

Policy 88-2 addressing PROJECT ASSESSMENTS

Policy

A project Assessment (PA) shall be prepared for the majority of the projects (see Section II.A) developed by the Highway Development Group. The PA represents a formal process by which the Highway Development and Highway Operations Groups reach initial consensus on project scope, cost and schedule. Unless major unforeseen circumstances occur, this early consensus is considered binding throughout the project development process. However, if new and better information becomes available, the request for major changes in scope, cost or schedule after issuance of the Final PA shall be brought to the Project Development Committee (PDC) through the Project Leader/Manager (PL/M). No revision or addendum to the Final PA will be required as a result of approved changes.

IMPLEMENTATION

- I. **RESPONSIBILITY:** PA's are prepared by Advanced Engineering Services (ROADWAY PREDESIGN SECTION) in consultation with PL/M, District Personnel, involved outside agencies, and other ADOT organizational units.

- II. **SCOPE AND PRIORITY:** The PA is intended to present the major features of the project scope based on a field review, plus research of as-built information, and other pertinent background data. Limited information is available at this stage. Materials testing, surveys, and design details are normally unavailable. The PA is prepared (see Section III) to address specific issues, which, in addition to scope, will include cost, expected organizational unit involvement, scheduling issues and development consideration.
 - A. The following project categories will require preparation of a PA:
 1. Pavement Preservation
 2. Interstate Reconstruction and Maintenance
 3. Priority Statewide
 4. Bridge Replacement
 5. Minor/Miscellaneous
 6. TSM (Transportation System Management)
(if physical construction of the roadway is involved)
 7. Safety
(if physical reconstruction of the roadway is involved)
 8. Guardrail
(if physical reconstruction of the roadway is involved)
 9. Climbing Lanes
 10. Ports of Entry (if physical construction of the roadway and/or parking area is involved.)
 11. New projects that are either approved by the Project Development Committee or Sixth-Year Construction PA's which are expected to enter the next Five-Year Construction Program.

B. The following projects will not be addressed by ROADWAY PREDESIGN SECTION (PA not normally required):

- 1. Projects previously identified by Location/Design Concept Studies, General Plans or Special Studies.**
- 2. Seal Coat and ACFC overlays where there is no safety improvement work included in the scope.**
- 3. Highly specialized projects i.e., rest area, landscaping, state park, lighting, traffic signal, signing, pavement marking, bridge repair, fencing, etc. The PA, if required, will be prepared by the service having major responsibility.**

III. PROJECT ASSESSMENT FORMAT:

A. Title Page

B. Introduction

Contains the project program information (Project number, name, location, cost, funding type, construction FY and line item), or proposed Program information if project is not programmed and purpose of project.

C. Background Data (existing conditions)

This section addresses year of construction, previous up-grade projects, existing typical section, general features such as structures, major drainage, major traffic control items, railroad crossings, major utilities, and accident history. Identifies problem(s) which caused the project to be programmed. Compares the design speed of the existing vertical and horizontal alignment to current standards. Traffic data (assigned and projected ADT, K, D, & T) are also included.

Describes the general corridor right-of-way. The type of right-of-way, whether easement or deed, shall be identified. General land ownership should also be identified (Private, Forest Service (FS), Bureau of Land Management (BLM) etc.) whenever possible.

D. Project Scope

- 1. New project limits if different than programmed.**
- 2. Recommended project scope.**

E. Project Development Considerations

1. Environmental requirements as determined by the Project Scope

- a. Potential hazardous waste site
- b. 404 Permit
- c. Section 4 (f) Lands
- d. Floodplain Encroachment
- e. Wetlands
- f. Scenic/Historical Route
- g. NPDES Permit
- h. Archaeological Clearance
- i. Social or Economic Impacts

2. Critical Outside Agency Involvement's

Includes, as necessary, project locations that are likely to involve lengthy clearance procedures. Such locations will include projects involving the Forest Service, Bureau of Land Management, Indian Reservations, railroad or irrigation companies, and certain urban settings.

3. Right-of-Way Requirements

State whether new Right-of-Way (R/W) or easements will be required and, whenever possible, the identification of the owner.

4. Utility relocation requirements

5. Seasonal considerations

Address field survey, data collections and testing, and the construction season

6. Traffic requirements

The need for traffic control, pavement marking, signing, and traffic signal plans

7. Location survey and mapping requirements

8. Discuss if any alternative scope of work was reviewed and/or considered and reason for rejection

9. DCR or L/DCR requirements

Identify alternates or issues that the DCR or L/DCR should evaluate

10. AASHTO Controlling Design Criteria

Addresses AASHTO criteria, to the extent reasonably possible, through field review, consultation with the Districts, FHWA, and project research from available information. Features which do not comply with the criteria are included along with recommendations for either meeting the criteria or requesting design exceptions. The status of design exception approval is also included.

11. Design Exceptions state who will request and from whom.

F. Other Requirements

- 1. Reiterate funding source. If federally funded, whether or not the project will be processed under the Certification Acceptance (CA) Procedure.**
- 2. State the advertising date, CPS ID and identify the PCEM'S model. Discuss activities not originally included in the model and activities that will require duration adjustments. State whether or not rescheduling is anticipated.**
- 3. Discuss whether project will be development by ADOT, consultant, or by others.**

G. Estimated Costs

- 1. Basis of estimate**
- 2. Cost by category**
 - a. Construction**
 - b. Right-of-Way**
 - c. Utilities**
 - d. Preliminary Engineering (if Consultant design)**
 - e. Total Cost**

For a Pavement Preservation project only, separate construction cost into pavement related and safety cost.

H. Action by Priority Planning Committee and/or Project Development Committee.

- 1. Action required or taken by the Project Development Committee (PPC).**
- 2. Any required schedule (if FY change), scope, cost, or funding changes.**

- I. Service Involvement Sheet
- J. Itemized Estimate
- K. Vicinity Map
- L. Sketch

A sketch of the proposed project may be required for clarity.

IV. **PROCESS OUTLINE:**

A. **Initial Report**

1. **Preparation**

Initial Report is based on field review and other available information.

2. **Distribution**

Distribute report to PL/M, District, all involved Sections/Services, any involved outside agencies (Utility and Railroad Engineering Services will transmit PA to railroad and utility companies for review and comment), and FHWA if federally funded.

B. **Summary of Comments**

Prepare a summary of the comments received and note responses and/or action taken for each comment. The Summary documents any areas of major disagreement and how these issues were resolved. If a Recommended Project Change (RPC) is submitted, the Summary will be prepared and distributed only after the RPC has been processed through the PDC. Also, the Summary will be prepared and distributed only after a consensus of major issues has been reached (see Section IX). Distribute same as Initial PA.

C. **Final Report**

1. **Preparation**

Responses to the initial report relative to scope or scope/cost balance are incorporated into Final PA. Major differences are resolved through the Consensus Procedure (see Section IX). Minor issues may be resolved in the design phase, and will so be stated in the Development Section of the Final PA.

Concurrence is required for all projects on BLM, FS and National or State Parks Land. The Final PA is forwarded to the land-owner Agency with a written request for concurrence. Written notification from Agency must be obtained for the proposed scope of work prior to approval by the Assistant State Engineering of the Location Section of the Final PA.

2. Approval

The Project Determination (PD) Memo accompanies Final PA for approval by the Assistant State Engineer of the Location Section, and the Deputy State Engineer of Highway Operations Group. The Final PA and Project Determination Memo represent completion of the process and consensus between these groups.

3. Distribution

Copies of the ADOT approved project assessment go to the District, PL/M, all involved Section/Services, and any involved outside agencies. If new right-of-way is required a copy will be submitted to the Attorney General's office.

For Federal Aid Projects, not processed under the CA procedure, the ADOT approved PA is forwarded to FHWA with a written request for agency approval. Written FHWA notification of acceptance of the PA is considered federal approval.

V. PROJECT LEADER INVOLVEMENT:

Project Leaders/Managers will normally become involved in the PA at the time of the field review. The PL/M will review the Initial PA'S to identify potential problems from the standpoint of matching project intent with the proposed scope, cost and schedule.

In the event of conflicts, the PL/M will be asked to attend any consensus review meetings (see Section IX).

Upon completion of the Final PA, ROADWAY PREDESIGN SECTION will transmit the PA, together with the project file, to the PL/M . The final package will include all relevant correspondence associated with the PA development, including documentation of resolution of major differences as well as unresolved minor issues. After the Final PA has been completed, revisions to projects will be addressed by the PL/M.

VI. FIELD REVIEW

With the aid of Pre-construction Engineering Management Section's (PCEM) scheduling system, the PA Team Leader, or his/her representatives will schedule a timely field review with the appropriate District, PL/M, FHWA (if Federal Aid), representatives from other ADOT units including Environmental, Right-of-Way, Materials, Structures, etc., as appropriate, and other affected outside agencies. The programmed scope will be discussed and the intent and scale of the work to be performed will be developed.

VII. DESIGN EXCEPTION APPROVAL PROCEDURES:

ROADWAY PREDESIGN SECTION will perform a review of the AASHTO Controlling Design Criteria as outlined in the "Procedural Guide for Review of the AASHTO Controlling Design Criteria on Existing ADOT Roadways". A review at this early stage of project development will be made using the best available information to determine whether criteria will be met or design exceptions are necessary. The PL/M will give the criteria an expanded analysis, if required, as information is developed during the design process. The discussion of these criteria is included in the PA.

Federal Aid Projects, not processed under the CA procedure, require design exception request memos be transmitted to the FHWA by **ROADWAY PREDESIGN SECTION** for federal approval. Preliminary approval of the design exception must be received before the Final PA can be circulated for approval. If FHWA approval is received after the Final PA had been distributed, **ROADWAY PREDESIGN SECTION** will send the FHWA approval letter to the PL/M.

Federal Aid Projects processed under the CA procedure requires approval of the Assistant State Engineer of the Location Section. If the project is located on the National highway System (NHS), the state-approved design exceptions must be transmitted to FHWA for their information.

Design exceptions on non-Federal Aid projects require approval of the Assistant State Engineer of the Location Section.

As more specific information becomes available during subsequent project development, additional design exceptions may be required, and the requests will be initiated by the PL/M.

VIII. SCHEDULE MODEL MODIFICATION PROCESS:

The Initial PA will indicate the model type assigned to the project by PCEM. Any activities known to ROADWAY PREDESIGN SECTION that may require modification of the model type or duration times will be identified in the Initial PA.

When the PA is reviewed, any need for modifications will be assessed and identified by the affected Services/Sections/Districts. These modifications will be transmitted to PCEM and the PL/M for adjustments.

IX. CONSENSUS:

As a general rule, preparation of the PA will be a totally in-house endeavor directed at translating a program line-item description into a generalized written scope that also identifies expected unit involvement's and other development and scheduling issues. Central to this process is the definition of a project intent with scope and cost.

If, after an Initial PA review, it appears to the ROADWAY PREDESIGN SECTION Team Leader that major differences prevent the completion of the Final PA, the Team Leader shall contact the PL/M and appropriate Sections, Services, Districts, and others needed to resolve the conflicts.

If, after a thorough review, consensus has not been reached, AE will outline the unresolved differences and will submit a request for resolution to the Assistant State Engineer of the Location Section. If differences are not resolved at this level, the issues will be escalated to the next level of management and would continue to be elevated until resolved in some manner.

Upon resolution of the matter(s), ROADWAY PREDESIGN SECTION will finalize the PA in the necessary format.

X. BUDGET OVERUNS, SCOPE AND SCHEDULE CHANGES:

Prior to finalizing the PA, ROADWAY PREDESIGN SECTION will submit Recommended Project Changes to PCEM through the PL/M. These requests are submitted after a consensus has been reached when the PA cost estimate exceeds the programmed amount by 10% or \$100,000, whichever is greater, and/or for necessary schedule, and scope change requirements discovered in the PA process.

POLICY

The Design Concept Report (DCR) or the Location/Design Concept Report (L/DCR) is prepared for project(s) where location and/or design concept is an issue. The report is developed to further define project(s) parameters when they cannot be fully addressed by a Project Assessment (PA). Once approved, it is considered binding throughout the project development process. Major changes in scope or cost after approval must be addressed by the Project Development Committee.

IMPLEMENTATION

- I. **SCOPE AND PRIORITY:** The Design Concept Report will document the criteria necessary to design improvements, identify available data, address alternatives, and recommend a solution. The contents presented herein will provide a guide for the development of the DCR and L/DCR. All items listed to be considered, plus any other applicable information not specified. Once approved, the development effort will proceed without further consideration of alternatives.

The L/DCR includes the same basic contents as a DCR, but also requires a location analysis. When location is a project issue, a new corridor or alternative alignments must be considered. A recommended alternative is selected after proper analysis as herein outlined. The major design features are then identified and the same process is followed as in the DCR.

- A. A DCR or L/DCR will be required for those projects which cannot be fully addressed by a PA and will be identified in the PA as requiring a DCR OR L/DCR.

These projects require detailed analysis with exhibits and maps. Quite often, these reports involve consideration of alternatives not addressed in the PA.

Design Concept Reports may be prepared by Roadway Predesign Section, other Services, Sections, or Consultants.

- B. The following project categories will normally require preparation of a DCR or L/DCR:**
 - 1. Highways on new locations.**
 - 2. Substantial upgrading or improvement to existing roadways, bridges, etc....**
 - 3. Minor upgrading or improvement to existing roadways if a major horizontal or vertical alignment change is anticipated.**
 - 4. Projects requiring a public hearing or the offer for a hearing.**

- C. A DCR or L/DCR is not normally required on the following projects:**
 - 1. Pavement preservation**
 - 2. Seal Coat, ACFC**
 - 3. Highly specialized projects involving only one service, i.e., landscaping, railroad grade crossings, traffic signals, highway lighting, signing, fencing, bridge repairs, roadway surveillance, guardrail, safety barriers, etc....**
 - 4. Minor upgrading or improvements to existing roadways if no major horizontal or vertical alignment changes are anticipated.**

II. WHEN LOCATION IS A PROJECT ISSUE:

- A. If location is a project issue, a location analysis will be performed. This constitutes an additional effort in the development process.**
 - 1. Location analysis expands the design concept effort in that it includes consideration of the same social, environmental, various feasible locations which provide options from which to make a recommendation. Present and projected land uses are a major consideration. The analysis may go beyond project milepost limits to assure continuity.**
 - 2. “Design analysis” differs from this in that it is restricted to a pre-established corridor within definitive milepost limits.**

- B. A thorough review of the project at the time of inception will usually reveal the need for and the feasibility of a new location. This review should be addressed in a Corridor Study or the PA for the project, however, if not completed in either report, then this report should indicate if a location analysis has to be included in the project development process. Justification for its inclusion is required.**

- C. **Location is clearly an issue in the following cases:**
 - 1. **Selection of new highway routes.**
 - 2. **Whenever new right-of-way is required to construct highway facilities in a corridor which is not contiguous to any existing right-of-way.**
- D. **Location may be an issue in other cases.**
 - 1. **Location analysis warrants consideration in the following types of projects on existing highway facilities.**
 - a. **Grade, drain, and paving projects on substandard alignment.**
 - b. **Eliminating substandard curves, intersections, etc...**
 - c. **Bridge replacements.**
 - d. **Projects initiated to solve maintenance problems such as flooding, slides, etc...**
 - e. **Projects converting 2-way roadways to divided highways where new lanes can only be constructed on an alignment substantially removed from the existing roadway.**
 - 2. **Careful, early review of projects will reveal if they fit into the broader goals of the overall highway corridor. A location analysis would, in some cases, prevent expenditure of funds on short term “spot improvements”.**
 - 3. **If a facility cannot be sufficiently upgraded to meet project expectations in its present location though prudent design practices, then location becomes an issue.**
 - 4. **Location is not involved in projects such as widening, minor centerline shifts, drainage improvements, pavement preservation and most minor projects. Such projects, although often requiring new right-of-way, are developed through the normal highway development process.**

III. DCR OR L/DCR FORMAT:

This format is presented as the outline for the reports and the areas to be addressed. The depth of detail of the report should be sufficient to clearly define the project, substantiate recommendations, and document considerations.

- A. Title Page**
- B. Table of Contents**
- C. List of Figures**
- D. Executive Summary**

Brief description of projects location and scope, and program year, programmed and estimated costs, identification of consultant involvement, and coordination with other projects, local government agreements, applicable TPD studies, overall highway corridor goals, specification of public lands involvement such as National Forest, Indian Reservation, etc...

E. Introduction

- 1. Foreword**
- 2. Characteristics of the Corridor**

Description of existing roadway (width, surface type and condition, year built, horizontal/vertical alignment, right-of-way, etc.), functional classification, drainage, topography, existing and future land use, significant traffic generators, etc.

- 3. Location and Vicinity Maps**
- 4. Description of the Project**

Length, termini, typical section(s), new right-of-way, major intersections, drainage concept, bridges affected, etc...

F. Traffic and Accident Data

Current and design year traffic volumes, D K and T factors, turning movement counts; brief description of historical traffic accident patterns and locations as appropriate (capacity analysis, traffic and/or accident data supplemented by diagrams if needed).

G. Location Analysis (For L/DCR only)

1. Discussion

Reason for Location/Design Concept Report, field inspections, alignments. Include existing alignment.

2. Alternatives

Description and rationale for the various proposed alternative alignments. Include existing alignment.

3. Comparison

Evaluation and estimated cost of various alternate alignments. Discuss impact upon present and future land uses. Preference of outside agencies, Indians, and other interested parties are presented, if appropriate.

4. Recommendation

Recommendation with justifications. Does cost exceed programmed amount? Does recommended project alternative have the least amount of impacts? Can impacts be mitigated? Is solution interim or within the long term goals of the overall highway corridor?

H. Major Design Features (each discussed in detail as needed)

1. Design Controls

Geometrics, slopes, design speed, access control, roadway width, lane width, shoulder width, allowable maximum gradient and curvature, basic right-of-way width, etc...

2. Horizontal and Vertical Alignments

3. Access Control

4. Right-of-Way

5. Drainage

6. Earthwork

7. Traffic Control

8. Constructibility and Construction Phasing
9. Intersections
10. Utilities
11. Structures
12. Pavement Design

I. Itemized Cost Estimate

If the estimate exceeds either the final Project Assessment or Five-Year Highway Construction Program cost by 10% or \$100,000 (whichever is greater), then a Recommended Project Change (RPC) must be submitted to the Project Development Committee by or through the Project Leader.

J. Design Exceptions

Normally, the PA addresses the need for design exceptions and they are requested at that stage of project development. If the PA addressed the design exceptions, the DCR will state what exceptions were required and approved either via the PA for State funded projects or by letter to the FHWA for Federal funded projects. If a PA was not prepared or the PA deferred the design exception to the DCR, then the DCR must address the requirements for design exceptions.

- 1) A statement shall be made if the “Procedural Guide for AASHTO Controlling Design Criteria for Existing Roads” does not apply and the supporting reason(s) given.
- 2) If a review of the “AASHTO Controlling Design Criteria...” indicates that design exceptions are required, a description of those exceptions which can be determined should be stated.

Federal Aid Projects

If design exceptions are required, the Initial DCR shall state whether the exceptions have been or will be requested from FHWA. The final DCR should reflect FHWA’s action (approval or disapproval) regarding design exceptions.

State Funded Projects

If design exceptions are required, and were not requested with the PA, a statement that design exceptions are requested by way of the DCR, and the supporting reason (s) is required.

K. Social, Economic and Environmental Considerations

Overview of impacts, displacements, and potential hazardous waste sites. Section 4 (f) Lands, Section 404 & 401 Clean Water Act, Floodplains, Wetlands, Historic and Archaeological Preservation etc. Identify extent of NEPA documentation required. Identify cooperating agencies.

L. Appendix

1. Alternatives
2. Typical Sections
3. Plans and Profiles
4. Maps

IV. APPROVAL PROCEDURE:

A. Initial Report

1. Preparation shall be based on an engineering analysis of PA and/or field review and input from District, Services, local jurisdictions, Forest Service, etc...
2. Sufficient engineering study shall be completed to allow an in depth comparison of each of the alternatives presented.
3. Distribution – For review and comments:

(Two) Copies to Environmental Planning, Right-of-Way Section, Utility and R.R. Engineering Services, Highway Plans Services, and District (1 D.E., 1 Area Office).

(Two) Copies to Forest Service

(Two) Copies to Assistant State Engineer, Location Section

(One) Copy to Assistant State Engineer, Design Section

(One) Copy to Project Leader

- (One) Copy to City/Country Engineer or designed contact of each affected local jurisdiction.**
- (One) Copy to FHWA for Federal Aid Projects**
- (One) Copy to any other affected groups, sections, services, branches, Indian Reservations, etc...**

4. Schedule Model Modification Process

If no PA was performed or if the DCR/LDCR is a change in scope, then when the DCR/LDCR is reviewed, any needs for model type or duration time modifications shall be assessed and identified by affected services/sections/District. If adjustments to the schedule negatively impact the C & S date or Bid Advertisement date then a RPC will be submitted to the Project Development Committee by or through the Project Leader.

- 5. Summary of Comments – Prepare a summary of comments received and note response and/or action taken for each comment. If an RPC is submitted, the Summary will be prepared and distributed only after the RPC has been processed. Distribute Summary to all reviewers.**

B. CONSENSUS

If after the Initial Report Review it appears that major differences prevent the completion of the Final Report, the Team Leader (Services preparing report) shall contact the Project Leader and appropriate Sections, Services, Districts, and others needed to resolve the conflicts. If after a thorough review, consensus has not been resolved, the Team Leader will outline the unresolved differences and submit a request for resolution to the appropriate section heads.

C. Final Report

- 1. Preparation is based upon receipt of comments, Environmental documentation and consensus meeting. Appropriate revisions are made and a Final Design or Location/Design Concept Report is prepared reflecting the selected alternative and the selection process.**

- 2. The Final Report is contingent on the approval of the Environmental documentation for this project.**

- 3. Written concurrence of the Final Design or Location Design Concept Report is requested from the Forest Service and affected public land agencies.**
- 4. Approval – The report and design memorandum are forwarded to the Assistant State Engineer of the Location Section, Assistant State Engineer of the Design Section and Assistant State Engineer of the Urban Highway Section (if Urban project) for their recommendation; to the Deputy State Engineer of the Highway Operation Group for his concurrence; and to the Deputy State Engineer, of the Highway Development for approval. The Deputy State Engineer, of Highway Development Group, has the option of submitting the report to the State Engineer for approval if desired.**

D. Following State Approval

- 1. State-funded projects - Copies of the Final Report are distributed to District, affected sections/services and outside agencies. Other sections/services and outside agencies. Other sections/services receive notice that the Report is completed and that a copy is available upon request for their information.**
- 2. Federal Aid Projects – A design memorandum is prepared for signature by the Assistant State Engineer of the Location Section. The Memo and Final Report are transmitted to FHWA for their approval. Upon receipt of approval, Final Reports are distributed in the same manner as State-funded projects.**