

CHAPTER 2 — PROJECT DELIVERY PROCESS

INTRODUCTION

In order for the surfacing selection methodology presented in this document to be useful and effective for FLH projects, the process should fit within FLH's existing Project Delivery Process (PDP), which guides all aspects, including design and environmental review, of an FLH roadway project from its conception through to its construction. The purpose of this section is to provide a brief description of those steps in the PDP that can best accommodate the suggested surfacing selection methodology described in Chapter 3 of this Guide.

THE PROJECT DELIVERY PROCESS

The PDP has five principal steps: planning and programming, project development, advertise and award, construction, and evaluation. Because this Guide's suggested surfacing selection methodology takes into consideration environmental and aesthetic concerns, in addition to functionality, safety, and cost, the environmental review process appears to best accommodate the roadway surfacing selection process. As a result, the following discussion addresses only the Planning and Programming and Project Development steps that describe the environmental processes and design processes, and how these processes may accommodate the surface selection methodology. The relevant activities that occur during these steps are shown in Figure 1.

Planning and Programming

During the planning and programming step, it is helpful to consider the potential social, economic, and environment impacts a proposed roadway improvement may have while the project is still in the conceptual phase. In FHWA's *Flexibility in Highway Design*, the following questions are suggested for consideration when planning and programming decisions are being made:

1. How will the proposed project affect the physical character of the surrounding area?
2. Does the area have important or unique historic, natural, or visual characteristics?
3. What are the safety, capacity, and cost concerns associated with the project?

Preliminary answers to these questions can be developed through initial scoping activities, and addressed in the reconnaissance and scoping report (also known as the project planning report). The environmental information contained in that report typically includes the following:

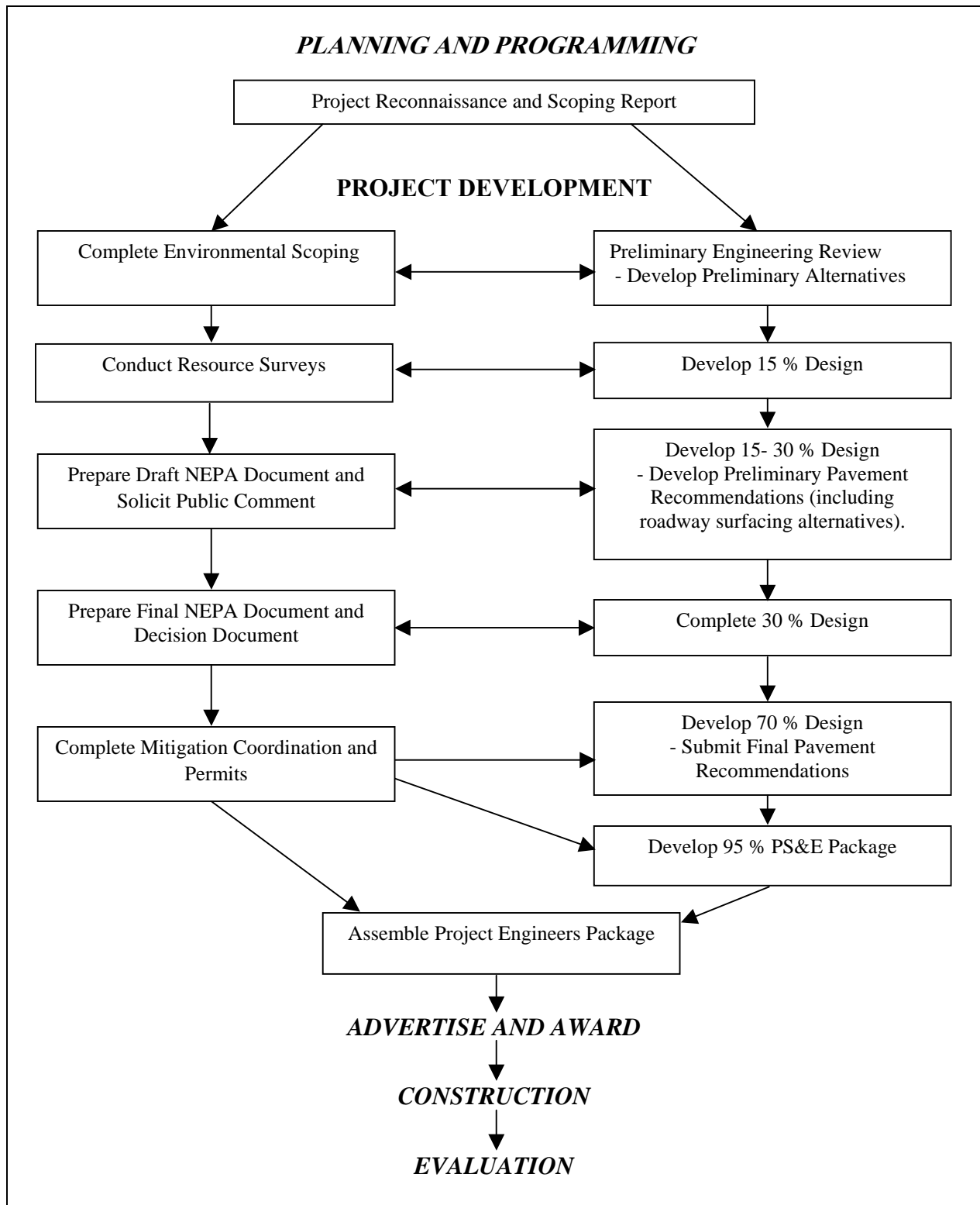


Figure 1. Flowchart. Project Delivery Process.

- Initial National Environmental Policy Act (NEPA) classification - Class 1 – Environmental Impact Statement (EIS), Class II – Categorical Exclusion (CATX), and Class III – Environmental Assessment (EA).
- Draft purpose and need statement.
- Preliminary list of alternatives.
- Potential environmental concerns or benefits associated with the project.
- Typical and atypical issues needed to be taken into consideration in the development of the project design.
- Existing survey data (traffic, environment, or mapping).
- Determination of whether the proposed project is consistent with local, state, or federal land management plans.
- Identifying the type of expertise needed on the cross-functional design team.

The principles of context sensitivity are implemented in this step and continue to be implemented during the subsequent Project Development step. Context sensitive design (CSD), also known as context sensitive solutions (CSS) — *is an approach to transportation design that considers the total context within which the transportation improvement project will exist. It is an interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility.*⁽⁴⁾ When practicing context sensitive design, the landscape, the community, and valued resources are understood before the engineering design is started.

During the Planning and Programming step, the project’s context begins to be defined in the project planning report. As noted in *A Guide for Achieving Flexibility in Highway Design*,⁽²⁾ the identification and engagement of all appropriate project stakeholders is critical to ensuring that the cross-functional design team accurately captures the context of the project. At the Planning and Programming step, typically the FLH partner agencies and sometimes the regulatory and resources agencies are contacted for information to assist in developing a preliminary characterization of the project’s context and factors that need to be considered throughout the remainder of the PDP. Figure 2 depicts the many factors that could yield information regarding the project’s context and that may need to be considered during planning as well as the remainder of the PDP.

Project Development

All of the project design and the majority of the project environmental compliance activities occur during the Project Development step of the PDP. During this step, engineering and environmental data are gathered through meetings with the various stakeholders, resource surveys, and engineering analysis to permit FLH to complete the design of the project and develop a NEPA decision document. As depicted in Figure 1, the project design and environmental compliance activities occur concurrently because each readily affects the other. As a result, it is critical that, as the arrows in Figure 1 indicate, the design and environmental data collected is shared amongst the cross-functional design team given that each affects the

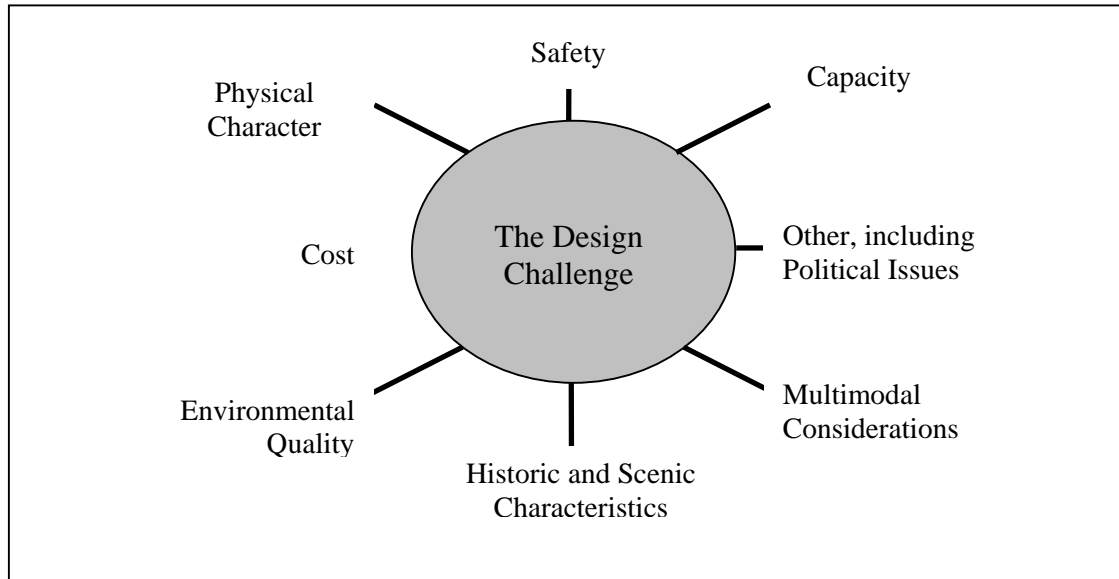


Figure 2. Schematic. Factors Considered in the Planning Phase of a Project.⁽¹⁾

other. Below is a brief description of the environmental and design activities that occur concurrently with each other.

Preliminary Engineering Review and Environmental Scoping

Once the project NEPA classification is confirmed, scoping activities are formally undertaken, building on the information and input obtained during the planning and programming step. These scoping activities include conducting interagency and public meetings, the identification of preliminary alternatives, and the refinement of the purpose and need. At this point mailing lists are developed and project stakeholders are identified and contacted to solicit their input regarding the context of the project and possible impacts. Stakeholders may include, but are not limited to, various resource and regulatory agencies, individuals directly affected by the project, community-based organizations and interest groups, and local government officials. A series of questions presented below may be used by the cross-functional design team and stakeholders to help further define the context of a proposed project. This list is not meant to be a complete list and the users of this Guide may have other needs to be addressed to better define the context.

- a) What are the physical characteristics of the corridor?
- b) Is it an urban, suburban, or rural setting?
- c) How is the corridor being used (other than for vehicular traffic)?
- d) Are there destination spots along the corridor that require safe access for pedestrians to cross?
- e) Do bicycles and other non-motorized vehicles or pedestrians travel along the corridor?

- f) Are there important viewsheds from the road?
- g) Are there important viewsheds that include the road?
- h) What is the size of the existing roadway and how does it fit into its surroundings?
- i) Are there historic or especially sensitive environmental features along the roadway?
- j) How does the road compare to other roads in the area?
- k) Are there particular features or characteristics of the area that the community wants to preserve or change?
- l) Is there more than one community or social group in the area? Are different groups interested in different features/characteristics? Are different groups affected differently by possible solutions?
- m) Are there concentrations of children, elderly, or disabled individuals with special design or access needs (e.g., pedestrian crosswalks, curb cuts, audible traffic signals, median refuge areas) in the project area?
- n) What is the local community's perception of the road project?
- o) Are there protected species or concentrations of wildlife in the area that may require special crossings to ensure the safety of both wildlife and motorists?

Develop 15% Design and Resource Surveys

Based on the information gathered during the environmental scoping activities, environmental data gaps are identified and resources surveys are conducted as needed. During this time the 15% design is developed. As resource data are collected and the design is developed, this information is shared among the cross-functional design team to assist the designers in implementing early avoidance of environmental resources and to ensure that the resources surveys adequately cover the areas affected by the design.

Development of 30% Design and Prepare NEPA Documents (Draft, Final, and Decisional)

The results from resource surveys are reviewed in relation to the design elements and preliminary impacts are identified. This information is reviewed by the cross-functional design team, the stakeholders, and the public during the development of the Draft NEPA documents and during the comment period. During the development of the NEPA documents the roadway design progresses to 30% and numerous context sensitive project design decisions, including roadway surface type can be effectively considered at this time, such as:

- a) Project location/alignment
- b) Surfacing material/color
- c) Noise mitigation measures
- d) Guide rail style and/or position

- e) Median/shoulder design – surfacing, curbs, widths
- f) Lighting/sign selection and design
- g) Placement and design of drainageways and stormwater basins
- h) Placement of foot, cycle, or horse paths
- i) Roadway cross section (travelway, shoulder, and construction limit width)
- j) Right-of-way width
- k) Retaining wall location/height/appearance
- l) Bridge and culvert location and appearance

To make decisions about each design element, the team must consider other factors, such as the following:

Engineering and Cost

- a) Design traffic load (capacity)
- b) Safety considerations
- c) Design speed
- d) Initial costs
- e) Life-cycle costs
- f) Maintenance costs

Environmental

- a) Protected species and/or habitat
- b) Wetlands and streams
- c) Water quality
- d) Historic structures
- e) Archaeological sites
- f) 4(f) properties
- g) Social and economic aspects
- h) Visual quality
- i) Land use
- j) Secondary impacts

These factors will be different for each project and balancing decisions related to these factors may require some trade-offs.

For projects requiring an Environmental Assessment (EA) or an Environmental Impact

Statement (EIS), some of the preliminary alternatives may be eliminated because they carry too many negative effects that impact the environment, engineering design, or construction cost. This screening produces a “short list” of alternatives that are addressed in detail in the draft and final NEPA documents.

With regards to categorical exclusion (CATX) documents, there may be unusual circumstances in which a CATX considers context sensitive issues. The resurfacing of a roadway, for example, would typically qualify as a CATX. However, if the surfacing material proposed is different from what exists on the roadway, an analysis should be conducted to determine if the new surfacing material would impact the character of the roadway in a manner that may be incompatible with the surrounding area (the project’s context). This is not to say that an EA would be needed, just that the choice made for a surfacing material should be compatible with the project context.

As the NEPA decision documents (Record of Decision, EA/Finding of No Significant Impact) are developed and signed, the 30% design is completed. Completion of the 30% design typically includes selection of roadway surface type to be used on the project.

Development of 70 and 95% Design Packages and Mitigation Coordination and Permits

This group of activities is often referred to as the “detailed design phase.” At this point the environmental review process is complete and the identification of context sensitive solutions for the design is finished although some “tweaking” of the design and alignment decisions may occur during this phase. The pavement design is finalized during the development of the 70% design package. The FLH environmental staff members of the cross-functional team review the 70 and 95% design packages to ensure that all commitments made in the NEPA decision documents are implemented.

