**Fact Sheet Exception to Mandatory Pavement Design Standards**



Prepared by:

Registered Civil Engineer

Submitted by

 (Name), Design Engineer Date Telephone

Recommended

for Approval

 (Name), Project Manager Date Telephone

Concurrence by

 \* (Name), Office Chief or Date Telephone

Deputy District Director

Approved by

 (Name), Chief, Office Pavement Engineering Date

Division of Pavement Management

\* Required if the Project Manager is not a Supervising T.E. or above.

1. PROPOSED PROJECT

1. Project Description:

Briefly describe the proposed project. Note type of project such as; new construction, widening, preservation (preventive maintenance or CAPM), rehabilitation, or reconstruction. Describe the major elements of work to be done with emphasis on proposed pavement work and work which impacts the pavement. Note description in this section can be general such as “Widen existing concrete highway by adding concrete lane and shoulder and rehabilitate existing pavement.” Provide the geographic project limits and post miles; i.e. “… On Route 12 in Sonoma County between Napa St. (PM 37.7) and Napa Rd. (PM 38.7.)” Reference the attached Project Location Map and/or Project Vicinity Map. Provide the program description and funding code for the project; i.e. “Roadway Rehabilitation 3R (201.120.)”

1. Existing Highway:

Describe the general highway characteristics including the setting (i.e. number of lanes, rural, suburban, or urban; flat, rolling hills, or mountainous), focusing on those features relevant to the proposed design exception, such as the existing pavement structure and conditions of lanes, shoulders, and median; bridge approaches, vertical clearance restrictions, design speed, grades, cross slope, superelevation, etc… which impact the pavement design. Specify the designated Maintenance Service Level of the highway.

1. Improvements:

Pavement

Describe the proposed pavement improvements such as: layers and thicknesses of new pavement structures, pavement rehabilitation/preservation strategies, pre-overlay repairs, etc…

Other

Describe other proposed improvements which may impact the pavement design or cost of a pavement project such as: median barrier, guardrail upgrade, cross slope/superelevation correction, roadside paving, eliminating roadside obstructions, side slope work, drainage repair/upgrades, etc…

1. Total Project Cost:

Include a good summary estimate of project cost segregated by major elements including: earthwork, pavements, structures, drainage, traffic (signing, striping, guardrails, etc…), traffic management (lane closures, temporary barriers, detours, public information campaign, etc…), environmental mitigation, and right of way.

2. FEATURES REQUIRING AN EXCEPTION

1. Design Exception Feature #1

Nonstandard Features:

Describe the proposed nonstandard feature. Identify whether it would be created, maintained, improved, or reduced. Reference the attachment(s) that show the location and nature of the proposed nonstandard feature and clearly label the nonstandard feature on the attachment(s).

Standard for Which Exception Is Requested:

State the specific standards and refer to the applicable Chapter, topic, or Index numbers of the *Highway Design Manual*. If more than one standard applies to a design feature, such as pavement design life and pavement shoulder design, state all that apply.

Reason For Requesting Exception

Be thorough, but brief; justification must be complete. Reasons exceptions have been granted in the past include a combination of improved performance, more cost effective (lower life cycle cost), not compatible with future plans and/or staging improvements. Supportive factors have included local maintenance support and consistency with adjacent highway segments.

Added Cost to Make Standard

Summarize an estimate of the added cost above the proposed project cost that would be required to meet the design standard for which the exception is requested. The estimate should be well developed and realistic but does not need to be at the same level as the project estimate.

Also, when the Fact Sheet covers multiple nonstandard features, provide separate cost summaries for the “standardization” of individual features.

1. Design Exception Feature #2

For projects with more than one design exception, add additional subsections B, C, D etc, follow the same outline as described in subsection A.

3. TRAFFIC DATA

 Include the project’s design designation (per [HDM Index 103.1](https://dot.ca.gov/-/media/dot-media/programs/design/documents/chp0100-032020.pdf)). If proposed pavement design life for the design exception differs from the standard, include design designation for the standard pavement design life as well. If the project has multiple design designations, only include those design designations applicable to the design exception. Note that, per [HDM Index 103.1](https://dot.ca.gov/-/media/dot-media/programs/design/documents/chp0100-032020.pdf), the design designation includes the equivalent single axle load (ESAL) and Traffic Index (TI).

4. LIFE CYCLE COST ANALYSIS

 Life cycle cost analysis is of primary importance to the Department when considering approval or rejection of pavement design exceptions. To strengthen the justification for design exceptions, the Fact Sheet must include an analysis of life cycle costs to identify economic impacts, plus an evaluation of the requested design exceptions on long term maintenance and rehabilitation obligations to the State.

 Provide and compare the pavement design life, initial construction costs, initial project support costs, future maintenance & rehabilitation costs, and user costs for the proposed project pavement design and the standard pavement design. [Appendix O-O](https://dot.ca.gov/programs/maintenance/pavement/concrete-pavement-and-pavement-foundations/life-cycle-cost-analysis) of the Project Development Procedures Manual provides a good example for how to format this information. For further information on how to complete a life cycle cost analysis, see the [Life Cycle Cost Analysis Procedures Manual](https://dot.ca.gov/-/media/dot-media/programs/maintenance/documents/office-of-concrete-pavement/life-cycle-cost-analysis/lcca-25ca-manual-final-aug-1-2013-v2-a11y.pdf).

5. OTHER PAVEMENT OPTIONS

 Discuss other practical options that were investigated for this project. Briefly explain why they were not selected. Provide initial and life cycle costs for each option.

6. FUTURE CONSTRUCTION

 Describe any planned future projects in the vicinity of the proposed design exception. Explain how the future project will impact the pavement work proposed in the current proposed project. Note if/how the future project would change the pavement design life of the current proposed project. Describe the future projects funding source (STIP, SHOPP, etc…) and schedule listed in the appropriate programming document.

7. PROJECT REVIEWS, CONCURRENCE

 Provide review date, comments, and concurrence of the District Materials Engineer, and District Maintenance Engineer and the HQ Pavement Reviewer. Note other relevant reviews (date and comments) by the District Pavement Committee, HQ Design Coordinator, HQ Traffic Operations Liaison Engineer, and/or FHWA Transportation Engineer, etc (if appropriate.)

8. ATTACHMENTS

All attachments should be black and white (no color copies or color photos) and in standard paper sizes of either 8.5”x11”, legal, or tabloid so that they can easily be reproduced. Clearly label each attachment page and the nonstandard feature number.

A. Provide location and/or vicinity map for the project. When the Fact Sheet covers multiple exceptions at various locations, a project strip map may be provided to indicate the general location of the various design exceptions.

B. Provide typical sections of the existing and proposed pavement structures where nonstandard features discussed in the document are proposed. Provide special details (if applicable) to clearly illustrate the situation for each location that does not meet the mandatory standard for pavement.

1. Provide the life cycle cost analysis input and output files from the RealCost software along with summary calculations of future maintenance and rehabilitation costs.

Letters, materials reports, test results, pavement studies etc should only be attached if requested by the Chief, HQ Office of Pavement Engineering or Pavement Reviewer, otherwise these documents should be filed in the project binder.

Do not attach superfluous materials; such as complete project plan sets or engineering reports unless specifically requested by the Chief, HQ Office of Pavement Engineering or the Pavement Reviewer.