

**2008 Federal Highway Administration Environmental Conference**

**FHWA's Role in a Changing Climate**

**Proceedings**

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### Acronyms and Abbreviations

<b>AASHTO</b>	American Association of State Highway and Transportation Officials
<b>ACEC</b>	American Council of Engineering Companies
<b>ACHP</b>	Advisory Council on Historic Preservation
<b>ADA</b>	Americans with Disabilities Act
<b>APTA</b>	American Public Transportation Association
<b>AQ</b>	air quality
<b>BA</b>	Biological Assessment
<b>BGEPA</b>	Bald and Golden Eagle Protection Act
<b>BLM</b>	Bureau of Land Management
<b>BMP</b>	best-management practice
<b>CCAP</b>	Center for Clean Air Policy
<b>CDOT</b>	Colorado DOT
<b>CE</b>	categorical exclusion
<b>CEQ</b>	Council on Environmental Quality
<b>CEQA</b>	California Environmental Quality Act
<b>CLT</b>	Community Land Trust
<b>CMAQ</b>	Congestion Mitigation and Air Quality Improvement Program
<b>CO</b>	carbon monoxide
<b>COTR</b>	Contracting Officer's Technical Representative
<b>CRD</b>	Congestion Reduction Demonstration Program
<b>CSD</b>	Context Sensitive Design
<b>CSS</b>	Context Sensitive Solutions
<b>DB</b>	design-build contract
<b>DBB</b>	design-bid-build contract
<b>DBOMF</b>	design-build-operate-maintain-finance contract
<b>DOT</b>	Department of Transportation
<b>DRCOG</b>	Denver Regional Council of Governments
<b>EA</b>	Environmental Assessment
<b>EDTS</b>	Environmental Document Tracking System
<b>EIS</b>	Environmental Impact Statement
<b>ELDP</b>	Express Lane Demonstration Program
<b>EO</b>	Executive Order
<b>ESA</b>	Endangered Species Act
<b>FACA</b>	Federal Advisory Committee Act
<b>FDOT</b>	Florida DOT
<b>FHWA</b>	Federal Highway Administration
<b>FLH</b>	Federal Lands Highway
<b>FOIA</b>	Freedom of Information Act
<b>FONSI</b>	Finding of No Significant Impact
<b>GAO</b>	Government Accountability Office
<b>GAN</b>	Grant Application Note
<b>GARVEE</b>	Grant Anticipation Revenue Vehicle
<b>GIS</b>	Geographic Information Systems
<b>HBRRP</b>	Highway Bridge Replacement and Rehabilitation Program
<b>HCC</b>	Office of Chief Counsel
<b>HEP</b>	Office of Planning, Environment, and Realty
<b>HEPE</b>	Office of Project Development and Environmental Review
<b>H-GAC</b>	Houston-Galveston Area Council
<b>HOT</b>	high-occupancy- toll lane

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<b>HOV</b>	high-occupancy vehicle lane
<b>HUC</b>	Hydraulic Unit Code
<b>ICC</b>	Inter County Connector
<b>IPaC</b>	Information, Planning, and Consultation System
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>ISI</b>	Institute of Scientific Information
<b>IT</b>	information technology
<b>ITS</b>	Intelligent Transportation Systems
<b>LEDPA</b>	Least Environmentally Damaging Practicable Alternative
<b>LRTP</b>	long-range transportation planning
<b>MARC</b>	Mid-America Regional Council
<b>MBTA</b>	Migratory Bird Treaty Act
<b>MnDOT</b>	Minnesota DOT
<b>MOU</b>	Memorandum of Understanding
<b>MOVES</b>	Motor Vehicle Emissions Simulator
<b>MSAT</b>	Mobile Source Air Toxics
<b>MTP</b>	metropolitan transportation plan
<b>MVRPC</b>	Miami Valley Regional Planning Commission
<b>NAAG</b>	Native American Advisory Group
<b>NAAQS</b>	National Ambient Air Quality Standards
<b>NASA</b>	National Aeronautics and Space Administration
<b>NCDENR</b>	North Carolina Department of Natural Resources
<b>NCDOT</b>	North Carolina DOT
<b>NCHRP</b>	National Cooperative Highway Research Project
<b>NDDOT</b>	North Dakota DOT
<b>NEPA</b>	National Environmental Policy Act
<b>NFRMPO</b>	North Front Range MPO
<b>NGO</b>	nongovernmental organization
<b>NHI</b>	National Highway Institute
<b>NHPA</b>	National Historic Preservation Act
<b>NHS</b>	National Highway System
<b>NOAA</b>	National Ocean and Atmospheric Administration
<b>NOI</b>	Notice of Intent
<b>NOV</b>	Notice of Violation
<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>NPS</b>	National Park Service
<b>OBF</b>	operate-bid-finance contract
<b>OMB</b>	Office of Management and Budget
<b>PAB</b>	private activity bond
<b>PEL</b>	Planning and Environment Linkages
<b>PM</b>	particulate matter
<b>PPP</b>	public-private partnership
<b>PS&amp;E</b>	plan specifications and estimates
<b>RAP</b>	Rapid Assessment Process
<b>RFP</b>	request for proposal
<b>ROD</b>	Record of Decision
<b>ROW</b>	right-of-way
<b>RTD</b>	Record of Decision and Permit-Tracking Database
<b>SAFETEA-LU</b>	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
<b>SEP</b>	Special Environmental Project

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<b>SES</b>	Senior Executive Service
<b>SHA</b>	Maryland State Highway Administration AS: check on why no “M”
<b>SHPO</b>	State Historic Preservation Office
<b>SOL</b>	statute of limitations
<b>STEP-UP</b>	Strategic Transportation Environmental and Planning Process for Urban Places
<b>STIP</b>	State Transportation Improvement Program
<b>TA</b>	Technical Advisory
<b>TDM</b>	Transportation Demand Management
<b>TIFIA</b>	Transportation Infrastructure Finance and Innovation Act
<b>TIP</b>	Transportation Improvement Program
<b>TRB</b>	Transportation Research Board
<b>TxDOT</b>	Texas DOT
<b>UPA</b>	urban partnership agreement
<b>USACE</b>	U.S. Army Corps of Engineers
<b>USFWS</b>	U.S. Fish and Wildlife Service
<b>USGS</b>	U.S. Geological Survey
<b>VDOT</b>	Virginia DOT
<b>VMT</b>	vehicle miles traveled
<b>WSDOT</b>	Washington State DOT
<b>WVC</b>	wildlife-vehicle collision
<b>YOE</b>	year of expenditure

## CONFERENCE WELCOME AND INTRODUCTIONS

### Speakers

Marlys Osterhues, Office of Project Development and Environmental Review, FHWA

Dave Grachen, Resource Center, FHWA

Gloria Shepherd, Associate Administrator for Planning, Environment, and Realty, FHWA

Jeff Paniati, Executive Director, FHWA

**Description:** During this first session of the Federal Highway Administration's (FHWA) 2008 Environmental Conference, participants were welcomed and given an overview of the agenda. The 2008 conference included several new components, such as a full day of training sessions preceding the conference and the marketplace event, which allowed participants to partake in interactive discussions on an array of topics. Conference co-chairs Marlys Osterhues and Dave Grachen opened the session by explaining some of the logistics of the conference and the documents in participants' folders. They then welcomed Gloria Shepherd, Associate Administrator for Planning, Environment, and Realty, who addressed the importance of the conference theme. Ms. Shepherd specially recognized Fred Skaer, who is retiring in August 2008. She then introduced Executive Director Jeff Paniati, who discussed strategic planning efforts and his vision for FHWA. After Mr. Paniati spoke and answered audience questions, Ms. Shepherd spoke again, about key efforts regarding climate change, linking planning and the environment, and improving the quality of National Environmental Policy Act (NEPA) documents.

### Keynote Address (Jeff Paniati)

Mr. Paniati opened the conference by thanking the planning committee and recognizing Fred Skaer for his leadership, innovative ideas, and positive influence on his profession.

This conference was Mr. Paniati's first opportunity to meet with FHWA Environmental staff, and he noted that he appreciated being able to make this connection. His talk, which focused on the direction of FHWA and challenges in the near future, touched on the key areas of leadership, acting corporately, and managing change. Important points from his address are summarized below.

### Leadership

Leadership is critical everywhere, and particularly in the environmental area as there are now increased expectations. FHWA has a clear role in leading the complex highway program and helping to "move America" to provide mobility in an environmentally responsible way. Climate change will require significant leadership; Gloria Shepherd and April Marchese are leading on this issue, educating others, and thinking about FHWA's role. Mr. Paniati noted that FHWA needs to be more strategic and use resources wisely, for example, risk assessment at the Division level can help offices decide where to focus their energy. Leadership will be increasingly important for focusing on system performance and tying resources to desired program outcomes. It is also vital to building FHWA's corporate capacity, as the agency needs people with expertise and supporting systems to deliver programs.

### Acting Corporately

It is the responsibility of everyone in FHWA to work collectively and cohesively across program and geographic boundaries. FHWA can act more corporately by sharing resources more flexibly across traditional lines. One initiative will be to start 10 pilot projects, working with 20 different states to share resources across geographic and organizational boundaries and to evaluate the results. Another strategy will be to have more people working for Headquarters but stationed at

alternate locations in the field. This will provide more options for recruiting, information-sharing, and relationship-building. FHWA will continue to work on improving consistency across the organization, not by taking authority away from Divisions but by improving communication and use of resources.

### Managing Change

Mr. Paniati noted that the title of the conference, FHWA's Role in a Changing Climate, is appropriate, as the agency will be experiencing much change in the near future. Organizational changes will occur as public-private partnerships (PPPs) and innovative program-delivery strategies become more common. There is also the upcoming change in Administrations: FHWA will have to navigate a new relationship. Reauthorization is another area that will likely bring about an extended period of discussion both internally and with partners and customers. FHWA is starting to work on how it can develop a narrower yet stronger Federal role and is thinking beyond reauthorization to prepare for it. Now is a good time for FHWA to be proactive and to think more broadly about desired outcomes of reauthorization.

In closing, Mr. Paniati again thanked Conference participants for their hard work, leadership, and commitment to the work of FHWA and to keeping America moving while looking forward to the future that they will help shape.

### **Questions, Answers, and Comments**

**Question (Gloria Shepherd):** You recently attended several high-level meetings. What are you hearing about climate change?

**Answer:** The TRB [Transportation Research Board] executive committee meeting included an expert panel on climate change with a variety of perspectives. There has not been a firm conclusion at this point, but everyone is acknowledging that it's a real issue to address both nationally and internationally. What can we do locally that adds up to something globally? What will be the impact of new fuels and vehicles or of VMT [vehicle miles traveled]? It is difficult to obtain good VMT forecasts. Many people like the cap-and-trade approach because it is intended to spur innovation. Stay tuned to this discussion as it moves forward.

**Question:** With demonstration earmark projects, states are spending significant time on megaprojects that are not likely to be fully funded. Can FHWA help get control of this issue?

**Answer:** Earmarks in general are challenging. FHWA cannot ignore them, but perhaps it can do a better job of figuring out how much energy is needed to fulfill minimum requirements and not waste energy on something that looks like it won't move forward. FHWA has a lot of responsibility, and finite resources need to be used effectively. At this time, FHWA will have to manage these issues internally.

**Question:** The Secretary has offered an opinion that the next authorization will go in an entirely new direction. How will reauthorization plans work together with FHWA's new strategic plan that is currently in development?

**Answer:** There is a hope that the next bill will be an authorization, not just more of the same. The idea is that it would set the stage for bigger change in the future while recognizing that it cannot fix all of the financial problems and dissatisfaction now. Possibilities include a more performance-based system, moving toward VMT approaches rather than a gas tax, and more flexible pilot-type programs. Such approaches would allow for revenues while managing the system more dynamically. The FHWA Strategic Plan will state priorities regardless of the direction of the new authorization. The FHWA focus will be on system performance and having the corporate capacity to manage the program.

**Question:** What is the most critical issue facing FHWA, aside from climate change or strategic performance?

**Answer:** There are a lot of opportunities to make FHWA better and not only to do things because they have always been done a particular way. Agencies are constrained in resources and need to use them in the best way. Mr. Paniati plans to bring together a core leadership team to have them work together and represent FHWA. FHWA is exploring ways to deliver its mission most effectively and make incremental improvements so that it will be a little better each year.

**Question:** Environmental stewardship was one of the “vital few” issues, but it does not seem to be mentioned now in the Strategic Plan. Can it be stated more explicitly?

**Answer:** Mr. Paniati stated that environmental stewardship is present in every piece of the Strategic Plan—the environmental component is involved in leadership, program delivery, system performance, and corporate capacity. The plan does not compartmentalize issues. As FHWA finalizes goal statements and crafts initiatives, it will become clearer how environment fits into the specific issues, but please do not think that it is any less important.

**Question:** Funding is critical. If the gas tax is not the way of the future, what is?

**Answer:** Over the long term, we probably cannot depend on the gas tax. The near-term debate is going on now. Is it politically feasible to raise the tax? If not, how else can we raise revenue? What kind of role can the private sector play? The last authorization provided more money across the board, but that will be more difficult in the next authorization. No one disagrees that FHWA needs more money for transportation, but the debate is about where it will come from.

**Question:** I would like to see FHWA as an environmental leader. However, we seem to always be in a defensive posture or focused on what we cannot do. I would like to see us come to the table and create environmental solutions hand-in-hand with transportation.

**Answer:** Mr. Paniati agreed, and that is not inconsistent with our goals. If FHWA is not sending this message, he stated that it needs to send the message. However, delivery of transportation is the primary job, and FHWA can be an environmental leader as it helps move America.

**Question:** I had the opportunity to attend a congestion relief workshop last year in Denver. Everyone left with great enthusiasm, but there seems to be a lot of skepticism about the various initiatives among stakeholders. Are you getting the same perception that there needs to be more outreach?

**Answer:** If we are really trying to do new things, then there will always be skepticism or opposition. In discussions of tolling, PPPs [public-private partnerships], and congestion pricing, FHWA needs to be clear about the purpose of each approach and to inform stakeholders appropriately. We're at a very early stage both with congestion pricing and tolling for revenue. DOTs [Departments of Transportation] are trying to manage congestion in addition to raising revenue, but congestion-pricing revenue should be used to improve mobility and the public should be informed how the revenue will be used. The early Urban Partnership activity was meant to move discussion forward very quickly while also providing political coverage to try things that might not have been possible otherwise. This is an example of leadership. The USDOT will learn a lot to move forward, such as where HOT [high-occupancy-toll] lanes are appropriate, where existing prices should be varied, when to add new tolls, the role of telecommuting, and providing stakeholders with alternative choices. FHWA should educate the public and advance the conversation.

**Conference Welcome to Participants (Gloria Shepherd)**

As did Mr. Paniati, Ms. Shepherd briefly touched upon the 2008 Environmental Conference’s theme of FHWA’s Role in a Changing Climate. She highlighted efforts to address climate change, including a meeting in early June 2008 with multiple Federal agencies to discuss climate change in general as well as specific strategies to reduce growth in VMT. FHWA would like to identify common goals in policies and address the need to reduce greenhouse gases. The participants agreed to create a working group to follow up over the next year and will also be compiling a Q&A section for the website.

Ms. Shepherd briefly addressed efforts towards Planning and Environment Linkages (PEL) (or Linking Planning and NEPA). She mentioned that, at the TRB summer meeting in Baltimore, several of the Planning Excellence Awards went to projects that linked planning and environment.

FHWA is considering how to address streamlining the project delivery process in reauthorization. In addition, FHWA is trying to more accurately measure and account for Environmental Impact Statement (EIS) timelines. For example, if a project has had no activity for over five years since the Notice of Intent (NOI), FHWA will no longer consider it an active EIS.

A continuing effort is to improve the quality of NEPA documents. This is one of the obstacles to advancing the project delivery process. Thanks go to Lamar Smith for his efforts in working with states on this issue.

The Office of Planning, Environment, and Realty is partnering with the Office of Infrastructure to promote Context Sensitive Solutions (CSS) in state DOTs and the American Association of State Highway and Transportation Officials (AASHTO). CSS offers FHWA a way to do business that will streamline the project-delivery process.

Ms. Shepherd again thanked the audience and encouraged participants, as FHWA staff, to help shape history with their continued dedication and energy.

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**PRIORITY ISSUES: CLIMATE CHANGE, SECTION 4(F), PLANNING/FISCAL CONSTRAINT, AND NEPA DOCUMENT QUALITY**

**Speakers**

April Marchese, Director, Office of Natural and Human Environment, FHWA

Jim Cheatham, Director, Office of Planning, FHWA

Fred Skaer, Director, Office of Project Development and Environmental Review, FHWA

**Description:** The Priority Issues plenary session focused on several matters that affect the delivery of FHWA’s environmental program and have the potential to significantly shape the ways in which FHWA conducts business in the coming years. These issues include climate change, Section 4(f), planning/fiscal constraint, and NEPA document quality. Fred Skaer opened the session by introducing the audience to the Environmental Competency Navigator, a new web tool from the FHWA Environmental Competency Building Program. Mr. Skaer mentioned that the tool was featured in the latest *Environmental Successes in Stewardship* newsletter. The Navigator shows transportation and environment professionals what it takes to get up to speed in environmental competencies and is an example of training’s shift from a “push” to a “pull” paradigm.

### **Climate Change (April Marchese)**

Ms. Marchese described several implications of climate change for the Federal-Aid Highway Program. She began by questioning both why climate change is capturing so much attention from the media and the public and whether the topic is relevant to the future work of FHWA. The potentially severe consequences of climate change make it an issue of concern for the public and the government at the Federal, state, tribal, and local levels. In 2006, the transportation industry was the largest source of carbon emissions. Ms. Marchese described the visual image of a three-legged stool, in which the seat, represented by the transportation industry's share of carbon emissions, is held up by three "legs": vehicle technologies, alternative fuels, and VMT. Even if the steps of adopting new vehicle technologies, using alternative fuels, and pursuing VMT reduction strategies are undertaken, the Intergovernmental Panel on Climate Change estimates that we would need to reduce emissions to between 50 and 85 percent below 1990 levels before the worst impacts could be avoided. Additional strategies being discussed include bicycle and pedestrian programs, transit, road pricing, HOV lanes, smart growth, and compact development.

Ongoing FHWA initiatives related to climate change include:

- Outreach, to the Pew Center on Global Climate Change and the Center for Clean Air Policy (CCAP) as well as other Federal agencies.
- Education, such as through informational webinars and a web-based clearinghouse for transportation and climate-change information.
- Technical assistance, on modeling.
- Research, on the impacts of climate change to transportation infrastructure, VMT, and mitigation strategies.
- Guidance, for planning and NEPA, and best practices on greenhouse-gas-emissions reduction.
- Preparation, for transportation legislation reauthorization.

FHWA should take a proactive leadership role in "keeping America moving" and "keeping America clean." In so doing, the agency should use its expertise to promote and practice innovative solutions that address greenhouse-gas and carbon emissions.

### **Questions, Answers, and Comments**

**Question:** Is addressing climate change at the project level a direction that NEPA documentation should take?

**Answer:** FHWA has suggested that climate change is a global issue and not the type of issue that should be addressed at a project level. However, a court may have a different interpretation. We still need to debate and discuss how to address climate change in a NEPA document. While it is important to acknowledge climate change, it is still unclear what might be the best level of analysis for doing so.

**Question:** A recent conference on air quality in Kentucky suggested that rising sea levels might have significant effects on freight infrastructure. Should we, as transportation professionals, take steps to engage the freight community in future planning and to move infrastructure inland?

**Answer:** There is a need to extend conversations with the freight community and talk specifically about how to account for climate change in project development. We recognize the need for guidance in this area.

**Question:** In 2007, the Supreme Court ruled that the Environmental Protection Agency (EPA) has the authority to regulate greenhouse-gas emissions. What is the status of these regulations?

**Answer:** The EPA has been working on these regulations for awhile, but there have not been any firm decisions. It is possible that some decisions could be made by the end of June.

### **Planning/Fiscal Constraint (Jim Cheatham)**

Mr. Cheatham discussed the history behind fiscal criteria issues in transportation planning and the relevance of these criteria to transportation professionals. Congress strengthened early planning requirements from the 1960s by enacting fiscal constraint provisions as part of the Intermodal Surface Transportation Equity Act (ISTEA) in 1991. Subsequent transportation legislation, including the Transportation Equity Act for the 21st Century (TEA-21) and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), further refined these requirements by specifying that operating and maintenance costs be included in Transportation Improvement Programs (TIPs) and State Transportation Improvement Programs (STIPs). The most recent planning rule resulting from SAFETEA-LU was published in February 2007 and applies to Metropolitan Transportation Plans (MTPs), TIPs, and STIPs, which are to be financially constrained; however, planners can show as-yet-unfunded projects that are “below the line.” The statewide plan is required only to be a policy plan, although it can also be project-based. As such, there are no mandatory financial planning requirements as part of its development. However, if a state so chooses, a financial plan is permissible as part of the overall statewide plan. Many states have encountered challenges in project funding due to the growth of VMT, inflation, decreased revenue from gas taxes, delayed financing for past projects, and other issues. Additionally, as SAFETEA-LU is set to expire on September 30, 2009, states are concerned about a potential shortfall in the highway trust fund of 36 percent, or up to \$16 billion.

To address these challenges, states and the Federal government have turned increasingly to nontraditional, innovative financing mechanisms to fill the funding gap in transportation projects. These instruments include:

- Transportation Infrastructure Finance and Innovation Act (TIFIA)
- Grant Anticipation Revenue Vehicles (GARVEE/GAN)
- Private activity bonds (PABs)
- State infrastructure banks
- PPPs
- Tolls and congestion pricing
- Revenues from other sources, such as new gas taxes, impact fees, or dedicated sales taxes

Mr. Cheatham predicted that nontraditional financing options, especially PPPs, will become more prevalent in the future. Since December 11, 2007, amendments or updates to plans, TIPs, and STIPs have triggered the year-of-expenditure (YOE) requirement, which mandates that DOTs and MPOs account for cost escalation. As revenues often do not rise as fast as project costs, states may have to review, modify, or significantly revise forthcoming TIPs and STIPs.

### **Questions, Answers, and Comments**

**Question:** Can you elaborate on recent guidance that was issued regarding the next step of the STIP environmental process, before a ROD [Record of Decision] or FONSI [Finding of No Significant Impact] is signed or a categorical exclusion is approved]?

**Answer:** This guidance states that TIPs and STIPs must show funding sources for a particular project before a ROD or FONSI can be signed. Funding must be established before a Federal action can be taken. States and MPOs should think through all steps of project financing before moving forward on the construction timeline.

**Question:** As an agency, FHWA appears to be encouraging PPPs as a funding mechanism. However, the fiscal constraint provision in how PPPs are being applied seems counter to this goal, since one of the things that attracts concessionaires into entering PPPs is having a signed NEPA document.

**Answer:** You can produce environmental documentation up to a point, but according to the planning rules you cannot sign the ROD until you have reasonable assurances about financing. While it is sometimes a difficult situation, usually states or MPOs know a certain amount about funding sources before projects are developed.

#### **Section 4(f) (Fred Skaer)**

Mr. Skaer discussed elements of the Section 4(f) Final Rule, which was published in the *Federal Register* on March 12, 2008, to help clarify the 4(f) approval process and simplify its regulatory requirements. He noted that the last Section 4(f) rule was issued 21 years ago and the constructive use rule was issued in 1991. Section 6009 separated Section 4(f) issues from NEPA regulations. The new *de minimis* rule simplifies approvals for projects that have a *de minimis* impact on resources subject to Section 4(f) provisions. The Final Rule helps to establish national standards, criteria, and processes for defining what constitutes “feasible and prudent” alternatives and *de minimis* impacts and for selecting which alternatives cause the least overall harm. It also clarifies the option of applying a Programmatic Section 4(f) Evaluation. In breaking down the “black box” of Section 4(f), we can now look at impacts that are outside a resource. While there is additional flexibility, we still have to complete a legal sufficiency review. The new Section 4(f) rule will help to ensure that resources receive the proper levels of protection and that avoidance alternatives are prudently considered.

#### **NEPA Document Quality (Fred Skaer)**

Mr. Skaer stated that the challenge of environmental documentation lies in keeping the EIS and EA succinct while retaining legal adequacy and sufficiency. It is particularly challenging to make these documents readable, concise, and clear, since they often describe complex projects. Making environmental documents more readable involves several core principles, including brevity, conciseness, good use of graphics, and legal sufficiency. Mr. Skaer also remarked that a readable environmental document should “tell a story” while conveying the essence of a project’s purpose and need to the public and to decision-makers. To improve NEPA document quality, FHWA is working on several initiatives, including:

- A Technical Advisory (TA), which provides guideposts for creating high-quality environmental documents.
- A pilot effort with FHWA–Colorado Division and the state to develop a “documentation pyramid,” which highlights the importance of having a good project administrative record so that only essential project information is provided in the environmental document.
- A training handbook that gives examples and expands concepts involved in producing effective environmental documentation.

In addition to FHWA’s initiatives on improving environmental documentation, the Washington State Department of Transportation (WSDOT) offers a reader-friendly toolkit that is available for free downloads on its website.

## HABITAT

### Moderator

Brent Inghram, Environmental Program Manager, Idaho Division Office, FHWA

### Speakers

Bob Black, Special Counsel, Office of Chief Counsel

Paul Garrett, Ecologist, Office of Natural and Human Environment, FHWA

Mary Gray, Environmental Program Specialist, Office of Natural and Human Environment, FHWA

Mike Horton, U.S. Fish and Wildlife Service

**Description:** In this session, both the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act were reviewed and insight into how each applies to FWHA projects was provided. The session also included an overview of the online Web-Biological Assessment (BA) template/consultation website and the U.S. Fish and Wildlife Services' (USFWS) Information, Planning, and Consultation System (IPaC) website.

### Bald and Golden Eagle Protection Act (Mary Gray)

On June 28, 2007, USFWS announced the final decision to remove the Bald Eagle from the list of threatened and endangered species. (Note that Bald Eagles in the Sonoran Desert of central Arizona remain protected as a threatened species.) Ms. Gray provided an overview of the BGEPA and how it applies to FHWA projects.

### Application to FHWA Projects

For projects that previously received authorization for take of Bald Eagles under the Endangered Species Act (ESA), the authorization is no longer valid after June 28, 2007. However, if take under BGEPA is anticipated, USUSFWS has indicated that it will honor agreements made under the ESA until such time as a BGEPA permit becomes available, as long as the take is in compliance with terms and conditions of the former ESA authorization. USFWS has proposed a permit structure under the BGEPA, but it is not yet in place. The new permit will apply to projects not completed prior to June 19, 2009.

For projects without incidental take permits, USFWS recommends that the agency follow the National Bald Eagle Management Guidelines to avoid violating the act until it obtains a permit authorizing the take under the BGEPA. The guidelines include general recommendations for land management principles. It is important to note that the National Bald Eagle Management Guidelines themselves are not law; USFWS has indicated that, until a permit program has been adopted, it will not be possible to completely absolve individuals, companies, or agencies from liability even if they follow the guidelines. The USFWS Region 3 Office has created a step-by-step procedure to avoid disturbing Bald Eagles. The guidance is available at <http://www.USFWS.gov/midwest/eagle/guidelines/disturbnestingbaea1.html>.

### What's Next?

The new BGEPA permit will be for limited take of Bald and Golden Eagles where such a permit is compatible with their preservation. All permittees will be required, as part of the permit conditions, to carry out conservation measures to mitigate impacts to eagles.

### **Questions, Answers, and Comments**

**Question:** What is the timeline for finalizing the permit structure?

**Answer:** USFWS will be issuing an Environmental Assessment (EA) on the rule in spring 2008 and is supposed to have the permits in place by the end of the calendar year.

### **Migratory Bird Treaty Act: What You Need to Know (Paul Garrett)**

Mr. Garrett provided information on what you need to know and do in regard to the Migratory Bird Treaty Act (MBTA) in order to get projects built and to protect yourself.

#### The Law

The purpose of the MBTA is to protect migratory birds and to regulate the take of any bird, body part, nest, or egg. The definition of the term *take* under the MBTA differs from that under the ESA. Under the former, it is defined as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect.” The MBTA applies to any migratory bird; there are over 850 species of migratory birds in the United States. Nearly any bird is a migratory bird, but the MBTA does not apply to exotic birds. If you have any questions as to whether the MBTA pertains to a certain bird species, refer to the list. In addition, the USFWS website <http://www.USFWS.gov/migratorybirds/> has everything that you need to know regarding the MBTA.

#### Court Decisions

The two court decisions regarding MBTA that greatly affect FHWA projects are:

1. *Glickman decision*: The Court of Appeals for the District of Columbia found that the MBTA applies to Federal agencies and state activities.
2. *Seattle Audubon v. Evans*: The Ninth District Court found that the MBTA does not apply to habitat. Habitat modification that adversely impacts covered birds later in time is not covered.

### **FHWA Endangered Species Consultation Website (Mary Gray)**

FHWA has developed an ESA Section 7 Consultation website, [www.esafhwa.org](http://www.esafhwa.org), to both standardize and improve BAs and to improve communication and information-sharing during the Section 7 consultation process. The site also serves as a centralized location for asking questions and getting answers from a team of resource-center and Headquarters experts. The website is currently being piloted, with the goal of making it available nationwide in a year.

The website serves two main functions:

1. *BA template*: The site provides a standardized template to improve content and ensure that the necessary information is included in the BA. The template is a Word document that can be downloaded, and includes a number of imbedded help features, which are similar to the Turbo Tax system.
2. *Electronic file cabinet*: The online file cabinet is designed for individual projects so that information can be centralized and easily accessed by the agencies involved in ESA consultation. The file cabinet facilitates management of each BA. For example, timeframe information can be entered to provide warnings when a project falls behind schedule. In addition, the file cabinet serves as a place for the team to have project-related discussions and can be used to create a complete administrative record. Access to the file cabinet is protected; individuals can access the files only if they have been invited to do so by the project lead (typically the state DOT biologist).

### **Questions, Answers, and Comments**

**Question:** Are there any FOIA (Freedom of Information Act) concerns with using the file cabinet?

**Answer:** Yes, additional private areas may be added to the file cabinet that will be for DOT staff only; USFWS will not have access.

**Question:** Will FHWA make the use of this website tool mandatory?

**Answer:** No, but states are encouraged to utilize the tool to help streamline the BA process. USFWS is providing data that will be incorporated into the tool so that the templates will automatically populate with USFWS information.

### **IPaC: Information, Planning, and Consultation System (Mike Horton)**

The primary objectives of USFWS' IPaC system are to:

1. Provide access to natural resource information.
2. Facilitate early coordination in order to streamline the Section 7 consultation process.
3. Improve landscape-level tracking abilities.

#### IPaC Process

*Project Builder:* The system proceeds through a four-step process:

- Step 1: Input the location of the project.
- Step 2: Input the project type and activities.
- Step 3: Generate a list of USFWS trust resources, including Threatened and Endangered Species, designated Critical Habitat, and USFWS refuges located in the vicinity of your project or of those that may be affected by proposed activities.
- Step 4: Generate a list of best-management practices (BMPs) that detail how a user may avoid, minimize, and mitigate adverse effects that may result from potential activities. This list of BMPs is based on the conservation needs of and threats to the species, and is designed to achieve the long-term conservation of the species. The BMPs were developed by a team, including individuals who have responsibility to implement the recommended practices, and they can be used to develop programmatic consultations. Eventually, the IPaC system will provide a draft effects analysis.

#### IPaC Status

The IPaC system is developed and is currently partially functional. Many aspects of the system are still under construction. In time, the system will be coordinated with databases of state agencies and stakeholders, such as the U.S. Army Corps of Engineers (USACE) and State Historic Preservation Offices (SHPOs), to include even more information.

### **Questions, Answers, and Comments**

**Question:** What happens if you use the IPaC system to develop a draft BA and USFWS disagrees with the outcome?

**Answer:** The IPaC system is guidance and will not be a final decision. USFWS may disagree with the results of the IPaC system for a variety of reasons.

**Question:** Will we have to justify why we disagree with a recommendation of the system?

**Answer:** Yes, the system guides you through a process, and you will need to explain your reasons for not following aspects of the guidance.

## NEPA NUTS AND BOLTS

### Moderator

Lamar Smith, Office of Project Development and Environmental Review, FHWA

### Speakers

Kenneth Dymond, Office of Chief Counsel, New York Division Office, FHWA

Michael Vanderhoof, Alaska Division Office, FHWA

Janet Myers, Office of the Administrator, FHWA

**Description:** This round-robin session explored various aspects of the NEPA process and provided insight into current guidance and state-of-the-practice. Speakers shared recommendations for keeping documents simple, high-quality, and clearly written. Topics included how to write a good purpose and need statement, conducting alternatives analysis, advancing analysis on a preferred alternative prior to completion of NEPA, and addressing construction impacts in NEPA documents.

### Purpose and Need (Michael Vanderhoof)

Mr. Vanderhoof began by presenting a sample purpose statement: “The purpose of the project is to construct a controlled access freeway connection between the big highway and the bigger highway at cross street with a financially feasible and efficient highway facility that provides connectivity of the NHS [National Highway System].” He went on to ask the audience what was wrong with this statement. Answers included:

- The decision appears to have been made; there has been predetermination.
- This statement does not express the needs that the project would address.
- There are elements of a preferred alternative in this statement.
- It is unclear what “financially feasible” and “efficient” mean in this context.

Mr. Vanderhoof responded by pointing out that the “controlled access freeway” described in the sample statement was a solution that came from an approved transportation plan. While this can be a considered alternative, it does not serve as the purpose and need in the NEPA process. Generally, solutions should not be included in a purpose statement, as this can be regarded as predetermination and increase the risk of legal issues. Therefore, it is important to use guidance, to be concise, and to judge value versus risk.

In essence, purpose is the introduction to need. After establishing a clear link between purpose and need, it is important to set primary goals and objectives that satisfy need. It is critical to distinguish between primary goals related to purpose and need, such as safety and improving system continuity, and secondary goals that are desirable and supportive in project screening but are not required to justify the expenditure of funds.

### Questions, Answers, and Comments

**Question:** Is the project referred to in the presentation being done under an EIS? If so, what was the public and participating agency input on the purpose and need?

**Answer:** Yes. The project in question is about to release an NOI (Notice of Intent), but the purpose and need are not sufficient for alternatives screening. A white paper that’s in development will discuss what information will hold value from long-range planning to NEPA. In this case, a lot of the information will be useable because there was a strong planning process. The long-range plan went into a lot of detail and was shared with the public. However, predetermination could create issues. The agency will need to take a few steps back in its

decision-making in order to go through the NEPA process. Linking Planning and NEPA does not necessarily mean that all decisions or findings in the long-range plan must be used; rather, it is about better informing the NEPA process through planning.

**Question:** Was the planning stage done prior to SAFETEA-LU Section 6002?

**Answer:** Yes, this project began in the 1970s; however, the studies are recent enough to be reliable.

**Comment:** I think the key in this project will be scoping with the public and cooperating agencies.

**Response:** That is important, but it is more important to go through the entire NEPA process and put your purpose and need upfront in the NOI.

### **Legal Question and Answer (Kenneth Dymond)**

Mr. Dymond began by asking the audience why an EIS is done. Responses were:

- To help a decision-maker make a well-informed decision.
- To make sure that the environmental process is transparent; an EIS provides facts about a project so that the public and resource agencies can hear the “whole story” and comment.

Mr. Dymond discussed the administrative record, which is the compilation of documents that show how NEPA decisions were made and upon which the courts make decisions during litigation. While not all information needs to go into a NEPA document, all studies and information related to a project are part of the administrative record. In the Merritt Parkway project in Connecticut, for example, FHWA lost its lawsuit because it did not record minimization of harm under Section 4(f) in the administrative record. Though FHWA accounted for minimization of harm in the project, there was no written documentation to prove it.

While writers of environmental documents are often tempted to omit negative comments, it is critical to include them and explain both sides of the situation. Without controversy, the record seems too clean and unrealistic. The administrative record allows agencies to address negative comments, such as whether or not it is appropriate to conduct additional studies on the basis of stakeholder comments.

### **Questions, Answers, and Comments**

**Question:** Are e-mails considered part of the administrative record?

**Answer:** Yes, e-mails can be an important part of the administrative record, but be careful about what is written in them before they are sent.

**Question:** How does one ensure that the administrative record is well documented and that the associated process will come out well in the end in order to avoid litigation?

**Answer:** Involve your attorneys early in the process, both to ensure better documentation and to help them fully understand the project.

**Question:** Would it be wise to use a stenographer in meetings and put those notes in the administrative record?

**Answer:** Yes, that is a great idea. This could be done at a public hearing or in a Section 106 meeting with consulting parties.

**Question:** This session and other information sources say to use common sense in terms of full disclosure in an EIS; however, when trying to reduce the length of environmental documents, should one disclose information that is not relevant to decision-making?

**Answer:** It is important to document what is reasonable and relevant. Some things can be omitted from a NEPA document but put in the appendices or administrative record.

### **Lamar Smith**

Mr. Smith noted that the question about the appropriate size of a NEPA document should be asked by all, since it is different than the administrative record. An EIS provides information that will be circulated and will include appendices and incorporation by reference for more information. EIS analyses have a lot of documentation, much of which can be included in the administrative record.

Mr. Smith presented *Improving the Quality of Environmental Documents*, also known as the *Green Book*, which was jointly developed by AASHTO, the American Council of Engineering Companies (ACEC), and FHWA. The *Green Book* contains the core principles of NEPA document writing:

- Tell the story (to improve readability).
- Keep it brief (using appendices and incorporation by reference).
- Ensure that there is legal sufficiency (EIS process and document must be legally adequate).

Scoping is a good step at which to identify major challenges.

### **Questions, Answers, and Comments**

**Question:** How many megaprojects is the legal team involved in?

**Answer:** The legal team is involved in the EIS for all megaprojects. However, attorney involvement should not be based solely on the size of a project. Other variables, such as controversy or potential impacts, could benefit from legal advice early in the process. See Chapter 5 of the *Green Book* for more information.

**Comment:** During Linking Planning and NEPA and before the NOI is released, Division Office staff can start communicating early with the attorneys. This can help to start the conversation and develop a good relationship, even if the attorneys are not located in the state.

### **Reevaluation (Janet Myers)**

Ms. Myers noted that the Final Rule on Environmental Impact and Related Procedures (23 CFR Part 771) will likely come out by the end of this summer. The regulation update will include SAFETEA-LU and other minor changes. Through the update process, several questions came up related to the 180-day statute of limitations (SOL), including:

- Could the SOL be used in reevaluation and Tier 1 documents? The Office of the Chief Counsel wanted to stake a position in guidance on how to use SOL.
- Is a reevaluation a decision or final agency action that could lead to litigation?

Reevaluation can be used for many different purposes. For example, an agency may want to assess and state whether an aspect of a project changed either before or without having to conduct an EA. Reevaluation would then be considered part of the continuing NEPA analysis and would be used when a decision was made that there was no significant new information and that therefore a supplemental document was unnecessary.

Courts have said that reevaluation is a decision and can be the basis for litigation. The Final Rule will be similar to the court decisions in that reevaluation can be considered a decision in some cases, in which event the 180-day SOL would apply. However, the SOL should be used only for decisions of importance, such as analysis or review of key project components, rather than for minor decisions that do not require additional analysis. Division Office staff will need to judge when it is appropriate to apply the SOL in reevaluation.

**Questions, Answers, and Comments**

**Question:** If you have reason to believe that you will be sued, how should you move forward?

**Answer:** Make sure that your lawyer is at the scoping meeting. Also, do all the required work upfront, that way, if you are sued, you will have all the needed documentation to win your case.

**Question:** Can the SOL be used for Tier 1 documents?

**Answer:** Yes, but it is a risk-based decision, and you must consider what, if anything, will come out of it. If the Tier 1 states that particular issues will be addressed in the Tier 2 document, do not use the SOL because there is no final decision. However, if an agency makes final decisions such as the corridor and mode choice in a Tier 1 document, it can use the SOL to rely on these decisions and make the Tier 2 meaningful. In this case, be very clear, in the EIS and ROD, on a Tier 1 so that it cannot be questioned.

**Question:** How are reevaluation and SOL related to new air-quality standards?

**Answer:** The theory is that Division staff will need to indicate if there has been a change in air quality between Tier 1 and Tier 2.

**Question:** How should staff address projects that have been shelved for years, when citizens are waiting to see the reevaluation and the project is in a nonattainment area? Can staff members cover themselves with a SOL if the public is waiting to see the document?

**Answer:** This is a complex issue. Staff would need to make sure that the analysis will show up on the reevaluation the first time. With mobile air toxics, the court says that if nothing new arises and comments exist, staff members should do an EA rather than just wait and surprise FHWA with a new conflict.

**Question:** As a follow-up, is the Final Rule a continuation of the existing law that established the six-year SOL in the 1990s? If so, this seems to be an old problem.

**Answer:** The Final Rule is related, but it is a more sensitive issue since there has been a large shift, from six years to 180 days. As a result of this reduction, the courts often side with the plaintiff if he or she files shortly after the SOL.

**Question:** Does a reevaluation have to be public, or is it just summarized in the notice?

**Answer:** One should not use a SOL notice if he or she did not document a reevaluation. If a reevaluation exists, it generally becomes a public document, in which case it is important to reference the date and title of the reevaluation as well as two points of access.

**Comment (Lamar Smith):** Reevaluations are not a good substitute for NEPA. A reevaluation is a process, not a document. This can be complicated and confusing, and we do not have any guidance at this time for reevaluations. For example, in the Barney Circle project, FHWA got sued after the ROD due to contaminated materials. The FHWA Division Office decided to do a reevaluation, but the Department of Justice stated that reevaluations are not recognized in NEPA. Instead, an EA was prepared, which resulted in a FONSI. When conducting a reevaluation, it is important to understand what the implications are and what it is intended to do.

## HISTORIC PRESERVATION

### Moderator

Stephanie Stoermer, FHWA Resource Center

### Speakers

Owen Lindauer, Office of Project Development and Environmental Review, FHWA  
MaryAnn Naber, Office of Project Development and Environmental Review, FHWA

**Description:** The breakout session introduced recent thinking on programmatic approaches to cultural resource identification, mitigation, and linking with planning. The focus of the session was on how programmatic approaches to Section 106 compliance can reduce costs and review time while addressing substantive issues that result in predictable project and preservation outcomes. The session included an update on recent historic-preservation case law and a summary of Division Office responses to the National Park Service (NPS) survey on archaeological activities.

### Introduction (Stephanie Stoermer)

Ms. Stoermer, the session moderator, briefly commented on programmatic approaches to Section 106 of the National Historic Preservation Act (NHPA), which deal with project impacts as a whole rather than individually. She then welcomed and introduced each speaker in turn.

### Update on Historic Bridges (MaryAnn Naber)

Ms. Naber discussed current historic-preservation case law and then reported on historic-bridge preservation.

Case law has established precedents that FHWA and other Federal agencies use to guide approaches to historic preservation. The Advisory Council on Historic Preservation (ACHP) website includes a database with Section 106 and 4(f) case-law summaries. The database and website are important tools for Federal agencies and other stakeholders to use when considering historic-preservation approaches.

Recent case law has established guidance regarding several points:

- *Logical termini for projects upheld:* Federal agencies can consider each part of a project as separate and distinct under Section 106 and NEPA processes.
- *The need to consider eligible resources under the Section 106 process.*
- *The distinction between Section 106 of the NHPA and the NEPA process.*
- *Consistency among definitions of historic properties under Sections 774 and 4(f).*
- *Completion of Section 106 processes:* This provides protection from successful legal challenges.
- *Categorical exclusions under NEPA:* This does not mean that the Section 106 process can be ignored. Failure to initiate the Section 106 process is equivalent to noncompliance with the Federal statute. Partners must initiate consultancy with SHPOs and allow opportunities for SHPOs to comment on projects.
- *What constitutes a reasonable and good-faith effort:* Case law has clarified what constitutes a reasonable and good-faith effort in consulting with federally recognized tribes on issues that may be of significance to them. The courts have established that, in many situations, sending only a notification letter to tribes is insufficient communication, especially when issues concern confidential information about sacred or otherwise

significant sites. It is necessary to engage in proactive outreach to consult with federally recognized tribes.

- *Proper delegation of Federal responsibilities:* FHWA must properly delegate its Federal responsibilities to non-Federal partners through programmatic agreements. In addition, there must be a clear statutory basis for this type of delegation. Programmatic agreements must be signed to ensure that the delegation of daily responsibilities and project development to non-Federal partners, such as state DOTs, is legally sufficient.

Ms. Naber also discussed programmatic agreements. Some states have reported difficulties in signing programmatic agreements with Tribes. If this is the case, another workable approach might include development of a Memorandum of Understanding (MOU), which is a bilateral agreement between two parties. Oklahoma has successfully developed programmatic agreements with ten tribes. While signing the first agreement was difficult, having an initial structure and agreement format in place facilitated subsequent signings with other Tribes. Ms. Naber said that the ACHP website provides summaries of programmatic agreements in different states as examples for others to follow.

Ms. Naber then provided background information on historic bridges and historic bridge legislation, noting that it is difficult for many states to engage in historic bridge preservation.

Historic bridges are under multiple assaults, including abandonment, abuse of structures, weather (such as severe flooding), and structure failure. Furthermore, FHWA is replacing or has proposed demolition of historic bridges at the rate of approximately ten per month, which amounts to 100 to 150 bridges per year. According to some estimates, the United States has lost half of its historic bridges that were initially inventoried in the late 1980s.

The Highway Bridge Replacement and Rehabilitation Program (HBRRP) was established to provide funding that enables states to improve the condition of eligible highway bridges through replacement, rehabilitation, and systematic preventive maintenance. The legislation that established this program required that surveys of historic bridges be undertaken on a statewide basis in the late 1980s. Many states have increased their surveying efforts and utilized new management plans and/or programmatic agreements to encourage preservation of selected historic bridges.

Bridges receiving funding under HBRRP must meet eligibility and other criteria. For example, bridges that have a low sufficiency rating (less than 50) are eligible for replacement, and those that have a higher sufficiency rating (less than 80) are eligible for rehabilitation. Replacement or rehabilitation may be the most prudent or feasible option, depending on the situation and the status of the bridge. Rehabilitation may be more cost-effective than replacement in some cases; however, not every historic bridge can or should be preserved, especially those that would not be able to function safely even if preserved. The National Bridge Inventory, which is updated on a regular basis, collects information regarding structures' historic significance and status. Bridges listed in the inventory can be made eligible for HBRRP funding.

In addition to providing funds for the rehabilitation and replacement of eligible bridges, the HBRRP established:

- *The Historic Bridge Program and guidelines regarding Federal implementation of this program:* The Historic Bridge Program specifically encourages the adaptive reuse and future study of historic bridges. In addition, it requires that a state proposing to demolish a historic bridge first make the bridge available for donation to another party that agrees to maintain it.

- *Guidelines regarding Federal assistance in replacement and rehabilitation efforts:* Federal assistance may be provided, for example, to paint historic bridges or apply environmentally acceptable, minimally corrosive anti-icing and deicing compositions.
- *Historic Bridge Inventory:* This inventory specifically collects information about state bridges and their historic significance.

Marketing plans are a standard approach to finding a new owner for a bridge that can no longer be retained in the transportation system for vehicles. Under the current terms of the HBRRP, however, only a nominal amount that would have otherwise been spent on demolition is available to an adopting group for preservation or rehabilitation of the bridge. Furthermore, no other Historic Bridge Program monies may be allocated to the bridge in the future. A technical correction and update to SAFETEA-LU to remedy this situation and increase the amount of funds available to local governments/groups has been submitted. If approved, preservation of bridges by these adopting entities may be more feasible in the future.

Ms. Naber then discussed Section 4(f) and its applications to historic bridges. Section 4(f) states in part that Federal transportation agencies can approve use of Section 4(f) resources (e.g., public parks or public historic sites) only if there is no prudent and feasible alternative to such use, if the project includes all possible planning to minimize harm to the resource, or if the use is determined to be *de minimis*.

According to the current programmatic Section 4(f) evaluation for historic bridges, before use or demolition of a historic bridge for a transportation project is approved, three alternatives must be considered: a no-build alternative, building a replacement bridge in a new location, and rehabilitating the bridge without affecting its historic integrity. Unfortunately, the current Section 4(f) evaluation does not include the alternative of limited rehabilitation that might result in a technical adverse effect but would nevertheless preserve the bridge. This component of Section 4(f) will likely be updated over the course of the coming year.

Tools that can be implemented for historic bridge preservation include:

- Adoption
- Relocation
- Rehabilitation
- Programmatic agreement
- Maintenance—an allowable expense under the Highway Bridge Program
- The Historic Bridge Alliance—established to bring together the historic-preservation community, including state DOTs, engineers, and academics, to discuss historic-bridge-preservation issues
- Management plans—to anticipate which bridges might be preservable entities

No matter what tool is ultimately used, the goal of long-term historic-bridge preservation is to keep these bridges in the transportation system and in the public eye, serving their original use in their original location. Removing an historic bridge from its original setting is controversial because it may change the functionality of the structure. For example, bridges—especially metal-truss types—have been re-erected on pedestrian or recreational trails to serve decorative functions. While such reuses change the original function of the structure, it can be argued that these forms of preservation are still better than destruction.

Historic bridges tend to be catalysts for public participation: people rally around them. Some towns have gone to extraordinary lengths to preserve historic bridges and make them centerpieces for civic pride, appreciation, and expressions of cultural identity.

### **Questions, Answers, and Comments**

**Question:** How can transportation professionals deal with competing interests that sometimes result from Section 106 and, for example, ADA requirements?

**Answer:** The ADA is set up similarly to Section 106 in that both are based on consultation. ADA provisions provide for decisions to be made by Federal agencies with input from the ADA community. Few historic properties actually are sacrosanct in terms of making them ADA-compliant. It is useful for the long-term health of historic properties to make them publicly accessible so that they are more publicly visible. There are a few exceptional historic properties, such as Monticello or other NHL properties, which cannot be made ADA-compliant since to do so would be to significantly modify them. Nevertheless, an accessible experience can be created even for these exceptional properties. ADA compliance is usually a minor issue that does not “compete” with Section 106.

**Question:** Can there be an argument that ADA compliance provides a net benefit to a property, since enhanced accessibility would benefit the public?

**Answer:** Yes, although making this argument would depend on the situation. ADA-compliance situations usually involve transportation enhancements.

**Comment:** It is sometimes challenging to modify structures to be ADA-compliant since, for example, the original structure does not have any other entrances that are accessible by ADA standards.

**Response:** Making a structure ADA-compliant may provide net benefits because of the enhanced access to the structure, or it may be *de minimis* if there is no other adverse effect.

**Question:** If bridges are slated for adoption or transference, can towns receive up to two times the demolition money for them?

**Answer:** Not yet. Updates to the technical requirements of the Highway Bridge Program have been proposed but have not yet been approved. Originally, this language was put into SAFETEA, but the terms were removed when SAFETEA became SAFETEA-LU.

### **2007 Data Call for the National Highway Archaeology Program (Owen Lindauer)**

Dr. Lindauer discussed the National Highway Archaeology Program and provided some historical background on the development of the program. In addition, he reported on findings from a recent data call to Federal agencies to assess the extent of Federal archaeological programs.

FHWA is not a land-management agency, does not manage artifacts or data, and has no archaeology program. However, it conducts archaeological research and preservation in the context of NEPA and while developing transportation infrastructure at the state-DOT project level. FHWA’s archaeological program is a “summation” of individual state-DOT archaeology programs. Federal archaeological responsibilities include legal compliance and oversight for streamlining and stewardship. State DOTs take on responsibility for record-keeping, artifact curation, public outreach, and permitting. Exhibits are usually the responsibility of other state agencies such as museums or SHPOs.

Beginning in 1968, the Office of Archeology and Historic Preservation, which managed survey and salvage excavation contracts for Federal agencies, initiated annual reports on Federal

archaeology activities. The Archeological and Historic Preservation Act of 1974 emphasized the responsibility of Federal agencies to preserve any archaeological information derived from construction sites. The Act also directed the Secretary of the Interior to prepare an annual report to Congress at the end of each fiscal year (FY), indicating the scope and effectiveness of the archaeology program, specific projects surveyed and results produced, and costs incurred by the government.

Since this 1974 Act, the NPS Departmental Consulting Archaeologist has administrated the Federal archaeological program. Responsibilities of the position include coordinating and providing technical assistance on archaeological matters to all Federal agencies. In the first several years after the act, Federal agencies lacked their own professionally qualified archaeological staff and relied heavily on the departmental consulting archeologist. Currently, most Federal agencies have a qualified archaeologist on staff who oversees their archaeology program; FHWA Headquarters, for example, has employed an archaeologist for over 25 years.

While NPS had compiled information about Federal archaeological activities through yearly questionnaires, there has been little concerted effort to collect information from state DOTs to assess archaeological activities at the state level. To address this gap, FHWA initiated a pilot program in 2006 to collect state DOT archaeological information with use of a questionnaire. Five state DOTs responded to the pilot study and indicated that several important issues, such as public outreach, tribal consultation, and archaeological staff competency, needed to be addressed in an updated questionnaire.

As a result of the pilot, FHWA determined that more investigation into state-DOT archaeological activities was needed, and it issued a data-call request to all FHWA Division Offices in 2007. The data call focused on the following:

- Maintaining adequate oversight and coordination of NEPA and NHPA activities.
- Identifying problems and challenges to state-DOT archaeological programs.
- Reviewing state-DOT archaeological efforts.
- Identifying trends, best practices, and issues.
- Recommending changes and improvements in provisions of the 1974 Act if appropriate.

Thirty-four states as well as Western Federal Lands highway representatives responded to the data call, which used a questionnaire to poll FHWA state Division Offices about state-DOT archaeology programs. The questionnaire asked for readily available data, which greatly assisted the response rate, and specifically addressed the following:

- *How many qualified archaeologists are employed as staff in individual DOT archaeology programs?* The Secretary of the Interior defines a qualified archaeologist as someone who meets five criteria. These criteria include a master's degree in anthropology or archaeology and one year of professional experience as well as the demonstrated ability to carry research to completion. Results from the data call showed that state DOTs had an average of 3.8 qualified archaeologists. Two state DOTs had no qualified archaeologist. In Arkansas, there were more staff who did not meet the qualification standard (four) than those who did (three). In Missouri, seven staff did not meet the standard, while ten did.
- *Would state DOTs benefit from additional archaeological training?* Some state DOTs responded that they would not benefit from additional training. Those that responded positively indicated certain areas for added training, such as Sections 104 and 106 and updates on recent archaeological methods and theory.

- *How would your state DOT archaeological program look five or ten years into the future?* Twenty-eight states responded to this question, and the answers were mixed. Many responded that future programs would likely grow but would not result in an increase in staff. Eight states indicated that their future programs would have fewer and less experienced staff, while one anticipated that there would be future reliance on consultants due to staffing issues. Three state DOTs saw a brighter future, with increased staff size or more experienced staff.
- *Does the state DOT have difficulty obtaining qualified personnel?* Most respondents said that they had no difficulty obtaining qualified staff, but one-third said that they had some hiring difficulty due to competition with the private sector, poor starting salaries, hiring freezes, or other factors.

Another finding from the data call concerned level of effort in identifying archaeological sites through background checks and field surveys. State DOTs varied greatly in how they identified archaeological sites, but states with the lowest ratios of field surveys to background checks (i.e., fewer field surveys and more background checks) were in the Midwest or Northeast, where existing corridors might limit new field surveys. States with a higher ratio included New York, Illinois, Iowa, South Carolina, and South Dakota. The higher ratio might be due to the consistent need to survey projects on new corridors in the field.

A similar trend was seen among Federal agencies, which had varying ratios of field surveys to background checks. Agencies that had lower ratios, such as the Air Force and USFWS, appeared to rely more on modeling applications, such as geographic information systems (GIS), to identify archaeological sites. On the other hand, agencies with higher ratios, such as the Forest Services and BLM, had development responsibilities for many new areas, which would necessitate the use of field surveys.

The data call also investigated the proportion of field survey projects to projects that determined whether a site was eligible for inclusion in the *National Register*. One might expect that few projects subject to survey would require *National Register*-eligibility testing. However, there was no correlation between the use of field surveys or background checks and the percentage of projects that required such testing.

Finally, the data call provided some information about the cost of highway archaeology programs, although exact numbers are hard to estimate. A few state DOTs provided specific figures; for example, the archaeological program cost Texas DOT (TxDOT) \$6 million; NPS, \$1.1 million; and the U.S. Bureau of Reclamation, \$3.8 million. Cost as a percentage of states' total highway transportation budget varied widely, ranging from 0.003 to 0.19 percent, with North Dakota on the low end and Vermont, New York, and Texas on the high end.

The data-call findings led to identification of four major trends:

1. Nearly all state DOTs saw the value in having professionally qualified archaeological staff rather than relying on consultants for that expertise. This perceived value derived from the continuity provided by those staff. However, the data indicate that the ability of state DOTs to maintain their archaeological staff in the future will be difficult. A related recommendation was for FHWA Division Office staff to emphasize to state DOTs the importance of archaeology programs and their contributions to FHWA's stewardship and streamlining goals and responsibilities.
2. There was a large amount of variability in the number of projects where field surveys were completed, due to the varying nature of archaeological sites across the country. However, the data suggest that conservatism on the part of the archeologists who

recommend field surveys rather than background studies may also be a contributing factor. TxDOT provided a best-practices example regarding the use of predictive archaeological liability mapping, which offers a more objective basis for field-survey decision-making. Furthermore, there was no correlation between how often eligibility testing was done and the frequency of background checks and field surveys. It is important that experienced archaeologists make decisions about eligibility testing.

3. In the context of Section 106 compliance, there was no requirement to identify all archaeological sites in a project's area of potential effect. The Section 106 standard is a reasonable and good-faith effort to identify historic properties, a label that includes only archaeological sites that are eligible for *National Register* listing. A related recommendation was for Division Offices to be asked whether field surveys that result in the identification of very few or no eligible sites are a recurring trend. A body of survey experience should be applied to help avoid the surveying of sites that are not *National Register*-eligible.
4. As a component of the total transportation-program costs in states, the cost of archaeology programs is very small. However, the data also indicate that many states spend more on archaeology than do individual Federal agencies. The recommendation was that state DOTs retain qualified archaeological staff and invest in modeling to objectify decision-making about whether field surveys should be conducted. Such staff would also be able to more easily distinguish between *National Register*-eligible and -ineligible sites, which would streamline the Section 106 process and reduce archaeology program costs.

### Questions, Answers, and Comments

**Comment:** Some tribes may insist that archaeologists be sent to the field for every transportation project, but sending them out for field surveys takes more time and money than any other part of the environmental process. The archaeologist can determine site eligibility before doing any field survey, but state DOTs may not have sufficient staff to do this work. These are challenging issues to consider.

**Response:** It is important to consider the probability of finding archaeological sites in all situations.

**Question:** Will results of the data call be publicly available?

**Answer:** Yes, the data will be shared. There are no proprietary concerns, although FHWA needs to do more analysis on the information before the report will be considered complete.

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## MAKING CONNECTIONS: PLANNING AND ENVIRONMENTAL LINKAGES (PEL) AND ECO-LOGICAL

### Moderator

Michael Culp, Office of Project Development and Environmental Review, FHWA

### Speakers

Rebecca Lupes, Office of Project Development and Environmental Review, FHWA

Bill Haas, Transportation Planner, Colorado Division Office, FHWA

Kimberly Majerus, FHWA Resource Center

Bethaney Bacher-Gresock, Office of Project Development and Environmental Review, FHWA

**Description:** The PEL and Eco-Logical breakout session consisted of an overview of the concepts that PEL and Eco-Logical both promote, as well as a status of current activities in

FHWA programs of the same name. Becky Lupes discussed how agencies can use PEL concepts and FHWA guidance and technical assistance to streamline transportation decision-making. Bill Haas described the broad range of activities that Colorado has undertaken to implement PEL. Kimberly Majerus explained the Eco-Logical approach to developing infrastructure projects. Bethaney Bacher-Gresock provided an update on the status of the Eco-Logical grant program and pilot projects.

Mr. Culp explained that many words and acronyms are used to describe approaches and programs that help agencies to incorporate environmental considerations earlier in the transportation planning process. These include Planning and Environment Linkages (PEL) and Linking Planning and NEPA. The purpose of this session was to demystify PEL and explain how agencies can accomplish PEL goals through Eco-Logical, transportation planning regulation requirements for consultation and mitigation, and integrated planning.

### **Streamlining Transportation Decision-making (Becky Lupes)**

Ms. Lupes explained that PEL is both an approach and a program. PEL is considered an approach because many state DOTs are already implementing the concepts, whether they be voluntary measures or activities to support requirements such as the planning regulations. PEL is also an FHWA Headquarters program, started in 2006 to expand upon Linking Planning and NEPA guidance and state workshops. PEL is broader than Linking Planning and NEPA in that it considers environmental, community, and economic goals early in the planning process and carries these considerations into project development. Through PEL, agencies can agree on a project purpose and need, define alternatives and eliminate some of them, and carry planning decisions, if they are well documented, into the NEPA process. Beyond NEPA, PEL includes consultation and mitigation with resource agencies early in planning.

Ms. Lupes said that the benefits of PEL include relationship-building among transportation and resource agencies and between planning and environmental staff, process-efficiency improvements such as reducing duplication of work, and more informed decision-making that can lead to better projects. Important elements of PEL implementation include:

- Intra-agency coordination such as executive-level commitment and coordination among planning, environmental, GIS, and information technology (IT) staff.
- Interagency coordination to involve resource agencies earlier in planning.
- Data-sharing and analysis among agencies and staff for project screening and to meet planning requirements for comparison of metropolitan plans with state conservation plans, maps, and inventories.

Ms. Lupes shared key lessons learned about PEL implementation, including the need to determine and agree on the appropriate level of environmental detail in planning analyses and the importance of thoroughly documenting decisions throughout the process.

FHWA's FY 2008-2009 PEL priorities include offering training through Linking Conservation and Transportation workshops, capturing best practices in state DOTs and MPOs, offering a peer exchange on applying GIS to implement PEL, and forming closer connections among PEL, Eco-Logical, Integrated Planning, and other FHWA programs.

### **FHWA's PEL Program: The Colorado Experience (Bill Haas)**

Mr. Haas provided an overview of the benefits of PEL and how it is applied in Colorado. He noted that PEL concepts, including early and continuous coordination, are common sense and can lead to better decisions that incorporate environmental and financial stewardship. Colorado uses PEL concepts from an Ecosystem-scale perspective rather than in individual projects.

Colorado seeks to be a national leader in PEL. Colorado DOT (CDOT) has a full-time PEL program manager in its policy office. The FHWA Colorado Division developed a questionnaire for PEL implementation and documentation in 2008.

*Training.* CDOT conducts a lot of cross-training to ensure that planners, environmental specialists, and resource agencies understand each other. CDOT also developed an online Linking Planning and NEPA training tool and guidance, available at [http://www.dot.state.co.us/environmental/Training/NEPA\\_index.asp](http://www.dot.state.co.us/environmental/Training/NEPA_index.asp).

*Analysis.* The Strategic Transportation, Environmental and Planning Process for Urban Places (STEP-UP) pilot project was modeled after Florida's Efficient Transportation Decision-Making tool, but cost only \$250,000. STEP UP was developed as a joint effort among the FHWA Division Office, CDOT, USFWS, USACE, the Colorado SHPO, and the North Front Range MPO (NFRMPO) as part of the MPO long-range plan. The purpose of STEP UP is to assess environmental issues in corridor-based plans before projects are developed. The pilot project is being incorporated into the statewide GeoMaps effort, which will focus on key corridors with resource areas of concern, as well as resource-agency responsibilities in those areas of concern. Resource agencies can provide comments, which are documented through the system so that CDOT can address issues. Documentation is critical to the success of PEL.

*Long-range plans.* The CDOT 2035 Statewide Plan is a corridor-based, SAFETEA-LU-compliant regional plans that includes an interactive CD so that users can find environmental information and search based on transportation corridor or planning region.

*Coordination.* Mr. Haas discussed the importance of coordinating with resource agencies in planning. While coordination can be a challenge given time and resource constraints, he noted a need to highlight mutual goals and to remind agencies that each of their headquarters supports PEL goals (e.g., the *Eco-Logical* document). The FHWA Division Office and CDOT have developed a Transportation, Environment Resource Council to discuss project and policy issues with resource, regulatory, and land-management agencies.

CDOT is developing a web-based decision tool that will allow staff to decide the appropriate course of action for certain task or projects and will provide recommendations and contact information for appropriate resources. The decision tool will include key issues, such as feasibility and access management, to help users determine when to conduct particular studies on potential projects and avoid doing unnecessary work.

### **Questions, Answers, and Comments**

**Question:** Was it difficult to get agencies involved early in the process?

**Answer (Bill Haas):** Early involvement is often a challenge. Try to get the management level at resource agencies to buy into the process so that the staff level will also buy in. Certain programs, such as Greening Infrastructure and the Linking Conservation and Transportation Planning Workshop, and funding positions, have helped CDOT share information and coordinate better with resource agencies.

**Answer (Mike Culp):** California is funding an EPA position that will be specific for the planning process. Agencies can fund positions for planning purposes if they meet the requirements of SAFETEA-LU Section 6002.

**Question:** Do you include the railroad and freight industry in your PEL coordination?

**Answer (Bill Haas):** The state highway corridor is all-inclusive—bicycle, pipeline, rail, et cetera—so Colorado is trying to coordinate with these stakeholders.

### **Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects (Kimberly Majerus)**

Ms. Majerus explained that Eco-Logical is both an initiative and a publication. Eco-Logical is a framework that supports PEL implementation: they are “like two peas in a pod.” Eight Federal agencies developed Eco-Logical in concert with FHWA, a major feat accomplished through strong leadership. Agencies identified common challenges, such as duplicated efforts, geographic or jurisdiction limitations, and vanishing opportunities for successful mitigation.

The Eco-Logical framework encourages agencies to take a systems perspective, thinking beyond a project area to make better, more informed decisions based on shared values. The Eco-Logical approach helps agencies fulfill relevant statutes and support sustainable economies and communities through healthier ecosystems. The approach can be used at any time in planning, project development, and delivery, and it is flexible in order to integrate information, people, and decisions.

The Eco-Logical approach helps agencies to improve:

- Predictability: commitments honored by all agencies.
- Connectivity: contiguous areas to support multiple benefits and reduce fragmentation.
- Conservation: larger areas that are sustained and adapted long-term.
- Transparency: public involvement at all key stages.

FHWA strongly supports Eco-Logical. The Eco-Logical Steering Team earned the FHWA 2007 Administrator’s Award, and FHWA plans to support projects nationwide that incorporate the Eco-Logical approach.

### **Integrating Transportation and Resource Planning to Develop Ecosystem-Based Infrastructure Projects: Eco-Logical Grants (Bethaney Bacher-Gresock)**

Ms. Bacher-Gresock discussed the Eco-Logical grant program and the status of the pilot projects, developed in consideration of the eight-step integrated planning process described in the *Eco-Logical* document. Projects support one or multiple steps that fit into three general categories: Partnering and Data, Integration of Conservation and Transportation Planning, and Performance Monitoring.

The Eco-Logical grant solicitation was open to Federal, state, and local government agencies; tribes; non-governmental organizations (NGO); and academic institutions. FHWA received 40 proposals, which were reviewed by an interagency panel comprising Eco-Logical signatories, including EPA, USFWS, USDA Forest Service, BLM, and FHWA HEP and Resource Center.

FHWA provided \$1.4 million to 14 awardees through cooperative agreements with state and local DOTs, MPOs, NGOs, state and local resource agencies, and a university. In addition, FHWA awarded a grant to EPA through an interagency agreement. Projects range in approach, timeframe (12 to 36 months), cost (\$24,500 to \$177,500), and geographic region (Colorado, Illinois, Montana, New Hampshire, New York, North Carolina, Oregon, Texas, Utah, Virginia). Sample Eco-Logical projects are summarized below.

- Chicago DOT will develop a demonstration project on two miles of city streets, applying “green” principles to conventional urban streetscapes. The project will use green design practices to improve storm water management, conserve water and energy, enhance bus stops and bicycle lanes, recycle construction materials, reduce ambient temperatures, and educate the public.

- Mid-America Regional Council (MARC) will use its grant to formulate educational programs structured to foster stronger interagency relationships and an understanding of Eco-Logical approaches, develop a highly collaborative and integrative environmental-transportation planning and consultation process, and create a framework to support a regional, ecosystem-based green plan for infrastructure conservation, restoration, and mitigation.
- Houston-Galveston Area Council (H-GAC) will develop a GIS-based environmental resource identification map for its eight-county region. This effort will assess critical conservation areas, integrate resource and conservation planning through a regional decision-support system, and identify high-priority mitigation locations. It represents the area's first regional, systematic identification of critical environmental resources on a scale that is necessary for transportation and conservation planning.

The first set of quarterly progress reports will be completed in July 2008. The interagency team and FHWA COTRs [contracting officer's technical representatives] will provide ongoing monitoring and technical assistance to applicants. A new grant solicitation is expected in FY 2009. FHWA seeks support to identify and encourage new applicants, and volunteers to participate in the next review panel.

#### **Questions, Answers, and Comments**

**Comment:** It seems like Eco-Logical looks at future concerns, such as large-scale mitigation, and not necessarily project-specific issues. It makes sense to bring information together, but it sounds bigger than just one project.

**Response (Bethaney Bacher-Gresock):** Most of the pilot projects are regional approaches, whether they be a two-mile stretch in Chicago or multiple states, including EPA Region 6. However, there are plans to test the approaches on specific projects, even if they are geared regionally. Agencies can apply Eco-Logical at any point in the planning and project-development process.

**Response (Kimberly Majerus):** This session focuses on integration of planning and environment, but the document provides information for all points of the process, including performance measures.

**Question:** If FHWA moves to a performance-based environmental regulation system, how will PEL help out efforts?

**Answer (Michael Culp):** As FHWA becomes more outcome-oriented, a lot of information that it will need will be available through the information base that has started through PEL. For example, Florida DOT is identifying performance measures for streamlining and stewardship. It is challenging to find the right information and the right metrics.

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## **SECTION 4(F)**

### **Moderator**

Dave Gamble, Environmental Program Specialist, FHWA Resource Center

### **Speakers**

Carol Braegelmann, Office of Project Development and Environmental Review, FHWA

Jennifer Giersch, Environmental Coordinator, Georgia Division Office, FHWA

Diane Mobley, Attorney Advisor, Office of Chief Counsel, FHWA

Lamar Smith, Team Leader, Office of Project Development and Environmental Review, FHWA

David Snyder, Environmental Program Engineer, Ohio Division Office, FHWA  
Mike Vanderhoof, Environmental Program Manager, Alaska Division Office, FHWA

**Description:** This session addressed two important topics in the Section 4(f) arena: the new Section 4(f) rule (23 CFR 774) and an update of the Implementation Study required by SAFETEA-LU. Highlights of 23 CFR 774 were presented, including a clarification of “feasible and prudent” factors, least-harm analyses, the “thumb-on-the-scale” approach, what to do for projects already underway, and other changes. In addition, several Division Offices provided perspectives and lessons learned about *de minimis*, including what worked well, challenges or problems, and where additional guidance is needed.

### **Why Did We Create a Final Rule? (Lamar Smith)**

The Section 4(f) Final Rule came about as a result of SAFETEA-LU. Section 6009(b) of SAFETEA-LU specifically required the Secretary of Transportation to promulgate regulations that clarify factors to be considered and standards to be applied in determining the prudence and feasibility of avoidance alternatives. Clarification was needed to address the diverse interpretations of the 1971 Overton Park ruling. That pre-eminent case established a high standard for when to avoid the use of a 4(f) resource. The court also clarified that 4(f) resources were not to be lost unless there were truly unique factors involved or the cost or community disruptions reached extraordinary magnitude. However, the court did not define what “unique” or “extraordinary magnitude” meant. As a result, over the years several courts have applied the Overton Park ruling differently in similar situations, reaching diverse conclusions. Through the Final Rule, FHWA outlined an approach on how to determine whether an avoidance alternative is feasible and prudent. This approach maintains the preservation purpose of the statute; the preamble of the rule specifically addresses the need to place a “thumb on the scale” in favor of preservation.

SAFETEA-LU also made the first substantive change to the Section 4(f) rule in a number of years with the addition of consideration of *de minimis* impacts. The Final Rule formally codifies the procedures for determining *de minimis* impacts to 4(f) resources in regulations.

Due to the new Section 4(f) Final Rule, several parts of the Policy Paper are no longer accurate. FHWA Headquarters will be updating the Policy Paper to address the new regulations later this year. In addition, Headquarters has plans to develop a stand-alone National Highway Institute (NHI) course on Section 4(f).

### **Suggested Procedure for 4(f)**

1. Identify all Section 4(f) properties in the project area with 774.11 and the Policy Paper.
2. Identify all “uses” for each alternative with 774.17, 774.15, 774.13 and the Policy Paper.
  - 3a. Is the use *de minimis*? If yes, approve the use under 774.3(b).
  - 3b. Is the use covered by a programmatic evaluation? If yes, apply in and approve the use under 774.3(d).
  - 3c. If the use is not *de minimis* and cannot be covered by a programmatic evaluation, prepare an individual 4(f) evaluation and approve the use under 774.3(a). Least overall harm may apply 774.3(c).

### **774.3–Section 4(f) Approvals (Diane Mobley)**

The three approval options under Section 4(f) are:

- 774.3(a): individual evaluation
- 774.3(b): *de minimis* impact determination (preferred, if applicable)
- 774.3(d): programmatic evaluation

### Individual Evaluation

Individual Section 4(f) evaluations follow a two-step process:

- Step 1: Try to avoid using the 4(f) resource by searching for feasible and prudent avoidance alternatives.
  - If a feasible and prudent avoidance alternative exists, it must be selected.
  - If there is no feasible and prudent avoidance alternative and only one alternative uses Section 4(f) property, it should be chosen.
  - If there is no feasible and prudent avoidance alternative and there are multiple alternatives that use Section 4(f) property, additional steps must be taken to determine which alternative causes the least overall harm. The least-overall-harm determination involves weighing the drawbacks and benefits of the use alternatives against each other and selecting one of them when avoidance is not available. Recent court decisions endorse the view that what matters is the “net” harm after mitigation.
- Step 2: Implement all reasonable measures to minimize harm (applies only to the alternative selected in Step 1).

The new rule outlines a balancing test to use in determining whether an avoidance alternative is prudent. The test places a “thumb on the scale” in favor of the 4(f) resource relative to the value of the property. The value of the resource is balanced against several factors, including whether the avoidance alternative meets the purpose and need of the project, safety issues, impacts to non-4(f) resources after mitigation, cost of the alternative, and other unique problems or unusual factors.

### **Questions, Answers, and Comments**

**Question:** When the Policy Paper is updated, will it need to go through a public comment and review process?

**Answer:** It will depend on whether the Office of Management and Budget (OMB) considers the revision to be “significant guidance.”

**Question:** A state DOT has tried to claim some actions as *de minimis*, while the field office considers these actions to be more severe. How do you determine what level of impact is considered *de minimis*?

**Answer:** It has to be able to pass the laugh test. The *de minimis* determination requires real thinking; if you can provide the same resource after mitigation, the impact might qualify as *de minimis*. *De minimis* must be determined on the basis of specific issues of the project.

**Comment:** Many state DOTs are not familiar with the net-benefits programmatic evaluation. In addition, it is important to ensure that SHPOs and resource agencies understand *de minimis*. It might be helpful to schedule a webinar for relevant groups or agencies.

### **SAFETEA-LU Section 6009 Implementation Study (Carol Braegelmann)**

Section 6009(c) of SAFETEA-LU requires the Secretary of Transportation to report to Congress on the effectiveness of efforts to implement the new Section 4(f) provisions. The study calls for the evaluation of three items:

- The processes developed under this section, the amendments made by this section, and the efficiencies that may result.

- The post construction effectiveness of impact mitigation and avoidance commitments adopted as part of projects conducted under this section, and the amendments made by this section.
- The number of projects with impacts that are considered *de minimis* under this section and the amendments made by this section, including information on the location, size, and cost of the projects.

The study will be conducted in two phases. Phase 1 will address the first three years of implementation of the *de minimis* impact determination and will document the process used to develop the new feasible and prudent regulation. Phase 2 will focus on the implementation of the feasible and prudent avoidance-alternatives standards through early 2010; it will also update and extend the Phase 1 evaluation of the *de minimis* impact provision.

The study will focus on the following five research areas:

- Time implications
- Cost implications
- Impacts to 4(f) properties
- Impacts on transportation projects
- Institutional issues

As part of the data collection efforts for this study, FHWA Headquarters has asked Division Offices to submit *de minimis*-specific data on a quarterly basis until 2010. Ms. Braegelmann commented that a review of an inventory of such data showed instances where *de minimis* determinations had been made, when in fact there had been no Section 4(f) use. In addition, temporary uses were being labeled *de minimis*. These misidentified projects were removed from the data inventory in order to ensure that only true *de minimis* projects are counted.

### **Questions, Answers, and Comments**

**Question:** Does the *de minimis* inventory distinguish between CEs [categorical exclusions] that are approved by the Division Office and those that do not require Division Office approval?

**Answer:** No, the inventory does not make that distinction.

**Question:** Is the study only looking at internal (FHWA) institutional issues, or will it also address issues within SHPOs and DOTs?

**Answer:** The study will look at all stakeholders to determine if there are institutional issues that affect the *de minimis* determination process. This will be accomplished mainly through interviews.

### **Lessons Learned in Georgia (Jennifer Giersch)**

Ms. Giersch stated that decisions from the Eleventh Circuit Courts have taught her state how to do Section 4(f). The Georgia Division Office looked at the “net benefits” approach: weighing the value of a resource against the impacts of avoiding its use and coordinating with the SHPO. With the “black box approach,” Georgia DOT is reluctant to put any effort into the minimization-of-harm alternative.

### **Pushing de Minimis to de Maximis (Dave Snyder)**

Ohio has experienced a great deal of success with the *de minimis* impact provision. However, in one particular project the Division Office pushed the limits of *de minimis* too far.

**Background:** The Miami Valley Regional Planning Commission (MVRPC) completed a corridor study for I-75 in the Dayton area. The study recommended a number of interchange reconfigurations, which would affect traffic on the area's surface streets. As a result, MVRPC initiated the Renaissance Plan Study to establish a vision for the Great Miami Boulevard Extension project area. The plan focuses on an urban-gateway concept that incorporates pedestrian and bicycle access to major area institutions. In addition, Grandview Hospital is planning on expanding its facilities, which would result in the closure of an existing surface street in the area.

**Proposed project:** The roadway project seeks to improve traffic continuity in the area to address proposed ramp reconfigurations along I-75. The project would extend the Great Miami Boulevard through McKinley Park, impacting 2.18 acres of the 5.8-acre park and resulting in the loss of mature trees. Section 6(f) funds were involved in the purchase of the park.

Mitigation for the proposed project would consist of creating two noncontiguous new parks, which would total 2.58 acres. The parks would be connected through a walkway and landscape features and would include playground equipment and benches.

Ohio DOT requested a *de minimis* impact determination due to the impacts and mitigation measures associated with this project. The request explained that the project would not adversely affect the activities, features, and attributes of the park after mitigation. The officials with jurisdiction concurred with that assessment and understood that their concurrence would form the basis of a *de minimis* finding. There was a lot of public involvement for the renaissance plan as a whole and specifically for the changes to McKinley Park, and the public supported the project. Given all of these considerations, the Ohio Division Office was faced with a very difficult decision. In the end, it did not issue a *de minimis* impact finding. While the Division Office agreed that the proposed changes to the park were positive and would provide a good fit with the vision for the area, and though the *de minimis* criteria had been met, it stated that the changes would not be minor but, rather, severe, and thus not *de minimis*. Therefore, the Division Office recommended that the net-benefit programmatic evaluation be used instead.

#### **Colorado de Minimis Reporting (Mike Vanderhoof)**

Mr. Vanderhoof joked that Colorado is the leader in trivial impacts to Section 4(f) resources. In 2006, the Colorado Division Office reported 31 *de minimis* findings, 29 of which were related to projects involving historic sites and two, to parks and/or recreational areas. Of the 29 historic-site projects, 13 were identified by FHWA Headquarters as having missing or inaccurate data. FHWA also determined that six of the 13 projects did not involve the use of a 4(f) resource and two were temporary occupancies and therefore should not have been processed with use of *de minimis*.

Mr. Vanderhoof identified three main factors for why the *de minimis* impact determination was applied to non-4(f) projects:

1. When the Colorado Division Office encountered projects that required tough decisions on whether there was a Section 4(f) use or not, the default conclusion was to apply *de minimis*. In addition, the circumstances of some projects had changed from the time that the *de minimis* impact determination was reported to the present. In one project, for example, *de minimis* was applied because temporary occupancy could not be determined at the time of reporting.
2. The Section 4(f) approval process did not focus on applicability (i.e., if it was a Section 4(f) use).

3. The Division Office and the state DOT used a strict interpretation, which resulted in *de minimis* being applied when there was no actual use.

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## AIR QUALITY

### Moderator

Emily Biondi, Office of Natural and Human Environment, FHWA

### Speakers

Cecilia Ho, Office of Natural and Human Environment, FHWA

Karen Perritt, FHWA Resource Center

Eddie Dancausse, North Carolina Division Office, FHWA

Bernadette Dupont, Kentucky Division Office, FHWA

**Description:** This session featured three presentations and an interactive discussion among participants about how to address air quality in NEPA documents. The facilitated discussion was based on the results of a short survey sent to FHWA field environmental specialists. Other topics covered during the session were new standards for criteria pollutants and emerging issues for project-level air-quality analyses.

### Revised National Ambient Air Quality Standards (Cecilia Ho)

EPA recently revised air-quality standards, and in this presentation Ms. Ho introduced some of the implications of conformity and NEPA. She commented that many lingering issues exist for this revision and that some aspects of the revision are still not very clear.

In March 2008, EPA finalized its new eight-hour ozone standard, lowering the standard from 0.08 to 0.075. The significance of this change is that the standard is now more precise and further limits ozone, leaving more areas subject to nonattainment. Also, the daily fine particle standard (particulate matter [PM] 2.5) was lowered from 65 to 35mg/m<sup>3</sup>.

The major implication of the National Ambient Air Quality Standards (NAAQS) revisions is conformity. The revisions become applicable one year after the effective date of designations. EPA released guidance in June 2007 on how to address the revised PM2.5 standard in NEPA documents.

Representatives from FHWA can assist state DOTs and MPOs in these shifts by providing information and updates and encouraging them to work with resource agencies and establish interagency consultation for new nonattainment areas.

### Emerging Issues in Air Quality (Karen Perritt)

Ms. Perritt began her presentation by announcing that the Motor Vehicle Emissions Simulator (MOVES) will be released shortly and will replace the current models, MOBILE6 and NONROAD. EPA developed MOVES to estimate emissions from on-road and non-road sources, covering a range of pollutants and allowing for analysis at multiple scales. This new modeling approach will allow EPA to incorporate new data and address new analysis needs. MOVES is currently in the demonstration stage; the final version should be available in 2009. Conformity will be required after a grace period of up to two years.

Some MPOs may have difficulty demonstrating conformity. It is imperative that environmental specialists stay in touch with state DOTs and air agencies; they should also read and review any MOVES-related guidance.

In the past, CO hotspot modeling and analysis were done by project sponsors, whereas now the DOT is working on making a categorical finding. A similar situation may occur for PM categorical findings. Currently, only qualitative analysis is performed for each project; however, after the EPA releases its upcoming quantitative guidance, the DOT can make PM categorical findings. Implications of the shift to categorical findings may include less air-quality analysis for NEPA documents, a streamlined process across projects or states, and less room for public and agency comment.

At present, FHWA uses the Mobile Source Air Toxics (MSAT) Interim Guidance that it issued in February 2006. This calls for MSAT analysis on a project-by-project basis, using three tiers of analysis. A work group is currently looking at the guidance to either finalize it as is, or make some revisions.

For FHWA Division staff looking for transportation conformity training, an Internet-based self-training course is being developed. The course is divided into modules so that users can select their personal areas of interest or need.

#### **Questions, Answers, and Comments**

**Question:** Has EPA given any thought to when categorical determinations will occur and how they will be documented in a NEPA finding?

**Answer:** There is no specific timetable in terms of documentation; documentation has yet to be specifically addressed. There will be more discussion soon about how to document this in a NEPA document.

#### **Summary of Air-Quality Field Survey (Eddie Dancausse)**

Mr. Dancausse began by explaining that his presentation would summarize a survey about transportation and air quality that was sent to staff in FHWA Division Offices. The survey addressed a variety of issues and areas that affect FHWA's review of air quality in NEPA documents and on FHWA projects.

In states that responded to the survey, there were four categories of staff members who reviewed air quality:

- Area engineers
- Environmental specialists
- Planners
- Air-quality specialists

The survey indicated that Division Offices seek assistance at different intervals; many seek assistance if there is a controversial project or topic, such as MSAT.

The survey also examined the processes that states use for documenting a project's effect on air quality. Almost all states have some nonattainment areas; responding states were fairly evenly split on their documentation in terms of assessment and screening.

When asked about the greatest challenges or obstacles that Division Offices face in reviewing the air-quality portion of a NEPA document, virtually each state had a different answer, ranging from staff inexperience to difficulties in getting the state DOT "on board to use and follow

guidance.” With regard to what specific guidance or training would be helpful, the responses suggested that each state would like guidance or training in different areas, as they faced slightly different challenges.

### **Questions, Answers, and Comments**

**Question:** Why are no New England states represented in your findings?

**Answer:** At the time the e-mail survey was distributed, there may have been computer difficulties that caused many of the e-mails never to be received.

### **Facilitated Discussion (Bernadette Dupont)**

**Question:** What efforts has your state made to address air quality in the NEPA process?

**Answers:**

- Kentucky performed three levels of documentation (8, 50, and 152 pages), held a training, and developed a CO screening process.
- North Carolina has a document checklist outlining air-quality/NEPA requirements.
- Indiana created a NEPA manual, which has a new air-quality-section update.
- California created annotated outlines for NEPA documents with boilerplate language.
- The DelMar Division Office established PM2.5 procedures with the Maryland Division Office.

**Question:** How are you addressing MSAT?

**Answers:**

- Indiana set up guidance focused on the EIS. With categorical exclusions, the state is not incorporating a lot of new language.
- For one project, Ohio had to conduct quantitative MSAT analysis. The major challenge was working with the EPA regional office.
- North Carolina conducted quantitative analysis for a road that was close to an EPA childcare facility.
- DelMar Division Office staff attended a webinar, which made the staff aware that they should do more to address MSAT.

**Question:** How are you addressing greenhouse gases/climate change?

**Answers:**

- California addresses it through the California Environmental Quality Act (CEQA).
- Kentucky received a statement from FHWA attorneys saying that the Division Office could not address climate change on a project level.

**Question:** How are you addressing open burning requirements?

**Answer:** No response.

**Question:** How are you addressing diesel idle reduction?

**Answers:**

- In Connecticut, construction equipment, town fleets, and school buses were retrofitted. This program is currently voluntary and implemented through public-private partnerships.
- California now has some clean-equipment requirements.

**Question:** Has MOVES become more stable and predictable, or is it still data-intensive?

**Answer:** EPA intends that MOVES will be no more difficult to use than MOBILE6, even though it is more advanced.

## WATER AND ECOSYSTEMS

### Moderator

Carol Adkins, Team Leader, Office of Natural and Human Environment, FHWA

### Speakers

Patricia Cazenias, Highway Engineer, Office of Natural and Human Environment, FHWA

Dennis Durbin, Ecologist, Office of Natural and Human Environment, FHWA

Steve Earsom, Office of Natural and Human Environment, FHWA

Bonnie Harper-Lore, Office of Natural and Human Environment, FHWA

**Description:** This presentation summarized the results of the wildlife-vehicle collision (WVC) Congressional report, provided updates on efforts to design effective passage for all types of aquatic species and on invasive-species issues within highway right-of-ways (ROWs) and mitigation areas, and considered construction-noise impacts on wildlife.

### Highway Stormwater Runoff Water-Quality Research (Patricia Cazenias)

Ms. Cazenias discussed the various research projects and activities related to highway-stormwater runoff.

### Research Activities

- *International Stormwater BMP Database:* The database, produced by a coalition of partners, provides scientifically sound information to improve the design, selection, and performance of BMPs. The site includes over 300 monitoring studies; low-impact design techniques will be added in the future.
- *FHWA's Highway Runoff Predictive Procedures–Driscoll Model:* The Driscoll Model was developed in 1990, and while it is based on older data, it is still fundamentally sound in its form and approach. FHWA and the U.S. Geological Survey (USGS) are cooperating to update and incorporate the model into a new software platform. The updated model will provide probability distributions of precipitation and site characteristics to estimate the probability of concentration and loads in receiving waters downstream of highway outfall. The model is in development; information is available at <http://ma.water.usgs.gov/fhwa>.
- *National Cooperative Highway Research Project (NCHRP) reports that are currently underway:*
  - “Guidelines for Evaluating and Selecting Modifications to Existing Roadway Drainage Infrastructure to Improve Water Quality in Ultra-Urban Areas”: The objective of this research is to develop guidelines for evaluating and selecting hydraulic modifications to existing drainage infrastructure in order to reduce pollutant loads and concentrations in ultra-urban areas.
  - “Water Quality Analyses for NEPA Documents: Selecting Appropriate Methodologies, NCHRP 25-25(35)”: This study is reviewing the available water-quality-analysis methodologies to determine which are best suited for detailed project-level impact assessments for NEPA documents.
- *NCHRP reports that have been completed:*
  - “State Transportation Agency Strategies to Address NPDES Phase II Requirements, 2007, NCHRP 25-25(16)”: This report focuses on determining how state transportation agencies have addressed compliance with National

Pollutant Discharge Elimination System (NPDES) Phase II requirements. The report can be found at [http://www.trb.org/NotesDocs/25-25\(16\)\\_FR.pdf](http://www.trb.org/NotesDocs/25-25(16)_FR.pdf).

- “Evaluation of Best Management Practices for Highway Runoff Control, 2006, NCHRP Report 565”: This report focuses on improving the scientific and technical knowledge base for the selection of BMPs through a better understanding of BMP performance and application. The final report can be found at [http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_rpt\\_565.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_565.pdf).
- USGS’s *Study Determining Components of Infrastructure to Stormwater Runoff*: This report used existing land use, land cover, and impervious surface data to determine the individual contributions of the various components of overall stormwater runoff. The final report is available at <http://pubs.usgs.gov/of/2007/1008/>.

### **Wildlife Vehicle Collision Reduction Study (Dennis Durbin)**

In Section 1119 of SAFETEA-LU, Congress directed the Secretary of Transportation to conduct a national wildlife-vehicle collision (WVC) study. The study was designed to evaluate the impacts of WVCs on safety and property issues as well as the ecological impact on the species involved. The goals of the study were to:

- Advance the understanding of the causes and impacts of WVCs.
- Review methods to reduce WVCs.
- Describe solutions to this growing safety problem.

The final report is available at

[http://www.wti.montana.edu/RoadEcology/documents/Wildlife\\_Vehicle\\_Collision\\_Reduction.pdf](http://www.wti.montana.edu/RoadEcology/documents/Wildlife_Vehicle_Collision_Reduction.pdf).

### Summary of Findings

- One to two million WVCs with large animals occur annually.
- Ninety-eight percent of WVCs are single-vehicle crashes.
- The vast majority of WVCs that are reported involve deer.
- An estimated 200 people die each year in WVCs.
- Eighty-nine percent of WVCs occur on two-lane roads.
- WVCs occur more frequently in early morning (between 5 and 9 a.m.) and evening (between 4 p.m. and midnight).
- WVCs involving large mammals occur more frequently in the fall and spring.
- WVCs occur less frequently on low-speed roadways.
- The estimated cost of WVCs, including injury, property damage, and crash-scene response, is \$8 billion annually.

### Mitigation Measures Shown to be Effective

- *Fencing*: The use of wildlife fencing reduced WVCs by 80 to 99 percent.
- *Wildlife-Crossing structures with fencing*: The use of fencing in conjunction with crossing structures reduced WVCs by an average of 87 percent.

### Promising Mitigation Measures for Further Investigation

- *Animal detection systems*: These systems work like radar: a beam, when tripped by a large animal, sets off a warning, such as flashing lights on the roadway or a speed-reduction sign. In Switzerland, the system has been shown to reduce WVCs by 82 percent.
- *Long tunnels and/or bridges*: While exceptionally effective, reducing WVCs by up to 100 percent, these systems are extremely expensive.

The findings of the report are currently being used to develop a WVC training manual and training course.

### **Culvert Design for Aquatic Organism Passage (Steve Earsom)**

State DOTs and road engineers have a need for straightforward, engineering-based guidance on culvert design. Without such guidance, some state DOTs may simply rely on the same design that they have utilized in the past instead of determining the best design to meet the specific needs of the location. Equally as important, state DOTs need guidance on how to install culverts; if installed incorrectly, the culvert will not be effective.

#### Design for Fish Passage at Roadway-Stream Crossing: Synthesis Report

The synthesis report, available at <http://www.fhwa.dot.gov/engineering/hydraulics/pubs/07033/>, is not a design manual but rather an extremely useful reference material for understanding what constitutes a barrier as well as what information must be considered when designing a culvert. The report documents four categories of approaches to installing culverts:

- *No impedance*: Spans the entire stream and floodplain and does not impede the natural flow of the water.
- *Geomorphic simulation*: Matches the natural channel conditions within the culvert.
- *Bed stability*: Matches the hydraulic diversity of the flow; includes low-velocity areas, where organisms can rest while passing through the culvert, as well as high-velocity areas.
- *Hydraulic design*: The use of baffles and weirs; a more single-species, single-life-stage approach.

#### Hydraulic Engineering Circular 26: Design of Fish Passage for Bridges and Culverts (HEC-26)

FHWA and Washington State University are collaborating to produce HEC-26, a comprehensive manual for the design and retrofit of a stream crossing to meet fish-passage requirements. The challenge in developing the manual is to make it advanced enough to comply with the Clean Water Act and address concerns for all aquatic organisms, not just fish, while ensuring that the solutions presented are simple enough that they will be implemented by state DOTs. The manual is scheduled to be completed by spring 2009.

### **Questions, Answers, and Comments**

**Question:** Is there information on the optimal lengths of dry culverts?

**Answer:** That is a species-specific issue. Some species will use long, dark culverts, whereas others will not enter unless they can see the light on the other side. A good place to start is the FHWA Keeping it Simple website, <http://www.fhwa.dot.gov/environment/wildlifeprotection/>.

**Comment:** When designing a fish passage, it is important to consider fish-passage issues downstream. Blockages downstream provide stewardship opportunities to modify downstream barriers so that there is more than one free passage along a stream.

### **Invasive Plants or Noxious Weeds: What Can We Do? (Bonnie Harper-Lore)**

Ms. Harper-Lore presented information on invasive plants and noxious weeds and provided a number of solutions to control their spread.

#### Noxious Weeds and Invasive Plants

An invasive plant is one that has moved from one country or one part of a country into a new one, where it has no natural predators and grows uncontrolled. A noxious weed is the Federal or state legal standing given to a plant. A plant will make the noxious-weed list if it harms

agriculture, human health, or the environment. Most noxious weeds are invasive plants, but a few are native.

DOTs are often blamed for the spread of invasive plants and noxious weeds, and highways do account for part of the problem. Highways serve as vectors due to maintenance activities, such as the planting of invasive plants in ROWs; construction, such as moving soil from one location to another; and through vehicles moving from one area to another. Executive Order 13112 addressed invasive plants by instructing FHWA to fund neither actions that increase the spread of invasive plants nor the planting of known invasive plants.

#### SAFETEA-LU Section 6006

Prior to Section 6006 of SAFETEA-LU, state DOTs could not use Federal funds for maintenance activities. Due to limited maintenance budgets, available funds went to priority issues, such as bridge and road repairs; as a result, little funding typically was devoted to roadside-vegetation issues. Under Section 6006, Federal aid funds can now be used for vegetation maintenance, including the following activities:

- Inventory of vegetation
- Control of noxious weeds and aquatics
- Establishment of native plantings
- Training of crews, contractors and public
- Creation of firebreaks

FHWA has a role to play in helping DOTs to control the spread of noxious weeds and invasive plants. FHWA should encourage states to include an invasive-species analysis within NEPA documents, and it should also encourage BMPs. BMPs include:

- Certifying gravel pits before construction begins.
- Avoiding the importing of topsoil, instead utilizing existing soils within the project area as much as possible.
- Utilizing “weed-free” mulch.
- Washing equipment after all field operations.
- Utilizing partnerships to achieve solutions.

#### **Questions, Answers, and Comments**

**Question:** How are you addressing the contribution of the private sector?

**Answer:** FHWA does work with private nurseries to educate them on the impact of invasive species. Ms. Harper-Lore encouraged everyone, as individuals, to speak to their local nurseries if they are selling invasive species.

**Question:** Where do you stand on spraying?

**Answer:** Ms. Harper-Lore explained that she is not an advocate of spraying but that in certain instances spraying is a necessity. However, blanket spraying should *never* occur due to the extensive ecological consequences.

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#### **SHIFTING THE NEPA DOCUMENTATION PARADIGM**

##### **Moderator**

Maryann Blouin, Office of the Chief Council, FHWA (Absent)

##### **Speakers**

Lamar Smith, Office of Project Development and Environmental Review, FHWA

**Description:** This session examined important components of improving document quality, including telling the story and keeping the document brief while meeting all legal requirements. Ways to separate the development of the environmental document from the supporting documentation (reports, comments, letter, appendices, etc.) were also explored.

**Improving the Quality of NEPA Documentation (Lamar Smith)**

Mr. Smith began by applying a popular quote to NEPA documentation: “If you always do what you always did, you will always get what you always got.” In other words, if FHWA continues to do NEPA documents in the same way, the documents will never improve.

He went on to explain that the quality of NEPA documentation is critical to the NEPA process and it is therefore important for FHWA staff not to lose sight of what NEPA intends and why FHWA follows the NEPA process. Over the past 20 years, a focus on NEPA led FHWA to over documentation, making it virtually impossible to locate specific items within a NEPA document. In fact, the two major issues in the NEPA process have been identified as environmental document quality and fiscal constraint. Unfortunately, outside of a few Division Offices, not a lot of progress has been made in improving the quality of environmental documentation. This is a complicated issue because so many layers and people are involved in each document, making it difficult to target the problem.

An important example is the Alaskan Way Viaduct and Seawall Replacement project. While the authors made a specific effort to write for the public, they lost sight of the fact that a NEPA document must be written for many other audiences as well, including USACE, EPA, USFWS, tribal and local governments, the historic-preservation community, courts, and FHWA decision-makers.

Mr. Smith then presented the publication *Improving the Quality of Environmental Documents*, also known as the *Green Book*. While this publication started as an examination of consultants’ work, ultimately it targeted all individuals involved in the writing of a NEPA document. The standard NEPA document is 500 pages, and often the significant issues do not account for a large proportion. A series of recommendations about creating documents and legal sufficiency emerged from the *Green Book*, including:

- Follow three core principles: tell the story, make it readable, and keep it brief.
- Use the scoping process effectively; this is where NEPA begins in earnest.
- Consider circulation of the summary instead of the entire EIS.
- Incorporate date by reference.

Mr. Smith went on to discuss the three core principles highlighted in the *Green Book*:

*Tell the story:* An author of a NEPA document should tell the story of the project and the NEPA process, highlighting the purpose and need, the impacts of each alternative, and a screening of alternatives against the purpose and need. In so doing, the author must dismiss alternatives when the impacts are too great or do not meet the purpose and need. Standards of 4(f), LEDPA, and Sections 404, 106, and 7 must be considered when weighing the alternatives.

Mr. Smith emphasized that FHWA staff should remember that, in a story, there are plots and subplots, and that authors of NEPA documents tend to focus on the project rather than compliance. In the NEPA story, the main plot must be the essential elements of NEPA. Some

resources are not central to the story but should be stored in the administrative record. Ultimately, the story must end with the alternative that minimizes both impacts and costs.

*Write clearly:* The Council on Environmental Quality (CEQ) states that NEPA documents must be written in “plain language” and that “agencies should employ writers of clear prose or editors to write, review, or edit statements.”

Mr. Smith then briefly opened up the floor to questions before addressing the third principle.

### **Questions, Answers, and Comments**

**Question:** Given that FHWA needs staff or consultants who are skilled writers, have state DOTs reported a need for technical writers in NEPA writing?

**Answer:** Scopes of work are written to make FHWA responsible for clear writing; however, FHWA staff should have conversations with state DOTs about writing quality. There are critical elements that a state DOT considers when selecting a consultant. In Kentucky, all consultants must be approved by the state. In Colorado, selection includes an independent review. It is also important to note that the many individuals involved in each NEPA document do not always communicate well on improving the contents.

**Comment:** Consultants respond to a scope of work, and often what they are obligated to do is not well coordinated with what the real issues are within a project.

**Response:** FHWA staff must think about how to address this issue downstream.

**Comment:** In SAFETEA-LU, Section 172 requires FHWA to approve contracts for design services; FHWA should be directly involved in these contracts. If this process is broken, FHWA can revisit it at anytime to fix it.

Mr. Smith went on to present the third core principle of the *Green Book*: keeping the document brief. It is critical to use documentation effectively, thinking about the difference between what materials are prepared versus what should be circulated or distributed.

An author or editor also must consider the issues and impacts in proportion to their importance, putting more emphasis on those that are weightier. It is important to make certain that the document is no longer than is absolutely necessary to comply with NEPA.

Mr. Smith then redirected the presentation to focus on where FHWA should go from here. FHWA should take initiative to rise above CEQ principles. The focus of NEPA in recent years has become the document rather than the analysis, decision, or compliance; in many ways, the document has become NEPA, shifting FHWA’s focus from the record to the document. FHWA staff members should think of the administrative record, appendices, and document as a package rather than as document and documentation.

Another important consideration is what materials should be circulated versus what should be made available. Supporting information is the foundation of the document and should not be lost or hidden, but it is important that FHWA staff consider what to make available, to whom, and in what form.

As the resource agency, FHWA too often writes environmental documents with itself as the audience. Instead, authors should write some of the analysis in a story form, so that the public can understand the information and how the decision-makers arrived at a decision.

Mr. Smith then took questions and comments from the audience and interlaced them into his presentation.

### **Questions, Answers, and Comments**

**Comment:** So in the long term it is important to create a document that people can pick up and read.

**Response:** Documents are often long and confusing, so it is important to strive for clarity and concise writing.

**Question:** Why is there not specific guidance for distribution and availability of environmental documents?

**Answer:** Looking at what other staff members have done is a way to streamline the document process and will improve FHWA's ability to write for the public while still fulfilling the obligations of the reports.

**Question:** How should one identify the percentage of technical reports that should be put into an EIS?

**Answer:** The following should be included in the EIS:

1. Robust discussion of the process, with a summary of compliance.
2. Reduce the size and readability of environmental documents.
3. Recognize that EPA will want to receive more documentation than other audiences, but make all material available to everyone.
4. Recognize that there are different parts of a document and formats, including EAs, EISs, technical reports, appendices, public comment, public hearing, meeting transcripts, agency responses, and correspondence.

There is no particular required format as long as the document is clear and meets the required parameters.

**Comment:** Telling the story of the scoping that shapes the alternatives is crucial and should come right after purpose and need. It is important to acknowledge the context of each situation.

**Response:** There is no order that is required; however, a NEPA document must have all of the outlined components.

Working closely with legal counsel can help to enrich NEPA documents in several ways. Incorporation by reference is very important, and working with attorneys may help FHWA staff learn how to do this better. Also, while the core principles should ensure that a NEPA document will meet legal requirements, it is important to invite attorneys into the NEPA process long before the final EIS in order to ensure legal stability.

It is also important to remember that NEPA's goal is not to generate paperwork but to make excellent decisions.

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## **TRIBAL CONSULTATION**

### **Moderator**

Craig Genzlinger, Montana Division Office, FHWA (unable to attend conference)

Mark Schrader, North Dakota Division Office, FHWA (moderated on behalf of Mr. Genzlinger)

### **Speakers**

Jeani Borchert, North Dakota Department of Transportation

Tim Mentz, Standing Rock Sioux Tribe  
Valerie Hauser, Advisory Council on Historic Preservation  
Stephanie Stoermer, FHWA Resource Center

**Description:** Section 106 of the National Historic Preservation Act requires consultation with tribes with historic ties to the geographic area of a proposed Federal project. This session highlighted proactive approaches to tribal consultation, including the development and implementation of a programmatic agreement that promotes timely and effective consultation with multiple tribes and the vital role of cultural sensitivity in tribal consultation. The session also included an overview of the Working Effectively with Tribal Governments training for Federal employees.

#### **Tribal Consultation Programmatic Agreement (Jeani Borchert)**

Ms. Borchert discussed the programmatic agreement signed by nine tribal governments, North Dakota DOT (NDDOT), and FHWA–ND Division. In addition, she provided background information on the development of NDDOT’s tribal consultation procedures. NDDOT had considered implementing these procedures since the NHPA was amended in 1992 to establish a basis for doing so. However, NDDOT did not implement any consistent provisions until the late 1990s, at which time it advocated for a tribal consultation process that would proactively include tribal governments as partners in transportation planning. Upper-level DOT and FHWA management ultimately approved the development of more effective tribal consultation processes by NDDOT.

As an initial step toward developing these processes, NDDOT staff met informally with tribal representatives to determine issues of mutual concern. These meetings also helped to build relationships and trust between NDDOT and tribal members. After several years, NDDOT conducted its first field review and tribal consultation with Spirit Lake Dakota Nation, Sisseton-Wahpeton Oyate, and the Standing Rock Sioux Tribe. The meetings focused on NDDOT’s proposed Jamestown Bypass and the project’s potential impacts on sensitive tribal resources, including burial mounds and rock cairns. In response to the Jamestown Bypass Tribal consultation, NDDOT altered the bypass route to avoid features that tribal representatives had identified as culturally significant. In addition, NDDOT purchased protective easements around the sites to ensure that no subsequent development would occur.

A second tribal consultation involved review of a two-lane-highway-expansion project. NDDOT discussed the project with five tribes and reviewed project elements with tribal representatives. As a result of this consultation, NDDOT engineers modified project elements, such as the median and backslopes, to accommodate culturally significant sites.

While these consultations were successful, NDDOT identified a need to refine and formalize NDDOT’s tribal consultation processes. To this end, NDDOT approached tribal representatives to discuss a mutually agreeable method of consultation. These conversations and others, including discussions held during a series of meetings in 2005 and 2006, helped NDDOT to develop a formal programmatic agreement with nine tribal governments. The programmatic agreement was signed in 2006, and a signing ceremony was held to celebrate the completion of the document.

The major points of the signed programmatic agreement included:

- Acknowledgment of the joint commitment of FHWA, NDDOT, and the tribes to establish a relationship of mutual trust and respect.

- Acknowledgment of the signing parties' commitment to develop meaningful, long-term planning for the appropriate consideration of cultural resources important to the tribes.
- A listing of project types excluded from the consultation.
- Establishment of a Tribal Consultation Committee to meet at least twice a year.

Tribal members and NDDOT have identified several benefits of the programmatic agreement, which has now been in use for a year and a half. The agreement offered opportunities for tribes to use their own language and vocabulary to describe planning priorities. In addition, it helped to facilitate relationship-building between NDDOT and tribal governments. One challenge has been addressing confidential information in a way that adheres to NDDOT regulations and is acceptable to tribes. Another challenge is related to Federal and state financial rules, which at times have impeded effective tribal consultation.

### **Tim Mentz**

Mr. Mentz discussed tribal consultation processes with NDDOT and FHWA from a tribal perspective, noting that there are often significant cultural differences between and among tribal, Federal, and state governments. For example, tribal governments place emphasis on natural laws, which are different than the laws upon which Federal and state rules and regulations are based. Misunderstandings may occur as a result of these differences, making relationship-building between tribal, Federal, and state governments more difficult.

It is important that tribal consultation processes be clearly defined in order to avoid misunderstandings and ensure that tribal, Federal, and state governments are in mutual agreement about the key issues. To facilitate a more defined consultation process, Federal and state governments should:

- Acknowledge, respect, and invite tribal perspectives on the most appropriate consultation processes and tribal contacts, project timelines, and what constitutes a "significant" resource.
- Include tribes earlier in the planning process as equal partners.
- Recognize differences between tribal cultures.
- Be aware that historic tribal land boundaries may not correlate with Federal- and state-defined land boundaries.
- Consult with tribal representatives to identify culturally significant sites rather than rely solely on SHPOs during the Section 106 process of the NHPA. Tribal representatives may be able to clearly identify the significance of sites that a SHPO or nontribal archaeologist may not have recognized. Furthermore, SHPOs may be unaware that the cultural significance of certain tribal resources, such as a stone ring, may stem from the particular arrangement of stones or the area in which they were placed.

The programmatic agreement developed by NDDOT and nine tribal governments was effective because NDDOT proactively included tribes in creating it and emphasized relationship- and trust-building in the process. Mr. Mentz emphasized that other states should use this programmatic agreement as a model when developing tribal consultation processes.

### **Valerie Hauser**

Ms. Hauser briefly discussed the development of tribal consultation processes over time. Transportation agencies are now beginning to understand and practice tribal consultation based on trust.

Ms. Hauser also discussed ACHP's new policy guiding its interactions with Native Hawaiian organizations. In developing this policy, which was adopted in May 2008, ACHP sought to clarify and commit certain principles to writing that had not previously been codified. While the focus of the policy is on Native Hawaiian communities, it generally applies to other native populations and Section 106 work. The major points of the policy include:

- Acknowledgment that Native Hawaiian traditional principles and practices are valuable to property preservation work.
- Recognition of the significant contributions of Native Hawaiian organizations to the National Historic Preservation Program.
- Commitment to integrating Native Hawaiian beliefs and knowledge into Federal policy.

The policy is reproduced in full at <http://www.achp.gov/NHOPolicy.pdf>.

To further facilitate tribal consultation, ACHP has established a Native American Advisory Group (NAAG) comprising 13 representatives—one tribal member from each of the Bureau of Indian Affairs (BIA) regions and one Native Hawaiian organization member—and their alternates. The purpose of NAAG is to advise ACHP staff on issues of concern to Native American Tribes, Native Hawaiian organizations, and Native villages. Since its inception three years ago, NAAG has helped to organize two White House briefings and training for Federal agencies. This web-based training, entitled *Working Effectively with Tribal Governments*, was produced over a nine-month period in collaboration with many stakeholders, including attorneys and the Assistant Secretary of Indian Affairs. The course was free for a brief period but now costs \$10. The working group that developed the training course will continue to maintain and update the curriculum as major issues arise; it will also evaluate and respond to user comments to improve the course curriculum.

In developing this training and coordinating outreach to Federal agencies, NAAG also helps to build relationships with these agencies to ensure early implementation of tribal consultations, development of guidance documents, and creation of project-specific programmatic agreements to keep all participating parties informed.

Ms. Hauser noted that ACHP will likely produce more statements regarding its interactions with indigenous populations. Overall, the goal of these statements will be to set a minimum standard for interaction that actual practice should surpass. There are many reasons why actual practice should go beyond minimum requirements. Participating agencies should approach meaningful consultation as something that is desired, not as something that is required.

Finally, Ms. Hauser discussed some differences between Western and indigenous cultures. In Western culture, "knowledge" is deemed valuable when it comes from "experts" who are validated by such factors as the number of academic degrees that they hold or the caliber of education that they received. In other cultures, particularly tribal communities, information may be orally transmitted and "knowledge" may be deemed valuable when it comes from a respected community member. Furthermore, an "expert" may be identified by factors other than degrees or education. To engage in successful tribal consultation processes, it is important that Federal and state agencies recognize these cultural differences and respect the many different ways in which tribal or indigenous communities define "knowledge," "evidence," and "experts." It is also important that they recognize how indigenous values, knowledge, and beliefs can be integrated into Federal policies.

**Stephanie Stoermer**

In 2002, the FHWA Resource Center convened a conference in Park City, Utah, for state DOTs and FHWA to discuss tribal consultation issues. A major conclusion of the conference was that there is a wide spectrum of consultation processes as well as many different ways in which successful consultation can occur. Ms. Stoermer noted that, during this conference, she learned of NDDOT and its efforts to develop a programmatic agreement with nine tribal governments. She emphasized that the programmatic agreement can serve as a model for others to learn about successful tribal consultation.

The programmatic agreement signed by NDDOT and the nine tribal governments was highlighted in the FHWA Resource Center's *Environmental Quarterly* as well as another Resource Center publication, *In Their Own Light: A Case Study in Effective Tribal Consultation*. The latter is available as a PDF file at the website

[http://www.fhwa.dot.gov/resourcecenter/teams/environment/tribal\\_consult.pdf](http://www.fhwa.dot.gov/resourcecenter/teams/environment/tribal_consult.pdf).

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## **CLIMATE CHANGE**

### **Moderator**

Shari Schaftlein, Office of Project Development and Environmental Review, FHWA

### **Speakers**

Jeff Houk, FHWA Resource Center

Robert Kafalenos, Office of Natural and Human Environment, FHWA

Fred Skaer, Director, Office of Project Development and Environmental Review, FHWA

**Description:** Speakers in this breakout session discussed the most recent thinking on how the transportation sector can address climate change. They also provided background and in-depth information on climate change and its implications for the transportation sector. Topics of discussion included FHWA Headquarters' perspective on climate change and FHWA and DOT initiatives and activities that broadly address climate change, mitigation, adaptation, and planning and environment linkages.

### **Introduction (Shari Schaftlein)**

Ms. Schaftlein introduced the breakout session and the speakers. She emphasized the importance of viewing climate change through the lens of national leadership as well as implementing practical solutions to ensure program delivery.

### **Climate Change: The Physical Science Basis, Impacts, and Transportation’s Role (Jeff Houk)**

Mr. Houk provided some physical science background about climate change and specifically addressed the following issues:

- Compelling evidence that the earth’s climate is changing.
- Compelling evidence that human activities are influencing global climate.
- The likely impacts if greenhouse-gas emissions are not reduced.
- Transportation’s role in reducing greenhouse-gas emissions.

With regard to the first issue, Mr. Houk stated that climate change is a controversial topic involving continuing research, debate, and some uncertainty, but there is compelling evidence to suggest that earth’s climate is changing. Changes occurring in natural systems are consistent with rising temperatures, as reflected in rising sea levels and permafrost melt. The Intergovernmental Panel on Climate Change’s (IPCC) series of updated climate assessment reports supports these contentions about climate change. The series, which was published in 2007 and included input from over 100 U.S. scientists, is available at [www.ipcc.ch](http://www.ipcc.ch). The reports found that warming of the climate is occurring but that its effects are complex and difficult to evaluate.

Overall, climate science is a complex field that has many components, each of which features a different level of scientific understanding. New information is constantly being produced, which adds to the uncertainty, complexity, and confusion. Because of this, FHWA relies on the expertise of other Federal agencies, particularly the National Ocean and Atmospheric Administration (NOAA), National Aeronautics and Space Administration (NASA), and USGS, as well as IPCC, to help guide decisions regarding the prioritization of issues and the targeting of resources. Mr. Houk said that scientists:

- Are very confident about measured data, such as rising sea levels.
- Are fairly confident about trend projections and global impacts.
- Are less confident about projections of absolute numbers and localized impacts.

IPCC has conducted statistical analyses to develop specific vocabulary that describes these certainties and uncertainties; for example:

- “Virtually certain” means more than 99 percent statistical certainty.
- “Extremely likely/unlikely” means greater than 95 percent certainty.
- “Very likely/high confidence” means greater than 90 percent certainty.

As an example of how this vocabulary is used in the climate-change literature, IPCC’s updated assessment reported that average temperatures in the Northern Hemisphere during the second half of the twentieth century were *very likely* higher than during any other 50-year period in the last 500 years and were *likely* the highest in at least the past 1,300 years.

Hurricanes offer an interesting case-study example of the uncertainties surrounding climate change. Both basic physics and direct observation show that the atmosphere is warming and that this should contribute to warmer oceans. Warmer ocean water appears to strengthen hurricanes, although there is debate about this, and there is even more debate about whether warmer ocean water leads to *more* hurricanes.

To illustrate the general increase of temperature over time, Mr. Houk displayed several graphs of surface and global temperatures. Scientists use proxies, such as tree rings, coral, and ice cores (which contain air bubbles and other indicators of atmospheric gas compositions), to

reconstruct estimated surface and global temperatures over a long period of time—for example, 400,000 years. The graphs demonstrated that, while there is much uncertainty about surface and global temperatures over time, this uncertainty has decreased over time and has even become negligible with the use of modern instrument records.

Mr. Houk then discussed the contention that there is compelling evidence that human activities are influencing the climate, while acknowledging that natural activities, such as variations in the sun's output and continental drift, also affect climate. Human activities and their impacts include:

- Rising concentrations of greenhouse gases from deforestation, agriculture, and fossil-fuel burning.
- Rising concentrations of particulate matter from fossil-fuel burning.
- Increased high cloudiness from aircraft contrails.

In its 2007 report on climate change, IPCC found that there is *very high* confidence that the net effect of human activities since 1750 has led to global warming and that it is *extremely unlikely* (less than a 5 percent chance) that observed temperature changes can be explained by other factors.

Atmospheric concentrations of carbon dioxide are growing both because carbon-dioxide emissions from human sources are increasing and because the gas has a long atmospheric lifetime (approximately 100 years or more). The paleoclimatic record from the past 400,000 years indicates that concentrations of atmospheric carbon dioxide are far above the range of natural variation in the current geological era.

The third and fourth central issues in Mr. Houk's presentation concerned likely impacts to the environment if greenhouse-gas emissions are not reduced and transportation's role in climate change. Mr. Houk mentioned that IPCC has developed various models to assess the net effect of carbon dioxide in the atmosphere and trace the footprint of both natural and human activities on the environment. These models also are used to predict emissions growth and likely impacts and to establish goals to reduce greenhouse-gas emissions. IPCC has argued that existing impacts to the climate will worsen if greenhouse-gas emissions are not reduced and has stated that it is *virtually certain* that the trend toward warmer weather will continue if emissions are not curtailed.

Impacts of continued rising temperature may include:

- Acceleration of climate feedback systems—for example, melting permafrost releases methane, which causes the atmosphere to warm, which in turn causes more permafrost melting.
- Increased conflicts over natural resource shortages, due, for example, to droughts.
- Loss of species habitat or species extinction.
- Threats to transportation infrastructure as a result of storms, heat, or rising sea levels.

To prevent the more serious consequences of climate change, IPCC has suggested that temperature increases be limited to 2 to 2.4°C. Several states have adopted policy goals on the basis of these suggestions by reducing greenhouse-gas emissions.

Transportation is the single largest source of carbon dioxide in the atmosphere, with highway vehicles accounting for 80 percent of total U.S. transportation-related greenhouse-gas emissions. It is important for FHWA and transportation professionals to implement strategies to

reduce transportation-related greenhouse-gas emissions and thereby address climate change. The transportation industry can accomplish these goals in a number of ways, including:

- Improving vehicle energy efficiency (fuel economy).
- Reducing carbon content of fuels.
- Improving transportation system efficiency.
- Reducing VMT through better planning.
- Establishing emissions trading and pricing.
- Implementing carbon sequestration strategies.

### **Potential Impacts of Climate Change and Variability on Transportation Systems and Infrastructure: The Gulf Coast Study (Robert Kafalenos)**

Mr. Kafalenos discussed the Gulf Coast Study, one of 21 key climate-research projects sponsored by the U.S. government. The study was conducted by USDOT planners, USGS climate scientists, academics, and consultants from Cambridge Systematics, TTI, and Wilbur Smith. A Federal advisory committee assisted in the project.

As the climate changes, transportation infrastructure may need to adapt to handle new conditions. For example, global warming may cause accelerated rising of sea levels, which in turn may threaten coastal highways or freight lines. Furthermore, the potential for hurricane intensity and associated storm surges may increase, posing a danger to offshore facilities such as oil platforms or low-lying population centers. The impacts resulting from climate change vary depending on which data are used to calculate impact scenarios, but it is clear that each region has unique transportation assets and vulnerabilities. Climate change may have overall impacts on several aspects of transportation, including:

- Highways and transit
- Rail
- Ports and waterways
- Airports
- Emergency management
- Long-range planning and investment

While climate change may have significant impacts on transportation infrastructure, little quantitative research has been done on these topics. The Gulf Coast Study was commissioned to fill this gap. The Gulf Coast region was chosen as the study area for several reasons:

- It contains 60 percent of the nation's petroleum imports.
- It represents the largest concentration of marine freight facilities in the nation.
- It has major urban centers and extensive intermodal networks—for example, 17,000 miles of highway and 83.5 billion VMT per year.
- It has communities of engaged decision-makers.

The central Gulf Coast is particularly vulnerable to climate change over the next 50 to 100 years because of its low elevation, proximity to the water, and significance as a major transportation center. The timing of climate-change impacts, however, is not clear, and the possibility of abrupt change cannot be disregarded.

Several caveats apply to the study's data analysis. First, data were based on land elevation rather than on heights of facilities. Second, the analysis did not consider the presence of possible protective structures such as levees or seawalls. Third, the intermodal system is interconnected, so a small flooded segment may render much of the remaining infrastructure inoperable.

Major findings from the report are summarized below.

The Gulf Coast Region is vulnerable because of potential relative sea level rise due to climate change and land subsidence. A sea-level rise of four feet could permanently flood 24 percent of interstate miles, 28 percent of arterial miles, 73 percent of non-freight facilities at ports, 9 percent of rail miles operated, 20 percent of freight facilities, and three airports. In addition, there could be temporary flooding in low-lying areas due to increased heavy downpours.

The Gulf Coast Region is vulnerable because of potential storm surge due to increased hurricane intensity. At or below 18 feet of sea level in the study area, an 18-foot storm surge could affect 51 percent of interstate miles; 56 percent of arterial miles; most transit authorities; 98 percent of port facilities vulnerable to surge and 100 percent, to wind; 33 percent of rail miles operated; 43 percent of freight facilities; and 22 airports in the study area.

The Gulf Coast Region is vulnerable because of potential temperature increases associated with global warming. Temperature increases may affect transportation operations. As temperature rises, there may be rises in maintenance and construction costs, increased use of energy for refrigerated storage, a rise in rail-buckling, and other impacts to aircraft performance and runway utilization.

A key issue for transportation professionals to consider is that the effects of climate change may take place over long periods and transportation facilities can last a long time (for example, 50 to 100 years), but the planning process covers only 20 to 30 years. Due to this mismatch between time periods, it is important to prepare now for potential change and to examine the vulnerabilities of the intermodal system.

To prepare for potential change, FHWA and transportation professionals can implement approaches to decision-making that consider both incremental and abrupt change and include scenario planning, integration of climate change with other regional dynamics, and risk assessment.

In particular, a risk-assessment approach will allow transportation planners to make better determinations about adaptation strategies. A risk-assessment approach is an iterative process that leads to more adaptable facilities, infrastructure, and decision-makers. Systems that can accommodate change will in turn lead to more resilient systems.

### **Fred Skaer**

Mr. Skaer discussed how climate change might affect current guidance policies at the Federal level. It is important that FHWA and other Federal agencies account for climate change as a major factor influencing decisions at the project level and at broader levels. Mr. Skaer anticipated that the next presidential incumbent would likely issue executive orders directing the Federal government to address climate change.

Under the generic NEPA mandate, climate change must be addressed as part of NEPA requirements, but there has not been any guidance to explicitly define how and where the issues should be discussed in NEPA documents. Furthermore, the courts have not determined that FHWA should address climate change at the level of an individual-project EIS, although this may change in the future.

A primary question that FHWA and the courts must consider is how or whether NEPA documentation should deal with climate change. The project level may not be the appropriate scale at which to address greenhouse-gas emissions because the output of these gasses from one project is very small and there is much uncertainty about quantifying actual outputs. In addition, climate change as a whole is not a meaningful variable for assessing alternatives or making decisions within NEPA. Nevertheless, transportation practitioners can do many things to mitigate greenhouse-gas emissions at the project level and can package mitigation strategies together as part of a conglomerate of projects. While NEPA may be part of a broader strategy to address climate change, the bigger part will consist of national practices, including legislation, policies, and system-performance measures, as well as statewide and metropolitan planning activities.

Many states have climate action plans and have established the expectation that state agencies will address climate change through individual projects. However, it is important for FHWA to provide more direction on the most appropriate ways for negotiating climate change at the state level. Currently, FHWA is working to develop a basic structure to guide how NEPA documentation should address climate change, should this inclusion become necessary.

FHWA is part of both the problem and the solution regarding climate change. Its role in this issue should be to highlight past and ongoing initiatives that have sought to mitigate climate change, to use these projects as models for others, and to define adaptation and risk-management strategies that more comprehensively address climate change.

#### **Questions, Answers, and Comments**

**Question:** Do the speakers have any suggestions of documents to look at as examples for addressing climate change in a project EIS?

**Answer:** The New Columbia River Crossing draft EIS includes a piece about climate change. In general, it appears that when climate change is addressed in an EIS, it is usually included in the cumulative impacts section.

**Question:** How should transportation professionals handle the need for transportation adaptation? For example, should states now be mandated to account for highly likely climate-change impacts on transportation infrastructure?

**Answer:** FHWA acknowledges that adaptation strategies are an immediate concern, especially for vulnerable regions. FHWA's Office of Infrastructure is working to determine the best steps for state DOTs in vulnerable areas to take in project design. FHWA's Office of Environment and Planning is also providing technical assistance to state DOTs on a case-by-case basis. In addition, FHWA is working to develop a long-term plan for how DOTs might address climate change.

**Question:** It appears that there needs to be a balance between adaptation and mitigation strategies. For example, will building more highways as an adaptation strategy have the effect of increasing VMT?

**Answer:** FHWA has not yet come to a resolution on how adaptation and mitigation strategies should be appropriately balanced. Adaptation and mitigation do not necessarily have to be mutually exclusive. It is important that transportation professionals pursue approaches and strategies that are appropriate for the area or context of the project. In addition, they can pursue both adaptation and mitigation at the same time, as well as use these approaches in combination with others, such as environmental stewardship.

**Comment:** Individual transportation projects will likely not have significant impacts on climate change. However, the overall effect of long-range transportation planning could have significant effects on the climate. Perhaps transportation professionals can address climate change in the cumulative impacts analysis of the EIS and include a summary of this analysis in the individual project plan.

**Response:** A handful of state DOTs and MPOs, including the Puget Sound Regional Council, have been leaders in addressing planning and climate change and assessing climate change both qualitatively and quantitatively. Following this lead, it is important to document climate-change issues upfront in the long-range planning process. Overall, the sooner that transportation professionals integrate climate change into planning efforts, the better.

**Comment:** Although project levels do not contribute a lot to climate change, it is important to acknowledge any contributions. The cumulative impacts section is the most appropriate place to acknowledge and address deltas between project alternatives.

**Response:** In the near future, transportation planners will have access to better models—the MOVES model produced by the EPA is one already existing example—to assess quantitative impacts of climate change. While any given project has insignificant effects on climate change, it is important to mention any effects to ensure legal sufficiency.

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## NEPA IMPLEMENTATION DURING CRISES

### Moderator

Cecil Vick, Mississippi Division Office, FHWA

### Speakers

Michele Deshotels, Louisiana Department of Transportation

Cheryl Martin, Minnesota Division Office, FHWA

Cecil Vick, Mississippi Division Office, FHWA

**Description:** This session used examples of the I-35W Bridge collapse in Minnesota and the response to Hurricane Katrina in the southeastern states to present “lessons learned” in NEPA implementation during natural disasters or emergency situations.

### “Katrina”: Short Film (Cecil Vick)

Mr. Vick began by screening the short film “Katrina,” created by the Mississippi Department of Transportation. The film depicted the devastation across the Mississippi coast that resulted from the hurricane as well as the major impacts to the statewide infrastructure. The path of destruction left by the storm surge was 70 miles wide and 30 feet high, in a path that ranged from five to 30 miles inland.

### Hurricanes Katrina and Rita: Environmental Emergency in Louisiana (Michele Deshotels)

Ms. Deshotels began by presenting the Louisiana context for the hurricanes:

- Louisiana residents are citizens of the coast; the state is home to five of the nation’s top ports.
- The state is also home to booming rice, shrimp, and cattle-ranching industries.
- The Mississippi River is often at a higher sea level than surrounding areas due to the naturally occurring deltas.
- New Orleans contained 37,000 historic structures before the storm.

Ms. Deshotels went on to describe successful projects on two major evacuation routes, LA-27 and LA-1, which were completed prior to Hurricanes Katrina and Rita.

On LA-27, Louisiana DOT and FHWA had begun a five-mile safety project, which had required significant mitigation efforts. Louisiana DOT installed 26 miles of marsh terracing on the Cameron Prairie National Wildlife Refuge, protecting 3,226 acres of open water and 20 miles of brackish marsh shoreline. Important lessons learned from the project were:

- State DOTs can be environmental leaders and can change others' perceptions of the agency.
- Cooperation can yield new solutions that would not otherwise be available.
- It is critical to do the right thing environmentally in spite of designated responsibility.

LA-1 is critical in Louisiana, as it is the only road leading to Port Fourchon and Grand Isle. Louisiana DOT noted that the route was threatened by tides and small storms that frequently rendered it out of commission. Important lessons from the project were:

- Resource and permitting agencies should be involved from the start.
- An open dialogue between agencies should be maintained.
- It is important to take responsibility for decision-making.

Ms. Deshotels then described the emergency removal of debris from, and reconstruction of, the I-10 Bridge that was destroyed by Hurricane Katrina. In this case, all of the involved resource agencies acted quickly and in cooperation to assess damages and move forward. Hurricane Katrina occurred on August 29; by September 9, bids for the project had been received and contracts had been signed. Through innovative procedures and collaboration between agencies, this project was accomplished with great success.

### **Questions, Answers, and Comments**

**Question:** How did you rubbleize the debris from the I-10 Bridge underwater?

**Answer:** I am uncertain of the answer; however, the contractors were able to design a process for this situation.

### **St. Anthony Falls I-35W Bridge Replacement: NEPA Implementation Lessons Learned (Cheryl Martin)**

Ms. Martin told the audience that this project represented her first time coauthoring an environmental document with a staff member from Minnesota DOT (MnDOT). Together, they completed the NEPA process, in spite of the emergency, with no shortcuts, and were awarded their design-build contract in just two months.

The I-35W Bridge was one of the busiest corridors in Minnesota. When it collapsed on August 1, 2007, construction projects were already underway to repair joints, lighting, and the guardrail. When the disaster occurred, President Bush promised to cut any red tape that would delay recovery. On August 2, Secretary of Transportation Mary Peters awarded \$5 million in emergency relief funds; by August 6, Congress had approved an additional \$250 million.

Demolition on the debris began on August 6. By August 20, the recovery was completed, and on September 6, the navigational channel was reopened to commercial traffic.

The documentation for the new bridge involved stakeholder meetings and a focus on context-sensitive solutions. Also important was an awareness of the significant cultural and historical resources impacted by the project. As a result, the project documentation included:

- Categorical exclusion

- Programmatic Section 4(f)
- Section 106 Adverse Effect
- Section 4(f) Evaluation
- Permits

No threatened or endangered species were involved in this project, so the delegated MnDOT biologist was able to make an USFWS determination of no effect, which also held for the USACE.

Ultimately, the contract was awarded to the bidder with the highest technical score, who also happened to be the most expensive.

Lessons learned from this project were:

- The streamlining of agreements is invaluable.
- Self-initiative is crucial to project completion.
- Decision-making abilities are important.
- The establishing of interagency relationships ensured that the NEPA process went smoothly, quickly, and without conflict.

### **Natural Disaster Effects on Your Office (Cecil Vick)**

Mr. Vick began his presentation by explaining that working in a crisis situation is extremely complicated. In the instance of Hurricane Katrina, his office had limited communication, there were many power outages, employees had nowhere to stay and no water, and there was limited computer access, making it difficult to transfer emergency-relief funds.

There was a sudden rise in the homeless population throughout the state, taking a huge psychological toll on both residents and FHWA employees. Division staff were hosting newly homeless family members. It became critical for team leaders to delegate responsibility, as stress impaired the judgment of many employees.

Due to the damage to the Bay St. Louis and Biloxi Bay Bridge, FHWA enacted emergency NEPA procedures, which sped up the environmental process. The bridges were quickly rebuilt in context-sensitive, forward-thinking ways.

### **Questions, Answers, and Comments**

**Question:** Were there any practices you learned that you can use regularly, and what steps have you taken to do so?

**Answer:** The Mississippi Division Office and MSDOT were able to improve their context sensitivity. Residents were left with nothing after the storms, and they wanted to build a bridge that would last for many years. Community involvement was critical to the rebuilding process. Also through this process, the Mississippi Division Office learned that in order to do an EA in seven days, it must be done internally.

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## **MITIGATION OF ENVIRONMENTAL IMPACTS**

### **Moderator**

Katy Allen, Environmental Coordinator, Georgia Division Office, FHWA

### **Speakers**

Dan Johnson, Environmental Program Leader, DelMar Division Office, FHWA

David Whitworth, Transportation Planner, Kentucky Division Office, FHWA

**Description:** Mitigation of natural resource impacts is often mandated by law. Ensuring that the mitigation appropriately compensates for impacted ecosystem functions is a collaborative effort among the various regulatory agencies and the permit applicant, such as a state DOT. However, the mitigation of impacts to the human environment does not share the same regulatory framework. In this session, the mitigation of human and natural resource impacts resulting from our projects was discussed, and case-study examples were provided. Innovative ways of tracking and ensuring implementation of mitigation commitments were also presented.

### **Inter County Connector (ICC) Environmental Mitigation and Stewardship Commitment Tracking (Dan Johnson)**

#### Woodrow Wilson Bridge

The Woodrow Wilson Bridge is an interstate project involving the U.S., Virginia, and District DOTs and the Maryland State Highway. Over 20 regulatory agencies were responsible for processing over 30 permits for the project. These permits resulted in close to 1,400 commitments and conditions, one of which was the USACE permit requirement to track the project's impacts.

The project team developed and implemented a Record of Decision and Permit-Tracking Database (RTD) built in Microsoft Access. The database tracked commitments as well as impacts and was used to ensure that the former were carried through the design process and implemented during construction. The RTD recorded a 42 percent reduction in permitted impacts to the Potomac River wetlands and waters and compliance with all conditions.

#### Inter County Connector (ICC)

The ICC is a six-lane, 16.5-mile, managed-lane facility at a new location linking the I-270 corridor with I-95 and US-1. In 2003, the ICC was named as a pilot project under Executive Order (EO) 14372, Environmental Stewardship and Streamlining. The ICC had many areas of concern, including ESA, 4(f), Section 106, Indirect and Cumulative Impacts and Air Quality. A robust environmental mitigation enhancement package was developed as part of the project due to the perceived impacts. The environmental stewardship elements included:

- Water-quality improvements
- Stream-habitat restoration
- Bicycle and pedestrian trails
- Community-enhancement opportunities
- Cultural resource preservation
- Increased acreage of wetlands and forests
- Aesthetic-design guidelines

The ICC will be constructed through five major design-build projects. To ensure that environmental commitments are met throughout construction, the project teams instituted a number of project-management activities, including:

1. *Redundancy of environmental oversight:* Multiple project-team members, including the engineering contractor, the design-build contractor, and the Maryland State Highway Administration, were required to establish an environmental coordinator position. The environmental management team works with the design-builder's environmental manager to confirm that plans and construction methods are in compliance with stated commitments. In addition, an independent environmental monitor holds environmental oversight responsibility.

2. *Adaptive management*: An interagency working group consisting of Federal, state, and local agencies meets monthly to review and discuss design and construction modifications as the project develops.
3. *Environmental performance specifications*: The project includes a rigorous process designed to motivate teams to exceed environmental commitments. For instance, the design-builder is eligible to receive a cash reimbursement for any upland-forest-impact reduction.

### **Newtown Pike Extension (David Whitworth)**

Mr. Whitworth presented the Newtown Pike Extension project, a community-impacts case study. The Newtown Pike is one of the few major access roads into Lexington, Kentucky. The proposed extension project has been on the books for 70 years and has been seriously discussed for the past 30 years. The project would extend the four-lane boulevard from Main Street, north of the city to the University of Kentucky's main campus entrance.

### Environmental Justice Issues

The extension project will bisect the Davistown/Southend Park Neighborhood, the most economically disadvantaged neighborhood in Lexington. The community has borne an unfair burden from the proposed project for decades; landlords have not updated housing because of concern of what the highway project would do to land values. Now that the project is being constructed, the community will experience further environmental justice issues and disruptions, including relocations of housing and the elimination of low-income housing.

### Mitigation Activities

In order to mitigate the community disruptions and housing impacts, the project will purchase the entire 25-acre tract of community and transform it into Southend Park, a mixed-use urban village. The project will include \$42 million of mitigation measures, including:

- *Provision of temporary housing to community residents*: While the project is under construction, residents will be housed in onsite mobile homes. During this temporary-housing period, residents will not have to pay for rent or basic utilities.
- *Rebuilding of sustainable, affordable housing*: As part of the project, 80 new housing units will be constructed on site and will be made available to residents who have been displaced by the highway and land acquisition and to past residents who wish to return to the community. The housing will consist of single-family and townhouse residential units. Residents will be encouraged to purchase homes and will receive counseling on home ownership.
- *Community Land Trust*: The 25-acre Southend Park will be owned and maintained by a Community Land Trust (CLT), a nonprofit organization that owns real estate in order to make land and housing available to residents who cannot otherwise afford them. The CLT will lease the land to residents through long-term agreements. Taking the cost of the land out of the price of housing enables more people to afford home ownership. Through the CLT, the character of the neighborhood will be preserved for future generations and the affordability of the housing will be maintained for the long term.
- *Implementation of community services*: An assessment to identify the social service needs of the neighborhood was conducted through a Rapid Assessment Process (RAP), whereby anthropology consultants met individually with residents to discuss their needs and concerns. The outcomes of the assessment were provided to local service agencies.

More information on the Newtown Pike Extension project is available at [www.newtownextension.com](http://www.newtownextension.com).

## CONTEXT SENSITIVE SOLUTIONS

### Moderator

Keith Moore, Office of Project Development and Environmental Review, FHWA

### Speakers

Sandra Otto, Division Administrator, Arkansas Division Office, FHWA

Harold Peaks, Team Leader, Office of Project Development and Environmental Review, FHWA

Dan Johnson, DelMar Division Office, FHWA

Jack VanDop, Eastern Federal Lands Highway Division

**Description:** The Context Sensitive Solutions (CSS) breakout session focused on FHWA's national CSS efforts, describing the nationwide state of the practice, the CSS Virtual Team and its Action Plan for the future, AASHTO efforts with CSS, current research, training and education activities, and where to find CSS resources. Ms. Otto discussed the CSS Action Plan and strategic direction for the next five to ten years. Mr. Peaks addressed resources available to assist with CSS. Mr. Johnson spoke about the CSS approach in Maryland. Mr. VanDop discussed the Federal Lands Highway approach to CSS.

Mr. Moore convened the session, noting that it is appropriate that CSS be part of the environmental conference, as it focuses on collaboration between the human, natural, and physical environments. This year marks the tenth anniversary of CSS, which started with the Thinking Beyond the Pavement workshop in 1998. As FHWA staff compile information about projects from around the country, it appears that some states have fully embraced CSS, some are midway in their efforts, and others are just starting to incorporate it. Mr. Moore posed the following questions to participants:

- Are you familiar with CSS activities in your region?
- Does your experience with the delivery of CSS match what you are hearing today?
- Are you familiar with available CSS tools and resources?
- Where is your state/region with regard to its delivery of CSS?

### The CSS Role in a Changing Climate (Sandra Otto)

The conference title was appropriate for this session, as CSS is about changing the climate in which we do business. CSS is more than just public involvement, mitigation, and aesthetics; it is a collection of practices and an approach to project delivery that serves as the next logical step in making location decisions that meet all goals.

Examples of characteristics that result in excellent projects include:

- Purpose and need as well as scope agreed on by all stakeholders.
- Safe facilities for both user and community.
- In harmony with community and environmental values.
- Exceeds expectations and adds lasting value.
- Early, open, and continuous communication.
- Process tailored to circumstances.
- Top-agency and local leader commitment.
- Context understood before engineering design is started.

Despite improvements, not all states see CSS as something that they need to use to get the best projects. Obstacles include resistance to change, perceived higher costs, perceived delays in delivery, and myths about compromising standards or safety.

The CSS Action Plan is being developed to guide the direction of the strategic program for the next five to ten years. It is also intended to identify gaps in support, outreach, and resources. Key objectives include identification of barriers, cultivation of buy-in, extension of accountability, development of staff for greater program capacity, facilitation of state CSS efforts, and development of performance incentives. External objectives include improvement in communication with AASHTO staff and members, broadening of outreach to DOTs and other owners, leading the national dialogue to stimulate demand and leverage support, and better management and maintenance of existing information and expertise. The goal is to eventually make CSS the standard practice for project development and to integrate it into state project processes for reducing cost and delay.

CSS activities help managers to meet their project-delivery and environmental streamlining goals. Managers need you to begin conversations about sustainable development and to offer your leadership. Assistance is available in the form of research projects, technical guidance handbooks and documents, conferences, workshops, outreach, and advocacy tools. Nationally, CSS has top-FHWA-management support, and we will be transitioning to a new CSS lead. We expect to move forward with a higher profile and more resources.

#### **Agency Commitment Resources, Research, and Results (Harold Peaks)**

Mr. Peaks reiterated the importance of context and of every project being addressed as its own locality. A solution is more than just a highway solution; it will include interaction with stakeholders on a range of issues.

So far, FHWA has invested nearly \$6 million in CSS research, ongoing activities, and planning for the future. As we face significant challenges today and into the future with congestion, program delivery, and resource preservation, it is extremely important that this investment not be lost. FHWA and AASHTO need to continue to partner with states to move forward.

There are many tools already available for helping with CSS activities. These include multiple studies on a variety of topic areas, designed for diverse audiences. Resources include the Green Highways Partnership, Designing Major Urban Thoroughfares for Walkable Communities, and the CSS Clearinghouse, found at: <http://www.contextsensitivesolutions.org/>.

For building capacity, several training courses are available through NHI, FHWA, and a university curriculum for both undergraduate and graduate students. There are also ongoing efforts to incorporate CSS principles into other NHI courses.

Moving forward, FHWA continues to raise awareness and advance implementation through targeted assistance to states and Divisions. The national dialogue must continue across offices and barriers. It will continue to move forward through reauthorization and into the new Administration.

#### **Maryland State Highway Administration's Thinking Beyond the Pavement (Dan Johnson)**

The Maryland State Highway Administration (SHA) has identified several opportunities to incorporate CSS into its organization through training, collecting data to estimate project-development needs, developing guidelines that include public involvement, and developing skills within Maryland SHA and the broader consultant community. Context Sensitive Design

(CSD) is an approach that considers the total context within which a transportation-improvement project will exist.

SHA has stated, “We must work together and move aggressively to use transportation resources and projects to stabilize and improve the quality of life in our established areas.” This approach focuses not only on highways but also on smart growth. Common sense *is* context sensitive. Maryland SHA developed a handbook, *When Main Street Is a State Highway*, for communities and consultants. The handbook strives to start a dialogue about achieving “the right projects in the right places at the right time.”

Project examples include:

- *Towson Town Center*: Some traffic solutions created new problems, which needed to be fixed. Funding was made available for Americans with Disabilities Act (ADA) and sidewalk retrofits, drainage, and community safety and enhancement.
- *Woodrow Wilson Bridge*: The project included broad mitigation, such as working with stream crossings, wetlands, and wildlife; disposal of contaminated soils; and fish-reef creation. It received very favorable media attention and has been positive for the agency.
- *Inter-County Connector*: Environmental stewardship was listed as an element of project need to improve the area. The project used special design guidelines and focused heavily on stormwater management.

### **Federal Lands Highway’s Philosophy on CSS (Jack VanDop)**

**Background:** The Federal Lands Highway Administration (FLH) is involved with aspects of planning, design, and construction of roads on Federal and tribal lands to provide transportation access to scenic treasures. FLH coordinates with partner agencies, including NPS, U.S. Forest Service, Bureau of Land Management (BLM), and USACE.

The FLH CSS philosophy is to be collaborative, interdisciplinary, and address the total context—organizational, political, and environmental—in which a project is planned, implemented, maintained, and operated.

In the Federal lands, roads are used to access parks and special areas. A balance between providing access and not intruding upon or threatening resources must always be maintained. FLH works in this partnership but does not usually own the roads. A Memorandum of Understanding (MOU) exists with each partner agency, and the overall program is developed jointly. There are a wide variety of customers and stakeholders. It is particularly important that information about project phasing and scheduling is communicated to the public.

FLH has been working to adjust practices so that they more responsive to a variety of concerns. This could mean adjusting the design and treatment of facilities—for example, building safe roadside barriers that can be removed so that they do not impede avalanches during a park’s off-season. It also could mean changing attitudes to promote an awareness of the needs of stakeholders who have a diverse set of goals and values, as well as increasing knowledge about facility conditions and user needs. The purpose of CSS is to build the project right the first time rather than to try to save a project that was not right from the beginning.

### **Case Study: Great Smoky Mountains National Park**

The Park receives approximately 10 million visitors per year. Many of the roadways have tunnels; problems with the tunnels include icing, freezing, inadequate clearance, and dark conditions. FLH included stakeholder concerns in the purpose and need statement and the

scoping process, taking into account unique community elements, such as tribal, business, recreational, and tourism interests. Partners and stakeholders worked together to determine timing, materials, and a cleaning schedule for the improvements.

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## **SECTION 6002**

### **Moderator**

Harold Peaks, Project Development Team Leader, Office of Project Development and Environmental Review, FHWA

### **Speakers**

Ruth Rentch, Office of Project Development and Environmental Review, FHWA

Mike LaPietra, Iowa Division Office, FHWA

Clarence Coleman, North Carolina Division Office, FHWA

Owen Lindauer, Office of Project Development and Environmental Review, FHWA

**Description:** The Section 6002 plenary session focused on the implementation of key provisions in SAFETEA-LU Section 6002, including the development of a coordination plan and schedules, public involvement on purpose and need and range of alternatives, coordination on methodologies and level of detail with participating agencies, and publication of SOL notices. Also provided in the session was an overview of the U.S. Government Accountability Office (GAO) study on Section 6002.

### **Section 6002 Implementation (Harold Peaks)**

Mr. Peaks introduced the session by describing the basis for SAFETEA-LU's changes to the environmental review process. The environmental review of projects, as required by the legislation, involves identifying and assessing environmental impacts, evaluating alternatives, and seeking input or approvals from Federal and state agencies. While these reviews provide important environmental protections, they are time-consuming and often contribute to delays in project implementation. The intent of SAFETEA-LU was to facilitate more efficient reviews of transportation projects, allowing them to be completed more quickly without diminishing environmental protections.

To help assess the effectiveness of SAFETEA-LU, the GAO was tasked with evaluating the progress that FHWA, selected state DOTs, and MPOs had made in streamlining transportation-project environmental reviews and adopting environmental considerations into the transportation-planning process. Mr. Peaks observed that it was important to recognize that GAO wrote a positive report about its findings. The results of the report indicated that FHWA, state DOTs, and MPOs viewed SAFETEA-LU as beneficial and had made progress in streamlining environmental reviews. Some state DOTs now fund positions at resource agencies to help complete environmental reviews, and there are more opportunities for resource agencies to be involved and informed early in the planning process. The GAO report also identified some challenges regarding SAFETEA-LU assessments. For example, a relatively small number of projects have been developed under SAFETEA-LU, and it will likely take several more years to determine the full extent of the legislation's impacts.

The Office of Project Development and Environmental Review's (HEPE) initial approach to measuring SAFETEA-LU Section 6002 compliance and effectiveness was a checklist that was designed to be submitted with the administrative draft EIS as part of the HCC legal sufficiency

review. FHWA and HEPE are also developing more initiatives to continue monitoring SAFETEA-LU implementation and effects.

Assessing SAFETEA-LU is important in light of the upcoming reauthorization of the transportation bill, but more aspects of SAFETEA-LU need to be addressed. Congress is particularly interested in Section 6002 reporting from a national perspective in order to be able to improve project and program objectives. FHWA is currently developing measures for evaluating Section 6002 effectiveness, and a number of states have similar projects underway. Mr. Peaks encouraged everyone to learn more about Section 6002 by asking questions of FHWA or attending informational sessions such as webinars.

### **Measures of Effectiveness (Ruth Rentch)**

Ms. Rentch discussed FHWA's efforts to collect data to assess the effectiveness of SAFETEA-LU Sections 6001 and 6002. While effectiveness is defined in several different ways, FHWA hopes to determine whether SAFETEA-LU has fulfilled the intent of its provisions to make environmental review processes more efficient, effective, and streamlined. Data collection will involve a variety of methodologies, including interviews. Data will be collected in Excel spreadsheets, and HEPE staff will use this information to prepare accurate and detailed reports for Congress as the date of SAFETEA-LU's reauthorization approaches. Ms. Rentch mentioned that even SES [Senior Executive Service] performance measures will include reports on how agencies performed on SAFETEA-LU 6002 measures. It is not optional just to "do" Section 6002; HEPE will be asking questions such as "Did it work?" and "Did it make a difference," not just whether there was a coordination plan.

To assess the effectiveness of SAFETEA-LU, FHWA will use effectiveness ratings to compare changes in environmental review processes and procedures. HEPE staff will call to discuss the basis for the ratings given. These ratings comprise both quantitative and qualitative measures and are based on seven aspects of the SAFETEA-LU environmental review process, including the role of the joint lead agency, the Notice of Intent (NOI), the invitation of participating agencies, the coordination plan and schedule, and public/agency input on project purpose and need. Each of these aspects will be rated on a numerical scale of 1 to 5, with 3 being "neutral," and will be accompanied by qualitative descriptions. Information on effectiveness ratings will not be included in the Electronic Data Transfer System (EDTS) but will be incorporated into a separate tool from Volpe that will be used at Headquarters.

Results from FHWA's pilot study on SAFETEA-LU effectiveness, which involved five states and 17 projects, indicate that the legislation has somewhat improved environmental review processes but not to the extent that FHWA anticipated. A subsequent HEPE study on SAFETEA-LU effectiveness, which involved 70 to 80 state DOTs, suggested that improvements have been more significant.

These studies demonstrate the importance of having a large sample size in collecting data related to SAFETEA-LU effectiveness. While there are challenges to collecting this type of information, it is important for FHWA to have a national perspective on what is being done and what needs to be changed when reporting to Congress on SAFETEA-LU. The next calls for data will begin in August 2008.

### **Engaging with Local Project Sponsors: Local Government-Sponsored Project Development Pre-SAFETEA-LU and Post-SAFETEA-LU in Iowa (Michael LaPietra)**

Mr. LaPietra discussed some differences in Iowa's environmental review process before and after SAFETEA-LU. For example, before SAFETEA-LU, the EIS for state-sponsored projects

had to address a variety of elements, such as the Section 404/NEPA merger, which integrates Section 404 of the Clean Water Act with NEPA, and Iowa's Can-Do Process, which provides the guidelines for Iowa's project-development process. Locally sponsored projects, however, had no legal ties to either the Section 404/NEPA merger or the Can-Do Process. As a result, there was little DOT or Federal involvement in locally sponsored projects, and documentation for these projects was often uneven or of poor quality.

Since the passage of SAFETEA-LU, Iowa's environmental review processes have undergone several changes. First, the state evaluated and slightly revised the 404 NEPA merger process to meet SAFETEA-LU requirements. Furthermore, the legislation defined roles for local sponsors as a joint lead agency, which involved their taking on new responsibilities to invite Federal agency participation and collaborative decision-making on several project concurrence points, such as purpose and need, range of alternatives, and preferred alternative. SAFETEA-LU also established a more clearly defined review process for locally sponsored projects. Post-SAFETEA-LU, local sponsors engage in the Can-Do Process and the 404/NEPA merger. We have project management teams, meetings with resource agencies, and increased coordination with lead agencies and the public. Finally, Federal involvement in locally sponsored projects has increased and documentation quality has improved.

Some ongoing challenges related to SAFETEA-LU include delays on the Notice of Initiation and the EIS purpose and need, as well as increased startup times for projects that may not move forward. In addition, there are increased demands on participating agencies, which have not been able to augment their personnel or resources to meet them. There has also been some confusion in agency roles.

Mr. LaPietra provided a status report on some locally sponsored projects. In Iowa, four projects are currently subject to SAFETEA-LU; all are supported by earmarks. One of these projects is proceeding without issue, another has a problematic purpose and need statement and lack of logical termini, and the remaining two have been delayed by controversies over the involvement of significant resources.

### **Adapting the North Carolina Merger 01 Process to be Compliant with Section 6002 (Clarence Coleman)**

The Section 404/NEPA merger, which was signed in 1997, applies to surface transportation projects in North Carolina. The merger integrates Section 404 of the Clean Water Act with NEPA requirements to improve the efficiency of the environmental review process. In 2001, the North Carolina DOT (NCDOT), along with Federal and state partners, begin revising the original 1997 merger agreement. The primary signatory agencies, including USACE, NCDOT, FHWA, and North Carolina Department of Natural Resources (NCDENR), signed the modified agreement in 2005. Merger 01 was the process established by the modified agreement.

Merger 01 offers guidance for streamlining the project-development and permitting processes among multiple agencies in North Carolina. More specifically, Merger 01 sets up several concurrent points, including purpose and need, definition of the study area, and detailed study alternatives to be carried forward. In addition, Merger 01 outlines procedures for project scheduling, the public-involvement process, and timeframes, so that agencies are fully apprised of their roles and responsibilities. As part of the merger process, most agencies took on DOT-funded positions (a total of 40) to facilitate project reviews.

Section 6002 of SAFETEA-LU requires development of a coordination plan for projects that involve an EIS. Because Merger 01 had been approved prior to the establishment of Section

6002, FHWA–North Carolina Division (FHWA–NC) had to ensure that Merger 01 was Section 6002-compliant. FHWA-NC, HEPE, and others revised Merger 01 to comply with Section 6002. These revisions included:

- Assurance that Merger 01 could function as a programmatic coordination plan.
- New guidance that public input on the purpose and need statement would be solicited *prior* to the first merger concurrent point on purpose and need and definition of the study area.
- Increased emphasis on collaboratively determined methodologies.

As a result of these revisions and others, the Merger 01 process in North Carolina is now fully compliant with Section 6002. The process has significantly benefited the project-review and development processes in North Carolina, a state that is building a lot of infrastructure and has many EISs. For example, under the programmatic approach of Merger 01, it is no longer necessary to approve coordination plans for individual projects. Participating agencies endorsed the idea of revising the merger process to be Section 6002-compliant rather than adopting a new process that was unfamiliar. Moreover, FHWA-NC believes that process consistency will likely lead to increased efficiency in completing the environmental review process.

The revised merger process has involved some challenges. For example, it has been difficult for state transportation and resource agencies to agree on the definition of “concurrency.” FHWA–NC has used mediation services to facilitate agreement on key points of the merger process. Nevertheless, the revised process has achieved measures of success in helping to streamline project development and environmental reviews.

#### **The Environmental Review Process: From Compliance to Stewardship (Owen Lindauer)**

Dr. Lindauer discussed the Division Office’s role in the EIS process and how CEQ regulations for implementing NEPA and SAFETEA-LU define it. SAFETEA-LU Section 6002 establishes that the role of the Division Office is “to facilitate the expeditious resolution of the environmental review process for the project” (§139 (c)(6)(A)), while CEQ regulations state that “the responsible Federal official shall furnish guidance and participate in the preparation and shall independently evaluate the statement prior to its approval” (40 CFR §1506.5(c)).

SAFETEA-LU set out to promote a more integrated, streamlined project and program-delivery approach. As such, assessing SAFETEA-LU effectiveness should involve measuring movement away from compliance and toward stewardship at Federal agencies and Division Offices. Stewardship includes activities that emphasize better program and project delivery, better project decisions, and timely resolution of the environmental review process. On the other hand, compliance involves “checking off a box” and emphasizes quality control and quality assurance. Dr. Lindauer displayed several slides illustrating these points, each of which depicted a continuum of responsibilities that have compliance and stewardship as endpoints. Under compliance, endpoints include quality control, quality assurance, and checking off a box. Endpoints under stewardship include expeditious resolution of the environmental review process, better project and program delivery, and better project decisions.

In addition to the continuum of responsibilities, there is a continuum of practice at the Division Offices and FHWA that has shifted as a result of SAFETEA-LU and its emphasis on collaboration and involvement. This continuum includes designation of participating agencies, establishment of a plan for coordinating with the public and agencies, and establishment of deadlines for comment during the environmental review process. While these procedures may

have already existed in the Division Offices and at FHWA, SAFETEA-LU more clearly defined them and made them part of regular procedure.

### **Questions, Answers, and Comments**

**Question** (directed to Clarence Coleman): Does the public sign off on the purpose and need statements for EISs in North Carolina?

**Answer:** That is incorrect. The public provides input on the purpose and need statement but doesn't sign off on the EIS.

**Question:** Would it be possible to take an objective and quantitative look at [how or whether SAFETEA-LU] has increased the startup time for projects?

**Answer:** On an anecdotal basis, it appears that projects do take longer to start, but SAFETEA-LU requirements may ensure more reliable movement through the process.

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## **INDIRECT AND CUMULATIVE IMPACTS**

**Moderator:** Tom Bruechert, Environmental Coordinator, Texas Division Office, FHWA

### **Speakers:**

Jack Gilbert, Attorney, Office of Chief Counsel, Southern Legal Services

Lance Hanf, Senior Agency Counsel, Office of Chief Counsel, Western Legal Services

Kevin Moody, Environmental Specialist, Resource Office

**Description:** Ensuring that environmental impact information is useful and adequate requires Division Office staff to maintain a sound appreciation of how direct, indirect, and cumulative impacts interact, are generated, and are documented. Recent case law demonstrates that the bar has been raised in terms of adequacy, coverage, and level of detail. This session presented recent case law and explained the relationships between direct/indirect and cumulative impacts.

### **Indirect Effects: The Real World (Practical Analysis through Tactical Methods) (Jack Gilbert)**

The analysis of indirect and cumulative impacts is a complex issue. Many practitioners and the CEQ consider the assessment of cumulative impacts to be one of the most difficult tasks of preparing an EA or EIS, and it happens to be an increasing focus area of legal challenges.

Indirect effects are caused by the action and are later in time or farther removed in distance, but they are still reasonably foreseeable. Indirect effects may include growth-inducing 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, including ecosystems.

It is important to understand that direct and indirect-effects analysis is very different from cumulative-impacts analysis, and that, as such, they need to be addressed and documented separately. Mr. Gilbert recommended that, in environmental documents, indirect effects and cumulative impacts be discussed in separate chapters. In addition, he emphasized the importance of clearly outlining the location of the indirect-effects analysis in the environmental document and the information and data that it is based on. A judge should not have to work to find the information; it should be obvious.

Numerous court challenges have been mounted against FHWA for lack of consideration of indirect effects. Mr. Gilbert outlined a number of past and current legal challenges. In the cases

presented, the DOT often lost because a reasonably foreseeable indirect effect was not addressed. Mr. Gilbert emphasized the importance of assessing and adequately addressing the full range of foreseeable impacts. He also presented ten practical suggestions on how to address indirect effects:

- Start with a clear understanding of the terms by becoming familiar with the CEQ regulations.
- Use a systematic approach to address indirect effects; for example, Texas uses an eight-step process.
- Develop a top-quality baseline on all resources within the project area.
- Define the geographic area.
- Identify past, present, and reasonably foreseeable impacts.
- Utilize maps, diagrams, and photographs to document the analysis.
- Utilize GIS data to document and present the analysis.
- Establish early coordination with stakeholders to address issues.
- Implement the Linking Planning and NEPA process.
- Document the process and findings: if it is not in the record, it didn't happen.

### **Questions, Answers, and Comments**

**Question:** The field would like more specific guidance on how to address global warming in the indirect-effects analysis.

**Answer:** FHWA is currently developing some boilerplate information. Mr. Gilbert recommended that global warming be addressed in environmental documents by acknowledging it as a problem and explaining that currently there is not enough information about the issue to address it on a project-by-project basis.

### **Cumulative Impacts (Lance Hanf)**

While indirect and cumulative impacts are often referred to together, there is a clear distinction between the two. Each needs to be addressed and analyzed separately. It is imperative that cumulative-effects analysis be included in the record; if the judge cannot look at it, FHWA will not receive deference.

Cumulative impacts are defined as impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. Both public (Federal, state, and local) and private actions must be considered when analyzing cumulative impacts. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Mr. Hanf presented a number of case-law examples that highlighted the importance of adequately identifying and addressing the cumulative impacts of transportation projects. The cases demonstrated that courts will consider the context of the situation when reviewing cumulative impacts. For example, in *Lands Council v. Powell*, the project involved timber-sale impacts on the Coeur d'Alene River. A majority of the watersheds in the area were at risk or not functioning. As a result, the court took a much closer look at the impacts associated with this timber sale as well as past and future timber sales.

Cumulative-impacts analysis should be detailed and thorough enough to inform the decision-maker. Merely listing all of the projects that contribute to cumulative impacts of the current project does not satisfy the requirements; analyzing the impacts of those projects on specific resources is necessary. In addition, the analysis should utilize up-to-date studies and data.

### Questions, Answers, and Comments

**Question:** What is your recommendation on what information to include in the environmental document versus the project record?

**Answer:** Issues should be acknowledged and addressed in the environmental document, but the more in-depth, detailed analysis can be located in the project record and referenced in the environmental document.

**Question:** In regard to mitigation, how do you address impacts that are outside the responsibility of the DOT?

**Answer:** In the environmental document, identify the party responsible for mitigation (i.e., the city or a private developer).

**Question:** In terms of analysis, how do you relate sustainability to nonrenewable resources?

**Answer:** Sustainability has not been defined. Think of it as a state. Analysis should be conducted based on the state of the resource in terms of what is an acceptable state and when it passes the threshold of quality into a degraded state.

**Question:** For an EIS, the DOT is supposed to coordinate with stakeholders on methodology. Shouldn't we also coordinate with them on the identification of important resources and what spatial and temporal timeline to use?

**Answer:** This coordination should be conducted during the scoping phase. Involve all stakeholders to define what is important, what resources to look at, and how to use the data.

### The Analyst's Perspective: Taking ICE Nomenclature Out of the Driver's Seat (Kevin Moody)

When we conduct an assessment, the scoping process is where we start to identify the resources that our project interacts with and to hone in on specific resource attributes that can provide efficient and useful information to decision-makers and the public. Ultimately, we want to know what that interaction means to the trends, conditions, or sustainability of affected resources, and to apply a rational process to evaluating possible mitigation options. In order to understand how a project influences the sustainability of a resource, you need to know two key things:

1. How the project interacts with the resource.
2. The condition of the resource.

### Challenges to Environmental Impact Analyses

Mr. Moody outlined a number of challenges to analyzing environmental impacts:

- *Articulating a causal link to risk:* Understanding how the resource works as a system (feedbacks and adjustments).
- *Diagnosing the category of effects:* Refers to the interaction between the resource and the project.
- *Rationalizing mitigation decisions:* Developing a rational approach to decide where and how to get the best bang for the buck on mitigation activities.
- *Addressing uncertainty:* Applying the simplest solution that complies with all of the data and findings.

To make informed decisions, environmental impact analyses must be broken into two parts:

1. How does the action interact with the resource attribute?
2. What does that effect mean to the quality of the resource?

To be useful, information must be understood. Communicating, or telling the analytical story effectively, requires that we put the aspects of our evaluation into a logical sequence. Mr. Moody presented one analytical approach:

Use the scoping process to decide which resources to evaluate and how to present the results. Then, conduct the two-part environmental impacts analysis by generating an action-focused effects analysis, which serves as input for the resource-focused analysis. Resource-focused effects consider the impact on the environment which results from incremental impacts of action when added to other past, present, and reasonably foreseeable future actions. Consider mitigation, or ways to reduce the total effect, throughout the analysis. Finally, discuss the results, with an emphasis on what you know, what you don't know, and the relative importance of what you don't know.

### Best Practices

FHWA has a Cumulative Effects Analysis and an Indirect Effects Analysis checklist available on the web; both can be found on Re:NEPA. The checklists cover two major standards of judicial review and the two national best-practices documents.

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## **PLANNING AND FISCAL CONSTRAINT**

### **Moderator**

Michael Culp, Office of Project Development and Environmental Review, FHWA

### **Speakers**

Harlan Miller, Team Leader, Office of Planning, FHWA

Marlys Osterhues, Office of Project Development and Environmental Review, FHWA

Jim Sinnette, Office of Program Administration, FHWA

**Description:** Michael Culp introduced the session by asking the audience to look at fiscal constraint in a different way, as fiscal stewardship. He said that, through the decision-making process, FHWA has a distinct role in ensuring fiscal stewardship. Before approving NEPA, FHWA should consider the broader context of fiscal stewardship, from planning to alternatives selection to design and construction.

### **Fiscal Constraint (Harlan Miller)**

Mr. Miller explained that the fiscal constraint requirement applies to MTPs, TIPs, and STIPs, but not to statewide transportation plans, which can be policies but not project plans. Before a Federal action can occur, regardless of the funding source, a project must be described in these transportation plans, according to the planning regulations. Funds must reasonably be expected to be available for projects in the MTP, TIP, and STIP. Transportation agencies should document project rationale, funding strategies, and a reasonable timeline for securing funds that are consistent with the project. Air quality non-attainment or maintenance areas have stricter requirements: funds must be available and committed for projects listed in the first two years of the TIP and STIP.

There is a tendency, in the TIP and STIP, to underestimate project cost. Cost estimates should be reviewed regularly and be updated, and should include contingencies. Agencies should use consistent procedures so that cost estimates in planning can transition into programming, NEPA, design, plan specifications and estimates (PS&E), and construction. As agencies acquire

knowledge through each phase of a project, the cost estimate will change, but it should be evaluated throughout the decision-making process so that inconsistencies can be identified. Financial challenges at the project level include different funding sources at the Federal, state, and local levels; partially funded projects; and innovative and private funding ventures, such as PPPs, TIFIA, and tolls. At the Federal level, the highway trust fund may have a shortfall of up to \$16 billion (36 percent) in FY 2009. In states, revenues are stagnant or declining, project costs are increasing, and fewer projects are therefore able to be developed.

New features from the planning regulations include:

- *Year of expenditure:* Agencies must adjust costs to inflation in STIPs, TIPs, and MTP. States must account for project-cost escalation and declining revenues; they may need to remove some projects from their plans.
- *Cost bands and ranges:* Agencies may use cost bands in the second 10 years of MTP to reflect uncertainty and risk in cost estimation.

### **Transportation Planning Requirements and Their Relationship to NEPA (Harlan Miller)**

Mr. Miller provided an overview of the January 28, 2008, *Guidance on Transportation Planning Requirements and Their Relationship to NEPA*, which describes the increased emphasis on oversight in fiscal constraint in planning, NEPA, and major projects, and the need for better fiscal stewardship throughout planning and NEPA.

Mr. Miller noted that an entire project does not need to be included in the MTP, TIP or STIP. However, necessary components, such as a corridor or NEPA study, should be included before a project enters the TIP or STIP. A project must be in an MPO's fiscally constrained plan prior to FHWA approval of a ROD, FONSI, or CE. NEPA approval should be given only for a project that has independent utility and logical termini while contributing to its overall function. In rural areas, the NEPA study should be consistent with the long-range statewide transportation plan. That plan does not need to be fiscally constrained.

### **Questions, Answers, and Comments**

**Question:** When defining a project in NEPA, agencies must ensure that it has logical termini. How should agencies define subsequent phases?

**Answer:** To meet fiscal constraint requirements in a metropolitan area, the project description used in environmental documents such as RODs and FONSI should be fiscally constrained. All project phases should be in the plan but not necessarily in the TIP. The TIP and STIP must describe only the subsequent phase of the project.

**Question:** Does fiscal constraint apply to rural projects?

**Answer:** There is no requirement for fiscal constraint in a statewide plan. However, agencies should still show the estimated costs and revenue for the projects. If they cannot be shown in the planning process, then the rationale and funding strategies should be shown as part of the NEPA process.

**Question:** Is guidance available on cost estimation, or is it discussed in the planning regulation?

**Answer:** NCHRP Report 574 provides good practice for planning, programming, and preconstruction cost estimates. The planning regulations require year of expenditure and cost bands in project estimates for the MTP, TIP, and STIP.

### **Environmental Costs (Marlys Osterhues)**

Ms. Osterhues described environmental costs as including either total project cost or costs related to environmental impacts or the environmental process. Fiscal stewardship is ingrained throughout the transportation decision-making process in that agencies must reflect realistic costs in their analyses and documentation in order to make better decisions and have realistic expectations. Ms. Osterhues described several studies related to environmental costs in transportation:

- An Eisenhower Fellow from Clemson University reviewed 100 EISs to identify how costs were presented in these documents and determine whether costs were updated throughout the NEPA process. The May 2008 report shows little change among the cost estimates in a draft EIS, final EIS, and ROD, indicating that the estimates are not updated even if years pass between each phase of documentation. The majority of documents in the sample did not disclose how the cost estimates were developed.
- An October 2006 report to Congress on costs associated with the environmental process found that these costs averaged about 8 percent of total project costs. Storm water, wetlands, and landscaping expenditures during construction were large cost drivers.
- NCHRP Project 25-25 Task (39), Estimating Environmental Costs, will provide information on improving cost estimations for transportation projects. The report will be available in 2009.

FHWA headquarters will disseminate research products as they become available and will post information on the environmental toolkit website. FHWA plans to host webinars and may include more guidance on cost disclosure in a future update to the Technical Advisory.

### **Questions, Answers, and Comments**

**Comment:** FHWA has a statutory and regulatory obligation to make sure that mitigation costs are reasonable and in the public interest. Many documents do not include the cost of environmental mitigation. With better cost information, decision-makers can make more informed decisions. The Technical Advisory should include information on cost estimating, especially for EAs, since we develop more of them.

**Response:** It was difficult to find EISs online; it might be even more challenging to find EAs.

**Question:** Cost estimates depend on a variety of factors, including the consultant and the depth of the alternatives analyses. How can FHWA achieve more consistency and avoid too much or not enough detail? Wetlands are difficult to assess, and there is a lot of uncertainty in cost estimates. In addition, year-of-expenditure requirements have been an eye-opener on real cost valuation.

**Answer:** Since few states track environmental costs yet, it is difficult to learn from the past or look into the future. FHWA will try to shed some uncertainties and share best practices on cost estimation. In the scheme of an entire project, environmental costs are relatively small, but there is still a lot of uncertainty about environmental costs.

### **Planning/Fiscal Constraint on Major Projects (Jim Sinnette)**

Mr. Sinnette discussed FHWA's requirements for major projects, including annually updated financial plans, cost-estimate reviews by FHWA, and project-management plans (PMPs). Guidance and resources are available on the FHWA Federal-Aid Program Administration website and on StaffNet.

For projects over \$500 million, called major projects, SAFETEA-LU requires concurrence from Headquarters prior to ROW authorization. For projects between \$100 and \$500 million, a review is required at each Division Office's discretion. Cost-to-complete assumptions should include

risk-based analyses. The FHWA *Major Project PMP Guidance* recommends conducting cost reviews prior to completing final NEPA documents (FEIS, EA, CE) to ensure conformity with the MTP, TIP, or STIP.

Agencies can conduct risk-based cost estimations at any stage—planning, NEPA, or final documentation. It is good practice to identify cost-estimate threats and opportunities, and to determine impacts and probabilities of individual scenarios. The FHWA Major Projects Team applies probabilistic assumption curves to the Crystal Ball software extension in Excel and runs Monte Carlo simulations to forecast cost estimates and associated probabilities. Mr. Sinnette showed sample results from the Crystal Ball program to assess construction, mitigation, and total project costs at different years of project implementation. He noted that the advantages of these cost-estimation analyses include flexibility in scale and use throughout planning and project development and the ability to prioritize risks and identify trends, threats, and opportunities.

### **Questions, Answers, and Comments**

**Question:** How much lead time does the Major Projects Team need to conduct the estimates?

**Answer:** The team currently conducts two to three estimates per month, with no consultant and with help from the Resource Center. A three-month lead time is desirable, though sooner is possible. It is important to ensure that cost estimates are updated (less than one year old) and to include explanations and methodologies.

**Question:** Is Crystal Ball an FHWA program?

**Answer:** Crystal Ball is an easy-to-use, off-the-shelf Excel add-on that costs about \$1,500. Some states, such as Washington, conduct Monte Carlo simulations on their own without this product. FHWA plans to offer Crystal Ball to some states that have many major projects.

**Question:** When should we reassess cost estimates?

**Answer:** Cost estimates should be updated every year if possible. Design and scope changes that will affect the estimates often occur, as does inflation. Regular reviews help agencies to look at assumptions and update estimates as needed. With the right program, updates can be completed quickly.

**Question:** Does the change in regulation affect when cost estimates should be done and validated for design-build contracting?

**Answer:** An agency must have validated costs before submitting the request for proposal (RFP).

**Follow-up question:** Since the RFP can go out during the NEPA process, should cost validation occur earlier?

**Answer:** If the agency is authorizing Federal funds for construction, then it should conduct the cost validation prior to submitting the RFP. This will ensure that the agency will not start the project, have contracts go out, find out that there are insufficient funds, and have a half built project halt construction.

**Question:** Have you discussed phasing FONSIs? Do you need to do mitigation for a particular phase or for all phases?

**Answer (Michael Culp):** Agencies can conduct independent environmental reviews for each part of a phased NEPA process. However, each segment must have independent utility and logical termini. Phased decision-making mitigation would have to be for each phase to determine the relative impact and relative mitigation. When considering phases, talk to legal and Headquarters staff for guidance to avoid the issue of segmentation.

**Question:** Do agencies have to deal with anticipated segmentation issues for both FONSI and RODs?

**Answer (Michael Culp):** Agencies should bring in the Major Projects Team early in the process to ensure that major projects include better cost-estimation procedures. Fred Skaer has said that consistency of message throughout the process is critical. Of course, agencies will know less in the beginning (planning phase) and more at the end (construction phase) of a project; however, FHWA strives for transparency and reasonableness based on known information.

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## WETLANDS

### Moderator

Jason Workman, West Virginia Division Office, FHWA

### Speakers

Donna Downing, Environmental Protection Agency

Mark Schrader, North Dakota Division Office, FHWA

Ann Campbell, Environmental Protection Agency

### Panel

Jennifer Moyer, United States Army Corps of Engineers

**Description:** The wetlands session included a discussion of the Supreme Court *Rapanos* decision and subsequent guidance released by EPA. New or proposed changes to the guidance were discussed, as well as challenges encountered during its implementation. The session also included highlights of the new compensatory mitigation regulations and any other pertinent wetlands issues. Examples of existing DOT banking agreements were given that coincide with the current mitigation focus on the watershed or ecoregional scale.

### Implementing the Clean Water Act After Rapanos: An Update (Donna Downing)

Ms. Downing began by explaining that the Clean Water Act covers “navigable waters,” defined in the statute as “waters of the United States and territorial seas.” As a result, permits are required for building projects and discharge.

She then mentioned that the authors of the Clean Water Act wanted their definition of navigable waters to remain broad. Waters of the United States is defined by resource agencies in 40 CFR 230.3. The outlined concepts have hardly changed since they were written in the 1970s. It is important, however, to note that streams, adjacent waters, and isolated waters are not considered navigable.

Before *Rapanos* and *Carabell*, the Supreme Court had notably weighed in on the definition of navigable waters twice:

- In *Riverside Bayview* (1985)
- In *Solid Waste Agency of Northern Cook County vs. U.S. Army Corps of Engineers* (2001)

The *Rapanos* and *Carabell* cases addressed the question, “Does the Clean Water Act cover non-navigable tributaries and their adjacent wetlands?”

- The nine Supreme Court judges had five different opinions, so there was no majority opinion.
- Justice Scalia felt that relatively permanent or seasonal wetlands with a continuous surface connection were covered.
- Justice Kennedy felt that the wetlands are jurisdictional only if there is a significant nexus to navigable waters.

On the basis of the *Rapanos* decision, EPA and USACE issued guidance, on June 5, 2007, which stated that traditional navigable wetlands do not have to undergo analysis as they fall under jurisdiction. If the wetlands are not traditional, they must be tested, first with use of the Scalia standard and then with use of the significant nexus test. This guidance led to much debate over the decisions as well as to frequent interagency meetings.

Since *Rapanos*, there have been many legal challenges focusing on how to determine which test to use in which cases. The major challenge of *Rapanos* is that the language is complicated and not compatible with biological terminology, making it difficult to identify the characteristics called for by the legal language.

#### **EPA Joint Army–EPA Compensatory Mitigation Rule (Ann Campbell)**

Ms. Campbell began by explaining that the Compensatory Mitigation Rule was intended to improve consistency and transparency with a consistent set of scientifically based standards in order to reduce the impact of permitting for waters, streams, and other aquatic resources. The rule serves several functions:

- It was required under the National Defense Authorization Act of FY 2004.
- It ensures that plans have performance standards and increased compliance.
- It requires avoidance, minimization, and compensation, allowing new methods.

Perceived benefits of the new rule are predictability, transparency, improved mitigation planning and site selection, improved performance of compensatory mitigation projects, strong encouragement of the watershed approach, flexibility of mitigation options, increased public participation, and a possible reduction in permitting time.

The new rule includes in lieu fee reforms. It sets a strong preference for mitigation banking, whereby credits cannot be released until certain performance measures have been met.

However, there is a compensation hierarchy:

- Credits from mitigation banks
- Credits from an in lieu fee
- Permittee-responsible mitigation using a watershed approach
- Permittee-responsible onsite mitigation
- Permittee-responsible offsite mitigation
- In-kind preference maintained

The rule replaces the 1996 Banking Guidance, the 2000 In Lieu Fee Guidance, and the 2002 Compensatory Mitigation Regulatory Guidance Letter. It does not, however, invalidate the 1990 USACE/EPA Mitigation Memorandum of Agreement in its entirety.

The Rule went into effect on June 9, 2008; all permits approved before July 9 will be grandfathered in.

The next steps in the transition process will be outreach and training on the new rule, including workshops, meetings, and training and implementation guidance.

### **Wetland Mitigation Banking in North Dakota (Mark Schrader)**

Mr. Schrader stated that much of the Prairie Pothole region's wetlands are located in North Dakota. In the past, mitigation could take place anywhere in the state; however, this is no longer acceptable, as onsite mitigation is now favored over offsite mitigation. The North Dakota Division Office is looking for more productive ways to manage wetlands losses.

In August of 2005, the USACE Omaha District released Wetland Mitigation Guidance, which increased the number of service mitigation areas in North Dakota from one to 50. This preference for onsite mitigation creates problems as wetlands in the ROW attract animals to the roadway ditch, and it does not allow for large, complex mitigation that is far easier to monitor.

As a result, five agencies cooperatively drafted Interagency Guidance for Mitigation Bank Sponsors of wetlands mitigation banking in North Dakota. This called for a credit ratio specific to North Dakota that rated the restoration of a completely drained wetland at 1:1 and the preservation of an existing wetland at 10:1. Credit availability is dependent on both track record and mitigation technique.

The next steps in North Dakota are guidance revisions, approval of the document by a lead agency, and implementation of the mitigation bank.

### **Questions, Answers, and Comments**

**Question:** Based on issues of significant nexus, how many cases have been determined thus far not to have a significant nexus?

**Answer:** Of the cases which have come up since *Rapanos*, 18 percent were determined not to be within jurisdiction and not to have a significant nexus to traditional navigable waters. In all of these jurisdictional determinations there were no appeals; however, a large set of more complicated jurisdictional determinations is almost complete.

**Question:** Are SACE and EPA planning to monitor wetlands, given the changes that will come with climate change and subsequent impacts?

**Answer:** The EPA Office of Water and Climate Change is charged with tasks related to the wetland program. The first task is to update the data on wetlands on the National Wetlands Inventory. There is currently not enough data on all locations, but once the data are updated it will allow EPA to measure the potential impact of climate change and improve the level of clarity.

**Question:** Are there concerns due to the common nature of the language used in the Clean Water Act and the new rule? Does the meaning of perpetuity change after climate change? If all natural wetlands dry out, then what will be protected?

**Answer:** After the effects of climate change take hold, EPA will consider the coastal resources that will be subsumed by the sea-level rise. USACE is convening at the Institute for Water Resources to determine data needs for the next five to ten years so that it can decide what monitoring requirements will be needed. Also, the transportation community is taking a leading role on climate change and mitigation.

**Question:** A number of state DOTs on different projects might be interested in an opt-in and timeline for determination. If such an opt-in were allowed, could it be project-by-project as opposed to statewide?

**Answer:** Opt-ins focus on allowing the regulating community to request a preliminary jurisdictional determination. The guidance wrestled with how to bound preliminary jurisdictional determinations. This can be done project-by-project; the guidance for this will be completed soon.

**Question:** How should one address a state DOT's concerns of being pushed to use a private, for-profit mitigation bank as opposed to a state mitigation bank?

**Answer:** The transportation community has a banking preference; however, public and private banks are subject to the same regulations, and as long as these regulations are met, EPA and USACE have no preference for a private or public bank.

**Question:** In a state that currently does not do wetland banking, how should an FHWA Division Office help the state DOT through the mitigation preference hierarchy?

**Answer:** While EPA believes that there will be a ballooning of banks in regions where they did not previously exist, there are other responsible mitigation options besides banking. EPA is not pushing states to create banks but rather is advocating for the use of existing banks.

**Question:** The Hydraulic Unit Code (HUC) 8 Guidelines have different locations in different parts of the country. In the Northeast, watersheds are smaller and less well integrated. Will the EPA start thinking in terms of the practical aspects of the geographic limits of a service area?

**Answer:** The new rule applies some flexibility in that area.

**Comment:** The commercial banking industry might push for the mitigation hierarchy to be viewed as requirement and for financial assurances not to apply to state DOTs.

**Comment:** In West Virginia, there are currently no banks. The state DOT currently values its mitigation system and fears that the emphasis on banking will push the state away from its past successes. Under the new rule, the in lieu fees seem higher, which could threaten the way that West Virginia performs mitigation.

**Response:** West Virginia may soon see a move toward banking or stream mitigation; however, in lieu fee standards are going to be changed, and there has been some conversation about transitioning to equivalency standards.

**Question:** Not all watershed plans are equal. If a state goes down one path, will it have issues because it did not follow a specific approach?

**Answer:** At the present time, it is up to the discretion of the district engineers to determine an appropriate mitigation approach for each scenario.

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## FORECASTING AND NEPA

### **Moderator:**

Mike Culp, Project Development Specialist, Office of Project Development and Environmental Review, FHWA

### **Speakers:**

Janet Myers, Office of the Administrator

Bill Haas, Transportation Planner, Colorado Division Office, FHWA

Nick Fortey, Traffic Safety Engineer, Oregon Division Office, FHWA

**Description:** In this session, long-range travel forecasting and how it relates to the NEPA process were discussed. Mr. Culp began by introducing the topic and describing new guidance that FHWA is developing on forecasting and the NEPA process. Ms. Myers spoke next, continuing the discussion of the guidance project, which includes a review of existing case law. Mr. Haas provided examples of how Colorado DOT and MPOs have made connections between forecasting and NEPA. Mr. Fortey concluded with a more general conversation of models and tradeoffs between complexity and error.

**Application of Travel and Land-Use Forecasting in NEPA: Project Overview (Mike Culp)**

Travel forecasts serve as the foundation for many aspects of NEPA analysis, including purpose and need, alternatives analysis, air quality and noise, and indirect and cumulative-impacts analysis. The wide variety in forecasting practice and outcomes has led to increased risk, and there have been recent cases in which lawsuit claims have focused heavily on issues related to forecasting.

The purpose of the new FHWA project is to improve procedures for representing and communicating data and analysis results in NEPA documents. It also seeks to improve the state of the practice for applying models. The guidance will relate to procedure and process rather than to technical issues such as model-building. It is intended to be flexible enough to apply to many types of projects and issues, address relevant court precedents related to modeling, and present the state of the practice in applying travel and land-use forecasting to NEPA. The final document will include process guidance, case studies, and more formal guidelines.

The guidance document will address the following issues:

- Scoping and robust documentation.
- Model and data validation and currency, which means ensuring that forecasting procedures work and that the information is current enough that it can be defended.
- Alternatives analysis. This must be a fair and objective comparison that is not biased for or against various alternatives.
- Use of tools in the context of direct, indirect, and cumulative-effects analysis. This includes addressing how to discuss induced land development from transportation projects.

In addition to the guidelines and case studies, the project seeks to create and implement a strategy for training and outreach to practitioners. From an optimistic standpoint, the schedule for the overall project is as follows:

- Draft guidance for comment: fall 2008
- Final guidance: winter 2008/2009
- Guidelines and case studies: winter 2008/2009
- Training and outreach: spring/summer 2009

While this schedule is likely to change given the change in Administrations and reauthorization efforts, the project lends hope that, at the very least, there will be much more information for the next conference in 2010. In the meantime, project leads can be contacted with any suggestions for case studies.

**Questions, Answers, and Comments**

**Question:** We have several big PPP projects coming in. They include toll-revenue studies that are not necessarily consistent with the traffic analysis for EIS, and the LRTP [long-range-

transportation-planning] data may be outdated. We want to use the best data, but we also need to be consistent. Can you advise on how to address this situation?

**Answer:** There is a disconnect here in that consultants often treat tolling and traffic studies as proprietary, but the NEPA process is by nature public. If the final documents show significant differences, you will have to distinguish between the study processes and explain the different purposes of various studies and why they may show different results.

**Question:** Can you discuss legal issues associated with differences between various studies and outcomes?

**Answer:** There are often differences in the assumptions used and the purposes of the studies. Even if you cannot obtain the data from private partners, at least find out the assumptions used so that you can explain differences and why the information that you are using for the NEPA study is correct. It is important to diffuse any mystery so that the public does not think that FHWA is hiding something. Most of the details can go in appendices as long as the discrepancy is discussed and data are referenced in the main document.

**Case-Law Summary: Travel Demand and LU Forecasting in NEPA (Janet Myers)**

Ms. Myers continued the discussion with a focus on lessons learned from cases related to land use and travel-demand forecasting. There have not been a lot of these cases, but they are becoming more common. Ms. Myers cautioned that it is difficult to draw conclusive precedents from the cases, but participants working in these circuits should definitely pay attention.

The standard of legal review requires two tests: (1) that the agency took a “hard look” and made final decisions based on a robust analysis and facts, and (2) that the decision can pass the “arbitrary or capricious” test, showing that the agency evaluated an issue honestly, objectively, and with reasonable thoroughness. Sufficiency under NEPA requires consideration of an appropriate range of impacts. For example, an analysis that recognizes future growth must also discuss possible displacement issues. As a project is developed, there are both new effects and impacts to existing residents related to population, land use, and traffic. The analysis must discuss both benefits and burdens.

Ms. Myers also discussed the need for sufficient disclosure to address both “good” and “bad” issues. The issues must inform decision-makers and the public as well as judges. The analysis should provide basic information and refer interested readers to more detailed documents containing the full analysis. In general, the courts want to uphold agency actions but need the full record in order to be able to do so.

*Methodology:* Choice of methodology is a highly technical and scientific area. If the NEPA analysis does not use the regularly suggested methodology, then the report must explain why it was appropriate to use an alternate methodology.

*Model validity and data currency:* The analysis must sufficiently address issues of model validity and data currency. It must show consistency in updating information rather than some data elements and not others. Similarly, the assumptions must be consistent throughout the NEPA analysis. For example, the same growth assumptions must be used for the purpose and need statement and for evaluating potential impacts. If there are differences, they must be documented with an explanation of why this approach was chosen. If there are decisions or other issues related to updating data, the analysis should explain why it was reasonable to update or not update information. These issues are important and cannot be dismissed or ignored.

*Use of other plans:* Local, regional, and state land-use plans or decisions can provide useful information for purpose and need and for screening alternatives. The growth-management controls may be appropriate for analyzing growth-induced effects in developed areas, but caution should be used because land-use plans are not always implemented consistently. In the event of a direct conflict between the NEPA document and the land-use plan, the conflict must be acknowledged, with discussion of the degree to which it will be resolved.

In summary, rules of thumb for legal sufficiency that should be followed are:

- Use reliable, defensible, current information.
- State assumptions.
- Ensure that assumptions are consistent.
- Provide a credible rationale for choices.

### **Questions, Answers, and Comments**

**Question:** We struggle with economic development projects that do not have a strong transportation purpose and need. How could the land-use plan help with an economic development project?

**Answer:** Sometimes the transportation need can be related to the economic development goal: for example, providing infrastructure to support business development. However, a more loosely stated purpose and need will likely lead to more alternatives needing to be considered. Also, a goal of encouraging growth will certainly affect the indirect and cumulative-impacts analyses.

Mr. Smith cautioned against not including a transportation component in the purpose and need statement, as there are other ways to address economic development than through a transportation project.

**Question:** As we move toward PEL and including MPOs in developing the purpose and need statements, we need to use correct assumptions. When there is a ROD or FONSI or a possible reevaluation, how do we address changing assumptions?

**Answer:** This depends on the conclusions drawn from new information and whether a new analysis is warranted. A new decision could be subject to litigation. Take a hard look at the issue and determine whether the existing information is sufficient and if a reevaluation is really necessary. It probably is if there are new significant impacts that have not been studied, but model improvements are often so incremental that results may not change enough to require a reevaluation.

### **Forecasting and NEPA: The Colorado Experience (Bill Haas)**

In Colorado, the travel-forecasting models are maintained by the MPOs, which feel ownership over the models. There is no statewide model in Colorado, although models have been developed for a few very large statewide projects.

Mr. Haas focused on the Denver Regional Council of Governments (DRCOG) modeling experience. The current modeling process started in 2002, before which a significant model update had not been undertaken for several years. Prompted by several national lawsuits challenging the models, DRCOG hosted a peer exchange, spending over a year developing recommendations to update and maintain a state-of-the-practice model. There is now a longer-term effort to transition to an activity-based model to try to replicate real-world travel practices.

One recurring challenge is that the planning and NEPA schedules do not always match. An EIS could take a very long time and could span multiple LRTPs. DRCOG developed a policy on how

to address new planning assumptions and data. The policy requires that NEPA teams re-evaluate when there is a major change, or delay the schedule slightly to wait for new numbers. It also recognizes that it is expensive to revisit a NEPA analysis.

DRCOG provides the model free to all member governments, with a \$1,000 annual subscription fee that includes technical assistance, training, and access to a users' group and guide. The lead agency for a NEPA project signs an agreement upfront related to how it will use the model. The MPO has control over model manipulation, potential errors, and feedback loops. The next certification review will include recommendations for how to address situations in which the model is misused.

Emerging issues include the following:

- There are high expectations of the travel-modeling process, and MPOs are pushing the limits of what the models can achieve. As transportation planning shifts toward a management-and-operations philosophy and a goal of addressing congestion, the model outputs do not necessarily provide enough detail. These issues may require more post processing for better analysis.
- MPOs in Colorado are facing similar issues with tolling and congestion pricing. They are working to obtain better data, but there are issues with the assumptions of tolling-feasibility studies and how to match them with MPO studies.
- The effectiveness of Transportation Demand Management (TDM) and Intelligent Transportation System (ITS) strategies are not well addressed in models.
- As DRCOG moves toward an activity-based model, new training and assumptions will be required. Only a few areas in the country currently use this type of model.

### **Questions, Answers, and Comments**

**Question:** Does the consultant ever pay the MPO to conduct additional model runs?

**Answer:** Yes, this has happened. The I-25N EIS cost approximately \$15 million, over \$1 million of which was just modeling. CDOT has paid DRCOG for extra model runs on certain topics. There is a staffing constraint in that it typically takes six months to run the travel and land-use modeling for a plan amendment.

**Question:** We have a situation in which there is a corridor study and the state DOT does not trust the numbers from the MPO model. The MPO will not share the numbers and assumptions, and it does not want model to be so public. How should this be approached?

**Answer:** In Colorado, there is an agreement that CDOT reviews model outputs for AQ [air-quality] conformity and other issues. However, if Federal funds were used to develop the model—and in almost every case they are—then the MPO cannot withhold information.

### **Oregon Forecasting and the NEPA Experience (Nick Fortey)**

Mr. Fortey began his discussion with a broader focus on deconstructing models. A model is a representation of the world: it includes some good representations; other, simplifying assumptions; and some elements that are not included. The traditional black-box transportation model uses inputs such as socioeconomic data, land-use networks, and transportation projects. It produces outputs, which must then undergo post processing [interpretation of results]. Assumptions occur throughout the process and must be documented, explained, and understood.

Given errors inherent to the model, greater complexity may not necessarily lead to better results. There are also measurement errors, which increase as model complexity increases. In

general, adding more variables may lead to better understanding, but it also may lead to specification error. Ultimately, more complexity leads to better real-world representation, but decisions are value-laden and political. The model is a tool and just a part of the process. A great model with poor data will yield poor results; the model cannot overcome poor data. Similarly, great data with a poor model will yield poor results.

In validation and calibration, there are error bounds in the model that should be carried forward somehow in the overall analysis. Documentation should explain not only what is included and the analytical process but also what is not included. The model has its own tale of assumptions and process. It can be difficult to tell the full story when there are staff changes, as sometimes there is a lack in continuity of understanding.

Mr. Fortey concluded with a humorous acrostic for the word “model”:

**M**anaging  
**O**rdinary  
**D**iscourse to  
**E**liminate  
**L**awsuits

### **Questions, Answers, and Comments**

**Question:** To what extent should recent VMT reductions be addressed in the modeling process?

**Answer:** There may be several issues affecting VMT reduction: behavior, technology lag, etcetera. We don't know yet if this will be a continuing trend or if VMT will increase again when there are more efficient vehicles. It is probably prudent to wait and see where the trend goes before dramatically changing the models. National land-use trends operate within a much longer timeframe. If recent VMT trends are used, be sure to use local trends rather than national numbers, to be more relevant. However, be careful in that VMT is only one planning assumption. The MPO may have already factored in a high cost of gas, but did it also address other issues that might affect driving behavior, such as cost of parking, inflation, or modal split? This question has been a challenge in at least one big project. It might be wise, for now, to document the short-term trend and note why it may be too early to change the entire analysis.

**Question:** Is there any indication that areas with an ability to absorb more trips with transit are making the mode split?

**Answer:** APTA [American Public Transportation Association] has reported a significant national increase in transit ridership recently. In your modeling practices, however, local trends will be more important than national trends because of the specifics of the local travel market. It may be worthwhile to look at changes on a specific transit line or to see if transit in a given area has the capacity to absorb more peak travel.

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## **PUBLIC-PRIVATE PARTNERSHIPS, TOLLING PRICES, AND NEPA**

### **Moderator**

Dave Carlson, Environmental Protection Specialist, Office of Project Development and Environmental Review, FHWA

### **Speakers**

Jim Hatter, Innovative Finance Specialist, FHWA Resource Center

Chip Larson, Project Development Specialist, Office of Project Development and Environmental Review, FHWA

Anita Wilson, Area Engineer, Texas Division Office, FHWA

**Description:** Given budget shortfalls and the need to manage congestion, many states are exploring the opportunities afforded by tolling, pricing and public-private partnerships (PPPs) in developing transportation infrastructure. This session provided insight into the challenges associated with considering these funding and management strategies in the NEPA process, discussed current guidance and state-of-the practice, and offered case studies to elicit discussion among attendees.

### **Introduction (Dave Carlson)**

Mr. Carlson commented that he has seen RODs that have not considered financing at all. Such exclusions may lead to costly delays down the road. Project planning affects cash flow, and private partners think about the topic differently. As their concerns revolve around profit and cash-flow revenues, we might be ruling out alternatives that the private sector would like to see. An amendment of 23 CFR 636.109 may be necessary to get input from the private sector prior to completing the process. The design-build contract may be awarded prior to the conclusion of NEPA.

In terms of transportation-project risks, what we are really doing in transportation-project financing is shifting risk. Such risks include environmental and architectural risks, risks concerning ROW costs, and potential liability or defects.

Project-selection criteria for innovative financing include:

1. Urgent transportation need
2. Lack of resources
3. Political/institutional support
4. Enabling legislation
5. Economic benefits

Projects in which PPPs are used are often characterized by an urgent transportation need, especially in congested urban areas. Project advocates should ask themselves, “Do we have the resources available to finance these projects?” PPPs also need political and institutional support. The political environment can change quickly, and the private sector wants to know that support for PPP projects will be sustained in spite of political turnover. Project advocates considering PPPs should also consider the following questions:

- What are the economic benefits?
- Which stakeholders will benefit?
- Where will benefits come from?
- How do we use PPPs to generate revenue streams?

### **Public-Private Partnerships in NEPA (Jim Hatter)**

Mr. Hatter defined a PPP as a contractual agreement between public and private partners that allows more private-sector participation than is traditional. Types of PPPs include:

- Design-build (DB)
- Design-bid-build (DBB)
- Operate-bid-finance (OBF)
- Design-build-operate-maintain-finance (DBOMF)

DB projects are the most common in this country.

Mr. Hatter provided two case studies of PPPs, summarized below.

#### T-495 Capital Beltway HOT Lanes

In this project, the financing comes from multiple sources. (Very few projects can be funded just on revenue streams.) The total cost of the project is \$1.8 billion. Its funding sources include:

- \$530 million in private activity bonds (PABs): These bonds are an exception of taxation for bonds for private-sector funding of infrastructure. Funding for PABs will probably run out in 2010.
- Municipal bonds: These bonds are public in nature, but the private sector can bid on them. They are allocated by the Secretary of Transportation, and we process them.
- Transportation Infrastructure Finance Innovation Act (TIFIA): This is a loan from USDOT that does not come from Federal aid.
- Equity from the Virginia DOT (VDOT).
- \$339 million in equity from the private sector.

#### Port of Miami Tunnel Project

This port-access project uses multiple funding sources and has a total capital cost of \$865 million, including \$50 million of contingency because of the construction risks associated with drilling under the bay. The project uses availability payments from the state (no tolls), with the Florida DOT (FDOT) contributing 50 percent and local partners supplying the other 50 percent. The project may also use fee revenues from container cargoes or cruise-terminal passengers.

The project has an interesting history. Initially, there were no plans to use Federal funding. When the bond market changed and it was discovered that TIFIA was 1 percent less than municipal bonds, the project managers decided that they wanted to federalize the project. However, they have not met Federal requirements for funding since 2002. The main point is that managers of large projects may want to think about keeping their projects eligible for Federal funding until they are absolutely sure that their funding has been secured. Other significant points include:

- Multiple funding sources
- Transportation network across modes
- The need for the state, county, cities, and business to participate in funding
- Use of a cost-benefit analysis to advance projects
- Consideration of financing early in the planning process
- Educating the public

Mr. Hatter ended his presentation by referring the audience to the FHWA-sponsored PPP website, [www.fhwa.dot.gov/ppp](http://www.fhwa.dot.gov/ppp), and the Innovative Finance website, [www.fhwa.dot.gov/innovativefinance/](http://www.fhwa.dot.gov/innovativefinance/).

#### **Urban Partnership Agreements (Chip Larson)**

Many people think that PPPs are the same as tolling or charging customers, but there is a difference between congestion pricing and tolling. Tolling is done to generate revenue, while congestion pricing is done to control congestion. We at the Federal government have had our own set of experiments and engagements with tolling. By law, the interstate system is supposed to be free; however, tolls are collected for 2,900 miles of the system.

Tolling was built into the Interstate Reconstruction Pilot under TEA-21. In 2006, then-Secretary of Transportation Norman Mineta announced a Congestion Reduction Initiative with these goals in mind:

- Relieving urban congestion
- Unleashing private investments
- Promoting operational and technological improvements
- Establishing corridor Improvements
- Targeting major Freight bottlenecks
- Relieving air congestion

Urban Partnership Agreements (UPAs) were started in 2006, followed by the Congestion Reduction Demonstration Program (CRD), the Express Lane Demonstration Program (ELDP), and 23 USC 166. ELDP was initiated by DOT to apply congestion pricing.

Five city partners were selected to apply congestion pricing and other means to improve congestion in their areas. The cities were New York, Miami, Seattle, San Francisco, and Los Angeles. The plan was for the Federal government to fund real packages of improvements with major transit improvements. The New York project had been the most ambitious in scale; it would have used cordon pricing, which requires people to pay tolls to enter certain parts of the city. Recently, however, this project bit the dust due to political infighting, which freed up some money for CRD to be applied to other projects.

Two CRD proposals were recently announced in Chicago and Los Angeles. In Chicago, the plan is to use variable parking pricing and transit improvements on local streets. The Los Angeles project involves the conversion of three unconnected HOV lanes into a managed system of HOT lanes.

The ELDP demonstrates the effects and utilization of congestion pricing, and the construction of planned transportation facilities or the rehabilitation of existing ones, for example, by adding HOV lanes.

We have a range of projects that use tolling as a measure to control congestion, but what is the connection to NEPA? One needs to ask whether the project involves Federal money and if an authorization is applied. Usually, there is a NEPA component that must be addressed. Some components can be designated as categorical exclusions, but it depends on factors such as the impacts, the alternatives, and the purpose and need.

Public acceptance is one of the biggest risks in PPPs, and this risk is increasingly coming to the forefront of UPAs. One of the first steps to be taken is public outreach. As in the example of the New York City project, the congestion-pricing project looked like it was being sprung on an unsuspecting public, which did not understand that tolling and pricing are different concepts. We must be able to demonstrate and communicate that, in congestion pricing; the money goes to benefit public transit. This way, the public will not think that it is being gouged.

### **Questions, Answers, and Comments**

**Question and comment:** Who is responsible for gaining public acceptance within any of these programs? Is it the private sector, state DOTs, or FHWA [that provides the opportunity for funding]? Marketing and public involvement are not the same process. My personal view is that public acceptance should be mostly the responsibility of project sponsors; they need to demonstrate realistic proposals to the public.

**Answer:** The public sector's responsibility for achieving public acceptance should probably fall to the state DOT or MPO. It is an excellent idea to make sure that the concepts discussed have already been included in the plan and TIP, as that is the stage where public acceptance can begin to be generated.

**Transportation-Project Development and Private-Sector Involvement (David Carlson)**

Mr. Carlson stated that it is possible to involve the private sector in the transportation-planning process. The private sector can also get involved in NEPA and even in post-NEPA project activities, with some caveats. Federal partners will also have to be involved, as the ultimate responsibility for NEPA compliance rests with the lead Federal agency. Private developers cannot take over this responsibility. Federal partners have to maintain objectivity and establish ground rules as well as manage the expectations of the private sector. Effective communication and coordination with the private sector's finance staff are necessary. Some of the private sector's concerns involve financing; it wants to see that money comes in as quickly as possible.

The value of the private sector is in its ability to submit innovative design solutions to reduce time and litigation risks. Private developers may also help with public education and outreach activities, and they might be willing to invest additional money to facilitate the streamlining process. Ms. Anita Wilson provided an example from Texas, where one way of accommodating PPPs was to go through the NEPA process first and then to entertain some competition. Texas has developed processes to analyze unsolicited proposals. At the Institute of Scientific Information (ISI) meeting, participants from Texas talked about regional toll analysis and increasing the toll network from 11 to 30 percent of the network by 2030.

Different opportunities are available when you go through the NEPA process with a private partner. Some might want to get more involved or to have a certain influence. The relationships are critical. It can be intimidating to have the private sector at the table. Who is responsible if you turn over the NEPA process? What about environmental commitments that come out of the NEPA process? When you have a PPP project, such as a DBOMF or a long-term concession agreement, you have to be careful about how those agreements are crafted and how environmental commitments are kept. State and Federal agencies are still responsible for ensuring compliance with NEPA and keeping environmental commitments.

PPPs want to make decisions, and they may want to introduce new alternatives to the project. If you have already gone through the NEPA process and the private sector comes to you with a preferred alternative, what does this involve? Reevaluation is necessary, but it introduces schedule risks to developers. You may have to reopen the NEPA document. The purpose and need statement is the foundation for the project, but it takes on a different aura when you talk about revenue generation. Mr. Carlson cautioned that revenue floors could narrow alternatives.

Tolling can be included in the purpose and need statement, as can fiscal needs and constraints. There will always be a nontolling alternative: no-build. The public and others might cajole for or demand the inclusion of a nontolling alternative in the analysis; however, transportation planning should set the basis for whether a tolling or nontolling alternative is included.

A common source of controversy is foreign ownership. This was a big issue for the Indiana Toll Road project. For the Port of Miami Tunnel project, the private companies involved are from Spain and France. The public may believe that foreign companies are taking U.S. money back to their countries. Thus, one should be cognizant of public comments that seem to have nothing to do with the transportation project. There is a need to explain how the process works.

Is it good to involve the private sector in the purpose and need process? Mr. Carlson suggested that there should be stricter control over the process, not so much allowing involvement by the private sector as encouraging it to come up with innovative ideas on how need can be demonstrated. In the development and evaluation of alternatives, the private sector may be more willing to do demonstration projects and innovative activities, but FHWA must manage the public perception.

In terms of environmental impacts, PPPs can add value to NEPA by providing innovation in minimization and avoidance alternatives. Private partners have money to spend and may be able to finance top-notch biologists to do the impacts analysis. When it comes to environmental justice issues, a big challenge is how to manage and explain such issues to PPPs.

What about the mitigation of environmental impacts and compliance with environmental permits, issues, and commitments? In one project, the private-sector partner tried to game the system by failing to build a noise wall that had been part of an environmental commitment for project delivery. In cases such as these, FHWA needs to be in a position to enforce commitments or else risk damaging its credibility.

What happens when there has been a commitment to not using a chemical such as deicing liquid (so as not to harm aquatic species) but it is discovered, ten years later, that the chemical is still in use? The state DOT will receive a Notice of Violation (NOV). In Texas, private developers may also incur penalties if such a clause is written into the project contract. Mr. Hatter added that leases are usually large documents but care must be taken to ensure that commitments are clearly documented and that there is a way to audit and ensure compliance. Projects in Texas are sometimes subject to independent evaluations.

NEPA processes may be conducted differently because there may be new partners with different interests at the table. This brings new agreements, commitments, and environmental tracking.

Mr. Carlson raised several questions concerning interagency coordination:

- Is it best to involve a PPP before or after the awarding of a contract?
- Would the agencies allow PPPs to work under existing agreements with the state DOTs?
- Is it possible for the agencies to enter into agreements directly with PPPs?
- Would PPP involvement provide for increased innovation in resolving conflict?
- Is it possible that PPPs can provide resources to the agencies?

Other considerations for private-sector involvement include:

- Congestion Mitigation and Air Quality (CMAQ) Improvement Program and PPPs
- Special Environmental Project (SEP)-15
- Design-build
- Fiscal constraint

PPPs can be used to deliver CMAQ projects, but it could be problematic if CMAQ funds were used to pay for a project and there were impending changes, such as conversion from an HOV to an HOT. In that case, the project should be prepared to provide a demonstration of emissions reduction. SEP-15 can be used by a project and approved by the DOT and Division offices. It does not remove any environmental obligations; rather, it allows flexibility or experimentation in the process to meet those environmental requirements and achieve outcomes. In design-build

processes, there is still a wall between NEPA and design-build contractors. The project can move forward with a preliminary design before NEPA completion. Beyond those provisions, it is the private entity's responsibility to commit more, and cannot be considered by FHWA or DOT in the alternatives selection or decision-making processes. It is also up to the Division to decide whether all of the parameters are in place to demonstrate fiscal constraint.

The area of PPPs and NEPA is still emerging, and there are lots of unanswered questions, such as:

- What about projects with a small Federal handle?
- How do we address future land-use changes in a project area?
- Given the uncertainty of the current political environment, how do we protect the public interest?

As with NEPA, there is no one-size-fits-all answer. The good news is that a growing body of literature and case studies continues to document the experiences of others, from which we can learn. Some existing resources include:

- FHWA PPP website, <http://www.fhwa.dot.gov/ppp/>
- FHWA *PPP Manual*
- PPP Toolkit, <http://www.ppptoolkit.fhwa.dot.gov/>
- 2005 report on State PPP practices, <http://www.mdt.state.md.us/mdta/servlet/dispatchServlet?url=/About/currentpractise.pdf>

### Questions, Answers, and Comments

**Question:** Are there any instances of PPPs in this country [involving state DOTs or local governments] that have under \$1 billion in funding, where FHWA did not have to do a NEPA document?

**Answer:** Not if we are referring to a transportation project.

**Answer (Ms. Wilson):** In Texas, projects must meet all Federal requirements to be federally eligible.

**Question:** What other advantages exist in Texas for PPPs?

**Answer:** For congestion projects [such as those including managed lanes], there is a need to deliver the projects earlier rather than later, and PPPs may have led to earlier project delivery. There was an initiative in the region to combine projects involving 2-3 NEPA documents. This led to better revenue prospects, and the Division moved the projects up in consideration.

### Comments:

**Mr. Carlson:** The memo "NEPA Analysis of Toll Roads" was issued in 2004 from the Chief Counsel's office. This document provides information on issues of PPPs and alternatives analysis.

**Ms. Wilson:** TxDOT and the Division Office have guidance on how to deal with planning and environmental processes, and how to address tolling or pricing options on some projects.

**Unidentified speaker:** PPPs do not like to assume risks associated with the NEPA process. We have to ensure that they observe the NEPA process. But if the PPP is brought in after the process, this gives the PPP more certainty of what the process is.

**Mr. Hatter:** Alternatives must be included; one should not exclude the longer or more expensive alternative but should work with the state DOT to find the right balance.

## **MANAGING THE RIGHT-OF-WAY: ENVIRONMENTAL BENEFITS**

### **Moderator**

Robin Broils-Cox, Right of Way Specialist, Office of Real Estate Services

### **Speaker**

Cecil Vick, Team Leader, Environment, Planning and ROW, Mississippi Division Office

**Description:** For several years, FHWA has promoted integration of the environmental and planning processes. This presentation highlighted right-of-way (ROW) as the third leg of the integration and explored ways in which the three disciplines have always been interdependent. Project examples were used to show how ROW integration is critical to transportation planning, NEPA document development, environmental mitigation, public involvement, wetlands banking, design decisions, and the implementation of Context Sensitive Solutions. How the Mississippi Division Office has reorganized to integrate the planning, environmental, and ROW functions was also discussed.

### **Integrating the Environment and Right-of-Way Processes (Cecil Vick)**

Right-of-way (ROW) is an important part of the environmental process. While there are many similarities between ROW and the environmental process, the two are often looked at separately and are rarely integrated. Mr. Vick discussed the importance of fostering integration between the two processes.

Environment is more than just the natural environment; just as important are the effects of a project on the community and the human environment. ROW specialists bring many skill sets and tools to address the needs of people directly affected by the project, including:

- A unique perspective, as a result of relationships developed with individuals, of how a project affects community members.
- Critical information on the value of buildings to help develop accurate project-cost estimates.
- An understanding of environmental justice issues.

Integrating ROW and the environmental process can lead to a streamlined NEPA process. Involving ROW professionals early in the project-development process can result in effective Context Sensitive Solutions and improved alignments that minimize community impacts. In addition, addressing ROW issues during the environmental process may allow for mitigation of direct impacts beyond what is available under normal ROW procedures.

The Ninety-first Congress established both NEPA and the Uniform Relocation Assistance and Real Properties Act. The two acts were a result of the country embarking on several large Federal programs: the construction of the interstate system and urban renewal. Both acts require a detailed explanation of the relocation situation and associated problems. Mr. Vick explained how ROW and environmental staff both need to address similar issues and that usually this is done in stovepipes. ROW staff work on relocation plans independently of the environmental staff, who work on similar plans for the environmental documents. Removing the stovepipes eliminates duplication of work. ROW staff can provide the environmental staff with an economic-impacts and relocation analysis that can be used in the community-impacts section of environmental documents.

### Mitigation for Wetlands and Ecosystems

Mr. Vick explained how ROW staff have a great deal of information that can be useful in the mitigation of wetlands and ecosystems. The preferred means to mitigate for wetlands is, first, to avoid the use of wetlands; second, to minimize impacts to wetlands; and finally, to establish wetland banks. The skills and tools associated with ROW professionals are uniquely suited to aid in the creation of wetland banks. ROW professionals are familiar with the local territory and wetland areas within the state. Through their extensive contact with individuals and local realty professionals, ROW specialists can assist in finding suitable land. In addition, they understand how to appraise land values, have much knowledge regarding acquisition approaches, and are skilled in negotiating the purchase of land.

### Mitigation for the Loss of Important Community Facilities

The Uniform Act provides for the mitigation of disproportionate ROW impacts. The act enables homeowners and residential tenants to receive full restitution for their losses; however, the benefits provided to businesses and especially nonprofit organizations are often inadequate to make those entities whole again after property loss. As a result, important community facilities and services often cannot be restored through normal ROW benefits alone. For facilities that fulfill an important community need but cannot receive full mitigation under the Uniform Act, mitigation activities can be supplemented through the NEPA environmental mitigation process. Mr. Vick provided an example of a church relocation project in Gulfport, Mississippi. Due to a highway construction project, a minority low-income church was going to be displaced. Through the environmental mitigation process, the church and the dependent community were relocated away from the project.

In order to integrate the ROW and environmental processes, Mississippi DOT has staffed the environmental division with two experienced ROW specialists. This reorganization has led to enhanced coordination between the ROW and environmental functions. ROW staff are on hand to address ROW questions at any time during the NEPA process. In addition, ROW specialists work hand-in-hand with NEPA specialists to write and review ROW and community-impact sections of NEPA documents. Similarly, the Mississippi Division Office took steps to enhance integration activities by combining the planning, ROW, and environmental disciplines into one team, cross-training its personnel so that each specialty was familiar with the activities of the others.

### **Questions, Answers, and Comments**

**Question:** For the church relocation project, who paid the relocation costs?

**Answer:** A percentage was paid using ROW relocation funds, and the balance was paid with environmental mitigation funds.

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## **LEGAL PANEL**

### **Moderator**

Maryann Blouin, Attorney Advisor, Western Legal Services, FHWA

### **Speakers**

Harold Aikens, Program Legal Services Division, Office of the Chief Counsel, FHWA

Jack Gilbert, Attorney Advisor, Office of the Chief Counsel, FHWA

Lance Hanf, Attorney Advisor, Western Legal Services, FHWA

Glenn Harris, Attorney, Midwestern Legal Services, FHWA

Tracy White, Attorney, Eastern Legal Services, FHWA

**Description:** The legal panel of FHWA attorneys discussed legal sufficiency, risk analysis, and common problems with environmental documents. The panel emphasized again the importance of involving FHWA attorneys early in the project-development process. Speakers took turns explaining the Seven Keys to Legal Sufficiency, a collection of important items to consider to help ensure successful and timely legal sufficiency reviews. These keys are summarized below.

**1. Evaluate risks and know when to call your lawyer.**

Risk analysis is a logical evaluation of what environmental analysis is necessary with regard to the likelihood of litigation. If a project is controversial, it is important to involve FHWA attorneys early so that they can help to ensure that the project team creates and maintains all necessary documentation from the beginning. It is appropriate to involve attorneys in the following situations:

- Disagreement by other agencies
- Unique or new issues
- Belief that FHWA will be sued
- Presence of opposition groups
- Uncertainty about procedure (e.g., how to use *de minimis*, or wondering when a public hearing takes place)
- Need for early engagement to speed the process
- Complicated least-overall-harm 4(f) evaluation
- Programmatic 4(f) evaluation
- Involvement of another agency's lawyers, suggesting controversy
- Problems crafting purpose and need statement due to complexity of project, many alternatives and possibilities

**2. Good Record-keeping**

Good record-keeping from the beginning is important for avoiding problems later in the process. The records must show that all factors were considered, comments were addressed, and there was a strong basis for the decision. Any internal deliberations must be documented; "I know we talked about it" is not sufficient. Additional explanatory materials may be necessary in cases where there is complicated technical information. Ultimately, the administrative record should reflect what the agency did and why it acted in that way. Tips for good record-keeping include:

- Establish a document-retention and maintenance system or plan early in the process, designating who will maintain records and how documents will be indexed. Make sure that plans to maintain records comply with FHWA's file rules.
- Engage counsel early. Figure out which documents are in custody of which agencies, determine rules about electronically stored information, etcetera.
- Save e-mails, both sent and received. Consider designating a "project" e-mail box to keep all e-mails in one place. *Note: If the e-mail box is maintained by the state, talk to a lawyer before using that address to avoid having to forego the privilege.*
- Scopes of work and invoices should likely be included in the project file.
- Back up electronic records.
- Keep a clean copy of meeting agendas.
- Write the notetaker's name and the date on notes.
- Write identifying information on documents before putting them into the file.
- Do not wait until a lawsuit is filed to begin compiling the record.
- Document and track all major decisions in writing. Close the loop on all issues that have been raised, detailing how they were resolved.

- Talk to a lawyer about when to put things in writing. Make sure that all issues and conflicts are addressed and resolved in writing.
- Correct any documentation problems before issuing a ROD or FONSI.
- If there are serious comments from the opposition prior to the decision, consult a lawyer to make sure that all information is available.

### **3. Purpose and Need Statement and Alternatives Analysis**

Ideally, the purpose and need statement would focus first on the “need” (problem) and then on the “purpose” (solution). Common problems are that the statements are either too narrow, too broad, or imply that there is already a chosen alternative. Without a good purpose and need statement, you are much more vulnerable in litigation.

The alternatives analysis is at the heart of the NEPA document and is a frequent target of litigation. The analysis requires documentation on the development and elimination of alternatives. A common problem with the elimination is basing it either on generalities or outdated information. While it is not necessary to redo the entire analysis every time that new information becomes available, the analysis must ensure that the information is still valid. If circumstances change considerably, it may be prudent to reconsider.

Alternatives must be considered in the EA as well as the EIS; all reasonable alternatives should be discussed, even the “no-action” alternative.

Toll roads and PPPs are tricky issues for alternatives analysis because they influence the document. It is important to ensure that NEPA has not predetermined any decisions. FHWA has developed a guidance memorandum on PPPs and toll roads. It is a good idea to consult with counsel early on these projects.

### **4. Public Involvement and Response to Comments**

The NEPA process is like the telling of a story: the way that responses are given to comments determines how good the story is. Comments are an important and valuable component of the decision-making process. They help to identify problems, gaps, or inconsistencies; to raise any possible noncompliance with NEPA or other laws; and to identify opposition and its key concerns. When responding, it is important to give substantive answers to all comments and not pass over difficult issues. Even if no response is needed, the reasoning must be explained. Responses should be consistent, thorough, and comprehensive, and resource-agency comments should be treated with respect. Sometimes the terms of a potential lawsuit are included in comments, so responding to all of them will help to establish the defense in case of a lawsuit.

It is good to document resolution of any internal issues, as it shows that they were considered in a thorough manner at all levels.

If possible, the agency should be flexible with extending comment periods or accepting comments that arrive just as the period is ending, as this shows a good-faith effort to accommodate all comments.

Programs are available to help track comments and ensure that the agency does not duplicate responses. There is also an AASHTO handbook with guidance on responding to comments.

### **5. Emerging Issues**

Key environmental issues that will become increasingly important include climate change, greenhouse-gas emissions, and mobile source air toxics (MSATs). Some guidance is available for addressing emissions and plumes; EPA has indicated that emissions have improved somewhat over the past several years. It is important to

recognize and address impacts even if they cannot be reasonably analyzed at the project level. For example, project-level impacts are very small in terms of climate-change effects, but this issue could be addressed as part of the cumulative-effects analysis.

The CEQ provides guidance for cases where there is incomplete or unavailable information, which prevents the evaluation of adverse effects that are reasonable, foreseeable, and significant. The agency must make it clear that such information is lacking and either unknown, impossible to obtain, or exorbitantly expensive to obtain. The following four issues must be addressed:

- Incomplete or unavailable information
- The relevance of the information
- A summary of existing credible scientific information
- An evaluation of impacts based on a theoretical approach or research methods

#### **6. Section 4(f) Evaluations**

The Section 4(f) requirement is a substantive requirement, unlike NEPA, which is procedural. It is therefore necessary to show that there is no prudent and reasonable alternative if the project must use a 4(f) property. While the new rules provide more deference in determining reasonableness, it is a good idea to have legal input prior to a draft going out for public comment. The new *de minimis* rules do not require consideration of reasonable and prudent alternatives, nor do they require a public hearing for historic properties.

When all reasonable alternatives would use 4(f) resources, a least-overall-harm analysis is necessary to decide among them. This analysis would consider issues such as the ability to mitigate, the severity of harm after the mitigation, and the significance of the properties. If one property by itself is more significant than multiple other properties together, that must be factored into decision-making. Similarly, the analysis should consider the degree to which each alternative satisfies the purpose and need, as some alternatives may address the goals more than others do. Finally, in addition to significant cost differences, the analysis should consider impacts to other non-4(f) resources, such as wetlands, and environmental justice impacts. It is important to show that the analysis explored the wide variety of issues and considered them comprehensively.

An alternative would be considered not prudent for several reasons, including extraordinarily high cost, severe environmental and social disruption even after mitigation, unacceptable safety or operational problems, and, most importantly, failure to meet the purpose and need. While these issues could be minor on an individual basis, taken together they could be of sufficient magnitude to render an alternative not prudent.

#### **7. FONSI**

A finding of no significant impact (FONSI) is a written decision, and it must be treated with the same respect as a ROD. It is still vulnerable to lawsuit and may be even more so than a ROD, as it is showing no significant impact. It is imperative to be able to justify the decision by discussing the context and intensity of the project that is stated as leading to no significant impact.

### **Questions, Answers, and Comments**

**Question (Fred Skaer):** FHWA attorneys are working on checklist for new 6002 process; does that relate to complying with the law, or to risk?

**Answer:** Complying with the law is part of managing risk. Checklists are just tools to help, but NEPA is procedural, and 6002 lays out several things that must be followed. If the procedures are not followed, then the law is not being followed.

**Question:** Often, some documents are located at the state DOT while others are at the Division Office. The state [and its consultant] is responsible for preparing the EIS. Who should keep and maintain the administrative record, the state or the Division?

**Answer:** FHWA attorneys can help to combine documents from the Division with those from the state and the consultant to form the entire record. In general, not all documents, data, or files are at the Division. NEPA has a special exemption to allow the state to act as FHWA's agent. All three locations are appropriate places to have documents. Staff just need to know where the documents are and how to obtain them.

If a project is controversial, be sure to confirm with the consultant that the documents are important and not to be disposed of. Also, secure agreement on how to manage the administrative record. State and Federal ability to withhold documents prior to a decision may differ.

**Question:** Pre-selection of an alternative in the purpose and need statement should be avoided, but it is sometimes useful to include logical termini for a project. How should this issue be addressed?

**Answer:** It depends on the project. If the project is to extend an already existing road, then at least one of the termini is essentially selected. However, in a true alternatives analysis for a new roadway location, it is not wise to commit to an exact location. Instead, define potential locations generally or broadly. Giving a specific location can create problems.

**Question:** Is there additional guidance on the difference between public hearings, open houses, and informational meetings?

**Answer:** The open-forum format is popular for sharing information, but it doesn't provide a setting for people to make comments into a microphone. However, there are typically ways to record and provide official comments at open forums. Consider reserving a small portion of the meeting for a town-hall component, with time limits for how long people can speak.

**Question:** How does pulling new players into the legal mix factor into FHWA's legal sufficiency review process?

**Answer:** So far, California is the primary state with such delegation. The pilot program will look at results and implications for extending delegation. Pursuant to Section 6005, USDOT can intervene as necessary—for example, if there is the potential for setting a precedent. In general, it would be helpful if FHWA had more environmental specialists in house.

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### **RE:NEPA LIVE**

#### **Moderator**

Lamar Smith, Office of Project Development and Environmental Review, FHWA

**Description:** Re:NEPA, FHWA's online community of practice, continues to be a tremendous success for sharing information and discussing key issues related to the environmental review process. The purpose of this session was to address controversial, complex issues and

questions in a “live” version of Re:NEPA. Questions were generated by participants throughout the conference through a Re:NEPA question box and answered by Lamar Smith and other participants.

### Questions, Answers, and Comments

**Question:** If you had three wishes in regard to NEPA, what would they be?

**Answers:**

**Mary Ann Rondinella:** I wish every Division Office and resource center office could have its own attorney.

**Ruth Rentch:** Good-quality, consultant-produced documents.

**Mike Culp:** More environmental staff.

**Bob Mahoney:** That FHWA could reduce documents to the pertinent items.

**MaryAnn Naber:** That documents would be well written, in language understandable to the public.

**Shari Schafflein:** Good pictures and visualizations in documents.

**Robert Dirks:** More consistent methodologies used and more consistency in documentation.

**Question:** What is the most challenging NEPA issue you have ever dealt with?

**Answers:**

**Lamar Smith:** It is challenging to determine when certain actions require NEPA and when the connection to FHWA’s role may produce significant impacts.

**Fred Skaer:** One of the most challenging issues in the political arena is when the pathway forward is clear and bureaucrats cannot recognize this. Also, when the faithful execution of the laws does not lead you in the clearest direction, reconciling the two can be difficult.

**Question:** When can FHWA staff and the public expect a final rule on 23 CFR Part 771 [Environmental Impact and Related Procedures]?

**Answer:** FHWA plans to publish the final rule either by the end of the fiscal year or the end of the calendar year.

**Question (Lamar Smith):** What were some of the comments received on the NPRM for 23 CFR Part 771?

**Answer (Janet Myers):** “How to interpret who is a mandatory joint lead agency.” FHWA took the position, under SAFETEA-LU Section 6002, that a joint lead agency must be the direct recipient of funding. Therefore, local agencies cannot be the joint lead because they receive funding as a pass-through from the state, thereby keeping the state responsible.

**Question:** How do we get lawyers involved earlier?

**Answer:** Call them. Go to the list on Staffnet to get a list of the attorney Division chiefs in each geographic region. The attorneys are happy to take calls and respond to e-mail early in the process. Sometimes they have time constraints, but if they are engaged early, with a timeframe, they can help. Chapter 5 of the *Green Book* joint AASHTO/ACEC/FHWA report on “Improving the Quality of Environmental Documents” provides information on warning signs for all NEPA classes of action where agencies may want early coordination with attorneys.

**Question:** What is the status of the Technical Advisory 6640.8A rewrite? What role will AASHTO play in this effort?

**Answer (Lamar Smith):** Work has started on the TA 6640.8 rewrite, but the project is on hold for both practical and formal reasons. AASHTO has requested to be involved and to hold a workshop with FHWA and 16 states. While this yielded 1.5 days of good discussion, FHWA

cannot host a longstanding committee, be part of an iterative decision-making process, or share a draft with AASHTO, due to the Federal Advisory Committee Act (FACA). FHWA plans to continue to rewrite the TA and pass it along for review to FHWA staff at that time.

**Question:** What suggestions do you have for evaluating noise impacts in a national wildlife refuge, particularly when USUSFWS has concerns with the impacts on wildlife and refuge activities?

**Answer (Tim Haugh):** FHWA staff should not use the noise-abatement criteria that are designed around interface with human conversation but rather the US Forest Service noise model. CalTrans did extensive research on birds and noise and learned that USUSFWS has different opinions than FHWA and CalTrans about what noise level will affect birds.

**Question:** Does a checklist exist to guide the analysis stage of the process?

**Answer:** Yes there are multiple checklists. Ruth Rentch mentioned the SAFETEA-LU Section 6002 checklist, which can be found at [http://www.environment.fhwa.dot.gov/strmlng/sec602\\_checklist.asp](http://www.environment.fhwa.dot.gov/strmlng/sec602_checklist.asp). Several states noted that they have a comprehensive checklist for conducting the full EIS process. For example, Caltrans has been using annotated templates for many years as part of the review criteria for quality documents. These templates are available at [www.dot.ca.gov/ser](http://www.dot.ca.gov/ser).

**Question:** The push to link planning and the environment in the field is ongoing in order to integrate and make the processes more seamless. What efforts are being made to integrate and link the Headquarters planning office with the environment office, aside from that they both are under HEP? Perhaps a joint planning and environment conference would be scheduled?

**Answer (Mike Culp):** FHWA is trying to link the offices and help the field integrate processes through the PEL program. The Project Development, Natural and Human Environment, and Planning Offices work together on this and related programs, but a linking office does not exist. This year, the planning conference will share many of the same topics as at this conference.

**Question:** Can we take a net-benefit approach to an individual [not programmatic] 4(f) analysis where the impacts after mitigation are not *de minimis*?

**Answer (Dave Gamble):** If it is not *de minimis*, then examine the use of the net-benefits programmatic evaluation; if the net-benefit programmatic cannot apply, we will have to process it through an individual evaluation. When examining avoidance alternatives as part of the individual evaluation, it is important to incorporate all possible planning to minimize harm. The net-benefit approach cannot be used for individual project analysis, but minimization of harm must still be considered as part of 4(f).

**Question:** Does HEP care if we no longer make a wetland finding based on Executive Order 11990?

**Answer (Carol Adkins):** Yes, there is nothing to relieve FHWA staff of this responsibility. For more information, look at 23 CFR 777.

**Question:** Can you post all of the questions and answers from today's session online?

**Answer:** Yes, this and all conference proceedings will be posted on the conference website.

**Question:** When you have an FEIS and a ROD and then the final design results in a minor change outside of the corridor, can you do a "lesser" environmental document, such as a CE, to address the changes, or do you need to revise the ROD?

**Answers:**

**Audience member:** First, examine if it is possible to perform a reevaluation and assess whether the change is minor or there is new information. Then, determine whether a CE or a Supplemental EIS is appropriate.

**Lamar Smith:** There is a criterion for revising a ROD. Reevaluations are not a substitute for NEPA; they are merely a way to decide if NEPA is required.

**Follow-up question:** Do you have to do a Supplemental EIS, or would a CE suffice?

**Answer:** The analysis and document developed depend on the type of impact and what has already been analyzed in the FEIS. CEs cannot be used to avoid NEPA. Some people use EAs to assess new impacts, which leave a nice documentation trail. If a Supplemental EIS is completed, regulations allow for limited scope, which is rarely used.

**Question:** Is it OK to mitigate a FONSI or *de minimis*?

**Answer:** Agencies can mitigate “down to” a FONSI or *de minimus*. They can use case law by analogy, even though the guidance is not yet clear.

**Follow-up question:** Is there a difference in mitigation commitment or obligation to mitigate if the document is an EIS versus an EA?

**Answer (Lamar Smith):** No. It is FHWA’s policy that the agency mitigates for adverse effects. Use of mitigation for EAs should be done if there is adequate funding and the relevant factors are analyzed. Depending on the circumstances of the project, agencies can use mitigation to issue a FONSI instead of an EIS.

**Follow-up question:** Can you discuss this in the context of a phased project?

**Answer (Lamar Smith):** NEPA is no different in phased cases, which differ only in terms of timing. Despite fiscal constraint, FHWA’s responsibility for NEPA does not change. The decision must be clear, even if an agency is only advancing part of a project.

**Question:** When conducting the EIS process, the EPA has indicated that FHWA needs to include verbiage that indicates we are “addressing greenhouse-gas emissions.” Yet EPA, admittedly, doesn’t have guidance on acceptable greenhouse-gas-emissions levels. How are we, as an agency, going to meet this requirement in the Divisions? We need EPA/the resource agency to sign off on our coordination plan as part of an EIS.

**Answer (Becky Lupes):** FHWA is currently developing guidance on addressing greenhouse-gas emissions in planning and NEPA. During the scoping process, if the EPA, an attorney, or another stakeholder comments that greenhouse gasses should be addressed, then FHWA Headquarters can provide language. It is not analysis at this time, but it provides discussion to the NEPA document. In the long term, FHWA hopes that this will be addressed in the planning process on a broad scale.

**Question:** With all of the attention on streamlining, why is it not working or happening? It seems to take longer than it once did.

**Answer (Fred Skaer):** FHWA is trying to identify and address why streamlining appears to be ineffective. In Fiscal Year 2007, the median time to complete an EIS was 68 months, while the target is 36 months. For many years, these timeframes went down, but now they are going back up. One likely reason is the emphasis on system performance and preservation on tight budgets. When there is less money available to implement large projects, agencies lose their sense of urgency to complete the EIS if they lack enough money to build the project. In addition, agencies often address complications as they arise instead of assessing risk upfront. HEPE started an Inactive EIS list to ensure that, in the future, inactive projects will not be counted toward the average timeframe to complete an EIS.

**Follow-up question:** Did removal of the requirement to do major investment studies worsen the problem? Maybe we do not know what type of project is feasible.

**Answer:** No, it did not. Streamlining should not mean rushing through the process; it means making good decisions that are permissible and accepted by decision-makers and stakeholders, so agencies will not need to go back to the decisions later.

**Question:** I recently started to review NEPA documents. I think this conference offered valuable insight to a neophyte. What other resources would you recommend that I add to my toolkit?

**Answer (Marlys Osterhues):** FHWA staff members should network with each other as resources. Other good tools are Re: NEPA online, the resource center, and Headquarters contacts. There is also an NHI 142005 class and the Environmental Competency Navigator. [See the FHWA Environmental Review Toolkit at <http://www.environment.fhwa.dot.gov/> for more information on some of these resources.]

**Question:** The FHWA Environmental Review Toolkit is a valuable tool, but it is still hard to find some of the key documents that FHWA puts out and posts to Re: NEPA. Also, it is difficult to find these items on the project-development page.

**Answer (Lamar Smith):** Thank you for the constructive criticism. FHWA welcomes recommendations for improving the Toolkit and Re: NEPA. FHWA and the Volpe Center are presently working on retooling the Toolkit.

**Question:** With the recent planning/NEPA/fiscal-constraint information sent out by FHWA that mentions multiple RODs, the state DOT and the Division Office are concerned that this approach could be challenged as segmentation. Is this a risk, and have many states been using this approach? Also, there is a concern, with multiple RODs, that the pieces of the project that are in the ROD weren't analyzed in the EIS. In other words, there may be other impacts associated with approving just a portion of the project, such as traffic patterns that weren't considered for smaller pieces of the project or in the EIS.

**Answer:** It is a risk, but not many states have used this approach yet and there is no case law at this time. FHWA has not been using this approach for long, so we are still working out the details. Phased RODs are complicated, and with segmentation, purpose and need must be set up to ensure that there are logical termini and independent utility. Be careful about addressing impacts in other phases; it is good to break down impacts by each phase. Phasing should be discussed in the document and shared with the public. Discuss what would happen if other phases were not built, which will help to establish utility and avoid segmentation.

**Question:** What are the effective NEPA strategies for downscoping or scaling corridor improvements, where long-term improvements may not be fundable in the near term? Can a corridor be analyzed using a hybrid tiered approach, where you look at half a corridor length in detail and the other half addressed as a Tier 1 document, where an access-management strategy is identified?

**Answer:** Phased approaches can be done as separate documents and referenced appropriately. Tier 1 documents can be challenging if resource agencies do not understand the approach.

## **CLOSING REMARKS**

Lamar Smith thanked the audience for its participation in the question-and-answer session. David Grachen and Marlys Osterhues then thanked the conference planners, presenters, trainers, and participants, and closed the conference.