

## Memorandum

*Serious drought.  
Help Save Water!*

To: HIGHWAY DESIGN MANUAL HOLDERS

Date: April 10, 2014



File:

From: TIMOTHY CRAGGS  
Chief  
Division of Design

Subject: **DESIGN FLEXIBILITY IN MULTIMODAL DESIGN**

The Caltrans Program Review, and more recently the SSTI report, identified a need to provide more flexibility in Caltrans' highway design standards and procedures, especially in the context of urban environments and multimodal design.

Caltrans is continually improving its standards and processes to provide flexibility while maintaining the safety and integrity of the state's transportation system. This commitment is evident in the recent update to the Highway Design Manual (HDM) to facilitate the design of Complete Streets, recognizing that the State highway system needs to be multimodal, not just for cars and trucks.

Caltrans' philosophy and flexible approach toward designing multimodal transportation projects on the State highway system is reflected in the HDM, Chapter 80, which states in part:

*"The Project Development process seeks to provide a degree of mobility to users of the transportation system that is in balance with other values."*

*"A 'one-size-fits-all' design philosophy is not Departmental policy."*

*"The highway design criteria and policies in this manual provide a guide for the engineer to exercise sound judgment in applying standards, consistent with the above Project Development philosophy, in the design of projects. This guidance allows for flexibility in applying design standards and approving design exceptions that take the context of the project location into consideration; which enables the designer to tailor the design, as appropriate, for the specific circumstances while maintaining safety."*

For improvements on local systems, the responsible local entities have long been delegated authority to exercise their engineering judgment when utilizing applicable standards, including those for bicycle facilities established by Caltrans pursuant to Streets and Highways Code sections 890.6 and 890.8. This delegation and delegation process is outlined in the Caltrans Local Assistance Procedures Manual, Chapter 11, page 11-26. See [http://www.dot.ca.gov/hq/LocalPrograms/lam/prog\\_p/ch11-2012-10-05.pdf](http://www.dot.ca.gov/hq/LocalPrograms/lam/prog_p/ch11-2012-10-05.pdf).

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To support the philosophy of flexibility in design, Caltrans recently published “Main Street, California, a Guide for Improving Community and Transportation Vitality.” This guide emphasizes investments on California highways that function as a local main street and can improve multimodal travel and contribute to livable and sustainable communities. The guide is available at [http://www.dot.ca.gov/hq/LandArch/mainstreet/main\\_street\\_3rd\\_edition.pdf](http://www.dot.ca.gov/hq/LandArch/mainstreet/main_street_3rd_edition.pdf).

In addition, the American Association of State Highway and Transportation Officials (AASHTO) provides a wealth of knowledge in the guides that it develops at the national level. For example, AASHTO’s “Guide for the Development of Bicycle Facilities” a.k.a. AASHTO Bike Guide, provides information on how to accommodate bicycle travel and operations in most riding environments. The publication presents sound guidelines that result in facilities that meet the needs of bicyclists and other highway users. The guide provides flexibility to encourage designs that are sensitive to local context and incorporate the needs of bicyclists, pedestrians, and motorists.

Other references relative to urban street and bicycle facility design can also be valuable resources. Publications such as the National Association of City Transportation Officials (NACTO) “Urban Street Design Guide” and “Urban Bikeway Design Guide,” and the Institute of Transportation Engineers (ITE) “Designing Urban Walkable Thoroughfares,” are resources that Caltrans and local entities can reference when making planning and design decisions on the State highway system and local streets and roads. Caltrans believes that such guidance, coupled with thorough documentation of engineering judgments made in the process, can be of assistance to communities, particularly in urban areas, to support the planning and design of safe and convenient facilities that they own and operate. Caltrans is currently analyzing these guides to identify areas of improvement in our own standards and guidance. This will be a focus of the Department over the next year.

Given the flexibility provided to owners by existing standards and guidance, it remains of the utmost importance, as noted above, for the responsible entity (Caltrans or local authority) to document appropriately their engineering decisions for design-immunity purposes. Adequate documentation will ensure the full protection of design immunity provided under law to the responsible entity.

Caltrans and local entities are encouraged to work proactively with their communities to provide convenient, safe, and context-sensitive facilities that promote increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics as appropriate. This approach has resulted in successful flexible design solutions in the past and the Department endorses its use as a fundamental principle of planning and design.

For further information, please contact me at (916) 654-3858 or [tim.craggs@dot.ca.gov](mailto:tim.craggs@dot.ca.gov), or Ray Zhang, Chief, Division of Local Assistance at (916) 653-1776 or [rihui.zhang@dot.ca.gov](mailto:rihui.zhang@dot.ca.gov).

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