

Successes In Stewardship

Celebrating 10 Years

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FHWA Releases a Primer on Integrating Road Safety and NEPA

Improving safety throughout the transportation network is the U.S. Department of Transportation's (DOT) premier goal. One way the Federal Highway Administration (FHWA) is supporting this goal is through the Agency's [Every Day Counts](#) (EDC) initiative, which is designed to identify and deploy innovation aimed at shortening project delivery, enhancing roadway safety, and protecting the environment.

An example of the EDC initiative in action is a recent FHWA publication entitled [Integrating Road Safety into NEPA Analysis: A Practitioner's Primer](#), which promotes the integration of safety planning and the National Environmental Policy Act (NEPA) review process for transportation projects. This primer, which was released in July 2011 as an online educational document, provides States, safety experts, and NEPA experts with guidance on how to link road safety and NEPA. FHWA intends for the primer to facilitate Transportation Safety Planning. This approach ensures that planners can effectively address safety early in the transportation planning process, making safety analysis more relevant in the NEPA process. NEPA and safety experts, however, are often unfamiliar with how they can address this topic in the NEPA process. For that reason, FHWA issued this primer to encourage an integrated framework by which state-of-the-practice safety analysis may be involved at each stage in the NEPA process, especially at the outset.

FHWA's Office of Safety and Office of Planning, Environment, and Realty jointly developed the primer. The Office of Safety aims to reduce highway fatalities through a data-driven, systematic approach using engineering, education, enforcement, and emergency medical services strategies. The Office of Planning, Environment, and Realty serves as FHWA's advocate and national leader for comprehensive intermodal and multimodal transportation planning, environmental protection and enhancement, and fair and prudent acquisition and management of real property.

Linking Safety and NEPA

The primer provides important background information, including an overview of Transportation Safety Planning initiatives such as State Strategic Highway Safety Plans (SHSP) and the integration of SHSP priorities into other plans and programs. It also outlines and describes the basics of the NEPA process, covering Categorical Exclusions (CE), Environmental Assessments (EA), and the steps of Environmental Impact Statements (EIS). It then describes the benefits of linking Transportation Safety Planning and NEPA processes. For instance, the NEPA process can provide an opportunity to promote conversation with the general public and key safety stakeholders, such as engineers and local law enforcement officials, regarding the safety aspects of a project. Additionally, connecting Transportation Safety Planning to project development processes helps to make individual projects consistent with regional- or State-level safety goals and plans. The primer discusses both specific and general strategies for streamlining and integrating safety and NEPA.



FHWA works to make roads safer for all users, including pedestrians. (Courtesy of Dan Burden)

The primer outlines useful safety resources to reference in the NEPA process, including existing State, regional, or project analyses of crash locations and data and information from maintenance crews or the Governor's Highway Safety Office. It

provides a number of specific examples of ways for safety and NEPA experts to integrate safety at each of the stages in developing an EIS, as well as in the development of an EA or CE determination. For instance, the “Project Purpose and Need” chapter includes a set of sample safety-related questions to pose to the public in composing the Purpose and Need statement. Also, the “Analysis of Impacts” chapter includes a list of specific project features that may affect safety. Although the chapters in the primer follow the structure of an EIS, it is important to note that practitioners also can apply the guidance to NEPA projects that qualify under an EA or a CE.

The primer’s appendix provides a variety of training materials, references, websites, tools, and case studies to assist experts in linking safety and NEPA.

Case Studies of Safety and NEPA Integration

The primer’s case studies highlight State projects that successfully linked safety and NEPA, including:

- Colorado DOT’s (CDOT) process for incorporating safety into the alternatives analysis in the East Eagle Interchange EIS;
- District of Columbia DOT’s (DDOT) multimodal safety assessment process for the South Capitol Street project;
- CDOT’s innovative safety analysis techniques for the Central Park Boulevard project;
- Washington State DOT’s use of proven safety countermeasures for the State Route 502 corridor widening project;
- Wisconsin DOT’s use of public involvement in safety planning for the U.S. 8 project; and
- Tennessee DOT’s strategies for expediting road safety improvements with the use of Road Safety Audit Reviews.

Two of these case studies are described below.

East Eagle Interchange

CDOT and the town of Eagle had five goals to meet in advancing the East Eagle Interchange project: improve roadway connectivity in Eagle, Colorado; relieve future congestion; meet safety design standards; improve safety for all roadway users; and maintain consistency with East Eagle area plans. Two of these goals directly address safety. In order to fully understand the transportation-related issues in the area, the town of Eagle used environmental, safety, and traffic data prior to developing an EA. Analysts used recent crash data from a CDOT safety study to estimate crash rates for future alternative scenarios.

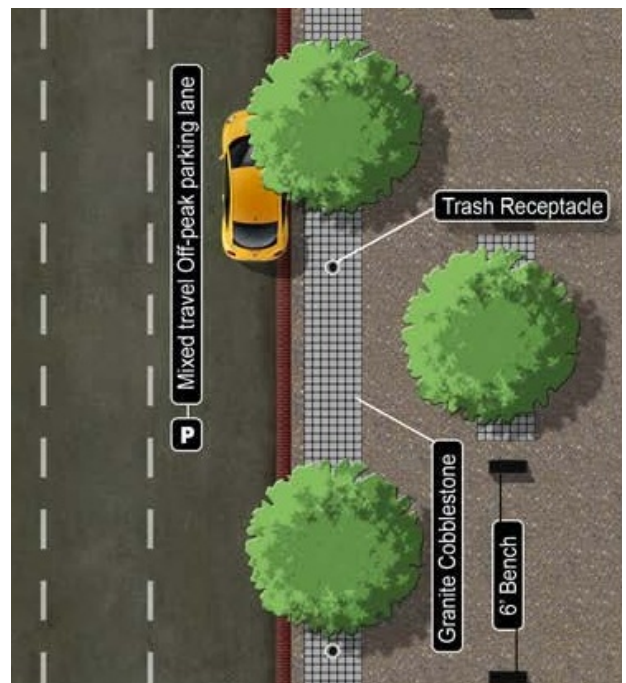
Equipped with the results of this analysis, the town of Eagle formed the Project Working Group, including representatives from Federal, State, regional, and local agencies. The working group established a five-step process to select a preferred alternative:

- Develop project goals, evaluation criteria, measures of effectiveness, and design criteria;
- Identify a full range of alternatives;
- Prescreen alternatives using the evaluation criteria;
- Perform a comparative evaluation of the remaining alternatives; and
- Conduct a detailed analysis on the preferred and no-build alternatives.

At the end of this process, the Project Working Group selected the alternative that best met the five goals of the project.

South Capitol Street

The primary goal of DDOT’s South Capitol Street project is to increase safety and mobility for pedestrians, bicyclists, and motor vehicles. This corridor could be a gateway to the city; instead it is a very dangerous expressway. Analysts used historic crash data from South Capitol Street and identified, by types of crashes, the locations with the most frequent crashes. Crash data from 2000 through 2004 indicates that some of the highest fatality rates in the District occur at four major intersections within the corridor. Factors that contribute to the unsafe conditions include local roads overloaded with regional traffic, inadequate sight distance, insufficient advanced warning signs, weaving traffic patterns, an S-curve alignment of the approach roads to the Frederick Douglass Memorial Bridge, non-standard pedestrian and bicycle



This portion of the streetscape schematic for the South Capitol Street project includes improvements for pedestrians, motorists, and bicyclists. View the entire schematic [here](#). (Courtesy of DDOT)

facilities, and a lack of median barriers and grade separations. Analysts incorporated this information into the development of proposed alternatives.

The Draft EIS for the South Capitol Street project includes two build alternatives and a no-build alternative. DDOT concluded that the no-build alternative would not sufficiently improve safety because the minor safety improvements that it includes would not appropriately address the increase in the number of crashes that could follow a future increase in traffic volume. Both of the build alternatives include more substantial safety improvements, including reconfigured intersections with additional turn lanes and redeveloped interchanges to improve traffic flow. Multimodal improvements include new crosswalks, pedestrian signals, curb cuts, refuge islands, and safer bridge infrastructure for bicycles and pedestrians. The selection of the preferred alternative will be identified in the Final EIS.

These two case studies highlight the importance for States to seek out the best available information regarding safety metrics for use in the NEPA process. If safety is made a part of the NEPA process from the beginning, States will be better able to address their communities' safety needs.

Improved Integration

The *Integrating Road Safety into NEPA Analysis* primer is a recent example of FHWA's commitment to roadway safety. FHWA encourages safety experts and NEPA experts to begin Transportation Safety Planning early in the transportation project development process, and the primer provides practical advice that will help them accomplish this. The examples and ideas found in the primer help to illustrate the benefits of collaboration and make it clear that such an approach not only streamlines the development of transportation projects, but also results in transportation projects that make our roadways safer for all users.

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Look What's New!

- FHWA released a report summarizing a September 2011 peer exchange on the use of GIS for climate mitigation and adaptation planning in State and regional transportation systems. Participants from State and regional agencies across the country shared their experiences in using GIS for climate change planning, discussed challenges they have faced, and identified ways to improve agencies' abilities to develop and manage GIS/climate change applications, share geospatial data, and support public outreach through GIS technologies. [Click here](#) to read the report.
- FHWA developed the [Energy and Emissions Reduction Policy Analysis Tool](#) (EERPAT) to assist State transportation agencies in analyzing greenhouse gas reduction scenarios and alternatives for use in a variety of transportation planning efforts. EERPAT allows agencies to quickly assess policy interactions in hundreds of scenarios.

Successes in Stewardship is a Federal Highway Administration newsletter highlighting current environmental streamlining and stewardship practices from around the country. To subscribe, visit http://environment.fhwa.dot.gov/sis_registration/Register.aspx or call 617-494-2092.