

## CHAPTER 1C. DEFINITIONS, ACRONYMS, AND ABBREVIATIONS USED IN THIS MANUAL

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

#### Standard:

- 01 When used in this Manual, the text headings of Standard, Guidance, Option, and Support shall be defined as follows:
- A. **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.03) 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.
  - B. **Guidance**—a statement of recommended practice in typical situations, with deviations allowed if engineering judgment or engineering study (see Section 1D.03) indicates the deviation to be appropriate. All Guidance statements are labeled, and the text appears in unbold italic type. The verb “should” is typically used. The verbs “shall” and “may” are not used in Guidance statements. Guidance statements are sometimes modified by Option statements.
  - C. **Option**—a statement of practice that is a permissive condition and carries no requirement or recommendation. Option statements sometimes contain allowable modifications to a Standard or Guidance statement. All Option statements are labeled, and the text appears in unbold type. The verb “may” is typically used. The verbs “shall” and “should” are not used in Option statements.
  - D. **Support**—an informational statement that does not convey any degree of mandate, recommendation, authorization, prohibition, or enforceable condition. Support statements are labeled, and the text appears in unbold type. The verbs “shall,” “should,” and “may” are not used in Support statements.

### Section 1C.02 Definitions of Words and Phrases Used in this Manual

#### Standard:

- 01 Unless otherwise defined in this Section, or in other Parts of this Manual, words or phrases shall have the meaning(s) as defined in the “Uniform Vehicle Code,” “AASHTO Transportation Glossary (Highway Definitions),” “[California Vehicle Code](#)” or other appropriate publications.
- 02 Where a term that is defined in this Section or elsewhere in this Manual has a different definition in another resource or in common use, the definition herein shall govern for purposes of the applicability of the provisions of this Manual.
- 03 The following words and phrases, when used in this Manual, shall have the following meanings:
- 1. **Accessible Pedestrian Signal**—a device that communicates information about pedestrian signal timing in a non-visual format such as audible tones and/or speech messages and vibrating surfaces.
  - 2. **Accessible Pedestrian Signal Detector**—a device designated to assist the pedestrian who has vision or physical disabilities in activating the pedestrian phase.
  - 3. **Active Grade Crossing**—a grade crossing equipped with automatic traffic control devices, such as flashing-light signals, gates, and/or traffic control signals, that are activated upon the detection of approaching rail traffic.
  - 4. **Actuated**—a type of traffic control signal operation in which some or all signal phases are operated on the basis of actuation.
  - 5. **Actuation**—initiation of, a change in, or an extension of a traffic signal phase or a sign legend through the operation of any type of detector.
  - 6. **Advance Preemption**—the notification of approaching rail traffic that is forwarded to the highway traffic signal controller unit or assembly by the railroad or light rail transit equipment in advance of the activation of the railroad or light rail transit warning devices.
  - 7. **Advance Preemption Time**—the period of time that is the difference between the required maximum highway traffic signal preemption time and the activation of the railroad or light rail transit warning devices.
  - 8. **Advisory Speed**—a recommended speed for all vehicles operating on a section of highway and based on

the highway design, operating characteristics, and conditions.

9. **Agency**—an organization with the responsibility for providing, maintaining, and/or operating a public or private road system.
10. **Alley**—a street or highway intended to provide access to the rear or side of lots or buildings in urban areas and not intended for the purpose of through vehicular traffic. *As per CVC 110, “Alley” is any highway having a roadway not exceeding 25 feet in width which is primarily used for access to the rear or side entrances of abutting property; provided, that the City and County of San Francisco may designate by ordinance or resolution as an “alley” any highway having a roadway not exceeding 25 feet in width.*
11. **Annual Average Daily Traffic (AADT)**—the total volume of traffic passing a point or segment of a highway facility in both directions for one year divided by the number of days in the year. Normally, periodic daily traffic volumes are adjusted for hours of the day counted, days of the week, and seasons of the year to arrive at annual average daily traffic.
12. **Application**—in regard to a traffic control device, the act of deciding to use a device, generally or at a particular location for a particular condition.
13. **Approach**—all lanes of traffic moving toward an intersection or a midblock location from one direction, including any adjacent parking lane(s).
14. **Arterial Highway (Street)**—a general term denoting a highway primarily used by through traffic, usually on a continuous route or a highway designated as part of an arterial system.
15. **Automated Vehicle**—see Driving Automation System.
16. **Automatic Lane**—see Exact Change Lane within the definition of Toll Collection.
17. **Average Daily Traffic (ADT)**—the average 24 hour volume, being the total volume during a stated period divided by the number of days in that period. Normally, this would be periodic daily traffic volumes over several days, not adjusted for days of the week or seasons of the year.
18. **Average Day**—a day representing traffic volumes normally and repeatedly found at a location, typically a weekday when volumes are influenced by employment or a weekend day when volumes are influenced by entertainment or recreation.
19. **Backplate**—see Signal Backplate.
20. **Barrier-Separated Lane**—a preferential lane or other special purpose lane that is separated from the adjacent general-purpose lane(s) by a physical barrier.
21. **Beacon**—a highway traffic signal with one or more signal indications that operates in a flashing mode. Types of beacons include:
  - (a) **Emergency-Vehicle Hybrid Beacon**—a special type of beacon (see Hybrid Beacon).
  - (b) **Intersection Control Beacon**—a beacon used only at an intersection to control two or more directions of travel.
  - (c) **Pedestrian Hybrid Beacon**—a special type of beacon (see Hybrid Beacon).
  - (d) **Rectangular Rapid-Flashing Beacon (RRFB)**—a pedestrian-activated and/or bicycle- activated device comprising two horizontally arranged, rapidly flashed, rectangular-shaped yellow indications that is used to provide supplemental emphasis for a pedestrian, school, or trail crossing warning sign at a marked crosswalk across an uncontrolled approach.
  - (e) **Speed Limit Sign Beacon**—a beacon used only to supplement a SPEED LIMIT sign.
  - (f) **Stop Beacon**—a beacon used only to supplement a STOP sign, a DO NOT ENTER sign, or a WRONG WAY sign.
  - (g) **Warning Beacon**—a beacon used only to supplement an appropriate warning or regulatory sign or marker.
22. **Bicycle**—a pedal-powered vehicle upon which the human operator sits. *Also see Electric Bicycle (CVC 312.5) and Pedicab (CVC 467.5). As per CVC 231, A bicycle is a device upon which a person may ride, propelled exclusively by human power, except as provided in Section 312.5, through a belt, chain, or gears, and having one or more wheels. A person riding a bicycle is subject to the provisions of this code specified in Sections 21200 and 21200.5. An electric bicycle is a bicycle. Also refer to CVC 39000 and S&H Code Section 890.2.*
23. **Bicycle Box**—a designated area on the approach to a signalized intersection, between an advance motorist stop line and the crosswalk or intersection, intended to provide bicyclists a visible place to wait in front of stopped motorists during the red signal phase.

- 24. **Bicycle Facilities**—a general term denoting improvements and provisions that accommodate or encourage bicycling, including parking and storage facilities, and shared roadways not specifically defined for bicycle use.
- 25. **Bicycle Lane** (See [Class II Bikeway](#)) — a portion of a roadway that has been designated for preferential or exclusive use by bicyclists. A "bicycle lane" or "bike lane" is a [Class II bikeway](#), as defined in subdivision (a) of [Section 890.4 of the Streets and Highways Code](#). A typical bicycle lane is delineated from the adjacent general-purpose lane(s) by longitudinal pavement markings and bicycle lane symbol or word markings and, if used, signs. Other types of bicycle lanes include:
  - (a) **Buffer-Separated Bicycle Lane** (See [Class II Bikeway](#)) —a bicycle lane that is separated from the adjacent general-purpose lane(s) by a pattern of standard longitudinal pavement markings that is wider than a normal or wide lane line marking. . A "buffer-separated bicycle lane" or "buffer-separated bike lane" is a [Class II Bikeway, Bicycle Lane or Bike Lane](#). Refer to [California Streets and Highways Code Section 890.4](#).
  - (b) **Counter-Flow Bicycle Lane** (See [Class II and Class IV Bikeways](#)) —a one-directional bicycle lane that provides a lawful path of travel for bicycles in the opposite direction from general traffic on a roadway that allows general traffic to travel in only one direction. Counter-flow bicycle lanes are designated by the traffic control devices used for other bicycle lanes. A "counter-flow bicycle lane" or "counter-flow bike lane" can be a [Class II Bikeway, Bicycle Lane or Bike Lane](#) or it can be a [Class IV Bikeway](#), such as a [cycle track or separated bikeway](#). Refer to [California Streets and Highways Code Section 890.4](#).
  - (c) **Separated Bicycle Lane** (See [Class II or Class IV Bikeway](#)) —an exclusive facility for bicyclists that is located within or directly adjacent to the roadway and that is physically separated from motor vehicle traffic with a vertical element. Separated bicycle lanes are differentiated from other bicycle lanes by a vertical element. A "separated bicycle lane" or "separated bike lane" can be a [Class II Bikeway, Bicycle Lane or Bike Lane](#) or it can be a [Class IV Bikeway](#), such as a [cycle track or separated bikeway](#). Refer to [California Streets and Highways Code Section 890.4](#).
- 25a. **Bicycle Path or Bike Path** – See [Class I Bikeway](#). As per [CVC Section 231.5](#), a "bicycle path" or "bike path" is a [Class I Bikeway](#) or "shared-use path", as defined in subdivision (a) of [Section 890.4 of the Streets and Highways Code](#).
- 25b. **Bicycle Path Crossing** – As per [CVC Section 231.6](#),
  - 1. A "bicycle path crossing" is either of the following:
    - a. That portion of a roadway included within the prolongation or connection of the boundary lines of a bike path at intersections where the intersecting roadways meet at approximately right angles.
    - b. Any portion of a roadway distinctly indicated for bicycle crossing by lines or other markings on the surface.
  - 2. Notwithstanding subdivision (a), there shall not be a bicycle path crossing where local authorities have placed signs indicating no crossing.
- 26. **Bicycle Signal Face**—a signal face that displays only bicycle symbol signal indications, that exclusively controls a bicycle movement from a designated bicycle lane or from a separate facility such as a shared-use path, and that displays signal indications that are applicable only to the bicycle movement.
- 27. **Bicycle Symbol Signal Indication**—a red, yellow, or green signal indication that displays a bicycle symbol rather than a circular or arrow indication.
- 28. **Bikeway**—a generic term for any road, street, path, or way that in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes. As per [Streets and Highway Code Section 890.4](#), "bikeway" means all facilities that provide primarily for, and promote, bicycle travel.
- 28a. **Bike Route** – See [Class III Bikeway](#).
- 28b. **Buffered Bicycle Lane** – is a bicycle lane that is separated from the adjacent general-purpose lane or parking lane by a pattern of standard longitudinal markings. The buffer area might include chevron or diagonal markings.
- 29. **Blank-Out Sign**—a sign that displays a single predetermined message only when activated. When not activated, the sign legend is not visible.
- 29a. **Buffer-Separated Bicycle Lane** - See [Class II Bikeway](#).
- 30. **Buffer-Separated Lane**—a preferential lane or other special purpose lane that is separated from the adjacent general-purpose lane(s) by a pattern of standard longitudinal pavement markings that is wider

than a normal or wide lane line marking. The buffer area might include rumble strips, textured pavement, or channelizing devices such as tubular markers or traversable curbs, but does not include a physical barrier.

- 31a. **Business Activity District** – As per CVC Section 22358.9(b), a “business activity district” is that portion of a highway and the property contiguous thereto that includes central or neighborhood downtowns, urban villages, or zoning designations that prioritize commercial land uses at the downtown or neighborhood scale and meets at least three of the following requirements in paragraphs (1) to (4), inclusive:
- (1) No less than 50 percent of the contiguous property fronting the highway consists of retail or dining commercial uses, including outdoor dining, that open directly onto sidewalks adjacent to the highway.
  - (2) Parking, including parallel, diagonal, or perpendicular spaces located alongside the highway.
  - (3) Traffic control signals or stop signs regulating traffic flow on the highway, located at intervals of no more than 600 feet.
  - (4) Marked crosswalks not controlled by a traffic control device.
- 31b. **Business District** – As per CVC Section 235, a “business district” is that portion of a highway and the property contiguous thereto
- (a) upon one side of which highway, for a distance of 600 feet, 50 percent or more of the contiguous property fronting thereon is occupied by buildings in use for business, or
  - (b) upon both sides of which highway, collectively, for a distance of 300 feet, 50 percent or more of the contiguous property fronting thereon is so occupied.
- A business district may be longer than the distances specified in this section if the above ratio of buildings in use for business to the length of the highway exists. Refer to CVC Sections 240 and 515, to determine whether a highway is within a business or residence district.
31. **Business Identification Sign Panel**—a panel containing a word legend or logo used to identify a business on a Specific Service sign.
32. **Busway**—a traveled way that is used exclusively by buses.
33. **Cantilevered Signal Structure**—a structure, also referred to as a mast arm, that is rigidly attached to a vertical pole and is used to provide overhead support of highway traffic signal faces or grade crossing signal units.
34. **Center Line Markings**—the yellow pavement marking line(s) that delineates the separation of traffic lanes that have opposite directions of travel on a roadway. These markings need not be at the geometrical center of the pavement.
35. **Changeable Message Sign**—a sign that is capable of displaying more than one message (one of which might be a “blank” display), changeable manually, by remote control, or by automatic control. Electronic-display changeable message signs are referred 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.
36. **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.
37. **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.
38. **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.
- 38a. **Civil Engineer** - a professional engineer in the branch of civil engineering and refers to one who practices or offers to practice civil engineering in any of its phases. Refer to California Business and Professions Code Section 6702.
- 38b. **Class I Bikeway** (such as a Bike Path or a Shared-Use Path) – Provides a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with crossflows by motorists minimized. Refer California Streets and Highways Code Section 890.4. Refer to Caltrans’ Highway Design Manual Index 1003.1 for design criteria.
- 38c. **Class II Bikeway** (such as a Bike Lane) – Provides a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted. Refer to California Streets and Highways Code Section

- 890.4. Refer to Caltrans' Highway Design Manual Index 1003.2 for design criteria.**
- 38d. Class III Bikeway (such as a Bike Route) – provide a right-of-way designated by signs or permanent markings and shared with pedestrians or motorists. Refer to California Streets and Highways Code Section 890.4. Refer to Caltrans' Highway Design Manual Index 1003.3 for design criteria.**
- 38e. Class IV Bikeway (such as a cycle track, separated bikeway or shared-use path(see #219 in this section)) – Provides a right-of-way designated exclusively for bicycle travel adjacent to a roadway and which is separated from vehicular traffic. Types of separation include, but are not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking. Refer to California Streets and Highways Code Section 890.4. Refer to Caltrans' Design Information Bulletin Number 89 for design criteria.**
- 39. 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.**
- 40. 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.**
- 41. 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.**
- 42. Conflict Monitor—a device used to detect and respond to improper or conflicting signal indications and improper operating voltages in a traffic controller assembly.**
- 43. Constant Warning Time Detection—a means of detecting rail traffic that provides relatively uniform warning time for the approach of through rail traffic that is not accelerating or decelerating after being detected.**
- 44. Contiguous Lane—a lane, preferential or otherwise, that is separated from the adjacent lane(s) only by a normal or wide lane line marking.**
- 44a. Contraflow Bicycle Lane – See Counter-Flow Bicycle Lane and Class II and Class IV Bikeways.**
- 45. Controller Assembly—a complete electrical device mounted in a cabinet for controlling the operation of a highway traffic signal.**
- 46. Controller Unit—that part of a controller assembly that is devoted to the selection and timing of the display of signal indications.**
- 47. Conventional Road—a street or highway other than an expressway or freeway.**
- 47a. Counter-Flow Bicycle Lane - See Class II and Class IV Bikeways**
- 48. 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.**
- 49. Crashworthy—the ability of a roadside safety hardware device or appurtenance to minimize risks to vehicle occupants by allowing a vehicle impacting the appurtenance to be slowed before stopping, redirected, or to continue without significant resistance. Section 1D.11 contains additional information about crashworthiness.**
- 50. Crosswalk—(a) that part of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or in the absence of curbs, from the edges of the traversable roadway, and in the absence of a sidewalk on one side of the roadway, the part of a roadway included within the extension of the lateral lines of the sidewalk at right angles to the center line; (b) any portion of a roadway at an intersection or elsewhere distinctly indicated as a pedestrian crossing by pavement marking lines on the surface, which might be supplemented by**



contrasting pavement texture, style, or color. As per CVC Section 275, "Crosswalk" is either:

- (a) That portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections where the intersecting roadways meet at approximately right angles, except the prolongation of such lines from an alley across a street.
- (b) Any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings on the surface. Notwithstanding the foregoing provisions of this section, there shall not be a crosswalk where local authorities have placed signs indicating no crossing.

- 51. **Crosswalk Lines**—white or yellow (in school areas per CVC 21368) pavement marking lines that identify a crosswalk.
- 52. **Cycle Length**—the time required for one complete sequence of signal indications.
- 52a. **Cycle Track** – See Class IV Bikeway.
- 53. **Dark Mode**—the lack of all signal indications at a signalized location. The dark mode is most commonly associated with power failures, ramp meters, hybrid beacons, beacons, and some movable bridge signals.
- 54. **Dedicated Lane\***—A lane on a freeway or expressway that provides access to: (a) either an exit lane or the mainline, but not both, at a freeway or expressway exit, or (b) only one roadway at a freeway or expressway split.
- 55. **Delineator**—a retroreflective device mounted at the side of the roadway in a series to indicate the alignment of the roadway, especially at night or in adverse weather.
- 56. **Design Vehicle**—the longest vehicle permitted by statute of the road authority (State or other) on that roadway.
- 57. **Designated Bicycle Route**—a system of bikeways designated by the jurisdiction having authority with appropriate directional and informational route signs, with or without specific bicycle route numbers.
- 58. **Detectable\***—having a continuous edge within 6 inches of the surface so that pedestrians with vision disabilities can sense its presence and receive usable guidance information.
- 59. **Detector**—a device used for determining the presence or passage of motor vehicles (including motorcycles), bicycles, or pedestrians.
- 60. **Detection Plate**—a smooth continuous plate used on pedestrian channelizing devices to facilitate the use of low-vision canes for pedestrians with vision disabilities. The bottom edge of the detection plate shall be no more than 2 inches above the walkway and the top edge of the detection plate shall be at least 8 inches above the walkway. The detection plate shall share the same vertical plane as the hand trailing edge of the pedestrian channelizing device.
- 61. **Diagnostic Team**—a group of knowledgeable representatives of the parties of interest in a grade crossing or group of grade crossings (see 23 CFR Part 646.204). The Diagnostic Team includes, at a minimum, representatives of the highway agency or authority with jurisdiction over the roadway, the railroad company and/or transit agency with responsibility for the track and signals, and the California Public Utilities Commission (CPUC).
- 61a. **Divided Highway** – A highway with separated roadbeds for traffic in opposing directions. Refer to Caltrans' Highway Design Manual Index 62.3.(5)(f) for design criteria.
- 62. **Downstream**—a term that refers to a location that is encountered by traffic subsequent to an upstream location as it flows in an "upstream to downstream" direction. For example, "the downstream end of a lane line separating the turn lane from a through lane on the approach to an intersection" is the end of the lane line that is closest to the intersection.
- 63. **Driveway**—an access from a roadway to a building, site, or abutting property. "Private road or driveway" is a way or place in private ownership and used for vehicular travel by the owner and those having express or implied permission from the owner but not by other members of the public. CVC 490.
- 64. **Driving Aisle**—circulation area for motor vehicles within a parking area, typically between rows of parking spaces. Driving aisles provide one-way or two-way travel. Driving aisles are exempted from compliance with MUTCD provisions.
- 65. **Driving Automation System**—technology that automates some or all aspects of the driving task to assist or replace the human vehicle operator. Section 5A.03 contains descriptions of the automation levels.
- 66. **Dropped Lane**—see Lane Drop.
- 67. **Dual-Arrow Signal Section**—a type of signal section designed to include both a yellow arrow and a green arrow.

- 68. **Dynamic Envelope**—the clearance required for light rail transit traffic or a train and its cargo overhang due to any combination of loading, lateral motion, or suspension failure (see Figure 8C-3).
- 69. **Dynamic Exit Gate Operating Mode**—a mode of operation where the exit gate operation is based on the presence of vehicles within the minimum track clearance distance.
- 70. **Dynamic Message Sign**—see Changeable Message Sign.
- 71. **Edge Line Markings**—white or yellow pavement marking lines that delineate the right or left edge(s) of a traveled way.
- 71a. **Electric Bicycle** – Also see Bicycle (CVC 231) and Pedicab (CVC 467.5). As per CVC 312.5(a), An “electric bicycle” is a bicycle equipped with fully operable pedals and an electric motor of less than 750 watts.
  - (a) A “class 1 electric bicycle,” or “low-speed pedal-assisted electric bicycle,” is a bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 20 miles per hour.
  - (b) A “class 2 electric bicycle,” or “low-speed throttle-assisted electric bicycle,” is a bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of 20 miles per hour.
  - (c) A “class 3 electric bicycle,” or “speed pedal-assisted electric bicycle,” is a bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 28 miles per hour and equipped with a speedometer.
- 71b. **Electric Personal Assistive Mobility Device (EPAMD)** – a self-balancing, nontandem two-wheeled device, that is not greater than 20 inches deep and 25 inches wide and can turn in place, designed to transport only one person, with an electric propulsion system averaging less than 750 watts (1 horsepower), the maximum speed of which, when powered solely by a propulsion system on a paved level surface, is no more than 12.5 miles per hour. Refer to CVC 313.
- 71c. **Electrically Motorized Board** – any wheeled device that has a floorboard designed to be stood upon when riding that is not greater than 60 inches deep and 18 inches wide, is designed to transport only one person, and has an electric propulsion system averaging less than 1,000 watts, the maximum speed of which, when powered solely by a propulsion system on a paved level surface, is no more than 20 miles per hour. The device may be designed to also be powered by human propulsion. Refer to CVC 313.5.
- 71d. **Electrical Engineer** – a professional engineer in the branch of electrical engineering and refers to one who practices or offers to practice electrical engineering in any of its phases. Refer to California Business and Professions Code Section 6702.1.
- 72. **Electronic Toll Collection (ETC) Account Only Lane**—a non-attended toll lane that is restricted to use only by vehicles with a registered toll payment account.
- 73. **Emergency-Vehicle Hybrid Beacon**—see Hybrid Beacon.
- 74. **Emergency-Vehicle Traffic Control Signal**—see Highway Traffic Signal.
- 75. **Engineer**—see Professional Engineer.
- 76. **Engineering Judgment**—the evaluation of available pertinent information including, but not limited to, the safety and operational efficiency of all road users, and the application of appropriate principles, **experience, education**, provisions, and practices as contained in this Manual and other sources, for the purpose of deciding upon the design (see Section 1D.03), use, installation, or operation of a traffic control device. Engineering judgment shall be exercised by a professional engineer (see definition in this Section) with appropriate traffic engineering expertise, or by an individual working under the supervision of such an engineer, through the application of procedures and criteria established by the engineer. Documentation of engineering judgment is not required.
- 77. **Engineering Study**—the analysis and evaluation of available pertinent information including, but not limited to, the safety and operational efficiency of all road users, and the application of appropriate principles, **engineering judgment, experience, education**, provisions, and practices as contained in this Manual and other sources, for the purpose of deciding upon the design (see Section 1D.03), use, installation, or operation of a traffic control device. An engineering study shall be performed by a professional engineer (see definition in this Section) with appropriate traffic engineering expertise, or by an individual working under the supervision of such an engineer, through the application of procedures and criteria established by the engineer. An engineering study shall be documented in writing.

**77a. Engineering and Traffic Survey – Refer to CVC 627.**

- 78. **Entrance Gate**—an automatic gate that can be lowered across the lanes approaching a grade crossing to block road users from entering the grade crossing.
- 79. **Exclusive Alignment**—a light rail transit track(s) or a bus rapid transit busway that is grade-separated or protected by a fence or traffic barrier. No grade crossings exist along the track(s) or busway. Motor vehicles, bicycles, and pedestrians are prohibited within the right-of-way. Subways and elevated structures are included within this definition.
- 80. **Exit Gate**—an automatic gate that can be lowered across the lanes departing a grade crossing to block road users from entering the grade crossing by driving in the opposing traffic lanes.
- 81. **Exit Gate Clearance Time**—for Four-Quadrant Gate systems at grade crossings, the amount of time provided to delay the descent of the exit gate arm(s) after entrance gate arm(s) begin to descend.
- 82. **Exit Gate Operating Mode**—for Four-Quadrant Gate systems at grade crossings, the mode of control used to govern the operation of the exit gate arms.
- 83. **Expressway**—a divided highway with partial control of access. As per CVC 314, an "expressway" is a portion of highway that is part of either of the following: (a) An expressway system established by a county under Section 941.4 of the Streets and Highways Code. (b) An expressway system established by a county before January 1, 1989, as described in subdivision (g) of Section 941.4 of the Streets and Highways Code.
- 84. **Fail-Safe**—when used in Part 8, a railroad signal design philosophy applied to a system or device such that the result of a hardware failure or the effect of a software error shall either prohibit the system or device from assuming or maintaining an unsafe state or shall cause the system or device to assume a state that is known to be safe.
- 85. **Flagger**—a person who actively controls the flow of vehicular traffic into and/or through a temporary traffic control zone using hand-signaling devices or an Automated Flagger Assistance Device (AFAD).
- 86. **Flasher**—a device used to turn highway traffic signal indications on and off at a repetitive rate of approximately once per second.
- 87. **Flashing**—an operation in which a light source, such as a traffic signal indication or LEDs in a sign, is turned on and off repetitively.
- 88. **Flashing-Light Signals**—a warning device consisting of two red signal indications arranged horizontally that are activated to flash alternately when rail traffic is approaching or present at a grade crossing.
- 89. **Flashing Mode**—a mode of operation in which at least one traffic signal indication in each vehicular signal face of a highway traffic signal is turned on and off repetitively.
- 90. **Four-Quadrant Gate System**—an exit gate system that includes entrance and exit gates that control and block road users on all lanes entering and exiting the grade crossing.
- 91. **Freeway**—a divided highway with full control of access. As per CVC 332, "Freeway" is a highway in respect to which the owners of abutting lands have no right or easement of access to or from their abutting lands or in respect to which such owners have only limited or restricted right or easement of access.
- 92. **Full-Actuated**—a type of traffic control signal operation in which all signal phases function on the basis of actuation.
- 93. **Gate**—an automatically-operated or manually-operated traffic control device that is used to physically obstruct road users such that they are discouraged from proceeding past a particular point on a roadway or pathway, or such that they are discouraged from entering a particular grade crossing, ramp, lane, roadway, or facility.
- 94. **General-Purpose Lane**—a highway lane or set of lanes, other than a Managed Lane (see definition in this Section) or a Preferential Lane (see definition in this Section), that all or most of the traffic that is allowed on that highway is also allowed to use. Certain classes of vehicles, such as commercial vehicles or vehicles exceeding a certain weight or size, might be prohibited from using one or more of the general-purpose lanes. A general-purpose lane might also be restricted to certain uses, such as passing or turning or as an auxiliary lane.
- 95. **Gore Area**—see Physical Gore and Theoretical Gore.
- 96. **Grade Crossing**—the general area where a highway and a railroad and/or light rail transit route cross at the same level, within which are included the tracks, highway, and traffic control devices for traffic traversing that area.



97. **Grade Crossing Warning System**—the flashing-light signals, with or without automatic gates, together with the necessary control equipment used to inform road users of the approach or presence of rail traffic at a grade crossing.
98. **Guide Sign**—a sign that shows route designations, highway names, destinations, directions, distances, services, points of interest, or other geographical, recreational, or cultural information.
99. **High-Occupancy Vehicle (HOV)**—a motor vehicle carrying at least two (or more than two if the signs for a specific roadway indicate a higher minimum occupancy requirement) persons, including carpools, vanpools, and buses.
100. **Highway**—a general term for denoting a public way for purposes of travel by vehicles and vulnerable road users, including the entire area within the right-of-way. *As per CVC 360, "Highway" is a way or place of whatever nature, publicly maintained and open to the use of the public for purposes of vehicular travel. Highway includes street. Also, refer to CVC 590 definition of "Street".*
101. **Highway-Light Rail Transit Grade Crossing**—the general area where a highway and a light rail transit route cross at the same level, within which are included the light rail transit tracks, highway, and traffic control devices for traffic traversing that area.
102. **Highway-Rail Grade Crossing**—the general area where a highway and a railroad cross at the same level, within which are included the railroad tracks, highway, and traffic control devices for highway traffic traversing that area.
103. **Highway Traffic Signal**—a power-operated traffic control device by which traffic is warned or directed to take some specific action. These devices do not include power-operated signs (except as provided in Chapters 4S and 4T), steadily-illuminated raised pavement markers, gates, flashing-light signals (see Section 8D.02), warning lights (see Section 6L.07), or steady-burning electric lamps. Highway traffic signals include:
  - (a) **Flashing Beacon**—see Beacon.
  - (b) **In-Roadway Warning Lights**—a special type of highway traffic signal installed in the roadway surface to warn road users that they are approaching a condition on or adjacent to the roadway that might not be readily apparent and might require the road users to reduce speed and/or come to a stop.
  - (c) **Lane-Use Control Signal**—a signal face or comparable display on a full-matrix Changeable Message Sign (see Chapters 2L and 4T) displaying indications to permit or prohibit the use of specific lanes of a roadway or a shoulder where driving is sometimes permitted, or to indicate the impending prohibition of such use.
  - (d) **Traffic Control Signal (Traffic Signal)**—a highway traffic signal placed at intersections, movable bridges, fire stations, midblock crosswalks, alternating one-way sections of a single lane road, private driveways, or other locations that require conflicting traffic to be directed to stop and permitted to proceed in an orderly manner. These devices do not include pedestrian hybrid beacons (see Chapter 4J) or emergency-vehicle hybrid beacons (see Chapter 4N). Traffic control signals include vehicular signal indications, pedestrian signal indications, and bicycle symbol signal indications. Special traffic control signals include:
    1. **Emergency-Vehicle Traffic Control Signal**—a traffic control signal that directs all conflicting traffic to stop in order to permit the driver of an authorized emergency vehicle to proceed into the roadway or intersection.
    2. **Movable Bridge Traffic Control Signal**—a traffic control signal installed at a movable bridge to notify traffic to stop during periods when the roadway is closed to allow the bridge to open.
    3. **Portable Traffic Control Signal**—a temporary component of a traffic control signal on a mobile support with one or more signal faces that is designed so that it can be easily transported, deployed, or relocated as part of a temporary traffic control signal, or during construction and maintenance as a temporary part of a permanent traffic control signal installation.
    4. **Pre-Signal**—traffic control signal faces that are located upstream from a signalized intersection and are operated in conjunction with the traffic control signal faces at the downstream signalized intersection in a manner that is designed to keep the area between the stop line for the upstream traffic control signal faces and the stop line for the downstream signalized intersection clear of

- queued vehicles. When used in conjunction with a grade crossing, the pre-signal is operated for the purpose of preventing vehicles from queuing within the minimum track clearance distance. Supplemental near-side traffic control signal faces for the downstream signalized intersection are not considered to be pre-signals.
5. **Queue Cutter Signal**—an independently-controlled traffic control signal (not operated in conjunction with the traffic control signal faces at a downstream signalized intersection) located at a grade crossing that controls traffic in one direction only on the roadway for the purpose of keeping the minimum track clearance distance clear of vehicles. The display of red signal indications is activated from a downstream queue detection system, by time of day, by approaching rail traffic, by an approaching bus on a busway, or by a combination of any of these methods.
  6. **Ramp Control Signal**—a traffic control signal installed to control the merging flow of traffic onto a freeway at an entrance ramp or at a freeway-to-freeway ramp connection.
  7. **Temporary Traffic Control Signal**—a traffic control signal that is installed for a limited time period using fixed or portable traffic control signal units.
104. **HOV Lane**—any preferential lane designated for exclusive use by high-occupancy vehicles for all or part of a day—including a designated lane on a freeway, other highway, street, or independent roadway on a separate right-of-way.
  105. **Hybrid Beacon**—a special type of beacon that is intentionally placed in a dark mode (no indications displayed) between periods of operation and, when operated, displays both steady and flashing traffic control signal indications. Hybrid beacons include:
    - (a) **Emergency-Vehicle Hybrid Beacon**—used to warn and control traffic at an unsignalized location to assist authorized emergency vehicles in entering or crossing a street or highway.
    - (b) **Pedestrian 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.
  106. **Identification Marker**—a shape, color, and/or pictograph that is used as a visual identifier for a destination guide signing system of a community wayfinding system or a shared-use path system for an area.
  107. **Inherently Low Emission Vehicle (ILEV)**—any kind of vehicle that, because of inherent properties of the fuel system design, will not have significant evaporative emissions, even if its evaporative emission control system has failed.
  108. **In-Roadway Warning Lights**—see Highway Traffic Signal.
  109. **Interchange**—a system of interconnecting roadways providing for traffic movement between two or more highways that do not intersect at grade.
  110. **Interchange Lane Drop**—see Lane Drop.
  111. **Preemption Interconnection\***—the electrical connection between the railroad or light rail transit active warning system and the highway traffic signal controller assembly for the purpose of preemption.
  112. **Intermediate Interchange**—an interchange with an urban or rural route that is not a major or minor interchange as defined in this Section.
  113. **Intersection**—intersection is defined as follows:
    - (a) The area embraced within the prolongation or connection of the lateral curb lines, or if none, the lateral boundary lines of the roadways of two highways that join one another at, or approximately at, right angles, or the area within which vehicles traveling on different highways that join at any other angle might come into conflict. *As per CVC 365, an "intersection" is the area embraced within the prolongation of the lateral curb lines, or, if none, then the lateral boundary lines of the roadways, of two highways which join one another at approximately right angles or the area within which vehicles traveling upon different highways joining at any other angle may come in conflict.*
    - (b) The junction of an alley, driveway, or site roadway with a public roadway or highway shall not constitute an intersection, unless the public roadway or highway at said junction is controlled by a traffic control device.
    - (c) If a highway includes two roadways separated by a median, then every crossing of each roadway of such divided highway by an intersecting highway shall be a separate intersection if the opposing left-

- turn paths cross and there is sufficient interior storage for the design vehicle (see Figure 2A-5).
- (d) At a location controlled by a traffic control signal, regardless of the distance between the separate intersections as defined in (c) above:
1. If a stop line, yield line, or crosswalk has not been designated on the roadway (within the median) between the separate intersections, the two intersections and the roadway (median) between them shall be considered as one intersection;
  2. Where a stop line, yield line, or crosswalk is designated on the roadway on the intersection approach, the area within the crosswalk and/or beyond the designated stop line or yield line shall be part of the intersection; and
  3. Where a crosswalk is designated on a roadway on the departure from the intersection, the intersection shall include the area extending to the far side of such crosswalk.
114. **Intersection Control Beacon**—see Beacon.
115. **Interval**—the part of a signal cycle during which signal indications do not change.
116. **Island**—a defined area between traffic lanes for control of vehicular movements, for toll collection, or for pedestrian or bicyclist refuge. It includes all end protection and approach treatments. Within an intersection area, a median or an outer separation is considered to be an island.
117. **Jughandle Turn**—a left-turn or U-turn that, in conjunction with special geometry, is made by initially making a right-turn or diverging to the right. With other special geometry, a right-turn or U-turn makes a jughandle turn by initially making a left-turn or diverging to the left.
118. **Lane Drop**—a through lane that becomes a mandatory turn lane on a conventional roadway, or a through lane that becomes a mandatory exit lane on a freeway or expressway. The end of an acceleration lane and reductions in the number of through lanes that do not involve a mandatory turn or exit are not considered lane drops.
119. **Lane Line Markings**—white pavement marking lines that delineate the separation of traffic lanes that have the same direction of travel on a roadway.
120. **Lane Reduction\***—elimination of a through lane by a gradual narrowing of the travel pavement (taper) through physical construction or pavement markings at which traffic in the lane being eliminated must merge into the adjacent through lane and continue in the same direction of travel. A lane reduction can occur outside the influence of an intersection or interchange, or within an interchange a short distance downstream of the gore of an exit ramp. Through lanes that become a mandatory turn or exit are considered lane drops rather than lane reductions.
121. **Lane-Use Control Signal**—see Highway Traffic Signal.
122. **Legend**—see Sign Legend.
123. **Lens**—see Signal Lens.
124. **Light Rail Transit Traffic (Light Rail Transit Equipment)**—every device in, upon, or by which any person or property can be transported on light rail transit tracks, including single-unit light rail transit cars (such as streetcars and trolleys) and assemblies of multiple light rail transit cars coupled together.
- 124a. **Limit Line** - is a solid white line not less than 12 nor more than 24 inches wide, extending across a roadway or any portion thereof to indicate the point at which traffic is required to stop in compliance with legal requirements. Refer to CVC 377.
- 124b. **Limit Line Bicycle Detection Zone** – a Referenced Bicycle-Rider must be detected in a 6 x 6 feet area immediately behind the limit line, centered either in a normal width lane or if the lane is more than 12 feet wide, centered 6 feet from the left lane line. For a lane of 20 feet or greater, two minimum 6 x 6 feet areas shall constitute the Limit Line Bicycle Detection Zone.
125. **Loading Zone**—a specially marked, signed or designated area for the loading or unloading of vehicles (passenger or freight).
126. **Locomotive Horn**—an air horn, steam whistle, or similar audible warning device (see 49 CFR Part 229.129) mounted on a locomotive or control cab car. The terms “locomotive horn,” “train whistle,” “locomotive whistle,” and “train horn” are used interchangeably in the railroad industry.
127. **Logo**—a distinctive emblem or trademark that identifies a commercial or non-commercial business, program, or organization.
128. **Longitudinal Markings**—pavement markings that are generally placed parallel and adjacent to the flow

of traffic such as lane lines, center lines, edge lines, channelizing lines, and others.

- 129. **Louver**—see Signal Louver.
- 130. **Low-Volume Rural Road\***—A category of paved or unpaved conventional or special-purpose roadways having an AADT of less than 400 vehicles and lying outside of built-up or urbanized areas of cities, towns, and communities.
- 131. **Major Interchange**—an interchange with another freeway or expressway, or an interchange with a high-volume multi-lane highway, principal urban arterial, or major rural route where the interchanging traffic is heavy or includes many road users unfamiliar with the area.
- 132. **Major Street**—the street normally carrying the higher volume of vehicular traffic.
- 133. **Malfunction Management Unit**—see Conflict Monitor.
- 134. **Managed Lane**—a highway lane or set of lanes, or a highway facility, for which variable operational strategies such as direction of travel, tolling, pricing, and/or vehicle type or occupancy requirements are implemented and managed in real-time in response to changing conditions. Managed lanes are typically buffer-separated or barrier-separated lanes parallel to the general-purpose lanes of a highway in which access is restricted to designated locations. There are also some highways on which all lanes are managed.
- 135. **Manual Lane**—see Attended Lane within the definition of Toll Collection.
- 135a. **Markings** – All lines, words, or symbols, except signs, officially placed within the roadway to regulate, warn or guide traffic.
- 136. **Maximum Highway Traffic Signal Preemption Time**—the maximum amount of time needed following initiation of the preemption sequence for the highway traffic signals to complete the timing of the right-of-way transfer time, queue clearance time, and separation time.
- 137. **Median**—the portion of a highway separating opposing directions of the traveled way or the area between two roadways of a divided highway measured from edge of traveled way to edge of traveled way. The median excludes turn lanes. The median width might be different between intersections, interchanges, and at opposite approaches of the same intersection.
- 138. **Minimum Track Clearance Distance**—the length along a highway over the track(s) where a vehicle could be struck by rail traffic. The minimum track clearance distance is measured from a point upstream from the track(s) on the approach to the grade crossing to a point downstream from the track(s) on the departure from the grade crossing. The length along the highway between the two points is the minimum track clearance distance. (See Section 8A.07).
- 139. **Minor Interchange**—an interchange where traffic is local and very light, such as interchanges with land service access roads. Where the sum of the exit volumes is estimated to be lower than 100 vehicles per day in the design year, the interchange is classified as local.
- 140. **Minor Street**—the street normally carrying the lower volume of vehicular traffic.
- 141. **Mixed-Use Alignment**—a light rail transit track(s), a busway, or a bus only lane(s) where the light rail transit (LRT) or bus rapid transit (BRT) vehicles operate in mixed traffic with all types of road users. This includes streets, transit malls, and pedestrian malls where the right-of-way is shared. In a mixed-use alignment, the light rail transit or the bus rapid transit traffic does not have the right-of-way over other road users at grade crossings and intersections. If the LRT traffic or buses are controlled by traffic control signals or LRT signal faces at an intersection with a roadway, the alignment is considered to be mixed-use even if some of the approaches to the intersection are used exclusively by LRT traffic or buses.
- 141a. **Motorcycle** - a motor vehicle having a seat or saddle for the use of the rider, designed to travel on not more than three wheels in contact with the ground. Refer to CVC 400.
- 141b. **Motor-driven Cycle** - any motorcycle with a motor that displaces less than 150 cubic centimeters. A motor-driven cycle does not include a motorized bicycle. Refer to CVC 405.
- 141c. **Motorized Bicycle** - or “moped” is a two-wheeled or three-wheeled device having fully operative pedals for propulsion by human power or having no pedals if powered solely by electrical energy, and an automatic transmission and a motor that produces less than 4 gross brake horsepower and is capable of propelling the device at a maximum speed of not more than 30 miles per hour on level ground. Refer to CVC 406.
- 141d. **Motorized Quadricycle** - a four-wheeled device, and a “motorized tricycle” is a three-wheeled device, designed to carry not more than two persons, including the driver, and having either an electric motor or a motor with an automatic transmission developing less than two gross brake horsepower and capable of propelling the device at a

- maximum speed of not more than 30 miles per hour on level ground. The device shall be utilized only by a person who by reason of physical disability is otherwise unable to move about as a pedestrian or by a senior citizen. Refer to CVC 407.
- 141e. **Motorized Scooter**—any two-wheeled device that has handlebars, has either a floorboard that is designed to be stood upon when riding or a seat and footrests in place of the floorboard, and is powered by an electric motor. This device may also be designed to be powered by human propulsion. Refer to CVC 407.5.
142. **Movable Bridge Resistance Gate**—a type of traffic gate, which is located downstream of the movable bridge warning gate, that provides a physical deterrent to vehicle and/or pedestrian traffic when placed in the appropriate position.
143. **Movable Bridge Signal**—see Highway Traffic Signal.
144. **Movable Bridge Warning Gate**—a type of traffic gate designed to warn, but not primarily to block, vehicle and/or pedestrian traffic when placed in the appropriate position.
145. **Multi-Lane**—more than one lane moving in the same direction. A multi-lane street, highway, or roadway has a basic cross-section comprised of two or more through lanes in one or both directions. A multi-lane approach has two or more lanes moving toward the intersection, including turning lanes.
146. **Neutral Area**—the paved area between the channelizing lines separating an entrance or exit ramp or a channelized turn lane or channelized entering lane from the adjacent through lane(s).
- 146a. **Night or Nighttime** – is equivalent of “darkness” defined by CVC Section 280: “Darkness” is any time from one-half hour after sunset to one-half hour before sunrise and any other time when visibility is not sufficient to render clearly discernible any person or vehicle on the highway at a distance of 1000 feet.
147. **Object Marker**—a device used to mark obstructions within or adjacent to the roadway.
148. **Occupancy Requirement**—any restriction that regulates the use of a facility or one or more lanes of a facility for any period of the day based on a specified minimum number of persons in a vehicle.
149. **Occupant**—a person driving or riding in a car, truck, bus, or other vehicle.
150. **On-Street Parking**—parking within or along, and accessed directly from, a public roadway or a site roadway open to public travel.
151. **Open-Road ETC Lane**—a non-attended lane that is designed to allow toll payments to be electronically collected from vehicles traveling at normal highway speeds. Open-Road ETC lanes are typically physically separated from the toll plaza, often following the alignment of the mainline lanes, with toll plaza lanes for cash toll payments being on a different alignment after diverging from the mainline lanes or a subset thereof.
152. **Open-Road Tolling Point**—the location along an Open-Road ETC lane at which roadside or overhead detection and receiving equipment are placed and vehicles are electronically assessed a toll.
153. **Opposing Traffic**—vehicles that are traveling in the opposite direction. At an intersection, vehicles entering from an approach that is approximately straight ahead would be considered to be opposing traffic, but vehicles entering from approaches on the left or right would be considered to be conflicting traffic rather than opposing traffic.
154. **Option Lane\***—A lane on a freeway, expressway, or conventional road multi-lane exit or multi-lane split that widens on the approach to allow access, without changing lanes, to:
- (a) Both an exit lane and the mainline at a freeway or expressway exit; or
  - (b) Both diverging roadways at a freeway, expressway, or conventional road split.
155. **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, signs placed on sign support structures that span the entire width of the pavement, signs placed on mast arms or span wires either independently or that also support traffic control signals, and signs placed on highway bridges that cross over the roadway.
- 155a. **Park or Parking** - standing of a vehicle, whether occupied or not, otherwise than temporarily for the purpose of and while actually engaged in loading or unloading merchandise or passengers. Refer to CVC 463.
156. **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.
157. **Parking Space**—an area marked or designated for storage of a vehicle while the driver is not present.



- 158. **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, or a movable bridge, prior to the arrival of the train or boat for which the traffic signal is being preempted.
- 159. **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.
- 160. **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.
- 161. **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.
- 162. **Pathway Grade Crossing**—the general area where a pathway and railroad and/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.
- 163. **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.
- 164. **Pedestrian**—a person on foot, in a wheelchair, on other devices determined by local law to be equivalent, which might include skates or a skateboard. *As per CVC 467,*
  - (a) *A "pedestrian" is a person who is afoot or who is using any of the following:*
    - 1. *A means of conveyance propelled by human power other than a bicycle.*
    - 2. *An electric personal assistive mobility device.*
  - (b) *"Pedestrian" includes a person who is operating a self-propelled wheelchair, motorized tricycle, or motorized quadricycle and, by reason of physical disability, is otherwise unable to move about as a pedestrian, as specified in subdivision(a).*
- 165. **Pedestrian Change Interval**—an interval during which the flashing UPRAISED HAND (symbolizing DONT WALK) signal indication is displayed.
- 166. **Pedestrian Clearance Time**—the time provided for a pedestrian crossing in a crosswalk, after leaving the curb or edge of pavement, to travel to the far side of the traveled way or to a median.
- 167. **Pedestrian Facility**—a general term denoting a location where improvements and provisions have been made to accommodate or encourage pedestrian activity.
- 168. **Pedestrian Hybrid Beacon**—see Hybrid Beacon.
- 169. **Pedestrian Signal Head**—a signal head, which contains the symbols WALKING PERSON (symbolizing WALK) and UPRAISED HAND (symbolizing DONT WALK), that is installed to direct pedestrians at a traffic control signal.
- 169a. **Pedicab** – *Also see Bicycle (CVC 231) and Electric Bicycle (CVC 312.5). As per CVC Section 467.5, "Pedicab" means any of the following:*
  - (a) *A bicycle, including an electric bicycle, that has three or more wheels, that transports, or is capable of transporting, passengers on seats attached to the bicycle, that is operated by a person, and that is being used for transporting passengers for hire.*
  - (b) *A bicycle, including an electric bicycle, that pulls a trailer, sidecar, or similar device, that transports, or is capable of transporting, passengers on seats attached to the trailer, sidecar, or similar device, that is operated by a person, and that is being used for transporting passengers for hire.*
  - (c) *A four-wheeled device that is primarily or exclusively pedal-powered, has a seating capacity for eight or more passengers, cannot travel in excess of 15 miles per hour, and is being used for transporting passengers for hire.*
- 170. **Permissive Mode**—a mode of traffic control signal operation in which left or right turns are permitted to be made after yielding to pedestrians, if any, and/or opposing traffic, if any. When a CIRCULAR GREEN signal indication is displayed, both left and right turns are permitted unless otherwise prohibited by

another traffic control device. When a flashing YELLOW ARROW or flashing RED ARROW signal indication is displayed, the turn indicated by the arrow is permitted.

- 171. **Physical Gore**—a longitudinal point where a physical barrier or the lack of a paved surface inhibits road users from crossing from a ramp or channelized turn lane or channelized entering lane to the adjacent through lane(s) or vice versa.
- 172. **Pictograph**—a pictorial representation used to identify a governmental jurisdiction, an area of jurisdiction, a governmental or other public transportation agency or provider, a military base or branch of service, a governmental-approved university or college, a governmental-approved institution, or a toll payment system.
- 173. **Plaque**—a traffic control device intended to communicate specific information to road users through a word, symbol, or arrow legend that is placed immediately adjacent to a sign to supplement the message on the sign. The difference between a plaque and a sign is that a plaque cannot be used alone. The designation for a plaque includes a “P” suffix.
- 174. **Platoon**—a group of vehicles or pedestrians traveling together as a group, either voluntarily or involuntarily, because of traffic signal controls, geometrics, or other factors.
- 174a. **Pocket bike** – As per CVC 473, a two-wheeled motorized device that has a seat or saddle for the use of the rider, and that is not designed or manufactured for highway use. “Pocket bike” does not include an off-highway motorcycle, as defined in CVC 436.
- 175. **Portable Traffic Control Signal**—see Highway Traffic Signal.
- 176. **Post-Exit Ramp Lane Reduction**—see Lane Reduction.
- 177. **Post-Mounted Sign**—a sign that is placed to the side of the roadway such that no portion of the sign or its support is directly above the roadway or shoulder.
- 178. **Posted Speed Limit**—a speed limit determined by law or regulation and displayed on Speed Limit signs.
- 179. **Preemption**—the transfer of normal operation of a traffic control signal or a hybrid beacon to a special control mode of operation.
- 180. **Preferential Lane**—a highway lane or set of lanes, or a highway facility, reserved for the exclusive use of one or more specific types of vehicles or of vehicles with a specific minimum number of occupants.
- 181. **Pre-Signal**—see Highway Traffic Signal.
- 182. **Pretimed Operation**—a type of traffic control signal operation in which none of the signal phases function on the basis of actuation.
- 183. **Primary Signal Face**—one of the required or recommended minimum number of signal faces for a given approach or separate turning movement, but not including near-side signal faces required as a result of the far-side signal faces exceeding the maximum distance from the stop line.
- 184. **Principal Legend**—place names, street names, and route numbers displayed on guide signs.
- 185. **Priority Control**—a means by which the assignment of right-of-way is obtained or modified.
- 186. **Private Road**—see Site Roadways Open to Public Travel. Refer to CVC 490.
- 187. **Professional Engineer (P.E.)\***—An individual who has fulfilled education and experience requirements and passed examinations that, under State licensure laws, permit the individual to offer engineering services within areas of expertise directly to the public. Refer to California Business and Professions Code Section 6704.
  - (a) **Engineer** – a person registered under California Professional Engineers Act as a professional engineer, including any of the branches thereof. Refer to California Business and Professions Code Section 6706.
  - (b) **Professional Engineer** - a person engaged in the professional practice of rendering service or creative work requiring education, training and experience in engineering sciences and the application of special knowledge of the mathematical, physical and engineering sciences in such professional or creative work as consultation, investigation, evaluation, planning or design of public or private utilities, structures, machines, processes, circuits, buildings, equipment or projects, and supervision of construction for the purpose of securing compliance with specifications and design for any such work. Refer to California Business and Professions Code Section 6701.
- 188. **Protected Mode**—a mode of traffic control signal operation in which left or right turns are permitted to be made only when a left or right GREEN ARROW signal indication is displayed.
- 189. **Public Road**—any road, street, or similar facility under the jurisdiction of and maintained by a public

- agency and open to public travel. (see definition of Site Roadways Open to Public Travel).
- 190. Push Button—a button to activate a device or signal timing for pedestrians, bicyclists, or other road users.
  - 191. Push Button Information Message—a recorded message that can be actuated by pressing a push button when the walk interval is not timing and that provides the name of the street that the crosswalk associated with that particular push button crosses and can also provide other information about the intersection signalization or geometry.
  - 192. Push Button Locator Tone—a repeating sound that informs approaching pedestrians that a push button exists to actuate pedestrian timing or receive additional information and that enables pedestrians with vision disabilities to locate the push button.
  - 193. Queue Clearance Time—when used in Part 8, the time required for the design vehicle of maximum length stopped just inside the minimum track clearance distance to start up and move through and clear the entire minimum track clearance distance.
  - 194. Queue Cutter Signal—see Highway Traffic Signal.
  - 195. Quiet Zone—a segment of a rail line, within which is situated one or a number of consecutive public highway-rail grade crossings at which locomotive horns are not routinely sounded per 49 CFR Part 222.
  - 196. Rail Traffic—every device in, upon, or by which any person or property can be transported on rails or tracks and to which all other traffic must yield the right-of-way by law at grade crossings, including trains, one or more locomotives coupled (with or without cars), other railroad equipment, and light rail transit operating in exclusive or semi-exclusive alignments. Light rail transit operating in a mixed-use alignment, to which other traffic is not required to yield the right-of-way by law, is a vehicle and is not considered to be rail traffic.
  - 197. Raised Pavement Marker—a device mounted on or in a road surface that has a height generally not exceeding approximately 1 inch above the road surface for a permanent marker, or not exceeding approximately 2 inches above the road surface for a temporary flexible marker, and that is intended to be used as a positioning guide and/or to supplement or substitute for pavement markings. Raised pavement markers might also be recessed into or flush with the pavement surface.
  - 198. Ramp Control Signal (Ramp Meter) —see Highway Traffic Signal.
  - 199. Red Clearance Interval—an interval that follows a yellow change interval and precedes the next conflicting green interval.
  - 199a. Reference Bicycle-Rider – a minimum 4 feet tall person, weighing minimum 90 lb, riding on an unmodified minimum 16 inch wheel bicycle with non-ferromagnetic frame, non-ferromagnetic fork and cranks, aluminum rims, stainless steel spokes, and headlight.
  - 199b. Registered Engineer – See Professional Engineer.
  - 200. Regulatory Sign—a sign that gives notice to road users of traffic laws or regulations.
  - 200a. Residence District -As per CVC 515, a portion of a highway and the property contiguous thereto, other than a business district,
    - (a) upon one side of which highway, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 13 or more separate dwelling houses or business structures, or
    - (b) upon both sides of which highway, collectively, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 16 or more separate dwelling houses or business structures.A residence district may be longer than one-quarter of a mile if the above ratio of separate dwelling houses or business structures to the length of the highway exists. Refer to CVC Sections 235 and 240, to determine whether a highway is within a business or residence district.
  - 201. Retroreflectivity—a property of a surface that allows a large portion of the light coming from a point source to be returned directly back to a point near its origin.
  - 202. Road—see Roadway.
  - 203. Road User—a vehicle operator, bicyclist, or pedestrian, including persons with disabilities, within the highway or on a site roadway open to public travel. (see definition of Site Roadways Open to Public Travel)
  - 204. Roadway—that portion of a highway improved, designed, or ordinarily used for vehicular travel and parking lanes, but exclusive of the sidewalk, berm, or shoulder even though such sidewalk, berm, or shoulder is used by persons riding bicycles or other human-powered vehicles. In the event a highway includes two or more separate roadways, the term roadway as used in this Manual shall refer to any such

- roadway separately, but not to all such roadways collectively. Refer to CVC 527 and 530.
205. **Roadway Network**—a geographical arrangement of intersecting roadways.
206. **Roundabout**—a circular intersection with yield control at entry, which permits a vehicle on the circulatory roadway to proceed, and with deflection of the approaching vehicle counter- clockwise around a central island.
207. **Rumble Strip**—a series of intermittent, narrow, transverse areas of rough-textured, slightly raised, or depressed road surface that extend across the travel lane to alert vehicle operators to unusual traffic conditions or are located along the shoulder, along the roadway center line, or within islands formed by pavement markings to alert road users that they are leaving the travel lanes.
208. **Rural Highway**—a type of roadway normally characterized by lower volumes, higher speeds, fewer turning conflicts, and less conflict with pedestrians.
209. **Scanning Graphic**—a graphic designed for scanning by machine, and includes bar codes, quick- response (QR) codes or other matrix bar code formats, or similar graphics.
- 209a. **Scenic Highway** – An officially designated portion of the State Highway System traversing areas of outstanding scenic beauty which together with the adjacent scenic corridors requires special scenic conservation treatment.
210. **School**—a public or private educational institution recognized by the State education authority for one or more grades K through 12 or as otherwise defined by the State. A “private school” is any school, whether conducted for profit or not, giving a course of training similar to that given in a public school at or below the twelfth grade, including but not limited to schools owned or operated by any church. Refer to CVC 492.
211. **School Zone**—a designated roadway segment approaching, adjacent to, and beyond school buildings or grounds, or along which school related activities occur. As per CVC 22352(a)(2)(B) When approaching or passing a school building or the grounds thereof, contiguous to a highway and posted with a standard "SCHOOL" warning sign, while children are going to or leaving the school either during school hours or during the noon recess period. The prima facie limit shall also apply when approaching or passing any school grounds which are not separated from the highway by a fence, gate, or other physical barrier while the grounds are in use by children and the highway is posted with a standard "SCHOOL" warning sign.
212. **Semi-Actuated**—a type of traffic control signal operation in which at least one, but not all, signal phases function on the basis of actuation.
213. **Semi-Exclusive Alignment**—a light rail transit track(s) or a bus rapid transit busway that is in a separate right-of-way or that is along a street or railroad right-of-way where motor vehicles, bicycles, and pedestrians have limited access and cross only at designated locations, such as at grade crossings where road users must yield the right-of-way to the light rail transit or the bus rapid transit traffic.
- 213a. **Separated Bicycle Lane** - See Class II or Class IV Bikeway.
214. **Separate Turn Signal Face**—a signal face that exclusively controls a turn movement and that displays signal indications that are applicable only to the turn movement.
215. **Separation Time**—the component of maximum highway traffic signal preemption time during which the minimum track clearance distance is clear of vehicular traffic prior to the arrival of rail traffic.
216. **Serviceable**—a condition in which a traffic control device appears (day and night) and operates as intended, beyond which it requires replacement due to damage or wear. Whether a device is serviceable will depend on the type of device under consideration. In general, if the device is capable of being serviced with minimal effort or replacement parts so that it continues to appear and operate as intended, and the device is otherwise substantially intact, then it can be considered to be in serviceable condition. If the device is damaged or not operational beyond reasonable repair, then it is likely no longer serviceable.
217. **Shared Roadway**—a roadway that is officially designated and marked as a bicycle route, but which is open to motor vehicle travel and upon which no bicycle lane is designated. **Shared Roadway (No Bikeway Designation)** – A roadway that permits bicycle use but is not officially designated as a bikeway.
218. **Shared Turn Signal Face**—a signal face, for controlling both a turn movement and the adjacent through movement, that always displays the same color of circular signal indication that the adjacent through signal face or faces display.
219. **Shared-Use Path (Class I or IV Bikeway)** —a bikeway outside the traveled way and physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent alignment. Shared-use paths are also used by pedestrians (including skaters,

users of manual and motorized wheelchairs, and joggers) and other authorized motorized and non-motorized users.

- 220. **Shoulder**—a longitudinal area contiguous with the traveled way that is used for accommodation of stopped vehicles for emergency use and for lateral support of base and surface courses, and that is graded for emergency stopping. A shoulder might be paved or unpaved. A paved shoulder might be opened to part-time travel by some or all vehicles and might also be available for use by pedestrians and/or bicycles in the absence of other pedestrian or bicycle facilities. [The portion of the highway contiguous with the roadway for accommodations of pedestrians, bicyclists, stopped vehicles, for emergency use, and for lateral support of base and surface courses. Refer to the Caltrans' Highway Design Manual Index 62.1.\(9\) for design criteria.](#)
- 221. **Sidewalk**—that portion of a street between the curb line, or the lateral line of a roadway, and the adjacent property line or on easements of private property that is paved or improved and intended for use by pedestrians. [As per CVC 555, "Sidewalk" is that portion of a highway, other than the roadway, set apart by curbs, barriers, markings or other delineation for pedestrian travel.](#)
- 222. **Sidewalk Extension**—a pedestrian facility at an intersection or midblock crosswalk which extends the sidewalk by physically and visually narrowing the roadway.
- 223. **Sidewalk Grade Crossing**—the portion of a highway-rail grade crossing or of a highway-light rail transit grade crossing where a sidewalk and railroad tracks or a sidewalk and light rail transit tracks cross at the same level, within which are included the tracks, sidewalk, and traffic control devices for sidewalk users traversing that area.
- 224. **Sign**—with regard to controlling traffic, any traffic control device that is intended to communicate specific information to road users through a word, symbol, and/or arrow legend. Signs do not include highway traffic signals, pavement markings, delineators, or channelization devices. Signs whose purpose is unrelated to traffic control are addressed in Section 1A.02.
- 225. **Sign Assembly**—a group of signs, located on the same support(s), that supplement one another in conveying information to road users.
- 226. **Sign Illumination**—either internal or external lighting that shows similar color by day or night. Street or highway lighting shall not be considered as meeting this definition.
- 227. **Sign Legend**—all word messages, logos, pictographs, and symbol and arrow designs that are intended to convey specific meanings. The border, if any, on a sign is not considered to be a part of the legend.
- 228. **Sign Panel**—a separate panel or piece of material containing a word, logo, pictograph, symbol, and/or arrow legend that is affixed to the face of a sign.
- 229. **Signal\***—See Highway Traffic Signal.
- 230. **Signal Backplate**—a thin strip of material that extends outward from and parallel to a signal face on all sides of a signal housing to provide a background for improved visibility of the signal indications.
- 231. **Signal Coordination**—the establishment of timed relationships between adjacent traffic control signals.
- 232. **Signal Dimming**—a reduction of the light output from a signal indication, hybrid beacon, or rectangular rapid-flashing beacon indication, typically for nighttime conditions, to a value that is below the minimum specified intensity for daytime conditions. If a variety of intensity levels are used during daytime conditions and all of the various levels (including the lowest of the intensities) are above the minimum specified intensity for daytime conditions, this would not be considered to be signal dimming.
- 233. **Signal Face**—an assembly of one or more signal sections that is provided for controlling one or more traffic movements on a single approach.
- 234. **Signal Head**—an assembly of one or more signal faces that is provided for controlling traffic movements on one or more approaches.
- 235. **Signal Housing**—that part of a signal section that protects the light source and other required components.
- 236. **Signal Indication**—the illumination of a signal lens or equivalent device.
- 237. **Signal Lens**—that part of the signal section that redirects the light coming directly from the light source and its reflector, if any.
- 238. **Signal Louver**—a device that can be mounted inside a signal visor to restrict visibility of a signal indication from the side or to limit the visibility of the signal indication to a certain lane or lanes, or to a



certain distance from the stop line.

- 239. **Signal Phase**—the right-of-way, yellow change, and red clearance intervals in a cycle that are assigned to an independent traffic movement or combination of movements.
- 240. **Signal Section**—the assembly of a signal housing, signal lens, if any, and light source with necessary components to be used for displaying one signal indication.
- 241. **Signal Sequence (Sequence of Indications)**—the order of appearance of signal indications during successive intervals of a signal cycle.
- 242. **Signal System**—two or more traffic control signals operating in signal coordination.
- 243. **Signal Timing**—the amount of time allocated for the display of a signal indication.
- 244. **Signal Visor**—that part of a signal section that directs the signal indication specifically to approaching traffic and reduces the effect of direct external light entering the signal lens.
- 245. **Signing**—individual signs or a group of signs, not necessarily on the same support(s), that supplement one another in conveying information to road users.
- 246. **Simultaneous Preemption**—notification of approaching rail traffic is forwarded to the highway traffic signal controller unit or assembly and railroad or light rail transit active warning devices at the same time.
- 247. **Site Roadways Open to Public Travel\***—Roadways and bikeways on sites of shopping centers, office parks, airports, schools, universities, sports arenas, recreational parks, and other similar business, governmental, and/or recreation facilities that are publicly or privately owned but where the public is allowed to travel without full-time access restrictions. Two types of roadways are not included in this definition: (1) roadways where access is restricted at all times by gates and/or guards to residents, employees, or other specifically-authorized persons; and (2) private highway-rail grade crossings. Site roadways open to public travel do not include parking areas (see definition in this Section), including the driving aisles (see definition in this Section) within those parking areas. [The MUTCD national standard and Caltrans standards and specifications for traffic control devices shall not be applicable to privately owned and maintained roads or commercial establishments, unless the particular city or county enacts an ordinance or resolution to this effect. Refer to CVC Sections 21100, 21100.1, 21107, 21107.5, 21107.6, and 21107.7.](#)
- 247a. [Private Road or Driveway – is a way or place in private ownership and used for vehicular travel by the owner and those having express or implied permission from the owner but not by other members of the public. Refer to CVC 490.](#)
- 248. **Special-Purpose Road**—a low-volume, low-speed road that serves recreational areas or resource development activities.
- 249. **Speed**—speed is defined based on the following classifications:
  - (a) **Average Speed**—the summation of the instantaneous or spot-measured speeds at a specific location of vehicles divided by the number of vehicles observed.
  - (b) **Design Speed**—a selected speed used to determine the various geometric design features of a roadway.
  - (c) **85th-Percentile Speed**—the speed at or below which 85 percent of the motor vehicles travel.
  - (d) **Operating Speed**—a speed at which a typical vehicle or the overall traffic operates. Operating speed might be defined with speed values such as the average, pace, or 85th- percentile speeds.
  - (e) **Pace**—the 10 mph speed range representing the speeds of the largest percentage of vehicles in the traffic stream.
- 250. **Speed Limit**—the maximum (or minimum) speed applicable to a section of highway as established by law or regulation.
- 250a. [Speed Measurement Markings—a white transverse pavement marking placed on the roadway to assist the enforcement of speed regulations.](#)
- 251. **Speed Zone**—a section of highway with a speed limit that is established by law or regulation, but which might be different from a legislatively-specified statutory speed limit.
- 252. **Splitter Island**—a median island used to separate opposing directions of traffic entering and exiting a roundabout.
- 252a. [State highway – Any highway owned and operated by Caltrans.](#)
- 253. **Station Crossing**—a pathway grade crossing that is associated with a station platform.

- 254. **Statutory Speed Limit**—a speed limit established by legislative action (such as Federal or State law) that typically is applicable for a particular class of highways with specified design, functional, jurisdictional, and/or location characteristics and that is not necessarily displayed on Speed Limit signs.
- 255. **Steady (Steady Mode)**—the continuous display of a signal indication for the duration of an interval, signal phase, or consecutive signal phases.
- 256. **Stop Line**—a solid white pavement marking line extending across approach lanes to indicate the point at which a stop is intended or required to be made. **For all purposes, limit line(s) as defined per CVC 377 shall mean stop line(s).**
- 257. **Street**—see Highway. **"Street" is a way or place of whatever nature, publicly maintained and open to the use of the public for purposes of vehicular travel. Refer to CVC 590 and 591.**
- 258. **Supplemental Signal Face**—a signal face that is not a primary signal face but which is provided for a given approach or separate turning movement to enhance visibility or conspicuity.
- 259. **Swing Gate**—a self-closing fence-type gate designated to swing open away from the track area and return to the closed position upon release.
- 260. **Symbol**—the approved design of a pictorial or graphical representation of a specific traffic control message for signs, pavement markings, traffic control signals, or other traffic control devices, as shown in the MUTCD.
- 261. **Temporary Traffic Control Signal**—see Highway Traffic Signal.
- 262. **Temporary Traffic Control Zone**—an area of a highway, pedestrian or bicycle facility where road user conditions are changed because of a work zone or incident by the use of temporary traffic control devices, flaggers, uniformed law enforcement officers, or other authorized personnel.
- 263. **Theoretical Gore**—a longitudinal point at the upstream end of a neutral area at an exit ramp or channelized turn lane where the channelizing lines that separate the ramp or channelized turn lane from the adjacent through lane(s) begin to diverge, or a longitudinal point at the downstream end of a neutral area at an entrance ramp or channelized entering lane where the channelizing lines that separate the ramp or channelized entering lane from the adjacent through lane(s) intersect each other.
- 263a. **Through Highway - A "through highway" is a highway or portion thereof at the entrance to which vehicular traffic from intersecting highways is regulated by stop signs or traffic control signals or is controlled when entering on a separated right-turn roadway by a yield-right-of-way sign.**
- 264. **Through Train**—a train movement that continues without stopping or reversing direction throughout the entire length of the rail traffic detection circuit length approaching a highway- rail grade crossing.
- 265. **Timed Exit Gate Operating Mode**—a mode of operation where the exit gate descent at a grade crossing is based on a predetermined time interval.
- 266. **Toll Booth**—a shelter where a toll attendant is stationed to collect tolls or issue toll tickets. A toll booth is located adjacent to a toll lane and is typically set on a toll island.
- 267. **Toll Collection**—manual or electronic methods and elements used to collect a fee for use of a toll facility. Toll collection methods include:
  - (a) **Electronic Toll Collection (ETC)**—a cashless system for automated collection of tolls from moving or stopped vehicles through wireless technologies such as radio-frequency communication or optical scanning. ETC systems are classified as one of the following:
    - 1. systems that require users to have registered toll accounts, with the use of equipment inside or on the exterior of vehicles, such as a transponder or barcode decal, that communicates with or is detected by roadside or overhead receiving equipment, or with the use of license plate optical scanning, to automatically deduct the toll from the registered user account,
    - 2. systems that do not require users to have registered toll accounts because vehicle license plates are optically scanned and invoices for the toll amount are typically sent through postal mail to the address of the vehicle owner, or
    - 3. systems that allow electronic toll collection for both registered and non-registered toll accounts.
  - (b) **Open-Road Tolling (ORT)**—a system designed to allow electronic toll collection (ETC) from vehicles traveling at posted speeds. Open-road tolling might be used on toll roads or toll facilities in conjunction with toll plazas. Open-road tolling is also typically used on managed lanes and on toll facilities that only accept payment by ETC.

- (c) **Manual Toll Collection**—a system of toll collection from stopped vehicles through acceptance of cash, toll tickets, tokens, or credit cards, and may involve issuance of receipts. Toll collection may be by a machine or toll booth attendant.
  - 1. **Toll-Ticket System**—a toll system in which the user of a toll road must stop to receive a ticket from a machine or toll booth attendant upon entering the toll facility. The ticket denotes the user's point of entry and, upon exiting the toll system, the user surrenders the ticket and is charged a toll based on the distance traveled between the points of entry and exit.
  - 2. **Attended Lane (Manual Lane)**—a toll lane adjacent to a toll booth occupied by a human toll collector who makes change, issues receipts, and performs other toll-related functions. Attended lanes at toll plazas typically require vehicles to stop to pay the toll.
  - 3. **Exact Change Lane (Automatic Lane)**—a non-attended toll lane that has a receptacle into which road users deposit coins totaling the exact amount of the toll. Exact Change lanes at toll plazas typically require vehicles to stop to pay the toll.
- 268. **Toll Island**—a raised island on which a toll booth or other toll collection and related equipment are located.
- 269. **Toll Lane**—an individual lane located within a toll plaza in which a toll payment is collected or, for toll-ticket systems, a toll ticket is issued.
- 270. **Toll Plaza**—the location at which tolls are collected consisting of a grouping of toll booths, toll islands, toll lanes, and, typically, a canopy. Toll plazas might be located on highway mainlines or on interchange ramps. A mainline toll plaza is sometimes referred to as a barrier toll plaza because it interrupts the traffic flow.
- 271. **Toll Road (Facility)**—a road or facility that is open to traffic only by payment of a user toll or fee. A “toll highway” or “toll road” is a publicly owned way or place open to the use of the public for purposes of vehicular travel which use requires the payment of a fee. Refer to CVC 611.
- 272. **Traffic**—pedestrians, bicyclists, ridden or herded animals, vehicles, streetcars, and other conveyances either singularly or together while using for purposes of travel any highway or site roadway open to public travel. (see definition of private road open to public travel). As per CVC 620, the term "traffic" includes pedestrians, ridden animals, vehicles, street cars, and other conveyances, either singly or together, while using any highway for purposes of travel.
- 273. **Traffic Control Device**—all signs, signals, markings, channelization devices, or other devices that use colors, shapes, symbols, words, sounds, and/or tactile information for the primary purpose of communicating a regulatory, warning, or guidance message to road users on a street, highway, pedestrian facility, bikeway, pathway, or site roadway open to public travel. (see definition of Site Roadways Open to Public Travel) Section 1A.02 contains information regarding items that are not traffic control devices.
- 274. **Traffic Control Signal (Traffic Signal)**—see Highway Traffic Signal.
- 275. **Train**—one or more locomotives coupled, with or without cars, that operates on rails or tracks and to which all other traffic must yield the right-of-way by law at highway-rail grade crossings.
- 276. **Transverse Markings**—pavement markings that are generally placed perpendicular and across the flow of traffic such as shoulder markings; word, symbol, and arrow markings; stop lines; crosswalk lines; parking space markings; and others.
- 277. **Traveled Way**—the portion of the roadway for the movement of vehicles, exclusive of the shoulders, berms, sidewalks, and parking lanes.
- 278. **Turn Bay**—a lane for the exclusive use of turning vehicles that is formed on the approach to the location where the turn is to be made. In most cases where turn bays are provided, drivers who desire to turn must move out of a through lane into the newly-formed turn bay in order to turn. A through lane that becomes a turn lane is considered to be a lane drop rather than a turn bay.
- 279. **Two-Stage Bicycle Turn Box**—a designated area at an intersection intended to provide bicyclists a place to wait for traffic to clear before proceeding in a different direction of travel.
- 280. **Uncontrolled Approach**—an approach on which vehicles are not controlled by a traffic control signal, hybrid beacon, STOP sign, or YIELD sign.
- 281. **Upstream**—a term that refers to a location that is encountered by traffic prior to a downstream location

as it flows in an “upstream to downstream” direction. For example, “the upstream end of a lane line separating the turn lane from a through lane on the approach to an intersection” is the end of the line that is furthest from the intersection.

- 282. **Urban Street**—a type of street normally characterized by relatively low speeds, wide ranges of traffic volumes, narrower lanes, frequent intersections and driveways, significant pedestrian traffic, and more businesses and houses.
- 283. **Variable Message Sign**—see Changeable Message Sign.
- 284. **Vehicle**—every device in, upon, or by which any person or property can be transported or drawn upon a highway, except trains and light rail transit operating in exclusive or semi-exclusive alignments. Light rail transit equipment operating in a mixed-use alignment, to which other traffic is not required to yield the right-of-way by law, is a vehicle. *As per CVC 670, a "vehicle" is a device by which any person or property may be propelled, moved, or drawn upon a highway, excepting a device moved exclusively by human power or used exclusively upon stationary rails or tracks.*
- 285. **Vibrotactile Pedestrian Device**—an accessible pedestrian signal feature that communicates, by touch, information about pedestrian timing using a vibrating surface.
- 286. **Visibility-Limited Signal Face or Visibility-Limited Signal Section**—a type of signal face or signal section designed (or shielded, hooded, or louvered) to restrict the visibility of a signal indication from the side, to a certain lane or lanes, or to a certain distance from the stop line.
- 287. **Walk Interval**—an interval during which the WALKING PERSON (symbolizing WALK) signal indication is displayed.
- 288. **Warning Light**—a portable, powered, yellow, lens-directed, enclosed light that is used in a temporary traffic control zone in either a steady burn or a flashing mode.
- 289. **Warning Sign**—a sign that gives notice to road users of a situation that might not be readily apparent.
- 290. **Warrant**—a warrant describes a threshold condition based upon average or normal conditions that, if found to be satisfied as part of an engineering study, shall result in analysis of other traffic conditions or factors to determine whether a traffic control device or other improvement is justified. Warrants are not a substitute for engineering judgment. The fact that a warrant for a particular traffic control device is met is not conclusive justification for the installation of the device.
- 291. **Wayside Horn System**—a stationary horn (or a series of horns) located at a grade crossing that is used in conjunction with train-activated or light rail transit-activated warning systems to provide audible warning of approaching rail traffic to road users on the highway or pathway approaches to a grade crossing, either as a supplement or alternative to the sounding of a locomotive horn.
- 292. **Worker**—a person on foot whose duties place him or her within the right-of-way of a street, highway, or pathway, such as: construction and maintenance forces; survey crews; utility crews; responders to incidents within the right-of-way; and law enforcement personnel when directing traffic, investigating crashes, and handling lane closures, obstructed roadways, and disasters within the right-of-way.
- 293. **Wrong-Way Arrow**—a slender, elongated, white pavement marking arrow placed upstream from the ramp terminus to indicate the correct direction of traffic flow. Wrong-way arrows are intended primarily to warn wrong-way road users that they are going in the wrong direction.
- 294. **Yellow Change Interval**—the first interval following the green or flashing arrow interval during which the steady yellow signal indication is displayed.
- 295. **Yield Line**—a row of solid white isosceles triangles pointing toward approaching vehicles extending across approach lanes to indicate the point at which the yield is intended or required to be made.

Support:

03a \* Refer to FHWA's List of Known Errors for errors in Paragraph 3 (Definitions 54, 58, 111, 120, 130, 154, 158, 159, 187, 229, and 247) text. Refer to Section 1A.04 for more details.

04 The following terms are defined in the California Vehicle Code:

- 1. All-terrain vehicle – Section 111.
- 2. Amber - Section 112.
- 3. Authorized Emergency Vehicle - Section 165.
- 4. Autoette – Section 175.
- 5. Automated Enforcement System - Section 210.

6. Axle - Section 230.
7. Bus - Section 233.
8. City – Section 255.
9. Commercial Vehicle - Section 260.
10. County – Section 270.
11. Darkness – Section 280
12. Department of Transportation - Section 291.
13. Disabled Person - Section 295.5.
14. Golf Cart - Section 345.
15. Hazardous Material - Section 353.
16. Liquefied Petroleum Gas – Section 380.
17. Local Authorities - Section 385.
18. Motor Vehicle - Section 415.
19. Official Traffic Control Device - Section 440.
20. Official Traffic Control Signal - Section 445.
21. Pickup Truck – Section 471.
22. Pilot Car – Section 472.
23. Ridesharing – Section 522.
24. Right-of-way – Section 525.
25. Safety Zone – Section 540.
26. Schoolbus - Section 545.
27. Snowmobile - Section 557.
28. Stop or Stopping - Section 587.
29. Street or Highway – Highway Exclusion - Section 592.
30. Through Highway - Section 600.
31. Trailer - Section 630.
32. U-Turn - Section 665.5.

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

#### **Standard:**

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

1. AADT—annual average daily traffic
2. AASHTO—American Association of State Highway and Transportation Officials
3. AC—alternating current
4. ADA—Americans with Disabilities Act
5. ADAS—Advanced Driver Assistance Systems
6. ADS—Automated Driving System
7. ADT—average daily traffic
8. AFAD—Automated Flagger Assistance Device
9. ANSI—American National Standards Institute
10. AREMA—American Railway Engineering and Maintenance-of-Way Association
11. AV—automated vehicle
12. cd/lx/m<sup>2</sup>—candelas per lux per square meter
13. CFR—Code of Federal Regulations
14. CMS—changeable message sign
15. dBA—A-weighted decibels
16. DC—direct current
17. DDT—Dynamic Driving Task
18. EPA—Environmental Protection Agency
19. ETC—electronic toll collection
20. EV—electric vehicle
21. FHWA—Federal Highway Administration



- 22. FRA—Federal Railroad Administration
- 23. ft—foot or feet
- 24. FTA—Federal Transit Administration
- 25. HOV—high-occupancy vehicle
- 26. IEEE—Institute of Electrical and Electronics Engineers
- 27. IES—Illuminating Engineering Society
- 28. ILEV—inherently low-emission vehicle
- 29. in—inch(es)
- 30. ISEA—International Safety Equipment Association
- 31. ITE—Institute of Transportation Engineers
- 32. ITS—intelligent transportation systems
- 33. L—taper length
- 34. LED—light-emitting diode
- 35. LP—liquified petroleum
- 36. LRT—light rail transit
- 37. mi—mile(s)
- 38. MPH or mph—miles per hour
- 39. MUTCD—Manual on Uniform Traffic Control Devices for Streets and Highways
- 40. N—length of one line segment plus one gap of a broken line
- 41. NCEES—National Council of Examiners for Engineering and Surveying
- 42. NCHRP—National Cooperative Highway Research Program
- 43. ODD—Operational Design Domain
- 44. OPM—U.S. Office of Personnel Management
- 45. ORT—open-road tolling
- 46. PCMS—portable changeable message sign
- 47. PRT—perception-response time
- 48. RRFB—rectangular rapid-flashing beacon
- 49. RV—recreational vehicle
- 50. SAE—Society of Automotive Engineers
- 51. SHV—Specialized Hauling Vehicle
- 52. SPF—safety performance function
- 53. TA—Typical Application
- 54. TDD—telecommunication device for the deaf
- 55. TRB—Transportation Research Board
- 56. TTC—temporary traffic control
- 57. U.S.—United States
- 58. U.S.C.—United States Code
- 59. USDOT—United States Department of Transportation
- 60. UVC—Uniform Vehicle Code
- 61. VPH or vph—vehicles per hour
- 62. V2I—vehicle to infrastructure

Support:

02 The following list of acronyms are related to traffic control devices and provided for ease of use and as a handy reference:

- 1. AHS Automated Highway System
- 2. AMBER Use of CMS signs for child abduction alert messages
- 3. AVCS Automated Vehicle Control System
- 4. Cal/OSHA California Occupational Safety and Health Administration
- 5. CA MUTCD California Manual on Uniform Traffic Control Devices for Streets and Highways
- 6. Caltrans California Department of Transportation
- 7. CBD Central Business District
- 8. CCR California Code of Regulations
- 9. CDC California Department of Conservation

10. CDF	California Department of Forestry
11. CDFW	California Department of Fish and Wildlife
12. CHP	California Highway Patrol
13. CMS	Changeable Message Sign or Congestion Management System
14. COZEEP	Construction Zone Enhanced Enforcement Program
15. CPUC	California Public Utilities Commission
16. CRHR	California Register of Historical Resources
17. CT	Caltrans or California Department of Transportation
18. CTCDC	California Traffic Control Devices Committee
19. CVC	California Vehicle Code
20. DIB	Design Information Bulletin
21. DMV	Department of Motor Vehicles
22. ESA	Environmentally Sensitive Area
23. Exp or EXP	Expressway
24. FCC	Federal Communication Commission
25. Fwy or FWY	Freeway
26. HAR	Highway Advisory Radio
27. HAZMAT	Hazardous Material
28. HOT	High Occupancy Toll
29. HM	Hazardous Material
30. HW	Hazardous Waste
31. IRLs	In-Roadway Lights
32. IRWLs	In-Roadway Warning Lights
33. ITS	Intelligent Transportation Systems or Institute of Transportation Studies
34. IVHS	Intelligent Vehicle Highway System
35. MAZEPP	Maintenance Zone Enhanced Enforcement Program
36. NCUTLO	National Committee on Uniform Traffic Laws and Ordinances
37. NHL	National Historic Landmark
38. NPS	National Park Service (U.S.)
39. ODA	Outdoor Advertising (Act)
40. OSA	Office of the State Architect
41. OSHA	Occupational Safety and Health Administration
42. PHI	Point of Historic Interest
43. PM	Post Mile
44. PS&E	Plans, Specifications, and Estimate
45. ROW	Right of Way
46. RR	Railroad
47. RXR	Railroad Crossing
48. S&H Code	Streets & Highways Code
49. SAFE	Service Authority for Freeways & Expressways
50. SHL	State Historical Landmark
51. SHS	State Highway System or Standard Highway Signs and Markings book (FHWA)
52. SWITRS	Statewide Integrated Traffic Records Systems
53. TASAS	Traffic Accident Surveillance and Analysis System
54. TMC	Traffic Management Center
55. TODS	Tourist-Oriented Directional Signs
56. TOPD	Traffic Operations Policy Directives
57. TS	Traffic Signal
58. TSS	Caltrans Traffic Sign Specifications
59. WATCH	Work Area Traffic Control Handbook
60. WIM	Weigh-in Motion
61. Xing or XING	Crossing