State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

Memorandum

To: DISTRICT DIRECTORS
DEPUTY DIRECTORS
DIVISION CHIEFS

Date: November 8, 2024

From: LISA RAMSEY
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Subject: **DESIGN INFORMATION BULLETIN 81-03**

Design Information Bulletin (DIB) 81 "Minor Pavement Rehabilitation Capital Preventive Maintenance (CAPM) Guidelines" has been updated to version 81.03 and is now available on the Division of Design DIB external website at <https://dot.ca.gov/programs/design/design-information-bulletins-dibs>. This DIB is effective as of the date of this memorandum and is to be implemented with the procedures in the Highway Design Manual Index 82.5 "Effective Date for implementing Revisions to the Design Standards."

Background

Federal-aid funding provisions allow for projects to accomplish preventive maintenance activities of the pavement. This work provides cost effective treatments to an existing roadway system without increasing pavement structural capacity. Projects that propose improvements beyond the DIB 81 guidance will be processed using DIB 79.

Since the issuance of the previous version of DIB 81, the California Department of Transportation (Caltrans) has implemented various policy, procedural and technical updates regarding complete streets, and pavement designs.

Summary of Significant Changes

- Inclusion of geometric changes in CAPM projects.
- Incorporation of DIB 94 Complete Streets Contextual Design Guidance.
- Clarification of Pavement design criteria.
- Clarification of terminology regarding roles and responsibilities of HQ/District stakeholders and other minor edits.

Project specific applicability and questions should be referred to the Project Delivery Coordinators or the District Pavement Program Advisors.

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11/12/2024
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DESIGN INFORMATION BULLETIN NUMBER 81-03

California Department of Transportation
Division of Design - Office of Standards and Procedures
Division of Maintenance - Pavement Program

Minor Pavement Rehabilitation Capital Preventive Maintenance (CAPM) Guidelines

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November 8, 2024

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1.0 INTRODUCTION

1.1 Minor Pavement Rehabilitation (Capital Preventive Maintenance) for the State Highway System

This Design Information Bulletin (DIB) provides guidance on design procedures and standards for Capital Preventive Maintenance (CAPM) projects, including how to scope cost-effective operational improvements and upgrades to other roadway assets. Thus, this DIB incorporates the concepts of preventive maintenance and asset management.

This DIB supplements the highway design guidance and standards provided in the California Department of Transportation *Highway Design Manual (HDM)*. Although design standards are not explicitly stated in this DIB, design standards that are used will be in the same manner as 3R projects (see *DIB 79*) and Section 2.3 of this DIB. Any documentation regarding design decisions should adhere to the guidelines set forth in HDM Chapter 80.

This DIB is not a substitute for engineering knowledge, experience, or judgment. Many of the guidance given herein are subject to amendment as conditions and engineering experiences may warrant. Unique situations may call for variation from the policies and procedures described in this document, subject to Division of Design or delegated approval, or such other approval as may be specifically provided for in the text.

Additional guidance to consider include the *American Association of State Highway and Transportation Officials (AASHTO) Roadside Design Guide* and *Highway Safety Design and Operations Guide.* Copies of these publications can be ordered through the AASHTO website. Other available resources that should be reviewed include:

- *DIB 79: "Design Guidance and Standards for Major Pavement Roadway Rehabilitation (2R and 3R) Projects and Certain Other Non-Freeway Projects"*
- *DIB 82: "Pedestrian Accessibility Guidelines for Highway Projects"*
- *DIB 94: "Complete Streets: Contextual Design Guidance"*
- *Storm Water Quality Handbook "Project Planning and Design Guide"*
- *Traffic Safety Systems Guidance*
- *California MUTCD*
- *Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians*
- *HDM Pavement Engineering Chapters 600* through *680*
- *Concrete Pavement Guide (CPG)*
- *Project Development Procedures Manual (PDPM)*
- *Automated Pavement Condition Survey (APCS) Manual*
- *Life-Cycle Cost Analysis (LCCA) Procedures Manual*

1.2 General Information

CAPM is a planned pavement management strategy to make cost-effective repairs on existing roadways in generally fair condition with considerable remaining service life (15 – 30 years). CAPM strategies are non-engineered pavement structure designs typically applied to moderate structural distress that do not alter existing roadway geometric features. The goal of CAPM is to extend pavement service life by 5 – 10 years before costlier major pavement rehabilitation (2R or 3R) is required.

Cost effectively extending pavement service life and improving pavement smoothness are key elements of CAPM projects. CAPM strategies are outlined in Section 3.0 of this DIB and are intended to minimize disruptions to motorist, bicyclist, pedestrian, and transit operations.

The asset management concept is integrated with this DIB. Thus, a performance-based approach is utilized based on performance objectives and assets. This approach, together with Departmental goals, should result in pavement projects with added features that are feasible, practical, and cost-effective. In general, the roadway asset on which the majority of the work will be performed in the project would be considered the anchor asset. The work included in a CAPM anchor project should not propose major facility upgrades, but it can include all appropriate items of work as discussed in this DIB if the project estimate remains within the funding constraints. Projects with combined extensive satellite asset work greater than half the estimated project cost should not be considered as pavement anchor projects. When CAPM work is part of another anchor asset project, then the limitation of other assets or features described in this DIB are no longer applicable. See *DIB 79* Section 1.4 for information on the appropriate guidance to follow when there are minor and major pavement rehabilitation strategies within the same project limits.

1.2.1 Capital Preventive Maintenance Program (20.XX.201.121)

CAPM projects are programmed in the 20.XX.201.121 CAPM (121) program. Localized repairs for more severe distress conditions can be included in the scope of CAPM projects. However, if there are more extensive failures that require strategies beyond those described in Section 2.1.1, then the project would be considered as major pavement rehabilitation (2R or 3R). Coordinate with the HQ Pavement Program Advisor and District Maintenance Engineer/District Pavement Program Advisor throughout the project development when analyzing distress condition data and evaluating alternative pavement strategies. The Division of Maintenance Pavement Program website also provides guidance on pavement distress evaluation and procedures to develop pavement projects.

1.3 Other Related Pavement Programs

1.3.1 Roadway Rehabilitation Program (20.XX.201.120 or 20.XX.201.122)

Pavement distress that needs more extensive strategies than those described in Section 2.1.1 may require major pavement rehabilitation (2R or 3R), which includes strategies such as thick HMA-A

overlays> 0.25'; full-depth recycling; lane replacement; concrete overlay over asphalt; unbonded concrete overlay over concrete; and crack, seat, and HMA overlay.

Some project segments and multi-lane roadways may exhibit multiple distress conditions that can be cost effectively addressed using a combination of pavement strategies. Projects with extensive major pavement rehabilitation (2R or 3R) needs may also include some pavement preservation or CAPM strategies, but those projects should follow the guidance in *DIB 79*. Consult the HQ Pavement Program Advisor and refer to the *HDM* and *DIB 79* for more information.

1.3.2 Pavement Preservation (HM-1 Program)

Pavement preservation primarily consists of non-structural preventive and corrective maintenance strategies funded under the HM-1 Highway Maintenance Program. The goal of pavement preservation is to maintain existing pavement in generally good condition before more expensive rehabilitation is required. Some pavement engineering strategies for both preservation and CAPM are similar but are typically applied to segments with different distress extents.

Pavement preservation strategies may be used on SHOPP projects in combination with more extensive minor (CAPM) or major pavement rehabilitation (2R or 3R) work, such as preserving the inside lanes of multi-lane routes or individual interchange ramps or connectors. However, stand-alone preservation projects on pavement in generally good condition are not funded by the SHOPP or addressed by this DIB. For more information, consult with the HQ Pavement Program Advisor and refer to *HDM Topic 612* and the Maintenance Technical Advisory Guide.

1.4 Minor Pavement Rehabilitation (CAPM) Scope

CAPM projects are expected to:

- Fill the pavement management gap between pavement preservation (maintenance) and major pavement rehabilitation (2R or 3R) strategies.
- Extend service life by 5 to 10 years with cost-effective CAPM strategies.
- Correct minor structural and roughness pavement distress.
- Maintain the facility in safe and serviceable operating conditions.
- Include appropriate preservation and repair strategies for non-mainline pavement, such as ramps, connectors, shoulders, and curb ramps.
- Reduce maintenance worker exposure by repairing deteriorated pavement segments.
- Maximize federal funding participation using Capital Project funding in a coordinated pavement management program.
- Perpetuate most existing conditions and facilities in fair to good condition, including traffic markings, signs, and safety devices, except as discussed in Section 4.0. Other satellite assets with established needs should only require moderate work

and not exceed, when combined, half the total project cost.

- More extensive or expensive works for the satellite assets may indicate the project is not suitable as a CAPM anchor project. Alternatively, if feasible, it may be preferable to defer the work for future major pavement rehabilitation (2R or 3R) projects when the predicted pavement distress warrants that level of investment in the roadway facility. Refer to Section 4.0 for more details about cost effective CAPM project upgrades to safety and other assets.

- Use cost analysis to support pavement management decisions, including evaluating the cost-effectiveness of minor rehab (CAPM) versus major pavement rehabilitation (2R or 3R) strategies, as detailed in Section 2.2.2. For example, analyze the cost and effectiveness of individual slab replacements compared to continuous concrete lane replacements using Section 1.2.2 of DIB 79, Existing Pavement Conditions
- Follow the guidance in *DIB 79 Sections 2.1.4 and 2.1.5*

2.0 PROCESS

2.1 Pre-scoping Activities

The District Pavement Program Advisors submit project candidates to the Headquarters (HQ) Pavement Engineer/Pavement Program Advisor to develop the 10-year SHOPP plan. The candidate list should be submitted as early as possible in the annual project development cycle, usually in late winter/early spring, to ensure identification and refinement of the best candidate projects before the development of scoping documents.

Project strategies that exceed these DIB guidelines, such as overlays thicker than indicated in Section 3.2 or digouts exceeding 20% of the project cost, should be discussed with the HQ Pavement Program Manager and Project Delivery Coordinator (for non-delegated projects per the District Design Delegation Agreement). Otherwise, the project should be programmed as a major pavement rehabilitation (2R or 3R), and it is subject to the guidance in *DIB 79* and design standard decision documentation for nonstandard features.

2.1.1 Pavement Distress Criteria

CAPM generally treats segments with:

- 10% ≤ Alligator B cracking ≤ 30%
- 3% ≤ 3rd Stage cracking ≤ 7% by lane requiring slab replacement[1]
- Faulting severity > 0.15” with extent > 25%
- IRI > 170 inches/mile[2]
- Other types of extensive minor concrete distress (non-structural cracking, spalling, settled corner cracks, etc.)

Concrete Pavement Criteria

[1] For JPCP concrete pavement, individual slab replacement should only restore serviceability due to substantial distress such as severe 3rd Stage cracking, severe spalling, or corner cracking with settlement. Project segments with more extensive distress, including 1st Stage cracking or a high number of previously replaced slabs > 8% should be planned as a 2R or 3R project. Refer to *DIB 79* more detailed information.

[2] For concrete pavement, grinding, grooving, or continuous profile grinding work should only be considered where IRI or faulting distress meets the criteria. Grinding of individual slab replacements and existing areas of localized roughness can be considered to improve ride quality and restore serviceability.

More severe distress conditions may require more extensive repair strategies, such as addressing localized failures. More extensive distress conditions that exceed these severity thresholds may require a major pavement rehabilitation project (2R/3R). Consult the HQ Pavement Program Advisor and refer to *DIB 79* for more information.

2.1.2 Coordinated Pavement Management Strategies

Constructing a CAPM project while planning a major pavement rehabilitation (2R or 3R) project can be an acceptable pavement management approach if the engineering strategies are coordinated to ensure effective resource allocation and optimize overall pavement performance. An interim CAPM strategy may be appropriate to address a project segment with extensive structural distress if subsequent major pavement rehabilitation (2R or 3R) work is programmed as a long-lead project due to the complexity of the project. CAPM projects in advance or in lieu of major pavement rehabilitation (2R or 3R) will affect the predicted performance and optimal project timing. Therefore, the HQ Pavement Program Advisor must be consulted for concurrence.

CAPM projects may also be appropriate and cost-effective on Class 3 roads (see *SHSMP*) where the facility is beyond the capacity of maintenance preservation strategies to repair. Coordination with the HQ Pavement Program Advisor, District Pavement Program Advisor, and HQ Project Delivery Coordinator is required if no future major pavement rehabilitation (2R or 3R) upgrades are planned within the project limits.

Successive CAPM strategies may be appropriate for a project segment depending on the following:

- Pavement age and performance history. CAPM is most cost-effective for existing roadways with considerable remaining service life (15–30 years), although this may be a subjective determination based on engineering judgment. For flexible pavement with adequate performance history, successive CAPM projects are viable for maintaining serviceability and extending pavement life. However, for aged concrete pavement with two or more previous CAPM strategies, major pavement rehabilitation (2R or 3R) is likely the preferred strategy for outside lanes. This approach ensures that projects are viable for approval and optimizes resource allocation in a timely manner.

- Distress conditions. CAPM is typically appropriate for existing roadway segments with moderate structural distress according to the criteria in Section 2.1.1. For JPCP, the extent of previously replaced slabs (which deteriorate at a different rate) should also be considered to determine whether minor CAPM or major pavement rehabilitation (2R or 3R) is most cost effective.
- Traffic study analysis. If a CAPM project can incorporate cost effective safety or operational improvements identified by the district Traffic Safety unit without exceeding authorized funding limit, then the improvements should be considered in the project scope (refer to Section 4.0 for examples). If including operational or safety improvements will create a new nonstandard feature, consult with the HQ Project Delivery Coordinator or District Design Liaison early if contemplating the use of a nonstandard design feature. See Section 2.3 of this DIB.

2.2 Development of Project Initiation Documents (PID)

The Project Initiation Report (PIR) fulfills the PID requirement for programming CAPM project. Depending on the scope of satellite asset work, most CAPM projects should be Categorical Exemption (CE) projects with little or no environmental impact and work within the existing right of way. The SHOPP project selection process is established by the district Project Nomination Team comprised of the district Asset Manager, district SHOPP Advisors, functional unit representatives, and SHOPP Program Managers.

The district is responsible for developing the PIR. Minor SHOPP projects do not require a PIR and become part of the district's annual Minor Program. Major SHOPP projects are submitted to the CTC individually for adoption. Guidance for preparation of the PIR is available on the Office of Program and Project Planning website. The draft PIR is submitted to both the HQ and District Pavement Program Advisors for comments. Also, PIRs that have been approved for 2 years should be re-evaluated to validate the proposed pavement repair strategy. The re-evaluation should consider the latest automated pavement condition report (APCR) data and include a new Scoping Team Field Review.

2.2.1 Scoping Team Field Review

All CAPM candidate projects should have a Scoping Team Field Review after initial development of the draft PIR. This review provides an opportunity to refine the project scope and determine appropriate repair strategies depending on pavement needs, traffic operations, and design standards.

Scoping Team Field Reviews should include the HQ Pavement Program Advisor or District Pavement Program Advisor. If the HQ and District Program Advisors, District Design Liaison, or Project Delivery Coordinator (for non-delegated projects per the District Design Delegation Agreement) do not attend the field review, they must be

consulted before the project scope is finalized. Recommended team members and resources for the field reviews are listed in Attachment A, CAPM Scoping Team Field Review Checklist. Field reviews should be planned and scheduled to encompass as many different project locations as possible. Any project not reviewed by the HQ Pavement Program Advisor is at risk of being disputed if scoping issues occur.

2.2.2 Cost Analysis

Formal Life Cycle Cost Analysis (LCCA), according to the Life Cycle Cost Analysis Procedures Manual, is not required for minor CAPM projects. However, some cost analysis is required to support effective pavement management decisions, such as analyzing the cost effectiveness of minor (CAPM) versus major pavement rehabilitation (2R or 3R). A comparison of different pavement products or strategies should be done to support project scoping and life cycle planning during the preparation of the PIR. The results of the cost analysis should be documented in the PIR (see *PDPM Chapter 8*).

More robust cost analysis is needed to scope rehabilitation work on older concrete pavement segments with either:

- Existing distress from 7 – 20% per lane
- Previously replaced slabs > 8% per lane

CAPM individual slab replacement strategy with a short service life and low initial cost should be compared to a major pavement rehabilitation (2R or 3R) strategy, such as lane replacement, which typically has a higher initial cost but will have a longer 40-year design life.

2.3 Design Guidance and Documentation of Design Exceptions

CAPM projects that are consistent with the guidelines in this DIB do not require design standard decision documentation for existing nonstandard geometric features unless the project scope modifies those existing features or introduces new deviations. Guidance for design standards will be from DIB 79 Section 3.0 or DIB 94 for complete streets projects that qualify based on the requirements in DIB 94. The bold and underlined pavement engineering design standards in HDM Chapters 600 through 670 still apply to minor pavement rehabilitation (CAPM) projects.

CAPM projects do not change pavement structural capacity, construct pavement widening, or reconstruct the pavement structural section. However, a change to the existing traffic striping is allowable to modify the traffic configuration. This change to the traffic pattern on the existing pavement is allowable to the extent that reconfigured traffic loading occurs on pavement designed for the traffic loading. This results in restriping the geometric features from the existing condition. If this geometric change introduces nonstandard geometric features, a design standard decision document will be required. Additionally, modified or added assets and features as described in Section 4.0 may necessitate the documentation of nonstandard features. The delegated holder of design standard exception approvals must be consulted if the project proposes to create deviations from geometric design standards. Some typical design exceptions include items such as reduced shoulder width due to installation of standard dike, guardrail or bridge approach rail, reduced lane widths to accommodate a bike facility and increased shoulder cross slope where it conforms to the existing curb and gutter.

3.0 MINOR PAVEMENT REHABILITATION STRATEGIES

All CAPM projects should:

- Adhere to the pavement distress criteria outlined in Section 2.1.1 of this DIB and use pavement strategies listed in *HDM Indices 624.2* (for rigid pavement preservation) *and 634.2* (for flexible pavement preservation) and the Concrete Pavement Guide available on the Pavement Program website.
- Primarily treat pavement with minor structural distress.
- May consider sustainable strategies such as partial-depth recyclying (PDR)
- Extend pavement service life for 5 years minimum.
- Improve pavement ride quality and serviceability.
- Reduce maintenance effort needed on the affected section of State highway.
- Include cost-effective, minor enhancements as discussed in Section 4.0
- Comply with Americans with Disabilities Act (ADA) by:
    - Reconstructing existing curb ramps to meet current accessibility standards
    - Adding missing curb ramps required for pedestrian access. See the latest version of *DIB 82* for the complete ADA guidance.

3.1 Concrete Pavement

Minor pavement rehabilitation (CAPM) strategies for concrete pavement include:

- Individual JPCP slab replacement according to the criteria in the *Concrete Pavement Guide Chapter 320*.
- Continuous profile grinding to correct roughness from curling, warping, faulting, individually replaced slabs, areas of localized roughness, or IRI > 170 inches/mile.
- Resealing longitudinal and transverse joints.
- Routing and sealing longitudinal or transverse cracks in JPCP from ¼ to ½ inch wide without faulting or settlement.
- Dowel bar retrofitting transverse joints or cracks (includes continuous profile grinding).

Cold planing and resurfacing flexible pavement shoulders and interchange ramps.

3.2 Flexible Pavement

CAPM strategies are non-engineered pavement structure designs typically applied to moderate structural distress. Deflection studies are not required but may be requested based on project-specific factors such as performance history. For flexible asphalt concrete pavement surfaces, the standard overlay design thicknesses can be found in HDM Section 634.2, Capital Preventative Maintenance.

Preparation of the existing pavement surface is critical for performance, but it should not exceed 20% of the pavement structural cost. District Pavement Managers are encouraged to use Maintenance resources, including state forces, to lower project costs and improve performance. For example, cracks > 1/4" wide should be sealed prior to overlaying, preferably by state maintenance forces, a few months before paving to allow for curing.

HDM 635.2(10) provides additional guidance on Procedure for Concrete Overlay on Existing Flexible Pavement. Not all Alligator A and B cracking requires digouts, which are typically

warranted for areas of severe surface distress such as:

- Severe Alligator B cracks > ½" wide,
- Rutting greater than 0.08'
- Delaminated, loose, or raveling pavement.

4.0 COST-EFFECTIVE ENHANCEMENTS TO MINOR PAVEMENT REHABILITATION (CAPM) WORK

4.1 Traffic Operation Review

District Traffic Operations will perform a review of the traffic operational aspects for all CAPM projects. This review should occur early in the process as a part of scoping the project described in Section 2.2.1 of this DIB. The goal of this review is to evaluate and identify easily implemented, cost-effective traffic operation enhancements that should be included in the CAPM project. These potential enhancements should be limited to the following:

- Change existing traffic striping for operational purposes.
- Updating the signing and pavement delineation to current standards.
- Maintaining, adding, replacing, or eliminating rumble strips.
- Addressing collision patterns related to wet weather.
- Upgrading metal beam guard railing, thrie beam barrier, or end treatments to current hardware design.
- Improving sidewalk, driveway, or bicycle facility.

Recommended enhancements should be incorporated in the project if the inclusion does not change the target construction season. The Project Development Team guides project development decisions made on this issue. The enhancements also must not significantly increase the project cost. When a recommended enhancement cannot be included in a CAPM project, the Project Engineer must document the decision and inform the district Traffic Operations Unit why the identified enhancement will not be included in the project.

4.2 Other Non-Pavement Work Acceptable for CAPM Projects

Any work that affects a traffic safety system should involve consultation with the District Traffic Safety Systems Coordinator, see the *Traffic Safety Systems Guidance*. In addition to the ADA requirements previously mentioned in Section 3.0 of this DIB and the traffic operation enhancements mentioned above, the following non-pavement work is acceptable for a CAPM project:

- The height of the Metal Beam Guardrail (MBGR) can be adjusted to meet the indicated tolerances in the *Traffic Safety Systems Guidance* or replaced with the Midwest Guardrail System (MGS) if the tolerances cannot be met. Consult with the District Traffic Safety Systems Coordinator to identify and discuss height adjustments.
- Bridge approach guardrail and nonstandard sections of MBGR shall be upgraded to the current approved hardware design.
- End treatments for all in-place MBGR and MGS shall be upgraded to MASH 2016 (or the latest crashworthiness criteria adopted by Caltrans) Crash Test Standard compliance. Refer to the list of approved end treatments and attenuators for specific products on the Safety Program webpage on the Department Intranet website. If the height of thrie beam

barrier is reduced and the current standard height cannot be maintained with a 10:1 or flatter slope in front of the barrier, then the barrier must be reconstructed to the minimum standard height.

- If the height of Type 50 concrete barrier is reduced, it should be replaced with Type 60M concrete barrier.
- Crash Cushions shall be upgraded to MASH 2016 (or the latest crashworthiness criteria adopted by Caltrans) Crash Test compliance. Refer to the list of approved crash cushions for specific products on the Safety Program webpage.
- Existing dike that does not meet current standards (*HDM Topic 303*) should be replaced with the appropriate standard dike. Proposed dikes that do not meet current standards require a design standards decision document. The designer must consult with the District Traffic Safety Systems Coordinator when curbs or dikes are identified along guardrail end treatments and crash cushions to determine if the curbs or dikes should be modified.
- District traffic operations should identify features for possible replacement, such as existing traffic pavement markings, signs (not sign structures), and damaged loop detectors. See the *California MUTCD* for vehicle, bicycle, and motorcycle loop detection guidance.
- Shoulder backing material shall be specified in the project to avoid pavement edge drop-offs. See Shoulder Backing Guidelines on the Caltrans Pavement Program Technical Guidance intranet website.
- All satellite assets (or features) would be acceptable to be included in the project as long as the combined cost of satellite assets does not exceed half of the total project cost.

5.0 Glossary of Abbreviations

2R	Resurfacing and restoration (also known as Pavement Focused)
3R	Resurfacing, restoration and rehabilitation
AASHTO	American Association of State Highway Transportation Officials
ADA	Americans with Disabilities Act of 1990
APCS	Automated Pavement Condition Survey
APCR	Automated Pavement Condition Report
BMP	Best Management Practices
CAPM	Capital Preventive Maintenance
CE	Categorical Exemption, Categorical Exclusion
CPG	Concrete Pavement Guide
CRCP	Continuously reinforced concrete pavement
DIB	Design Information Bulletin (current version)
DOD	Division of Design
HDM	Highway Design Manual
HQ	Headquarters
HM	Highway Maintenance
HMA	Hot mixed asphalt
JPCP	Jointed plain concrete pavement
LCCA	Life-Cycle Cost Analysis
LCP	Life Cycle Planning
MASH	Manual for Assessing Safety Hardware
MGS	Midwest Guardrail System
MBGR	Metal beam guardrail
IRI	International Roughness Index
CA MUTCD	California Manual on Uniform Traffic Control Devices
NSSP	Non-standard special provision
OGFC	Open graded friction course
PDPM	Project Develop Procedures Manual
PIR	Project Initiation Report
PR	Project Report
RHMA	Rubberized hot mixed asphalt
SHOPP	State Highway Operation and Protection Program
SHSMP	State Highway System Management Plan

ATTACHMENT A - Minor Pavement Rehabilitation (CAPM) Scoping Team Field Review Checklist

Team Members***

- District Asset Manager
- HQ Pavement Program Advisor (121 Program)**
- Project Delivery Coordinator**
- District Pavement Program Advisor (121 Program)*
- Project Engineer *
- Materials Engineer
- Traffic Safety
- Traffic Operations
- Project Manager
- Field Maintenance
- Environmental
- Construction
- District Complete Streets Coordinator
- District Design Liaison**

* Required attendance
** Consultation required if they do not participate in the field review
*** Coordination with the District Safety Review Committee [see PDPM Chapter 8, Section 6, Safety Reviews] and their involvement on the scoping team may expedite the project delivery process.

Information/Data to Bring on the Field Review

- Team Member Sign-in sheet (to be attached to approved PIR or PR)
- Major Maintenance Plan
- SHOPP 10-Year Plan
- Draft PIR or draft PR (bring enough copies for the field review team)
- Automated Pavement Condition Report (APCR)
- Project Cost Estimate
- Caltrans Active Transportation (CAT) Plan and Local Bicycle/Pedestrian/Transit Plan, as applicable
- Highway Log
- *DIBs 81* and *82*

Research/Review Before the Field Review

- Traffic Safety Review
- Complete Streets Decision Document
- Design Standard Decision Document
- Comments from the Public (ADA complaints, District Bike/Ped Advisory Committee recommendations, records of previous engagement efforts from the Caltrans Engagement Portal, STEVE database, or District Planning Staff) Utilities, Underground Caltrans electrical and irrigation facilities
- Environmental Issues (Potential Delays)
- Vegetation Control Needs
- Project Limits