Advance Planning Studies

Advance Planning Studies are prepared by Design at the request of the Districts or Program Advisors. Advance Planning Study cost estimates are for budget purposes. Districts may request several studies to compare alternative project concepts.

There is a renewed emphasis on cost controls at all levels of the organization. The Districts are being held accountable for project cost increases. If it becomes necessary to request cost increases not covered by the contingency funds, the District must take that money from some other project. This often means losing a project. Therefore, it is very important that we, as consultants to the Districts, provide the best planning costs possible.

The basic objective of such studies is to develop, as early as possible, a feasible type of structure, cost, and controls appropriate for the specific location. It is important that careful consideration be given to span lengths, structure depths, column locations, seismic retrofit, scour, railing upgrade, approach slabs, falsework requirements, and other controls. The structure foundations shall be discussed with the Geotechnical Engineer/Geologist to determine foundation type. Furnish enough detail for pricing. After pricing, review costs carefully for overall adequacy and any missing items. Contact the Planning and Liaison Engineer or the District if additional information is required.

When preparing a study for a bridge modification project, refer to guidance provided in Memo to Designers 9-3 on bridge widenings. All bridge modification studies shall be discussed with a Structure Maintenance Engineer. Maintenance Bridge Books shall be reviewed for pertinent information. Lengthenings and unusual widenings need particularly careful study. Unusual widenings and modifications shall be discussed with the appropriate technical specialist.

Studies for structures over water shall be discussed with the Hydraulics Engineer.

Before including any itemized cost for seismic safety retrofit in the planning study, documented concurrence should be obtained from the Office of Earthquake Engineering (OEE) on strategy. Attach documentation to "Checklist for Advance Planning Studies". Only include a Seismic Safety Retrofit estimate in the study if concurrence has been reached with OEE. If concurrence is not reached between OSD and OEE, then a formal strategy meeting should be scheduled.

Inaccuracies in preliminary structure costs may occur because the costs associated with traffic handling have not been anticipated. To insure that traffic handling is given proper consideration in the early design stages, identify traffic handling and falsework assumptions on the studies. Usually, one of the following list of conditions will prevail. The applicable note should be placed on the drawing.

Supersedes Memo to Designers 1-8 dated March 1991

1. Traffic will be routed around construction site.
2. Traffic will pass through construction site.
   a) No falsework allowed over traffic.
   b) Stage construction required.
   c) Falsework openings required.

An Advance Planning Study achieves the following:

1. Defines the scope of structure work in the project.
2. Provides the structure depth for setting profile grade lines.
3. Establishes the best cost estimate available at that time.
4. Provides an early opportunity for the Office of Structure Design to assist in project conceptualization.
5. Familiarizes the Office of Structure Design with projects in the upcoming work load and is used to update the Bridge status.
6. Describes and documents the design assumptions used in the early concept of the structure.

In preparing Advance Planning Studies the following guidelines are suggested:

1. They should be prepared promptly. Completion dates will be indicated on the transmittal letter by the Planning and Liaison Engineer.
2. In general use 8½ × 11 format or a multiple thereof.
3. Most studies should be made to 50-scale. Complicated interchanges warrant special treatment. A 50-scale layout of the entire interchange is easy to understand.
4. The Design Engineer should sign for approval.
5. The choice of structure type should be based on criteria covered in *Bridge Design Aids*, Section 10.
6. The amount of information shown will vary somewhat with the stage at which the study is prepared. Ideally, the following should be indicated:
   - Structure length, width and type
   - Span lengths
   - Structure depth
   - Railing, including temporary K-rail
   - Column locations and type of footing support
   - Falsework (indicate if this is a control)
   - Vertical clearance
   - Aesthetic requirements which affect cost of structure
   - Roadway widths
   - Location and slopes of cuts or fills
   - Slope paving
   - Approximate existing ground line
   - North arrow

- Roadway Stationing
- Retaining Walls
- Bridge removal, if required
- Approach Slabs

Note that the ideal study indicated above is frequently not possible. Information may not be available at time of request; time requirements may preclude careful study; decisions may not yet be made, etc. Under such conditions, preparers must either delay response, if that is acceptable, or more typically, prepare a study incorporating whatever assumptions are necessary. Preparers should document, both on drawings and in transmittal memos, the basis for the study and the associated cost.

When studies are complete, Design will route them to the Estimates Section for pricing. The Estimates Section will return the tracings with the required number of prints. The Design Section will review the estimate and forward the tracing and two prints with appropriate comments to the appropriate Planning and Liaison Engineer (routed through Bridge Design Supervisor A or B). The original tracing for all studies is filed in the Planning and Liaison Section until the preliminary report is prepared, at which time it is filed in the preliminary report.

Advance Planning Studies that are updated, either for detail changes or cost escalation, shall show a revision date. Distribution of prints should be the same as the original distribution.

Attached is an Advance Planning Study which shows typical data and format.

Planning Study Responsibility

Project Study Reports (PSRs) and Project Scope Summary Reports (PSSRs) require an Advance Planning Study when there are structures involved in the project.

PSRs are prepared by either the District or a consultant. These projects may be designed by Caltrans or a consultant. The following outlines Division of Structures responsibilities to provide and/or review Advance Planning Studies.

District Prepares PSR or PSSR:

Design by OSD	APS by OSD
Design by Consultant	APS by OSD

Consultant Prepares PSR or PSSR:

Design by OSD	APS Review by OSD
Design by Consultant	APS Review by EFPB

Projects may be financed by STIP, Measure, Developer or Local Agency funds. Source of finance does not affect the above responsibilities.

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Attachment(s)