

CHAPTER P

Pedestrian and Bicycle Facilities

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P.01 Introduction

P.01.01 Chapter Content and Resources

This chapter contains information relevant to the maintenance of pedestrian and bicycle facilities within the State highway right-of-way. Volume 1, Chapters A and B of the Maintenance Manual, describe work activities for flexible and rigid pavement which includes sweeping, surface treatments, crack sealing, and striping. Vegetation control and maintenance asset management repair activities can be found in Volume 1, Chapters C2, E and 10 of the Maintenance Manual.

Safety concerns, and functional requirements are involved in maintaining pedestrian and bicycle facilities. Based on maintenance staff judgment, these facilities should be maintained in accordance with this chapter. Pedestrian and bicycle facilities benefit from a degree of maintenance consistent with:

- (A) Original design
- (B) Vehicle, bicycle, and pedestrian safety
- (C) Use of adjoining property
- (D) Availability of funds

Refer to Volume 2 of the Maintenance Manual for charging practice instructions related to the maintenance of pedestrian and bicycle facilities.

This chapter provides an overview of policies, expectations, and strategies regarding the maintenance of pedestrian and bicycle facilities within the State highway right-of-way. For resources referenced within this chapter, please see the following:

American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, Chapter 7.2.2 Surface Repairs.

Americans with Disabilities Act (ADA) Standards for Accessible Design, US Department of Justice, September 15, 2010: [2010 ADA Standards for Accessible Design](#)

2014 California Manual on Uniform Traffic Control Devices (MUTCD), Revision 6: [CA MUTCD Files | Caltrans](#)

California Streets and Highway Code (SHC), Various Sections: [Codes: Codes Tree - Streets and Highways Code - SHC \(ca.gov\)](#)

California Vehicle Code Division 11, Article 4, Sections 21200 - 21210: [Codes Display Text \(ca.gov\)](#)

Caltrans National Pollutant Discharge Elimination System (NPDES) Statewide Stormwater Permit: [Stormwater Reports | Caltrans](#)

Complete Streets Hub: <https://completestreetshub.onramp.dot.ca.gov/>

- Complete Streets Tracking Form Template
- Complete Streets Guide

Design Information Bulletins (DIB):

<https://dot.ca.gov/programs/design/design-information-bulletins-dibs>

- Caltrans DIB 82-06, Pedestrian Accessibility Guidelines for Highway Projects (Nov 2017)
- Caltrans DIB 89-02 Class IV Bikeway Guidance (Separated Bikeways/Cycle Tracks) (February 2022)

Deputy Directives (DD) 42-R4, Americans with Disabilities Act (ADA) and State Disability Laws July 2022 (referenced in DP-37): <https://admin.onramp.dot.ca.gov/deputy-directives>

Director's Policies (DP) 37 Complete Streets: <https://admin.onramp.dot.ca.gov/directors-policies>

Highway Design Manual (HDM), Various Chapters: <https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm>

Local Assistance Procedures Manual, Chapter 18: [Local Assistance Procedures Manual \(LAPM\) | Caltrans](#)

Permanent Pedestrian Facilities ADA Compliance Handbook; March 2018: [PERMANENT PEDESTRIAN FACILITIES ADA COMPLIANCE HANDBOOK \(ca.gov\)](#)

Standard Plans and Specifications: <https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications>

Temporary Pedestrian Access Routes Handbook (2020): [Safety / Traffic | Caltrans](#)

U.S. Department of Transportation Federal Highway Administration (FHWA) Pedestrian and Bicycle Safety: https://safety.fhwa.dot.gov/ped_bike/

U.S. Department of Transportation Federal Highway Administration (FHWA) Pedestrian and Bicycle Safety: A Guide for Maintaining Pedestrian Facilities for Enhanced Safety: https://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwasa13037/

P.01.02 Definitions

AASHTO - American Association of State Highway and Transportation Officials

ADA - Americans with Disabilities Act

CA MUTCD - California Manual on Uniform Traffic Control Devices

DIB - Design Information Bulletin

DD - Deputy Directive

DP – Director's Policy

HDM - Highway Design Manual

FHWA - U.S. Department of Transportation Federal Highway Administration

NPDES - National Pollutant Discharge Elimination System

SHC – Streets and Highways Code

SHS - State Highway System
TTC - Temporary Traffic Control

Flexible Pavement: A roadbed surfaced with asphalt concrete (AC) or a Portland cement concrete (PCC) pavement with 2 inches or more of AC surfacing overlay. Oiled earth, gravel and earth surfaces are also considered flexible pavement.

Rigid Pavement: A roadbed surfaced with concrete pavement. Concrete pavement surfaced with less than two (2) inches of asphaltic concrete (AC) is also considered a rigid pavement.

P.01.03 References and Hyperlinks

Some of the references found in this chapter have hyperlinks that connect to the California Department of Transportation (Caltrans) intranet pages which are not displayable to the public. Until such time that the specific reference becomes available on the internet, the user will have to contact their District Maintenance Engineer or the appropriate Headquarters division to inquire about the availability of the reference.

P.01.04 Chapter Contact

This chapter of the Maintenance Manual is maintained by the Offices Maintenance Special Programs, Division of Maintenance.

P.02 Policies

Caltrans Director's Policy (DP) 37, Complete Streets, directs all transportation projects funded or overseen by Caltrans to provide comfortable, convenient, and connected complete streets facilities for people walking, biking, and taking transit or passenger rail. Director's Policy (DP) 37 was adopted by Caltrans on December 7, 2021, and supersedes DD 64 -R2, Complete Streets – Integrating the Transportation System.

When decisions are made not to include complete streets elements in capital and maintenance projects, the justification will be documented with final approval by a District Director via a Complete Streets Decision Document (CSDD) for State Highway Operation and Protection Program (SHOPP) projects, and a Complete Streets Tracking Form (CSTF) for Highway Maintenance (HM) projects. Please see the Complete Streets Hub for further requirements related to the CSTF. For additional information on DP-37 and Complete Streets, refer to Section P.01.01 of this chapter.

Chapter 100, Topic 105, Section 105.4 of the Caltrans Highway Design Manual (HDM), states that Caltrans complies with ADA and Government Code Section 4450 et seq. by making all State highway facilities accessible to people with disabilities to the maximum extent feasible. In general, if a project on State right-of-way is providing a pedestrian facility, then reasonable accessibility must be addressed.

Bicycle and pedestrian facilities that exist on State right-of-way are to be reasonably maintained in accordance with Volume 1, Chapter C5 of the Maintenance Manual authorizing, in limited circumstances, for State maintenance of non-State facilities, adjacent to the State right-of-way.

For additional information, refer to the HDM, Chapter 60: Topic 62 – Definitions; Chapter 100: Topic 105 – Pedestrian Facilities, Topic 115 – Designing for Bicycle Traffic, Topic 116 – Bicyclists and Pedestrians on Freeways; Chapter 200: Topic 208 – Section 208.6 Bicycle and Pedestrian Overcrossings and Undercrossings and Section 208.10 Bridge Barriers and Railings; Chapter 300: Topic 301 – Traveled Way Standards; Chapter 400: Topic 401 – Factors Affecting Design, Topic 402 – Operational Features Affecting Design, Topic 403 – Principles of Channelization, Topic 404 – Design Vehicles, Section 404.2 Design Considerations; Topic 405 – Intersection Design Standards and Chapter 1000: Bicycle Transportation Design. To access all HDM chapters, refer to Section P.01.01 of this chapter.

In addition, the following requirements are applicable:

- (A) If changes in design are needed, they must be approved by the District Landscape Architect and District Maintenance Engineer.
- (B) If the need for altering a bicycle or pedestrian facility is considered because of unsheltered encampments on or near the area, the District Landscape Architect and District Maintenance Engineer must pre-approve the design changes and may seek community input.
- (C) Vegetation that encroaches onto a bicycle or pedestrian facility and is a safety consideration, should be reasonably maintained, including pruning, thinning, or removing overgrown, dead, or dying plant material, in accordance with Volume 1, Chapter C2 of the Maintenance Manual, Section P.04.6 of this chapter and Volume 1, Chapter E of the Maintenance Manual. Vegetation control methods include chemical, biological, cultural, mechanical, thermal, structural, and manual. Please refer to Volume 1, Chapter E of the Maintenance Manual for a description of each method.
 - a) Vegetation control in the “C” Family provides guidance for pruning in non-landscaped areas with vegetation growing naturally within the State right-of-way. The “C” Family pruning activities focus on meeting the objective of safety and visibility.
 - b) Vegetation control in the “E” Family provides guidance for pruning in landscaped areas within the State right-of-way. In addition to focusing on meeting the objectives of safety and visibility, “E” Family pruning also considers the aesthetic appearance. As the vegetation control in the “E” Family includes the beautification of the landscaped areas, pruning in the “E” Family may be more extensive and require more manual vegetation control than pruning in the “C” Family.
- (D) When feasible, Caltrans will comply with Division 1, Chapter 8, Article 3; Sections 890-892 of the California SHC. To access all SHC chapters, refer to Section P.01.01 of this chapter.

P.03 Pedestrian and Bicycle Facilities

P.03.01 Pedestrian Facilities

Pedestrian facilities are comprised of sidewalks, walkways, crosswalks, and other pavement and striping delineated for persons to safely move about on foot, usually separated from motorized vehicles.

P.03.02 Ownership of Pedestrian Facilities

Caltrans is responsible for the maintenance of pedestrian facilities (Volume 1, Chapter C5 of the Maintenance Manual) that lie within the State right-of-way. Exceptions may exist under a Maintenance Agreement that states otherwise. Division 1, Chapter 1, Article 3, Section 114 and 130 of the California SHC, provided in Section P.01.01 of this chapter, permit cities and counties to enter into a mutual maintenance agreement with Caltrans to maintain pedestrian facilities. Before commencing any work, refer to your District Maintenance Engineer and Supervisor for any maintenance responsibility concerns.

P.03.03 Temporary Traffic Control for Pedestrian Facilities

Temporary signs and detours should be placed to direct pedestrians along a temporary route. Project designers of construction projects can plan for temporary pedestrian routes and the Resident Engineer assigned to oversee the work may consider, based on engineering judgment, that these are maintained throughout the construction phase. Upon final project completion, ADA compliance is verified for accessibility as required in DIB-82-06, Pedestrian Accessibility Guidelines for Highway Projects, provided in Section P.01.01 of this chapter.

For Caltrans maintenance projects, maintenance staff creating pedestrian detours must consider accessibility of temporary pedestrian facilities, as required in DIB-82-06, Caltrans Temporary Pedestrian Access Routes Handbook (2020), Caltrans Standard Plans T30-T34, and Section 12 of Caltrans Standard Specifications. Detours should show clear intent in providing temporary route direction and should provide safe and effective continuity of movement for pedestrians and other road users. To access all Caltrans Standard Plans and Specifications, refer to Section P.01.01 of this chapter.

See Part 6 of the 2014 Edition California Manual of Uniform Traffic Control Devices (CA MUTCD), provided in Section P.01.01 of this chapter, on Temporary Traffic Control (TTC) for policies related to TTC as well as Volume 1, Chapter 7 of the Maintenance Manual regarding applications for various road work scenarios.

In circumstances where maintenance forces are required to be on foot without physical protection from traffic, refer to Volume 1, Chapter 8 of the Maintenance Manual.

P.03.04 Bicycle Facilities

AASHTO defines bicycle facilities as improvements and provisions to accommodate or encourage bicycling and shared roadways specifically designated for bicycle use. These facilities are commonly referred to as Bikeways, and Bicycle Lanes.

The California Vehicle Code, Division 11, Article 4, Sections 21200-21210 states that persons riding bicycles have the same rights and responsibilities as drivers of vehicles.

P.03.05 Ownership of Bicycle Facilities

Bikeways that exist on State right-of-way are maintained by Caltrans. This includes the maintenance and replacement of non-standard bikeways in need of repair, per Volume 1, Chapters A and B of the Maintenance Manual within the State right-of-way, except for what has been stated under Pedestrian Facilities in DIB 82-06. Before commencing any work, refer to your District Maintenance Engineer and Supervisor for any maintenance responsibility concerns.

All bicycle and pedestrian facility sweeping, except for Rest Areas, Vista Points, and Park and Ride lots, can be charged to State Highway Account (SHA), or, if sweeping is justified under the Caltrans National Pollutant Discharge Elimination System (NPDES) Permit, captured under Stormwater related activities.

See Part 6 and Part 9 of the 2014 Edition California Manual of Uniform Traffic Control Devices (CA MUTCD) for policies related to Temporary Traffic Control (TTC), and Traffic Control for Bicycle Facilities, as well as Volume 1, Chapter 7 of the Maintenance Manual regarding applications for various road work scenarios.

P.03.06 Temporary Traffic Control for Bicycle Facilities

Signing, striping, pavement markings, traffic control devices and reflective objects should be kept visible and consistent to reduce confusion to the cyclist and motorist. If construction projects create a detour, temporary signs should be placed to direct bicyclists along the route. Bicycle route detours must show clear intent in providing temporary route direction based on engineering judgment.

See Section P.03.03 and Section P.03.05 of this chapter for more information regarding TTC for Bicycle facilities.

P.03.07 Bikeway Classifications

There are four types of bikeways, as defined by Division 1, Chapter 8, Article 3, Section 890.4 of the California SHC (Amended by Stats. 2015, Chapter 451, Section 17, [SB 491] Effective January 1, 2016):

- (A) Class I bikeways, such as a “bike path,” provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with crossflows by motorists minimized.
- (B) Class II bikeways, such as a “bike lane,” 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.

Note: These lanes are identified with striping along the roadway.

- (C) Class III bikeways, such as an on-street or off-street “bike route,” provide a right-of-way designated by signs or permanent markings and shared with pedestrians or motorists.

Note: Generally seen on the SHS as a “shared roadway” with signage and/or shared-lane markings.

- (D) Class IV bikeways, also referred to as cycle tracks or separated bikeways, provide a right-of-way designated exclusively for bicycle travel adjacent to a roadway and 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.

P.04 Identifying Distresses and Maintenance Needs

P.04.01 Sweeping, Debris and Litter Removal

Conduct visual surveillance to detect paving, litter, or debris that may affect traffic, pedestrians, bicyclists, highway appurtenances, and adjacent property, including temporary facilities.

Debris and sediment that accumulate on paved surfaces should be swept on a regularly scheduled basis to provide a reasonably safe and clean facility. The portions of the roadway used by non-motorized travelers, e.g., bicycle lanes and separate paths, may require more frequent sweeping.

P.04.02 Bicycle Facilities Maintenance Practices

Regularly scheduled maintenance helps to ensure that litter on the traveled way is regularly swept. Debris from the roadway may not be swept onto sidewalks and bikeways; nor may debris from sidewalks be swept onto the bikeways and roadways. Jurisdictions that use sand or gravel should sweep bikeways as soon as reasonably practical, particularly after major storm events. Facilities in coastal areas or near agricultural land may need to be swept more frequently due to increased sand and dust. The following recommendations can help to alleviate bicycle hazards caused by debris.

- (A) Establish a sweeping schedule for roadways and pathways that anticipates both routine and special sweeping needs. This may involve more frequent seasonal sweeping, and should include periodic visual inspection, particularly in areas that experience frequent flooding, or have frequent vandalism. The sweeping program must follow policy identified in Volume 1, Chapter D1 of the Maintenance Manual.
- (B) Remove debris in curbed sections with maintenance vehicles that pick up the debris. On roads with flush shoulders, debris must be picked up and removed.

For certain bicycle facilities (i.e., Class I and Class IV), a standard size sweeper may not fit within the width of the bikeway. If these bikeways are present in a district, it may be necessary to rent or procure specialty equipment to accommodate the regular sweeping of these facility types.

P.04.03 Pedestrian Facilities Maintenance Practices

Periodic visual inspections can be made of sidewalks, both, in unincorporated areas, and in cities to ensure they are safe for users. High use and high traffic areas may require more frequent visual inspections as identified in Volume 1, Chapters A and B of the Maintenance Manual. Any repairs should, where reasonable, comply with FHWA: Guide for Maintaining Pedestrian

Facilities for Enhanced Safety. To access all FHWA Guides, refer to Section P.01.01 of this chapter.

Sidewalk repairs within cities should be handled by city forces if a maintenance agreement exists between the two entities. Where unsafe conditions are found to exist, cities should be requested to make the repairs promptly. Curbs that are attached to sidewalks should be maintained pursuant to Section P.02 of this chapter.

Sidewalk sections may rise or heave at joints or cracks, which might create possible hazards to pedestrians and wheelchairs. To the extent reasonably feasible, they should be reasonably smooth and free of gaps, rises or obstructions.

Permanent Sidewalk surfaces will benefit by complying with the Permanent Pedestrian Facilities ADA Compliance Handbook; March 2018, as provided in Section P.01.01 of this chapter.

Cracks and elevation changes caused by the pavement heaving and shifting should be replaced, cracks filled and/or pavement ground.

P.04.04 Signage, Signals, and Delineation (Striping)

Pedestrian and Bicycle facility signage, signals, and bicycle path delineation must comply with Volume 1, Chapters M1 and M2 of the Maintenance Manual.

P.04.05 Pavement Surface Repairs

Cracks, potholes, bumps, and other surface defects can degrade bicycling condition. The following recommendations apply (AASHTO Guide for Development of Bicycle Facilities, Chapter 7.2.2 Surface Repairs):

- (A) Inspect bikeways per Volume 1, Chapters A and B of the Maintenance Manual for surface irregularities to minimize deterioration and cracking. Many Class II and Class III bicycle facilities that are within the roadway prism will be covered by regular roadway and/or shoulder repaving activities. Class I facilities (bike trails/paths), which may not be covered by a roadway rehab project, may require special attention to ensure pavement is maintained in accordance with Volume 1, Chapter A and Chapter B of the Maintenance Manual.
- (B) Establish a process that enables the responsible agency to respond to user complaints in a timely manner.
- (C) Inspect the edge of a surface repair to deter it from running longitudinally through a bike lane or shoulder.
- (D) Perform preventative maintenance periodically, such as, keeping drains in operating condition and eliminating intrusive tree roots.
- (E) Sweep a project area after repairs.

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- (F) Develop a pavement preservation program for bikeways to minimize deterioration and cracking.

 - (G) Information on how to address paved accessible path displacement, cracks, holes, and surface deterioration can be found in the FHWA: Guide for Maintaining Pedestrian Facilities for Enhanced Safety.

P.04.06 **Vegetation Control on Pedestrian and Bicycle facilities**

Prune vegetation to maintain visibility that is clear and free of obstructions for non-motorized travelers and bicyclists in accordance with Volume 1, Chapter C2 and Chapter E of the Maintenance Manual.

P.04.07 **Barriers**

Class IV Bicycle facilities may include inflexible physical barriers, such as, planters, railing, curb, on-street parking, etc. to reduce conflicts between bicyclists and motor vehicles. Many of these barrier types can be found in Part 9 of the CA MUTCD, and in Volume 1, Chapter M3 of the Maintenance Manual. Said barriers should be repaired or replaced if damaged or missing.

Class IV Bicycle facilities may also include flexible physical barriers, such as, bollards and posts. Repair or replacement information can be found in Part 3 of the CA MUTCD, and in Volume 1, Chapter M1 of the Maintenance Manual.

For additional information, regarding Class IV Bikeways, refer to DIB 89-02 - Class IV Bikeway Guidance.

P.04.08 **Snow and Ice Control**

Refer to Volume 1, Chapter R of the Maintenance Manual, for Pedestrian Pathway Snow and Ice policies and Control Measures. Using specialized equipment may be necessary and may warrant the need for the district to acquire such equipment through seasonal rentals or purchases.

P.04.09 **Openings**

Per the 2010 ADA Standards for Accessible Design, Chapter 3, Section 302.3, openings in floor or ground surfaces shall not allow passage of a sphere more than ½” diameter, except as allowed in the 2010 ADA Standards for Accessible Design Sections 407.4.3, 409.4.3, 410.4, 810.5.3 and 810.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.