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Federal-aid Program Overview Project Delivery A Process from “Cradle to Grave”

www.fhwa.dot.gov/federal-aidessentials

Federal-aid projects typically follow 6 fundamental phases that lead to successful project delivery



You wouldn't think of starting out on a trip without knowing where you were going. The same is true for local public agencies (LPAs) as they consider a project of any scope.



Think of a transportation project being developed under the Federal-aid highway program as an extended road trip with a series of required waypoints. It's a good idea to have a map that shows where you are going and how to get there. This presentation will provide you a sound understanding of the phases or building blocks and the major approval milestones.

America has the best transportation system in the world where safety is the top priority. The Federal Highway Administration (FHWA) values the public trust of delivering quality projects and protecting the civil rights of everyone who is affected. Understanding this program and how projects are advanced will help to preserve this trust and continued confidence.



Projects that use Federal-aid Highway Program funds typically follow a series of six fundamental phases of development. Each phase embodies the building blocks, leading to successful project delivery for your LPA. The first phase is planning. Your transportation needs and ideas are conceptualized during the planning phase. Next, building on the decisions initiated in planning, the project moves forward through the five remaining phases of development from environmental studies, design, right-of-way, construction, and ending at maintenance and operation.

As the project progresses through each of the six phases, your LPA also must take into account three major approval milestones: environmental document approval; plans, specifications and estimates; and closing the project. Obtaining approval at each of the milestones advances the project. This video presents these core elements and approval steps to help achieve success in your project—in terms of staying on schedule, ensuring construction quality, managing costs, and complying with Federal regulations—so that you can receive Federal-aid funds for the project.

Let us first discuss the core elements of the program before moving on to challenges and solutions related to the success of your project.

Project delivery within the Federal-aid highway program is represented as a series of interconnected phases that can affect each other.



A project is born in the planning phase. Planning includes identifying the initial scope of the project, which is based on regional transportation improvement programs, road conditions, and other considerations. If your LPA will use Federal-aid funds for a project, it is important to know that the project must be included in the approved State Transportation Improvement Program, otherwise known as the STIP. All projects in the STIP are identified activities in a long-term planning document referred to as the Long Range Transportation Plan or the LRTP. Once a project is in an approved STIP, the project can be considered for Federal-aid funding.



The second phase is environmental. Within the environmental phase, the NEPA process is a major part of the overall phase. NEPA refers to the National Environmental Policy Act and often is the first activity that uses project funds. This phase evaluates the project's impact on the human and natural environment and may even require consideration of alternatives. The NEPA process ultimately provides the project purpose and need, the "conceptual" location and design, and approval of the selected alternative based on the scope of work for the transportation project. Typically, no more than 30 percent of the project design is completed before the environmental phase is complete.



The third phase is design. This phase is when the details necessary to construct the project are defined. At the end of the design phase, the plans, contract specifications, and estimated costs package is assembled. This PS&E package is submitted for review and approval before the project can move into construction. A well developed PS&E helps to make sure you receive good bids and that the project can be constructed without significant problems.



The fourth phase is right-of-way. Right-of-way may include the purchase of property or land use agreements that is needed to construct the project. If any right-of-way is needed for the project, it must be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, otherwise known as the Uniform Act, even if Federal funds are not needed until construction. Coordination with utilities and railroads also occurs during this phase.



Construction is the fifth phase and is when the project is built. This phase includes physical construction by the contractor and administration of the contract and quality assurance by the local agency.



The sixth and final phase is maintenance and operation of the constructed facilities. This phase includes opening the

project for use by the public and making sure that it remains in good working order.



Generally, project delivery is broken down into pre-award and post award activities. Pre-award includes the first four phases of planning, environmental, design, and right-of-way, while post-award includes construction, contract administration, and maintenance – sometimes referred to as system preservation – and operations.



Now that we have an idea of how a project moves through the core elements, let's highlight the three major project approval milestones: NEPA approval, PS&E approval and final acceptance of the constructed project.

- The first milestone to complete is NEPA. This establishes the project purpose and need, the “conceptual” location and design, and approval of the selected alternative based on the scope of work for the transportation project. Environmental commitments may be necessary to mitigate the impacts anticipated from constructing the project.
- The second milestone is the approval of the PS&E package, which permits authorization for physical construction. Projects must not be advertised for bids unless you have received approval from your oversight agency.
- Finally, the third milestone is closing out the project, which incorporates final acceptance and final vouchering for the project. Closing

out the project is when your responsibilities transition to maintaining and operating the facility.

Understanding the cradle-to-grave process will help you avoid unnecessary delays to your project.

So how do you stay on the route to success?

By understanding how each of the six phases of your project are related within this cradle-to-grave process, you can avoid unnecessary delays to your project delivery schedule, growth in costs, or even affecting the public's trust. A solid understanding of the basic sequential activities common to delivering all transportation projects will reduce your risk of jeopardizing the use of Federal aid funds and make your journey an efficient and productive one.

Additional Resources

- Information on broad range of highway engineering topics
<http://www.fhwa.dot.gov/engineering/>
- Information about transportation and environment policy guidance, best practices and training
<http://environment.fhwa.dot.gov/index.asp>
- Guidance on provisions, administrative procedures, and policies for Federal-aid design and construction contracts
<http://www.fhwa.dot.gov/programadmin/contracts/coretoc.cfm>
- Link to transportation planning resources for Federal-aid projects
<http://www.fhwa.dot.gov/planning/>
- Link to design resources for Federal-aid projects
<http://www.fhwa.dot.gov/design/>
- Link to construction and contract administration resources for Federal-aid projects
<http://www.fhwa.dot.gov/construction/>

The content of this document is not a substitute for information obtained from State departments of transportation, appropriate FHWA Division Offices, and applicable laws. Scenarios have been simplified for emphasis and do not necessarily reflect the actual range of requirements applicable to the scenario or this topic. This document was created under contract number DTFH61-11-D-00024 by the Federal Highway Administration, U.S. Department of Transportation, and is offered to the public to heighten and focus awareness of Federal-aid requirements within the local public agencies community and reinforces the importance of these necessary policies, procedures, and practices.

This companion resource is the script content for the video production of the same name.