

Caltrans Highway Design Manual Update Dated May 7, 2012 (Complete Streets Update)

May 2, 2012

Overview

The Highway Design Manual (HDM) has been revised to raise awareness of the many modes of travel that occur on the State highway system and to ensure the successful implementation of DD-64 R-1 (“Complete Streets”) by ensuring that design standards reflect this directive, and identify and explain Caltrans’ objectives for multimodal travel. These revisions have been created to assist in developing projects that are in balance with community goals and values and, to further promote this concept, the application of several standards have been written for district level (local) decisions.

Implementation

The revised HDM pages are dated and the changes are effective May 7, 2012. The changes shall be applied to on-going projects in accordance with HDM Index 82.5 - Effective Date for Implementing Revisions to Design Standards; with the exception that through December 31, 2012, the Regional/District Deputy Director of Design is delegated the authority to make the final determination on whether to apply these new design standards or continue to use the current design standards on a project-by-project basis for all projects where the PS&E has not yet been finalized. If the decision is not to apply the new design standards, the decision shall be documented in the project files and address the significant delay in the project schedule and/or the significant increase in the project engineering or construction costs.

Highlights of the New and Updated Guidance to Successfully Implement DD-64 R-1

Project Development Overview (Chapter 80)

The following new guidance has been added to ensure that land use place types and the context of the location that the state highway passes through are taken into consideration when designing the highway:

- **Highway Context (Index 81.2)** – New guidance provided that discusses designing a highway that is sensitive to, and respectful of, the surrounding context.
- **Place Types (Index 81.3)** – New guidance provided that discusses “place types” - the physical environment and land uses that surround the State highway.
- **Type of Highway (Index 81.4)** – New discussion has been provided in this portion of the manual to connect highway type terminology to highway context and place types.
- **Access Control (Index 81.5)** – New discussion provided to connect access control to highway context, place types, etc.
- **Design Standards and Highway Context (Index 81.6)** – New discussion provided to communicate that Designers have the ability to design for all modes of travel (vehicular, bicycle, pedestrian and transit); and also to tailor a project to the unique circumstances that relate to it and its location.

Pedestrians

The design of a new cross section is based upon the joint use of the transportation corridor by vehicles, including trucks, public transit, cyclists and pedestrians. The guidance in the manual has been updated recognizing the implications of this sharing of the transportation corridor so that readers are encouraged to consider not only vehicular movement, but also the movement of people, distribution of goods, and provision of essential services. For instance:

- **Lane Width (Index 301.1)** – For certain conventional state highways in urban, city or town centers (rural main streets), flexibility has been provided to allow 11-foot lanes. This will provide flexibility for local decisions and allow for the redistribution of limited right of way to other modes of travel per local community desires.
- **Pedestrian Facilities (Topic 105)** – Increased advisory standard for minimum width of sidewalk to 8 feet between curb and a building when in urban and rural main street place types to provide for some street furniture and allow people to stop at window displays in front of buildings without interfering with flow of the travelers using the sidewalk. For all other locations the minimum width of sidewalk was changed to be 6 feet when contiguous to a curb or 5 feet when separated by a planting strip. This was changed to assist travelers in wheelchairs and allow them passing room. Sidewalk width decisions continue to be an advisory design standard (district approval) to provide flexibility for local community decisions.
- **Traffic Control Plans (Topic 110.7)** – Edited text to assure adequate consideration for pedestrians during construction.
- **Curb Extensions - Bulbouts (Index 303.4(1))** – New discussion and information has been provided to minimize pedestrian crossing distances.

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- **Median Standards - Conventional Highways (Index 305.1(2))** - New discussion and guidance on providing openings through raised medians at pedestrian crosswalks has been provided.
- **Traffic Islands (Index 405.4)** – Design guidance has been updated, photos added and discussion added on pedestrian refuge needs.
- **Walkways (Index 903.5(7))** – Updated terminology and added a minimum clearance of 8 feet from pavement to the lower foliage that is to be provided adjacent to walkways to enhance pedestrian passage.
- **Transportation Facility Drainage – Basic Concepts (Index 830.1)** - Reworded text to provide clarity that guidance on this topic also includes the pedestrian path of travel.

Bicyclists

The design guidance in Chapter 1000 that addressed the mobility needs of bicyclists related to Class II bikeways (Bike Lanes) was distributed throughout the manual to where it was more appropriate. The topics and figures remaining in Chapter 1000 were reorganized, updated, and enhanced. New mandatory and advisory standards associated with bicycle transportation have been created to be in parallel with the vehicle mode. New and updated guidance has also been written on:

- **Traffic Control Plans (Topic 110.7)** – Edited text to assure adequate consideration for bicyclists.
- **Designing for Bicycle Traffic (Topic 115)** – New guidance has been written to discuss this subject.
- **Sustained Grades; Turnouts (Index 204.5 (4))** – Added guidance to provide bicycle turn outs on sustained grades where standard shoulders are not available.
- **Driveways on Frontage Roads and in Rural Areas (Index 205.4)** – Added guidance to provide for paving of unpaved driveways that cross bicycle paths to minimize or eliminate gravel from being scattered on the bike path.
- **Lane Width (Index 301.1)** – For certain conventional state highways in urban, city or town centers (rural main streets), flexibility has been provided to allow 11-foot lanes. This will provide flexibility for local decisions and allow for the redistribution of limited right of way to other modes of travel per local community desires.
- **Highway Shoulder Standards - Width (Index 302.1)** - Rumble strip guidance provided to provide path of travel for bicycle when installing rumble strips
- **Curb Extensions - Bulbouts (Index 303.4(1))** – Curb extension guidance has been written to balance the pedestrian crossing distance and provide for the bicycle path of travel.
- **Median Standards - Conventional Highways (Index 305.1(2))** - New discussion and guidance on providing openings through raised medians for bicycle path crossings has been provided.
- **Frontage Roads – Cross Section (Index 310.1)** – Increased the minimum paved 2-lane cross section widths to enhance bicycle paths of travel.
- **Transportation Facility Drainage – Basic Concepts (Index 830.1)** - Reworded text to provide clarity that guidance on this topic also includes the bicycle path of travel.

Transit

The design of a cross section is based upon the joint use of the transportation corridor by vehicles, including trucks, public transit, cyclists and pedestrians. The guidance in the manual has been updated recognizing the implications of this sharing of the transportation corridor so that readers are encouraged to consider not only vehicular movement, but also the movement of people, distribution of goods, and provision of essential services. For instance:

- **Transit Loading and Bus Loading Facilities (Indexes 108.2 and 108.4)** – Updated and added guidance and terminology to be consistent with current practices.
- **Commuter and Light Rail Facilities within State Right of Way (Index 108.3)** – Created guidance with a focus on commuter and light rail facilities and current practices.
- **Bus Rapid Transit (Index 108.5)** – Created text to discuss this new topic and coordinate with the other guidance on transit and Caltrans policy.
- **Curb Extensions - Busbulbs (Index 303.4(2))** – New discussion and information has been provided.
- **Curb Extensions - Busbays (Index 303.4(3))** – New discussion and information has been provided.
- **Freeway Entrances and Exits; Basic Policy (Index 504.2(1))** – Express lanes and Bus (BRT) lanes have been added to the mandatory design standard mandating connections to the right of through traffic.
- **Design Storm and Water Spread (Index 831.3)** - Reworded text to clarify drainage needs at bus/transit stops.