

Federal Highway Administration (FHWA) and the National Environmental Policy Act NEPA

<http://www.environment.fhwa.dot.gov/projdev/index.asp>

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Overview

On January 1, 1970 the National Environmental Policy Act of 1969 (NEPA) was signed into Law. NEPA established a national environmental policy intentionally focused on Federal activities and the desire for a sustainable environment balanced with other essential needs of present and future generations of Americans.

NEPA established a supplemental mandate for Federal agencies to consider the potential environmental consequences of their proposals, document the analysis, and make this information available to the public for comment prior to implementation. The environmental protection policy established in NEPA, Section 101, is supported by a set of "action forcing" provisions in Section 102 that form the basic framework for Federal decision-making and the NEPA process.

While NEPA established the basic framework for integrating environmental considerations into Federal decision-making, it did not provide the details of the process for which it would be accomplished. Federal implementation of NEPA was the charge of the Council on Environmental Quality (CEQ), which interpreted the law and addressed NEPA's action forcing provisions in the form of regulations and guidance.

The Federal Highway Administration (FHWA) and NEPA

NEPA requires, to the fullest extent possible, that the policies, regulations, and laws of the Federal Government be interpreted and administered in accordance with its environmental protection goals. NEPA also requires Federal agencies to use an interdisciplinary approach in planning and decision-making for any action that adversely impacts the environment.

NEPA requires and FHWA is committed to the examination and avoidance of potential impacts to the social and natural environment when considering approval of proposed transportation projects. In addition to evaluating the potential environmental effects, we must also take into account the transportation needs of the public in reaching a decision that is in the best overall public interest. The FHWA NEPA project development process is an approach to balanced transportation decision-making that takes into account the potential impacts on the human and natural environment and the public's need for safe and efficient transportation.

NEPA and Transportation Decisionmaking

The Council on Environmental Quality (CEQ) regulations (40 CFR §§ 1500-1508) addresses the basic decisionmaking framework and action forcing provisions established in the National Environmental Policy Act (NEPA). The principles or essential elements of NEPA decisionmaking include:

- Assessment of the social, economic, and environmental impacts of a proposed action or project
- Analysis of a range of reasonable alternatives to the proposed project, based on the applicants defined purpose and need for the project
- Consideration of appropriate impact mitigation: avoidance, minimization and compensation
- Interagency participation: coordination and consultation
- Public involvement including opportunities to participate and comment
- Documentation and disclosure.

FHWA adopted the policy of managing the NEPA project development and decisionmaking process as an "umbrella," under which all applicable environmental laws, executive orders, and regulations are considered and addressed prior to the final project decision and document approval. Conclusion of the NEPA process results in a decision that addresses multiple concerns and requirements. The FHWA NEPA process allows transportation officials to make project decisions that balance engineering and transportation needs with social, economic, and natural environmental factors. During the process, a wide range of partners including the public, businesses, interest groups, and agencies at all levels of government; provide input into project and environmental decisions.

The Public's Role

The public has an important role in the NEPA process, particularly during scoping, in providing input on what issues should be addressed in an EIS and in commenting on the findings in an agency's NEPA documents. The public can participate in the NEPA process by attending NEPA-related hearings or public meetings and by submitting comments directly to the lead agency. The lead agency must take into consideration all comments received from the public and other parties on NEPA documents during the comment period.

The NEPA Process

The NEPA process consists of an evaluation of the environmental effects of a federal undertaking including its alternatives. There are three levels of analysis depending on whether or not an undertaking could significantly affect the environment. These three levels include:

- ✓ categorical exclusion determination
- ✓ preparation of an environmental assessment/finding of no significant impact (EA/FONSI)
- ✓ preparation of an environmental impact statement (EIS).

Categorical Exclusion

At the first level, an undertaking may be categorically excluded from a detailed environmental analysis if it meets certain criteria which a federal agency has previously determined as having no significant environmental impact. A number of agencies have developed lists of actions which are normally categorically excluded from environmental evaluation under their NEPA regulations.

Environmental Assessment

At the second level of analysis, a federal agency prepares a written environmental assessment (EA) to determine whether or not a federal undertaking would significantly affect the environment. If the answer is no, the agency issues a finding of no significant impact (FONSI). The FONSI may address measures which an agency will take to reduce (mitigate) potentially significant impacts. If the EA determines that the environmental consequences of a proposed federal undertaking may be significant, an EIS is prepared.

Environmental Impact Statement

An EIS is a more detailed evaluation of the proposed action and alternatives. The public, other federal agencies and outside parties may provide input into the preparation of an EIS and then comment on the draft EIS when it is completed.

If a federal agency anticipates that an undertaking may significantly impact the environment, or if a project is environmentally controversial, a federal agency may choose to prepare an EIS without having to first prepare an EA.

After a final EIS is prepared and at the time of its decision, a federal agency will prepare a public record of its decision addressing how the findings of the EIS, including consideration of alternatives, were incorporated into the agency's decision-making process.

EA and EIS Components

An EA is described in Section 1508.9 of the Council's NEPA regulations. Generally, an EA includes brief

discussions of the following: the need for the proposal; alternatives (when there is an unresolved conflict concerning alternative uses of available resources); the environmental impacts of the proposed action and alternatives; and a listing of agencies and persons consulted.

An EIS, which is described in Part 1502 of the regulations, should include discussions of the purpose of and need for the action, alternatives, the affected environment, the environmental consequences of the proposed action, lists of preparers, agencies, organizations and persons to whom the statement is sent, an index, and an appendix (if any).

Key Steps in the NEPA Process

Scoping and Data Collection

Scoping is an open public process initiated at the beginning of the environmental study process to help identify agency and public concerns and to assist in identifying possible alternatives. The public involvement process provides opportunities for public participation in refining the range of alternatives to be considered and the issues to be addressed.

Develop Purpose and Need

The purpose and need of a project is essential in establishing a basis for the development of the range of reasonable alternatives required in an EIS and assists with the identification and eventual selection of a preferred alternative.

- *Project Status* - Briefly describe the action's history, including measures taken to date, other agencies and governmental units involved, action spending, schedules, etc.
- *Capacity* - Discuss the capacity of the present facility and its ability to meet present and projected traffic demands. Discuss what capacity and levels of service for existing and proposed facilities are needed.
- *System Linkage* - Discuss if the proposed action is a "connecting link" and how it fits into the transportation system.
- *Transportation Demand* - Discuss the action's relationship to any statewide plan or adopted urban transportation plan. In addition, explain any related traffic forecasts that are substantially different from those estimates of the 23 U.S.C. 134 (Section 134) planning process.
- *Legislation* - Explain if there is a Federal, state, or local governmental mandate for the action.
- *Social Demands or Economic Development* - Describe how the action will foster new employment and benefit schools, land use plans, recreation facilities, etc. In addition, describe projected economic development/land use changes that indicate the need to improve or add to the highway capacity.
- *Modal Interrelationships* - Explain how the proposed action will interface with and serve to complement airports, rail and port facilities, mass transit services, etc.
- *Safety* - Explain if the proposed action is necessary to correct an existing or potential safety hazard. In addition, explain if the existing accident rate is excessively high and why, and how the proposed action will improve safety.
- *Roadway Deficiencies* - Explain if and how the proposed action is necessary to correct existing roadway deficiencies (e.g., substandard geometrics, load limits on structures, inadequate cross-section, high maintenance costs, etc.) In addition, explain how the proposed action will correct these deficiencies.

Development and Evaluation of Alternatives

The identification, consideration, and analysis of alternatives are key to the NEPA process and goal of objective decisionmaking. Consideration of alternatives leads to a solution that satisfies the transportation need and protects environmental and community resources. The Council on Environmental Quality (CEQ) refers to the alternatives analysis section as the "heart of the EIS," and requires agencies to:

- (a) Rigorously explore and objectively evaluate all reasonable alternatives and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
- (b) Devote substantial treatment to each alternative considered in detail including the proposed action

so that reviewers may evaluate their comparative merits.

(c) Include reasonable alternatives not within the jurisdiction of the lead agency.

(d) Include the alternative of no action.

(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.

(f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

Alternatives Screening

Alternatives analysis should clearly indicate why and how the particular range of project alternatives was developed, including what kind of public and agency input was used. In addition, alternatives analysis should explain why and how alternatives were eliminated from consideration. It must be made clear what criteria were used to eliminate alternatives, at what point in the process the alternatives were removed, who was involved in establishing the criteria for assessing alternatives, and the measures for assessing the alternatives' effectiveness.

In preparing NEPA documents, project sponsors should be candid about the rationale for generating, evaluating, and eliminating alternatives. Being as specific as possible is important. If an alternative is eliminated from further consideration because it "does not meet the purpose and need," we must adequately explain how or why this alternative doesn't meet the purpose and need.

Range of Alternatives

During the draft EIS stage all reasonable alternatives, or the reasonable range of alternatives, should be considered and discussed at a comparable level of detail to avoid any indication of a bias towards a particular alternative(s).

Although the "no-build alternative" (which might include short-term minor activities) might not seem reasonable, it must always be included in the analysis. In some cases, the no-build alternative may be a reasonable alternative, especially when the impacts are great and the need is relatively minor, but generally it serves as a baseline against which the other alternatives can be compared.

Transportation System Management alternatives are often evaluated as potential design options. Such alternatives may include high-occupancy vehicle lanes, ridesharing, signal synchronization, and other actions. Also, where appropriate, mass transit options should be considered even when they are outside FHWA's funding authority.

Logical Termini and Segmentation

In order to ensure meaningful evaluation of alternatives and to avoid commitments to transportation improvements before they are fully evaluated, the action evaluated in each environmental impact statement (EIS) or finding of no significant impact (FONSI) shall:

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope;
2. Have independent utility or independent significance, i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made; and
3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Other Requirements Involving Alternatives Analysis

Beyond the CEQ requirement of evaluating all or a reasonable number representative of the full spectrum of reasonable alternatives, there are other requirements for analyzing alternatives. These requirements fall under Section 4(f), the Executive Orders on Wetlands and Floodplains, and the Section 404(b)(1)

guidelines. To address these requirements and conclusively demonstrate that some alternatives are not prudent or practicable, project sponsors must develop a well-justified purpose and need statement.

The use of land from a Section 4(f) protected property (such as a significant, publicly owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site) may not be approved unless a determination is made that there is no feasible and prudent alternative for such use. Many factors exist that could render an alternative "not prudent," including cost and environmental impacts. If an alternative does not meet the action's purpose or need, then the alternative is not prudent, provided the purpose and need section can substantiate that unique problems will be caused by not developing the action.

If a proposed action is to be located in a wetland or significantly encroaches upon a floodplain, a finding must be made that there is no practicable alternative to the wetland take or floodplain encroachment. Any alternative that does not meet the need for the action is not practicable. If the action's purpose and need are not adequately addressed, specifically delineated, and properly justified, resource agencies, interest groups, the public, and others will be able to generate one or possibly several alternatives that avoid or limit the impact and "appear" practicable. A well-described justification of the action's purpose and need may prevent long and involved negotiations or additional analyses demonstrating that an alternative is not practicable.

As a rule, if an alternative does not satisfy the purpose and need for the action, it should not be included in the analysis as an apparent and reasonable alternative. There are times when an alternative that is not reasonable is included, such as when another agency requests inclusion due to public expectation. In such cases, it should be clearly explained why the alternative is not reasonable (or prudent or practicable), why it is being analyzed in detail, and why it will not be selected.

Environmental Impacts

The CEQ regulations (40 CFR §§ 1508.7 and 1508.8) define the impacts and effects that must be addressed and considered by Federal agencies in satisfying the requirements of the NEPA process, which includes direct, indirect and cumulative impacts:

- ✓ "Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Effects

- ✓ "Effects" include:
 - (a) Direct effects, which are caused by the action and occur at the same time and place.
 - b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, 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 and water and other natural systems, including ecosystems.

Effects and impacts as used in these regulations are synonymous. Effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.

Significance of Environmental Impacts

According to the Council on Environmental Quality (CEQ) regulations (40 CFR §§ 1500-1508), the determination of a significant impact is a function of both *context* and *intensity*.

- ✓ Context: This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.
- ✓ Intensity: This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:
 1. Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.
 2. The degree to which the proposed action affects public health or safety.
 3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
 4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.
 5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
 6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
 7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
 8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.
 9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.
 10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

To determine significance, the severity of the impact must be examined in terms of the type, quality and sensitivity of the resource involved; the location of the proposed project; the duration of the effect (short- or long-term) and other consideration of context. Significance of the impact will vary with the setting of the proposed action and the surrounding area (including residential, industrial, commercial, and natural sites).

NEPA significance is a primarily factor in determining the type of environmental document and process to use for a particular project. NEPA requires an EIS for major Federal actions that significantly affect the quality of the human environment. To determine the appropriate class of action and the requisite level of documentation necessary to comply with NEPA, it is essential to understand the term "significance" and the process for its determination.

Mitigation of Environment Impacts

The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.

Federal agencies shall to the fullest extent possible:

Use all practicable means consistent with the requirements of the Act and other essential considerations of nation policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions on the quality of the human environment.

The mitigation of impacts must be considered whether or not the impacts are significant. ("Forty Most Asked Questions and Answers on the CEQ Regulations" Number 19a). Agencies are required to identify and include in the action all relevant and reasonable mitigation measures that could improve the action.

The CEQ regulations define mitigation as:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

Mitigation: Avoid --> Minimize --> Repair or Restore --> Reduce over time --> Compensate

This ordered approach to mitigation is known as "sequencing" and involves understanding the affected environment and assessing transportation effects throughout project development. Effective mitigation starts at the beginning of the NEPA process, not at the end. Mitigation must be included as an integral part of the alternatives development and analysis process.

FHWA's mitigation policy states: Measures necessary to mitigate adverse impacts will be incorporated into the action and are eligible for Federal funding when the Administration determines that:

1. The impacts for which the mitigation is proposed actually result from the Administration action; and
2. The proposed mitigation represents a reasonable public expenditure after considering the impacts of the action and the benefits of the proposed mitigation measures. In making this determination, the Administration will consider, among other factors, the extent to which the proposed measures would assist in complying with a Federal statute, Executive Order, or Administration regulation or policy.