

# **AWARENESS GUIDANCE FOR MAINSTREAMING ENVIRONMENTAL STEWARDSHIP AND ENHANCEMENT ACTIVITIES INTO PLANNING AND PROJECT DEVELOPMENT**

*Requested by:*

American Association of State Highway  
and Transportation Officials (AASHTO)  
Standing Committee on the Environment

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# CHAPTER 1

## INTRODUCTION AND PURPOSE

Transportation infrastructure and systems can have significant effects on the environment, including pollution, habitat loss and fragmentation, and urban sprawl. While the rate of population growth and development in the United States further threatens the environment, it also puts pressure on transportation agencies to continue to meet the mobility needs of people and goods.

Transportation agencies have increasingly become active stewards of the environment, as they look to incorporate environmental principles into planning practices. Yet there are at least two key barriers that impede the connection between transportation planning and environmental planning. First, resource agencies primarily conduct environmental review processes at the individual project development stage rather than at the early system or “conceptual” planning stages. Second, the actors involved in transportation project development processes are often different from the actors in regional and statewide transportation planning processes. Therefore, interagency and intra-agency collaboration are needed to more completely and effectively integrate environmental considerations with transportation planning processes.

Changes to the planning process have been occurring as transportation system planners are increasingly looking to conduct comprehensive planning to meet the goals of a wide array of community stakeholders. In 2005, SAFETEA-LU Section 6001 required transportation agencies to consult with other planning agencies and to consider broader environmental issues in the long range planning process. This has provided planning agencies with the impetus to form the relationships and gain the data needed to conduct such analysis and begin to further integrate environmental considerations into the planning and decision making processes.

### PURPOSE

The purpose of this document is to illustrate and motivate the “mainstreaming” of environmental stewardship into transportation systems planning and project development. It should help heighten transportation agency awareness of integrated planning approaches that enable communities to meet multiple goals and coordinate planning systems to become more efficient and harmonized.

The material in this guidebook is drawn from interviews with a wide variety of agencies, including state departments of transportation, metropolitan planning organizations, and regional planning agencies, as well as relevant planning and project documents. Interviews were conducted with over 40 individuals from 20 agencies throughout the United States. The major criterion for selecting candidate agencies was that they had undertaken at least one notable practice that meets the Section 6001 environmental requirements. The notable practices and lessons identified through those interviews and documents are the basis for this guidebook. This document is part of a set of awareness-building tools for transportation agency use that includes an executive summary brochure and presentation materials.

This document is a product of National Cooperative Highway Research Program (NCHRP) project 25-25A, Task 55. NCHRP conducted this effort for the American Association of State Highway and Transportation Officials (AASHTO), Standing Committee on the Environment (SCOE).

## **WHO CAN BENEFIT FROM THIS DOCUMENT?**

This document is intended to help transportation agency staff better understand options and opportunities for integrating environmental considerations into the planning process. Planning staff can use it as a resource to help connect planning and NEPA, improve consultation and data sharing with resource agencies, and expand efforts to integrate planning realms. Agencies may also use it as an educational tool to increase awareness about the importance of integrating transportation and environmental planning. The awareness guide presents not only state-of-the-practice examples of what agencies around the county are doing but also practical strategies about how agencies are overcoming specific barriers and challenges.

## **WHAT DOES THIS DOCUMENT CONTAIN?**

This document is intended to provide helpful information on how to integrate environmental considerations into the planning process by providing examples of how agencies have been successful with these efforts. Specifically, this document contains:

- Brief background on SAFETEA-LU Section 6001, streamlining and FHWA's Planning and Environmental Linkages (PEL) efforts
- Key findings from research
- Approaches to success—notable case examples for key issues
- Obstacles and examples of how agencies overcame them
- Taking the next step — addressing gaps and moving forward

The document appendices provide information on resources from which additional details on streamlining/environmental planning may be obtained. The appendices also contain a series of brief case studies for a variety of noteworthy practices reviewed in the course of developing this document.

## CHAPTER 2

### BACKGROUND

#### SAFETEA-LU SECTION 6001

Enacted in 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) included several changes related to transportation planning. SAFETEA-LU Section 6001, in particular, requires long-range transportation plans to include the following elements and activities:

- Consultations with resource agencies, such as those responsible for land-use management, natural resources, environmental protection, conservation and historic preservation, which shall involve, as appropriate, comparisons of resource maps and inventories
- Discussion of potential environmental mitigation activities
- Participation plans that identify a process for stakeholder involvement
- Visualization of proposed transportation strategies where practicable<sup>1</sup>

Section 6001 encourages MPOs to consult or coordinate with planning officials responsible for other types of planning activities affected by transportation, including planned growth, economic development, and environmental protection.

As we begin to move toward the next transportation authorization bill, it is expected that Congress will require further efforts to link environmental and transportation planning. In May 2009, the National Surface Transportation Policy and Revenue Study Commission made recommendations for the next authorization bill under the broad category of “Environmental Stewardship: Transportation Investment to Support a Healthy Community.” The recommendations call for MPOs and DOTs to undertake programmatic mitigation to preserve endangered habitats.

#### STREAMLINING

Improving the transportation project development process is of critical importance to transportation agencies. The project development process is often separate from the planning process: timelines are different, key actors are different, and the processes have had little intersection. Fortunately, transportation agencies have been working to change this, and with the assistance from FHWA programs such as Planning and Environmental Linkages, the processes are increasingly being linked.

The National Environmental Policy Act (NEPA) review is conducted at the project development level for transportation projects, primarily through environmental impact statements (EIS) or environmental assessments. Since Congress’s enactment of NEPA about 40 years ago, the time to complete one of these analyses has nearly tripled and many

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<sup>1</sup>Public Law 109-59, § 6001.



projects experience delays of over 5 years. The reasons for delay include stakeholder opposition, environmental concerns expressed by resource agencies, and other process issues inherent to NEPA.<sup>2</sup>

Streamlining is considered an effective way to improve efficiency and reduce the timeframe of the project development process while ensuring environmental protection.<sup>3</sup> Agencies see project streamlining as a way to not only improve the efficiency of the project development and NEPA process but also as a way to improve environmental outcomes.

FHWA research has shown that the most effective streamlining approaches stressed promoting early consultation between Federal, State, and local government entities; used concurrent, rather than sequential, review of plans and projects; fostered stakeholder participation; and worked to provide adequate levels of information, funding, and staff for environmental review.<sup>4</sup>

## PLANNING AND ENVIRONMENTAL LINKAGES

To help improve the project development process and improve environmental outcomes, the Federal Highway Administration (FHWA) has developed guidance for transportation agencies on how to integrate the planning and the environmental review process. Planning and Environmental Linkages (PEL) connects transportation planning and the environmental review process through four key areas: data analysis and tools, interagency coordination, decision process changes, and Purpose and Need statements.<sup>5</sup> PEL occurs at points early in the transportation process when decision-makers consider environmental, community, and economic goals and carry these goals through to the project development and environmental review process, and on to design, construction, and maintenance.<sup>6</sup>

Figure 1 depicts the layers that make up an integrated planning approach: land use, transportation, water resources, and other natural and cultural resources. The integrated planning approach not only harmonizes data but also helps agencies avoid unnecessary duplication of procedures, thus saving time and resources. FHWA's "Eco-Logical" program encourages agencies to develop infrastructure using this integrated ecosystems approach.

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<sup>2</sup> FHWA Public Roads. PEL: A Path to Streamlining and Stewardship. March/April 2008. Vol. 71, No. 5.

<sup>3</sup> NCHRP Web-Only Document 79 (Project 25-24): Contractor's Final Report. Monitoring, Analyzing, and Reporting on the Environmental Streamlining Pilot Projects. November 2005.

<sup>4</sup> NCHRP Web-Only Document 79 (Project 25-24): Contractor's Final Report. Monitoring, Analyzing, and Reporting on the Environmental Streamlining Pilot Projects. November 2005.

<sup>5</sup> FHWA Transportation and Environmental Linkages. <http://www.environment.fhwa.dot.gov/strmlng/newsletters/apr07nl.asp>

<sup>6</sup> FHWA Planning and Environmental Linkages Implementation Resource Guide. Prepared by ICF International. September 2008.

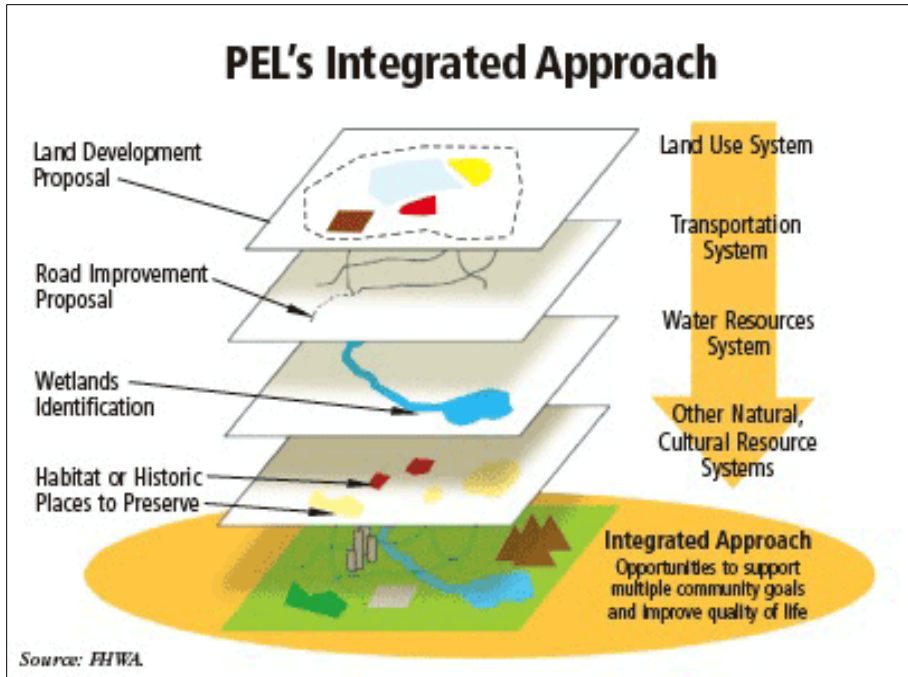


Figure 1: Graphic Description of FHWA's Planning and Environmental Linkage's Integrated Approach

Figure 2 illustrates the link between systems level planning and project-level decisions as well as the connection between transportation and resource agencies.

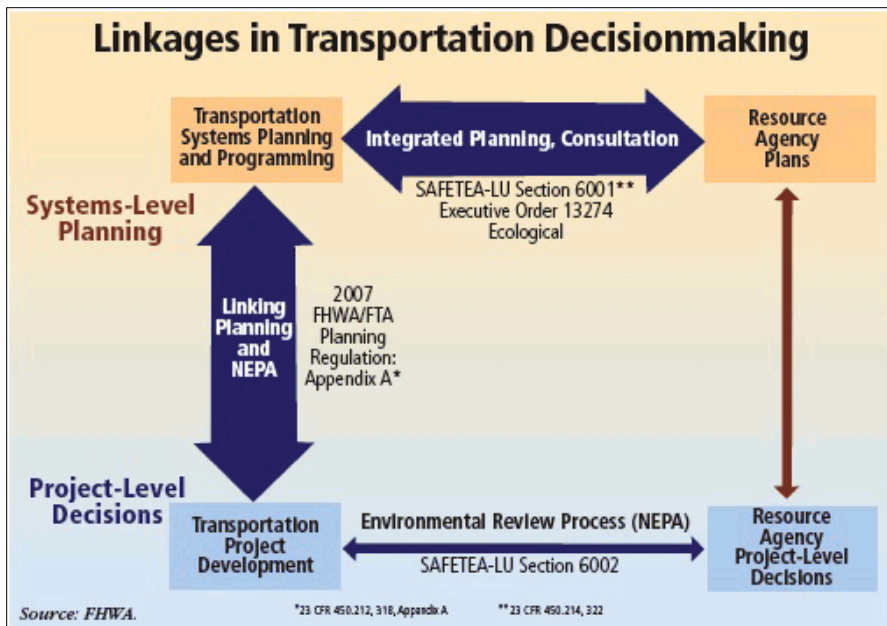


Figure 2. FHWA's Transportation and Environmental Linkages in Decision-making

## CHAPTER 3

### BASIC INGREDIENTS OF SUCCESSFUL INTEGRATION PROCESSES

While federal law requires MPOs and DOTs to address Section 6001, each agency is at a different stage of the process and has taken a slightly different approach toward achieving Section 6001 environmental and streamlining outcomes. Some agencies have a well-established history of activities geared to linking transportation and environmental planning. However, it appears that most agencies began such activities in earnest following the passage of SAFETEA-LU. In addition, some agencies had pre-existing working relationships with resource agencies through regional planning efforts such as watershed or air quality planning. Other agencies have focused on the connection between transportation and land use planning, and this has subsequently involved environmental planning efforts.

In the course of developing this document, it was noted that several agencies pointed to the importance of SAFETEA-LU for encouraging—and possibly even driving—many of these efforts. In addition, FHWA has been an important resource to several agencies with efforts to link planning and NEPA or transportation and environmental planning.

Table 1 below lists the many possible actors involved in the integrated planning process. These actors span governmental scales as well as three policy domains: transportation, resource, and land use.

Scale	Policy Domain		
	Transportation	Resource	Land Use
Federal	<ul style="list-style-type: none"> <li>▪ U.S.DOT (FHWA, FTA)</li> <li>▪ U.S. Legislative and Executive Branch</li> </ul>	<ul style="list-style-type: none"> <li>▪ U.S. Environmental Protection Agency</li> <li>▪ U.S. Army Corp of Engineers</li> <li>▪ U.S. Fish and Wildlife</li> </ul>	<ul style="list-style-type: none"> <li>▪ Bureau of Land Management</li> <li>▪ U.S Department of Agriculture</li> </ul>
State	<ul style="list-style-type: none"> <li>▪ State Department of Transportation</li> <li>▪ State Elected Officials</li> </ul>	<ul style="list-style-type: none"> <li>▪ State Natural Resource/ Environmental Conservation Agency</li> <li>▪ State Fish and Wildlife</li> <li>▪ State Division of USACE</li> <li>▪ State Environmental Laws</li> <li>▪ State Courts</li> </ul>	<ul style="list-style-type: none"> <li>▪ State Legislature (land use laws)</li> <li>▪ State Courts</li> </ul>
Regional	<ul style="list-style-type: none"> <li>▪ Metropolitan Planning Organization</li> <li>▪ Regional Transit Authority</li> <li>▪ County public works</li> </ul>	<ul style="list-style-type: none"> <li>▪ Municipal government</li> <li>▪ Council of Government (COG)</li> <li>▪ Regional Planning Agency</li> <li>▪ Regional Conservation Commission</li> </ul>	<ul style="list-style-type: none"> <li>▪ Regional Planning Agency</li> <li>▪ Regional Land Conservation Boards</li> </ul>
Local	<ul style="list-style-type: none"> <li>▪ Municipal and local public works</li> <li>▪ Local transportation/ transit agency</li> </ul>	<ul style="list-style-type: none"> <li>▪ Local Government (Water, Waste, Etc.)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Local zoning, conservation, and planning boards</li> <li>▪ Land owners</li> <li>▪ Local elected officials</li> <li>▪ Comprehensive land use plans</li> </ul>

Table 1. Actors in SAFETEA-LU Section 6001 and the Integrated Planning Processes.

Figure 3 below illustrates the context for how Section 6001 activities fit into the overall integrated planning process. The integrated planning process includes transportation, resource, and land use linkages for both transportation planning and project development. Section 6001 consultation activities provide the critical link between system level resource and transportation planning.

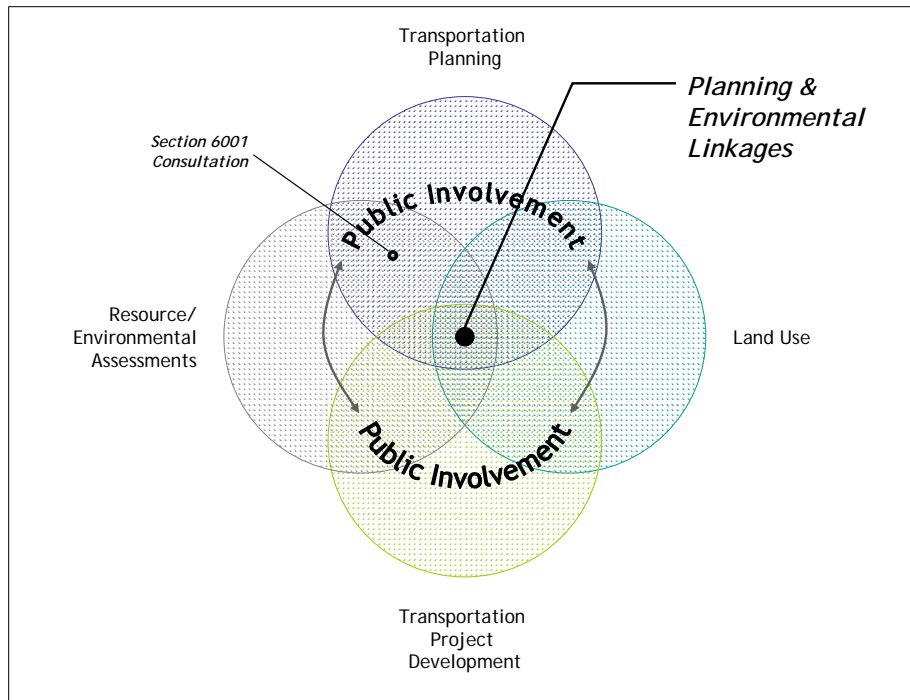


Figure 3: Interrelationship of Planning and Environmental Processes

Programs such as FHWA’s Planning and Environmental Linkages (PEL) helps connect transportation planning and project development processes. Other factors that encourage planning-project linkages not included in the illustration include intra-agency coordination, performance-based planning and programming, and needs-based planning.

Transportation-resource agency connections result from Section 6001 consultation for planning and through NEPA for project development. Land use considerations are also an important factor to successful integrated planning and the linkages between transportation and the environment. In order to reach certain objectives, transportation agencies must work with land use decision makers on both planning and project level processes. For example, some transportation agencies are working with local jurisdictions to align local comprehensive land use plans with regional transportation plans.

Key considerations for integrated planning include consultation and partnerships; public outreach; data and tools; connection between planning and project development; land use connection; mitigation; funding and resources; streamlining and environmental strategies; outcomes; and agency culture.

## CONSULTATION AND PARTNERSHIPS

Each agency reported that consultation is a critical element to successfully link planning and environmental processes. Consultation is the cornerstone of Section 6001, and without healthy interagency relationships, integrated planning is not possible. Overall, agencies reported that relationships with resource agencies are fairly successful, although there has not been a history of collaboration at the early planning stages. First, resource agencies have very limited funding and staff to dedicate to integrated planning. Second, resource agency expertise is often species or habitat focused rather than comprehensive ecosystem oriented and most of the work occurs at the project/NEPA level. Third, resource agencies, particularly at the beginning of these relationships, sometimes distrusted transportation agency intentions for environmental protection and were initially nervous about providing data that could be used to streamline projects that may have negative environmental consequences.

Strong partnerships were cited repeatedly as an essential element to integrated planning, streamlining, and early environmental planning efforts. Several agencies already had strong relationships with resource agencies prior to Section 6001 while others built new relationships. Several MPO staff noted that FHWA assistance has been very helpful to link planning and environmental processes. For this work to be successful, building better relationships between federal, state, and local resource agencies and being “on the same page” with other agencies is essential.

## PUBLIC OUTREACH

For many long range planning processes, the public and key stakeholders help establish goals and objectives such as the importance of the environment. Early participation can save money and time later in the project development process, as potential objections may be minimized or more easily addressed by early public involvement and input. While involvement of the public can be somewhat time consuming, having key stakeholders involved at the earliest stages of planning and project development can minimize the chances that serious objections will halt project development. Early public involvement also increases the chance that projects selected are aligned with community values.

## DATA AND TOOLS

Without the availability of good data, integrated planning efforts and the ability to link planning and project decisions would not be possible. Agencies are increasingly coordinating regional data with other agencies, local governments, and non-governmental organizations—across sectors and scales, and within and between agencies.

GIS maps of natural resources and environmentally sensitive areas are necessary tools to bridge transportation and environmental planning. Layers of environmental, transportation, and land use data can be combined to develop maps that are used as decision-making tools.

Good data are essential but only part of the solution. For example, good regional models and plans may exist, but without local or project-level buy-in, the plans can be ineffective. Data are ultimately used as a decision-support tool. To link environmental and transportation planning, data can be used for early environmental analysis, fatal flaw analysis, and to develop review checklists for project selection.

## CONNECT PLANNING AND PROJECT DEVELOPMENT

The research revealed that agency staff believes there is a disconnect between planning and project level decisions. Some felt that even if they received good data from resource agencies to integrate into plans, these plans could be ignored at local and project levels. Planning staff felt they could make the biggest difference by using environmental data in long-range plans, to select projects for the Transportation Improvement Program, and to develop comprehensive mitigation plans.

Efforts to connect the planning and project level transportation decision-making processes include Purpose and Needs Statements, alternatives identification and analysis, and screening tools. Other ways include working with local land use decision makers, such as local governments. Regional planning efforts that strive to gain community consensus and local leadership buy-in can also help bridge project-planning gaps.

The lack of systems-level and long-range analysis at the project level can be overcome through diligent inclusion of environmental analysis at early planning stages. Coordinated cost benefit analysis that includes a long-term perspective and weighs choices between economic, environmental, and social costs also helps to expand planning horizons and improve integrated decision-making processes.

## LAND USE AND LOCAL DECISION-MAKING AUTHORITY

An integrated framework for linking environmental and transportation planning includes land use issues, as transportation and environmental planning are not separate from local land use decisions. Local jurisdictions usually have land use authority and trying to find consensus for regional planning efforts can be difficult. Some agencies have undertaken extensive regional planning efforts through a bottom-up approach with initial local buy-in, yet these plans may still reach implementation barriers at the local level. Effective integrated planning processes need to consider decision-making structures as well as how political processes can present barriers to success.

For regional planning initiative involving the public, land use strategies are critical to meet many regional goals. Harmonizing transportation, land use and natural resource planning is the cornerstone of integrated planning.

## MITIGATION

Most mitigation for transportation projects takes place at the project level. In this way, resource agencies can provide detailed analysis of an area and transportation agencies can mitigate the negative environmental consequences of each transportation project. Yet

this approach obviously falls short of comprehensive planning. Site-specific mitigation is often piecemeal and does not take into account a broader regional ecosystems perspective.

Some transportation agencies are now working to develop mitigation plans much earlier in the planning process using environmental data. Section 6001 encourages agencies to include mitigation discussions in the long-range plan. Some agencies have taken it upon themselves to develop comprehensive mitigation plans that are being utilized at the project level.

Agencies are also using comprehensive mitigation as a way to develop systems-level, integrated plans—ecosystem based plans that include coordinated land use, transportation, and environmental data.

## FUNDING AND RESOURCES

Staff resources and time availability was repeatedly cited as a key barrier to successfully undertaking Section 6001 requirements. Resource agencies often do not have adequate staffing for project-level environmental assessment, and having the additional job of consulting with planning staff can be burdensome to these agencies.

Some agencies have provided transportation funding for a staff position at resource agencies to specifically focus on permitting and streamlining of transportation projects. For many agencies, this may not be possible as funding cannot always be used for this purpose. A few agencies are finding that although they want to integrate environmental considerations into early planning, there is not adequate agency staff to consult, collect data, and conduct analysis.

## STREAMLINING AND ENVIRONMENTAL STRATEGIES

Many strategies are used to link transportation and environmental planning and to streamline projects. Strategies include consultation, public outreach, data sharing, natural resource inventories, and GIS analysis. Other strategies include design, such as context sensitive solutions, to integrate environmental considerations into infrastructure projects.

Below is a list of strategies that agencies employ to reach streamlining and environmental outcomes:

- Consult with resource agencies
- Early public outreach
- Use available environmental data from resource agencies for planning
- Layer transportation and environmental data using GIS tools
- Develop environmental screening worksheets for decision making for long range plans and transportation improvement program
- Use Design-build standards
- Use Context Sensitive Solutions



- Work with local land use decision makers to implement regional plans and goals
- Use Purpose and Needs Statements and alternatives analysis to address possible environmental issues

## OUTCOMES

While there is very little concrete evidence of outcomes and impacts, almost all MPO and DOT respondents suggested that this process is helping to improve overall environmental outcomes and reach regional environmental goals.

Almost all agencies could cite qualitative observations of either improved project or environmental outcomes. A few people noted specific projects that benefitted from Section 6001 efforts, such as a reduction in permitting costs. Several agencies have developed or are in the process of developing performance measures to evaluate streamlining processes and environmental outcomes as a result of Section 6001 and other activities.

Transportation planners often see the need to prove streamlining benefits mainly to persuade project level actors—engineers, local government, permitting agencies—that conducting environmental analysis and consultation with resource agencies at the early planning stages is advantageous for projects. Some agencies are measuring specific aspects of streamlining, such as reduced number of permits and time savings.

## AGENCY CULTURE

To enable and facilitate the process of linking environmental and transportation planning, institutional culture must undertake some fundamental changes. The traditional paradigm of transportation planning and project processes being separate is starting to transform. Increased intra-agency/interdisciplinary collaborative relationships and interdepartmental work is important to adequately meet Section 6001 requirements.

The role of leadership can also promote both intra-agency and interagency communication and partnerships and foster change within an agency. Without leaders and executive staff who articulate a clear vision about integrated planning and desired outcomes, agencies will have a much more difficult path to reach effective change.

## CHAPTER 4

### LINKING TRANSPORTATION AND ENVIRONMENTAL PLANNING: “RULES OF THE ROAD”

Maximizing the potential for successfully linking transportation and environmental planning means having a well-articulated process that addresses the integration of the transportation, environmental and land use planning processes. While each agency has a unique set of circumstances within which it operates, following certain “rules of the road” will help transportation agencies make progress toward integrating environmental considerations into the transportation planning process:

- Consult and develop relationships with resource agencies in the early planning stages
- Find, share, and use comprehensive, regional data to develop inventories and to assess environmental effects of transportation projects
- Connect planning and projects by integrating environmental principles into design of project infrastructure and by linking planning to NEPA through Purpose & Needs Statements, alternatives analysis, and environmental screening tools
- Develop mitigation plans using ecosystem-based, regional input to broaden the scope of project-level analysis
- Work with local elected officials, local governments, and other land use decision makers to integrate transportation, environmental, and land use planning
- Involve the public with environmental planning earlier than the project level

### BUILD RELATIONSHIPS AND TRUST

Good communication is essential to healthy interagency and intra-agency relationships. The cornerstone of Section 6001 is fostering good working relationships between transportation and resource agencies, as well as between staff in the planning and project development phases. Another key relationship to build is between transportation agencies and local land use decision makers.

Regular meetings and communication are essential to establish trust. It is important to work as much as possible with agencies that are amenable to data sharing and collaboration and to find middle ground with those agencies that are more skeptical of these efforts. In addition, building relationships with environmental non-profits can be a fruitful resource.

Some agencies have had the benefit of leveraging existing planning and multijurisdictional relationships to promote Section 6001 activities. Watershed planning districts, coastal resource conservation partnerships, etc. provide access points to form strong consultation and integrated planning processes.

## **SHARE DATA**

Sharing data is not only useful for comprehensive planning; it also fosters trust and understanding. It is important to acquire adequate environmental data to integrate with transportation data. There are many varieties of GIS data to overlay with transportation and land use data, including wetlands, water quality, stormwater, agriculture land, protected habitat, endangered species, open land, recreation land, and historical and cultural resources. The data may be at state, regional, or local levels of analysis.

Lack of adequate resource agency staff has been cited as a problem by many transportation agencies. This can be an obstacle to obtaining enough environmental data. Having transportation staff that is familiar with environmental data can help facilitate the transfer of this data and reduce resource agency time commitment. In addition, some agencies are using comprehensive regional and state conservation plans, such as biodiversity reports, if they are available.

## **CONNECT PLANNING AND PROJECTS**

While many MPOs do not have authority to develop and implement projects, it is critical to find a continuum between these processes. This can be accomplished through long range planning involvement in Purpose and Needs statements and alternatives analysis, using environmental screening tools, developing comprehensive mitigation plans, and encouraging public participation and regional goals alignment with design. Many agencies have found FHWA's Planning and Environmental Linkages (PEL) to be a very useful tool. Using design processes that incorporate environmental principles, such as context sensitive solutions, can also be helpful to connect planning and projects.

## **USE INTEGRATED, SYSTEMS PLANNING FOR MITIGATION**

One of the best ways to improve both environmental outcomes and streamline the project development process is to develop regional mitigation plans. To support this process, agencies can use regional and state biodiversity and ecosystem plans if available.

Transportation agency staff noted that resource agencies often feel that they are already doing detailed environmental analysis at the project/NEPA level, which provides the ability to conduct specific environmental analysis for species and habitats. While detailed work at the project level is necessary and important, it does not usually include ecosystem-level, integrated, comprehensive, or regional plans. This broader kind of planning must occur much earlier; it can complement the NEPA environmental analysis and even facilitate the process. In the least, it helps transportation agencies make better decisions about where to site projects, which projects will be the best for the region, and how best to mitigate any environmental consequences of transportation projects.

## **PAY ATTENTION TO THE LAND USE CONNECTION**

While Section 6001 connects transportation and environmental planning, there is an essential third element: land use. Agencies must establish relationships with local land use decision-makers whenever possible and leverage these relationships to improve the environmental stewardship of transportation projects. By recognizing the linkages between transportation, land use, and the environment, integrated planning and policies can be developed that do not contradict one another. It can also help agencies implement regional environmental goals at the local level.

## **INCLUDE THE PUBLIC EARLY**

Use data to develop meaningful ways to communicate to the public about linking environmental and transportation planning. Sharing information and increasing stakeholder involvement early in the process may reduce major objection of plans at the project phase. In general, where the public is involved to a high degree with long range planning (e.g. context sensitive design, scenario planning sessions, blueprint planning), there is a better chance that the public will be accepting of transportation projects recommended by agencies. Public input is important to successfully integrate planning, as regional goals that reflect public needs are less apt to be contradictory.

## CHAPTER 5

### APPROACHES TO SUCCESS: NOTEWORTHY EXAMPLES

Across the nation, a variety of transportation agencies have undertaken integrated planning techniques and efforts that provide notable and informative examples from which others can learn. This guide has organized examples of these practices into nine areas:

- |   |                                     |
|---|-------------------------------------|
| ▪ Consultation & Public Outreach        | ▪ Systems-level/Integrated Planning |
| ▪ Data, Maps, and Decision-making Tools | ▪ Mitigation                        |
| ▪ Design                                | ▪ Streamlining                      |
| ▪ Planning-Project Connection           | ▪ Outcomes and Measures             |
| ▪ Land Use                              |                                     |

Appendix B provides more detailed information on each of these examples.

#### CONSULTATION & PUBLIC OUTREACH

Building relationships with resource agencies is critical to meeting Section 6001 requirements as well as furthering system-level planning, improving environmental outcomes and streamlining the project development process.

Some transportation agencies began consulting with resource agencies prior to SAFETEA-LU. Since 2000, the Riverside County Transportation Commission (RCTC) of California has consulted with resource agencies through the Riverside County Integrated Project. Through the Community and Environmental Transportation Acceptability Process (CETAP), the RCTC has planned projects based on regional environmental planning processes in conjunction with dozens of agencies and with a wide array of public stakeholders.

The Oregon Department of Transportation has established the Collaborative Environmental and Transportation Agreement on Streamlining (CETAS), a venue for consultation and collaboration between transportation and resource agencies. Several MPOs voluntarily use the CETAS process to improve relationships and consultation efforts. CETAS has also allowed public participation to occur at an earlier stage in the planning process.

The Puget Sound Regional Council (PSRC) (Washington State) consults extensively with resource agencies and works with several regional and non-profit environmental groups and municipal resource agencies. PSRC encourages a high level of public participation and has developed introductory guides on environmental analysis for the public.

The San Antonio-Bexar County MPO (Texas), through its participation in the Texas Environmental Resource Stewards Partnership, has established relationships with state and federal resource agencies. Many of these relationships began in the 1990s through regional watershed partnerships. The agency has accumulated an array of useful environmental data that is used for planning purposes.

#### DATA, MAPS, AND DECISION-MAKING TOOLS

The use of maps, data, and other tools is an important component to successfully link transportation and environmental planning. In many instances, the data is shared between resource and transportation agencies or between departments of a planning agency. Ideally, this information is used to make decisions that lead to improved environmental outcomes and project development processes.

The Tri-County Regional Planning Commission (Illinois), whose MPO is called the Peoria/Pekin Urbanized Area Transportation Study (PPUATS), uses the Illinois Department of Transportation's the Ecological Compliance Assessment tool (EcoCAT) to help select projects for the long range plan and the Transportation Improvement Program. The agency also is part of the Peoria County Environmental Inventory Project, a watershed-based planning project. Some of these data have been used in the Land Use Evolution and Impact Assessment Model (developed by University of Illinois) to develop growth scenarios.

The McLean County Regional Planning Commission (Illinois) also uses the EcoCAT as a decision-making tool. The agency also uses an array of GIS-based regional maps to assess the impacts of potential transportation projects on sensitive environmental areas, as well as for selection of TIP projects.

The Greensboro Urban Area MPO (North Carolina) uses comprehensive GIS data and maps that depict sensitive areas to screen projects and make decisions. The environmental data is used to rate each major project for the Long Range Transportation Plan.

The Pike's Peak Area Council of Governments (Colorado Springs, Colorado) has incorporated "NatureServe Vista" software, developed by the non-profit organization NatureServe, into its regional transportation plan. The software assists in the identification of environmental mitigation needs to help protect local ecosystems. The MPO uses a variety of collaboratively collected data to assess the direct, indirect, and/or cumulative effects of various agencies' plans and projects to improve decision making and prepare for the NEPA process.

The San Antonio-Bexar MPO uses the Texas Ecological Assessment Tool (TEAP) to consider environmental factors at the planning level. TEAP is a GIS based tool used to help make screening-level assessments about ecologically important areas. The MPO uses approximately twelve GIS data "layers" including threatened and endangered species, water quality, agriculture land, floodplains, historical, and environmental justice.

The Florida Department of Transportation's Environmental Screening Tool is used by the DOT as well as MPOs in Florida to help make environmentally sound decisions. The Southwest Florida Regional Planning Commission (SWFRPC) uses "fatal flaw" analysis to discard projects that could potentially have large environmental impacts.

The North Front Range MPO (Fort Collins, Colorado) uses a GIS-based web screening tool containing critical resource data to help define vision, goals, and strategies. This early environmental screening allows the MPO to evaluate the impacts of a proposed transportation facility at the corridor level, identify cumulative and environmental issues and assess environmental effects that may occur at the NEPA level.

## DESIGN

Another key piece of facilitating planning in the spirit of Section 6001 is designing and planning more environmentally sound transportation projects. Increasingly, transportation agencies are undertaking activities such as context sensitive solutions and design-build to produce infrastructure and projects that are more aligned with community goals and environmental principles.

In New York State, the Capital District Transportation Committee (Albany, New York) (CDTC), in partnership with New York State MPO Association, produced guidance for policy-makers, planners, designers, and engineers to connect transportation and community design and enhance environmental quality. CDTC is currently working to mainstream context sensitive solutions into local government decision-making.

The Cape Cod Commission (Massachusetts) is working with local communities to implement context-sensitive solutions and design-build principles into project development. The Commission was a part of the Rural Roads Initiative that emphasized context-sensitive design in communities, which became the inspiration for the Massachusetts Highway Design Manual.

Through corridor planning, the Delaware Valley Regional Planning Commission (Philadelphia, Pennsylvania and adjacent New Jersey) has planned for access management to help link transportation, land use and environmental principles. This MPO has also developed context sensitive concept plans and has developed several context sensitive design manuals for communities.

## PLANNING-PROJECT CONNECTION

One of the greatest challenges to linking transportation and environmental planning is the disconnect between the system planning and project development phases. However, more effective planning-project connections can be forged in various ways.

In Oregon, the DOT's Collaborative Environmental and Transportation Agreement on Streamlining (CETAS) program, through its several subcommittees, provides a venue by which the Department can pull together many stakeholders at the same planning table. For example, for developing a major project Purpose and Needs statement, the CETAS program ensures that both transportation planning and programming staff and various resource agency staff are involved. The CETAS program also assists ODOT in other related areas, including developing a statewide mitigation bank, resource mapping, tracking NEPA projects, and the integration of NEPA and systems planning. In addition, all MPO long range transportation plans are reviewed through CETAS and receive a wide array of resource agency input.

The Capital District Transportation Committee connects with local communities at the project level through its Community and Transportation Linkages Program. By developing relationships around projects at the local level, CDTC is able to help ensure local projects are planned and designed to help meet regional goals such as environmental sustainability and ecological preservation.

The Puget Sound Regional Council's scoping process includes an environmental review and monitoring function that makes information available to the public early in the planning process. The agency has developed documents for the public about the basic understanding of environmental analysis that are less technical and easier to understand.

The Southeast Michigan Council of Government (SEMCOG) (Detroit, Michigan) connects transportation planning to project development through high-level coordination between departments within the Council. For example, transportation planners work closely with SEMCOG natural resources staffs who understand the permitting process. The Council sees this connection between planning and project development as a key factor in successful integration of transportation and environmental planning.

## LAND USE

Transportation agencies have been attempting to address the connection between land use and transportation for many years. However, because land use decisions are typically made at the local level, regional and state-level planning agencies have minimal, if any, direct input to such decisions. Similarly, environmental review of transportation infrastructure is conducted at the project level, often with little accounting for transportation system-wide environmental goals or concerns. Connecting local land use decisions to regional goals, therefore, is key to integrating environmental and transportation decisions.

The Sacramento Area Council of Governments (SACOG) developed a regional Blueprint plan for land use, transportation and the environment. The Blueprint goals and principles were developed with a high level of public and stakeholder involvement. Yet because land use decisions remain the jurisdiction of local governments and elected officials, these principles are not necessarily integrated into project-level decisions. Therefore, SACOG is working closely with local jurisdictions to ensure that the Blueprint principles are adopted and the regional vision is followed through for local projects.

The Capital District Transportation Committee (CDTC) has successfully been connecting its regional planning efforts with local development through its Transportation and Community Linkages program. While this program focuses on local infrastructure development decisions within a regional context, it also enables broad regional environmental goals to be considered at the local project level. CDTC provides funding to local communities to participate in these programs.

## SYSTEM-LEVEL / INTEGRATED PLANNING

DOTs and MPOs are increasingly implementing integrated planning approaches, which incorporate transportation, environmental, land use, economic, and social data, to



develop comprehensive plans, meet multiple regional and community goals, develop integrated policies, and improve the decision making process.

For example, the Riverside County Transportation Commission (RCTC) of California has been part of one the nation's earliest and most ambitious efforts in integrated planning—the Riverside County Integrated Project. The project included coordinated land use, environmental, and transportation plans: a General Plan for land use, a Multiple Species Habitat Conservation Plan for the environmental, and the Community and Environmental Transportation Acceptability Process (CETAP) for transportation. All federally funded transportation projects are planned through CETAP and must be compliant to the other two plans.

The Mid-America Regional Council (MARC) (Kansas City, Missouri) is working to bring environmental considerations into the early planning process because this enables the agency to work toward broad community goals. The agency is also developing a sustainability framework and considering new performance measures based on the “triple bottom line” principles that take into considerations social, environmental, and economic issues.

The Greensboro Urban Area MPO (North Carolina) uses system-level environmental screening to consider the potential effects that transportation projects may have on a variety of natural and community resources. The agency is working to transcend the project-level focus on single environmental issues by resource agencies and move towards plans that address broad ecosystems and regional environmental goals.

## MITIGATION

Transportation agencies are beginning to realize the value of early identification of and planning for environmental mitigation. Several agencies have noted that mitigation performed at the project level is “piece-meal,” often resulting in low-quality and fragmented results. By planning mitigation early in the planning process, multiple layers of ecosystem and environmental data are concurrently considered and areas can be designated for potential mitigation sites. As with other issues previously discussed, an obstacle to developing comprehensive mitigation plans can be resource agencies' typical focus on very detailed, site-specific data for project-based mitigation.

In Florida, the Southwest Florida Regional Planning Commission (SWFRPC) avoids these piecemeal mitigation practices in part because each county has a master mitigation plan. The RPC uses these system-level mitigation plans to develop region-wide mitigation plans to use for transportation planning and project development.

The Delaware Valley Regional Planning Commission (DVRPC) uses out-of-kind (e.g. preserve large habitat) and in lieu mitigation techniques (e.g. one time payment to preserve wetlands) to plan for comprehensive ecosystem based mitigation. These mitigation techniques have the potential to improve environmental outcomes and streamline the project development process by minimizing the project-level mitigation management time. To further avoid costly, isolated, and poorly planned mitigation sites, DVRPC is also considering a wetlands bank or registry that could further reduce cost and time for project developers.

The East-West Gateway Council of Governments (St. Louis, Missouri) inventories sensitive areas for consideration in its transportation planning process. The Council is examining ways to improve the quality of mitigation by planning for it earlier rather than solely at the project level.

The North Front Range MPO (Colorado) has also begun to plan for mitigation strategies at a regional level. While this has been a challenge, since resource agencies tend to deal with mitigation at the project level, the MPO is hoping that improved coordination with resource agencies will lead to corridor planning with a comprehensive mitigation approach.

## STREAMLINING

Some agencies are focusing Section 6001 activities on efforts to streamline the project development phase. These streamlining activities are aimed at increasing coordination and efficiency.

For example, the North Central Texas Council of Governments (Dallas-Ft. Worth, Texas) employs an environmental streamlining program called Transportation Resource Agency Consultation & Environmental Streamlining (TRACES). One recent example of the Council's streamlining efforts is an agreement with U.S. Army Corp of Engineers Fort Worth District to fund Army Corps personnel with transportation agency dollars to work on hundreds of permits for specific regional priority projects.

The Florida DOT's Efficient Transportation Decision Making (ETDM) program helps streamline project development by initiating NEPA activities early in the transportation planning process. This includes the completion of agency reviews for potential project impacts and issues during the planning and programming phases. Florida DOT uses the Purpose and Need statement as an interface between the planning and project levels. FDOT planning staff is involved with aspects of the Purpose and Needs statement as well as alternatives identification and analysis.

Oregon uses the Purpose and Need statement to align projects with environmental and other goals. The goals and objectives within the P & N Statement are balanced with environmental values and broad community goals. Through the CETAS program (described earlier), ODOT funds a staff position at the state resource agency to focus on streamlining and permitting issues. The CETAS team assesses its individual activity areas, including the habitat mitigation program, natural and cultural resource mapping program, and seamless performance by local governments and contractors that ensures quality environmental management at the local level.

## OUTCOMES AND MEASURES

There are few transportation agencies in the U.S., if any, that have been able to successfully measure the effects of Section 6001 activities on environmental impact mitigation and/or environmental streamlining. Yet several agencies have made qualitative assessments of these activities and a few are developing quantitative indicators.

The Southwest Florida Regional Planning Commission (SWFRPC) uses "fatal flaw" analysis for discarding projects that are presumed to have large environmental impacts.

While specific measures have not been developed to determine environmental or streamlining impacts, there have been projects, including a Fort Meyers Bridge project, that if selected would have had severe environmental impacts and may have been halted during project development. SWFRPC also speculates that its consultation and Section 6001 efforts are resulting in better project cost estimates, reduction of NIMBY incidents, and an overall smoother project development process.

The Capital District Transportation Committee's (Albany, New York) efforts to link land use, transportation, and the environment are making a noticeable difference at the project level. Several potential projects have been eliminated because of negative environmental impacts. CDTC's efforts to work with local communities around land use issues have produced projects with a considerable amount of environmental forethought. Another effort that has successfully linked planning and projects was the Albany County Airport Area Generic Environmental Impact Statement. The plan included a mitigation plan that lowered overall mitigation costs and eliminated the need for traffic impact studies for much development in the area.

The Florida DOT has observed streamlining improvements to the project development process. Benefits include early identification of critical flaws, reduction in the amount of technical studies, and more comprehensive mitigation efforts. Early environmental consideration has assisted the NEPA process and extensive consultation has integrated the planning and project phases.

The Houston-Galveston Area Council (H-GAC) of Texas has observed streamlining benefits due to increased collaboration, data sharing, and more comprehensive planning. H-GAC is currently working to develop standard indicators to measure environmental and streamlining outcomes that result from linking transportation and environmental planning.

## CHAPTER 6

### OVERCOMING CHALLENGES TO SUCCESS

While the agencies interviewed for this research represent a cross-section of notable practices, each has faced obstacles in this process. This section describes the obstacles and presents ways that agencies overcame these challenges. Key obstacles and challenges to integrating environmental considerations into the planning process were mainly due to lack of communication—either between agencies or within agencies. Other obstacles arose from processes that can impede integrated planning efforts, including project-specific mitigation, local land use authority, and lack of funding and resources. Table 2 below provides an overview of suggested approaches to overcoming challenges and identifies examples from the previously discussed notable practices. The text following Table 2 provides more details on the table content.

Challenge	Approaches to Overcoming	Agency Example
1. Poor relationship between resource agency and transportation agency	Build trust through consultation and meetings; Show that transportation planners care about environment and are capable of environmental planning	San Antonio-Bexar MPO
2. Funding/staff resources at resource agency	Use transportation resources for permitting staff	Sacramento Area COG; North Central Texas COG; Oregon DOT
3. Resource agencies have single environmental issue or permitting focus (not systems or long range level)	Develop system level plans with comprehensive environmental considerations; Communicate the environmental benefits/outcomes of system level planning; Section 6001 consultation	Greensboro Urban Area MPO; East-West Gateway; Houston-Galveston CAG
4. Early environmental planning	FHWA Eco-Logical; PEL; GIS maps; data sharing; consultation	Houston-Galveston CAG; Pike's Peak Area Council; Riverside County

*Table 2: Approaches to Overcoming Challenges to Implementing Section 6001 Provisions and Environmental Streamlining Activities*

Challenge	Approaches to Overcoming	Agency Example
5. Disconnect between planning and projects	Build processes that link the work of planning and project-level; Project selection checklists; Have long range planners 'get out in the field" and work with project staff; Link P&N to planning; context sensitive solutions	Capital District Transportation Committee; Puget Sound Regional Council; San Antonio-Bexar MPO; McLean County RPC; North Front Range; Florida DOT
6. Proving/showing streamlining benefits	Fatal flaw analysis; Measure project efficiencies	Oregon DOT; Sacramento Area COG; Florida DOT
7. Agency stovepipes	Bridge project and planning stovepipes through relationships and joint processes (P & N, etc.); Transportation staff learn how to use environmental GIS data	Oregon DOT; San Antonio-Bexar MPO
8. Fragmented/project-level mitigation	Out-of-kind mitigation, regional/corridor mitigation plans; System-level/integrated analysis	Delaware Valley RPC
9. Reaching environmental outcomes	Develop performance measures; comprehensive mitigation; Early environmental planning (not at project level)	North Front Range; Mid-America Regional Council; Riverside County
10. Land use decisions are made at local level and not regional	Coordinate regional plans with local land use plans/general plans; Blueprint planning; Develop regional conservation policy plan	SACOG; CDTC; Cape Cod Commission;
11. Public participation	Involving public earlier with non-technical documents; Context sensitive solutions	Oregon DOT; South West Florida RPC

*Table 2 (continued): Approaches to Overcoming Challenges to Implementing Section 6001 Provisions and Environmental Streamlining Activities*

## CHALLENGE: POOR RELATIONSHIP BETWEEN RESOURCE AGENCY AND TRANSPORTATION AGENCY

**Suggested Approach:** Officials of several agencies mentioned that they experienced some level of distrust in their original consultation efforts with resource agencies. For example, resource agencies may have withheld data sources. Agency staff speculated that this was due to a fear that the transportation agencies would use the data to somehow “harm” the environment.

The more transportation and resource agencies work together, resource agencies begin to trust transportation agencies and realize that, in general, transportation planners are very concerned about the environment and keenly interested in incorporating ecosystem and environmental principles into planning processes.

One example is the San Antonio-Bexar County MPO. Initially, resource agencies were skeptical of the MPO’s ability to conduct adequate environmental analysis. This facilitated the MPO to evaluate its plans and activities. MPO staff came to the realization that they were long-term system-wide planners—ideal for integrated and comprehensive environmental planning processes. Extensive consultation has drastically improved the agencies relationship and they are now regularly sharing data with each other.

## CHALLENGE: LACK OF FUNDING/STAFF RESOURCES

**Suggested Approach:** Almost all agency staff interviewed cited the lack of resource agency staff as a barrier to consultation and data sharing. Some agencies have been able to problem solve this issue and have successfully consulted with resource staff despite the lack of resource agency resources devoted to these efforts. Another issue is convincing resource agencies that early environmental planning can lead to overall cost reductions.

The California DOT pays for resource agency staff to specifically focus on transportation permitting and the NEPA process. This benefits the Sacramento Area COG since some projects receive more focused attention in the NEPA process. The North Central Texas COG funds a position at the U.S. Army Corp of Engineers Forth Worth District to work on permits for regional priority projects. Oregon DOT also funds a position with the state resource agency to help with streamlining of transportation projects.

## CHALLENGE: RESOURCE AGENCIES HAVE SINGLE ENVIRONMENTAL ISSUE OR PERMITTING FOCUS

**Suggested Approach:** Some transportation agencies stated that resource agencies can be very single-issue focused, whether it be for permitting, projects, or mitigation. While this approach produces highly detailed analysis, it can overlook larger ecosystem issues and can disregard comprehensive integrated planning processes. Transportation agencies have noticed that resource agency staff can respond negatively to systems level planning because they fear that specific environmental considerations may be ignored.

Agencies need to proactively educate resource agency staff about the merits of system level planning—especially ecosystem planning—while simultaneously building trust. Greensboro Urban Area MPO is one such agency that has been successful in overcoming these issues. Through a diligent consultation process, resource agency staff is beginning to understand the systems level approach to planning, the long range analysis, and an integrated planning process. The East-West Gateway of Illinois and Missouri has also experienced this issue and worked to overcome it through increased collaboration. The Houston-Galveston Area Council has also overcome this problem by working very closely with resource agencies and leveraging support and data for planning.

#### CHALLENGE: EARLY ENVIRONMENTAL PLANNING

**Suggested Approach:** Since environmental analysis is mainly at the project level, most transportation planning agencies have conducted very little environmental analysis with exception to air quality planning. Section 6001 requires consultation and discussion of mitigation in the long range plan but thorough early environmental planning can be very difficult to achieve.

The Houston-Galveston CAG has partnered with FHWA through its Eco-Logical and Planning and Environmental Linkages program (PEL). The agency regards early environmental planning as the key to improving environmental outcomes and streamlining processes.

The Pike's Peak Area Council conducted early environmental analysis prior to SAFETEA-LU. Through a watershed partnership, resource and transportation relationships have been established for long range and comprehensive planning. The MPO has used these relationships to leverage large amounts of resource data. Pike's Peak is also a participant in FHWA's Eco-Logical Program and uses NatureServe software to further integrate environmental data into transportation plans.

The Riverside County Transportation Commission has undertaken one of the most extensive integrated planning efforts in the country and has developed relationships with resource agencies since 2000. The efforts have focused on corridor planning with an emphasis on conservation, since each plan is carefully examined through the Multiple Species Habitat Conservation Plan.

#### CHALLENGE: DISCONNECT BETWEEN PLANNING AND PROJECTS

**Suggested Approach:** The majority of the agencies interviewed noted a major disconnect between the transportation planning and project levels, especially since MPOs are not usually involved in the NEPA process. There are a variety of ways that transportation agencies are integrating these two processes, or at least creating better communication between actors in the process.

The Capital District Transportation Committee has been connecting planning and program development through its Community and Transportation Linkages Program. By

working closely with local communities around land use decisions, CDTC has been able to infuse projects with planning level environmental goals. CDTC devotes federal funds to local studies that retain a strong connection to the regional plans and creates strong regional-local ties.

The Puget Sound Regional Council's main strategy to connect planning and projects is obtaining public input on the long range plans about the early scoping process for potential projects. PSRC dedicates much effort to involve the public in scoping, including the range of issues, alternatives, and environmental analysis that is included in the planning process.

The McLean County RPC had created a technical committee with representatives from cities and counties to work together in the pre-project development phase. The agency has a development review checklist that serves as an assessment tool for transit, street design, connectivity, and environmental sensitivity. The RPC also connects transportation planning and projects by including thorough environmental analysis in the Transportation Improvement Program.

The Florida DOT's Efficient Transportation Decision Making (ETDM) process links planning and projects by initiating NEPA activities much earlier in the planning process. Technical information gathered and analyses performed at the planning stages are used in project development, including program screens, purpose and needs statements, and early resource agency reviews.

The East-West Gateway connects planning and projects by making an effort to include local governments earlier on in the planning process. This early public inclusion increases knowledge about comprehensive planning processes and provides an avenue to gather public input for the development of regional goals.

#### CHALLENGE: DEMONSTRATING BENEFITS ASSOCIATED WITH STREAMLINING

**Suggested Approach:** Many agencies cited challenges to showing streamlining benefits through quantitative measures. Yet almost all agencies interviewed felt that there were observable benefits. There are a few agencies that have had success conveying these benefits.

The Oregon DOT, while still developing measures to accurately assess streamlining processes, has been recording observed benefits from their efforts. One of these benefits is that its CETAS program has significantly reduced the amount of projects in the TIP that have a high potential to have negative environmental consequences. The agency has also observed cost savings and reductions in timeframes due to careful selection of projects and use of early planning information at the project level.

The Sacramento Area COG has also observed benefits from streamlining. Some local communities are actively using the regional Blueprint in their local comprehensive plans and to develop local projects. For its Blueprint process, SACOG used several environmental measures to assess scenarios, including habitat fragmentation.



The Florida DOT has developed an ETDM Performance Management Plan consisting of qualitative and quantitative measures to monitor the progress of ETDM programs and gauge process efficiencies. This includes the amount of Environmental Screening Tool queries and the documentation of agency reports and performance measures. Florida DOT streamlining benefits include early identification of critical flaws, reduction in the amount of technical studies, and more comprehensive mitigation efforts.

The Riverside County Transportation Commission's has experienced some streamlining benefits to the Riverside County Integrated Project. Stakeholders have indicated that the Multiple Species Habitat Conservation Plan has accelerated the permitting process in a substantial majority of the road projects that affect federally listed species and reduced the frequency or scope of lawsuits.<sup>7</sup> Besides meeting land conservation goals, the project has also met some of the original biodiversity goals.

#### CHALLENGE: AGENCY STOVEPIPES

**Suggested Approach:** The classic bureaucratic division of departments is increasingly being regarded as an aspect of agency culture that must be reexamined. Transportation agencies are bridging project and planning departmental stovepipes through a variety of relationships and joint processes. These processes include linking NEPA/project level activities to planning and through elements on integrated design, such as design-build and context sensitive design.

Besides improving interagency communication, Oregon DOT's CETAS program helps link departments within agencies. ODOT considers this lack of intra-agency connection to be a major obstacle to linking planning and projects. FHWA's Linking Planning and NEPA guidance has also helped ODOT bridge departmental relationships.

Another example of linking agency departments is from the San Antonio-Bexar MPO. The MPO transportation staff has taken on the task of using and becoming skilled with environmental GIS data and actively works with staff in the environmental departments of the agency.

#### CHALLENGE: FRAGMENTED/PROJECT-LEVEL MITIGATION

**Suggested Approach:** It is often difficult for transportation planners to develop mitigation plans since mitigation occurs at the project level. SAFETEA-LU requires a discussion of potential mitigation activities in long range plans, but this does not guarantee that these mitigation plans will be used at the project level. Increasingly, agencies are finding ways to develop comprehensive mitigation plans that affect the project mitigation process, including out-of-kind mitigation, in-lieu mitigation, regional/ corridor mitigation plans, and system-level/integrated analysis

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<sup>7</sup> Rand Corporation Report. Balancing Environment and Development: Costs, Revenues, and Benefits of the Western Riverside County Multiple Species habitat Conservation Plan. 2008

The Delaware Valley RPC has focused much of its consultation efforts on mitigation planning with resource agencies and non-profit land conservation communities. The agency is beginning to use out-of-kind and in-lieu mitigation and mitigation banks to facilitate project development and produce more comprehensive ecosystem-based mitigation plans. Out-of-kind mitigation is the acquisition of certain ecosystems that can expand the possible mitigation sites for a project. In-lieu mitigation allows agencies to make a one-time monetary payment to compensate for negative environmental effects of projects and transfer the mitigation to other agencies. Mitigation banks or registries may improve mitigation process efficiencies and provide more comprehensive, less piecemealed approaches.

#### CHALLENGE: ACHIEVING ENVIRONMENTALLY-BENEFICIAL OUTCOMES

**Suggested Approach:** While some agencies have focused on improving the project development process and streamlining, others have been undertaking Section 6001 activities to improve environmental outcomes. Overall, environmental outcomes derived specifically from transportation or integrated planning efforts are very difficult to determine, but there have been some observed improvements.

The Mid-America Regional Council (MARC) has focused much of its efforts to improve environmental outcomes. MARC staff recognizes the barrier NEPA poses as it does not incorporate broad community goals or systems planning. MARC is developing sustainability performance measures based on the triple bottom line principles, and hopes that the more it conducts integrated planning the more possibility that projects will contain elements of such work and will ultimately improve environmental outcomes.

The Southwest Florida Regional Planning Commission (SWFRPC) is in an area of the country where each county has its own master mitigation plan. Having this resource significantly reduced piecemeal mitigation sites, therefore improving environmental outcomes through the preservation of an entire ecosystem. In addition, their comprehensive planning approach encourages projects that will not be excessively harmful to the environment.

#### CHALLENGE: LOCALLY-CONTROLLED LAND USE DECISIONS

**Suggested Approach:** Transportation agencies have little, if any land use authority. Decisions about local transportation projects are often made by local elected official and governments. This can be problematic for a regional or state agency working to implement plans. Agencies have been working to coordinate regional plans with local land use plans through a variety of ways.

The SACOG Blueprint planning process integrated extensive stakeholder and public involvement into the long range planning process. The regional Blueprint principles, objectives and strategies have been adopted by some participant local communities but not all. SACOG is still working with local communities in hopes that local elected officials will adopt the regional planning principles that were agreed upon in the comprehensive planning process.

The Capital District Transportation Committee directly works with local communities through its Linkages program. By partially funding the planning of local projects, CDTC has more leverage to synchronize transportation and land use development with local goals—including environmental and conservation goals.

The Cape Cod Commission has been able to implement early environmental planning into the project selection process. Cape Cod has a Regional Conservation Policy Plan that must be adhered to by local jurisdictions and developers. All local plans must coordinate with regional plans. This ensures that land use and transportation development is carried out in accordance with broad regional planning goals based on comprehensive ecosystems analysis.

#### **CHALLENGE: MEANINGFUL PUBLIC PARTICIPATION**

**Suggested Approach:** Getting early public participation is essential to successfully link transportation and environmental planning and streamline the project development process. Transportation agencies already involve the public in long range planning, yet until recently this rarely included environmental analysis. For environmental analysis, public input is not usually allowed until the project development phase, which can cause costly, sometimes project-halting results. Agencies have begun involving the public with environmental issues earlier by developing non-technical documents, through context sensitive design, and through scenario planning.

SACOG's regional Blueprint planning process involved a tremendous effort on behalf of the MPO to gather a broad array of public participation. The regional planning effort produced a set of goals, principles and strategies that were developed with input from all counties and municipalities within the regional planning area. The challenge now is to implement the Blueprint in all local jurisdictions and to follow through with continual public involvement at the implementation stage.

## CHAPTER 7

### TAKING THE NEXT STEP

This document provides agency officials and other interested persons with an overview of approaches to integrating transportation and environmental planning, including examples of noteworthy “success stories” from agencies across the nation. To take the next step – moving your own agency toward a more integrated transportation planning and project development approach – one needs to assess where the agency is today and where it would like to be tomorrow.

To achieve this, it is suggested that the user of this document consider the following “checklist” as a starting point for moving his/her agency along the path to institutionalizing an integrated approach:

- ☐ Review existing planning and project development processes to assess existing level/quality of early consideration of environmental issues/needs
- ☐ Identify “gaps” in existing planning and project development processes
- ☐ Identify “gaps” that could be closed through low-cost/low-effort means (e.g., additional inter-unit staff collaboration, sharing of information on available GIS layers, etc.)
- ☐ Pursue opportunities for closing low-cost/high-impact “gaps” and monitor and report on results and benefits
- ☐ Continue to identify “gaps” that may require greater effort/more resources to close (e.g., interagency memorandum of agreement, staff training, etc.) and develop phased, prioritized strategy for addressing them over time

Obviously, each of these general steps will entail a variety of sub-steps, and each agency will have its own unique set of circumstances. Using the above as a guide, however, can help start your agency on the path toward more effective and continuous integration of the transportation planning and environmental planning processes.

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## APPENDIX A

### LIST OF SUGGESTED SOURCES FOR FURTHER INFORMATION

#### PLANNING AND ENVIRONMENTAL LINKAGES:

*Planning & Environment Linkages Implementation Resource Guide*, September 2008  
Prepared for FHWA by ICF International. <http://www.fhwa.dot.gov/hep/pel/index.htm>

NCHRP Report 541, *Incorporating Environmental Considerations Into Transportation Systems Planning*, Cambridge Systematics. 2005.  
[http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp\\_rpt\\_541.pdf](http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_541.pdf)

NCHRP 25-25(32) *Linking Environmental Resource and Transportation Planning*. Cambridge Systematics. December 2008. [http://www.trb.org/NotesDocs/25-25\(32\)\\_FR.pdf](http://www.trb.org/NotesDocs/25-25(32)_FR.pdf)

FHWA Environmental Peer Exchange Summary Report. 2009.  
[http://www.environment.fhwa.dot.gov/integ/ipwg\\_peer.asp](http://www.environment.fhwa.dot.gov/integ/ipwg_peer.asp)

*Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects*, April 2006.  
FHWA. <http://www.environment.fhwa.dot.gov/ecological/ecological.pdf>

FHWA Environment and Planning Linkages processes Legal Guidance:  
<http://www.fhwa.dot.gov/hep/plannepalegal050222.htm>

AASHTO Center for Environmental Excellence. *Practitioner's Handbooks 1-10*  
[http://environment.transportation.org/center/products\\_programs/practitioners\\_handbooks.aspx](http://environment.transportation.org/center/products_programs/practitioners_handbooks.aspx)

#### STREAMLINING:

NCHRP Web-only Document 79 (Project 25-24): Contractor's Final Report. *Monitoring, Analyzing, and Reporting on the Environmental Streamlining of Projects*. Transportation Research Board of the National Academies. November 2005.  
[http://www.trb.org/news/blurbs\\_detail.asp?id=5679](http://www.trb.org/news/blurbs_detail.asp?id=5679)

FHWA Success in Stewardship: Streamlining Planning and Environment Linkages (PEL) through Statewide GIS Applications. Defenders of Wildlife, December 2007

FHWA & The Louis Berger Group, Inc. National Environmental Streamlining Initiatives: Successful Efforts in Environmental Streamlining: Eight Case Studies in Project Development, An Introduction.  
<http://environment.fhwa.dot.gov/strmlng/casestudies/index.asp>

Evaluating the Performance of Environmental Streamlining: Development of a NEPA Baseline for Measuring Continuous Performance. Prepared by The Louis Berger Group, Inc. for the Federal Highway Administration, January 2001.

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Center for Environmental Excellence by AASHTO. Project Delivery/Streamlining.  
[http://environment.transportation.org/environmental\\_issues/proj\\_delivery\\_stream/](http://environment.transportation.org/environmental_issues/proj_delivery_stream/)

## **DESIGN, CONSTRUCTION, AND MAINTENANCE:**

FHWA. Integration of Context Sensitive Solutions in the Transportation Planning Process.  
January 2007 <http://www.fhwa.dot.gov/planning/csstp/csstransplan.htm>

Center for Environmental Excellence by AASHTO – Environmental Issue Construction and Maintenance Practices Compendium.  
[http://environment.transportation.org/environmental\\_issues/construct\\_maint\\_prac/compendium/manual/detailed\\_toc.aspx](http://environment.transportation.org/environmental_issues/construct_maint_prac/compendium/manual/detailed_toc.aspx)

FHWA. Current Design-Build Practices for Transportation Projects  
A Compilation of Practices by the Transportation Design-Build Users Group  
<http://www.fhwa.dot.gov/construction/contracts/pubs/dbpractice/>

Designbuild.transportation.org. Design-build references.  
<http://designbuild.transportation.org/?siteid=63&pageid=1221>

## **PERFORMANCE MEASURES:**

Guidelines for Environmental Performance Measurements Final Report NCHRP 25-25, Task 23. Cambridge Systematics. 2008. [http://www.trb.org/NotesDocs/25-25\(23\)\\_FR.pdf](http://www.trb.org/NotesDocs/25-25(23)_FR.pdf)

## **WILDLIFE CONSERVATION:**

Defenders of Wildlife.  
[http://www.defenders.org/programs\\_and\\_policy/habitat\\_conservation/habitat\\_and\\_highways/section\\_6001/conservation\\_planning.php](http://www.defenders.org/programs_and_policy/habitat_conservation/habitat_and_highways/section_6001/conservation_planning.php)

The Road Ecology Center, University of California-Davis. <http://roadecology.ucdavis.edu/>

FHWA. Wildlife protection and habitat connectivity resources.  
<http://www.fhwa.dot.gov/environment/hconnect/>

## APPENDIX B

### CASE STUDIES OF NOTEWORTHY AGENCY PRACTICES

#### Case Study Highlights

##### Cape Cod Commission

Cape Code, Massachusetts

##### *Case Highlights:*

- The agency has inventoried environmentally sensitive areas since 1990s
- Encourages local communities to use Context Sensitive Design
- Long-time partnership with Cape Code National Seashore
- Regional Policy Plan restricts development in environmentally sensitive areas

##### Capital District Transportation Committee

Albany, New York

##### *Case Highlights:*

- Strong interagency partnerships
- Community and Transportation Linkages program helps connect regional planning to local projects
- Design-build and Context Sensitive Solutions

##### Delaware Valley Regional Planning Commission

Philadelphia, Pennsylvania

##### *Case Highlights:*

- Bi-state comprehensive and integrated planning
- Access management and context sensitive solutions
- Environmental screening tools and maps
- Out-of-kind and in lieu comprehensive mitigation

##### East West Gateway Council of Governments

St. Louis, Missouri

##### *Case Highlights:*

- Bi-state corridor planning
- Inventory of sensitive areas used in long range plans and risk assessment
- Ecosystem-based mitigation

Florida Department of Transportation  
Florida

*Case Highlights:*

- Efficient Transportation Decision Making (ETDM)
- Environmental Technical Advisory Team (ETAT) assists with consultation, screening, and purpose and needs statements
- Purpose and needs statement process links planning and project levels

Greensboro Urban Area MPO  
Greensboro, North Carolina

*Case Highlights:*

- System-level environmental screening
- Uses GIS environmental data and maps to rate projects
- Extensive consultation process

Houston-Galveston Area Council (H-GAC)  
Houston, Texas

*Case Highlights:*

- Planning and Environmental Linkages/Eco-Logical program
- GIS maps to make decisions
- Extensive consultation and mitigation planning

Mid-America Regional Council  
Bi-state Kansas City region

*Case Highlights:*

- FHWA Eco-Logical partnership
- Bi-state environmental planning
- Focused on improving environmental outcomes
- Agency is developing sustainability framework

McLean County Regional Planning Commission  
Bloomington, Illinois

*Case Highlights:*

- Uses Natural Resources Ecological Compliance Assessment tool (EcoCAT)



- Development review checklist assesses transit, connectivity and environmental sensitivity
- Environmental data used for TIP selection

North Central Texas Council of Governments  
Dallas-Fort Worth, Texas

*Case Highlights:*

- Transportation Resource Agency Consultation & Environmental Streamlining (TRACES)
- Transportation-funded position at resource agency to assist permitting process for projects
- Extensive interagency consultation as well as strong intra-agency ties

North Front Range MPO  
Fort Collins, Colorado

*Case Highlights:*

- Participates in Colorado DOT's Strategic Transportation, Environmental and Planning Process for Urbanized Places (STEP UP)
- Corridor and regional mitigation efforts
- Working to bridge disconnection between planning and projects

Oregon Department of Transportation

*Case Highlights:*

- Collaborative Environmental and Transportation Agreement on Streamlining (CETAS); which is a venue for consultation and collaboration
- Tiered NEPA Decision-Making Approach
- Process is beginning to change agency culture, but more "regulatory hooks" are needed to further efforts

Pikes Peak Area Council  
Colorado Springs, Colorado

*Case Highlights:*

- Planning and Environmental Linkages participant
- Pre-SAFETEA-LU consultation and environmental planning for watershed and sustainability issues
- Extensive eco-system and cultural resource modeling, including use of NatureServe software
- Key challenges: state resource agency relations and political climate of governing board

Puget Sound Regional Council  
Seattle, Washington

*Case Highlights:*

- Scoping process for environmental review
- Extensive resource data sharing and consultation
- Early public involvement

Riverside County Transportation Commission  
Southern California

*Case Highlights:*

- Riverside County Integrated Project's Community and Environmental Transportation Acceptability Process—Nine-year partnership
- Integrated environmental and transportation planning
- Integrated corridor planning

Sacramento Area Council of Governments (SACOG)  
California

*Case Highlights:*

- MPO is a national leader in land use modeling and has developed a regional Blueprint with regional environmental goals and strategies
- SACOG is working with local communities to implement Blueprint principles
- Develops regional mitigation plans and uses environmental data early in the planning process to make decisions about projects before they are initiated

San Antonio-Bexar County Metropolitan Planning Organization  
San Antonio, Texas

*Case Highlights:*

- Texas Environmental Resource Stewards partnership between federal and state
- Texas Ecological Assessment Protocol links planning and NEPA through GIS and species mapping
- Early watershed planning efforts expanded to enhance planning and environmental linkages.

Southeast Michigan Council of Governments (SEMCOG)  
Detroit, Michigan

*Case Highlights:*

- Mitigation planning document: “Integrating Environmental Issues in the Transportation Planning Process”
- Early involvement of the public
- Inter- and intra-agency data coordination

Southwestern Florida RPC  
Ft. Meyers/Sarasota/Punta Gorda, Florida

*Case Highlights:*

- Participates in Florida’s Efficient Transportation Decision Making program
- Early “fatal flaw” analysis
- Comprehensive mitigation rather than piecemeal approach

Tri-County Regional Planning Commission & Peoria/Pekin Urbanized Area Transportation Study (PPUATS)  
Peoria, Illinois

*Case Highlights:*

- Regional, integrated planning process
- Uses EcoCAT--Ecological Compliance Assessment Tool
- Regional steering committee to support early environmental planning

## Case Studies

### Cape Cod Commission

Regional Planning Commission  
Cape Code, Massachusetts

#### Case Highlights:

- The agency has inventoried environmentally sensitive areas since 1990s
- Encourages local communities to use Context Sensitive Design
- Long-time partnership with Cape Code National Seashore
- Regional Policy Plan restricts development in environmentally sensitive areas

#### Background Introduction:

The Cape Cod Commission has developed extensive environmental data bases that are integrated into planning processes. In the 1990s, the Outer Cape Capacity Study was completed that inventoried environmentally sensitive areas for planning purposes.

#### Process/Issues/Results:

The MPO is undertaking design-build and context sensitive design. The agency uses knowledge of environmentally sensitive areas in transportation planning, although the majority of environmental review is conducted at the project level. The MPO partners with the Cape Cod National Seashore to use environmental and conservation data and maps in the planning process.

The Cape Cod Regional Policy Plan sets the standard for all development in Cape Cod and has been very successful at aligning environmental considerations at the project phase. The Policy Plan is part of the Cape Cod Commission Act, state legislation that charges the Commission with overseeing the development of a regional plan to balance transportation and economic growth with environmental conservation. Each town in the Cape Cod region prepares a Local Comprehensive Plan that must be consistent with the regional vision and policies. Because of this policy plan, transportation projects are only selected if they are likely to have minimal negative environmental impacts. The Commission has also developed a set of web-based land protection tools for regional and local project planners to use that contain extensive environmental data; this integrated data must also be used at the local level with plans and projects.

#### Additional Relevant Information/ Continuing Issues:

While the Regional Policy Plan coordinates local and regional plans and projects, integrates transportation and land use planning, and helps limit potentially environmentally unsound projects, some local governments are unhappy with its restrictions on development. The MPO would like to improve relations with the public and local communities around development and land use issues by engaging in more public outreach and consultation. The commission is currently working with local communities to develop a Regional Land Use Vision Map that includes resource areas designated as inappropriate for additional growth.

Contact Information: Clay Schofield, Tel: 508-744-1231

Capital District Transportation Committee  
Metropolitan Planning Organization  
Albany, New York

Case Highlights:

- Strong interagency partnerships
- Community and Transportation Linkages program helps connect regional planning to local projects
- Design-build and Context Sensitive Solutions

Background Information:

The Capital District Transportation Committee (CDTC) is the MPO for the Albany metro area. Since the 1990s, CDTC has examined the effects of the transportation system on environmentally sensitive areas in its long range planning processes.

Process/Issues/Results:

CDTC's most recent update of the Long Range Transportation Plan, *New Visions*, discusses Section 6001 environmental planning activities. To meet Section 6001 requirements, the MPO consults with resource agencies and non-profit organizations, maps environmentally sensitive areas, plans for comprehensive mitigation, and has undertaken design-build and context sensitive solution efforts. The MPO partners with New York State DOT, local governments, and several environmental agencies including Capital District Regional Planning Commission and the New York Department of Conservation.

CDTC has strong environmental guidelines for the development of the Transportation Improvement Program. It has achieved success at partnering with local governments through its Community and Transportation Linkages program. While this program has largely focused on land use issues, it has also coupled transportation planners and local governments at the project development level to help integrate environmental considerations into the planning process.

The MPO has observed streamlining benefits at the project level. However, it is difficult to quantify the impact of choosing projects that cause less environmental degradation at the project level. Many of the observed benefits stem from a more consensual process between MPO and project developers that lead to plan-based projects. Also, resource permitting agencies are now involved much earlier in the planning process, resulting in improved environmental data at the early planning phases.

Additional Relevant Information/ Continuing Issues:

CDTC is continuing to work with communities and neighborhoods to build consensus for projects and plans. The MPO also hopes to further its efforts to link the *New Visions* plan to project development.

Contact: Chris O'Neill, Tel: 518-458-2161

Delaware Valley Regional Planning Commission  
Regional Planning Commission  
Philadelphia, Pennsylvania

Case Highlights:

- Bi-state comprehensive and integrated planning
- Access management and context sensitive solutions
- Environmental screening tools and maps
- Out-of-kind and in lieu comprehensive mitigation

Background Information:

The Delaware Valley Regional Planning Commission (DVRPC) serves as the MPO for the Philadelphia metro area and includes cities and towns in Pennsylvania and New Jersey. In the last few years, the bi-state RPC began comprehensive planning efforts—combining transportation, land use, and environmental planning processes.

Process/Issues/Results:

SAFETEA-LU has motivated DVRPC to further implement an integrated planning approach. The RPC has historically worked with resource agencies, but these interactions have increased with Section 6001 consultation requirements. Pennsylvania DOT has also influenced the RPC to undertake these integrated planning efforts by providing guidance on how to incorporate environmental concerns into the planning process. Key strategies of the RPC are consultation with resource agencies, access management, context sensitive solutions, and corridor-level planning. The agency uses environmental screening tools and ecosystem-level maps with many data layers.

One of DVRPC's most effective strategies for environmental planning and streamlining is the ability to develop out-of-kind and in-lieu mitigation. This is a more comprehensive ecosystem-based mitigation approach that is not conducted project-by-project. While this kind of mitigation can produce more comprehensive mitigation plans, resource agencies tend to regard this approach as insufficiently detailed to make species-specific decisions at the project level.

Additional Relevant Information/ Continuing Issues:

The agency's ecosystem perspective is evolving and beginning to affect the project development process by linking planning and NEPA. The goal is to develop effective decision-making processes with an overall ecosystem approach.

DVRPC also regularly tracks progress of how well regional needs are being met. The agency tracks several environmental measures through regional indicators. The table below includes environmental indicators used by the agency to gauge environmental outcomes and determine if long range environmental goals are being met.

<b>WHAT WE TRACK</b>	<b>REGIONAL INDICATOR</b>	<b>CYCLE</b>	<b>SOURCE</b>
<b>EN 1</b> Have privately protected lands increased?	Acres of preserved farmland, acres of protected land trust lands	Two years	DVRPC Protected Lands Inventory
<b>EN 2</b> Have acres of public open space increased?	Acres of federal, state, county, and municipal park / open space / conservation land holdings	Two years	DVRPC Protected Lands Inventory
<b>EN 3</b> Has surface water quality improved?	Percentage monitored waterbodies impaired for aquatic health	Two years	NJDEP & PADEP 2002, 2004, & 2006
<b>EN 4</b> Have we reduced air pollution?	Number of days region exceeded the National Ambient Air Quality Standards (NAAQS) for ground-level ozone and PM 2.5	Annual	EPA
<b>EN 5</b> Has the region's tree cover increased or decreased? Has the region's heavy tree canopy ( <i>the most beneficial type</i> ) increased?	Acres of tree cover	Variable 1993, 2000	American Forests, Inc.
<b>EN 6</b> Are recreation and open space areas accessible to disadvantaged population groups?	Percent of Census tracts with 5 Degrees of Disadvantage (DOD) within ¼ mile of public open space or recreation facility	Variable	DVRPC Degrees of Disadvantage, DVRPC Open Space Inventory file, DVRPC Land Use file (2000)

Source: Delaware Valley Regional Planning Commission

Contact Information: Chris Linn, Tel: 215-238-2873

East West Gateway Council of Governments  
Metropolitan Planning Organization  
St. Louis, Missouri

Case Highlights:

- Bi-state corridor planning
- Inventory of sensitive areas used in long range plans and risk assessment
- Ecosystem-based mitigation

Background Information:

The East-West Gateway serves an eight-county region in Illinois and Missouri. The MPO has been focusing its environmental planning efforts on comprehensive mitigation in the long range planning process and consultation with resource agencies.

Process/Issues/Results:

The agency integrates environmental data sets into the project development process through corridor studies. A system-level approach is fostered through its bi-state planning process and its many partnerships, including federal, state, and local resource agencies, and state and federal transportation agencies. The MPO has inventoried sensitive areas that have enabled risk assessment in the planning stage. It is also examining ways to improve the quality of mitigation using ecosystem-based mitigation rather than site-specific mitigation.

The agency is beginning to see some improvements to the project development process, including lowering NEPA costs. SAFETEA-LU has been helpful since early environmental planning is a newer process that is not always well-received. Moreover, resource agencies and local governments tend to hold a project-based perspective rather than a system-level perspective. Therefore, increased collaboration has been a critical element to successfully link environmental and transportation planning.

Additional Relevant Information/ Continuing Issues:

As data development becomes more detailed and comprehensive, the MPO hopes that the planning efforts will improve environmental outcomes and improve the project development process.

Contact: Carolyn Twenter, Tel: 314-421-4220



Florida Department of Transportation  
Department of Transportation  
Florida

Case Highlights:

- Efficient Transportation Decision Making (ETDM)
- Environmental Technical Advisory Team (ETAT) assists with consultation, screening, and purpose and needs statements
- Purpose and needs statement process links planning and project levels

Background Information:

Florida DOT began its Efficient Transportation Decision Making (ETDM) program in 2001 to improve transportation agency processes. The ETDM process initiates NEPA activities early in the transportation planning process through the completion of reviews of potential project effects and issues during the Planning and Programming Phases. Areas that receive early review through the EDTM process include wildlife and habitat, wetlands, farmlands, air quality, water quality, historical and archeological sites, and recreation areas. The DOT has an MOU with all Florida MPOs to undertake EDTM activities.

Process/Issues/Results:

An Environmental Technical Advisory Team (ETAT) helps with several phases including consultation, program screens, programming summaries, purpose and needs statements, and the final designs. The technical information is captured throughout the entire process and is archived for use at the project level. FDOT regards the purpose and needs statement as the clearest intersection between early environmental planning and project development. The EDTM process allows for the early recognition of sensitive environmental issues and exploration of potential mitigation. The process also encourages consultation with resource agencies and coordinated data sharing. Transportation projects are rated for natural, cultural and community effects.

## Project Overview: Summary Degree of Effect Chart

		Evaluation of Direct Effects																				
		Natural										Cultural			Community							
<b>Legend</b> N/A N/A / No Involvement 1 Enhanced 0 None 2 Minimal to None (before 12/5/2005) 3 Moderate 4 Substantial 5 Potential Dispute (Planning)		Air Quality	Coastal and Marine	Contaminated Sites	Farmlands	Floodplains	Infrastructure	Navigation	Special Designations	Water Quality and Quantity	Wetlands	Wildlife and Habitat	Historic and Archaeological Sites	Recreation Areas	Section 4(f) Potential	Aesthetics	Economic	Land Use		Mobility	Relocation	Social
<b>Alternative #1</b> <b>From Del Prado Blvd To Pondella Rd</b> - Reviewed from 2/16/2004 to 4/16/2004 - Published on 7/9/2004								2		2	2	2	2		2	2	2	2	1	2	2	

Source: Florida Department of Transportation

The benefits of EDTM and early environmental planning have included the development of a new common language between and across agencies and sectors. EDTM has improved management processes and has helped coordinate data sharing efforts. Streamlining benefits include early identification of critical flaws, reduction in the amount of technical studies, and more comprehensive mitigation efforts.

### Additional Relevant Information/ Continuing Issues:

While EDTM is continuing to evolve and many benefits are yet to be realized, it has created a continuum for the transportation process that did not exist before. With improved coordination between agencies and within agencies, measures are beginning to be developed that will further help gauge the success of the process.

Contact Information: Buddy Cahill, Tel: 850-414-5280

Greensboro Urban Area MPO  
Greensboro, North Carolina

Case Highlights:

- System-level environmental screening
- Uses GIS environmental data and maps to rate projects
- Extensive consultation process

Background Information:

Greensboro Urban Area MPO (GUAMPO) has recently updated the 2035 long range transportation plan. For the 2030 long range plan, a qualitative screening was performed to assess the potential environmental impacts of the roadway projects recommended for inclusion in the plan. The MPO carries out several Section 6001 and streamlining activities for project development, including consultation, mitigation, and environmental planning.

Process/Issues/Results:

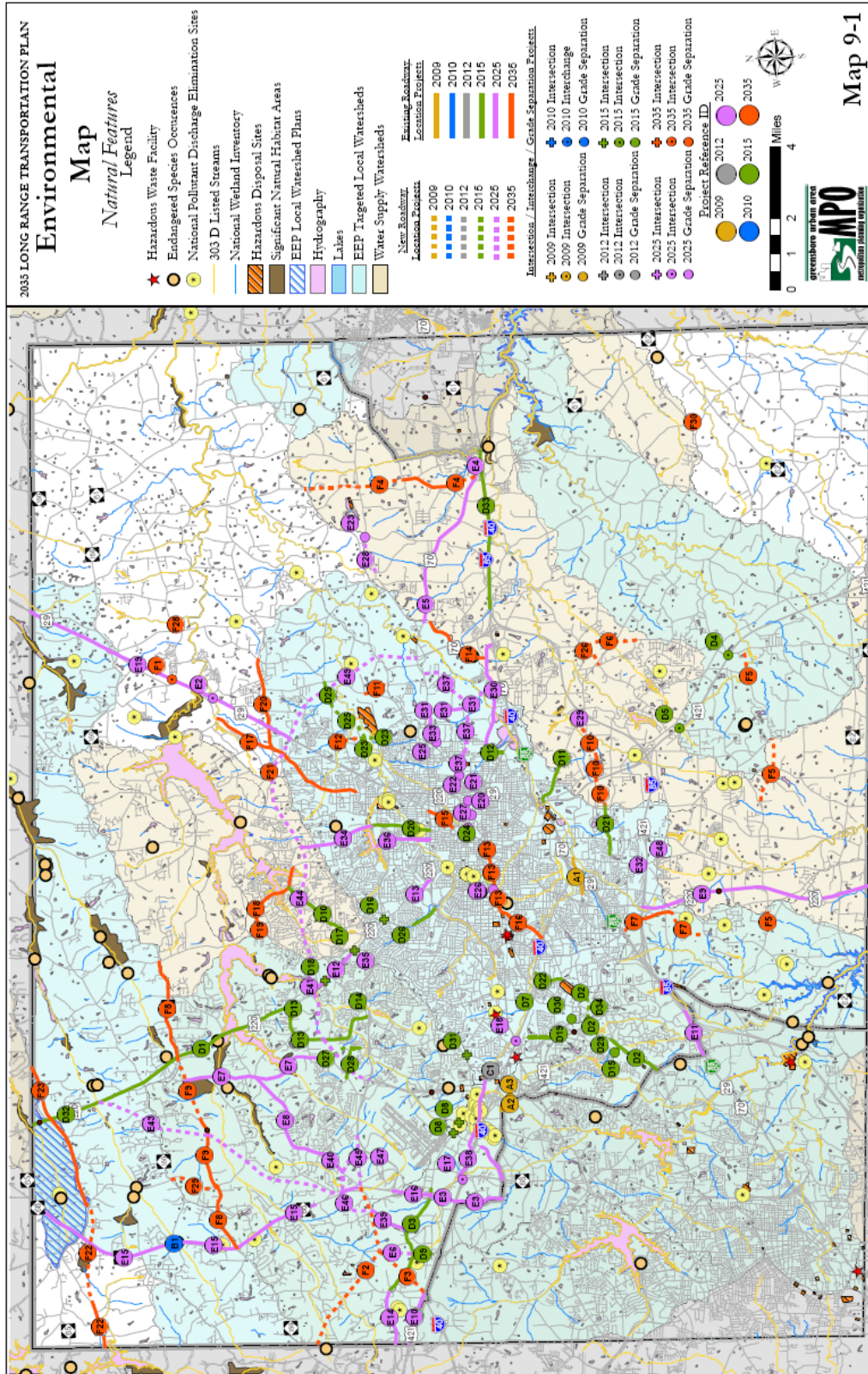
The MPO engages in system level environmental planning. Its systems-level environmental screening process allows consideration of the interactions among various projects. The MPO compiles comprehensive GIS data to overlay project alignments/locations onto a series of maps depicting sensitive natural and community resources. The agency has also comprehensively mapped threatened species, bodies of water, rivers/stream buffers, floodplains and planned and current state parks. Using GIS data and maps, each project is rated in the long range plan.

Consultation with resource agencies has led to collaborative planning efforts. While it may be too early to specify streamlining and environmental benefits, MPO staff believe that early environmental planning will help the NEPA process by reducing redundancy in environmental analysis. The agency's most effective streamlining strategies include consultation with resource agencies, GIS data, and systems-level planning.

Additional Relevant Information/ Continuing Issues:

GUAMPO has faced obstacles that include a disconnection between the planning and project phases and a lack of funding for planning and GIS activities. The MPO planning staff is working to develop better relationships with project level engineers and staff. By working with the resource agencies to acquire thorough, comprehensive data, the MPO has been able to develop useful GIS layers to use in planning. Also, as transportation and environmental agencies continue to work together, the single environmental issues of each agency are beginning to be seen within the context of a systems-level approach.

Contact Information: Lydia McIntyre, Tel: 336-373-3117



Source: GUAMPO 2035 Long Range Transportation Plan

Houston-Galveston Area Council (H-GAC)  
Metropolitan Planning Organization  
Houston, Texas

Case Highlights:

- Planning and Environmental Linkages/Eco-Logical program
- GIS maps to make decisions
- Extensive Consultation and mitigation planning

Background Information:

Houston-Galveston Area Council (H-GAC) is working with FHWA on Planning and Environmental Linkages and is an Eco-Logical grant recipient. Prior to these activities, the long range transportation plan considered environmental requirements for individual projects, yet more recently the MPO has taken a more comprehensive approach to environmental planning.

Process/Issues/Results:

H-GAC's key strategies include using GIS environmental maps as a decision-making tool and data sharing and consultation with resource agencies. The agency partners with the FHWA, federal resource agencies, state resource agencies, the Texas DOT, and regional resource organizations. Some of these partnerships began prior to SAFETEA-LU, yet several have developed with the onset of the Eco-Logical program. The agency is also beginning to plan for mitigation earlier rather than only at the project level to encourage less fragmented habitat mitigation.

<b>Houston-Galveston Area Council Consultation Partners</b>	
<b><i>Governmental Agencies:</i></b>	<b><i>Institutions and Organizations:</i></b>
Army Corps of Engineers U.S. Fish and Wildlife Service USGS Texas Water Science Center Texas Commission on Environmental Quality Region 12 Texas Department of Transportation Texas Forest Service Texas Parks and Wildlife Department H-GAC Galveston Bay Estuary Program Harris County Flood Control District	Houston Advanced Research Center Houston Wilderness Katy Prairie Conservancy Texas Sea Grant  The Park People The Trust for Public Land

Although the MPO does not have any direct measures of success for streamlining and environmental outcomes, the staff has observed streamlining benefits due to increased collaboration, data sharing, and more comprehensive planning. H-GAC is currently working to develop standard indicators to measure environmental and streamlining outcomes that result from linking transportation and environmental planning.

Additional Relevant Information/ Continuing Issues:

The agency regards early environmental planning as the key to improving environmental outcomes and a more streamlined project development process. The consultation process was initially challenging due to the differences between agencies, particularly the single-issue concern of resource and permitting agencies and the differences in agency culture. By working closely with these agencies, H-GAC has been able to leverage support and data to incorporate environmental planning into the long range transportation planning processes. SAFETEA-LU and the Eco-Logical program have been instrumental for encouraging these activities.

Contact: Meredith Dang, Tel: 832-681-2501

Mid-America Regional Council  
Metropolitan Planning Organization  
Bi-state Kansas City region

Case Highlights:

- FHWA Eco-Logical partnership
- Bi-state environmental planning
- Focused on improving environmental outcomes
- Agency is developing sustainability framework

Background Information:

Mid-America Regional Council (MARC) straddles the boarder of Kansas and Missouri. MARC is working with FHWA on the Eco-Logical project, which has improved collaboration with resource agencies. The MPO is involved in a region-wide natural inventory with several other agencies and organizations.

Process/Issues/Results:

The MPO has considered environmental issues in past long range plans, including air quality and habitat. Since SAFETEA-LU, these efforts have increased. The Eco-Logical partnership with FHWA has furthered the consultation and data sharing efforts. The MPO has developed an Eco-Logical Action Plan that has modified the planning process to consider environmental issues earlier and in a more meaningful way. Other partnerships include the Kansas and Missouri DOTs and resource agencies.

The agency is more focused on improving environmental outcomes than streamlining benefits, although they see the connection between the benefits. By incorporating early environmental considerations into the planning process, the agency is hoping that problems can be dealt with before they become a major issue at the project phase. This has improved planning staff relations with resource agencies and project development staff. While this is true, MPO staff regards the NEPA process as problematic because it is completed at the project level and not earlier. One agency staff remarked that the format for project selection needs to respond better to broader community and long range planning goals.

The MPO expects to see improved environmental outcomes with the 2010 adoption of the long range plan. By integrating environmental data into the long range plan, better comparisons can be made about alternatives and the public will be informed earlier on. The agency is also developing a sustainability framework and considering new performance measures based on “triple bottom line” principles. This will enable MARC to examine system-level outcomes and how the transportation system impacts the three “triple bottom line” systems—social, environmental, and economic.

Additional Relevant Information/ Continuing Issues:

MARC is beginning to transform its relationships through these planning processes. While the agency has experienced the typical disconnection between planning and project development, efforts are being made to bridge these processes and work together.

Transportation and environmental planning processes have also been linked through the Eco-Logical project and SAFETEA-LU, creating a more comprehensive planning process.

Contact Information: Lisa Pool, Tel: 816-474-4240



McLean County Regional Planning Commission  
Metropolitan Planning Organization  
Bloomington, Illinois

Case Highlights:

- Uses Natural Resources Ecological Compliance Assessment tool (EcoCAT)
- Development review checklist assesses transit, connectivity and environmental sensitivity
- Environmental data used for TIP selection

Background Information:

The McLean County Regional Planning Commission (McPlan) has incorporated environmental considerations into their long range planning process prior the SAFETEA-LU regulations. The agency has an integrated planning process with no staff dedicated to one area. This integrated agency approach, coupled with strong interagency collaboration, has enable the region to begin to effectively consider environmental issues earlier in the transportation planning process.

Process/Issues/Results:

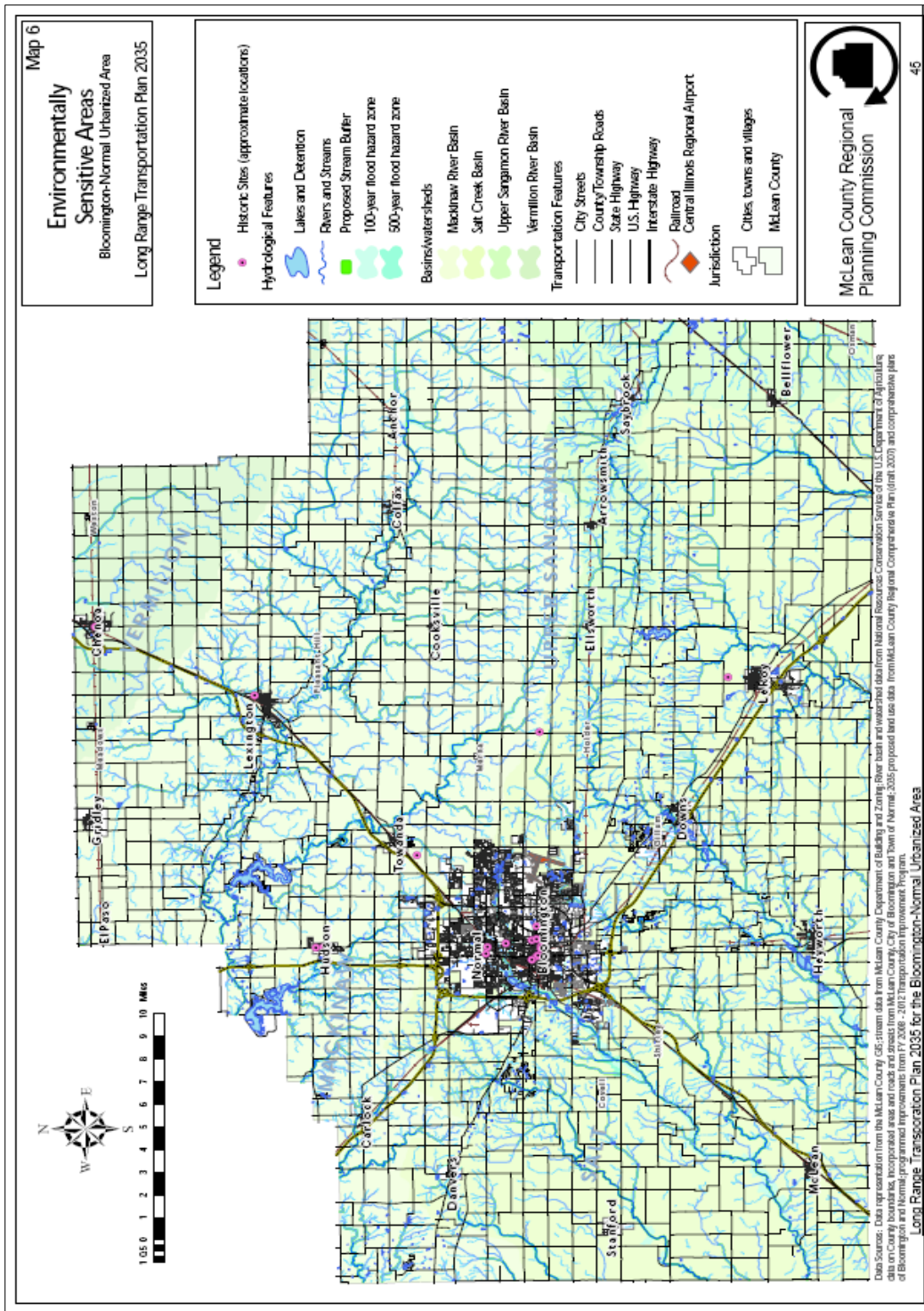
McPlan also employs the Illinois Department of Natural Resources Ecological Compliance Assessment Tool (EcoCAT) as a resource to determine potential environmental impacts of proposed projects. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed projects may be in the vicinity of protected natural resources. This helps determine the level of consultation and information needed to minimize potential adverse effects of transportation projects. McPlan uses context sensitive solutions to design projects and includes mitigation activities in the long range plan. The Transportation Improvement Program is developed using environmental data as well, enabling projects to be selected with knowledge of their environmental impacts.

McPlan has a technical committee with representatives from cities and counties to work together in the pre-project development phase. The RPC also has an Intergovernmental Development Committee that reviews all development plans and deems whether they are consistent with municipal and regional comprehensive plans. The development review checklist provides a framework for all agency processes; it is an assessment tool for transit, street design, connectivity, and environmental sensitivity.

Additional Relevant Information/ Continuing Issues:

While environmental and process outcomes have not yet been quantified, the agency is addressing environmental concerns early and integrating planning processes. The agency would like to use a good benchmarking system to see how well their Section 6001 efforts are working and indicators for environmental outcomes. They would also like to engage the public earlier on in the planning process about environmental issues rather than only at the project level.

Contact Information: Jennifer Sicks, Tel: 309-828-4331



Source: Long Range Transportation Plan 2035 for the Bloomington-Normal Urbanized Area

North Central Texas Council of Governments  
Metropolitan Planning Organization  
Dallas-Fort Worth, Texas

Case Highlights:

- Transportation Resource Agency Consultation & Environmental Streamlining (TRACES)
- Transportation-funded position at resource agency to assist permitting process for projects
- Extensive interagency consultation as well as strong intra-agency ties

Background Information:

The North Central Texas Council of Governments (NCTCOG) had limited consultation with resource agencies prior to SAFETEA-LU; however, the agency began considering environmental impacts during the planning process and initiating streamlining initiatives since the early 1990s. NCTCOG has a Transportation and Environmental Coordination program that integrates conservation and transportation planning. Currently, NCTCOG has included environmental consideration information in the most recent Metropolitan Transportation Plan (MTP), Mobility 2030. This work was completed in 2007 and a new MTP update began in 2009, where it is anticipated this effort will be expanded and include more detailed maps and analysis. The MPO has been undergoing data compiling, mapping, and has been meeting with resource agencies to support this effort.

Process/Issues/Results:

NCTCOG's planning and environmental linkages program is called TRACES—Transportation Resource Agency Consultation & Environmental Streamlining. Section 6001 activities include early consultation and meetings with resource agencies and wildlife organizations, discussion of potential environmental mitigation activities at the system or subarea level in the long range plan, development of maps and/or graphics in long range transportation plan to support and illustrate consideration of environmental issues, and data sharing with resource and/or other agencies. Partnerships include several federal and state resource agencies, FHWA, The Texas DOT, and local governments and special districts.

The MPO has made several efforts to streamline the planning process by addressing environmental requirements earlier and/or more expeditiously, although the agency is still in the early stages of these efforts. NCTCOG recently signed a Section 214 agreement with the US Army Corp of Engineers (USACE) Fort Worth District for the hiring of USACE personnel to work on 404 permits for specified regional priority projects. The agency has had meetings/workshops with resource agencies from both federal and state level regarding these efforts and has started building relationships with these agencies for future consultation efforts during the planning process.

Besides forging interagency ties, NCTCOG has fostered intra-agency collaboration. A joint workplan has been established between both the NCTCOG Transportation Department and Department of Environment & Development to further the Planning and Environment Linkage efforts. The Department of Environment & Development has initiated development

of a Regional Ecological Framework for the North Central Texas region which is based on the agency supported Eco-Logical document.

To this point tangible or measurable improvements/benefits have been difficult to measure. What has occurred is the formation of relationships with resource agencies that did not exist prior to these efforts. That is a significant step in making future improvements and seeing tangible benefits as the agency continues these efforts.

#### Additional Relevant Information/ Continuing Issues:

The MPO has encountered several obstacles in bringing environmental considerations into early planning processes. The lack of digital data or updated data and a reluctance to share data can make it difficult to acquire data from resource agencies. Agency participation from most agencies has been good; however, some resource agencies do not have the staff/time to devote to these efforts. Furthermore, it has been challenging to work with agencies that typically work at the project/regulatory level and not at a planning level. NCTCOG staff members remarked that most resource agencies do not have the money or mission to conduct long-range comprehensive plans, but exist to regulate specific resources. Therefore, educating them on the long-range planning process and the benefits of these efforts is important.

Future activities are currently underway to incorporate environmental mitigation strategies into the long range plan include developing an environmental review assessment for increased consultation for mitigation activities and the development of a regional mitigation bank for candidate resources requiring mitigation.

Contact Information: Tamara Hallowell, Tel: 817-640-7806

North Front Range MPO  
Metropolitan Planning Organization  
Fort Collins, Colorado

Case Highlights:

- Participates in Colorado DOT's Strategic Transportation, Environmental and Planning Process for Urbanized Places (STEP UP)
- Corridor and regional mitigation efforts
- Working to bridge disconnection between planning and projects

Background Information:

The North Front Range MPO (NFRMPO) serves as the metropolitan planning organization for Fort Collins metropolitan area as well as 14 other local governments in northern Colorado. The agency participates in STEP UP (Strategic Transportation, Environmental and Planning Process for Urbanized Places), Colorado DOT's streamlining pilot project to develop processes and tools for addressing environmental impacts related to transportation projects at the earliest stage.

Process/Issues/Results:

The MPO has consulted with federal and state resource agencies and used environmental data obtained from these consultation processes in the long range plan. This information has also been used to make decisions about regionally significant corridors.

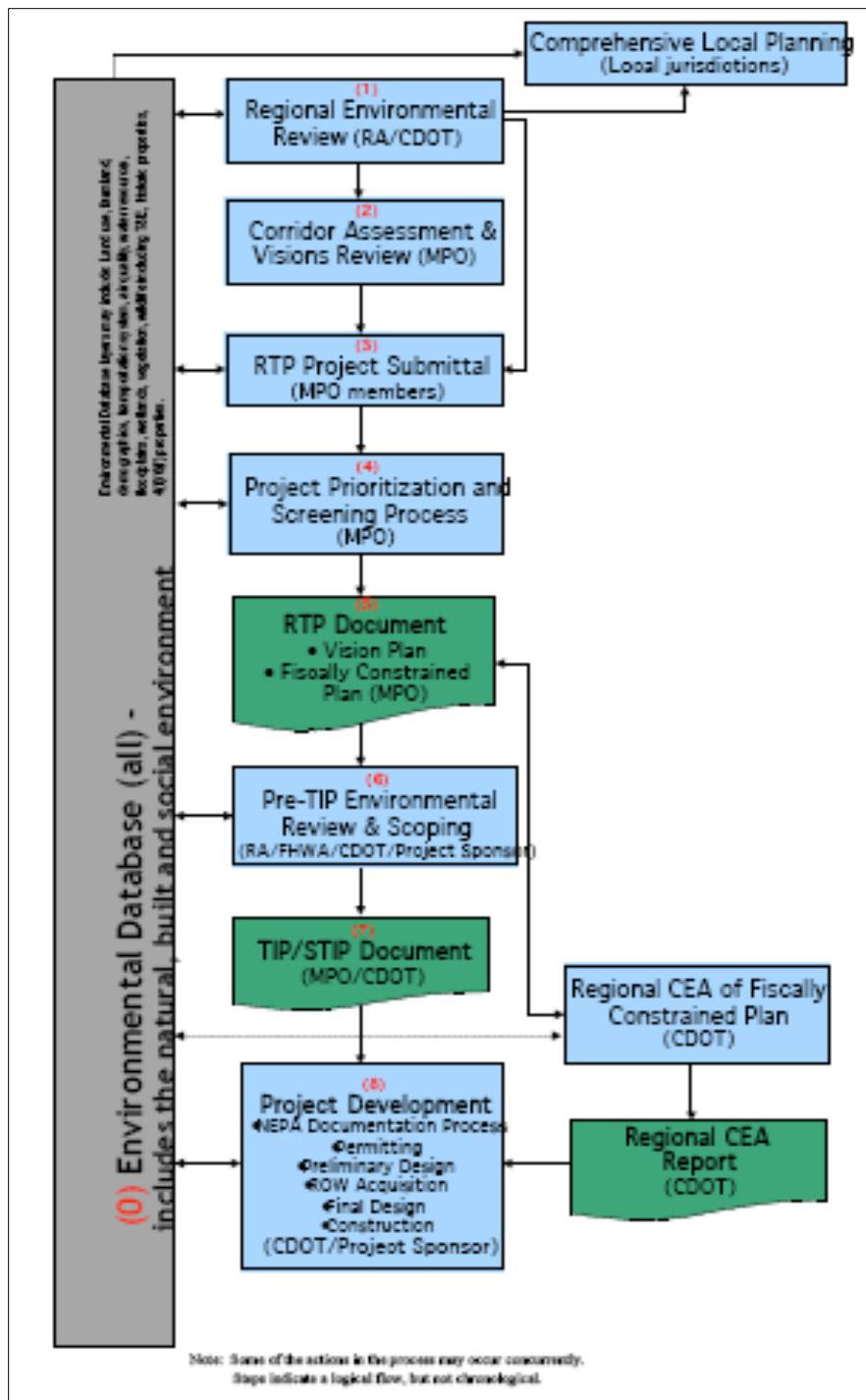
Agency personnel regard mitigation strategies as a regional scope and therefore need to be coordinated at a regional level. While NFRMPO has worked to coordinate mitigation at the corridor and regional level, resource agencies mitigation processes are performed at the project level. The STEP UP pilot project is beginning to undertake environmental planning earlier than the NEPA process, but this is challenging since there is a disconnect between planning and what actually happens in projects.

NFRMPO is beginning to see a shift towards the use of early environmental planning in project development. The STEP UP program has resulted in some improved environmental outcomes, but because of tight funding this has been for small projects rather than corridors.

Additional Relevant Information/ Continuing Issues:

The MPO hopes that their environmental planning information will be able to be used at such a level that it will result in improved environmental and streamlining outcomes. This has been difficult for the agency because, while SAFETEA-LU has provided the impetus to undertake this work, there are no regulations or resources to ensure that early environmental planning efforts are used at the project level. Increased coordination with resource agencies is also needed for effective corridor planning and comprehensive mitigation.

Contact: Suzette Mallette, Tel: 970-416-2257



Source: NCTCOG

## Oregon Department of Transportation

### Case Highlights:

- Collaborative Environmental and Transportation Agreement on Streamlining (CETAS); which is a venue for consultation and collaboration
- Tiered NEPA Decision-Making Approach
- Process is beginning to change agency culture, but need more “regulatory hooks” to further efforts

### Background Information:

The Oregon Department of Transportation (DOT) is considered a national leader in environmental streamlining processes. Prior to SAFETEA-LU, the agency developed the Collaborative Environmental and Transportation Agreement on Streamlining (CETAS) in response to state comprehensive land use planning requirements. CETAS is part of ODOT’s effort to link the NEPA and the transportation planning process. CETAS acts as a venue for consultation and collaboration between resource and transportation agencies.

### Process/Issues/Results:

ODOT had focused its efforts on streamlining and mitigation activities. The agency has an integrated planning approach with positive relations with resource agencies. Key streamlining activities include Purpose and Needs (P & N) statements, developing a range of alternatives, and Environmental Impact Statements.

CETAS is a committee that carries out streamlining activities with other departments and agencies. For example, for developing a P & N statement, transportation planning and programming staff are involved as well as multiple resource agency staff. CETAS assists ODOT with many activities including developing a statewide mitigation bank, resource mapping, tracking NEPA projects, and the integration of NEPA and systems planning. Also, all MPO long range plans are reviewed through CETAS where they receive a wide-array of resource agency input. While participation in CETAS is voluntary, several MPOs in Oregon are using the CETAS process. CETAS has improved relations between resource and transportation agencies and has allowed public participation at an earlier stage. ODOT funds a position with the state resource agency to specifically focus on streamlining issues.

ODOT has not yet been able to adequately measure Section 6001 or streamlining results from these processes. One benefit from these processes is that large-scale projects deemed early to have potential negative environmental impacts have been avoided. In general, only small projects have been approved since CETAS began. While difficult to measure, the agency assumes some kind of cost savings for avoiding the selection of these kinds of projects. The agency has also observed other benefits such as reduced project costs and timeframes.

Collaborative Environmental and Transportation Agreement for Streamlining  
Table 1

Products	Planning Policies	ODOT Management Systems	Plans			STIP Process	STIP	Project Development	Final Design	Construction	Maintenance
	OTF OHP, MODAL Plans, -Transit, etc., TPR FHWA, Natural Resource Plans	Inventories of conditions, for example Pavement, Bridges, etc., Natural Resource Gap Analysis	<div>Local Planning Organizations</div> <div>ODOT</div> <div>TSP's, RTP's</div> <div>Refinement Plans</div> <div>Some with NEPA approval</div> <div>Incorporation in Comp Plans</div> <div>Corridor Plans</div> <div>Wetland Bank Plan, Wetland Conservation plans Etc., Watershed plans</div> <div>Commitments on Resource Mitigation and Enhancement Goals</div> <div>Broad Data Analysis to create high level of Ecological Baseline. Use in assessing Comp. Plan and Trans plan impacts.</div>			Projects Prioritized, Conservation Planning included as a product, Established before construction of facilities	Funded Prioritized Program, Projects include conservation projects	Final Design Alternative, Mitigation amount ID'd	Permits and Approvals, ROW, Take credits from Mitigation bank	Project Built	Maintenance of Mitigation bank is performed by bank owner, not ODOT
What Happens	Establishes Goals and Direction, Resource agencies establish goals and direction for resources.	Problem ID, GIS Resource maps available to local planners	<div>Local Decision, Solution Development within Modes</div> <div>Resource agencies interact with local agencies and ODOT during Basic Planning and modal decisions in order to integrate Natural Resource plans.</div>	<div>Location of Facilities, Development of Solution Concept, NEPA applied, Env. Analysis of Alts., May include Mode</div> <div>Resource agencies fully engaged during Refinement Planning</div>	<div>Concept incorporated in Comp Plans, Prioritized for Future Funding, ROW can be purchased by Local Gov. Corridor Protection</div>	Projects complete for Priority & Funding, resource agencies review STIP and are involved in prioritizing	Project Funded	Design Alternatives Evaluated through NEPA Process, Mitigation Defined	Final Mitigation Designed, Permits & Clearances Secured, ROW Purchased	Actions are driven by pre-approved BMP's	BMP's already established and followed. All practices reviewed for environmental efficiency and effectiveness. ISO 14001, ODOT Operations treated programmatically.
Decision	Standard Goals	Problem Areas ID'd	<div>Purpose &amp; Need, Modal Decision</div> <div>Purpose and Need, selection criteria, Range of alts. reviewed and approved. Mode, preferred location and type of facility determined.</div>	<div>Land Use actions for Proposed Alternative are taken.</div>		Funding, Priority of Development	Schedule	Design Alt. Selected, Mitigation Concepts.	Precise Mit. Design, Permission from Permitting Agencies	Permit Compliance	Performance Evaluated
Natural Resource Agencies	Have Plans, staff committed to liaison with local Government	Purpose and Need, Modal Decision Review	<div>Local Gov. invites review, NR Agencies Review, advise and provide data resources, Review Purpose and Need, Modal Decision.</div> <div>Significant Resource Agency involvement through Major Projects Agreement</div>			Prioritize Resource based projects.		Scoping, Major Project Process for Design projects, Consultation, NEPA, Commenting	Determine mitigation credits, Issue Permits, BO's, Concurrences	Monitor Performance BMP's	Maintain Mitigation Banks, Conservation Plan Sites
Decision Makers	OTC, LDC, FHWA, Resource Agencies	ODOT, Local Government	<div>Local Gov</div> <div>ODOT &amp; Local Gov.</div> <div>Local Gov</div> <div>Local Gov</div> <div>ODOT, Natural Resource Agencies</div> <div>Local Planning Orgs., OTC, LDC, Natural Resource Agencies</div>			ODOT, OTC, ACTS, Local Gov., Natural Resource Agencies	OTC, FHWA	FHWA, ODOT Project Team Agency Reps, Local Gov. Reps, CEAP members	ODOT Project Team, Agencies, FHWA	ODOT Construction Team, Agency Reps.	ODOT Maintenance Team, Agency Reps.
	Stakeholders		<div>Stakeholders, including general public and local interests.</div> <div>Hearings Participants</div>			Stakeholders usually political participants, open to public		Stakeholders, including general public and interest groups, hearing participants.			

Major Projects Agreement and NEPA-Planning Merger  
TSP Guidelines Revisions  
Wetland Banks, Conservation Plans, etc  
Natural Resource Plans  
Total Env. System Management (ISO 14001) Programmatic Approach

Source: Oregon Department of Transportation



Additional Relevant Information/ Continuing Issues:

Currently, there are interagency discussions to develop clearly defined performance measures for CETAS. One obstacle for the agency is the challenge of overcoming traditional agency “stovepipes.” Some agency personnel also feel that there is a need for increased regulation to mandate these processes; they mentioned that while SAFETEA-LU is very helpful, it does not “go far enough”. Oregon is currently focusing most of its efforts on safety, congestion management, and maintenance rather than capacity expansion, which also helps indirectly improve environmental outcomes.

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Pikes Peak Area Council  
Metropolitan Planning Organization  
Colorado Springs, Colorado

Case Highlights:

- Planning and Environmental Linkages participant
- Pre-SAFETEA-LU consultation and environmental planning for watershed and sustainability issues
- Extensive eco-system and cultural resource modeling, including use of NatureServe software
- Key challenges: state resource agency relations and political climate of governing board

Background Information:

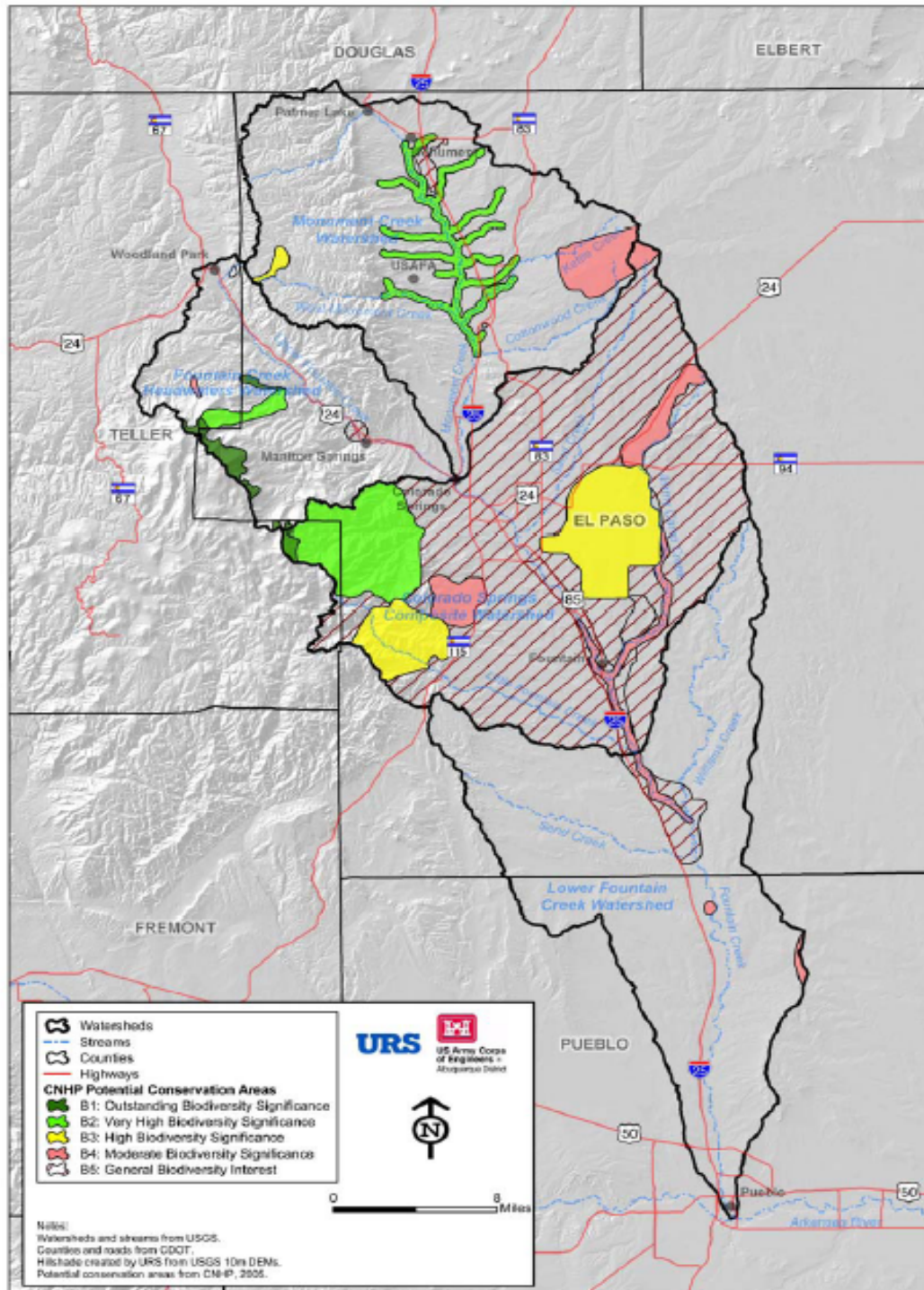
Pikes Peak Area Council of Governments (PPACG) serves as the Metropolitan Planning Organization for the Colorado Springs area. PPACG is the lead agency for transportation, air quality, and water quality planning and demographic and economic forecasting. The MPO serves as coordinator between multiple regional planning efforts, assessing direct, indirect, and/or cumulative effects of various agencies' plans and projects. The council began linking transportation and environmental planning prior to SAFETEA-LU through watershed planning partnerships and through the Pike's Peak Sustainability Indicator's Project. This project partnered PPACG with Fort Carson Mountain Post garrison of the US Army and the governments, businesses, and citizens of the region to help reach community sustainability goals. Besides transportation and environmental linkages, PPACG also conducts extensive historical and archeological preservation resource mapping for use in long range planning.

Process/Issues/Results:

PPACG partakes in FHWA Planning and Environmental Linkages (PEL) program. The council actively seeks out consultation with resource agencies, uses conservation plans in the long range planning process, and develops early environmental mitigation for TIP projects. Key tools include the use of NatureServe ecologically-based modeling software. The agency considers their planning endeavors to be 'pro-active.'

PPACG's efforts also include early public outreach, design-build, and extensive data sharing with other agencies. The design-build process helps minimize the risk for builders, thus facilitating the project development process. Through Fountain Creek Watershed partnership that began 5 years ago, the council has formed good relationships with the

**FIGURE 12-1: POTENTIAL CONSERVATION AREAS**



Army Corp of Engineers, EPA, and the Pueblo MPO. They also have a good relationship with Colorado DOT through the PEL program. The relationship with the Colorado Division of Wildlife has been more challenging, as its staff and resources are very limited.

**Additional Relevant Information/ Continuing Issues:**

One challenge for the MPO is that there are differences between planning staff and PPACG's governing board about the importance of early environmental and comprehensive analysis. The staff is trying to use a multi-criteria, systems-level approach to project selection which is not always well received by the board. Despite this difference, the council has observed some benefits from such efforts as consultation and data-sharing. These benefits include improved coordination leading to decreased management costs and improved water quality from stormwater mitigation. The MPO is hoping to motivate elected officials about the importance of early consultation and linking environmental and transportation planning. Council staff members believe that while SAFETEA-LU is helpful, the next reauthorization needs to go further to have more "stick."

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Puget Sound Regional Council  
Metropolitan Planning Organization  
Seattle, Washington

Case Highlights:

- Scoping process for environmental review
- Extensive resource data sharing and consultation
- Early public involvement

Background Information:

Puget Sound Regional Council (PSRC) is the MPO for the Seattle, Washington metro region. The MPO is leading the nation in the use of environmental data for scenario selection in the long range planning process. PSRC began its environmental planning efforts in 2003.

Process/Issues/Results:

While PSRC has been doing environmental planning and consultation for some time, they are considering the Section 6001 to be a new process. Washington State environmental policy (SEPA) requires more early environmental review in the transportation planning process than most states. State and regional analysis is used as a starting point in the NEPA process.

PSRC uses all available resources in the planning process, including the state-wide biodiversity report. The scoping process has an environmental review and monitoring function. Public information about alternatives is available early in the project development process. The MPO has good information and consultation partnerships with the EPA, US Fish and Wildlife, USDOT, Washington State Department of Ecology, Department of Natural Resources, and State DOT. They also work with Puget Sound Clean Air Agency and several local non-profits including Future-Wise, a land use advocacy group, and Cleaning Puget Sound. The agency considers collaborative partnerships and consistent communication essential to these efforts.

Additional Relevant Information/ Continuing Issues:

While no specific quantitative measures or monitoring efforts have been developed, the agency believes that local projects reflect a strong connection with comprehensive plans. PSRC staff members feel that the most effective Section 6001 or streamlining effort is to connect planning and project level scoping. Because environmental documents can be technical and difficult for the public to understand, the agency has developed a basic introduction to environmental analysis. In the future, PSRC will have more results to gauge the success of these efforts.

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Riverside County Transportation Commission  
Metropolitan Planning Organization  
Southern California

Case Highlights:

- Riverside County Integrated Project's Community and Environmental Transportation Acceptability Process—Nine-year partnership
- Integrated environmental and transportation planning
- Integrated corridor planning

Background Information:

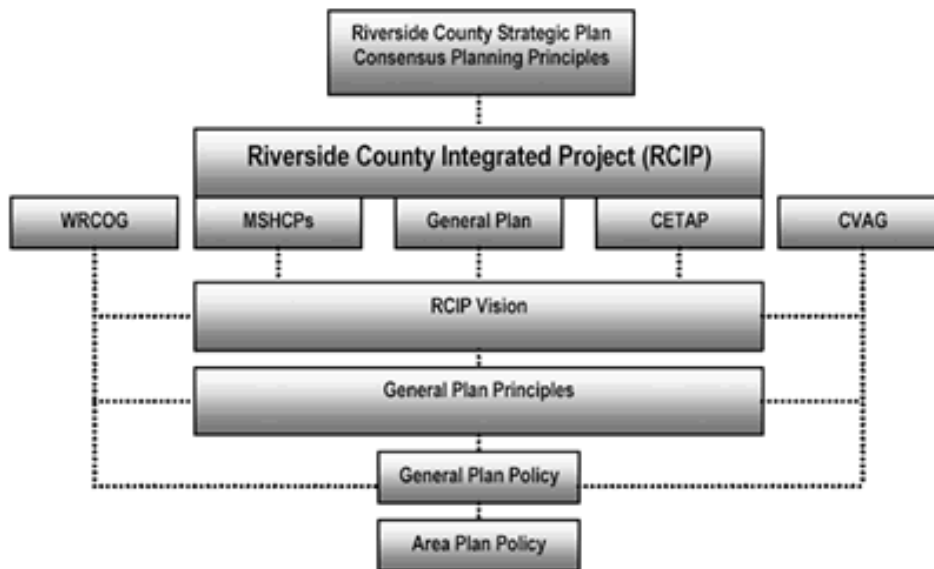
The Riverside County Transportation Commission (RCTC) acts as the MPO for the large area stretching from east of the Los Angeles region to the border of Arizona. The MPO is part of the federally initiated Riverside County Integrated Project (RCIP) that includes a General Plan for land use and housing, a Multiple Species Habitat Conservation Plan (MSHCP) to determine which land should be set aside as open space and maintained for plant and animal conservation, and the Community and Environmental Transportation Acceptability Process (CETAP) identifying improvements for highways and transit systems. The RCTC is responsible for CETAP.

Process/Issues/Results:

The commission has consults with resource agencies and considers environmental planning in the long range planning process since 2000. Key efforts include overlaying GIS environmental maps for use in the transportation planning process and concurrent reviews where technical and environmental reports are reviewed by resource agencies.

Partnerships include resource agencies (EPA, Army Corp of Engineers, US fish and Wildlife, California Fish & Game, and local city divisions such as water quality) and non-profits such as the Sierra Club. Caltrans has also partnered with RCTC with these efforts.

CETAP efforts have focused on planning of four new corridors, currently in different phases of development. All projects go through the MSHCP process for permitting rather than the US Fish and Wildlife, allowing RCTC to work closely with resource agencies early in the planning process. This results in a streamlined process with greater concern for environmental issues early in the planning stages. Another observed benefit is that there are more smaller-scale projects chosen than less bigger-scale projects for local projects. Smaller projects usually have a shorter EIS process and less impact on the environment.



#### Additional Relevant Information/ Continuing Issues:

The agency does not have any quantitative measures to gauge the streamlining successes of the RCIP. Independent analysis has been conducted on the MSHCP's effects on the project development process with mixed results; in some instances it has shortened the time needed for the permitting process and other times in increased permitting times. Time savings generally occur because project assessment can draw upon the completed assessments of the MSHCP.

Continuing issues for the agency include keeping data up-to-date to make accurate planning decisions as well as having resources to fund projects that are supported by long range plans. RCTC is also working to increase public input for CETAP projects.

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## Sacramento Area Council of Governments (SACOG)

### Case Highlights:

- MPO is a national leader in land use modeling and has developed a regional Blueprint with regional environmental goals and strategies
- SACOG is working with local communities to implement Blueprint principles
- Develops regional mitigation plans and uses environmental data early in the planning process to make decisions about projects before they are initiated

### Background Information:

SACOG adopted a regional land use Blueprint plan after developing the plan with local communities and a wide array of stakeholders. The Blueprint principles include regional environmental goals. SACOG's regional planning process adheres to California Environmental Quality Act, which is different than NEPA because it requires earlier consideration of environmental factors. The MPO regards land use as a key factor to successfully link transportation and environmental planning.

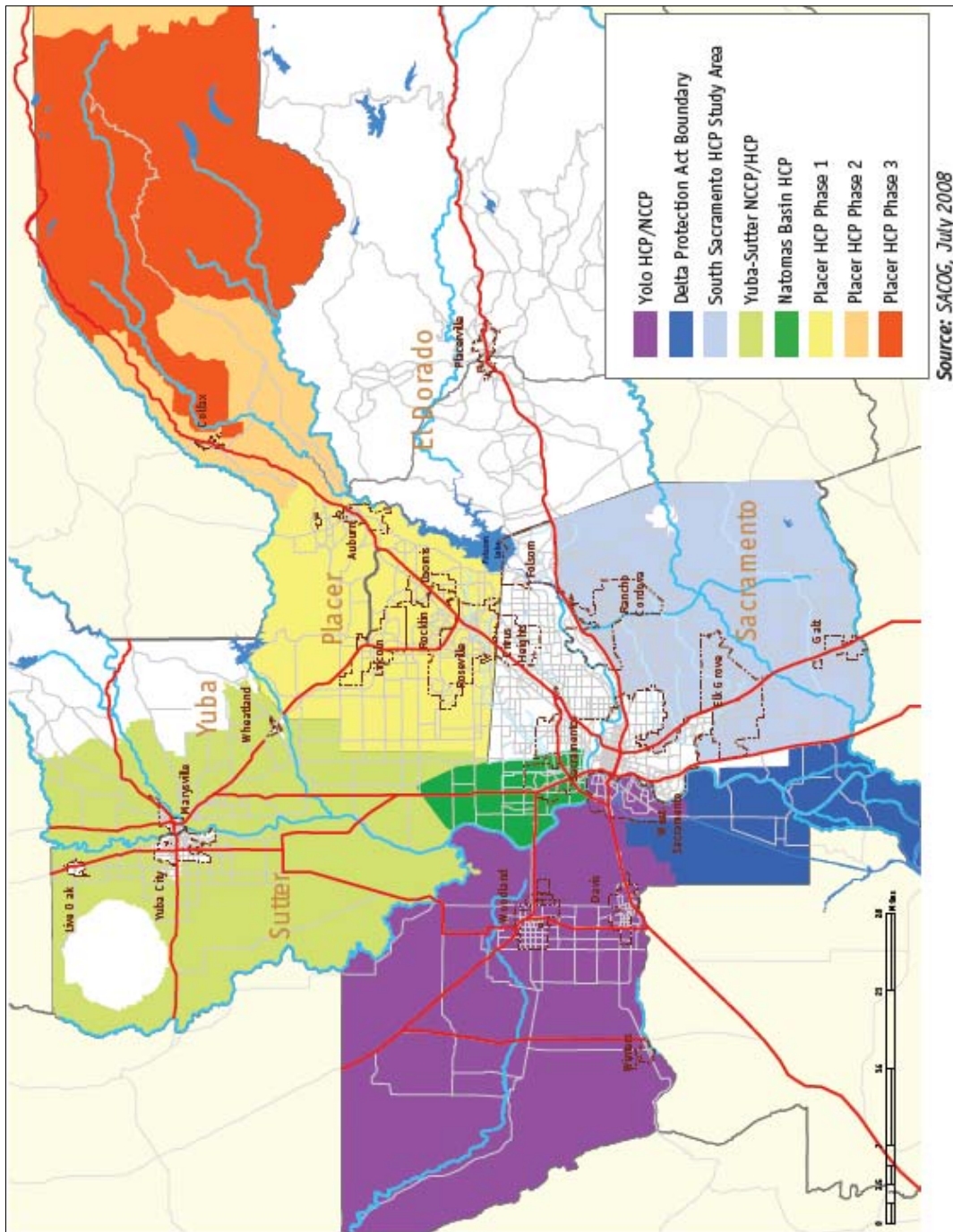
### Process/Issues/Results:

SACOG has consulted widely with resource agencies to incorporate environmental issues into planning. As part of California State law, SACOG plans for mitigation on a regional level rather than solely doing it at the project level. There are still challenges around choosing the best land to mitigate and what kind of land. Consultation efforts are helping to better coordinate this process.

SACOG also uses context sensitive design and is beginning to consider form-based code planning to further integrate urban form principles. The agency develops an Environmental Impact Statement at the planning level and the Purpose and Needs statement contains an array of planning input. There is also data sharing between resource and transportation agencies.

There have been some measures that indicate that transportation and environmental linkages are occurring. The Blueprint is being used to encourage regional environmental goals at the local level. Projects with sensitive habitat have been omitted early in the planning process. Streamlining effects come largely from the CEQA process, which encourages earlier environmental analysis than NEPA. Moreover, CEQA requires the goals and objectives of projects to be developed early and these often are aligned with regional environmental goals.





Source: Sacramento Area Council of Governments

#### Additional Relevant Information/ Continuing Issues:

One of SACOG's biggest challenges includes coordinating plans with local jurisdictions. Cities and towns in California have a general plan, and if these do not contain regional planning principles or if local elected officials and city government do not implement the strategies, it is difficult to follow through with plans that link transportation and the

environment. SACOG staff regards the relationship with local communities as the key to implementing strategies that align transportation and the environmental as well as other community goals. It also recognizes that federal funding is needed to sustain relationships with resource agencies and local governments and to help coordinate the planning processes, including land use and environmental planning.

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San Antonio-Bexar County Metropolitan Planning Organization  
Metropolitan Planning Organization  
San Antonio, Texas

Case Highlights:

- Texas Environmental Resource Stewards partnership between federal and state
- Texas Ecological Assessment Protocol links planning and NEPA through GIS and species mapping
- Early watershed planning efforts expanded to enhance planning and environmental linkages.

Background Information:

San Antonio-Bexar County MPO began its consultation efforts through the Texas Environmental Resource Stewards (TERS) program in 2002. The Texas Ecological Assessment Tool (TEAP), a planning and screening-level assessment tool that uses GIS and electronic data, was developed to identify ecologically important areas. The region has also undertaken extensive coordinated watershed planning through the Edwards Aquifer Sustainability Initiative.

Process/Issues/Results:

The MPO is currently updating its long range plan, due in late 2009. The agency has been participating in FHWA Planning and Environmental Linkages activities, including developing comprehensive mitigation plans and using GIS maps for the development of plans. The extensive data coordination with resource agencies includes GIS-ST, an environmental screening tool that transportation planning directors have learned to use and are apply to the planning process. Below is a table derived mostly from GIS-ST data of indicators and strategies for different environmental issues.

Criteria Group	Source	Description	Potential Strategies
Water Quality	GIS-ST	Ecologically Significant Stream Segments, Percent Wetlands, Total Maximum Daily Load (TMDL)	Avoid rivers, creeks and other waterways to protect water quality as well as reviewing areas where wetland/stream restoration, enhancement or creation will occur.
Floodplain	GIS-ST	Percent Floodplains	Avoid or minimize adverse effects to ecological area through the preservation of land for parks and trails. Establish and use a regional approach to land preservations if direct preservation of a specific resource is not reasonably feasible. Avoid and minimize adverse impacts through project alignment and design.

Criteria Group	Source	Description	Potential Strategies
Wildlife Habitat	GIS-ST	Percent Wildlife Habitat	Avoid or minimize adverse effects to ecological area through the preservation of wildlife habitats. Establish and use a regional approach to land preservations if direct preservation of a specific resource is not reasonably feasible. Avoid and minimize adverse impacts through project alignment and design.
Agriculture Land	GIS-ST	Percent Agriculture Land	Avoid or minimize adverse effects to ecological area through the preservation of agriculture land and open space. Establish and use a regional approach to land preservations if direct preservation of a specific resource is not reasonably feasible. Avoid and minimize adverse impacts through project alignment and design.
Edwards Aquifer	GIS-ST/ Edwards Aquifer Authority	Edwards Aquifer Recharge Zone and Recharge/ Transition Zone Boundary/ Contributing Zone/Contributing Zone within Transition Zone	Avoid or minimize impacts to the aquifer through the use of the Edwards Aquifer Rules. Implement mitigation measures through design, the use of native landscaping, minimizing pesticides and fertilizers and the use of permeable surfaces to reduce impacts on ground water recharge.
Environmental Justice	U.S. Census/ MPO	Areas identified as environmental justice through the 2000 census tracts expanded to the Transportation Analysis Zone level (TAZ)	Avoid or minimize adverse effects through project alignment and design. Implement other transportation projects or programs that correct or minimize the adverse impacts.
Threatened and Endangered Wildlife	GIS-ST	State Threatened and Endangered Wildlife and Federal Threatened and Endangered Wildlife	Avoid or minimize adverse effects to ecological area through the preservation of threatened and endangered wildlife. Establish and use a regional approach to land preservations if direct preservation of a specific resource is not reasonably feasible. Avoid and minimize adverse impacts through project alignment and design.

The MPO has leveraged relationships from TERS and TEAP to further consultation efforts and meet Section 6001 requirements. The agency's many partners include The Texas DOT, FHWA, The Alamo COG, several local governments, The Texas Commission of Environmental Quality, The Texas Transportation Institute, Texas State University, US Army Corp of Engineers, The EPA, The US Fish and Wildlife, and The Texas Parks and Wildlife's Texas Natural Diversity Database. Many of these relations began through early watershed partnerships in the 1990s when there was still an enormous disconnect between transportation and resource agencies.

The MPO now has better data sets and precise information to undertake early environmental planning efforts. They are working to use GIS environmental and transportation data to choose and situate projects that will have the least negative environmental impact. GIS layers being currently used are: agriculture land, floodplains, threatened or endangered species, water quality, Edwards Aquifer information, environmental justice, and historical preservation.

Additional Relevant Information/ Continuing Issues:

The data is being used to improve decision making processes and to integrate an overall ecosystem approach into the planning process. The new GIS data sets are also providing potential mitigation strategies for the upcoming Metropolitan Transportation Plan.

Mitigation efforts include developing strategies to reduce storm water runoff and degradation of the Edwards Aquifer by minimizing the impact of transportation improvements. Strategies include engineering on new projects and redesign and retrofit of existing facilities, such as erosion control measures and greater use of permeable surfaces.

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Southeast Michigan Council of Governments (SEMCOG)  
Metropolitan Planning Organization

Case Highlights:

- Mitigation planning document: “Integrating Environmental Issues in the Transportation Planning Process”
- Early involvement of the public
- Inter- and intra-agency data coordination

Background Information:

Southeast Michigan Council of Government (SEMCOG) serves as the MPO for seven counties and several cities including Detroit and Ann Arbor. SEMCOG’s 2007 long range plan update incorporated environmental analyses and mitigation strategies, partially in response to the planning and environmental provisions in SAFETEA-LU.

Process/Issues/Results:

The agency has been consulting with resource agencies before SAFETEA-LU, but has since increased their efforts to work with resource agencies. SEMCOG has a high level of intra-agency collaboration where the transportation and environmental departments work closely. Partnerships include state resource and transportation agencies. SEMCOG uses the Michigan Department of Natural Resources’ data for the streamlining process.

SEMCOG has a three step process for integrating environmental and transportation planning: Define and inventory environmentally sensitive areas; identify and assess likely RTP project impacts on these areas; and address possible mitigation at the regional level. The agency participates in scoping processes and Environmental Impact Statements by contributing data and technical expertise. The goals are to make good quality data available in one place, which helps streamline the project development process.

Additional Relevant Information/ Continuing Issues:

While no quantitative measurements have been taken, MPO staff members believe these efforts have led to increased inter- and intra- agency collaboration, reduced timeframe of environmental requirements, and reduced project development time due to early consultation with the public. As these planning and project processes have been traditionally fragmented, the MPO would like to see increased communication between planning and project development staff.

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Southwestern Florida RPC  
Regional Planning Commission

Case Highlights:

- Participates in Florida's Efficient Transportation Decision Making program
- Early "fatal flaw" analysis
- Comprehensive mitigation rather than piecemeal approach

Background Information:

The Southwest Florida Regional Planning Commission's (SWFRPC) region contains six counties, four of which border the Gulf of Mexico. The RPC has actively been part of Florida DOT's Efficient Transportation Decision Making (ETDM) program.

Process/Issues/Results:

A key strategy for SWFRPC is to conduct early environmental screening. All projects are subjected to a "fatal flaw" analysis in the early planning process. The early fatal flaw analysis can stop projects that are likely to have severe environmental impacts from being selected in the scoping phase. An example of this is the Fort Meyers Bridge project, which would have had insurmountable environmental hurdles to overcome if selected.

Through the ETDM and consultation process, the agency has reached a highly collaborative relationship with resource agencies. The MPO has an MOU with the state DOT to use the ETDM process. Partnerships include the Florida DOT, other MPOs, and the Area Bay Access Management Group, a coalition of several resource agencies that meet monthly to discuss regional conservation plans for coastal areas. The agency also has an early public outreach process, inviting the public to provide input much earlier than many agencies.

Additional Relevant Information/ Continuing Issues:

Each county has a master mitigation plan that significantly decreases piecemeal mitigation practices. While outcomes and processes are hard to measure, projects generally are only selected if they will have minimal impacts on the environment. Relationships with environmental agencies provide a comprehensive process where each agency knows what others are doing. This also leads to better cost estimates, reduction in NIMBY incidents, and improved project development process.

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Tri-County Regional Planning Commission & Peoria/Pekin Urbanized Area Transportation Study (PPUATS)

MPO

Peoria, Illinois

Case Highlights:

- Regional, integrated planning process
- Uses EcoCAT--Ecological Compliance Assessment Tool
- Regional steering committee to support early environmental planning

Background Information:

The Tri-County Regional Planning Commission delegates transportation planning duties to the Peoria/Pekin Urbanized Area Transportation Study (PPUATS), which serves as the regional MPO. In turn, PPUATS serves as an advisory board to TCRPC on all transportation matters. The MPO has undertaken a variety of environmental planning, including scenario forecasting and environmental inventories.

Process/Issues/Results:

PPUATS last updated the long range transportation plan in 2007, which contained environmental mitigation discussion and used GIS map overlays with regional environmental information. The MPO has also been involved with the Peoria County Environmental Inventory Project, a watershed-based planning project. PPUATS has been using the Land Use Evolution and Impact Assessment Model (LEAM), developed by the University of Illinois, for growth scenarios. The MPO uses EcoCAT, the Illinois Ecological Compliance Assessment Tool, to help determine the potential environmental impact of transportation projects. The TIP also incorporates environmental maps for project selection.

Many of the MPOs partnerships have resulted from collaboration on Illinois River protection issues. Another major partner in these efforts has been FHWA, who has helped the MPO integrate the first regional land use, transportation and environmental plan for the three-county region, which PPUATS is using to develop the next LRTP. Tri-County RPC has consulted many federal and state resource agencies and its regional steering committee for environmental and transportation issues include Illinois DOT and EPA members.

Additional Relevant Information/ Continuing Issues:

The regional steering committee has come to realize that environmental considerations cannot be an afterthought of planning nor can they be solely conducted at the project level—they need to be planned for much earlier in the long range process. The MPO has experienced “push-back” from project engineers about early environmental planning so the agency is working hard to improve communication and collaboration. SAFETEA-LU has been an enormous help to the planning department of the agency because it has motivated early environmental planning and consultation.

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