

THE ENVIRONMENTAL IMPACT STATEMENT AND RECORD OF DECISION



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THE ENVIRONMENTAL IMPACT STATEMENT AND RECORD OF DECISION

Whereas Chapter 7 described where the Environmental Impact Statement (EIS) fits into the overall National Environmental Policy Act (NEPA) process, this section describes the format and content of an EIS (Draft and Final) and the Record of Decision (ROD) that follows the Final EIS. Although less than 5 percent of all Federal Highway Administration (FHWA) projects involve EISs, these are the projects that require the most time and effort to complete. Because of the range and significance of resource topics covered in an EIS, the District of Columbia Department of Transportation (DDOT) project manager must coordinate with a wide range of specialists to properly describe existing conditions in the study area and the project's potential impacts (beneficial and adverse). The intent of this section is to assist the project manager in understanding not only the component pieces of an EIS, but also the general content of each section so that judgments can be made on the thoroughness of the document. Ensuring that technical specialists properly identify the natural and socioeconomic resources in the

project area and describe the project's resource impacts in a way that meets the regulatory agencies' needs is critical to developing a document that can be approved by FHWA and supported by local and federal agencies.

The following section begins with background information to familiarize the reader with the EIS and the key legislation and guidance for preparing an EIS. Following the background, the components of a Draft EIS and Final EIS and the contents of a ROD are described. The chapter ends with a brief discussion of the tiering process for EISs.

8.1 EIS Basics

8.1.1 What is an EIS?

An EIS is a full-disclosure document describing the potential effects of a project on the environment, as described in the regulations of the United States Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] Parts 1500-1508). "Environment" is defined as the natural

and physical environment and the relationship of people with that environment. This means that the “environment” considered in an EIS includes land, water, air, structures, living organisms, environmental values at the site, and the social, cultural, and economic aspects. An “impact” is a change in consequence that results from an activity. Impacts can be positive or negative or both, and in EISs there are direct, indirect, and cumulative impacts. An EIS describes impacts, as well as ways to “mitigate” impacts. To “mitigate” means to lessen or remove negative impacts.

8.1.2 Why is an EIS Needed?

The ultimate purpose of the EIS is to assist in decision making, “to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment” (43 CFR 55990 Section 1500.1, CEQ Regulations).

8.1.3 When is an EIS Prepared?

An EIS, which is classified as a Class I action by FHWA, is the most thorough and comprehensive level of NEPA documentation. It is prepared when DDOT, in consultation with FHWA, determines that the action is likely to cause significant impacts on the environment. In determining the significance of an action, the entire human environment, the affected region, and the interests of the local area must be analyzed. Both short-term and long-term effects must be taken into account.

Significance, as used in NEPA, requires considerations of both context and intensity. Significance varies with the setting of the proposed action.

- Context: The significance of an action must be analyzed in several contexts such as society as a whole (human,

national), the affected region, affected interests, and the locality.

- Intensity: This refers to the severity of the impact—that is, the degree to which the action affects public health or safety or sensitive species (flora or fauna).

An EIS is prepared for projects that are defined under 23 CFR 771.115, or for which FHWA has determined individually that an EIS is required. Some examples of the types of projects normally requiring the preparation of an EIS include:

- Proposed construction of new access-controlled freeways
- A highway project of four or more lanes on a new location
- New construction or extension of fixed rail transit facilities
- New construction or extension of a separate roadway for buses or high occupancy vehicles not located within an existing highway facility

8.1.4 What is included in an EIS?

An EIS discusses the physical, biological, and social elements in the project’s environment. The major sections of an EIS discuss the purpose and need for the proposed action; existing conditions; affected environment; alternatives considered to avoid and minimize impact, including the No Action Alternative and those considered and eliminated; the environmental effects (both adverse and beneficial) of the proposed action; and the results of coordination with federal, state, and local agencies and the public.

8.2 Summary of Key Legislation, Regulations, and Guidance

This chapter contains multiple references to several key regulations or guidance, particularly FHWA Technical Advisory (TA) T6640.8A, 23 CFR Part 771, 40 CFR Parts 1500–1508, and the CEQ’s 40 Questions. A brief description of key legislation and regulation is found below.

- 40 CFR Parts 1500–1508, Regulations for Implementing NEPA: The regulations in this section of the CFR were issued by CEQ in 1978 and were amended once in 1986. This section sets forth requirements for implementing NEPA, with the directive that individual federal agencies must develop regulations for implementing NEPA that are specific to the mission of the particular agency.
- 23 CFR Part 771, FHWA Environmental Impact and Related Procedures: As noted above, individual federal agencies were directed to develop regulations to implement NEPA within the context of the agency’s mission. This section of Title 23 establishes the requirements for FHWA projects.
- CEQ’s Forty Most Asked Questions Concerning CEQ’s NEPA Regulations (40 Questions): While 40 Questions does not have the same legal standing as CEQ’s NEPA regulations, this document is perhaps the next best source of information regarding NEPA implementation. CEQ issued the 40 Questions to address the most frequently asked questions regarding 40 CFR Parts 1500–1508.
- FHWA TA T6640.8A, Guidance for Preparing and Processing Environmental and Section 4(f) Documents: FHWA TA T6640.8A and subsections within it are heavily referenced throughout the environmental portions of this manual. This document, issued October

30, 1987, contains a wealth of information about the content and format of environmental documentation on FHWA projects, including Section 4(f) Statements. While FHWA TA T6640.8A is not a regulatory document, it is a critical guidance document for all projects developed under FHWA jurisdiction.

8.3 Preparing the Draft EIS

The format and content requirements for an EIS are described in the CEQ regulations and FHWA regulations, 23 CFR 771.

The use of plain language and graphics in EISs is encouraged. Impact discussions should be concise and appropriate to the issues. Discussion of the affected environment and environmental consequences should be limited to those elements germane to the action being evaluated.

CEQ recommends that the text of Final EISs should be less than 150 pages. For those proposals of unusual scope or complexity, the text should be less than 300 pages.

The required elements of an EIS are listed below. They serve to introduce the reader to the project; to set forth the details of the proposed action, its impacts, and the mitigation of those impacts; to summarize coordination; and to distinguish changes between the draft and final statements.

- Title/Cover Sheet/Policy Statement
- Abstract
- Summary
- Table of Contents
- Purpose and Need

- Description of Alternatives, Including the Proposed Action
- Affected Environment
- Environmental Consequences
- Public Involvement
- Economic Advantages and Disadvantages
- Irreversible or Irrecoverable Commitments of Resources
- Short-Term Uses of Environment and Long-Term Productivity
- List of Preparers
- References
- Index
- Appendices
 - Agency Circulation List
 - Comments and Coordination (Results of the Scoping Process)
 - Responses to Comments on Draft EIS (in Final EIS Only)

The Draft EIS, Final EIS, and ROD should not be submitted to FHWA (or lead agency) before the designated environmental staff (Environmental Program Coordinator or designee) review and approve the document.

8.3.1 Title Sheet/Policy Statement

The title (or cover) sheet should include:

- The name of the lead agency and cooperating agencies
- The designation of Draft, Final, or Supplemental EIS and whether it includes Section 4(f), Section 6(f), or Section 106 evaluations
- The title of the proposed action
- The location of the action
- The federal project number
- Name(s), address(es), and telephone number(s) of information contact person(s)
- A date by which comments are due
- A designation of where comments should be sent

An EIS that contains a Section 4(f) evaluation shall include the reference to 49 United States Code (USC) 303. The reference shall be excluded if there is no Section 4(f) evaluation in the federal EIS.

A code, which will be provided by FHWA, will be included at the top left-hand corner designating the federal agency, state, type of document, year prepared, the number assigned to the statement, and whether the document is a Draft, Final, or Supplemental [for example, FHWA DC EIS 07 01 F].

The policy statement indicating that the EIS has been prepared in compliance with the NEPA process is required. The policy statement may be placed either on the back of the cover sheet or as the first page of the document.

A brief abstract of the statement will be printed on the cover.

An example title sheet is shown in Figure 8-1, Example Title Sheet. An example policy statement is shown in Figure 8-2, Example Policy Statement.

8.3.2 Summary

The summary should not exceed 15 pages. It is intended to assist reviewers by providing an easily accessible overview of the proposed action. The summary should be placed in the document in such a way that it can be reproduced separately

Figure 8-1 Example Title Sheet

FHWA-DC-EIS-07-01-F

11th STREET BRIDGES

Anacostia Freeway (I-295/DC 295) to the Southeast/ Southwest Freeway (I-695),
Washington, DC

FINAL ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to: 42 U.S.C. 4332 (2) (c) and 49 U.S.C 303

By:

U.S. Department of Transportation
Federal Highway Administration
and
District of Columbia Department of Transportation

SEP 11, 07
Date of Approval


Ardeshir Nafici
Associate Director/Chief Engineer (Acting)
District of Columbia Department of Transportation

9/25/07
Date of Approval


Mark Kehring
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The District Department of Transportation (DDOT) and the Federal Highway Administration (FHWA) have proposed improvements to the highway connection between the Southeast/Southwest Freeway (I-695) and the Anacostia Freeway (I-295 and DC-295) in Southeast Washington, DC. The project would replace obsolete infrastructure, provide missing freeway connections to improve traffic flow to and from downtown Washington, DC, discourage cut-through traffic on neighborhood streets, improve local access, and better link land uses across the Anacostia River. A Preferred Alternative has been identified.

This final environmental impact statement analyzes four Build Alternatives, the Preferred Alternative, and a No-Build Alternative for their potential effects on the human and natural environment. The analysis considers construction and the cumulative effects of proposed improvements.

This final environmental impact statement will be available for public review until November 20, 2007.

Figure 8-2 Example Policy Statement

National Environmental Policy Act Statement

The National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4332) requires that all federal agencies prepare a detailed Environmental Impact Statement (EIS) for major federal actions that will significantly affect the quality of the human environment. The Federal Highway Administration (FHWA) is therefore required to prepare an EIS for proposals funded under its authority if such proposals are determined to be major actions significantly affecting the quality of the human environment.

The EIS process is carried out in two stages. The Draft EIS is circulated for review by federal, state, and local agencies with jurisdiction by law or special expertise, and made available to the public. The Draft EIS must be made available to the public at least 15 days before the public hearing, and no later than the first public hearing notice. A minimum 45-day comment period is provided from the date the Draft EIS availability notice is published in the Federal Register. WisDOT must receive agency and public comments on or before the date listed on the front cover of the Draft EIS unless a time extension is requested and granted by comment period has elapsed, work may begin on the Final EIS.

The Final EIS includes the following:

1. Identification of the recommended course of action (alternative), and the basis for its recommendation.
2. Basic content of the Draft EIS along with any changes, updated information, or additional information as a result of agency and public review.
3. Summary and disposition of substantive comments on social, economic, environmental, and engineering aspects resulting from the public hearing/public comment period and agency comments on the Draft EIS.
4. Resolution of environmental issues and documentation of compliance with applicable environmental laws and related requirements.

Final administrative action by FHWA (Record of Decision) cannot occur sooner than 90 days after filing the Draft EIS, or 30 days after filing the Final EIS with the U.S. Environmental Protection Agency. Both the Draft and Final EIS are full-disclosure documents that provide descriptions of the proposed action, the affected environment, alternatives considered, and an analysis of the expected beneficial or adverse environmental effects.

General Reviewer Information

Major topics are divided into sections, each with a separate page-numbering sequence. Exhibits pertaining to each section are located at the end of the section to minimize disruption of the narrative discussions.

An overall project exhibit showing the Alternatives selected for detailed study is located at the end of the document, and is titled Aerial Photo Exhibit. This exhibit is referenced throughout the sections as "Aerial Photo."

for purposes of public involvement as may be required. The summary shall emphasize the major conclusions, areas of controversy (including issues raised by agencies and the public), and the issues to be resolved (including the alternatives).

The summary should include the following.

- A brief description of the proposed action indicating route, termini, type of improvement, number of lanes, length, county, city, state, functional classification, and similar items, as appropriate.
- A description of any significant actions proposed by other government agencies in the same geographic area as the proposed action.
- A summary of the reasonable alternatives considered and whether they meet the project's purpose and need. If they are not proposed for adoption, indicate why not. Identify which, if any, of the alternatives is the preferred alternative. The Final EIS should identify and justify the preferred alternative.
- A summary of significant environmental impacts.
- Highlights of the public involvement process.
- Any areas of controversy (including issues raised by agencies and the public).
- Any major issues to be resolved.
- A list of other federal or state actions required because of this proposed action (such as permit approvals).
- Proposed mitigation.
- A discussion of economic advantages and disadvantages.

- The summary should include a comparative table of impacts or a matrix providing the reader with a one-page tabular comparison, by alternative, of existing and anticipated traffic volumes (average daily traffic), costs, acquisition and relocation requirements, noise and air quality, and environmental and social impacts.

8.3.3 Table of Contents

A table of contents should be provided for all major sections and subsections within the EIS. It should also contain a list of tables and figures. The table of contents should reflect the following sections of the document, at a minimum.

- Summary
- Purpose of and Need for Action
- Alternatives
- Affected Environment
- Environmental Consequences
- List of Preparers
- List of Agencies, Organizations, and Persons to Whom Copies of the Statement are Sent
- Comments and Coordination
- Index
- Appendices (if any)

The Mapped Environmental Impact Statement Project Delivery Process in the District of Columbia is shown in Figure 8-3.

8.3.4 Purpose and Need

This section should identify the problem, describe the requested action, and present the time frame for the proposed action. This section should clearly identify the

purpose and need for the action and clearly demonstrate a need for the project. The following is a list of items that may assist in the explanation of the need for the proposed action. It is not all-inclusive or applicable to every project and is intended only as a guide.

- System Linkage – Is the proposed project a “connecting link?” How does it fit in the system? Is it an “essential gap” in the system?
- Transportation Demand – Including relationship to any statewide plan or adopted urban transportation plan.
- Capacity – Is the capacity of the present facility inadequate for the present traffic? Projected traffic? What capacity is needed? What is the level of service?
- Social Demands or Economic Development – New employment, schools, land use plans, recreation, etc. What projected economic development/land use changes indicate the need to improve or add to the highway capacity?
- Modal Interrelationships – How will the proposed facility interface with and serve to complement airports, rail and port facilities, mass transit services, and other similar entities?
- Condition of Existing Facility – Relate to standards and maintenance costs.
- Safety – Is the proposed project necessary to correct an existing or potential safety hazard? Is the existing accident rate excessively high? Why? How will the proposed facility improve it?
- Legislative Authority – federal, state, or local governmental authority (legislation) directing the action.

A solid purpose and need will establish why the expenditure of funding is necessary, justify why the environmental impacts of the project are necessary, and help to limit the range of alternatives by providing specific goals. With all of the focus placed on defining the goals of the proposed action, the purpose and need should also help demonstrate what will happen if the action is not taken.

By establishing why there is a proposed action (the need) and what that action is to accomplish (the purpose), the purpose and need lays the groundwork for defining the range of alternatives. Alternatives that do not have potential to meet the purpose and need are not required to be discussed in the course of the NEPA document, thus reducing the amount of study required.

Tables and graphics should be used to efficiently convey supporting information and data. The purpose and need will be reviewed and approved by FHWA prior to any publication, including concurrence point meetings.

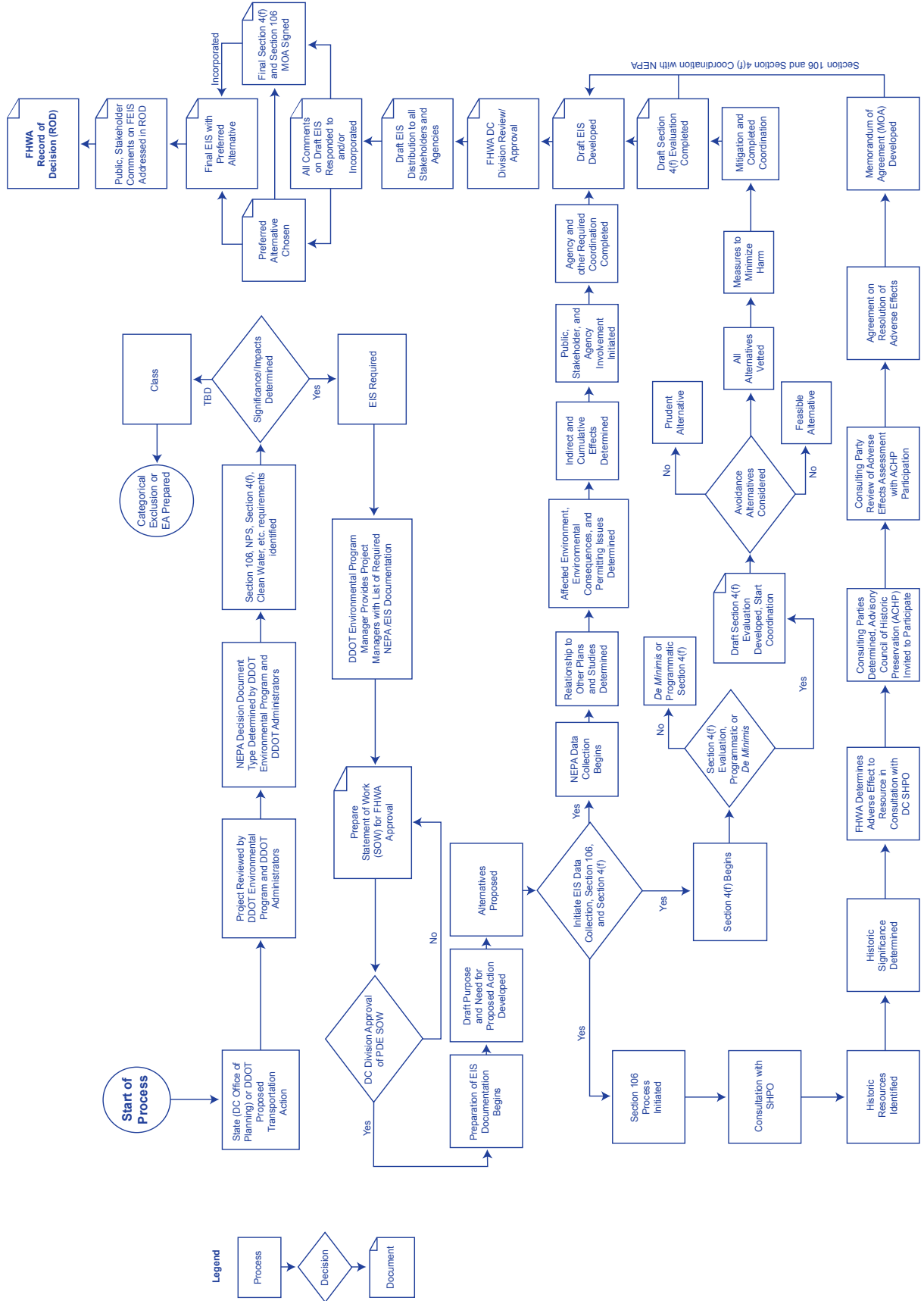
8.3.5 Alternatives

This section should rigorously explore and objectively evaluate all reasonable alternatives, including the proposed actions, and discuss why other alternatives were eliminated from further analysis. All viable alternatives must be given equal treatment during analysis. In many cases, analysis will conclude that there may be several suboptions to any or all of the alternatives. For every project, the No Action Alternative must be analyzed.

According to FHWA TA T6640.8A, the following alternatives should be discussed in this chapter.

- “No Action” Alternative: The No Action Alternative must be included in the EIS and is used as the basis of comparison to other alternatives. While the term “no

Figure 8-3 Mapped Environmental Impact Statement Project Delivery Process in the District of Columbia



action” would seem to imply that no work would occur under that alternative, no action may include routine maintenance and upkeep of the existing facility. These activities may have environmental impacts (such as water quality impacts from runoff or vegetative impacts from ditch cleaning) and transportation impacts resulting from the No Action Alternative’s ability (or lack thereof) to meet the project’s purpose and need.

- **Transportation System Management (TSM) Alternative:** The TSM alternative includes those activities which maximize the efficiency of the present system such as fringe parking, ridesharing, high-occupancy vehicle (HOV) lanes on existing roadways, and traffic signal timing optimization. This limited construction alternative is usually relevant only for major DDOT projects. For all major projects in the District of Columbia, HOV lanes should be considered.
- **Mass Transit:** This alternative includes those reasonable and feasible transit options (bus systems, rail, and other such services) even though they may not be within the existing FHWA funding authority. Where applicable, cost-effectiveness studies that have been performed should be summarized in the EIS.
- **Build Alternatives:** Both improvement of existing highway(s) and alternatives on new locations should be evaluated. A representative number of reasonable alternatives must be presented and evaluated in detail in the Draft EIS.

Each alternative should be briefly described using maps or other visual aids to help explain the various alternatives. The material should provide a clear understanding of each alternative’s termini, location, costs, and the project concept (number of lanes, right-of-way requirements, median

width, access control, and other pertinent information). To avoid duplication between the Alternatives section and the Environmental Consequences section of the document, the Alternatives section should be devoted to describing and comparing the alternatives.

Alternatives Development and Documentation

Only a reasonable number of alternatives must be developed and evaluated for a proposed action. In determining the reasonable number of alternatives, consideration should be given to identifying alternatives that are “representative” of the range of potential alternatives and not just reasonable in number. For example, when screening potential alignments, care should be given to ensure that the alternatives to be evaluated are representative of the different locations in which an alignment could be drawn.

Documenting the process used to identify alternatives and the considerations given to resource issues is a critical element of identifying alternatives. As the project develops and the NEPA documentation is prepared, it is important to discuss the measures that were taken to avoid and minimize impacts to resources. Likewise, the methodology and sources of information used while developing the alternatives should be documented. In addition, a technical memorandum describing the alternatives development process is usually completed and summarized in the environmental document.

Alternatives Evaluation and Documentation

All alternatives under consideration (including the No Action Alternative) should be developed to a comparable level of detail in the Draft EIS so that their comparative merits may be fairly evaluated. This comparable level of detail should be maintained until there is sufficient information to clearly dismiss an alternative from further

consideration based on impacts, transportation performance, and/or an inability to meet the purpose and need.

A careful screening process and diligent efforts to include resource information as early as possible in the process will lessen the potential that an alternative may be reconsidered. However, during the course of project development, additional information may become available that makes a previously dismissed alternative appear reasonable.

Development of more detailed design for some aspects (Section 4(f), United States Army Corps of Engineers [USACE] permits, noise, or wetlands, for example) of one or more alternatives may be necessary during the Draft EIS to evaluate impacts or to address issues raised by agencies or the public. However, care should be taken to avoid unnecessarily specifying features that preclude cost-effective final design options.

As with the process for identifying alternatives, the alternatives evaluation process should be documented and the contents summarized in the Draft EIS.

A table or matrix should be provided to compare the alternatives. The identification of a preferred alternative does not release DDOT from the requirement of preparing a document that is unbiased in its treatment of alternatives and their impacts. The range of alternatives will be reviewed and approved by FHWA prior to any publication, including concurrence point meetings.

Preferred Alternative

The preferred alternative is referred to as the “agency’s preferred alternative” in CEQ regulations and CEQ’s 40 Questions. It is the alternative that DDOT and FHWA believe would best fulfill the purpose and need while

giving appropriate consideration to the environmental and socioeconomic effects of the alternatives considered.

In those situations where DDOT has officially identified a preferred alternative based on its early coordination and environmental studies, it will also be indicated in the Draft EIS. In these instances, the Draft EIS should include a statement indicating that the final selection of an alternative will not be made until the alternatives’ impacts and comments on the Draft EIS and from the public hearing (if held) have been fully evaluated.

Where a preferred alternative has not been identified, the Draft EIS should state that all reasonable alternatives are under consideration and that a decision will be made after the alternatives’ impacts and comments on the Draft EIS and from the public hearing have been fully evaluated.

For the Final EIS, the agency is required to specify the preferred alternative. The environmentally preferred alternative may also be identified in the Final EIS, and must be identified in the ROD. The environmentally preferred alternative is considered the one that would cause the least damage to the biological and physical environment. It means the alternative that best protects, preserves, and enhances historic, cultural and natural resources. It also means the alternative that best ensures a degree of balance in the distribution of adverse impacts such that no minority population or low-income population is disproportionately affected as a result of the proposed action and, should this be the case, identifies and clearly articulates adequate and appropriate measures to minimize and mitigate the negative impacts on the affected group.

The Final EIS must identify which recommendation was selected and why. The “why” should be explained in a

concise manner, using public hearing results and comments received on the Draft EIS to support the selection.

8.3.6 Affected Environment

FHWA TA T6640.8A suggests that the Affected Environment section of the EIS present information needed to understand the potential impacts of the alternatives to the proposed action. This section should provide a concise description of the existing social, economic, and environmental conditions for the area affected by all alternatives presented in the EIS. Where possible, the description should be a single description for the general project area rather than a separate one for each alternative.

The discussion should be limited to data, information, issues, and values that will have a bearing on possible impacts, mitigation measures, and on the selection of an alternative. Data and analyses should be commensurate with the importance of the impact, with the less important material summarized or referenced rather than being reproduced.

The Affected Environment discussion should provide information about the existing conditions for the resources listed in the bullets below that may be impacted by the project. Refer to Chapter 25, Socioeconomic Resources, for more information about the type of socioeconomic data to include in the Affected Environment section and Chapters 17 (Water Quality Policy and Regulations), 18 (Floodplain Policy and Regulations), 19 (Wetlands and Waters of the U.S.), and 20 (Biological Resources) for more information about the type of natural resource information to include in the Affected Environment discussion.

- Existing and planned land uses, zoning, and growth trends in the project area, including residential, commercial and industrial areas
- Wildlife and waterfowl refuges, wetlands, floodplains, parks, water resources, recreational facilities, threatened and endangered species, hazardous waste sites, and sites of historic, architectural or archaeological significance
- Community schools, religious institutions, health facilities, utility services, and adjacent political jurisdictions affected by the proposed development
- Features with visual and aesthetic values
- Populations (including an identification of minority populations and low-income populations), employment characteristics, economic trends, and community and neighborhood characteristics
- Other planned and developed activities in the affected area such as highways and other transportation projects, housing development, and relocations that are interrelated to the proposal and/or that would produce cumulative impacts
- Existing noise and air quality data

Photographs, illustrations, and other graphics should be used with the text to give a clear understanding of the area and the important issues. Federal activities that contribute to the significance of the proposed action's impacts should be described.

This section should also briefly describe the scope and status of the planning processes for the local jurisdictions and the project area. Maps of any adopted land use and transportation plans for these jurisdictions and the project area would be helpful in relating the proposed project to the planning processes.

8.3.7 Environmental Consequences

The purpose of this section is to discuss the project's potential direct, indirect, and cumulative environmental, social, and economic effects resulting from the alternatives, and to discuss measures that could be used to mitigate adverse impacts.

Direct effects are caused by the proposed action and occur during construction (at the same time and place).

Indirect effects are caused by the proposed action and occur later in time (later than construction) or farther removed in distance (from the proposed right-of-way) but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate and related effects on air, water, and other natural systems.

Cumulative impacts result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The indirect effects and cumulative impacts can be discussed under each applicable resource topic or they can be separate subsections within the environmental consequences chapter. There is a wealth of guidance on indirect (secondary) and cumulative impacts. CEQ published a document titled *Considering Cumulative Effects Under the National Environmental Policy Act* (January 1997). FHWA developed a memorandum titled *Questions and Answers Regarding the Consideration of Indirect and Cumulative Impacts in the NEPA Process* that also contains a list of other indirect and cumulative impact

references. The memorandum can be found at <http://www.environment.fhwa.dot.gov/guidebook/qaimpact.asp>.

Section 101(b) of NEPA requires that federal agencies incorporate into project planning all practicable measures to mitigate adverse environmental impacts resulting from the proposed action. Mitigation concepts can be discussed as part of each applicable resource topic in this chapter or it can be discussed in a separate chapter. If mitigation is discussed in a separate section, it is normally titled "Measures to Minimize Harm or Measures to Minimize Adverse Effects," and it is placed after the Environmental Consequences chapter.

The information in the Environmental Consequences chapter should have sufficient scientific and analytical substance to provide a basis for evaluating the comparative merits of the alternatives. As stated in FHWA TA T6640.8A, "The discussion of the proposed project impacts should not use the term significant in describing the level of impacts. There is no benefit to be gained from its use."

There are two commonly used approaches to this section.

- List the alternatives and discuss the impacts and mitigation measures under each alternative
- List all the potential impacts and issues and discuss their effects under each alternative

Include the mitigation measures that would pertain to each impact.

When the Final EIS is prepared, the impacts and mitigation measures associated with the selected alternative may require more discussion than those in the Draft EIS. In discussing both beneficial and adverse impacts, the following

information should be included in both the Draft and Final EISs.

- A summary of studies undertaken and major assumptions made, with enough data or cross referencing to determine the validity of the methodology.
- Sufficient information to establish the reasonableness of the conclusions concerning impacts.
- A discussion of mitigation measures. Prior to completion of the Final EIS, these measures should be investigated in appropriate detail so that a commitment can be made to implement them.

Results of scoping meetings, public involvement and information meetings, interviews, and comments received will be used in analyzing potential impacts. It is important that the positive and negative effects of not building the project be included in this section.

Special instances may arise when a formal program for monitoring impacts or mitigation measures will be appropriate. In these instances, the Final EIS should describe the monitoring program. The EIS should include a discussion on the means to mitigate adverse environmental impacts.

The remainder of this subsection discusses some of the potentially significant impacts of highway projects. These factors should be discussed only to the extent applicable for each project. The list is not all inclusive, and, in some cases, there may be other impact categories that will require study. With respect to relocation, socioeconomic, and land use impacts, it should be noted that these impacts alone, if not also related to impacts on the natural and physical environment, would not necessarily require the preparation of an EIS.

Land Use Impacts

This discussion should identify the current development trends in the project area and the District of Columbia Office of Planning plans and policies on land use and growth in the area that will be affected by the proposed project.

This subsection should indicate the total amount of new right-of-way required by the proposed project, and describe/quantify the amount of right-of-way being taken from each land use category. This discussion should deal with the land directly affected by the project (land converted from its existing use to transportation use), as well as land outside the immediate right-of-way that may be ultimately affected by the proposed improvements (by changing access or other means).

The land use discussion should assess the consistency of the alternatives with local plans such as the Washington, D.C. Comprehensive Plan, the Citywide Strategic Plan, the National Capital Planning Commission Legacy Plan, Neighborhood Action Plans (for the city's eight wards), and regional plans such as the Constrained Long-Range Transportation Plan (CLRP). The secondary social, economic, and environmental impacts of any substantial, foreseeable, induced development should be presented for each alternative, including potential adverse effects on existing communities. Where possible, the distinction between planned and unplanned growth should be identified.

Social Impacts

In addition to relocation impacts (see next topic), the EIS will contain an estimate of expected changes in lifestyle for neighborhoods or various groups (such as minority and low-income groups) as a result of the proposed action. These changes might be either beneficial or adverse. Impacts might

include dividing the neighborhoods and changing area land use that may cause impacts to minority populations and low-income populations.

Discuss whether the proposal would change travel patterns, including vehicular, commuter, or pedestrian patterns. A subsection on traffic and access patterns should be contained in this chapter. The impacts of alternatives on highway and traffic safety, as well as on overall public safety, shall be discussed.

Include a discussion of impacts to public services and facilities, as well as economic impacts affecting employment, changes in property values and corresponding tax base changes, and changes in future growth. Any significant impacts on the economic viability of affected municipalities, including construction related impacts, should also be discussed together with a summary of any efforts taken and agreements reached for using the transportation investment to support both public and private development plans. Refer to Chapter 25, Socioeconomic Resources, for more information about socioeconomic issues that could be included in this section.

Relocation Impacts

Relocation impacts should be summarized in sufficient detail to adequately explain the necessity for relocation, including anticipated problems and proposed solutions. Project relocation documents from which information is summarized should be referenced in the EIS. Secondary sources of information, such as census data, economic reports, and contact with community leaders supplemented by visual inspections (and, as appropriate, contact with local officials) may be used to obtain the data for this analysis.

If relocation of residences is involved, the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 must be met. If business relocation would cause appreciable economic hardship on the community or on groups within the community (such as minority groups or low-income groups), if significant changes in employment would result directly from the action, or if community disruption is considered substantial, then the EIS will include a detailed explanation of the effects and reasons why potentially significant impacts cannot be avoided.

- Provide an estimate of the number of households to be displaced and their characteristics, such as single family, multi-units, number bedrooms, and similar information.
- Describe the racial/ethnic composition and income levels of the affected households or businesses.
 - When more than one minority group is present within a given project area, it may be more appropriate to determine, for each racial/ethnic category, the corresponding ratios of the affected households and businesses to the total number of households and businesses within that category. Where several minority groups are affected, distinctions among groups should always be made. For example, determine how many Hispanic households or businesses are affected out of the total number of Hispanic households and businesses. The impact on minority groups should be assessed separately because perceptions and values may differ among groups. Consequently, minority groups may not be summarily lumped together as a uniform group.

- Compare the ratios of the affected minority/ ethnic groupings and the ratio of the low-income group to the ratios of the affected nonminority or non low income populations to ensure that disproportionately high and adverse impacts are not incurred by a minority population or low-income population.
- Describe whether the proposed action will affect the community by dividing neighborhoods, isolating residences or services, or changing the values of the community.
- Describe, if possible, the housing and neighborhoods available to the relocated residents. Discuss whether secondary impacts will result in the neighborhoods with available housing as a result of new residents.
- Describe any special advisory services that will be necessary for unique relocation problems.
- Discuss the actions proposed to remedy insufficient relocation housing.
- Provide an estimate of the number, type, and size of businesses to be displaced.
- Discuss the results of early consultation with the local government(s), community-based organizations, and any early consultation with businesses potentially subject to displacement, including any discussions of potential sources of funding, financing, planning for incentive packaging (such as tax abatement, flexible zoning, or building requirements), and advisory assistance which has been or will be furnished along with other appropriate information.

The effects on each group should be described to the extent reasonably predictable. The analysis should discuss how the relocation caused by the proposed project will facilitate or inhibit access to jobs, schools, and other educational facilities, religious institutions, health and welfare services, parks and recreational facilities, theaters, neighborhood centers, or other social and cultural facilities, pedestrian facilities, shopping facilities, and public transit services.

The EIS must include statements that express the following assurances.

- The acquisition and relocation program will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.
- Relocation resources are available to all relocated residents and businesses, without discrimination.

Economic Impacts

Where there are foreseeable economic impacts, the EIS should discuss the following for each alternative, commensurate with the level of impacts.

- The economic impacts on the regional and/or local economy such as the effects of the project on development, tax revenues and public expenditures, employment opportunities, accessibility, and retail sales. Where substantial impacts on the economic viability of affected wards, communities, or neighborhoods are likely to occur, they should also be discussed together with a summary of any efforts undertaken and agreements reached for using the transportation investment to support both public and private economic development plans. To the extent possible, this discussion should rely

upon results of coordination with and views of affected federal and District officials and upon studies performed.

- Impacts of the proposed action on established business districts and any opportunities to minimize or reduce such impacts by the public and/or private sectors. This concern is likely to occur on a project that might lead to or support new large commercial development that would adversely affect an existing business district.

Environmental Justice

Presidential Executive Order on Environmental Justice 12898 requires all federal agencies to address the impacts of their programs with respect to environmental justice. The Executive Order states, that to the extent practical and permitted by law, neither minority nor low income populations may receive disproportionately high or adverse impacts as a result of a proposed project.

The effects of a project on the elderly, disabled, nondrivers, transit-dependent, and minority and ethnic groups are of particular concern and should be described to the extent these effects can be reasonably predicted. Where impacts on a minority or ethnic population are likely to be an important issue, the EIS should contain the following information broken down by race, color, and national origin.

- The population of the study area
- The number of displaced residents
- The type and number of displaced businesses
- An estimate of the number of displaced employees in each business sector

Changes in ethnic or minority employment opportunities should be discussed, and the relationship of the project to

other federal actions that may serve or adversely affect the ethnic or minority population should be identified.

The discussion should address whether any social group is disproportionately affected and identify possible mitigation measures to avoid or minimize any adverse impacts. If an environmental justice impact is identified, the environmental consequences discussion should include the public involvement process used to coordinate with the affected persons. This discussion should note what groups were involved, where and how frequently meetings were held, and the results of that coordination. Secondary sources of information, such as census data and personal contact with community leaders, supplemented by visual inspections, should be used to obtain the data for this analysis. However, for projects with major community impacts, a survey of the affected area may be needed to identify the extent and severity of impacts on these social groups.

Air Quality Impacts

Under the authority of the Clean Air Act, the United States Environmental Protection Agency (USEPA) has established nationwide air quality standards to protect public health and welfare. These federal standards, known as the National Ambient Air Quality Standards (NAAQS), represent the maximum allowable atmospheric concentrations of pollutants and were developed for seven “criteria” pollutants.

- Ozone (O₃)
- Nitrogen dioxide (NO₂)
- Carbon monoxide (CO)
- Particulate matter equal to or less than 10 microns in equivalent diameter (PM₁₀)
- Particulate matter equal to or less than 2.5 microns in equivalent diameter (PM_{2.5})

- Sulfur dioxide (SO₂)
- Lead

One of the key concepts in understanding air quality issues related to transportation projects is “attainment.” Attainment refers to whether EPA has designated the study area as being in attainment of the NAAQS. If an area does not meet the standard, it is designated as a “nonattainment” area for that pollutant. Areas that were previously designated as nonattainment areas but have now met the standard (with EPA approval of a suitable air quality plan) are called maintenance areas. As of December 2007, the Washington, D.C. area has been designated as a nonattainment area for O₃ and PM_{2.5} and a maintenance area for CO. In CO and PM₁₀ nonattainment and maintenance areas, projects cannot cause or contribute to any new, localized CO or PM₁₀ violations or increase the severity of existing violations. The Washington, D.C. area is in attainment for all other criteria pollutants.

Air quality impacts are analyzed at a regional or “mesoscale” level and at a localized or “microscale” level, depending upon the pollutant being evaluated. The regional or mesoscale analysis of a project determines its overall impact on regional air quality levels. In the Washington, D.C. region, transportation projects are analyzed as part of a regional transportation network developed by Metropolitan Washington Council of Governments. Projects included in this network are those identified in the CLRP and the Transportation Improvement Plan (TIP) for the region. The CLRP/TIP includes a regional analysis, the results of which are used to determine if an area is in conformity with regulations set forth in the Clean Air Act Amendments Final Conformity Rule.

Microscale air quality analysis of the Proposed Action is performed by using computer modeling software to predict CO and PM₁₀ concentrations in emissions from motor vehicles using roadways immediately adjacent to a specific location or intersection. Emissions are predicted for both existing conditions and future conditions that reflect both the No Action condition and the implementation of the Proposed Action. The future No Action condition is the baseline against which the Proposed Action is compared.

The focus of the EIS documentation should be to describe the ambient air quality conditions, the analyses required to prove that the project will not degrade existing air quality, and the results of the analyses. Refer to Chapter 14, Air Quality Policy Regulations, for information relating to the air quality analyses for an EIS.

Noise Impacts

The EIS should summarize the key findings in the project’s noise analysis technical memorandum. The summary should include a brief description of the following.

- Background information on FHWA’s Noise Abatement Criteria (NAC) that establishes threshold levels of noise for various noise-sensitive areas (such as residences, businesses, hospitals, schools, or parks). The noise levels established in the NAC determine when noise impacts are considered to occur and when consideration must be given to noise abatement.
- A comparison of existing noise levels, future noise levels with the No Action Alternative, and future noise levels with the Build Alternative.
- A description of the number, type and location of receivers that would experience a noise impact as defined by FHWA.

- An evaluation of the potential abatement measures.

Refer to Chapter 15, Highway Noise Policy and Regulations, for more information about the steps in FHWA's highway traffic noise analysis that should be summarized in the EIS.

Water Quality Impacts

The EIS should describe the ambient conditions of streams or water bodies that are likely to be affected and identify the potential impacts of each alternative. For most projects, published water quality data may be used to describe ambient conditions. The inclusion of water quality data spanning several years is encouraged to reflect trends. Obtaining water quality data from agencies such as the USACE, National Marine Fisheries Service (NMFS), United States Fish and Wildlife Service (USFWS), USEPA, and District Department of Health (Water Quality Division) is also recommended. Coordination with these agencies should be included in the EIS.

A discussion of any locations where roadway runoff may have potentially significant effects on water uses, including groundwater, is desired. The District of Columbia relies on the Potomac River for its public drinking water supply. This reliance has placed the focus for ambient water quality protection primarily on surface water. However, the District also seeks to protect ground water as a public and/or private raw drinking water source especially in the event of an emergency. Groundwater is also protected for other beneficial purposes such as irrigation, firefighting or geothermal heating/cooling. Further, as contaminants entrained in groundwater discharge to surface water bodies they may pollute the water column and impact the ecosystems. Because there are no sole-source aquifers in the District of Columbia, there is no need to discuss this issue under this subsection.

Impacts on rivers and streams should be discussed in terms of water quality changes resulting from the proposed action. The 1981 FHWA research report, Constituents of Highway Runoff; the 1985 report, Management Practices for Mitigation of Highway Stormwater Runoff Pollution; and the 1987 report, Effects of Highway Runoff on Receiving Waters, contain procedures for estimating pollutant loading from highway runoff and would be helpful in determining the level of potential impacts and appropriate mitigation measures.

If Section 402 or 404 permits (Clean Water Act) are required, these needs must be addressed in the EIS. A water quality certification (Section 401) is also required if these federal permits are needed.

Refer to Chapter 17, Water Quality Policy and Regulations, for more information relating to water quality.

Wetland Impacts

All Draft EISs for projects involving new construction in wetlands should include sufficient information to:

- Identify the type of wetlands involved
- Describe the impacts on the wetlands
- Evaluate alternatives that would avoid the wetlands
- Identify practicable measures to minimize harm to the wetlands

Exhibits showing the wetlands in relation to the alternatives, including the alternatives to avoid construction in the wetlands, should be provided. Wetland mapping is available from the District Department of Health.

Executive Order 11990, Protection of Wetlands, requires federal agencies “. . . to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. . . .”

In evaluating the impact of the proposed project on wetlands, the following items should be addressed: the importance of the affected wetland(s) and the severity of this impact. Merely listing the number of acres taken by the various alternatives of a highway proposal does not provide sufficient information upon which to assess the degree of impact on the wetland ecosystem. EIS documentation of the wetlands analysis should be sufficiently detailed to provide an understanding of these two elements.

In evaluating the importance of the wetlands, the analysis should consider such factors as:

- The primary functions of the wetlands (such as flood control, wildlife habitat, groundwater recharge)
- The relative importance of these functions to the total wetland resource of the area
- Other factors such as uniqueness that may contribute to the wetlands’ importance

In describing the wetland impact, the discussion should show the project’s effects on the stability and quality of the wetland(s). The EIS should note the short- and long-term effects on the wetlands and the importance of any loss such as:

- Flood control capacity
- Shoreline anchorage potential
- Water pollution abatement capacity

- Fish and wildlife habitat value

Knowing the importance of the wetlands involved and the degree of the impact, DDOT and FHWA will be in a better position to identify the mitigation efforts necessary to minimize harm to these wetlands. Mitigation measures that should be considered include preservation and improvement of existing wetlands and creation of new wetlands (consistent with 23 CFR 777).

The EIS shall identify any permits that are required. Permit requirements for proposals affecting wetlands may include the following:

- Section 402 of the Clean Water Act – This pertains to a discharge subject to a Pollutant Discharge Elimination System permit pursuant to the Clean Water Act when the surrounding environment is a wetland.
- Section 404 of the Clean Water Act – All wetlands draining into a navigable water are included as navigable waters for the purpose of this act.
- Section 10 of the Rivers and Harbors Act of 1899 – Under this Act, wetlands may also fall under the permit requirements of USACE due to obstruction or alteration of navigable waters of the United States.

If the preferred alternative is located in wetlands, the Final EIS needs to document, as required by Executive Order 11990, that there are no practicable alternatives to construction in wetlands. Where this finding is included, approval of the EIS will document compliance with the Executive Order 11990 requirements (23 CFR 771.125(a)(1)). The finding should be presented in a separate subsection entitled “Only Practicable Alternative Finding” and should be supported by the following information:

- A reference to Executive Order 11990
- An explanation why there are no practicable alternatives to the proposed action
- An explanation why the proposed action includes all practicable measures to minimize harm to wetlands
- A concluding statement:
Based upon the above considerations, it is concluded that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

Coordination with the District Department of Environment, USFWS, and USACE is required when wetlands are affected. Refer to Chapter 19, Wetlands and Waters of the United States, for more information relating to wetlands analysis.

Water Body Modification and Wildlife Impacts

Note: It is acceptable to separate this impact into separate categories if appropriate—Water Body Modification Impacts and Wildlife Impacts.

For each alternative under detailed study, the EIS should discuss the type and extent of water body modifications (such as impoundment, relocation, channel deepening, or filling). The use of the stream or body of water for recreation, water supply, or other purposes should also be identified. Potential impacts to fish and wildlife resulting from the loss, degradation, or modification of aquatic habitat should also be discussed.

The description of terrestrial impacts should include the type of habitat(s) affected (paved areas, woodlands, mowed lawn) and the loss of that habitat on wildlife (lost nesting and loafing habitat).

The results of coordination with appropriate federal and District agencies should be documented in the EIS (coordination with USFWS under the Fish and Wildlife Coordination Act of 1958, for example). Refer to Chapter 20, Biological Resources, for more information.

Floodplain Impacts

Floodplains are defined in Executive Order 11988, Floodplain Management, as “the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year” (that is, the area that would be inundated by a 100-year flood). The Executive Order directs federal agencies to reduce the risk of flood loss, to minimize the impact of floods, and to restore and preserve the values served by floodplains.

If the proposed alternatives are not within the limits of a floodplain, no further analysis is necessary. If the preferred alternative includes a substantial floodplain encroachment, the EIS must state that it is the only practicable alternative, as required by 23 CFR 650, Subpart A. The finding should refer to Executive Order 11988 and 23 CFR 650, Subpart A. It should be included in a separate subsection entitled “Only Practicable Alternative Finding” and must be supported by the following information.

- The reasons why the proposed action must be located in the floodplain

- The alternatives considered and why they were not practicable
- A statement indicating whether the action conforms to applicable local floodplain protection standards

Refer to Chapter 18, Floodplain Policy and Regulations, for additional information in addressing impacts within the limits of a floodplain.

Threatened or Endangered Species

Federally listed endangered or threatened species are designated and protected under the Endangered Species Act, administered jointly by NMFS (for tidal waters) and USFWS (for terrestrial areas and nontidal waters).

DDOT should submit a request for data on the known occurrence of federally listed threatened or endangered species, or known supporting critical habitat, from NMFS and USFWS to meet the requirements of the Endangered Species Act of 1973 and the Fish and Wildlife Coordination Act. Coordination with the District of Columbia Fisheries and Wildlife Division is also recommended.

If USFWS or NMFS advises that federally listed threatened or endangered species are in the project area, an evaluation should be conducted to identify whether any such species or critical habitat are likely to be adversely affected by the project. Informal consultation with USFWS and/or NMFS should be undertaken during this evaluation. If the evaluation determines that the proposed action would affect the species, a biological assessment must be prepared, pursuant to Section 7 of the Endangered Species Act. This biological assessment should include:

- An onsite inspection of the area affected by the proposed project

- Interviews with recognized experts on the species at issue
- A literature review to determine the species distribution, habitat needs, and other biological requirements
- An analysis of possible impacts on the species
- An analysis of measures to minimize impacts forwarded to USFWS or NMFS for a biological opinion

Upon completing their review of the biological assessment, USFWS or NMFS may request additional information and/or a meeting to discuss the project or issue a biological opinion stating that the project:

1. Is not likely to jeopardize the threatened or endangered species
2. Will promote the conservation of the threatened or endangered species
3. Is likely to jeopardize the threatened or endangered species

In selecting a preferred alternative, jeopardy of an endangered or threatened species must be avoided. If either a finding of (1) or (2) is given, the requirements of the Endangered Species Act are met. If a detrimental finding is presented, the proposed action may be modified so that the species is no longer jeopardized. In unique circumstances, an exemption may be requested. If an exemption is denied, the action must be halted or modified. The Final EIS should document the results of the coordination of the biological assessment with USFWS or NMFS.

Refer to Chapter 20, Biological Resources, for additional information on assessing impacts to threatened and endangered species.

Historic and Archaeological Preservation

The EIS should contain a discussion demonstrating that historic and archaeological resources have been identified and evaluated in accordance with the requirements of 36 CFR 800.4, Protection of Historic Properties, for each reasonable alternative under consideration. The discussion should describe the resources and summarize the impacts that each alternative will have on these resources that might meet the criteria for inclusion on the National Register of Historic Places (NRHP). There should be a record of coordination with the District of Columbia Historic Preservation Office (DCHPO) concerning the significance of the identified resources, the likelihood of eligibility for the National Register, and an evaluation of the effect of the project on the resources. The transmittal memorandum to the Advisory Council on Historic Preservation (ACHP) should specifically request consultation.

The proposed use of land from a historic resource on or eligible for the NRHP will normally require an evaluation and approval under Section 4(f). See Chapter 22, Section 4(f) – Parks, Recreation Areas, Historic Sites, and Wildlife and Waterfowl Refuges, for more information on the Section 4(f) process.

The Final EIS should demonstrate that all the requirements of 36 CFR 800 have been met. The FHWA District of Columbia Division does not sign off on a Final EIS until the Section 106 process has been completed (that is, An “Adverse Effect” Letter, or a Memorandum of Agreement [MOA] or programmatic agreement [PA] has been signed off by all relevant parties).

Refer to Chapter 21, Archaeological, Historical, and Paleontological Resources, for additional information on

archaeological, historical, and paleontological evaluation procedures.

Recreational Resources/Public Use Land

This subsection should describe the proposed action’s impacts on the range of recreational resources in the project area. Because not all recreational resources are Section 4(f) resources, this section does not serve the same purpose as the Section 4(f) Evaluation. This section should clarify which resources are Section 4(f) properties to be addressed in the Section 4(f) chapter and which resources will only be evaluated in this section.

Hazardous Waste Sites

Hazardous waste sites are regulated by the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). During early planning, the location of permitted and nonregulated hazardous waste sites should be identified. Early coordination with the appropriate USEPA regional office and the appropriate District agency will aid in identifying known or potential hazardous waste sites. If known or potential waste sites are identified, the locations should be clearly marked on a map in the EIS, showing their relationship to the alternatives under consideration. If a known or potential hazardous waste site is affected by an alternative, the EIS should discuss information about the site; the potential involvement, impacts, and public health concerns of the affected alternative(s); and the proposed mitigation measures to eliminate or minimize impacts or public health concerns.

If the preferred alternative affects a known or potential hazardous waste site, the EIS should address and document the resolution of issues raised by the public and government agencies.

Refer to Chapter 16, Hazardous Materials, for additional information on hazardous waste assessments.

Visual Impacts

The EIS should state whether the project alternatives have a potential for visual quality impacts. When this potential exists, the EIS should identify the impacts to the existing visual resource, the relationship of the impacts to potential viewers of and from the project, and measures to avoid, minimize, or reduce the adverse impacts. Visual and aesthetics impacts should also be assessed from an environmental justice perspective. The EIS also should explain the consideration given to design quality, art, and architecture in the project planning. These values may be particularly important for facilities located in visually sensitive urban or rural settings.

When a proposed project will include features associated with design quality, art, or architecture, the EIS should be circulated to the Commission of Fine Arts, the National Capital Planning Commission, and, as appropriate, other organizations with an interest in design, art, and architecture. The EIS should identify any proposed mitigation for the preferred alternative.

Energy

For most projects, the EIS should discuss in general terms the construction and operational energy requirements and conservation potential of various alternatives under consideration. The discussion should be reasonable and supportable. It might recognize that the energy requirements of various construction alternatives are similar and are generally greater than the energy requirements of the No Action Alternative. Additionally, the discussion could point out that the postconstruction, operational energy requirements of the facility should be less with the build

alternatives than with the No Action Alternative. In such a situation, one might conclude that the savings in operational energy requirements would more than offset construction energy requirements and thus, in the long term, result in a net savings in energy usage.

Public Services and Utilities

The focus of the utilities discussion should be the project's potential impacts on major facilities such as transmission towers, substations, and major pipelines that would be difficult and costly to relocate. Evidence of coordination with the appropriate utilities should be included in the EIS.

Concerning public services, the EIS should discuss whether the proposed project would affect existing transit and/or school bus routes or affect emergency response times.

Construction Impacts

The EIS should discuss the potential adverse impacts (particularly air, noise, water, traffic congestion, detours, safety, visual, and other affected portions of the environment) associated with construction of each alternative and identify appropriate mitigation measures. Also, where the impacts of obtaining borrow material or disposal of waste material are important issues, they should be discussed in the EIS along with any proposed measures to minimize these impacts. The EIS should identify any proposed mitigation for the preferred alternative.

Permits

This section should list the permits (and agency consultation) that would be necessary before the start of construction. Examples of permits include:

- Section 7 Endangered Species Act Consultation – NMFS (or USFWS) has concluded that further (or no further)

consultation pursuant to Section 7 of the Endangered Species Act is required.

- Section 9 Rivers and Harbors Act – United States Coast Guard (USCG) requires a 401 permit and an approved environmental document among other requirements.
- Section 10 Rivers and Harbors Act – Permits are issued by USACE for any work in, over, or under navigable waters of the United States. USACE can authorize activities by a variety of permit types, and will make the determination on the type of permit needed following formal application.
- Section 404 of the Clean Water Act – Establishes a program to regulate the discharge of fill material into waters of the United States, including wetlands. USACE administers this section. The proposed project could be authorized under a Nationwide Permit or may require an Individual Department of the Army Permit depending on the selected alternative and impacts to project-area streams.

The Relationship between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

In this section, “short term” refers to the immediate effects occurring as a result of a project, and “long term” refers to those effects expected to last for many years. Both positive and negative effects should be addressed in this section.

The EIS should discuss in general terms the proposed action’s relationship between local short-term impacts and use of resources in the environment, and the maintenance and enhancement of long-term productivity. This general discussion might recognize that the build alternatives would have similar impacts. The discussion should point out that

transportation improvements are based on DDOT and/ or District of Columbia Office of Planning comprehensive planning, which considers the need for present and future traffic requirements within the context of present and future land use development. In such a discussion, it might then be concluded that the local short-term impacts and use of resources by the proposed action are consistent with the maintenance and enhancement of long-term productivity for the area under consideration.

Irreversible and Irretrievable Commitments of Resources Involved in the Proposed Action

The primary purpose of this section is to identify those specific adverse impacts that are unavoidable and for which there is no mitigation that will prevent the loss of the resource.

The EIS should discuss in general terms the proposed action’s irreversible and irretrievable commitment of resources. This general discussion might recognize that the build alternatives would require a similar commitment of natural, physical, human, and fiscal resources. An example of such discussion would be as follows:

Implementation of the proposed action involves a commitment of a range of natural, physical, human, and fiscal resources. Land used in the construction of the proposed facility is considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion will ever be necessary or desirable.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material are expended. Additionally, large

amounts of labor and natural resources are used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply, and their use will not have an adverse effect upon continued availability of these resources. Any construction will also require a substantial one-time expenditure of both District of Columbia and federal funds that are not retrievable. The commitment of these resources is based on the concept that residents in the project area, the District of Columbia, and the region will benefit by the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, and greater availability of quality services, which are anticipated to outweigh the commitment of these resources.

Environmental Commitments

This subsection would be found in the Final EIS. In the various sections of the Final EIS, DDOT and FHWA will make a number of environmental commitments. These commitments include measures to avoid potential impacts, measures to reduce impacts, measures to mitigate impacts, and measures to enhance an aspect of the project in order to produce an overall positive impact. The measures in other portions of the Final EIS should be summarized in this section by the resource category.

8.3.8 Section 4(f) Evaluation

Section 4(f) of the Department of Transportation Act provides that the United States Secretary of Transportation shall not approve any program or project that involves the use of any publicly owned land from a public park, recreation area, historic site, or waterfowl or wildlife refuge of national, state, or local significance (as determined by the officials having jurisdiction) unless there is no feasible and prudent alternative to the use of such land and such

project includes all possible planning to minimize harm. Section 4(f) evaluations are required for all federally funded transportation-related actions.

Refer to Chapter 22, Section 4(f) – Parks, Recreation Areas, Historic Sites, and Wildlife and Waterfowl Refuges, for an overview of Section 4(f), including determining which properties fall within the purview of the Section 4(f) provisions and the format and content of a Section 4(f) evaluation.

8.3.9 Comments and Coordination

The EIS should document the early and continuing coordination with various government agencies and the public during the NEPA phase. Public and agency involvement is required by a variety of regulations, including those of CEQ and FHWA, that implement NEPA and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). It is recommended that the section open with a statement that the public involvement process was open to all residents and population groups in the study area and did not exclude any people because of income, race, color, religion, national origin, sex, age, or handicap.

The public involvement text should summarize the highlights of public information meetings, technical committee meetings, interest group meetings, and other activities used to keep the public informed about the progress of the project.

The agency coordination text should indicate when the Notice of Intent to prepare the Draft EIS was published in the Federal Register. It should also summarize the agency scoping/coordination activities.

8.3.10 List of Preparers

A list of preparers should be included with the Draft EIS.

This section should include lists of:

- DDOT personnel, including consultants, who were primarily responsible for preparing the EIS or performing environmental studies, and a brief summary of their qualifications, including educational background and experience
- The FHWA personnel primarily responsible for preparation or review of the EIS and their qualifications
- The areas of EIS responsibility for each preparer

This information can be placed in an appendix.

8.3.11 List of Agencies, Organizations, and Persons to Whom Copies of the Statement Are Sent

For a Draft EIS, list all entities from which comments are being requested (federal and state agencies, elected officials, and local units of government/interest groups).

For a Final EIS, identify those entities that submitted comments on the Draft EIS and those receiving a copy of the Final EIS.

This information can be placed in an appendix.

8.3.12 Index

The index should include important subjects and areas of major impacts so that the reader can quickly find information on a specific subject or impact.

8.3.13 Appendices

One appendix should be reserved for agency correspondence.

The References section and an Acronyms and Abbreviations section may also be placed in an appendix. Other appendices should be used to present analytical information important to the document (such as a biological assessment for threatened or endangered species).

8.4 EIS Distribution

After review and approval by designated environmental staff (Environmental Program Coordinator or designee) the Draft EIS can be submitted to FHWA. After clearance by FHWA, copies of all Draft EISs must be made available to the public and circulated for comments by DDOT to all public officials, private interest groups, and members of the public known to have an interest in the proposed action or the Draft EIS; all federal and District of Columbia government agencies expected to have jurisdiction, responsibility, interest, or expertise in the proposed action; and states (Virginia or Maryland) and federal land management entities that may be affected by the proposed action or any of the alternatives (40 CFR 1502.19 and 1503.1). Distribution must be made no later than the time the document is filed with USEPA for Federal Register publication and must allow for a minimum 45-day review period (40 CFR 1506.9 and 1506.10). Internal FHWA distribution of Draft and Final EISs is subject to change and is noted in memorandums to the regional administrators as requirements change.

Copies of all approved Final EISs must be distributed to all federal, state, and local agencies, private organizations, and members of the public who provided substantive comments on the Draft EIS or who requested a copy (40 CFR 1502.19). Distribution must be made no later than the time the document is filed with EPA for Federal Register

publication and must allow for a minimum 30-day review period before the ROD is approved (40 CFR 1506.9 and 1506.10). Two copies of all approved EISs should be forwarded to the FHWA Washington Headquarters (HEV 11) for recordkeeping purposes.

Copies of all EISs should normally be distributed to USEPA and Department of Interior as follows, unless the agency has indicated to the FHWA offices the need for a different number of copies:

- The USEPA Headquarters: five copies of the Draft EIS and five copies of the Final EIS (the “filing requirement” in Section 1506.9 of the CEQ regulation) to the following address:

Environmental Protection Agency
Office of Federal Activities (A-104)
401 M Street SW
Washington, DC 20460.

- The appropriate USEPA Regional Office responsible for USEPA’s review pursuant to Section 309 of the Clean Air Act: five copies of the Draft EIS and five copies of the Final EIS.

- The Department of Interior Headquarters to the following address:

U.S. Department of the Interior, Office of
Environmental Project Review, Room 4239
18th and C Streets NW
Washington, DC 20240

8.5 Preparing the Final EIS

This section discusses the content, format, and processing requirements for Final EISs prepared for DDOT projects. The material in this section is based on FHWA TA

T6640.8A. CEQ regulations and FHWA guidance create three different options for the format of a Final EIS: the traditional approach, a condensed Final EIS, and an abbreviated version of the Final EIS. The criteria for applying these options and detail about their content can be found in FHWA TA T6640.8A.

The FHWA District of Columbia Division does not sign off on a Final EIS until the Section 106 process has been completed (that is, an “Adverse Effect” Letter, an MOA, or PA has been signed off by all relevant parties).

The Section 4(f) process has to be completed as well before FHWA will sign off on the Final EIS.

The Final EIS should not be submitted to FHWA (or lead agency) before the designated environmental staff (Environmental Program Coordinator or designee) review and approve the document.

8.5.1 Traditional Approach

In the traditional approach, changes and modifications are made to the Draft EIS based on public hearing input, comments on the Draft EIS, and/or changes in the project area. If this approach is used, a “mark revisions” function should be used to track the changes and make them apparent to the reader.

8.5.2 Condensed Final EIS Statement

The condensed Final EIS approach incorporates the Draft EIS by reference. Information in the Draft EIS that has not changed should be summarized but not detailed. The text in the Final EIS should reflect changes in the proposed action, impacts, mitigation, or project setting. The Final EIS must also identify a preferred alternative. The format of the

sections of a condensed Final EIS should mirror that of a Draft EIS.

8.5.3 Abbreviated Version of the Final EIS

This approach should only be used when the changes to the Draft EIS are minor, typically consisting of factual corrections and an explanation of why the comments received on the Draft EIS do not require additional responses. See Part VI, Paragraph C, of FHWA TA T6640.8A for information regarding the content of the abbreviated version of the Final EIS.

Content of Final EIS

Although it may be identified in the Draft EIS, for any approach used to prepare a Final EIS, a preferred alternative must be identified in the Final EIS, and the basis for its selection must be discussed. The information required for the ROD as discussed in Section VIII, Paragraph B, of FHWA TA T6640.8A should be included in this discussion. Any changes to the preferred alternative that have occurred following the circulation of the Draft EIS should be identified, as well as any changes in the impacts.

When preparing the Final EIS, the impacts and mitigation measures of the alternatives, particularly the preferred alternative, may need to be discussed in more detail to elaborate on information, firm-up commitments, or address issues raised following the Draft EIS. The Final EIS should also identify any new impacts (and their significance) resulting from modification of or identification of substantive new circumstances or information regarding the preferred alternative following the Draft EIS circulation. Note: Where new significant impacts are identified, a Supplemental Draft EIS will be required (40 CFR 1502.9(c)).

The Final EIS must identify agencies or individuals who submitted comments on the Draft EIS, list those agencies or individuals receiving copies of the Final EIS, and summarize comments submitted on the Draft EIS made at the public hearing or at other public involvement activities. Any MOAs required for the project should be finalized, signed, and also be included in the Final EIS. Finally, the Final EIS should document compliance with applicable environmental laws and Executive Orders. These include, but are not limited to, the Wetlands Finding, the Floodplains Finding, and Title VI of the Civil Rights Act.

The Final EIS should include a copy of comments from each cooperating agency and other commenters on the Draft EIS. Where the response is exceptionally voluminous, the comments may be summarized. An appropriate response should be provided to each substantive comment. When the Final EIS text is revised as a result of the comments received, a copy of the comments should contain marginal references indicating where revisions were made, or the response to the comments should contain such references. The response should adequately address the issue or concern raised by the commenter or, where substantive comments do not warrant further response, explain why they do not and provide sufficient information to support that position. FHWA and DDOT are not commenters within the meaning of NEPA, and their comments on the Draft EIS should not be included in the Final EIS. However, the document should include adequate information for FHWA and DDOT to ascertain the disposition of the comment(s).

To the extent possible, all environmental issues should be resolved prior to the submission of the Final EIS. When disagreement on project issues exists with another agency, coordination with the agency should be undertaken to resolve the issues. Where the issues cannot be resolved, the

Final EIS should identify any remaining unresolved issues, the steps taken to resolve the issues, and the positions of the respective parties. Where issues are resolved through this effort, the Final EIS should demonstrate resolution of the concerns.

8.6 Preparing the Record of Decision

A Draft ROD should be prepared by DDOT and submitted to FHWA no sooner than 30 days after the submission of the Final EIS (45 days if a Section 4(f) is included) to accommodate the comment period for the Final EIS. There should be a minimum of 90 days between the publication of the NOA for the Draft EIS and the issuance of the ROD. An electronic submittal of the draft ROD may be acceptable. Appendix F of this manual shows a sample ROD.

The ROD should not be submitted to FHWA (or lead agency) before the designated environmental staff (Environmental Program Coordinator or designee) review and approve the document.

The format of the ROD is described below.

8.6.1 A Statement of the Decision (Selected Alternative)

Following the circulation of the Final EIS, the alternative that is recommended for implementation will become known as the “selected alternative.” This alternative may be the same as the preferred alternative, if one was previously identified, or it may be another alternative, identified based on public and agency comment during the circulation of the environmental document. The selected alternative should be clearly identified in the ROD for the project.

8.6.2 Alternatives Considered

All the alternatives considered in the EIS must be summarized, and the reasons for not selecting the alternatives must be explained. The discussion must identify the environmentally preferred alternative(s) (that is, the alternative[s] that causes the least damage to the biological and physical environment). If the selected alternative is other than the environmentally preferable alternative, the ROD should clearly state the reasons for not selecting it. Similarly, if the lands protected by Section 4(f) were a factor in the selection of a preferred alternative, the ROD should clearly explain how it influenced the decision.

All the values (such as social, economic, environmental, cost-effectiveness, safety, traffic, service, and community planning) that were important factors in the decision making must be clearly identified. The ROD should reflect the manner in which these values were considered in arriving at the decision.

8.6.3 Section 4(f) Evaluation

Summarize the basis for any Section 4(f) approval when applicable. The discussion should include the information supporting such approval. Where appropriate, this information may be included in the alternatives discussion and referenced in this paragraph to reduce repetition.

8.6.4 Measures to Minimize Harm

CEQ guidance states that the discussion of mitigation and monitoring in an ROD must be more detailed than a general statement that mitigation is being required, but not so detailed as to duplicate discussion of mitigation in the EIS. The ROD should contain a concise summary of the mitigation measures that the agency has committed itself to adopt.

The ROD should mention whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not (40 CFR 1505.2(c)).

8.6.5 Monitoring or Enforcement Program

The ROD should include a section or matrix that summarizes all the environmental commitments made in the Final EIS. If the section is voluminous, it can be included in the ROD as an appendix. Sometimes the funding of the project may be contingent on mitigation measures employed. Any such measures that are adopted must be explained and committed in the ROD.

CEQ Guidance Section 1505.3 states that the lead agencies “shall include appropriate conditions [including mitigation measures and monitoring and enforcement programs] in grants, permits or other approvals” and shall “condition funding of actions on mitigation.”

The ROD must identify the mitigation measures and monitoring and enforcement programs that have been selected and plainly indicate that they are adopted as part of the agency’s decision. If the proposal is to be carried out by the [46 CFR 18037] federal agency itself, the ROD should delineate the mitigation and monitoring measures in sufficient detail to constitute an enforceable commitment, or incorporate by reference the portions of the EIS that do so.

8.6.6 Comments on Final EIS

All substantive comments received on the Final EIS should be identified and given appropriate responses. Other comments should be summarized and responses provided where appropriate.

8.7 EIS Timeframe and Size

According to CEQ under NEPA regulations, even large complex projects should require only about 12 months for the completion of the entire EIS process. The DDOT EIS process should try to meet this timeframe. However, because of the complexity of DDOT projects and the coordination needed, some DDOT EISs may take a longer time. Even for complex EISs, DDOT should try to complete the EIS process (from NOI to ROD) in 2 calendar years.

According to CEQ NEPA regulations (40 CFR 1502.7), the EIS document should be less than 150 pages. FHWA TA T6640.8A also indicates a page limit of 150 pages. DDOT EISs should try to meet that page limit. However, for complex projects this page limit may be exceeded. This page limit can be met by keeping the technical details out of the body of the EIS and including them in technical appendices of the EIS document.

8.8 Tiering of Environmental Impact Statements

The concept of tiering was issued in the 1978 CEQ regulations, with the intent of encouraging agencies “to eliminate repetitive discussions and to focus on the actual issues ripe for decision at each level of environmental review.” Tiering of EISs refers to the process of addressing a broad, general program, policy, or proposal in an initial EIS and then analyzing a site-specific project element of the broader plan in a subsequent EIS, EA, or CE. Tiering is useful for projects where the geographic scope is large, and the study may result in the identification of several smaller projects, each with logical termini, but not needing to be implemented in the same timeframe. Examples could include subarea studies involving a multitude of access considerations or improvement studies of longer routes across a broader reach of the state. Tiering allows for the

preparation of new, more narrowly focused environmental documentation, without duplicating relevant parts of previously prepared, more general, or broader documents. The more narrowly focused environmental document refers to the general discussions and analysis contained in the broader document but concentrates its discussion in the issues and impacts of the project that were not specifically covered in the broader document.

8.8.1 Tiered EIS – Procedural and Documentation Guidance

The general procedures for preparing tiered EISs are the same as those for a regular EIS. If an environmental document is a follow-on action to a previous EIS, material already covered in the previous EIS should not be repeated, but the environmental document should simply state that it is being “tiered” to the previous EIS. The new environmental document must identify the document to which it is tiered, and indicate where the earlier document is available. Both documents must be available for public review.

The new environmental document must also briefly summarize relevant portions of any document to which it is tiered to the extent necessary for understanding the relationship between the two documents. The level of detail involved in the alternatives development and the impact

analysis will, in many cases, be different for Tier I and Tier II documents. Generally, as the first tier will look at a larger area or more global issues (such as a program of improvements), the data and surveys may be less detailed than a traditional project-level EIS. Subsequent second tier documents may use more traditional study/impact assessment methodologies.

When a tiered process is applied, it is possible that the second tier document(s) may not be an EIS. In some cases, more than one second tier document may be generated (particularly where the first tier examined an improvement program), for each specific improvement element. Each of the proposed improvements should be evaluated to determine the appropriate document category, which may be an EIS, EA, or CE. Even where there is only one second tier document, a determination should be made, based on the findings of the first tier EIS, as to whether it is appropriate to continue with an EIS classification for the second tier. The standard for determining the need for a Supplemental EIS is not changed by the use of tiering, and although there will undoubtedly be occasions when a Supplemental EIS is needed, tiering is intended to reduce the number of these occasions. See Chapter 7, Section 7.9 for more information on Supplemental EISs.