

ATTENTION! There are a number of items in this appendix that need to be updated—especially in the areas of funding/programming, risks, and FHWA coordination. Until this appendix is updated, please see Appendix K for the discussion of topics in the Microsoft Office Word template associated with this appendix and discuss any issues with the Headquarters SHOPP program manager or advisor.

APPENDIX G – Preparation Guidelines for Project Scope Summary Report (Roadway Rehabilitation)

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APPENDIX G – Preparation Guidelines for Project Scope Summary Report (Roadway Rehabilitation)

ARTICLE 1 Overview

Use of Project Scope Summary Report (Roadway Rehabilitation)

These guidelines provide information to be used with the policies and procedures described in Chapters [9](#), [10](#), [11](#), and [12](#) of the Project Development Procedures Manual, *Highway Design Manual* (HDM), and design information bulletin [DIB 79-03](#). Roadway rehabilitation projects are funded from the 20.20.201.120 Roadway Rehabilitation Program (120 Program). The Project Scope Summary Report (PSSR) outline for a 120 Program project satisfies the requirements for both the project initiation document (PID) and the Project Report (PR) for projects in the 120 Program. The majority of 120 Program projects have a well-defined scope and follow a process that combines the project initiation and project approval phase. The project development team (PDT) should review project factors and determine whether the PSSR will signify completion of the project initiation phase or if a combined project initiation and approval process is appropriate. Article 5, [Chapter 9](#) of this manual describes subsequent approval procedures related to the project development milestone reached with the signing of the PSSR.

The following guidance is tailored to projects with a primary project scope of roadway rehabilitation. The PSSR (Roadway Rehabilitation) template shown in Article 3 of this appendix should be modified to include or exclude any applicable deficiencies or issues. See [Appendix L](#) – Preparation Guidelines for Project Study Report and [Appendix K](#) – Preparation Guidelines for Project Report for fundamental guidance and tools on the preparation of PID and project approval documents.

For a detailed sequence of the actions to complete a PSSR see the [Project Development Workflow Tasks](#) (PDWT).

PSSR Preparation

Scoping Team

A scoping team is staffed at the discretion of the district to scope pavement rehabilitation projects. Scoping provides a forum to identify and make decisions on significant issues.

Project Scoping

A scoping team field review is required for all resurfacing, restoration, and rehabilitation (RRR) projects. See Article 5, [Chapter 9](#) of this manual for a discussion this requirement.

RRR work is designed to preserve and extend the roadway service life for at least ten years as well as upgrade safety where reasonable. RRR differs from new construction or reconstruction in that the scope does not include capacity improvements, major realignments or major upgrading of roadway features or standards. The designer must always emphasize implementation of cost-effective safety improvements where practical. [DIB 79-03](#) provides the guidelines and criteria to identify appropriate safety upgrades on RRR projects.

The roadway deficiencies may be so severe that the overall highway improvements must be substantial in order to facilitate the necessary improvements. A point may be reached, however, where even with substantial deficiencies, the economic and environmental constraints preclude making the improvements. These cases will require justification and approval in the PSSR and in the design exception fact sheets.

Current deflection study requirements can be found Index 635.1 of the [HDM](#). Accordingly, the HDM deflection studies are an important component for the development of a rehabilitation strategy and should be done no more that 18 months prior to the start of construction. Because PSSRs must often be developed more than 18 months prior to the start of construction and resources are not always available to complete two deflection studies, the guide [Alternative Procedures to Estimating Flexible Pavement Rehabilitation Requirements for Project Scoping](#) has been developed to provide a preliminary flexible pavement depth for scoping purposes.

The use of the Design Scoping Index found in [Appendix L](#) can assist the project team in properly scoping a project. The Design Scoping Index can be used to identify facility deficiencies and the concerns of stakeholders. The Design Scoping Index ties

together the Planning Scoping Checklist, the Design Checklist, the Traffic Scoping Checklist, the Preliminary Environmental Analysis Report (PEAR), the Division of Engineering Services (DES) Scoping Checklist, and the Right of way Data Sheet. The Project Development Team (PDT) should evaluate which deficiencies can be addressed given the purpose and need, program definition, and funding constraints.

Field-Reviews & Documentation

All projects shall be field reviewed as discussed in Section 2 of [Appendix L](#) and the [PDWT Manual](#).

District Planning, Environmental and Right of Way Involvement

The scope of the roadway improvements proposed for a rehabilitation project is often influenced by potential impacts on the surrounding land and development. This is especially true for non-freeway rehabilitation projects. Social, environmental, and economic impacts may influence the scope of a rehabilitation project. This is particularly true where existing right of way is narrow and adjacent development is extensive. The district Transportation Planning Branch should be involved to provide background about city, county, and regional actions that have taken place within the project corridor that may have a bearing on the scope of the project. Some projects may require extensive involvement of the district right of way branch and environmental unit. The functional units should become involved as early as possible in the project development process to determine the appropriate level of involvement. Developing a plan for their involvement should help to avoid potential delays in project delivery and minimize potential changes in project scope that may result in project cost increases.

Safety Considerations

A safety analysis is performed early for all rehabilitation projects. These projects preserve and extend the service life of existing highways and also enhance safety. Therefore, rehabilitation projects may include such items as placement of additional surface material and/or other work necessary to return an existing roadway, including shoulders, bridges, roadside, and appurtenances to a condition of structural and functional adequacy. Rehabilitation projects may also include reworking or strengthening of base materials and upgrading of geometric features and appurtenances for safety purposes. See [Chapter 8](#) of the PDPM and the [HDM Section 110.8](#) for specific information regarding safety reviews.

Project revisions that occur as a result of safety reviews and recommendations may require additional environmental studies or right of way requirements. Notify the appropriate district unit of the revisions and determine the follow-up actions required.

Traffic Data

Traffic data is needed in the design of all highway projects, including rehabilitation projects. The data is used to determine the appropriate level of improvement and to evaluate the various roadway elements. For rehabilitation, the need for a formal forecast of future traffic is needed to establish the extent of loading the pavement during its pavement design life. This is quantified as Equivalent Single Axle Loads (ESALS) and pavement design life and Traffic Index (TI). Rehabilitation projects should normally be designed on the basis of current Average Daily Traffic (ADT) and current peak period Design Hourly Volume (DHV) to extend the structural section service life for at least 10 to 20 years. See [HDM Topic 613](#) for further information.

Reliable Project Scope and Cost Estimates

To minimize future cost increases, a thorough scoping of projects and reliable project cost estimates are needed. Reliable project cost estimates are extremely important at every stage in the project development process. Inaccurate estimates result in problems in Caltrans' programming and budgeting. The final concept, scope, and cost of each project must be established as early as possible. Initial estimates made for rehabilitation projects should be based on the results of field-reviews and include all anticipated work (e.g., safety, restoration, hardware modification, etc.).

PSSR Approval

The District Director (or Deputy District Director per Caltrans Delegation of Authority) is responsible for approval of the PSSR (Roadway Rehabilitation).

PSSR Distribution

A copy of the draft PSSR shall be sent to the appropriate Headquarters SHOPP program advisor. The Headquarters SHOPP program manager organizational chart can be found at the following location:

<http://www.dot.ca.gov/hq/oppd/pdpm/references/DD-62-HQ-SHOPP-Organization-3-3-2013.pdf>

Two copies of the approved report shall be sent to:

Division of Design
Office of Project Development Procedures
Attention: Design Report Routing
Mail Station #28

One copy of the approved report shall be sent to:

Appropriate Headquarters SHOPP program advisor.

Five copies of the approved report shall be sent to:

HQ Division of Engineering Services
Program/Project & Resource Management
MS 9-5/11g

ARTICLE 2 Guidelines for Completing PSSR (Roadway Rehabilitation) Template

General

The standard PSR outline found in [Appendix L](#) was adapted to meet the documentation needs of roadway rehabilitation projects. Sections of the standard PSR were combined and fill-in-the-blank features were included to facilitate the presentation of project information. The following template is a guideline. The actual report should be similar in organization and may contain similar headings and subheadings, but will vary based on features, complexity, and issues. A template for the PSSR is found in Article 3 of this appendix. The space for filling in various sections of the template has been condensed for practical viewing of the template. As appropriate, each section can be expanded to accommodate necessary information. The template should be modified to include or exclude any pertinent project information. “Not applicable” should be placed in the blanks for topics that do not apply to a specific roadway rehabilitation project.

Cover Sheet

All PSSRs should have a standard cover sheet to provide project identification information and signatures. Information to be provided includes the following:

- Title

Indicate “Project Scope Summary Report (Roadway Rehabilitation)”

- File Reference

District-County-Route-Post Mile (Dist-Co-Rte-PM)

The post mile should be given to the nearest 0.1 mile; if the project is 0.2 mile or more in length, give both the beginning and ending post mile.

Responsible Unit (RU)

The unit source code of the registered civil engineer in charge of the technical features of the project.

Expenditure Authorization (EA)

The multiphase EA, using the “0” phase for the project.

Month Year

Provide the preparation month and year of the report.

- Clearly state the reason for the PID on the title sheet. Where the PSSR is a PID and project report, include the following statements:
 - “Request Programming in the 200X SHOPP”
 - “Provide Project Approval”

Project approval requires that an approved environmental determination/document be attached to the report.

Where the PSSR does not document project approval, delete the phrase “And Provide Project Approval” from the cover sheet.

- On Route _____ From _____ To _____

Provide a brief description of the project limits that corresponds to the post mile given above and ties the limits to commonly known physical features on the ground that can be identified on available mapping.

- Right of way Endorsement

The statement shown in the template must be used and signed by the District Division Chief for Right of Way. The signature indicates that the right of way information in the PSSR and the right of way data sheet are complete, current, and accurate.

- Recommended Approval

A recommendation for approval must be signed by the project manager as an indication that all appropriate studies have been included and as an indication that the proposal is in accord with Caltrans policies.

- Approval

The PSSR is approved once the report is signed and dated by the District Director (or Deputy District Director per Caltrans Delegation of Authority). The date of signing becomes the official project approval date.

Vicinity Map Sheet (Separate Sheet)

- Vicinity Map

Refer to the discussion on Strip Map under the discussion of Attachments.

- On Route _____ From _____ To _____

Provides brief description of the project limits that corresponds to the post miles given above and ties the limits to commonly known physical features on the ground that can be identified on available mapping.

Registered Civil Engineer’s Stamp and Statement (Separate Sheet)

The second page of the PSSR (Roadway Rehabilitation) contains the required stamp or seal and signature of a registered civil engineer who is the person in responsible charge. The sheet must include a statement indicating that the registered civil engineer attests to the technical information contained herein and the data upon which recommendations, conclusions, and decisions are based. Approval of the PSSR is a management decision and is separate from this technical signature of the person in responsible charge.

Table of Contents (Separate Sheet)

1. INTRODUCTION AND BACKGROUND

Provide a one or two sentence description of the project. Fill in the table.

2. RECOMMENDATION

See [Article 2, Appendix K](#) for a discussion of this section of the report.

3. PURPOSE AND NEED

The following website has further guidance on the development of purpose and need statements. http://www.dot.ca.gov/hq/env/emo/purpose_need.htm

Purpose:

Need:

An example of a purpose statement for a rehabilitation project is: “The purpose of this project is to extend/provide X years of additional service life with minimal maintenance expenditures.”

4. EXISTING FACILITY, DEFICIENCIES AND TRAFFIC DATA

4A. ROADWAY GEOMETRIC INFORMATION

Provide the information requested in the table. If lane widths are not uniform, note the width of each lane.

For a bicycle lane not within the shoulder (e.g., left of a right turn only lane), use “Other Bicycle Lane” column. If the roadway is a bicycle route, but does not have designated bicycle lanes, answer, “yes” in the “Bike Route” column.

Identify and provide the dimensions of transportation facilities that are not described in columns 2, 3, 4, 5, or 6. For example, if there is a pedestrian walkway adjacent to the roadway, identify the type of facility and the width of the facility. Edit the legend for the table as appropriate.

See Article 1, Project Scoping, of this Appendix G for a detailed discussion of project scoping.

In the “Remarks” area, if RRR Standards are not being met, explain why, and provide exception approval date. An “Exception to Mandatory Design Standards Fact Sheet” must be completed. The district’s process for advisory design exceptions must be followed.

4B. CONDITION OF EXISTING FACILITY

Provide the latest information available for each homogeneous segment. Information about the traveled way is obtained from the most recent Pavement Management System (PMS) - Pavement Condition Survey Data.

Describe the nonstandard design features for pedestrian features in the pedestrian facilities data table. See [DIB 82-04](#) for accessibility requirements. Edit the heading to show the appropriate location reference point.

If the facility is adjacent to the roadbed and is provided for the exclusive use of bicycles and pedestrians, complete the table for bicycle path data. See [HDM Chapter 1000](#) for bikeway condition guidance. Edit the heading to show the appropriate location reference point.

4C. STRUCTURES INFORMATION

Provide the information requested.

See [HDM Index 307.3](#) and [DIB 79-03](#) for details on bridge (lane and shoulder) width criteria.

As appropriate, discuss evaluation of the bridge rail type with respect to pedestrian and bicycle use in the remarks sections.

In the remarks section, if RRR Standards are not being met, briefly explain why, and provide exception approval date. An “Exception to Mandatory Design Standards Fact Sheet” must be completed.

4D. TRAFFIC DATA

Traffic Volumes and Characteristics

Vehicle, bicycle, and pedestrian traffic data is needed for all rehabilitation projects to determine if the facility is at or approaching capacity, or if other improvements are needed. It is an important consideration both in the determination of the appropriate level of improvement (i.e., reconstruction vs. rehabilitation) and in the selection of values for various geometric elements. Discuss the current traffic data with respect to traffic demand in the construction year and how these factors affected the decisions regarding the timing of a major improvement such as additional lanes. Summarize

information provided by the district transportation planning on bicycle and pedestrian traffic. The pavement design life is chosen per the requirement in [HDM 612.4](#).

Provide the information requested.

Safety Improvements

All rehabilitation projects are to include a safety analysis (see [Chapter 9](#), Article 5). The analysis is to be documented in a separate report. The report is not to be attached to the PSSR.

In addition, a safety review is required in order to properly scope cost-effective improvements for safety and operational purposes. The PDT should evaluate the recommendations of the District Safety Review Committee to ensure that customer and stakeholder needs can be addressed and the Department's safety goal is upheld. See [Chapter 8, Section 7](#) of the PDPM and [Topic 110.8](#) of the *Highway Design Manual (HDM)* for further discussion of the safety review.

Special emphasis should be placed on implementing cost-effective solutions for safety improvements. When safety or operational improvements become a major factor in project scope, cost or impacts; the project becomes "reconstruction" (the fourth R). Reconstruction design criteria are covered by new constructions standards show in the [HDM](#).

Accident Data

Evaluation of vehicle, bicycle, and pedestrian accident data often reveals situations that require attention. In addition, relative accident rates can be an important factor in establishing the scope of a rehabilitation project. A review of accident records is an integral part of the rehabilitation project development process. The individual accident records shall be not included in the PSSR. The analysis of the accident data shall be summarized as part of the project safety analysis. A summary of the recommendations shall be included in the PSSR.

4E. MATERIALS

Provide a summary of the information provided in the district materials report. See [HDM Topic 114](#) for guidance on Materials Reports.

5. CORRIDOR AND SYSTEM COORDINATION

It is important to provide a broad view of what is happening in the corridor. Information from district planning can be obtained by requesting a Planning Scoping Checklist. This section should discuss:

- Pavement preservation strategies within the corridor.
- The long-term transportation plan for the corridor and how the strategy relates to the rehabilitation strategy. For example, identification of segments of roadway that may be relinquished can have an important impact of project decisions.
- Discussion of other planned projects in the corridor. Project management branches can provide information about other ongoing or anticipated projects in the vicinity of this project. District planning branches can provide information about ongoing local projects in the area.
- Should also discuss long-term maintenance or pavement strategy if available.

6. ALTERNATIVES

Discuss the roadway rehabilitation strategies. Identify the recommended alternative, and if appropriate, clearly identify the preferred alternative. Based on project complexities, the writer has discretion on how individual alternatives are presented. Issues for each alternative may be itemized under that alternatives or summarized for several alternatives.

Other Considerations:

Summarize all major issues, reviews, and coordination efforts within Caltrans and with other interested agencies. The template has a list of common issues. Address each item as appropriate or put “not applicable.” The template should be altered to include project specific issues. The report should include a summary of the risk management plan. Based on the complexities of the project, the risk management plan can be integrated into appropriate high-risk topic(s) or compiled into a separate summary.

7. TRANSPORTATION MANAGEMENT

7A. TRANSPORTATION MANAGEMENT PLANS

Transportation Management Plans (TMPs) will be required if significant construction delays are anticipated. TMPs develop construction traffic handling practices such as

lane closures, detours, mass transit service enhancements, and work-hour restrictions to minimize delays. As appropriate, address how bicycle and pedestrian traffic will be accommodated during construction. Costs associated with TMPs should be included in the cost estimate.

7B. VEHICLE DETECTION SYSTEMS

If appropriate, discuss the recommendations of the district traffic unit as it applies to maintaining the operation of the existing vehicle detection system. The vehicle detection is critical to traffic management and traveler information applications. Costs associated with staging or installation of any temporary detection system should be included in the cost estimate.

8. ENVIRONMENTAL DETERMINATION/DOCUMENT

If the proposed project is categorically exempt and/or categorically excluded (CE/CE), the PSSR should so indicate and document the approval date. Before approving a PSSR containing a CE/CE statement, the individual having authority to approve the project will have in hand the CE/CE determination form signed by the environmental unit chief and the functional unit division chief. The individual approving the project will then review the project to be certain that there have been no changes that affect the exemption determination and check that the project descriptions on the CE/CE determination form and in the PSSR correspond to each other. If there is any question, the environmental unit chief must be consulted. The CE/CE determination form, when required, must be attached to the PSSR.

9. FUNDING/SCHEDULING

9A. COST ESTIMATE

This template covers major items for pavement rehabilitation projects. The table should be expanded to add cost items that are not listed on the template, but are specific to the project.

Rehabilitation projects may include such items as placement of additional surface material and/or other work necessary to return an existing roadway, including shoulders, pedestrian walkways, bridges, roadside, and appurtenances to a condition of structural and functional adequacy. Rehabilitation projects may also include reworking or strengthening of base materials; upgrading of geometric features and appurtenances for safety purposes; and enhancement of the safety and mobility

features for bicyclists and pedestrians. Include a cost breakdown for each of the major elements of the project by providing the information requested.

Districts should, in coordination with the DES, base their cost estimates on experience with similar projects and available historical data. See [Chapter 20](#) and [Appendix AA](#) for further details on estimating project costs.

9B. PROJECT SUPPORT

Include estimated PY effort and other support costs of project development and construction from the time the project is initially programmed through the final stages of construction. The proposed schedule should be based upon an evaluation of the worst case and the optimal scenario. This information is not required for Minor projects.

The cost of any specialty contracts or other atypical direct project costs that may be required for the project should also be estimated by the proposed fiscal year.

9C. PROJECT SCHEDULE

Provide the project milestone dates in the table in the template.

10. FHWA COORDINATION

Discuss coordination with Federal Highway Administration (FHWA).

If either federal action or the use of federal funds is anticipated, include the following language:

This Report has been reviewed by *(Name and title of the FHWA Liaison Engineer)* reviewing on *(date)*. Per *(latest Federal Transportation Act)*, this project is eligible for federal-aid funding and is considered to be STATE-AUTHORIZED under current FHWA-Caltrans Stewardship Agreements.

If either no federal-aid funding will be used or no FHWA approval required, delete the above statement and replace with the statement: *“No federal-aid funding anticipated or no FHWA action required for this project.”*

11. REVIEWS

The template includes a list of suggested reviews. Each district should modify the template to reflect reviews established by district procedures.

Include reviewer's signature and review completion date, or N/A if not applicable. Indicate type of federal involvement.

Approval of exceptions to mandatory design standards is the responsibility of the Headquarters Division of Design. This is accomplished via the mandatory design standard fact sheet process (see [Chapter 21](#) and [Appendix BB](#)). Approval of exceptions to mandatory design standards must be sought as early as possible in the project development process, especially where project concept and/or cost estimate depend on the proposed design exceptions. As soon as nonstandard design features are identified, the Headquarters Design coordinator or reviewer should be contacted to discuss the proposed nonstandard features. All nonstandard advisory design standards shall be handled in accordance with the District's approved procedures.

12. ATTACHMENTS

See [Appendix L](#) for further information regarding what should be attached to a PID and what type of documents are more appropriate for project files.

Include the items listed on the boilerplate.

- Strip map (may be eliminated if the Vicinity Map contains the information discussed below)
A small map showing the project limits consistent with the brief description, post miles, and a north arrow. The map should be sufficient to locate the project at a glance for a person unfamiliar with the project. It should show the features used to identify the project limits such as roads, streams, junctions or railroads, and the nearest community that can be reasonably shown on the map, and a note indicating the direction to and name of the next community in each direction. It is necessary to understand the proposed work, as such pertinent project features are shown on the strip map. The vicinity map is not to be cluttered with project features.
- A GIS map of the project vicinity and counties containing the project limits
Color-coding via a color key or legend for the map should indicate:
 - a) The total number of distressed lane miles in the district from the last pavement condition survey (including the date);
 - b) The location of distressed lane miles which the project will retire; and
 - c) The number of distressed lane miles that are being retired in the current SHOPP (or midcycle SHOPP) document for the District.

The statistic for item b should be presented beside the largest colorized portion of the project. The key or legend for the color-coding should be superimposed in the corner of the map so as to not obscure the project limits, north arrow, or other markers.

- SHOPP Output Table
Contact the [Headquarters Roadway Preservation SHOPP Manager](#) for the SHOPP Project Output form and guidance on how to complete the form.
- Typical Section(s)
- PMS Inventory Data
- Material Report
- Environmental Determination/Document
If PSSR is for project approval, the environmental determination/document must be attached
- Right of Way Data Sheet
- Scoping Team Field-Review Attendance Roster
- STRAIN Data
- Rail Upgrade Priority Factors
- Structural Section Recommendation (Memo from district materials unit for widening, realignment, etc.) - (as appropriate)
- Note: Add additional attachments as necessary.

ARTICLE 3 Template for Project Scope Summary Report (Roadway Rehabilitation)

This article is a template for the project scope summary report. When using the template, delete any italicized text within the body of the document. The italicized text provides instructions for template users and does not provide any value to the final document.

The template is available at:

<http://www.dot.ca.gov/hq/oppd/pdpm/templates/apdx-g-template.docx>