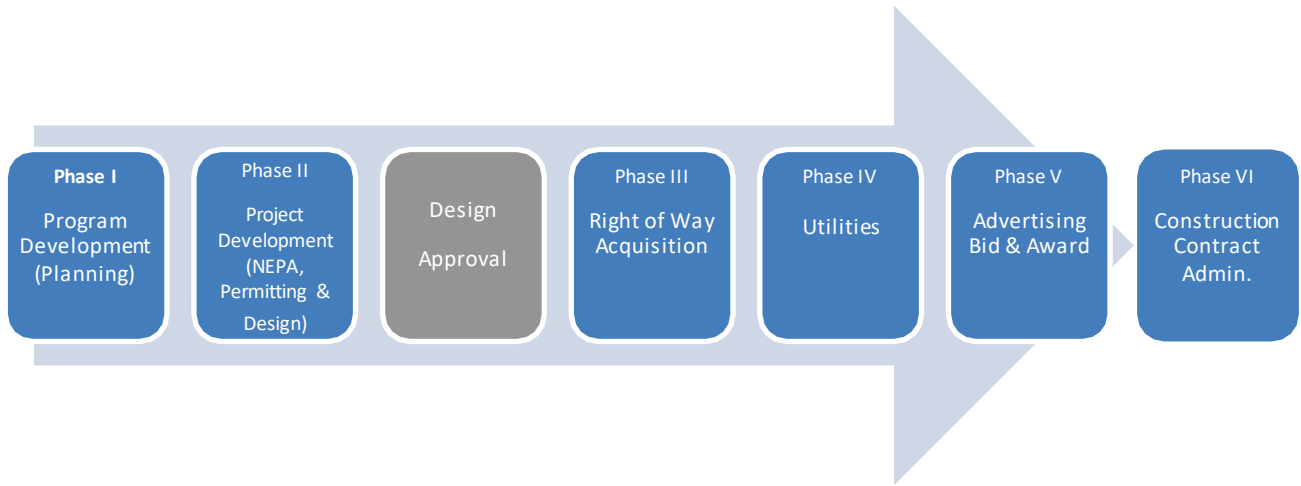


## Chapter 10. Design Approval

On all FHWA funded transportation projects (excluding bridges), LPAs are the approving authority for the design of projects on a local facility or a local NHS facility. For work on or along a state highway or bridges on the National Bridge Inventory list, ODOT retains final approval authority. ODOT also retains approval authority over all final plans, specifications, and estimate (PS&E) submittal packages. See the Approval Authority Matrix form 734-5191 in Section D of this manual for additional information.



### A. OVERVIEW

The design approval process involves a series of milestones as depicted within the following flow chart. This chapter generally addresses roadway design. Information specific to bridge design is located in Section C, Chapter 14 of this manual. For a list of approval actions and the agency responsible, refer to the Approval Authority Matrix form 734-5191 located in Section D of this manual.

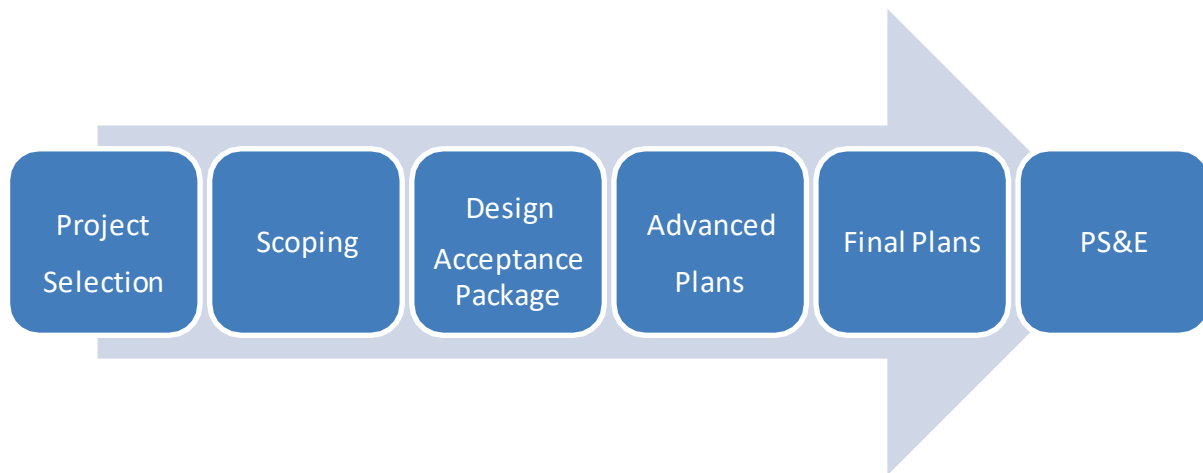
The *ODOT ADA Curb Ramp Process* document outlines ODOT's requirement for each of the project milestones. This process document is intended to give designers, developers and LPAs information and guidance on the ODOT pedestrian curb ramp design and construction acceptance process.

**Resources:**

- [ODOT ADA Curb Ramp Process](#)

Certified LPAs are required to use the ODOT process for work on or along the state highway and can either adopt the ODOT process for use or refer to it to guide their own ODOT and FHWA-approved procedures to ensure that ADA considerations are included throughout the project development process.

## B. DESIGN ACCEPTANCE PACKAGE (DAP)



The Design Acceptance Package (DAP) is a critical milestone in the decision-making process. It establishes the geometric boundaries of the project footprint, provides the basis for conducting NEPA studies, identifies any right of way that may be needed and provides for a more reliable update to the project scope, schedule, and budget.

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**Approval Authority Note:** For a project on a local facility or on a local NHS facility, the LPA has approval authority for the design acceptance package. ODOT retains approval authority for work on or along the state highway system.

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Design acceptance occurs at the end of the initial design phase when preliminary plans are approximately 30-60% complete, depending on project complexity and the LPA's design processes. The Design Acceptance Package review allows all project disciplines to review the design for balance of context with standards and policies.

It is the primary opportunity for both technical and non-technical stakeholders to review design elements according to their specific interest. All anticipated design exceptions should be identified and draft design exceptions included with the Design Acceptance Package.

By the time the Design Acceptance Package is complete, curb ramp design should be sufficiently developed to identify whether any additional right-of-way is needed to design and construct compliant curb ramps and any pedestrian signals to meet ADA accessibility standards.

All design exceptions for work on or along the state highway, including curb ramp-related exceptions, must complete the review and approval process before PS&E submittal can be approved. It is important to allow sufficient time for ODOT's review and approval process (typically, two to four-weeks) for work on or along the state highway.

The items listed below are normally included in the Design Acceptance Package:

**B.1. Traffic Data**

The LPA should include a design-year Average Daily Traffic (ADT) forecast during the design. The design year should be 15 years from the projected start of construction for resurfacing, restoration and rehabilitation projects and 20 years from the projected start of construction for new construction/reconstruction projects.

**B.2. Right of Way**

The Design Acceptance Package may include the right of way map (if necessary) and proposed footprint. Refer to Section C, Chapter 9 of this manual for further details.

**B.3. Horizontal and Vertical Alignment**

Overlaid on a topographic survey map, the LPA's design should include a plan showing the proposed horizontal alignment, existing streets and existing right of way lines with proposed right of way takes. The plan should also show existing and proposed drainage features and how storm water treatment is being handled. Such plan need only show sufficient detail to generally portray the scope of the project.

If there is little change in the profile, the LPA need not include a profile. If there is a reasonable amount of change, then the LPA should also furnish a profile showing existing and recommended vertical alignments.

**B.4. Roadway Typical Section(s)**

The roadway typical section(s) indicating the structural pavement section, any widening and other information should be shown for each general type of roadway in the project. This is not required on signal projects if the lane description has been shown.

Preliminary curb ramp details need to be developed with enough information to show how the design will meet ADA requirements. Identify if any formal crosswalk closures have been approved or if any ADA design exceptions are approved. An accessible route plan should be provided and evaluated for any right of way needs.

**B.5. Preliminary Cost Estimate**

A preliminary cost estimate should be prepared that reflects all project construction items (including mobilization and temporary traffic control) as well as costs for anticipated items, construction engineering (CE) and contingencies. These costs should be checked against the STIP phase authorization to ensure adequate funding is available.

## **B.6. Environmental Considerations**

Environmental considerations, including public involvement requirements and outreach to the impacted communities, must be documented and approved by ODOT and FHWA. Additional information is available in Section C, Chapter 6 of this manual.

## **B.7. Permits and Clearances**

There are a number of permits and clearances required from various sources to meet regulations prior to construction of a project. Some of these permits may involve wetlands, material sources, fish passage, airport clearance, railroad, utilities, waterways and local ordinances. It is critical to obtain the permit prior to submission of Plans, Specs & Estimates. Permits and clearances should be obtained with enough time to make any changes to the project plans prior to PS&E, as dictated by the conditions of the permit. For the purposes of the Design Acceptance Package, all permits and clearances required for the project should be identified at this stage.

Refer to Section C, Chapter 6 of this manual and *ODOT's Project Delivery Guidebook* for a listing of permits that may be required.

## **C. PRELIMINARY PLANS**

This step is an additional technical and construction review between the Design Acceptance Package and Advanced Plans for more complex projects. For simple projects, such as asphalt concrete pavement grind and inlay, this phase may be omitted. The project team coordinates the completion of preliminary plans, including accessible transportation elements that help to build the bid documents for the project. Preliminary plans for the approved DAP are approximately 70% complete at this point in the project development. Preliminary plans include the following:

- Noise mitigation final design
- Utility test-hole excavation
- Preliminary plans
- Updated construction cost estimate
- Updated construction schedule

Completion of this stage is a primary opportunity for technical staff to provide comments and feedback on the adequacy and appropriateness of the design with respect to the design standards established for the project.

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**Note:** A Value Engineering study must be performed if the project meets the threshold requirements. See Section C, Chapter 9 for additional information about Value Engineering requirements.

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## D. ADVANCE PLANS

This key interim step of the contract document phase requires all project disciplines to review draft contract documents for completeness and accuracy. It is the primary opportunity for technical staff to provide quality control review of the project PS&E as a package. Advanced Plans are approximately 90% complete and should include the revisions resulting from any Preliminary Plan reviews and are accompanied by the project's draft special provisions.

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**Approval Authority Note:** For a project on a local facility or on a local NHS facility, the LPA has approval authority for the advance plans package. ODOT retains approval authority for work on or along the state highway system.

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### D.1. Advance Plans Review Package

The Advanced Plans Review Package includes:

- Incorporation of DAP and preliminary plan review comments
- Advanced project plans
- Approved utility relocation plans
- Final hydraulics report
- Final stormwater report
- Final geotechnical report
- Roadside inventory
- Revised project construction cost estimate
- Advanced special provisions
- Pavement design
- Revised construction schedule
- Approved design exceptions, including any ADA-related design exceptions (if needed)
- Traffic Control Plan Design that addresses the Temporary Pedestrian Accessible Route (TPAR)
- Letters of public interest findings and exemption orders (LPIF)

## D.2. Quality Control / Quality Assurance

Quality control should be occurring throughout project development. Quality assurance should occur during the advance plans review.

## E. FINAL PLANS

This step occurs in follow-up to review and comment on the advanced plans and specifications. It is the last opportunity for contract documents to be reviewed by technical staff for quality control and document completeness, before the project is ready to move forward for FHWA review (when needed) and PS&E submittal.

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**Approval Authority Note:** For a project on a local facility or on a local NHS facility, the LPA has approval authority for the final plans package. ODOT retains approval authority for work on or along the state highway system.

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### E.1. Final Plans Review Package

Based on the comments provided during the advanced plans review, the draft contract documents are advanced to the final plans. The final plans review package includes:

- Incorporation of advance plan review comments
- Final plans, special provisions and cost estimate
- Final construction schedule
- Final insurance risk assessment (when on or along a state facility)
- Final Mobility Consideration Checklist form 735-9983 (when on or impacting a state facility)
- Draft PS&E Submittal & Completeness Checklist
- Final documents required for PS&E submittal.
- Approved Design Exceptions, including any ADA-related design exceptions

## F. PS&E SUBMITTAL

This point of decision-making provides certainty of the completeness and constructability of a project for bid. Decision-making with any desired interim milestones between Design Acceptance Package and Plans Specifications and Estimate submittal (e.g., TS&L, Advanced, and Final Plans) should be addressed through individual Quality Control Plans

**Resources:**

- [ODOT Project Delivery website](#)
- [Regional Local Agency Liaison Contacts](#)
- [Region Traffic Engineer Contacts](#)

and Project Development Change Requests as needed. For information regarding PS&E submittals, refer to Section C, Chapter 11 of this manual.

For further information regarding project submittals and related checklists, reference ODOT's project delivery website.

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**Approval Authority Note:** ODOT retains approval authority for all certified LPA PS&E submittal packages.

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## G. ADDITIONAL DATA REQUIRED FOR SPECIAL PROJECTS

### G.1. Traffic Signal Projects

The LPA shall provide warrants for signalization in accordance with the *Manual on Uniform Traffic Control Devices* and *Oregon Supplements*. Designs for signalization at intersections with state routes require review by ODOT. An ODOT signal permit is required for all traffic signals on state routes. LPAs should contact their Regional Local Agency Liaison, as early application and coordination with ODOT's Region Traffic Engineer is required.

### G.2. Projects Involving the State Highway System

Designs for all projects involving state highway system shall be submitted to the ODOT Regional Local Agency Liaison for processing and obtaining ODOT approval. All work at intersections with the state highway system requires submittal of an intersection plan to the Regional Local Agency Liaison for processing and obtaining ODOT approval. Prints of existing intersection plans are available from ODOT. Revisions should be shown on these prints.

### G.3. Special Research or Use of Experimental Features

Such projects require FHWA approval. Contact the Regional Local Agency Liaison for additional information.

### G.4. Bridge Projects

#### a. Design Acceptance Package

For projects that include bridges, the Design Acceptance Package must include a Type, Size and Location (TS&L) Design Package as described in Section C, Chapter 14 of this manual. Note, bridge work may trigger ADA-related work and design exception processes. Refer to ADA Compliance for Bridge Work and design Considerations in ODOT's *Bridge Design Manual*.

#### b. Approval Authorities

Refer to FHWA's Bridge Technology Memorandum and Chapter 14, Bridge, in Section C of this manual, for additional information regarding "unusual" bridges. For bridge projects, the

approving authority for the Design Acceptance Package is outlined in Approval Authority Matrix form 734-5191 in Section D of this manual.

Additionally, bridge projects that fall under the category of “major” (e.g. a bridge estimated to cost more than \$5 million) or “unusual,” then ODOT’s approval is required prior to final TS&L. For bridge projects on state routes or bridges on the National Bridge Inventory, design approval by ODOT’s Bridge Engineer is required.

**c. Timing of Review Comments**

It is important that review comments be made as soon as practical in the project development process. For example, comments on major features of a bridge project such as structure type, location, length, constructability, etc., should be made at the Type Size & Location stage. Significant comments made later in the project’s development may not be accommodated. Comments at the PS&E stage should be limited to refinements in the plans and specifications and suggestions for improved details.

**d. Submittal of Data**

Refer to Section C, Chapter 14 of this manual for additional information regarding the submittal of data.

**e. Bridges on State Right of Way**

Bridge projects designed and constructed by a LPA within state right of way must be coordinated with ODOT’s Regional Local Agency Liaison who will serve as the project liaison and the ODOT contact for all aspects of the project. The liaison will coordinate ODOT technical reviews and ensure that adequate coordination between the LPA and ODOT takes place at each appropriate stage.

All pertinent review data submitted to the LPA by ODOT’s Bridge Section concerning constructability, safety, aesthetics, or use of the bridge by the motoring public will be forwarded to the LPA through ODOT’s Regional Local Agency Liaison.

LPAs should refer to Section C, Chapter 14 of this manual for detailed information related to delivery of local bridge projects.