

Welcome to the Active Transportation Advisory Committee of the City of Fresno. We are excited to have you join. This guide is intended to familiarize you with our meetings process, as well as provide the resources for you to most effectively serve.

The committee has a chair, vice chair, and a secretary. The chair and vice chair help set the agenda. The chair runs the meeting. In their absence the vice chair runs the meeting. The secretary is responsible for meeting minutes. These are elected positions and voted on each year. At the meetings the committee members sit on one side, Department of Public Works representatives and members of the public will also be in attendance. These are public meetings. Feel free to invite members of the public.

This committee exists to advise City staff and elected officials on issues related to pedestrians, bicyclists and other active transportation users. Your responsibility is to attend the monthly meetings. There are generally 11 meetings in a year. You are allowed to miss two in a calendar year. If you miss more than two meetings, you may be removed from the committee. Beyond that it is up to you what you want to focus on and how much work you want to put in. For a more expanded description of our duties and responsibilities look over the charter linked below. It gives a good overview of our duties and scope. You represent either the Mayor or a City Council member on this committee, so it is a good idea to keep in touch with who you represent and their staff. We are a council appointed committee and as such need to follow the Brown Act. The main thing to know about this is that we can not have discussions with a majority of our committee members when not in scheduled public meetings (this includes group texts and email chains). Please look over this presentation on the Brown Act:

<https://fresno.legistar.com/View.ashx?M=F&ID=11652503&GUID=1636B86A-BDF0-42EF-AACC-777B6EEB57C5>

Meetings:

The fourth Wednesday of every month, except the November/December meeting are combined and occur early in December. The meetings are at City Hall Room 2165, and scheduled from 5:30-7:30 pm, although they occasionally run longer. If you are not able to attend, please email John Barbery and Laura Gromis.

Meeting materials:

There is an agenda released the Friday before each meeting. On this agenda you can find links to the previous month's meeting minutes, the infrastructure work plan, and presentations that will be happening. To access go to

<https://fresno.legistar.com/DepartmentDetail.aspx?ID=35667&GUID=E23EE8C2-67E6-4528-93BA-15B2290EE616>

This gives you a schedule of upcoming meetings, as well as the link to the agenda. Please look over any documents and presentations linked on the agenda, so you will be prepared for the meeting.

To add an item to the agenda, please submit an agenda item request no later than 2 weeks before the meeting.

<https://www.fresno.gov/wp-content/uploads/2023/11/Agenda-Item-Request.pdf> fill this out and send to the ATP Coordinator and the ATAC chair.

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Glossary

There is an expanded glossary at the end of this document, but these are the most important terms to learn.

Four classes of bikeways:

Class 1- Bike path completely separated from the roadway, also referred to as trails.

Class 2 - traditional bike lanes, with a stripe of paint delineating it from car travel lanes. These can also be “buffered class 2” where instead of a line there is a wider separation, typically a foot or so wide

Class 3 - bike routes. Bicycles are expected to ride with traffic, but there are generally low vehicle speeds and volumes. Typically marked by the green bike route sign

Class 4 - similar to class 2 bike lanes, but includes a vertical separation such as a curb or bollards. Sometimes also with a row of parking that further separates the lane from moving vehicles. Legally these are not bike lanes.

Also, see this link for pictures and expanded descriptions of the different classes of bike ways

<https://bikesiliconvalley.org/resources/bikeway-design>

See **CA Street & Highway Code § 890.4** for full and complete legal definition of these four classes of bikeways:

https://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=SHC&ionNum=890.4.

“As used in this article, “bikeway” means all facilities that provide primarily for, and promote, bicycle travel. For purposes of this article, bikeways shall be categorized as follows:

(a) Bike paths or shared use paths, also referred to as “Class I bikeways,” which provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with crossflows by motorists minimized.

(b) Bike lanes, also referred to as “Class II bikeways,” which provide 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.

(c) Bike routes, also referred to as “Class III bikeways,” which provide a right-of-way on-street or off-street, designated by signs or permanent markings and shared with pedestrians and motorists.

(d) Cycle tracks or separated bikeways, also referred to as “Class IV bikeways,” which promote active transportation and provide a right-of-way designated exclusively for bicycle travel adjacent to a roadway and which are separated from vehicular traffic. Types of separation include, but are not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.”

Protected intersection - an intersection where bicycle and pedestrians are separated from cars

Pedestrian Scramble- a signalized intersection with an all pedestrian phase, allowing pedestrians to cross in all directions including diagonally

Leading Pedestrian Interval - an intersection where the walk signal starts a few seconds before the light turns green, allowing pedestrians to enter the intersection before cars start going, increasing visibility

HAWK beacon - high-intensity activated crosswalk beacon a traffic signal that can be activated by a button. These are typically mid block at crosswalks. As signals motorists are legally required to stop for them. Used when speeds Greater than 40mph

RRFB Rectangular rapid flashing beacon flashing sign similar to HAWK but cheaper. Generally used when speeds are less than 40mph

Vision Zero - a strategy to reduce traffic deaths to zero. An official vision zero plan will be created this year.

Active Transportation Plan - the master planning document for future bicycle and pedestrian improvement

Bike boulevard — Stretches of roads, normally through neighborhoods, where traffic-calming measures are employed to keep driver speeds low, making the road safer for vulnerable road users. These often feature things like sharrows, speed humps, fewer stop signs, and traffic circles.

Bike box — Bike boxes are marked boxes indicating a space for cyclists to wait ahead of where drivers are expected to stop at traffic signals. They're often painted bright green but can occasionally be other colors. Typically, the bike lane leading up to them is also painted.

Important Documents

The following set of links are mostly city planning documents. The most important of these to read are the Active Transportation Plan and the Charter. There is A LOT of information in the following links. Don't get intimidated or bogged down.

The City of Fresno Active Transportation Plan:

This is the planning document for all bicycle and pedestrian infrastructure plans in the city. It is in the process of being updated.

https://www.fresno.gov/wp-content/uploads/2023/07/170022FresnoATPFinal2017Amended042022_compressed-1.pdf

ATAC charter:

<https://fresno.legistar.com/View.ashx?M=F&ID=11987342&GUID=8450475F-9E4F-4A28-A0AA-D0CFC50C13BD>

Link to a map of bike lanes in Fresno:

<https://cityoffresno.maps.arcgis.com/apps/interactivelegend/index.html?appid=217c2fee2021490a808c1d697307f82b>

Travel by Trail, Fresno! Trail Network Wayfinding, Connectivity, and Promotion Project:

A document that provides guidance on establishing wayfinding signs in Fresno.

https://www.fresno.gov/wp-content/uploads/2023/04/Fresno-Wayfinding-Plan_FINAL_PDFUA.pdf

Fresno Trail Network Expansion Feasibility Plan:

https://www.fresno.gov/wp-content/uploads/2023/04/PW0082320200130FinalADAFresnoTrailNetworkExpansionFeasibilityPlan_compressed.pdf

City of Fresno Complete Streets Policy:

<https://www.fresno.gov/wp-content/uploads/2023/04/Complete-Streets-091119.pdf>

Systemic Local Roadway Safety Plan:

https://www.fresno.gov/wp-content/uploads/2023/04/Fresno_SSAR_LRSP_Final-Accessible-1.pdf?fbclid=IwAR1BSmmrBzFTfYyG6ONox6LpYo7nb6KBZT7I5lthjXxjHDZwcFdypeeZ48

This next section contains links mostly for CalTrans documents. These are fairly technical and full of legal language. Don't worry too much about these unless you're interested in diving deeper.

The following four documents are mandatory for local jurisdictions pursuant to Streets and Highways Code Sections 890.6, 890.8, and 891:

CA Manual of Uniform Traffic Control Devices, Part 9 Traffic Control for Bicycle Facilities:

<https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/ca-mutcd/rev8/camutcd2014-part9-rev8-a11y.pdf>

CA Highway Design Manual, Chapters 1000 Bicycle Transportation Design:

<https://dot.ca.gov/-/media/dot-media/programs/design/documents/chp1000-a11y.pdf>

CA Highway Design Manual, Chapter 300 GEOMETRIC CROSS SECTION: see Index 301.2 Class II Bikeway (Bike Lane) Lane Width

<https://dot.ca.gov/-/media/dot-media/programs/design/documents/chp0300-a11y.pdf>

Class 4 bikeways design guidance DIB 89-02

<https://dot.ca.gov/-/media/dot-media/programs/design/documents/dib-89-02-final-a11y.pdf>

Some other CalTrans Resources:

CalTrans *Traffic Calming Guide*: Provides good descriptions and photos of various traffic calming measures regularly discussed in meetings. Can be easily skimmed and just look at the photos, don't worry about getting bogged down in the details as this is written for engineers:

https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/traffic-calming/final-traffic-calming-guide_v2-a11y.pdf

CalTrans *DESIGN INFORMATION BULLETIN-94 COMPLETE STREETS: CONTEXTUAL DESIGN GUIDANCE*. Applicable to State Highways but a resource for local jurisdictions regarding Complete Street design:

<https://dot.ca.gov/-/media/dot-media/programs/design/documents/dib-94-010224-a11y.pdf>

City of Clovis ATP Glossary:

<https://cityofclovis.com/wp-content/uploads/PDS-Active-Transportation-Plan-Final-2023.pdf>

There are many terms used to describe different components of the transportation system, treatments, and bikeway facility types. To promote consistency and ease of understanding, the following terms are used throughout this guide. For glossary resources, see the end of glossary section.

Accessible Pedestrian Signal – Device that communicates information about the WALK and DON'T WALK intervals at signalized intersections in non-visual formats to pedestrians who are blind or have low vision.⁸

Amenities – Elements such as benches, kiosks, bicycle parking, points of interest displays, or trash receptacles that are placed on a sidewalk, pedestrian mall, or at transit stops in order to improve the convenience and attractiveness of the facility.¹

Arterial Road – Roadway designed for high-speed, high-volume travel between major points in both urban and rural areas.¹

Average Daily Traffic (ADT) – The total volume of traffic on a street during a given time period divided by the number of days in that time period.¹

Bicycle Boulevard – Bicycle boulevards are streets with low motorized traffic volumes and speeds, designated and designed to give bicycle travel priority. Bicycle boulevards use signs, pavement markings, and speed and volume management measures to discourage through trips by motor vehicles and create safe, convenient bicycle crossings of busy arterial streets.⁶

Bicycle Box – Designated area on the approach to a signalized intersection consisting of an advanced stop line and bicycle symbols. Bicycle boxes should be primarily considered to mitigate conflicts between through bicyclists and right-turning motorists and to reduce conflicts between motorists and bicyclists at the beginning of the green signal phase.⁶

Bicycle Detection – A system of hardware and software that detects the presence of bicyclists at a traffic signal and calls the green signal for the activated approach. Bicycle detection may consist of inductive loops, microwave, magnetometers, or pushbutton technologies.¹

Bicycle Pockets - Bicycle pockets are bicycle through lanes in between vehicle travel lanes and vehicle right- turn lanes at the approach to an intersection. A

bicycle pocket carves out space for bicyclists to improve rider visibility and mitigate conflicts with motorists, primarily to prevent right-turn collisions between riders and motorists.⁶

Bicycle Signal – Traffic control device used to improve intersection safety and operations for bicyclists. Bicycle signal heads can be installed at signalized intersections to indicate bicycle signal phases and other bicycle- specific timing strategies.^{3, 6}

Bicycle Signal Head – An assembly of one or more signal faces that is provided for controlling bicycle traffic movements on one or more intersection approaches.³

Bike Lane – A portion of a roadway that has been designated for preferential or exclusive use by bicyclists by pavement markings and, if used, signs.⁴

Bike Route – A signed route that is preferred for bicycling due to low traffic or access to destinations. Does not necessarily have a delineated or dedicated space for bicycling.¹

Bikeway – Generally, any type of bicycle facility, including paths in separate rights-of-way and on-street bikeways. Includes bike lanes, paved shoulders, signed bike routes, and sidepaths.¹²

Centerline – Line dividing the roadway from opposite moving traffic. Also the survey line with continuous stationing for the length of the project.⁹

Cone of Vision – A transportation safety concept pertaining to the visual acuity of the human eye and the area of focus by a motorist or other roadway user. Motorists tend to focus on the roadway at a distance three to four times the stopping sight distance. Because of this tendency, as motorists drive at higher speeds, they are less likely to notice objects, pedestrians, or bicyclists in the area of their peripheral vision.³

Conflict Areas – A two-dimensional zone within which potential travel paths cross and crashes could occur between users of the same mode or users of differing modes. Typical conflict areas include approaches to intersections, intersections, and driveways.**1, 6**

Contra-Flow Bikeway – A bikeway (usually a bike lane) in the opposite direction of motor vehicle traffic on a one-way street. Contra-flow bikeways require careful consideration of traffic control and conflicts with motor vehicle traffic.**6**

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Crossing Island – Raised islands placed on a street at intersections or midblock locations to separate crossing pedestrians from motor vehicles. Also known as refuge areas, refuge islands, center islands, pedestrian islands, or median slow points.**3**

Crosswalk – Legal crosswalks exist at all intersections, whether marked or unmarked. Midblock crosswalks must be marked in order for pedestrians to legally have the right-of-way.**6**

Curb Extension – Treatment or application designed to visually and physically narrow the roadway in order to create safer and shorter crossing distances for pedestrians while increasing the available space for street furniture, benches, plantings, and trees.**6**

Curb Radius – The radius of the arc formed where two intersecting curbs meet. Smaller curb radii encourage slower turning speeds at intersections.**1**

Curb Ramp – The transition for pedestrians from the sidewalk to the street. ADA Standards require all pedestrian crossings to be accessible to people with disabilities by providing curb ramps at intersections and mid-block crossings as well as other locations where pedestrians can be expected to enter the street.**3**

Design Speed – Design speed is a selected speed used to determine various geometric design features of the roadway. The assumed design speed should be logical with respect to the topography, anticipated operating speed, adjacent land uses, and the functional classification of the roadway.**1**

Detectable Warning – Standardized feature usually comprised of truncated domes of a contrasting color, which are built into, or applied to, walking surfaces. Detectable warnings alert people with vision impairments that they have reached a location where caution should be exercised. At these locations, visually-impaired pedestrians typically stop and determine their position relative to the roadway before proceeding further.**1**

Flexible Delineator Posts – Flexible delineator posts, also called flex posts or flex stakes, are used to provide vertical demarcation of a roadway feature, including some bike lanes. These posts are typically made of plastic with an internal spring mechanism mounted

to a base plate. Flexible delineator posts can be secured to the pavement using bolts, epoxy, or other techniques. The color of the plastic post should match the color of the pavement marking or striping with which it is associated.**1, 6**

Grade (site) – The grade of a site is determined by the slope of the ground surface. The slope is calculated by the vertical difference divided by the horizontal difference. For example, if a 1-foot vertical elevation change is present over a 50-foot distance, the resulting grade is $1/50 = .02$. This equates to a 2 percent site grade.¹¹

Horizontal Deflection Treatment – Traffic calming techniques that compel motorists to reduce their travel speed by changing the width or directionality of travel lanes at defined locations along a street. Examples include narrow lanes, chicanes, neckdowns, traffic circles, and curb extensions.⁹

Landing Area – A level area at a curb ramp or raised crossing with less than 2 percent grade or cross slope, designed for wheelchair users to wait, maneuver into or out of a curb ramp, or to bypass a ramp altogether.¹

Lane Diet – See Lane Narrowing.

Lane Narrowing – A design strategy used for traffic calming effects and for reallocating existing pavement width to create designated space for other uses, including bicycle lanes.³

Leading Pedestrian Interval (LPI) – At intersections with high pedestrian volumes and high conflicting turning vehicle volumes, a brief leading pedestrian interval may be used, during which an advance WALKING PERSON (symbolizing WALK) indication

is displayed for the crosswalk while red indications continue to be displayed to parallel through and/or turning traffic. The LPI may be used to reduce conflicts between pedestrians and turning vehicles. If a leading pedestrian interval is used, it should be timed to allow pedestrians to cross at least one lane of traffic or to travel far enough for pedestrians to establish their position ahead of the turning traffic before the turning traffic is released. Chapter 4E of the MUTCD provides specifications regarding pedestrian signals.⁴

Local Road – Locally classified roads account for the largest percentage of all roadways in terms of mileage. Local roads are not intended for long-distance travel, instead providing direct access to abutting land on the origin and/or destination end of a trip. Local roads are often designed to discourage through traffic.³

Mast Arm – A structure, also referred to as a cantilevered signal structure, that is rigidly attached to a vertical pole and is used to provide overhead support of traffic signal faces or grade crossing signal units. Traffic control signs may also be mounted to a mast arm.⁴

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Mid-Block Crossing – Designated crosswalks away from an established intersection provided to facilitate crossings at places where there is a significant pedestrian desire line such as bus stops, parks, and building entrances.⁶

Mixing Zone – A mixing zone requires turning motorists to merge across a separated bike lane at a defined location in advance of an intersection. Unlike a standard bike lane, where a motorist can merge across at any point, a mixing zone design limits bicyclists' exposure to motor vehicles by defining a limited merge area for the turning motorist. Mixing zones are compatible only with one-way separated bike lanes.³

Mountable Curb/Truck Apron – Mountable curbs with curb aprons deter passenger vehicles from making higher-speed turns but accommodate the occasional large vehicle without encroachment or off-tracking into pedestrian areas.³

MUTCD – The Manual on Uniform Traffic Control Devices is a compilation of national standards for all traffic control devices, including traffic signals.⁴

Neighborhood Traffic Circles – Raised islands typically built at the intersections of local residential streets to reduce motor vehicle speeds. They may be operated without stop control, or as two-way or all-way stop-controlled intersections. Neighborhood traffic circles frequently do not include raised channelization to guide approaching traffic into the circulatory roadway.^{3, 7}

Offset Intersection – Offset intersections are locations where two segments of a street connection do not directly align where they meet another street. These configurations are most challenging for bicyclists when offset local streets serving as bike routes or bike boulevards intersect with larger collector or arterial streets.⁶

Parking T – A short vertical white line to mark the side of a parking space, coupled with a short horizontal white line crossing it to mark each end of the space.⁴

Path – Short for “shared use path” and often synonymous with the word “trail,” a path is a separated facility, typically in an independent right-of-way such as a greenbelt or abandoned railroad. See Shared Use Path.

Paved Shoulder – Paved area at the edges of rural roadways. A paved shoulder is suitable for bicyclists if it is at least 4 feet in width.³

Pavement Markings – Pavement markings are used to convey messages to roadway (or shared use path) users. They indicate which part of the road to use, provide information about conditions ahead, and indicate where passing is allowed. Yellow lines separate traffic flowing in opposite directions. White lines separate lanes in which travel is in the same direction. Symbols are used to indicate permitted lane uses. The MUTCD provides specifications regarding pavement markings.⁴

Pedestrian Change Interval – A pedestrian change interval consists of a flashing UPRAISED HAND (symbolizing DON'T WALK) signal indication, and begins immediately following the WALKING PERSON (symbolizing WALK) signal indication. Chapter 4E of the MUTCD provides specifications regarding pedestrian signals.⁴

Pedestrian Hybrid Beacon – The pedestrian hybrid beacon (also known as the High-Intensity Activated crosswalk, or HAWK) is a pedestrian-activated warning device located on the roadside or on mast arms over midblock pedestrian crossings. The beacon head consists of two red lenses above a single yellow lens. Chapter 4F of the MUTCD includes information on the pedestrian hybrid beacon and how it should be used.⁴

Pedestrian Signal Head – Provide special types of traffic signal indications exclusively intended for controlling pedestrian traffic. These signal indications consist of the illuminated symbols of a WALKING PERSON (symbolizing WALK) and an UPRAISED HAND (symbolizing DON'T WALK). Chapter 4E of the MUTCD provides specifications regarding pedestrian signals.⁴

Raised Crosswalk – Traffic calming device at a pedestrian crossing or crosswalk that raises the entire wheelbase of a vehicle to encourage motorists to reduce speed.**6**

Rectangular Rapid Flashing Beacon (RRFB) – User- actuated amber light-emitting diodes (LEDs) that supplement warning signs at unsignalized intersections or mid-block crosswalks. They can be activated by pedestrians manually by a push button or passively by a pedestrian detection system.**3**

Restroom, Plumbed or Vault – A plumbed restroom is a toilet facility that is fully plumbed with running water. It is connected to a public water line and sanitary sewer line. A vault restroom is a toilet that does not have any running water and typically has a large tank below ground. A vault toilet requires regular maintenance to clear out the vault.**2**

Right(s)-of-Way – Land or property that is used for public purposes including streets, sidewalks, utilities, etc.

Road Diet – A short-hand term referring to reconfiguring a roadway to remove lanes in order to provide more space for pedestrians and bicyclists. Road diets are most typically performed on roadways where traffic volumes do not necessitate the existing number of lanes.**3**

Roadway – The paved portion of a street, from curb to curb, designed to convey motor vehicle, bicycle, transit, and/or freight traffic.**3**

Separated Bike Lane – One- or two-way bikeway that combines the user experience of a sidepath with the on- street infrastructure of a conventional bike lane. They are physically separated from both motor vehicle and pedestrian traffic.**3**

Shared Lane Marking – Shared lane markings (or “sharrows”) are pavement markings that denote shared bicycle and motor vehicle travel lanes. The markings are two chevrons positioned above a bicycle symbol, placed where the bicyclist is anticipated to operate.**6**

Shared Roadway – Roadway that is open to both bicycle and motor vehicle travel.**1**

Shared Use Path – Shared use paths, also commonly referred to as trails or greenways, are paths designed for and generally used by bicyclists, pedestrians, and other non-motorized users. Shared use paths are generally the preferred type of infrastructure for the majority of bicyclists in the “interested but concerned” category, due to their separation from the roadway and vehicular traffic. In many states, the term “trail” refers to an unimproved recreational facility intended for uses such as walking, hiking, and mountain biking. Care should be taken when using this term, as in some parts of the country, trails have distinctly different design guidelines.**1**

Shoulder – The portion of the roadway contiguous with the traveled way that accommodates stopped vehicles, emergency use, and lateral support of the subbase, base, and surface courses. Shoulders, where paved, are often used by bicyclists.**1**

Sidepath – A separated path along a roadway that serves people bicycling and walking within the street right-of-way. Compared to paths in independent rights-of-way, sidepaths have a higher likelihood of interactions with motor vehicles at driveways and intersections.**1**

Sidewalk Buffer – The space between the sidewalk and the adjacent roadway designed to improve pedestrian safety and to enhance the overall walking experience. Sidewalk buffers also provide an area for snow storage and splash protection for pedestrians, as well as space for curb ramps, light poles and traffic signs.**1**

Sight Distance – Sight distance is the visually unobstructed distance required to execute a stopping maneuver (stopping sight distance), pass another vehicle (passing sight distance), perform an unexpected maneuver (decision sight distance), or execute a movement at an intersection (intersection sight distance). Sight distances depend on roadway geometry, travel speeds, deceleration rates, and reaction times.**1**

Signal Timing – The process of selecting appropriate values for timing parameters implemented in traffic signal controllers and associated system software.**8**

Signal Warrant – Traffic control signal warrants define the minimum conditions under which installing traffic control signals might be justified. An engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location. The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. Chapter 4C of the MUTCD provides specifications regarding traffic control signal warrants. Warrants for installation of multi-way stop sign control are provided in Chapter 2B of the MUTCD.**4**

Signalized Intersection – Intersection between two traveled ways (roadway/roadway or roadway/shared use path) where user movements are regulated by a traffic control signal.**3**

Speed Cushion – Speed cushions are either speed humps or speed tables that include wheel cutouts to allow large vehicles to pass unaffected, while reducing passenger car speeds. Speed cushions extend across one direction of travel from the centerline, with a longitudinal gap provided to allow vehicles with wide wheel bases to straddle the hump.**6**

Speed Hump – Parabolic vertical traffic calming devices intended to slow traffic speeds on low-volume, low-speed streets.**6**

Steep Grade – Steep grades in landscaped areas are grades exceeding a slope of 4 (horizontal) to 1 (vertical) or 25 percent. Steep grades along a trail are typically 5 percent or greater. Refer to ADA and AASHTO for steep grade recommendations.**11**

Stop Bar – Solid white pavement marking line extending across approach lanes to indicate the point at which a stop is intended or required to be made.**4**

Street – A public corridor designed to provide access to businesses, housing, parks, and civic buildings within a city. The entire right-of-way, including sidewalks, the roadway, vegetated buffers, etc. is considered part of the street.

Street Buffer – The portion of a separated bike lane design that divides the bike lane from motor vehicle traffic.**5**

Traffic Calming – A strategy and toolkit to slow the speeds of motor vehicle traffic to a “desired speed” by incorporating physical features, such as chicanes, mini traffic circles, speed humps, and curb extensions.³

Traffic Control – Devices such as traffic signals, warning signs, stop signs, yield signs, and other regulatory signs.⁴

Traffic Volume – The number of vehicles passing a given point over a specific period of time.

Transit Stop– Location where public transportation vehicles (bus or rail) will stop to allow passengers to board or alight the transit vehicle.¹⁰

Transit Stop Wheelchair Landing Pad – The wheelchair landing is a portion of the waiting pad at a paved bus stop. This landing provides a location with a curb-height solid surface for buses to “kneel” and deploy the bus wheelchair ramp. Wheelchair landings must comply with ADA guidelines.¹⁰

Truncated Dome – See Detectable Warning.

Two-Stage Turn Queue Box – Two-stage turn queue boxes are areas set aside for bicyclists to queue to turn at signalized intersections outside of the traveled path of motor vehicles and other bicycles. In addition to mitigating conflicts inherent in merging across traffic to turn, two-stage bicycle turn boxes reduce conflicts between bicycles and pedestrians and separate queued bicyclists waiting to turn from through bicyclists moving on the green signal.

Underpass – Grade-separated facility designed to convey vehicular, bicycle, and/or pedestrian traffic under an intersecting roadway or railroad.⁸

Vertical Deflection Treatment – Traffic calming techniques that compel motorists to reduce their travel speed by changing the elevation of the roadway at defined locations along a street. Examples include speed humps, speed tables, and raised crosswalks.¹

Walk Interval – The walk interval is the portion of the signal timing intended for pedestrians to start their crossing of the roadway. The walk interval should be at least 7 seconds in duration so that pedestrians will have adequate opportunity to leave the curb or shoulder before the pedestrian clearance time begins, unless pedestrian volumes and characteristics do not require a 7-second walk interval, in which case walk intervals as short as 4 seconds may be used. Chapter 4E of the MUTCD provides specifications regarding pedestrian signals.⁴

Wayfinding – A system of directional signs along streets or paths that assist people in finding major destinations. Wayfinding can be designed specifically for drivers, bicyclists, or pedestrians.

Glossary Resources

¹ American Association of State Highway Transportation Officials (AASHTO)

² California State Water Resources Control Board

³ Federal Highway Administration (FHWA)

⁴ Manual on Uniform Traffic Control Devices (MUTCD)

5 Massachusetts Department of Transportation (MassDOT)

6 National Association of City Transportation Officials (NACTO)

7 National Center for Safe Routes to School

8 National Cooperative Highway Research Program

(NCHRP)

9 Texas Department of Transportation (TxDOT) **10** Transit Cooperative Research Program (TCRP) **11**

United States Access Board

12 Caltrans Streets and Highway Manual

Additional Topic Sections TBD:

Major Active Transportation Funding Sources:

ATP, Measure C, CMAQ, HSIP, STBG, SS4A

City of Fresno's Project Development and Implementation Process