general area where a highway and a light  
451 rail transit route cross at the same level, within which are included the light rail transit  
452 tracks, highway, and traffic control devices for traffic traversing that area.

453 96. Highway-Rail Grade Crossing—the general area where a highway and a railroad cross at  
454 the same level, within which are included the railroad tracks, highway, and traffic control  
455 devices for highway traffic traversing that area.

456 xx. Highway Traffic Signal—a power-operated traffic control device by which traffic is warned  
457 or directed to take some specific action. These devices do not include power-operated signs  
458 (except as provided in Chapters 4S and 4T), steadily-illuminated raised pavement markers,  
459 gates, flashing light signals (see Section 8D.03), warning lights (see Section 6L.07), or  
460 steady-burning electric lamps. Highway traffic signals include:

461 (a) Flashing Beacon – See Beacon.

462 (b) In-Roadway Warning Lights—a special type of highway traffic signal installed in the  
463 roadway surface to warn road users that they are approaching a condition on or  
464 adjacent to the roadway that might not be readily apparent and might require the road  
465 users to reduce speed and/or come to a stop.

466 (c) Lane-Use Control Signal—a signal face or comparable display on a full-matrix  
467 Dynamic Message Sign (see Chapters 2L and 4T) displaying indications to permit or  
468 prohibit the use of specific lanes of a roadway or shoulders, or to indicate the impending  
469 prohibition of such use.

470 (d) Traffic Control Signal (Traffic Signal)—~~any highway traffic signal~~ by which traffic is  
471 alternatively placed at intersections, movable bridges, fire stations, midblock  
472 crosswalks, alternating one-way section of a single lane road, private driveways, or  
473 other locations that require conflicting traffic to be directed to stop and permitted to  
474 proceed in an orderly manner. These devices do not include pedestrian hybrid beacons  
475 (see Chapter 4J) or emergency-vehicle hybrid beacons (see Chapter 4N). Traffic  
476 Control Signals include vehicular signal indications, pedestrian signal indications, and  
477 bicycle symbol signal indications. Special traffic control signals include:

478 i. Emergency-Vehicle Traffic Control Signal—a ~~special~~ traffic control signal that  
479 directs all conflicting traffic to stop in order to permit the driver of an authorized  
480 emergency vehicle to proceed into the roadway or intersection.

481 ii. Movable Bridge Traffic Control Signal—a highway traffic control signal installed  
482 at a movable bridge to notify traffic to stop during periods when the roadway is  
483 closed to allow the bridge to open.

484 iii. Portable Traffic Control Signal—a temporary component of a traffic control  
485 signal on a mobile support with one or more signal faces that is designed so that it  
486 can be easily transported and reused at different locations, deployed, or relocated as  
487 part of a temporary traffic control signal, or during construction and maintenance  
488 as a temporary part of a permanent traffic control signal installation.

489 iv. Pre-Signal—traffic control signal faces that are located upstream from a  
490 signalized intersection and are operated in conjunction with the traffic control  
491 signal faces at the downstream signalized intersection in a manner that is designed  
492 to keep the area between the stop line for the upstream traffic control signal faces  
493 and the stop line for the downstream signalized intersection clear of queued  
494 vehicles. When used in conjunction with a grade crossing, the pre-signal shall be  
495 operated to prevent vehicles from queuing within the minimum track clearance  
496 distance. Supplemental near-side traffic control signal faces for the downstream  
497 signalized intersection are not considered to be pre-signals.

498 v. Queue Cutter Signal—an independently-controlled traffic control signal (not  
499 operated in conjunction with the traffic control signal faces at a downstream  
500 signalized intersection) located at a grade crossing that controls traffic in one  
501 direction only on the roadway for the purpose of keeping the minimum track  
502 clearance distance clear of queued vehicles minimizing vehicular queuing across the  
503 tracks minimizing vehicular queuing across the tracks. The display of red signal  
504 indications is activated from a downstream queue detection system, by time of day,  
505 by approaching rail traffic, by an approaching bus on a busway, or by a  
506 combination of any of these methods.

507 vi. Ramp Control Signal (Ramp Meter) – a highway traffic control signal installed  
508 to control the flow of traffic onto a freeway at an entrance ramp or at a freeway-to-  
509 freeway ramp connection.

510 vii. Temporary Traffic Control Signal Signal – a traffic control signal that is  
511 installed for a limited time-period using fixed or portable traffic control signal units.

512 NCUTCD recommends moving the definitions shown above to be nested under Highway  
513 Traffic Signal, which encompasses all the nested definitions shown. Edits are per NCUTCD  
514 20B-RW-03.

515 98. HOV Lane—any preferential lane designated for exclusive use by high-occupancy vehicles  
516 for all or part of a day—including a designated lane on a freeway, other highway, street, or  
517 independent roadway on a separate right-of-way.

518 99. Hybrid Beacon—a special type of beacon that is intentionally placed in a dark mode (no  
519 indications displayed) between periods of operation and, when operated, displays both  
520 steady and flashing traffic control signal indications.

521 (a) Emergency-Vehicle Hybrid Beacon - a special type of hybrid beacon used to warn and  
522 control traffic at an unsignalized location to assist authorized emergency vehicles in  
523 entering or crossing a street or highway.

524 (b) Pedestrian Hybrid Beacon – a special type of hybrid beacon used to warn and control  
525 traffic at an unsignalized location to assist pedestrians in crossing a street or highway  
526 at a marked crosswalk.

527 NCUTCD recommends nesting definitions related to types of hybrid beacons within the  
528 definition for Hybrid Beacon, per NCUTCD 20B-RW-03. NCUTCD recommends that hybrid  
529 beacons be nested separately from “Beacons” because of their special type of operation that  
530 includes stop-and-go during a portion of the cycle.

531 **100. Identification Marker**--a shape, color, and/or pictograph that is used as a visual identifier  
532 **for a destination guide signing system of a community wayfinding system or a shared-use**  
533 **path system for an area.**

534 **101. Inherently Low Emission Vehicle (ILEV)**—any kind of vehicle that, because of inherent  
535 properties of the fuel system design, will not have significant evaporative emissions, even if  
536 its evaporative emission control system has failed.

537 **102. In-Roadway Warning Lights**—~~see Beacon a special type of highway traffic signal installed in~~  
538 ~~the roadway surface to warn road users that they are approaching a condition on or~~  
539 ~~adjacent to the roadway that might not be readily apparent and might require the road~~  
540 ~~users to reduce speed and/or come to a stop.~~

541 Moved to nested definition of “Beacon”.

542 **103. Interchange**—a system of interconnecting roadways providing for traffic movement  
543 between two or more highways that do not intersect at grade.

544 **104. Preemption Interconnection**—~~when used in Part 8,~~ the electrical connection between the  
545 railroad or light rail transit active warning system and the highway traffic signal controller  
546 assembly for the purpose of preemption.

547 NCUTCD recommends restoration of the word “preemption” in this term, because the term  
548 “interconnection” is also used in other parts of the MUTCD. The qualifier “when used in Part  
549 8” is not necessary.

550 **105. Intermediate Interchange**—an interchange with an urban or rural route that is not a major  
551 or minor interchange as defined in this Section.

552 **106. Intersection**—intersection is defined as follows:

- 553 (a) The area embraced within the prolongation or connection of the lateral curb lines, or if  
554 none, the lateral boundary lines of the roadways of two highways that join one another  
555 at, or approximately at, right angles, or the area within which vehicles traveling on  
556 different highways that join at any other angle might come into conflict.
- 557 (b) The junction of an alley, driveway, or side roadway with a public roadway or highway  
558 shall not constitute an intersection, unless the public roadway or highway at said  
559 junction is controlled by a traffic control device.
- 560 (c) If a highway includes two roadways separated by a median, then every crossing of each  
561 roadway of such divided highway by an intersecting highway shall be a separate  
562 intersection if the opposing left-turn paths cross and there is sufficient interior storage  
563 for the design vehicle. (see Figure 2A-XX)
- 564 (d) At a location controlled by a traffic control signal, regardless of the distance between  
565 the separate intersections as defined in (c) above:
- 566 (1) If a stop line, yield line, or crosswalk has not been designated on the roadway  
567 (within the median) between the separate intersections, the two intersections and the  
568 roadway (median) between them shall be considered as one intersection;
- 569 (2) Where a stop line, yield line, or crosswalk is designated on the roadway on the  
570 intersection approach, the area within the crosswalk and/or beyond the designated  
571 stop line or yield line shall be part of the intersection; and
- 572 (3) Where a crosswalk is designated on a roadway on the departure from the  
573 intersection, the intersection shall include the area extending to the far side of such  
574 crosswalk.

575 **xxx. Intersection Conflict Warning System (ICWS)**-a system of signs, vehicle detection, and  
576 **either flashing warning beacons or active sign element(s) installed at or near an intersection**  
577 **to provide real-time information about intersection conditions.**

578 NCUTCD recommends adding definition per NCUTCD 14B-RW-01

- 579 107. Intersection Control Beacon—[see Beacon](#)~~a beacon used only at an intersection to control~~  
580 ~~two or more directions of travel.~~  
581 NCUTCD recommends nesting definitions related to various types of beacons within the  
582 definition for Beacon per NCUTCD 20B-RW-03.
- 583 108. Interval—the part of a signal cycle during which signal indications do not change.
- 584 109. Island—a defined area between traffic lanes for control of vehicular movements, for toll  
585 collection, or for pedestrian refuge. It includes all end protection and approach treatments.  
586 Within an intersection area, a median or an outer separation is considered to be an island.
- 587 110. Jughandle Turn—a left-turn or U-turn that, in conjunction with special geometry, is made  
588 by initially making a right-turn or diverging to the right. With other special geometry, a  
589 right-turn or U-turn makes a jughandle turn by initially making a left-turn or diverging to  
590 the left.
- 591 111. Lane Drop—see Dropped Lane.
- 592 112. Lane Line Markings—white pavement marking lines that delineate the separation of traffic  
593 lanes that have the same direction of travel on a roadway.
- 594 113. Lane-Use Control Signal—[see Highway Traffic Signal](#)~~a signal face displaying indications to~~  
595 ~~permit or prohibit the use of specific lanes of a roadway or to indicate the impending~~  
596 ~~prohibition of such use.~~  
597 NCUTCD recommends nesting definitions related to various types of highway traffic signals  
598 within the definition for Highway Traffic Signals per NCUTCD 20B-RW-03.
- 599 [xxx. LED-enhanced sign—a static sign embedded with LED units as described in Section 2A.20 to](#)  
600 [improve the conspicuity or increase the legibility of sign legends, symbols, and borders.](#)  
601 NCUTCD recommends new definition per NCUTCD 14A-RW-07 and 20B-RW-03
- 602 114. Legend—see Sign Legend.
- 603 115. Lens—see Signal Lens.
- 604 116. Light Rail Transit Traffic (Light Rail Transit Equipment)—every device in, upon, or by  
605 which any person or property can be transported on light rail transit tracks, including  
606 single-unit light rail transit cars (such as streetcars and trolleys) and assemblies of multiple  
607 light rail transit cars coupled together.
- 608 117. Loading Zone – a specially marked, signed or designated area for the loading or unloading  
609 of vehicles (passenger or freight).
- 610 118. Locomotive Horn—an air horn, steam whistle, or similar audible warning device (see 49  
611 CFR Part 229.129) mounted on a locomotive or control cab car. The terms “locomotive  
612 horn,” “train whistle,” “locomotive whistle,” and “train horn” are used interchangeably in  
613 the railroad industry.
- 614 119. Logo—a distinctive emblem or trademark that identifies a commercial or non-commercial  
615 business, program, or organization.
- 616 120. Longitudinal Markings—pavement markings that are generally placed parallel and  
617 adjacent to the flow of traffic such as lane lines, center lines, edge lines, channelizing lines,  
618 and others.
- 619 121. Louver—see Signal Louver.
- 620 122. Low-Volume Rural Road – A category of paved or unpaved conventional or special-  
621 purpose roadways having an AADT of less than 400 vehicles and lying outside of built-up or  
622 urbanized areas of cities, towns, and communities.
- 623 123. Major Interchange—an interchange with another freeway or expressway, or an interchange  
624 with a high-volume multi-lane highway, principal urban arterial, or major rural route  
625 where the interchanging traffic is heavy or includes many road users unfamiliar with the  
626 area.
- 627 124. Major Street—the street normally carrying the higher volume of vehicular traffic.
- 628 125. Malfunction Management Unit—same as Conflict Monitor.

629 126. Managed Lane—a highway lane or set of lanes, or a highway facility, for which variable  
630 operational strategies such as direction of travel, tolling, pricing, and/or vehicle type or  
631 occupancy requirements are implemented and managed in real-time in response to  
632 changing conditions. Managed lanes are typically buffer- or barrier-separated lanes  
633 parallel to the general-purpose lanes of a highway in which access is restricted to designated  
634 locations. There are also some highways on which all lanes are managed.

635 127. Manual Lane—see Attended Lane [within the definition of Toll Collection](#).

636 **Phrase added because “Attended Lane” moved to nested definition of “Toll Collection”.**

637 [xxx. Maximum Highway Traffic Signal Preemption Time—the maximum amount of](#)  
638 [time needed following initiation of the preemption sequence for the highway traffic](#)  
639 [signals to complete the timing of the right of way transfer time, queue clearance](#)  
640 [time, and separation time.](#)

641 **NCUTCD recommends retaining definition from 2009 MUTCD and locating it here in Section**  
642 **1C.02.**

643 128. Median—the portion of a highway separating opposing directions of the traveled way ~~or~~  
644 the area between two roadways of a divided highway measured from edge of traveled way  
645 to edge of traveled way. The median excludes turn lanes. The median width might be  
646 different between intersections, interchanges, and at opposite approaches of the same  
647 intersection.

648 **NCUTCD recommends minor editorial change, inserting the word “or”.**

649 129. Minimum Track Clearance Distance— the length along a highway over the track(s) where  
650 a vehicle could be struck by rail traffic. The minimum track clearance distance is measured  
651 from a point upstream from the track(s) on the approach to the grade crossing to a point  
652 downstream from the track(s) on the departure from the grade crossing. The length along  
653 the highway between the two points is the minimum track clearance distance.

654 [xxx. Minimum Warning Time—when used in Part 8, the least amount of time active](#)  
655 [warning devices shall operate prior to the arrival of rail traffic at a grade crossing.](#)

656 **NCUTCD recommends retaining definition from 2009 MUTCD and locating it here in Section**  
657 **1C.02.**

658 130. Minor Interchange—an interchange where traffic is local and very light, such as  
659 interchanges with land service access roads. Where the sum of the exit volumes is estimated  
660 to be lower than 100 vehicles per day in the design year, the interchange is classified as  
661 local.

662 131. Minor Street—the street normally carrying the lower volume of vehicular traffic.

663 132. Mixed-Use Alignment—a light rail transit track(s), a busway, or a bus only lane(s) where  
664 the LRT or BRT vehicles operate in mixed traffic with all types of road users. This includes  
665 streets, transit malls and pedestrian malls where the right-of-way is shared. In a mixed-use  
666 alignment, the light rail transit or the bus rapid transit traffic does not have the right-or-  
667 way over other road users at grade crossings and intersections. If the LRT traffic or buses  
668 are controlled by traffic control signals or LRT signal faces at an intersection with a  
669 roadway, the alignment is considered to be mixed-use even if some of the approaches to the  
670 intersection are used exclusively by LRT traffic or buses.

671 133. Movable Bridge Resistance Gate—a type of traffic gate, which is located downstream of the  
672 movable bridge warning gate, that provides a physical deterrent to vehicle and/or  
673 pedestrian traffic when placed in the appropriate position.

674 134. Movable Bridge Signal—[see Highway Traffic Signal](#) ~~a highway traffic signal installed at a~~  
675 ~~movable bridge to notify traffic to stop during periods when the roadway is closed to allow~~  
676 ~~the bridge to open.~~

677 NCUTCD recommends nesting definitions related to various types of highway traffic signals  
678 within the definition for Highway Traffic Signals per NCUTCD 20B-RW-03.

679 135. Movable Bridge Warning Gate—a type of traffic gate designed to warn, but not primarily  
680 to block, vehicle and/or pedestrian traffic when placed in the appropriate position.

681 136. Multi-Lane—more than one lane moving in the same direction. A multi-lane street,  
682 highway, or roadway has a basic cross-section comprised of two or more through lanes in  
683 one or both directions. A multi-lane approach has two or more lanes moving toward the  
684 intersection, including turning lanes.

685 xxx. Multiple Threat Pedestrian Crash—a crash that involves a driver stopping in one lane of a  
686 multilane road to permit pedestrians to cross, and an oncoming vehicle (in the same  
687 direction) strikes the pedestrian who is crossing in front of the stopped vehicle.

688 NCUTCD recommends adding definition for term used in pedestrian crossing applications,  
689 such as crosswalks, RRFB's, and PHB's. Definition is from "Safety Effects of Marked Versus  
690 Unmarked Crosswalks at Uncontrolled Locations Final Report and Recommended  
691 Guidelines", FHWA-HRT-04-100, 2005.

692 137. Neutral Area—the paved area between the channelizing lines separating an entrance or exit  
693 ramp or a channelized turn lane or channelized entering lane from the adjacent through  
694 lane(s).

695 138. Object Marker—a device used to mark obstructions within or adjacent to the roadway.

696 139. Occupancy Requirement—any restriction that regulates the use of a facility or one or more  
697 lanes of a facility for any period of the day based on a specified number of persons in a  
698 vehicle.

699 140. Occupant—a person driving or riding in a car, truck, bus, or other vehicle.

700 141. On-Street Parking – parking within or along, and accessed directly from, a public roadway  
701 or a site roadway open to public travel.

702 142. Open-Road ETC Lane—a non-attended lane that is designed to allow toll payments to be  
703 electronically collected from vehicles traveling at normal highway speeds. Open-Road ETC  
704 lanes are typically physically separated from the toll plaza, often following the alignment of  
705 the mainline lanes, with toll plaza lanes for cash toll payments being on a different  
706 alignment after diverging from the mainline lanes or a subset thereof.

707 ~~143. Open-Road Tolling—a system designed to allow electronic toll collection (ETC) from~~  
708 ~~vehicles traveling at normal highway speeds. Open-Road Tolling might be used on toll~~  
709 ~~roads or toll facilities in conjunction with toll plazas. Open-Road Tolling is also typically~~  
710 ~~used on managed lanes and on toll facilities that only accept payment by ETC.~~

711 Moved to nested definitions of "Toll Collection".

712 144. Open-Road Tolling Point—the location along an Open-Road ETC lane at which roadside or  
713 overhead detection and receiving equipment are placed and vehicles are electronically  
714 assessed a toll.

715 145. Opposing Traffic—vehicles that are traveling in the opposite direction. At an intersection,  
716 vehicles entering from an approach that is approximately straight ahead would be  
717 considered to be opposing traffic, but vehicles entering from approaches on the left or right  
718 would not be considered to be opposing traffic.

719 146. Option Lane – A lane that widens on the approach to, then splits into two lanes at the  
720 theoretical gore of a decision point or bifurcation to allow traffic within the lane the option  
721 to continue on either route without changing lanes. on a freeway, expressway, or toll road  
722 that is neither the left-most nor right-most lane of the lanes going in one direction, and that  
723 provides access to:

724 (a) both an exit lane and the mainline at a freeway or expressway exit; or

725 (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.

NCUTCD recommends revising the definition of Option Lane as shown above, to be more accurate and consistent with language used in Part 2

147. **Overhead Sign**—a sign that is placed such that a portion or the entirety of the sign or its support is directly above the roadway or shoulder such that vehicles travel below it.  
Typical installations include signs placed on cantilever arms that extend over the roadway or shoulder, on sign support structures that span the entire width of the pavement, on mast arms or span wires either independently or that also support traffic control signals, and on highway bridges that cross over the roadway.
148. **Parking Area**—a parking lot or parking garage that is separated from a roadway. Parallel, perpendicular, or angle parking spaces along a roadway are not considered a parking area.
149. **Parking Space** – an area marked or designated for storage of a vehicle while the driver is not present.
- xxx. 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
- xxx. 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 of a train approaching the grade crossing varies.

NCUTCD recommends addition of the two definitions above, per NCUTCD 13B-RR-01.

150. **Passive Grade Crossing**—a grade crossing where none of the automatic traffic control devices associated with an Active Grade Crossing Warning System are present and at which the traffic control devices consist entirely of signs and/or markings.
151. **Pathway**—a general term denoting a public way for purposes of travel by authorized users outside the traveled way and physically separated from the roadway by an open space or barrier and either within the highway right-of-way or within an independent alignment. Pathways include shared-use paths, but do not include sidewalks.
152. **Pathway Grade Crossing**—the general area where a pathway and railroad or light rail transit tracks cross at the same level, within which are included the tracks, pathway, and traffic control devices for pathway traffic traversing that area.
153. **Paved**—having a roadway surface that has both a structural (weight bearing) and a sealing purpose for the roadway, such as a bituminous surface treatment, mixed bituminous concrete, or Portland cement concrete.
154. **Pedestrian**—a person on foot, in a wheelchair, on skates, or on a skateboard.
155. **Pedestrian Change Interval**—an interval during which the flashing UPRAISED HAND (symbolizing DONT WALK) signal indication is displayed.
156. **Pedestrian Clearance Time**—the time provided for a pedestrian crossing in a crosswalk, after leaving the curb or edge of traveled way, to travel to the far side of the traveled way or to a median.
157. **Pedestrian Facility**—a general term denoting a location where improvements and provisions made to accommodate or encourage walking.
158. **Pedestrian Hybrid Beacon**—~~see Hybrid Beacon—a special type of hybrid beacon used to warn and control traffic at an unsignalized location to assist pedestrians in crossing a street or highway at a marked crosswalk.~~

NCUTCD recommends nesting definitions related to types of hybrid beacons within the definition for Hybrid Beacon per NCUTCD 20B-RW-03.



- 774 159. Pedestrian Signal Head—a signal head, which contains the symbols WALKING PERSON  
775 (symbolizing WALK) and UPRaised HAND (symbolizing DONT WALK), that is installed  
776 to direct pedestrian traffic at a traffic control signal.
- 777 160. Permissive Mode—a mode of traffic control signal operation in which left or right turns are  
778 permitted to be made after yielding to pedestrians, if any, and/or opposing traffic, if any.  
779 When a CIRCULAR GREEN signal indication is displayed, both left and right turns are  
780 permitted unless otherwise prohibited by another traffic control device. When a flashing  
781 YELLOW ARROW or flashing RED ARROW signal indication is displayed, the turn  
782 indicated by the arrow is permitted.
- 783 161. Physical Gore—a longitudinal point where a physical barrier or the lack of a paved surface  
784 inhibits road users from crossing from a ramp or channelized turn lane or channelized  
785 entering lane to the adjacent through lane(s) or vice versa.
- 786 162. Pictograph—a pictorial representation used to identify a governmental jurisdiction, [an area](#)  
787 [of jurisdiction](#), a governmental or other public transportation agency or provider, [a](#)  
788 [military base or branch of service, a governmental approved university or college, a](#)  
789 [government approved institution](#), or a toll payment system.
- 790 NCUTCD recommends retaining 2009 text providing for use of pictographs for “military base  
791 or branch of service”, “government approved university or college”, and “government  
792 approved institution”. NPA preamble language does not explain the purpose of the proposed  
793 deletion and the NCUTCD is not aware of any safety or operational issues with the use of  
794 pictographs for these types of facilities.
- 795 163. Plaque—a traffic control device intended to communicate specific information to road users  
796 through a word, symbol, or arrow legend that is placed immediately adjacent to a sign to  
797 supplement the message on the sign. The difference between a plaque and a sign is that a  
798 plaque cannot be used alone. The designation for a plaque includes a “P” suffix.
- 799 164. Platoon—a group of vehicles or pedestrians traveling together as a group, either voluntarily  
800 or involuntarily, because of traffic signal controls, geometrics, or other factors.
- 801 165. Portable Traffic Control Signal—[see Highway Traffic Signal](#)~~a temporary traffic control~~  
802 ~~signal that is designed so that it can be easily transported and reused at different locations.~~
- 803 NCUTCD recommends nesting definitions related to various types of highway traffic signals  
804 within the definition for Highway Traffic Signals per NCUTCD 20B-RW-03.
- 805 166. Post-Mounted Sign—a sign that is placed to the side of the roadway such that no portion of  
806 the sign or its support is directly above the roadway or shoulder.
- 807 167. Posted Speed Limit—a speed limit determined by law or regulation and displayed on Speed  
808 Limit signs.
- 809 168. Preemption—the transfer of normal operation of a traffic control signal or a hybrid beacon  
810 to a special control mode of operation.
- 811 169. Preferential Lane—a highway lane or set of lanes, or a highway facility, reserved for the  
812 exclusive use of one or more specific types of vehicles or vehicles with at least a specific  
813 number of occupants.
- 814 170. Pre-Signal—[\(see Highway Traffic Signal\)](#)~~traffic control signal faces that are located~~  
815 ~~upstream from a signalized intersection and are operated in conjunction with the traffic~~  
816 ~~control signal faces at the downstream signalized intersection in a manner that is designed~~  
817 ~~to keep the area between the stop line for the upstream traffic control signal faces and the~~  
818 ~~stop line for the downstream signalized intersection clear of queued vehicles. Supplemental~~  
819 ~~near-side traffic control signal faces for the downstream signalized intersection are not~~  
820 ~~considered to be pre-signals.~~
- 821 NCUTCD recommends nesting definitions related to various types of highway traffic signals  
822 within the definition for Highway Traffic Signals per NCUTCD 20B-RW-03.

- 823 171. **Pretimed Operation**—a type of traffic control signal operation in which none of the signal  
824 phases function on the basis of actuation.
- 825 172. **Primary Signal Face**—one of the required or recommended minimum number of signal  
826 faces for a given approach or separate turning movement, but not including near-side signal  
827 faces required as a result of the far-side signal faces exceeding the maximum distance from  
828 the stop line.
- 829 173. **Principal Legend**—place names, street names, and route numbers placed on guide signs.
- 830 174. **Priority Control**—a means by which the assignment of right-of-way is obtained or  
831 modified. 175. **Private Road**—see Site Roadways Open to Public Travel.
- 832 [175. Private Road – see Site Roadways Open to Public Travel.](#)
- 833 Definition not included in NPA “clean text” provided by FHWA; however, it is simply  
834 referring reader to another location, as shown in the NPA “marked up text”. NCUTCD agrees  
835 with having this cross-reference in the definitions.
- 836 **176. Professional Engineer (P.E.)**—An individual who has fulfilled education and experience  
837 requirements and passed examinations that, under State licensure laws, permit the  
838 individual to offer engineering services within areas of expertise directly to the public.
- 839 177. **Protected Mode**—a mode of traffic control signal operation in which left or right turns are  
840 permitted to be made when a left or right GREEN ARROW signal indication is displayed.
- 841 178. **Public Road**—any road, street, or similar facility under the jurisdiction of and maintained  
842 by a public agency and open to public travel.
- 843 179. **Pushbutton**—a button to activate a device or signal timing for pedestrians, bicyclists, or  
844 other road users.
- 845 180. **Pushbutton Information Message**—a recorded message that can be actuated by pressing a  
846 pushbutton when the walk interval is not timing and that provides the name of the street  
847 that the crosswalk associated with that particular pushbutton crosses and can also provide  
848 other information about the intersection signalization or geometry.
- 849 181. **Pushbutton Locator Tone**—a repeating sound that informs approaching pedestrians that a  
850 pushbutton exists to actuate pedestrian timing or receive additional information and that  
851 enables pedestrians who have visual disabilities to locate the pushbutton.
- 852 182. **Queue Clearance Time**—when used in Part 8, the time required for the design vehicle of  
853 maximum length stopped just inside the minimum track clearance distance to start up and  
854 move through and clear the entire minimum track clearance distance.
- 855 183. **Queue Cutter Signal**—~~see Highway Traffic Signal an independently controlled traffic~~  
856 ~~control signal (not operated in conjunction with the traffic control signal faces at a~~  
857 ~~downstream signalized intersection) located at a grade crossing that controls traffic in one~~  
858 ~~direction only on the roadway for the purpose of minimizing vehicular queuing across the~~  
859 ~~tracks. The display of red signal indications is activated from a downstream queue~~  
860 ~~detection system, by time of day, by approaching rail traffic, by an approaching bus on a~~  
861 ~~busway, or by a combination of any of these methods.~~
- 862 NCUTCD recommends revisions shown in definition, moved to nested Highway Traffic  
863 Signal definitions.
- 864 184. **Quiet Zone**—a segment of a rail line, within which is situated one or a number of  
865 consecutive public highway-rail grade crossings at which locomotive horns are not routinely  
866 sounded per 49 CFR Part 222.
- 867 185. **Rail Traffic**—every device in, upon, or by which any person or property can be transported  
868 on rails or tracks and to which all other traffic must yield the right-of-way by law at grade  
869 crossings, including trains, one or more locomotives coupled (with or without cars), other  
870 railroad equipment, and light rail transit operating in exclusive or semi-exclusive  
871 alignments. Light rail transit operating in a mixed-use alignment, to which other traffic is

- 872 not required to yield the right-of-way by law, is a vehicle and is not considered to be rail  
873 traffic.
- 874 186. Raised Pavement Marker—a device mounted on or in a road surface that has a height  
875 generally not exceeding approximately 1 inch above the road surface for a permanent  
876 marker, or not exceeding approximately 2 inches above the road surface for a temporary  
877 flexible marker, and that is intended to be used as a positioning guide and/or to supplement  
878 or substitute for pavement markings. Raised pavement markers might also be recessed into  
879 or flush with the pavement surface.
- 880 187. Ramp Control Signal—~~see Highway Traffic Signal~~~~a highway traffic signal installed to~~  
881 ~~control the flow of traffic onto a freeway at an entrance ramp or at a freeway-to-freeway~~  
882 ~~ramp connection.~~
- 883 NCUTCD recommends nesting definitions related to various types of highway traffic signals  
884 within the definition for Highway Traffic Signals, per NCUTCD 20B-RW-03.
- 885 188. Ramp Meter—see ~~Ramp Control~~ Highway Traffic Signal
- 886 NCUTCD recommends nesting definitions related to various types of highway traffic signals  
887 within the definition for Highway Traffic Signals, per NCUTCD 20B-RW-03.
- 888 189. Reconstructed—a term used to describe a roadway or a traffic control device. When used  
889 to describe a roadway, it describes a roadway that has been rebuilt or restored to its former  
890 use or that has been improved through major renovation of its structural elements. When  
891 used to describe a traffic control device, it describes a device that has been rebuilt or  
892 improved through major renovation of its structural or control elements.
- 893 190. Rectangular Rapid-Flashing Beacon—a pedestrian-activated device comprising two  
894 horizontally arranged, rapidly flashed, rectangular-shaped yellow indications that is used to  
895 provide supplemental emphasis for a pedestrian, school, or trail crossing warning sign at a  
896 marked crosswalk across an uncontrolled approach.
- 897 191. Red Clearance Interval—an interval that follows a yellow change interval and precedes the  
898 next conflicting green interval.
- 899 192. Regulatory Sign—a sign that gives notice to road users of traffic laws or regulations.
- 900 193. Retroreflectivity—a property of a surface that allows a large portion of the light coming  
901 from a point source to be returned directly back to a point near its origin.
- 902 194. Right-of-Way [Assignment]—the permitting of vehicles and/or pedestrians to proceed in a  
903 lawful manner in preference to other vehicles or pedestrians by the display of a sign or  
904 signal indications.
- 905 195. Right-of-Way, Public Highway—the limits of real property, including the traveled way,  
906 shoulders, median, and the land alongside, that are owned by the public highway agency  
907 having jurisdiction. ~~The land within these limits is dedicated to highway uses, including~~  
908 ~~roadside areas such as rest areas, scenic overlooks, and weigh stations.~~
- 909 NCUTCD recommends deleting the second sentence because it moves beyond a definition and  
910 is not appropriate for the MUTCD. Also, not all public highways are maintained within  
911 rights-of-way owned by the agency as “real property”. Some public highways are maintained  
912 through right-of-way easements, including public highways through Federal lands, such as  
913 national forests.
- 914 xxx. Right of Way Transfer Time-when used in Part 8, the maximum amount of time needed  
915 prior to display of the track clearance interval.
- 916 NCUTCD recommends definition be moved from proposed 8D.10 and located here in Section  
917 1C.02.
- 918 196. Road—see Roadway.
- 919 197. Road User—a vehicle operator, bicyclist, or pedestrian, including persons with disabilities,  
920 within the highway or on a site roadway open to public travel.

- 921 198. Roadway—that portion of a highway improved, designed, or ordinarily used for vehicular  
922 travel and parking lanes, but exclusive of the sidewalk, berm, or shoulder even though such  
923 sidewalk, berm, or shoulder is used by persons riding bicycles or other human-powered  
924 vehicles. In the event a highway includes two or more separate roadways, the term  
925 roadway as used in this Manual shall refer to any such roadway separately, but not to all  
926 such roadways collectively.
- 927 199. Roadway Network—a geographical arrangement of intersecting roadways.
- 928 200. Roundabout—a circular intersection with yield control at entry, which permits a vehicle on  
929 the circulatory roadway to proceed, and with deflection of the approaching vehicle counter-  
930 clockwise around a central island.
- 931 201. Rumble Strip—a series of intermittent, narrow, transverse areas of rough-textured, slightly  
932 raised, or depressed road surface that extend across the travel lane to alert road users to  
933 unusual traffic conditions or are located along the shoulder, along the roadway center line,  
934 or within islands formed by pavement markings to alert road users that they are leaving the  
935 travel lanes.
- 936 202. Rural Highway—a type of roadway normally characterized by lower volumes, higher  
937 speeds, fewer turning conflicts, and less conflict with pedestrians.
- 938 203. School—a public or private educational institution recognized by the State education  
939 authority for one or more grades K through 12 or as otherwise defined by the State.
- 940 204. School Zone—a designated roadway segment approaching, adjacent to, and beyond school  
941 buildings or grounds, or along which school related activities occur.
- 942 205. Semi-Actuated—a type of traffic control signal operation in which at least one, but not all,  
943 signal phases function on the basis of actuation.
- 944 206. Semi-Exclusive Alignment—a light rail transit track(s) or a bus rapid transit busway that is  
945 in a separate right-of-way or that is along a street or railroad right-of-way where motor  
946 vehicles, bicycles, and pedestrians have limited access and cross only at designated  
947 locations, such as at grade crossings where road users must yield the right-of-way to the  
948 light rail transit or the bus rapid transit traffic.
- 949 xxx. Separation Time—the component of maximum highway traffic signal preemption time  
950 during which the minimum track clearance distance is clear of vehicular traffic prior to the  
951 arrival of rail traffic.
- 952 **NCUTCD recommends retaining definition from 2009 MUTCD and located her in Section**  
953 **1C.02.**
- 954 207. Separate Turn Signal Face—a signal face that exclusively controls a turn movement and  
955 that displays signal indications that are applicable only to the turn movement.
- 956 208. Serviceable—the condition of a traffic control device in which it appears and operates as  
957 intended, until it requires replacement due to damage or wear. Whether a device is  
958 serviceable will depend on the type of device under consideration. In general, if the device is  
959 capable of being serviced with minimal effort or replacement parts so that it continues to  
960 appear and operate as intended, and the device is otherwise substantially intact, then it can  
961 be considered to be in serviceable condition. If the device is damaged or not operational  
962 beyond reasonable repair, then it is likely no longer serviceable.
- 963 209. Shared Roadway—a roadway that is officially designated and marked as a bicycle route,  
964 but which is open to motor vehicle travel and upon which no bicycle lane is designated.
- 965 210. Shared Turn Signal Face—a signal face, for controlling both a turn movement and the  
966 adjacent through movement, that always displays the same color of circular signal  
967 indication that the adjacent through signal face or faces display.
- 968 211. Shared-Use Path—a bikeway outside the traveled way and physically separated from  
969 motorized vehicular traffic by an open space or barrier and either within the highway  
970 right-of-way or within an independent alignment. Shared-use paths are also used by

971 pedestrians (including skaters, users of manual and motorized wheelchairs, and joggers)  
972 and other authorized motorized and non-motorized users.  
973 212. Shoulder---a longitudinal area contiguous with the traveled way ~~that is primarily~~ used for  
974 accommodation of stopped vehicles for emergency use and for lateral support of base and  
975 surface courses, and that is graded for emergency stopping. A shoulder might be paved or  
976 unpaved. A paved shoulder might be opened to ~~part-time~~ travel by some ~~or all~~ vehicles, or  
977 by all vehicles at certain times, and might also be used by pedestrians.

978 NCUTCD recommends the changes shown above because the shoulder is often used by  
979 bicyclists and pedestrians.

980 213. Sidewalk—that portion of a street between the curb line, or the lateral line of a roadway,  
981 and the adjacent property line or on easements of private property that is paved or  
982 improved and intended for use by pedestrians.

983 214. Sidewalk Grade Crossing – the portion of a highway-rail grade crossing or of a highway-  
984 light rail transit grade crossing where a sidewalk and railroad tracks or a sidewalk and  
985 light rail transit tracks cross at the same level, within which are included the tracks,  
986 sidewalk, and traffic control devices for sidewalk users traversing that area.

987 215. Sign—with regard to controlling traffic, any traffic control device that is intended to  
988 communicate specific information to road users through a word, symbol, and/or arrow  
989 legend. Signs do not include highway traffic signals, pavement markings, delineators, or  
990 channelization devices. Signs whose purpose is unrelated to traffic control are addressed in  
991 Section 1D.04.

992 (a) Static Sign – a traffic control device that permanently displays a constant message(s)  
993 through a word, symbol and/or arrow legend.

994 (b) Changeable Message Sign – (also called a Variable Message Sign) a traffic control device  
995 that is capable of displaying one or more alternative messages and/or symbols used for  
996 active traffic management, regulation, warning, guidance and applications listed in  
997 Section 2L.02). Changeable message signs include, but are not limited to:

998 i. Dynamic Message Sign - a full matrix, high definition unit that is capable of  
999 displaying multiple text and symbol traffic control devices and messages, replicating  
1000 traffic control devices with no apparent loss of resolution or recognition.

1001 ii. Hybrid Sign - combines both static and dynamic elements in one traffic control  
1002 display. Dynamic element examples include variable speed limits, vehicle speed  
1003 feedback and travel time displays.

1004 iii. Blank-Out Sign – displays a single predetermined message only when activated.  
1005 When not activated, the sign legend is not visible.

1006 iv. Line Matrix Sign - displays characters in lines of text, sometimes in groups of  
1007 character matrix, line matrix or full matrix. The sign does not display traffic control  
1008 device symbols, only text (alpha, numeric, keyboard symbol) and can be fixed-  
1009 location or portable.

1010 NCUTCD recommends moving definition of Changeable Message Sign, with new text per  
1011 NCUTCD 20B-RW-03, to nested definition for Sign, including 4 sub-categories of  
1012 Changeable Message Sign.

1013 216. Sign Assembly—a group of signs, located on the same support(s), that supplement one  
1014 another in conveying information to road users.

1015 217. Sign Illumination—either internal or external lighting that shows similar color by day or  
1016 night. Street or highway lighting shall not be considered as meeting this definition.

1017 218. Sign Legend—all word messages, logos, pictographs, and symbol and arrow designs that  
1018 are intended to convey specific meanings. The border, if any, on a sign is not considered to  
1019 be a part of the legend.

- 1020 219. Sign Panel—a separate panel or piece of material containing a word, logo, pictograph,  
 1021 symbol, and/or arrow legend that is affixed to the face of a sign.
- 1022 xxx. Signal—see Highway Traffic Signal
- 1023 NCUTCD recommends nesting definitions related to various types of highway traffic signals  
 1024 within the definition for Highway Traffic Signals per NCUTCD 20B-RW-03.
- 1025 220. Signal Backplate—a thin strip of material that extends outward from and parallel to a  
 1026 signal face on all sides of a signal housing to provide a background for improved visibility of  
 1027 the signal indications.
- 1028 221. Signal Coordination—the establishment of timed relationships between adjacent traffic  
 1029 control signals.
- 1030 222. Signal Dimming—a reduction of the light output from a signal indication, hybrid beacon, or  
 1031 rectangular rapid-flashing beacon indication, typically for nighttime conditions, to a value  
 1032 that is below the minimum specified intensity for daytime conditions. If a variety of  
 1033 intensity levels are used during daytime conditions and all of the various levels (including  
 1034 the lowest of the intensities) are above the minimum specified intensity for daytime  
 1035 conditions, this would not be considered to be signal dimming.
- 1036 223. Signal Face—an assembly of one or more signal sections that is provided for controlling one  
 1037 or more traffic movements on a single approach.
- 1038 224. Signal Head—an assembly of one or more signal faces that is provided for controlling  
 1039 traffic movements on one or more approaches.
- 1040 225. Signal Housing—that part of a signal section that protects the light source and other  
 1041 required components.
- 1042 226. Signal Indication—the illumination of a signal lens or equivalent device.
- 1043 227. Signal Lens—that part of the signal section that redirects the light coming directly from the  
 1044 light source and its reflector, if any.
- 1045 228. Signal Louver—a device that can be mounted inside a signal visor to restrict visibility of a  
 1046 signal indication from the side or to limit the visibility of the signal indication to a certain  
 1047 lane or lanes, or to a certain distance from the stop line.
- 1048 229. Signal Phase—the right-of-way, yellow change, and red clearance intervals in a cycle that  
 1049 are assigned to an independent traffic movement or combination of movements.
- 1050 230. Signal Section—the assembly of a signal housing, signal lens, if any, and light source with  
 1051 necessary components to be used for displaying one signal indication.
- 1052 231. Signal Sequence (Sequence of Indications)—the order of appearance of signal indications  
 1053 during successive intervals of a signal cycle.
- 1054 232. Signal System—two or more traffic control signals operating in signal coordination.
- 1055 233. Signal Timing—the amount of time allocated for the display of a signal indication.
- 1056 234. Signal Visor—that part of a signal section that directs the signal indication specifically to  
 1057 approaching traffic and reduces the effect of direct external light entering the signal lens.
- 1058 235. Signing—individual signs or a group of signs, not necessarily on the same support(s), that  
 1059 supplement one another in conveying information to road users.
- 1060 [xxx.Simultaneous Preemption—notification of approaching rail traffic is forwarded to the](#)  
 1061 [highway traffic signal controller unit or assembly and railroad or light rail transit active](#)  
 1062 [warning devices at the same time.](#)
- 1063 NCUTCD recommends retaining definition from 2009 MUTCD and locating it here in Section  
 1064 1C.02.
- 1065 236. Site Roadways Open to Public Travel –Roadways and bikeways on sites of shopping  
 1066 centers, office parks, airports, schools, universities, sports arenas, recreational parks, and  
 1067 other similar business, governmental, and/or recreation facilities that are publicly or  
 1068 privately owned but where the public is allowed to travel without full-time access  
 1069 restrictions. Two types of roadways are not included in this definition: (1) roadways where

- 1070 access is restricted at all times by gates and/or guards to residents, employees or other  
 1071 specifically authorized persons; and (2) private highway-rail grade crossings. Site roadways  
 1072 open to public travel do not include parking areas, including the driving aisles (see  
 1073 Definition 148) within those parking areas.
- 1074 237. Special-Purpose Road—a low-volume, low-speed road that serves recreational areas or  
 1075 resource development activities.
- 1076 238. Speed—speed is defined based on the following classifications:
- 1077 (a) Average Speed—the summation of the instantaneous or spot-measured speeds at a  
 1078 specific location of vehicles divided by the number of vehicles observed.
  - 1079 (b) Design Speed—a selected speed used to determine the various geometric design features  
 1080 of a roadway.
  - 1081 (c) 85<sup>th</sup>-Percentile Speed—the speed at or below which 85 percent of the motor vehicles  
 1082 travel.
  - 1083 (d) Operating Speed—a speed at which a typical vehicle or the overall traffic operates.  
 1084 Operating speed might be defined with speed values such as the average, pace, or 85<sup>th</sup>-  
 1085 percentile speeds.
  - 1086 (e) Pace—the 10 mph speed range representing the speeds of the largest percentage of  
 1087 vehicles in the traffic stream.
- 1088 239. Speed Limit—the maximum (or minimum) speed applicable to a section of highway as  
 1089 established by law or regulation.
- 1090 240. Speed Limit Sign Beacon—~~see Beacon a beacon used to supplement a SPEED LIMIT sign.~~  
 1091 NCUTCD recommends nesting definitions related to various types of beacons within the  
 1092 definition for Beacon per NCUTCD 20B-RW-03.
- 1093 241. Speed Measurement Markings—a white transverse pavement marking placed on the  
 1094 roadway to assist the enforcement of speed regulations.
- 1095 242. Speed Zone—a section of highway with a speed limit that is established by law or  
 1096 regulation, but which might be different from a legislatively specified statutory speed limit.
- 1097 243. Splitter Island—a median island used to separate opposing directions of traffic entering and  
 1098 exiting a roundabout.
- 1099 244. Station Crossing—a pathway grade crossing that is associated with a station platform.
- 1100 245. Statutory Speed Limit—a speed limit established by legislative action (e.g., Federal or State  
 1101 law) that typically is applicable for a particular class of highways with specified design,  
 1102 functional, jurisdictional and/or location characteristics and that is not necessarily  
 1103 displayed on Speed Limit signs.
- 1104 246. Steady (Steady Mode)—the continuous display of a signal indication for the duration of an  
 1105 interval, signal phase, or consecutive signal phases.
- 1106 247. Stop Beacon—~~see Beacon a beacon used to supplement a STOP sign, a DO NOT ENTER~~  
 1107 ~~sign, or a WRONG WAY sign.~~  
 1108 NCUTCD recommends nesting definitions related to various types of beacons within the  
 1109 definition for Beacon per NCUTCD 20B-RW-03.
- 1110 248. Stop Line—a solid white pavement marking line extending across approach lanes to  
 1111 indicate the point at which a stop is intended or required to be made.
- 1112 249. Street—see Highway.
- 1113 250. Supplemental Signal Face—a signal face that is not a primary signal face but which is  
 1114 provided for a given approach or separate turning movement to enhance visibility or  
 1115 conspicuity.
- 1116 252. Symbol—the approved design of a pictorial or graphical representation of a specific traffic  
 1117 control message for signs, pavement markings, traffic control signals, or other traffic  
 1118 control devices, as shown in the MUTCD.

- 1119 253. Temporary Traffic Control Signal—see Highway Traffic Signal ~~a traffic control signal that is~~  
 1120 ~~installed for a limited time period.~~  
 1121 NCUTCD recommends nesting definitions related to various types of highway traffic signals  
 1122 within the definition for Highway Traffic Signals per NCUTCD 20B-RW-03.
- 1123 254. Temporary Traffic Control Zone—an area of a highway where road user conditions are  
 1124 changed because of a work zone or incident by the use of temporary traffic control devices,  
 1125 flaggers, uniformed law enforcement officers, or other authorized personnel.
- 1126 255. Theoretical Gore—a longitudinal point at the upstream end of a neutral area at an exit  
 1127 ramp or channelized turn lane where the channelizing lines that separate the ramp or  
 1128 channelized turn lane from the adjacent through lane(s) begin to diverge, or a longitudinal  
 1129 point at the downstream end of a neutral area at an entrance ramp or channelized entering  
 1130 lane where the channelizing lines that separate the ramp or channelized entering lane from  
 1131 the adjacent through lane(s) intersect each other.
- 1132 256. Through Train—a train movement that continues without stopping or reversing direction  
 1133 throughout the entire length of the rail traffic detection circuit length approaching a  
 1134 highway-rail grade crossing.
- 1135 257. Timed Exit Gate Operating Mode—a mode of operation where the exit gate descent at a  
 1136 grade crossing is based on a predetermined time interval.
- 1137 258. Toll Booth—a shelter where a toll attendant is stationed to collect tolls or issue toll tickets.  
 1138 A toll booth is located adjacent to a toll lane and is typically set on a toll island.
- 1139 xxx. Toll Collection—A combination of manual or electronic methods and elements used to  
 1140 collect a fee for use of a toll facility.
- 1141 (a) Electronic Toll Collection – a cashless system for automated collection of tolls from  
 1142 moving ~~or stopped~~ vehicles through wireless technologies such as radio-frequency  
 1143 communication or optical scanning. ETC systems are classified as one of the following:  
 1144 (1) systems that require users to have registered toll accounts, with the use of equipment  
 1145 inside or on the exterior of vehicles, such as a transponder or barcode decal, that  
 1146 communicates with or is detected by roadside or overhead receiving equipment, or with  
 1147 the use of license plate optical scanning, to automatically deduct the toll from the  
 1148 registered user account, ~~or~~ (2) systems that do not require users to have registered toll  
 1149 accounts because vehicle license plates are optically scanned and invoices for the toll  
 1150 amount ~~are~~ may be sent through postal mail to the address of the vehicle owner, or (3)  
 1151 systems that allow electronic toll collection for both registered and non-registered toll  
 1152 accounts.
- 1153 i. All-Electronic Tolling (AET)—a system designed to allow electronic toll collection  
 1154 (ETC) from vehicles travelling at posted or reduced speeds without stopping on a  
 1155 mainline or through a conventional toll plaza.
- 1156 ii. Open Road Tolling (ORT)— a system designed to allow electronic toll collection  
 1157 (ETC) from vehicles traveling at ~~normal~~ posted ~~highway~~ speeds. Open-Road  
 1158 Tolling might be used on toll roads or toll facilities in conjunction with toll plazas.  
 1159 Open-Road Tolling is also typically used on managed lanes and on toll facilities that  
 1160 only accept payment by ETC.
- 1161 (b) Manual Toll Collection—a system of toll collection from stopped vehicles through  
 1162 acceptance of cash, toll tickets, tokens, or credit cards, and may involve issuance of  
 1163 receipts. Toll collection may be by a machine or toll booth attendant.
- 1164 i. Toll Ticket System-- a toll system ~~in which~~ where the user of a toll road must stop to  
 1165 receive a ticket from a machine or toll booth attendant ~~upon entering a toll system.~~  
 1166 The ticket denotes the user’s point of entry and, upon exiting the toll system, the  
 1167 user surrenders the ticket and is charged a toll based on the distance traveled  
 1168 between the points of entry and exit.



- 1169 ii. Attended Lane (Manual Lane)-- a toll lane adjacent to a toll booth occupied by a  
 1170 human toll collector who makes change, issues receipts, and perform other toll-  
 1171 related functions. Attended lanes at toll plazas typically require vehicles to stop to  
 1172 pay the toll.
- 1173 iii. Exact Change Lane (Automatic Lane)-- a non-attended toll lane that has a  
 1174 receptacle into which road users deposit coins totaling the exact amount of the toll.  
 1175 Exact Change lanes at toll plazas typically require vehicles to stop to pay the toll.

1176 NCUTCD recommends the changes shown above, which primarily reorganizes existing  
 1177 MUTCD Definitions. New language is minimal. It introduces one new definition for  
 1178 electronic tolling (commonly used in the industry and by the public) and two broad definitions  
 1179 to differentiate manual and electronic methods of toll collection. NCUTCD recommends that  
 1180 only the definitions shown above be nested here. These are generally related to methods of  
 1181 toll collection. Other toll-related definitions, related to a specific geometric feature or point, are  
 1182 recommended to not be nested here.

- 1183 259. Toll Island—a raised island on which a toll booth or other toll collection and related  
 1184 equipment are located.
- 1185 260. Toll Lane—an individual lane located within a toll plaza in which a toll payment is collected  
 1186 or, for toll-ticket systems, a toll ticket is issued.
- 1187 261. Toll Plaza—the location at which tolls are collected consisting of a grouping of toll booths,  
 1188 toll islands, toll lanes, and, typically, a canopy. Toll plazas might be located on highway  
 1189 mainlines or on interchange ramps. A mainline toll plaza is sometimes referred to as a  
 1190 barrier toll plaza because it interrupts the traffic flow.
- 1191 262. Toll Road (facility)--a road or facility that is open to traffic ~~only~~ by payment of a ~~user~~ toll  
 1192 or fee.

1193 NCUTCD recommends editorial change to definition of Toll Road (facility) as noted above.

1194 ~~263. Toll Ticket System—a system in which the user of a toll road receives a ticket from a~~  
 1195 ~~machine or toll booth attendant upon entering a toll system. The ticket denotes the user’s~~  
 1196 ~~point of entry and, upon exiting the toll system, the user surrenders the ticket and is~~  
 1197 ~~charged a toll based on the distance traveled between the points of entry and exit.~~

1198 Moved to nested definitions of “Toll collection”.

- 1199 264. Traffic—pedestrians, bicyclists, ridden or herded animals, vehicles, streetcars, and other  
 1200 conveyances either singularly or together while using for purposes of travel any highway or  
 1201 site roadway open to public travel.
- 1202 265. Traffic Control Device—all signs, signals, markings, channelization devices, or other  
 1203 devices that use colors, shapes, symbols, words, sounds, and/or tactile information for the  
 1204 primary purpose of communicating a regulatory, warning, or guidance message to road  
 1205 users on a street, highway, pedestrian facility, bikeway, pathway, or site roadway open to  
 1206 public travel. See Section 1A.02 regarding items that are not traffic control devices.  
 1207 ~~Infrastructure elements that restrict the road user’s travel paths or vehicle speeds, such as~~  
 1208 ~~curbs, speed humps, and other raised roadway surfaces, are not traffic control devices.~~  
 1209 ~~Transverse or longitudinal rumble strips are also not traffic control devices. Operational~~  
 1210 ~~devices associated with the application of traffic control strategies such as in-vehicle~~  
 1211 ~~electronics, fencing, roadway lighting, barriers, and attenuators are shown in the Manual~~  
 1212 ~~for context but their design, application, and usage are not specified since they are not~~  
 1213 ~~traffic control devices.~~

1214 NCUTCD recommends deleting material that is not part of a “definition” and moving the  
 1215 deleted material to proposed Section 1A.02 as referenced here.

- 1216 266. Traffic Control Signal (Traffic Signal)—see Highway Traffic Signal~~any highway traffic~~  
 1217 ~~signal by which traffic is alternately directed to stop and permitted to proceed. These~~

1218 ~~devices do not include pedestrian hybrid beacons (see Chapter 4J) or emergency vehicle~~  
1219 ~~hybrid beacons (see Chapter 4N).~~

1220 NCUTCD recommends nesting definitions related to various types of highway traffic signals  
1221 within the definition for Highway Traffic Signals per NCUTCD 20B-RW-03.

1222 267. Train—one or more locomotives coupled, with or without cars, that operates on rails or  
1223 tracks and to which all other traffic must yield the right-of-way by law at highway-rail  
1224 grade crossings.

1225 268. Transverse Markings—pavement markings that are generally placed perpendicular and  
1226 across the flow of traffic such as shoulder markings; word, symbol, and arrow markings;  
1227 stop lines; crosswalk lines; speed measurement markings; parking space markings; and  
1228 others.

1229 269. Traveled Way—the portion of the roadway for the movement of vehicles, exclusive of the  
1230 shoulders, berms, sidewalks, and parking lanes.

1231 270. Turn Bay—a lane for the exclusive use of turning vehicles that is formed on the approach to  
1232 the location where the turn is to be made. In most cases where turn bays are provided,  
1233 drivers who desire to turn must move out of a through lane into the newly formed turn bay  
1234 in order to turn. A through lane that becomes a turn lane is considered to be a dropped  
1235 lane rather than a turn bay.

1236 xxx. Two-Stage Bicycle Turn Box—a designated area at an intersection intended to provide  
1237 bicyclists a place to wait for traffic to clear before proceeding in a different direction of  
1238 travel.

1239 NCUTCD recommends adding definition per NCUTCD 14B-BIK-01, and edited to agree with  
1240 term used in Part 9. NCUTCD recommends that all definitions be included in Section 1C.02,  
1241 the section reserved for definitions, so that they are conveniently located for users of the  
1242 MUTCD.

1243 271. Uncontrolled Approach—an approach on which vehicles are not controlled by a traffic  
1244 control signal, hybrid beacon, STOP sign, or YIELD sign.

1245 272. Upstream—a term that refers to a location that is encountered by traffic prior to a  
1246 downstream location as it flows in an “upstream to downstream” direction. For example,  
1247 “the upstream end of a lane line separating the turn lane from a through lane on the  
1248 approach to an intersection” is the end of the line that is furthest from the intersection.

1249 273. Urban Street—a type of street normally characterized by relatively low speeds, wide ranges  
1250 of traffic volumes, narrower lanes, frequent intersections and driveways, significant  
1251 pedestrian traffic, and more businesses and houses.

1252 274. Variable Message Sign—see ~~Changeable Message Sign~~.

1253 NCUTCD recommends definition be moved to be nested within definition of Sign per  
1254 NCUTCD 20B-RW-03.

1255 275. Vehicle—every device in, upon, or by which any person or property can be transported or  
1256 drawn upon a highway, except trains and light rail transit operating in exclusive or semi-  
1257 exclusive alignments. Light rail transit equipment operating in a mixed-use alignment, to  
1258 which other traffic is not required to yield the right-of-way by law, is a vehicle.

1259 276. Vibrotactile Pedestrian Device—an accessible pedestrian signal feature that communicates,  
1260 by touch, information about pedestrian timing using a vibrating surface.

1261 277. Visibility-Limited Signal Face or Visibility-Limited Signal Section—a type of signal face or  
1262 signal section designed (or shielded, hooded, or louvered) to restrict the visibility of a signal  
1263 indication from the side, to a certain lane or lanes, or to a certain distance from the stop  
1264 line.

1265 278. Walk Interval—an interval during which the WALKING PERSON (symbolizing WALK)  
1266 signal indication is displayed.

1267 279. **Warning Beacon**—~~see Beacon a beacon used only to supplement an appropriate warning or~~  
1268 ~~regulatory sign or marker.~~

1269 NCUTCD recommends nesting definitions related to various types of beacons within the  
1270 definition for Beacon per NCUTCD 20B-RW-03.

1271 280. **Warning Light**—a portable, powered, yellow, lens-directed, enclosed light that is used in a  
1272 temporary traffic control zone in either a steady burn or a flashing mode.

1273 281. **Warning Sign**—a sign that gives notice to road users of a situation that might not be readily  
1274 apparent.

1275 282. **Warrant**—a warrant describes a threshold condition based upon average or normal  
1276 conditions that, if found to be satisfied as part of an engineering study, shall result in  
1277 analysis of other traffic conditions or factors to determine whether a traffic control device  
1278 or other improvement is justified. Warrants are not a substitute for engineering judgment.  
1279 The fact that a warrant for a particular traffic control device is met is not conclusive  
1280 justification for the installation of the device.

1281 xxx. **Wayside Equipment**—the signals, switches, and/or control devices for railroad or  
1282 light rail transit operations housed within one or more enclosures located along the  
1283 railroad or light rail transit right of way and/or on railroad or light rail transit  
1284 property.

1285 NCUTCD recommends retaining definition from 2009 MUTCD and locating it here in Section  
1286 1C.02.

1287 283. **Wayside Horn System**—a stationary horn (or series of horns) located at a grade crossing  
1288 that is used in conjunction with train-activated or light rail transit-activated warning  
1289 systems to provide audible warning of approaching rail traffic to road users on the highway  
1290 or pathway approaches to a grade crossing, either as a supplement or alternative to the  
1291 sounding of a locomotive horn.

1292 284. **Worker**—a person on foot whose duties place him or her within the right-of-way of a street,  
1293 highway, or pathway, such as: construction and maintenance forces; survey crews; utility  
1294 crews; responders to incidents within the right-of-way; and law enforcement personnel  
1295 when directing traffic, investigating crashes, and handling lane closures, obstructed  
1296 roadways, and disasters within the right-of-way.

1297 285. **Wrong-Way Arrow**—a slender, elongated, white pavement marking arrow placed upstream  
1298 from the ramp terminus to indicate the correct direction of traffic flow. Wrong-way arrows  
1299 are intended primarily to warn wrong-way road users that they are going in the wrong  
1300 direction.

1301 286. **Yellow Change Interval**—the first interval following the green or flashing arrow  
1302 interval during which the steady yellow signal indication is displayed.

1303 287. **Yield Line**—a row of solid white isosceles triangles pointing toward approaching  
1304 vehicles extending across approach lanes to indicate the point at which the yield is  
1305 intended or required to be made.

---

1307  
1308 Section 1C.03 Comment: NCUTCD agrees with Section 1C.03 as presented in the NPA, except  
1309 that we recommend adding the abbreviation “mm” for millimeter, which is used in Parts 2 and 4.  
1310

### 1311 Section 1C.03 Meanings of Acronyms and Abbreviations Used in this Manual

#### 1312 Standard:

1313 The following acronyms and abbreviations, when used in this Manual, shall have the following  
1314 meanings:

- 1315 1. AADT—annual average daily traffic
- 1316 2. AASHTO—American Association of State Highway and Transportation Officials
- 1317 3. ADA—Americans with Disabilities Act
- 1318 4. ADAAG—Americans with Disabilities Accessibility Guidelines
- 1319 5. ADT—average daily traffic
- 1320 6. AFAD—Automated Flagger Assistance Device
- 1321 7. ANSI—American National Standards Institute
- 1322 8. cd/lx/m2---candelas per lux per square meter
- 1323 9. CFR—Code of Federal Regulations
- 1324 10. CMS—changeable message sign
- 1325 11. dBA—A-weighted decibels
- 1326 12. ETC—electronic toll collection
- 1327 13. EV—electric vehicle
- 1328 14. FHWA—Federal Highway Administration
- 1329 15. FRA—Federal Railroad Administration
- 1330 16. ft --- foot or feet
- 1331 17. FTA—Federal Transit Administration
- 1332 18. HOV—high-occupancy vehicle
- 1333 19. ILEV—inherently low-emission vehicle
- 1334 20. in---inch(es)
- 1335 21. ISEA—International Safety Equipment Association
- 1336 22. ITE—Institute of Transportation Engineers
- 1337 23. ITS—intelligent transportation systems
- 1338 24. LED—light-emitting diode
- 1339 25. LP—liquid petroleum
- 1340 26. LRT—light rail transit
- 1341 27. mi --- mile(s)
- 1342 xx. mm—millimeter(s)
- 1343 28. MPH or mph—miles per hour
- 1344 29. MUTCD—Manual on Uniform Traffic Control Devices for Streets and Highways
- 1345 30. NCHRP—National Cooperative Highway Research Program
- 1346 31. ORT—open-road tolling
- 1347 32. PRT—perception-response time
- 1348 33. RPM—raised pavement marker
- 1349 34. RV—recreational vehicle
- 1350 35. TRB—Transportation Research Board
- 1351 36. TTC—temporary traffic control
- 1352 37. U.S.—United States
- 1353 38. U.S.C.—United States Code
- 1354 39. USDOT—United States Department of Transportation
- 1355 40. UVC—Uniform Vehicle Code
- 1356 41. VPH or vph—vehicles per hour