

# **0-6701-P1 TxDOT Resource for Linking Planning with Project Planning in Support of NEPA**

Tyler Adam Stock  
Carlos Caldas  
Lisa Loftus-Otway  
Jolanda Prozzi  
Terry Clower  
Michael Bomba

**0-6701-P1**

# **TxDOT Resource for Linking Planning with Project Planning in Support of NEPA**



TxDOT Project 0-6701: Linking Regional Planning with Project Planning in Support of NEPA

DECEMBER 2012

**Performing Organization:**

Center for Transportation Research  
The University of Texas at Austin  
1616 Guadalupe, Suite 4.202  
Austin, Texas 78701

**Sponsoring Organization:**

Texas Department of Transportation  
Research and Technology Implementation Office  
P.O. Box 5080  
Austin, Texas 78763-5080

Performed in cooperation with the Texas Department of Transportation and the Federal Highway Administration.

## Contents

1. Introduction.....	1
1.1 Motivation .....	1
1.2 Purpose of This Resource.....	1
1.3 Focus of Resource .....	1
1.4 Benefits of Linking Regional and Project Planning with NEPA.....	2
1.5 Organization of Resource.....	2
2. Background Information.....	2
2.1 Texas’s Transportation Planning and Programming Process.....	2
2.2 National Environmental Policy Act (NEPA).....	4
3. Guidance on Linking Planning and NEPA .....	5
4. Implementation Tools .....	10
4.1 Planning and Environmental Linkages Questionnaire.....	10
4.2 Data Sharing Tools .....	10
4.3 Handbooks and Manuals.....	12
4.4 Screening Forms and Reports .....	13
5. Communication Strategies.....	14
5.1 Concurrence/Decision Points .....	14
5.2 Communication between Environmental and Planning Staff.....	14
5.3 Formalized Agreements.....	15
6. Other Considerations .....	15
6.1 General Recommendations.....	15
6.2 Shelf Life: Applicability of Linkages in Long-Range Plans.....	15
6.3 MAP-21 .....	15
7. Current TxDOT Practices and Implementation Considerations .....	16
8. Conclusions .....	18
Appendix A. Long-Range Planning and Environmental Linkages Questionnaire.....	19
Appendix B. Sample Report from Utah’s GIS Data Sharing Tool.....	21

The contents of this product reflect the views of the author(s), who is (are) responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official view or policies of the Federal Highway Administration (FHWA) or the Texas Department of Transportation (TxDOT). This product does not constitute a standard, specification, or regulation.

# 1. Introduction

## 1.1 Motivation

Since the enactment of the National Environmental Protection Act (NEPA) in 1970, sponsors of transportation projects that receive federal money or fall under the purview of the federal government in some other way are required to develop documentation that shows the environmental effects of the project were studied and taken into consideration. The time and effort required to complete the NEPA documentation process has increased significantly since 1970, due to new federal regulations, court rulings, and the increased workload on state and federal agencies. As the time and effort required to perform appropriate NEPA reviews have increased, so has the pressure to streamline the process. This resource represents the findings associated with one such attempt: linking transportation planning with project planning in support of NEPA.

## 1.2 Purpose of This Resource

The purpose of this document is to serve as a resource to various Texas agencies involved in transportation planning, project planning, and NEPA compliance. The resource will make recommendations and identify areas where these agencies can facilitate the NEPA process by linking it with regional transportation planning and project planning. These recommendations address the following aspects:

- How early agency involvement is critical to streamlined project delivery and how it can be achieved.
- The information that should be included in regional long-range plans to facilitate carryover from the planning process to the NEPA process.
- The applicability, appropriateness, and shelf life of linkages between long-range transportation plans and environmental clearance documents
- The types of data, data sources, and analytical tools that have been used successfully to integrate the NEPA and planning processes in other areas of the country.
- The effective communication strategies that have been implemented to improve the linkages between transportation system and project planning and the NEPA process.

## 1.3 Focus of Resource

To achieve its purpose, the resource will focus on recommendations and potential strategies to be implemented by the Texas Department of Transportation (TxDOT) or other local agencies with a planning mandate. The resource can aid in streamlining the NEPA process by integrating and linking it with the regional transportation planning and project planning processes. Note that the resource is not intended to be a step-by-step manual that outlines exactly what an employee drafting a regional transportation plan should include in the plan to facilitate the NEPA process or exactly how often an environmental staffer should contact the Federal Highway Administration (FHWA) to coordinate on a project. Rather it is meant to suggest types of information that may be included in the plan, potential strategies to improve communication between key stakeholders, and other recommendations. Therefore, the resource will not include specific information to be linked on a project basis.

Much of the discussion in the resource focuses on tools and strategies that can be applied at the transportation system level and will streamline the NEPA process by helping link the planning with the NEPA process. At a higher level, types of information that can be incorporated into the planning process to facilitate the NEPA process will be discussed along with other strategies and recommendations that encourage linkages between the NEPA process and planning processes.

The reader should note that the passage of MAP-21, the Moving Ahead for Progress in the 21st Century Act (P.L. 112-141), may impact some of the recommendations presented in this resource. MAP-21 was signed into law by President Obama on July 6, 2012 but the implementing regulations have not been drafted. As such, this resource has attempted to focus on recommendations that may not be affected by the bill.

## 1.4 Benefits of Linking Regional and Project Planning with NEPA

The benefits of linking regional and project planning with the NEPA process can be substantial as evidenced by the success of various states departments of transportation (DOTs), metropolitan planning organizations (MPOs), and other agencies around the country. These benefits principally manifest themselves in time and money savings realized due to

- Reduced duplicative work efforts;
- Reduced delays from lack of communication;
- Earlier recognition of potential environmental roadblocks; and
- General streamlining of the project delivery process.

Ascribing specific values to these benefits is impossible, since many are of a qualitative nature. However, interviews with individuals around the country involved with programs designed to link planning with NEPA have described the benefits as significant and worthwhile.

## 1.5 Organization of Resource

The resource is organized as follows. Section 1 provides an introduction to the resource by discussing its purpose and focus along with the potential benefits of linking regional and project planning with NEPA. Section 2 provides an overview of Texas's transportation planning and programming processes, as well as the NEPA process. Section 3 provides guidance on linking the different levels of planning documents with the NEPA process. Section 4 provides guidance on implementation tools, such as data sources, tools, and models that can be used to link the NEPA process with regional and project planning. Section 5 provides recommendations related to effective communication strategies designed to link regional and project planning with NEPA. Section 6 discusses other considerations such as the potential implications of the new MAP-21 bill, some general recommendations, implementation considerations, and the applicability of information in long-range plans. Section 7 presents current TxDOT practices and related issues while Section 8 lists conclusions and recommendations.

## 2. Background Information

The transportation planning and programming process and the NEPA process are long-standing elements that have been required in transportation infrastructure development since the 1960s. The transportation planning process is required by 23 United States Code (U.S.C.) Sections 134 and 135 and 49 U.S.C. Sections 5303 through 5306. Specifically, these sections set out the process for developing long-range transportation plans to address future transportation needs. Under this rubric, agencies (state and local) are also required to create Transportation Improvement Programs (TIP) that identify a set of priority projects to be implemented in the near-term—i.e., 4 years. Aligned with these rules are other elements that are required under the Clean Air Act (CAA) to ensure compliance with this Act (42 U.S.C. Chapter 85), and conformity with National Ambient Air Quality Standards (NAAQS) that were developed under the CAA (40 CFR Part 50). NEPA (42 U.S.C. 4371), introduced in 1969, requires that federal agencies integrate the requirements of NEPA with other planning and environmental review procedures required by law or agency practices, so that all such procedures run concurrently rather than consecutively (40 CFR Part 1500 §1500.2 (c)). This section of the resource provides a brief overview of TxDOT's planning process and the NEPA process.

### 2.1 Texas's Transportation Planning and Programming Process

Transportation infrastructure planning is conducted at the statewide, regional, and local levels. In Texas, the two most important agencies/institutions involved in planning for publicly funded transportation infrastructure projects are TxDOT and the MPOs formed in urbanized areas with populations exceeding 50,000 residents. Generally speaking, TxDOT is responsible for the "state-maintained" road network, which is commonly referred to as the "on system." The MPOs are responsible for planning for transportation infrastructure in the current and expected urbanized areas over a 20-year forecast period. Texas's MPOs vary greatly, however, in organizational size, structure, available resources (both number of employees and available funding), and program emphasis. The most important transportation planning documents developed by TxDOT and the



Figure 1: Key Transportation Planning Documents

MPOs are illustrated in Figure 1.

The planning documents can be broadly categorized as System Planning and Project Planning documents. The System Planning initiatives comprise these two types of plans:

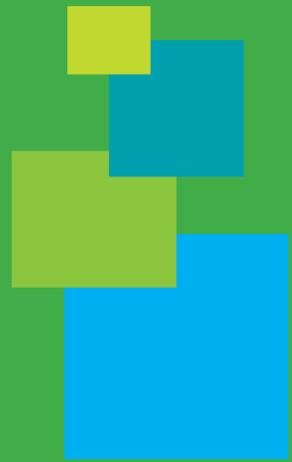
- *Statewide Long-Range Transportation Plan:* The Statewide Long-Range Transportation Plan (SLRTP) 2035 details TxDOT’s long-term (24 years) transportation goals and strategies. The plan also includes an inventory of the state’s transportation system—i.e., roads, pedestrian and bicycle facilities, transit, freight and passenger rail,

airports, waterways and ports, pipelines, and intelligent transportation systems—and lists the projects included in TxDOT’s Unified Transportation Program and the Texas Transportation Commission Selected Proposition 12 projects. Finally, the SLRTP “includes a discussion of potential environmental mitigation activities and potential areas to carry out these activities.” However, this document focuses on policies, programs, and strategies by mode as opposed to project-level mitigation activities (SLRTP, 2010).

- *Metropolitan Transportation Plans and Rural Transportation Plans:* Metropolitan Transportation Plans (MTPs) are long-range (typically 20 year) transportation plans for urban areas that exceed 50,000 residents. These plans are developed by the MPOs in cooperation with TxDOT and publicly owned transit services. MTPs identify policies, programs, and projects by travel mode (including roadways, public transit, bicycle, pedestrian, air, rail, and freight facilities) necessary to meet a region’s transportation needs. It may also include information on the socio-economic profile of the area and environmental considerations. The Rural Transportation Plan (RTP) is a component of the SLRTP and comprises a long-range (24 years) transportation plan for areas not included in a MPO boundary. An RTP is developed in cooperation between TxDOT, local and regional decision-makers, and all transportation stakeholders. The RTP includes a list of needed rural highway projects and identifies non-highway (i.e., bicycle and pedestrian, general aviation, inland waterways, freight and passenger rail, and public transportation) needs and projects.

The Project Planning initiatives comprise the development of the following:

- *Unified Transportation Program:* The Unified Transportation Program (UTP) is a 10-year plan used by TxDOT to guide transportation project development and project construction. The UTP is updated annually and authorizes the development of the included projects. Project development includes activities such as preliminary engineering work, environmental analysis, right-of-way acquisition and design (2013 UTP, 2012). The UTP lists planned projects in terms of 12 categories and includes the expected cost and funding sources for each project. Although important in that projects included in the UTP can move forward in terms of project development, the UTP remains a sub-category of the SLRTP and thus does not ensure a budget or guarantee that projects will be built.
- *Transportation Improvements Programs and Statewide Transportation Improvement Program:* Each MPO and TxDOT District develops a Transportation Improvement Program (TIP) of their regions’ (urban and rural, respectively) transportation needs that is consistent with the SLRTP and the MTP. The TIPs represent a medium-term (typically 4 year) capital improvement program of multi-modal transportation projects. All federally funded projects have to be included in the TIP. The Statewide Transportation Improvement Program (STIP) is TxDOT’s 4-year capital improvement program and includes the various TIPs developed by the MPOs and TxDOT Districts. The TIPs and STIP include more





detailed project cost estimates and available funding sources. As such, the STIP and TIPs represent how TxDOT and local agencies plan to allocate available funding resources based on the transportation needs of the region.

- *Letting Schedule*: The letting schedule lists projects that will be let within the next 2 years. At this point, the final contract documents—i.e., the Plans, Specification, and Estimates (PS&E) that provide a detailed description of the project, how it will be constructed, and the estimated cost—have been or are nearing completion.

In addition to the planning documents described above, TxDOT and the MPOs conduct a number of studies—including land use, safety, traffic and mobility (congestion), major corridor, major investment, and project feasibility studies—that inform system and project planning, as well as project development and alternatives analyses.

## **2.2 National Environmental Policy Act (NEPA)**

The NEPA process was designed to promote the protection of the environment in actions and programs of federal agencies. With regards to transportation, NEPA attempts to ensure environmentally sound transportation infrastructure investments by addressing the social, economic, and environmental impacts of project location and design. The process also necessitates the input and involvement of the public, interest groups, resource agencies, and local governments.

Since planned transportation projects differ in complexity and impacts, the required environmental documentation varies. Categorical Exclusions (CEs) apply to projects that will not have a significant impact on the human and natural environments. On the other hand, Environmental Impact Statements (EISs) are required for projects that are anticipated to have significant environmental impacts. Finally, Environmental Assessments (EAs) are required when it is not clear whether a proposed project will have significant environmental impacts. If the EA concludes that the proposed project will have significant environmental impacts, then an EIS is required. If not, a Finding of No Significant Impact (FONSI) will be documented in a separate decision document. This section broadly outlines the elements of an EIS. For additional information the reader is referred to TxDOT's Environmental Manual (at <http://onlinemanuals.txdot.gov/txdotmanuals/env/env.pdf>).

The EIS comprises the following elements:

- **Early scoping**—The NEPA process begins with an initial scoping process. During this process a plan is developed outlining the remaining steps and discussing any preliminary environmental concerns; the various stakeholders are consulted as well. During the scoping phase, various alternatives are identified and considered.
- **Project Description**—This section includes a description of the existing transportation system, location map that show project limits and displays landmarks, limits of the proposed project (including length and logical termini), name of city and county in which project is located, and description of proposed project.
- **Purpose and Need**—The purpose and need section is intended to identify the reason for the project. The proposed project should achieve a specific transportation need (system linkage, transportation demand, capacity, social demands or economic development, safety roadway deficiency) or serve national defense, national security or national objective (established in federal laws, plans, or policies)
- **Affected Environment**—The affected environment section should describe the area that would be affected by the proposed project.
- **Alternatives Analysis**—The alternatives analysis section sets the context for developing alternatives and assessing impacts. It should identify several different alternatives for the project, describing each in sufficient detail for environmental analysis to be done.
- **Environmental Consequences**—The environmental consequences section should describe the environmental impacts and potential mitigation strategies associated with each alternative.
- **Public Involvement**—The public involvement section should detail communication efforts with the communities the project may affect. This includes public meetings, solicitation

of environmental documents for comment, and any correspondence with community members, among others.

A Draft Environmental Impact Statement (DEIS) and Final Environmental Impact Statement (FEIS), which include the necessary public involvement and input, provide a detailed description of the proposed project, the affected environment, and a comprehensive analysis of the impacts (both positive and adverse) of all reasonable alternatives. The FEIS also presents a decision about the preferred investment alternative. Finally, a Record of Decision (ROD) is drafted that identifies the ultimate decision reached on the proposed project, the basis for that decision, and any agreed mitigation commitments to remedy/alleviate the potential impacts on the human and natural environment. If the ROD is approved, the project advances to the project programming phase.

### 3. Guidance on Linking Planning and NEPA

Linking system and project planning with the NEPA process typically requires planning agencies to include information useful to the NEPA process in their planning documents, due to the timing of the processes (i.e., planning occurs before NEPA). The following table represents guidance on what planning agencies should include in their long-range plans to streamline the NEPA process. The table breaks the NEPA process into its various components as described in TxDOT's Environmental Manual. Furthermore, three different levels of long-range planning (TxDOT statewide long-range planning, RPO/TxDOT district rural long-range planning, and MPO urban long-range planning) are included to provide insight into how different plans may vary.

Each NEPA component is assigned a rating from 0 to 3, indicating how much information an agency should include in their long-range plan that is relevant to the specific NEPA component. Comments and implementation guidance were also included in the table.

**0:** No information should be included.

**1:** Very little information should be included.

**2:** Some information should be included.

**3:** A significant amount of information should be included.

It is important to note that the amount of information and effort a planning agency can put into incorporating NEPA information in their long-range plan depends on the resources available to the agency and the specific plan being developed. Statewide long-range plans operate at a much broader level and don't include as much information as an MPO's long-range plan. A small MPO with limited staff will not be able to include as much information as a large MPO with dedicated environmental staffers.

In general, early stakeholder involvement is desirable and is widely considered a best practice in the planning process. Exactly when each individual agency should be involved varies by agency and by plan. However, there are several guidelines to follow when attempting to bring different agencies into the process.

- Involve resource agencies early in the planning process—Planning agencies should provide initial information on planned projects and potential environmental impacts/concerns to resource agencies and allow resource agencies to comment. General environmental concerns/fatal flaws and potential mitigation options can be identified at this stage.
- Schedule annual or biannual briefings with resource agencies to update them on transportation plans and proposed projects—Many resource agencies maintain good communication with TxDOT for projects that are under review or construction. However, most agencies often have no knowledge of which projects TxDOT has in the planning phase or knowledge about projects that other sponsors are working on, unless they are engaged in early coordination. Regular meetings would provide the resource agencies with additional opportunities to identify possible concerns that could be incorporated into a project's scoping process and potentially avoid problems during the document review.

Early agency involvement could reduce delays in the NEPA process. Agencies that have been involved since the planning stages of a project may be less likely to raise concerns or have issues later in the project delivery process.

NEPA Process Components	Statewide LRTP	RPO/TxDOT district	MPO	Comments/Suggestions
<i>Purpose and Need</i>				Regional long-range plans should include a draft of the purpose and need section for the environmental document and should contain a description of every project that is expected to require NEPA documentation. While much of this information may already be included in the long-range plan in one or more locations, it should be synthesized into a coherent description and justification for each project. Information that is consistent across multiple projects (multiple CE's for routine maintenance or repairs, for example) can be combined to save time and space. The statewide long-range plan should attempt to provide similar information on a corridor level. Furthermore, projects closer to letting (5–10 years off) should include more information than projects in the early planning stages (10–20 years off) as these projects are more likely to come to fruition, more information is available for these projects, and conditions are less likely to change.
•Describes overall need for the project.	2	3	3	Regional long-range plans should discuss the overall need for each project. This is the principle reason for the project and is supplemented by more detailed information later on in the long-range plan/purpose and need statement. The statewide long-range plan should provide similar information on a corridor level.
•Discusses if the project is mandated by federal, state, or local legislation.	2	2	2	Regional long-range plans should discuss and reference pertinent legislation that would mandate a project. At a statewide level, local legislation will not be pertinent but some state and federal legislation may deserve to be mentioned in the statewide long-range plan.
•Describe how the project fits into the overall transportation system.	2	3	3	Regional long-range plans should discuss how a project fits into a region's overall transportation system. Specifically, how does the project increase regional mobility and accessibility? Is the project a phase or a segment of a larger project? Additionally, does the project create new linkages in the transportation network or does it provide service for an underserved community. At the statewide level, only enough information to provide continuity across multiple planning jurisdictions is needed.
•Describes current and projected capacity and demand and how the project would meet the projected values.	2	3	3	Current and projected roadway or ridership capacity and demand should be discussed that is relevant to the proposed project. In some cases this information might not be as necessary, such as routine maintenance projects or bridge replacements that do not add capacity. At the statewide long-range plan level, this information should only be discussed in a limited capacity and at a broad level (i.e., congestion for major corridors or general traffic trends).
•The project's effect on economic development and how this is consistent with objectives stated in economic development plans.	2	3	3	The long-range plan should provide a broad but reasoned overview of how the project will improve regional economic development and support economic growth. Particular attention should be paid to the issue one of the purposes of the project is to meet an objective of an economic development plan.
•The project's effect on community and social development and how this is consistent with objectives stated in community and social development plans.	2	3	3	The long-range plan should provide a broad overview of how the project might affect community and social development and identify any locations in the project's corridor that might create issues.
•The project's effect on land use and how this is consistent with objectives stated in land use plans.	2	3	3	The long-range plan should provide an overview of how the project could alter land use for the corridor and the anticipated positive or negative impacts.

NEPA Process Components	Statewide LRTP	RPO/TxDOT district	MPO	Comments/Suggestions
•Describes how the project serves various modes of transportation (connections to air, rail, port, etc.)	2	3	3	The long-range plan should identify the modes of transportation within the project corridor and any new connectivity it might create with other transportation modes. Due to long time frames of long-range plans, care should be taken to not commit a project to specific modes of transport.
•Discusses any safety issues the project may be addressing.	2	2	2	The long-range plan should identify any safety issues or concerns the project remedies. A basic discussion of safety is all that is necessary unless safety is a driving need behind the project.
•Alternative conditions such as roadway deficiencies or high maintenance costs the project may be correcting.	2	2	2	The long-range plan's project descriptions should identify any alternative conditions, if they are known. Fully describing these alternative conditions is not necessary unless they are driving needs behind the project. At the statewide long-range plan level, it not as important to mention all alternative conditions.
<i>Alternatives Analysis</i>				At a minimum, the long-range plan should provide a basic fatal flaw analysis for each project. A more detailed study is preferable if the agency has the resources. This effort should concentrate on projects that are expected to be included in the TIP over the next 4 to 5 years.
•Discussion of how and why alternatives were selected for further study and why others were eliminated. Alternatives should include a no build alternative, Transportation System Management alternative(s), and any other build alternatives.	1	2	2	The long-range plan should include a basic fatal flaw analysis and this analysis should discuss the reasoning behind identification of the fatal flaws and any potential alternatives that were eliminated from further consideration. Detailed alternatives analysis work isn't practical (especially at the statewide level), but any work that can be done with available information for upcoming projects (next 5-10 years) should be included.
•Descriptions of the alternatives using maps or other visual aids	2	3	3	The long-range plan should include general information, such as corridor location maps and any alternatives that have been identified as viable. Using maps and visual aids is beneficial to environmental staff and generally maps and visual aids should be included if they are available.
•Descriptions of the alternatives' termini, location, costs, and overall concept.	1	2	2	General information, such as termini, locations, costs, and overall concepts that apply to the alternatives that have been identified. Frequently this information will not be identified (particularly at the statewide level or for projects schedule more than 10 years in the future), but an effort should be made to include the information for upcoming projects (within the next 5-10 years).
•Description of the status and extent of the ROW that may be used for each alternative	1	1	1	Any known ROW issues should be identified in the long-range plan. For example, if land is known to be involved in a court case over ownership or a significant parcel is owned by an individual or organization that is particularly litigious. Most ROW information however, will not be available at the long-range plan level.
•Development of more detailed design to a level of detail sufficient to compare alternatives	0	1	1	The project description in the long-range plan should identify any significant design constraints or issues, such as major river crossing or winding roadways. Generally however, such design issues are not discussed at the long-range plan level.
<i>Affected Environment</i>				
•The general population affected by the proposed action should be described, including information on the race, color, national origin, and age of the population	0	2	2	All long-range plans should take into consideration demographic information and reference this information. Information should be provided at a level of detail sufficient to identify potential concerns on the project. At the statewide long-range plan level, this information is too detailed to be included.

NEPA Process Components	Statewide LRTP	RPO/TxDOT district	MPO	Comments/Suggestions
•Socially, economically, and environmentally sensitive locations should be identified. (Note: some locations may not be described in detail)	2	2	2	Long-range plans should identify socially, economically, and environmentally sensitive locations at a level of detail sufficient to identify potential concerns on the project. Furthermore, listing projects that may intersect with these locations in the long-range plan would be beneficial for environmental staffers writing NEPA documents.
•Neighborhoods	1	2	2	Example: Zoning regions in communities.
•Elderly/minority/ethnic communities	1	2	2	Example: Environmental justice communities.
•Parks and wildlife refuges	2	2	2	
•Historic and archeological resources	1	2	2	
•Wetlands and other water resources	2	2	2	Example: Mapping sensitive wetland locations.
•Churches and schools	1	2	2	
•Endangered species habitat	1	2	2	
•Hazardous material sites	1	2	2	
•Other natural resources such as trees, soil, etc.	1	2	2	
•Other federal activities that may impact the affected environment should be described.	2	2	2	Any information the planning agency has on the subject should be included, but occasionally the information may not be available.
•Brief description of the planning processes for local jurisdictions including land use and transportation plans that are relevant to the proposed project	1	3	3	The regional long-range plans should adequately describe the processes they used to make decisions and should reference other relevant plans such as land use and other transportation plans. The statewide long-range plan should briefly describe the process behind the plan, but should not describe the process for local jurisdictions and other types of plans.
<i>Environmental Consequences</i>				Long time frames associated with long-range plans make it difficult to discuss environmental consequences in detail for all projects. Projects closer to letting (within the next 5-10 years) should include more information as the impacts for these projects will be easier to predict while discussing environmental consequences for projects further down the line (10-20 years) is not really practical.
•Description of the probable impacts and proposed mitigation measures for each alternative	0	1	1	Impacts and mitigation strategies for individual alternatives should not be included in the long-range plan except on rare occasions.
•Social	0	1	1	Impacts and mitigation strategies for individual alternatives should not be included in the long-range plan except on rare occasions.
•Economical	0	1	1	Impacts and mitigation strategies for individual alternatives should not be included in the long-range plan except on rare occasions.

NEPA Process Components	Statewide LRTP	RPO/TxDOT district	MPO	Comments/Suggestions
•Environmental	0	1	1	Impacts and mitigation strategies for individual alternatives should not be included in the long-range plan except on rare occasions.
•A general impacts section should be created to discuss the probable impacts and proposed mitigation measures that are relevant to all alternatives	1	1	1	General impacts and mitigation strategies that apply across multiple alternatives should be incorporated into the long-range plan. It is important to be careful when describing mitigation measures to avoid committing to certain measures. Describing impacts in detail is also not relevant as conditions will change; only broad impacts should be discussed.
•Social	1	1	1	Example: A new freeway project designating space for new public park and recreation space, regardless of the final route or design of the freeway.
•Economical	1	1	1	Example: The general economic impacts of connecting two urban centers, regardless of the mode of transportation used to connect them.
•Environmental	1	1	1	Example: A commitment to plant new trees to replace trees lost as a result of a project or as a result of all the projects in a region.
<b>Public Involvement and Coordination</b>				All the information should be made available for public review and involvement. This public involvement should be incorporated in the overall public requirement section of NEPA as it can only add value to the NEPA documentation.
•Early Scoping	1	1	1	Early scoping likely would not have started before the long-range plans, resulting in very little public involvement or coordination for it.
•Correspondence and meetings with community groups and individuals	1	2	2	Example: Meeting minutes from any public hearings.
•Correspondence and meetings with relevant government agencies	1	2	2	Example: Copies of emails or letters from agencies.
•Summary of comments received and list of all comments in the appendix	0	1	1	If comments are relevant they should be included in the long-range plan, however very few comments are likely to be relevant to NEPA issues on projects, particularly at the statewide level.
•Discussion of how comments/issues were resolved/addressed	1	1	1	



In general, early stakeholder involvement is desirable and is widely considered a best practice in the planning process. Exactly when each individual agency should be involved varies by agency and by plan. However, there are several guidelines to follow when attempting to bring different agencies into the process.

- *Involve resource agencies early in the planning process*—Planning agencies should provide initial information on planned projects and potential environmental impacts/concerns to resource agencies and allow resource agencies to comment. General environmental concerns/fatal flaws and potential mitigation options can be identified at this stage.
- *Schedule annual or biannual briefings with resource agencies to update them on transportation plans and proposed projects*—Many resource agencies maintain good communication with TxDOT for projects that are under review or construction. However, most agencies often have no knowledge of which projects TxDOT has in the planning phase or knowledge about projects that other sponsors are working on, unless they are engaged in early coordination. Regular meetings would provide the resource agencies with additional opportunities to identify possible concerns that could be incorporated into a project's scoping process and potentially avoid problems during the document review.

Early agency involvement could reduce delays in the NEPA process. Agencies that have been involved since the planning stages of a project may be less likely to raise concerns or have issues later in the project delivery process.

#### **4. Implementation Tools**

This section describes data and data sharing tools, handbooks, and manuals, as well as screening forms and reports that can be used to link regional and project planning with the NEPA process.

##### **4.1 Planning and Environmental Linkages Questionnaire**

The FHWA has initiated a Planning and Environmental Linkages (PEL) program designed to streamline the project delivery process. The principle tool of the program is a questionnaire designed to serve two purposes:

- Provide information to planning staff on what information and level of detail should be included in plans so that the information can be included in NEPA documents.
- Provide documentation of the planning process for staff documenting the NEPA process.

In answering the questionnaire, the planning team is ensuring that the appropriate information and documentation is provided to the NEPA staff. A completed questionnaire effectively contains a summary of the results of the planning process that are relevant to the NEPA process. The questionnaire is intended to be used as a guide for the planning team and the FHWA recommends it be included in the planning documents as a standalone section (either its own chapter or in an appendix). The questionnaire is available in PDF format at <ftp://ftp.odot.state.or.us/region2/PEL/PEL+Questionnaire.pdf>.

The research team has customized the PEL questionnaire to focus on TxDOT's effort for linking regional planning with project planning in support of NEPA. This questionnaire can be found in Appendix A.

##### **4.2 Data Sharing Tools**

Data sharing tools represent the greatest cost and potentially the greatest return on investment in linking NEPA with transportation planning. Most data sharing tools identified in the research use Geographical Information System (GIS) and can be accessed on the internet or downloaded with the appropriate software. GIS layers are typically compiled from all participating agencies and contain information on a wide variety of subjects, including environmental concerns, traffic congestion data, and safety statistics, among others. Two important features any successful data sharing tool must have are conformity and acceptance from all relevant parties. When all stakeholders use the tool and accept the accuracy and completeness of the data in the tool, the full benefits of the data sharing tool become evident. These benefits include time savings from reduced duplicative data gathering, improved communication between parties because everyone has access to the same information, and early identification of potential environmental concerns.

More advanced data sharing tools have the capability to automatically generate environmental reports for projects. These reports include all relevant environmental concerns identified from the GIS layers and are generally useful as scoping tools before a more thorough NEPA review. An example of a report from Utah is shown in Appendix B. In general, Appendix B is a good example of the type of information and level of detail this resource recommends be incorporated into long-range plans. The example in Appendix B is not as descriptive as is optimal. Ideally, it would be supplemented with a narrative that more coherently outlines the purpose and need components and any descriptions needed for other NEPA components such as fatal flaw analysis or mitigation strategies. Maps and visual aids such as charts and tables should also be provided.

Examples of effective data sharing tools include those implemented in Utah and Florida. In both cases environmental information for the entire state is compiled into one system and is used by every agency in the state. Proposed projects are entered into the database for all stakeholders to see and provide early feedback. Utah's database can be viewed online at <http://uplan.maps.arcgis.com/home/>.

Following are examples of the type of information that should be included in a GIS data sharing system:

- Environmental, social, and economic data:
  - Endangered species (occurrences of species of special concern, such as federal threatened and endangered species),
  - Animal species occurrences and animal species densities,
  - Water resources information (e.g., U.S. Fish and Wildlife Service [USFWS] National Wetlands Inventory maps, navigable waters, jurisdictional waters, streams, and lakes),
  - Vegetation for entire state (e.g., dominant species, range of dominant species, percent canopy coverage, native, introduced or mixed grasses, USFWS National List of Plant Species that Occur in Wetlands),
  - Areas subject to the Coastal Barrier Resources Act (CBRA),
  - National Flood Insurance Program (NFIP) maps,
  - National Register of Historic Places and Texas Historic Sites Atlas,
  - Geology and soils information (e.g., U.S. Geological Survey topographic maps, Natural Resources Conservation Service county soil survey reports, Bureau of Economic Geology maps, U.S. Department of Agriculture soil conservation surveys),
  - Socio-economic information (e.g., population density, per capita income, percentage of below poverty, percentage of adults (18 years and older) who have not completed high school, percentage of adults (18 years and older) who have a high school diploma only; percentage of adults (18 years and older) who have a Bachelor's degree or above, percentage of population under 18 years old, percentage of home built before 1950, percentage of speak English less than well, percentage of females, percent rental units, percentage of minority),
  - Fire insurance or fire hazard maps,
  - Zoning and land use maps,
  - Noise barrier database,
  - Hazardous materials sites (e.g., National Priorities List, Comprehensive Environmental Response, Compensation and Liability Information System [CERCLIS], Resource Conservation and Recovery Act [RCRA] Treatment, Storage and/or Disposal Facilities [TSDF], Emergency Response Notification System [ERNS], RCRA generators, Texas Superfund sites, leaking petroleum storage tanks, municipal solid waste landfills, registered petroleum storage tanks),
  - Economic and cultural centers (e.g., churches, schools, shopping centers, zoning information, stadiums, convention centers), and
  - Housing, both current and planned development.
- Asset information/infrastructure:
  - Roadway information,
    - ROW maps and files,

- Bridge information, and
- Maintenance costs.
- Traffic data/information:
  - Traffic congestion, and
  - Incidents of traffic accidents

### 4.3 Handbooks and Manuals

Handbooks and manuals provide a good outline for how to implement complex processes. If the environmental review and planning processes are to be linked, there should be detailed information in the TxDOT manuals about the planning and environmental processes. To this end, it is recommended TxDOT put a more detailed environmental section in the Planning Manual and a more detailed planning section in the Environmental Manual. These sections should discuss specific information required for the other process and how that information needs to be documented.

Another alternative would be to develop a separate manual specifically about linking regional and project planning with NEPA. This manual would reference the existing Environmental and Planning Manuals and would discuss exactly when linkages should occur and which agencies would be responsible for the linkages.

Several examples of the information and recommendations included in the environmental and planning manuals from other states are listed below:

- The Pennsylvania DOT initiated a “Smart Transportation” program in March of 2008 and is in the process of releasing design manuals that support the broad message of the initiative. The design manuals outline a seven-step project development process, with each manual focusing on different stages of the process. The manuals describe what information should be gathered for the designated step in the process and how that information should be documented and carried forward to the next step. (Pennsylvania DOT Publication 10 series including Part 1, 1A, 1B, and 1C). The seven steps comprise
  - Problem assessment,
  - Problem identification in the long-range plan,
  - Proposal initiation,
  - Proposal definition,
  - Project identification (in the TIP or STIP),
  - Preliminary engineering and a NEPA decision, and
  - Final design and construction.
- In 2005 the North Carolina DOT (NCDOT) began a program called “Integration” in which a multi-agency task force identified eight linkages between the planning process and the NEPA process. The goal was to identify how exactly each linkage can be exploited to streamline the project delivery process using information in the planning process. For each linkage, procedures have been (or will be) developed to describe what should be done or what specific information should be gathered in the planning process and how that information should be documented to carry forward to the NEPA process. NCDOT’s goal is to finish drafting procedures for six of the eight linkages by the end of 2012. As of the writing of this resource, procedures for only one of the eight had been finished. (More information on these linkages is available at <http://www.ncdot.gov/doh/preconstruct/tpb/IP/default.html>.) Following are the eight linkages:
  - Linking problem statement in planning to purpose and need in NEPA,
  - Alternatives analysis in planning to alternatives selected for detailed study in NEPA,
  - Unreasonable solutions in planning to alternatives selected for detailed study in NEPA,
  - Multi-modal analysis in planning to multi-modal alternatives in NEPA,
  - Community impact assessment in planning to community impact analysis in NEPA,
  - Land use in planning to indirect and cumulative effects in NEPA,
  - Public involvement to public involvement, and
  - Mitigation opportunities in planning to mitigation needs and opportunities in NEPA.

- The Colorado DOT is in the process of drafting a handbook designed to refine the FHWA’s PEL program to better suit their individual state. The handbook will hopefully extrapolate from information answered on the PEL questionnaire and provide guidance on how that information translates into decisions on a project. Ideally, practitioners will be able to complete the questionnaire and then consult the handbook to determine what should be done next. The handbook does this by breaking the project development process into the following steps and describing each step in detail.
  - System planning (MPO/TPR regional plans),
  - Identify transportation need,
  - Identify stakeholders,
  - Define roles/responsibilities (charter agreement),
  - Define/refine travel corridor (logical termini),
  - Develop purpose and need, goals, and objectives (this is a coordination point),
  - Develop performance measures (evaluation criteria),
  - Develop alternatives and define travel modes (this is a coordination point).
  - Evaluate and screen alternatives and identify environmental impacts and potential mitigation (eliminate unreasonable alternatives) (this is a coordination point),
  - Document evaluation process (what/why alternative strategies were screened out), and
  - Finalize planning and environmental linkages document.

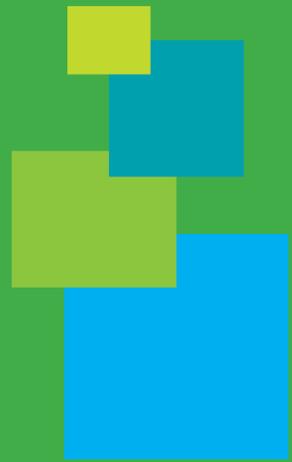
#### 4.4 Screening Forms and Reports

Screening forms are useful tools that can help succinctly summarize the areas of concern for a project and can be used to vet potential projects. How and when a screening form should be used varies at the discretion of the specific implementing agencies. In some cases, multiple screening forms may be used throughout the project development process to ensure the appropriate information is being carried forward. One of the most effective types of screening forms is a project report form that, theoretically, is filled out once the project leaves the planning arena. This report would include information on the basic description of the project including its location, termini, connections to the existing system, the purpose and need for the project, any potential environmental issues discovered during planning, and the information on the various alternatives considered during the planning phase.

An example of this type of report has been provided by the Oregon DOT ([http://cms.oregon.gov/ODOT/HWY/PDU/docs/pdf/pdlnnotice\\_18.pdf](http://cms.oregon.gov/ODOT/HWY/PDU/docs/pdf/pdlnnotice_18.pdf)), although they are currently transitioning to a new form. More traditional screening forms used to vet projects are used by the Pennsylvania DOT. These forms are designed to determine whether a project should be carried forward to the next phase of project development, but they also provide a wealth of information pertinent to the NEPA process, including a description of the project, its purpose and need, and whether any environmental concerns have been identified (Pennsylvania DOT Publication 10 series including Part 1, 1A, 1B, and 1C).

Following are examples of information included in such forms/reports:

- Description of project
- Identification of any problems the project addresses or the purpose of the project
  - Safety
  - Security
  - Maintenance
  - Traffic capacity/demand
  - Land use
  - Freight
  - Alternative transit modes
  - Other
- Identification of any preliminary environmental concerns
  - Wetlands
  - Endangered species



- National parks and wildlife refuges
- Air quality concerns
- Hazardous materials/locations
- Other
- Identification of expected class of NEPA document (CE/EA/EIS)
- Public and agency coordination
  - Agencies that have been consulted
  - Steps taken to get public involvement
  - Content of feedback
  - Other
- Opportunities to expand briefly on certain project conditions that may be unique or important
- Identification of any studies that have been done on the project or project region
- Identification of any fatal flaws or alternatives already analyzed in planning, including brief descriptions of the reasons for eliminating alternatives

## 5. Communication Strategies

This section describes effective communication strategies used to link regional and project planning with the NEPA process.

### 5.1 Concurrence/Decision Points

Early and continued resource agency involvement in the project development process is important to the success of a project, particularly for a complicated or contentious project. One method to achieve this involvement is the concurrence/decision point technique, which involves setting various points along the project delivery schedule and requiring all relevant resource and regulatory agencies to concur with the progress of the project. The intent is to prevent situations in which decisions are made on a plan or project and work is completed, only to find that a resource or regulatory agency will not approve the decisions, rendering much of the work wasted. At each concurrence point, resource and regulatory agencies agree to not challenge previous decisions unless some aspect of the project has changed. Typically, these concurrence points are used at various stages in the NEPA process (i.e., after drafting the purpose and need section, selecting potential alternatives, selection of the preferred alternative, drafting of the environmental consequences section, etc.). However, they can be used earlier to facilitate better resource and regulatory agency involvement in regional and project planning. The Colorado DOT, as an example, uses concurrence points at an early stage in project development as the first concurrence point occurs during purpose and need development.

### 5.2 Communication between Environmental and Planning Staff

Integrating the NEPA process with regional planning by necessity involves facilitating communication and coordination between staff involved with the different processes. Following are several effective ways to achieve this:

- Place staffers from an environmental office in a planning office and vice versa. This includes environmental offices responsible for drafting the NEPA document and offices responsible for reviewing NEPA documents. A person in the planning office with an environmental background can provide input into the type and quality of information that can be used in environmental documents and a planning staffer in the environmental office can provide insight into what may have been left out of the plans and how the planning process works. Furthermore these individuals likely have contacts and relationships in their respective sections, which will improve communication between the two groups.
- Cross train planning and environmental staff. This will provide several benefits:
  - A better understanding of how the planning and environment processes work, including the data and information used in the processes,
  - A better understanding of the terminology used in either process, and

- Easier communication between environmental and planning offices as a result of a better understanding of the goals and processes involved in either position.

The training can be as extensive as necessary. In many cases, workshops on a semiannual basis can be beneficial to provide the appropriate level of expertise. Even an annual workshop designed to cross train staffers would provide benefits.

- Physically combine the planning and environmental staff at the Districts, integrate processes, and place staff under the same supervisor(s). Physically placing the environmental and planning staff in the same office can provide positive results. Informal relationships formed by working in close proximity to each other can greatly improve communication. Putting the same person(s) in charge of the planning and environmental sections at the Districts will also help communication as it will be easier for the supervisor(s) to encourage this communication and better understand the concerns and needs of both sections.

### **5.3 Formalized Agreements**

Communication and coordination between stakeholders can also be accomplished using formalized agreements, such as Memorandums of Understanding (MOU), or through formalized handbooks/manuals that detail how often these agencies should be contacted. Formalized procedures such as MOU's or handbooks can be effective at stimulating communication and coordination, but in order to be truly effective the formalized procedures should support relationships between the stakeholders. For example, a formalized procedure requiring the project sponsor to walk the proposed project site with representatives from various resource and regulatory agencies is more effective than a procedure requiring the project sponsor to email a description of the project site to the appropriate agencies.

## **6. Other Considerations**

### **6.1 General Recommendations**

This section presents other important recommendations.

#### **Documentation and Justification**

To utilize information and data from the planning process in the NEPA process, the data or information must have been documented properly in the planning process. The level of review and scrutiny placed on NEPA documents is typically greater than that placed on planning documents. Thus planning staffers need to understand what information they should document in their plans and what they can leave out. For example, any conclusions reached in the planning should come with sufficient documentation to detail why and how the conclusion was reached.

#### **Stakeholder and Upper Management Support**

In order to implement any new initiative, it is important to have the support of stakeholders and upper management. Any new initiative to link regional and project planning with the NEPA process should therefore have this support. Ideally a champion in upper management should be actively involved in the development of any linking initiative and provide support to ensure the initiative is implemented in a timely manner.

### **6.2 Shelf Life: Applicability of Linkages in Long-Range Plans**

When linking information and data used in regional and project plans, there is a concern that the information is outdated by the time the NEPA process has started. This concern applies principally to system plans whose timing horizon is greater than 20 years. This concern is always relevant as on-the-ground conditions can change at any time, but regular updates to the system plan should mitigate this concern to acceptable levels. If the system plan is regularly updated (every 5 years is a typical time frame), the information can be more easily updated and reviewed unless further studies suggest something has drastically changed.

### **6.3 MAP-21**

Several portions of MAP-21 will have implications for linking planning and NEPA. MAP-21 allows more use of Categorical Exclusions (CE), which the linking planning and NEPA process could utilize to identify projects in the planning process that will not require as rigorous a review.

Many of the provisions will require issuance by the Secretary of Transportation of new regulations to implement the provisions, so MAP-21's new provisions will most likely come into place during the latter part of 2012, and throughout 2013. The most relevant sections are highlighted in the following text box.

**Section 1310** - Integration of Planning and Environmental Review allows use of planning product for any class of environmental review process (ERP) either in whole or in part. The timing of adoption of such product can be made at the time of scoping or later in the ERP. Use of a planning product is subject to 10 conditions:

1. Conducted in accordance with federal law.
2. Developed in consultation with fed/state resource agencies and Indian tribes.
3. Included multidisciplinary consideration or systems-level or corridor wide needs/effects.
4. During planning process notice was provided and public participation took place.
5. After initiation of environmental review process but prior to determining whether to use planning products the lead agency must have made documentation available to stakeholders and considered any comments.
6. No significant new information or circumstance that has 'reasonable' likelihood of affecting continued validity of product is determined.
7. Has a rational basis and is based on reliable and reasonably current data and scientific methodologies.
8. Documented in sufficient detail to support the decision or results of the analysis and to meet requirements for use in the environmental process.
9. Planning product is appropriate for adoption and use in the environmental review process.
10. Planning product was approved not later than five years prior to date on which information is adopted in the NEPA review.

**Section 1311** allows States or metropolitan planning organization to develop as part of the statewide or metropolitan planning process one or more programmatic mitigation plans.

**Section 1314** allows for the application of CEs for multimodal projects where the component of the project to be covered by the CE has independent utility. It amends Title 49 CFR to allow DOT agency acting as lead authority for a 'multi-modal' project to apply a CE using authority of another DOT modal agency that is participating.

**Section 1316** allows CE's for projects within existing right of way (ROW). Within 180 days Secretary must designate as a CE any project within existing project operational ROW. Regulations for this are required within 150 days.

**Section 1317** expands the use of CE's for projects that receive less than \$5m in federal funding or projects with less than \$30m in total cost with less than 15% federal share. Regulations for this section are required within 150 days.

**Section 1318** allows the use of programmatic CE's. The act requires the Secretary to survey use of CE's since 2005 by the State DOTs within sixty days of the act. The secretary is also required to publish this review and to solicit requests for new types of programmatic CE's. Within 120 days the Secretary must then publish rules to propose new CE's received by the Secretary, and the Secretary shall issue proposed rules to move certain types of CE's from §771.117 CFR to subsection (c) of that section, including highway modernization projects—i.e., 4R projects, shoulders, auxiliary lanes, rehab, reconstruction, and safety or traffic operations improvement i.e., ramp metering and lighting, and bridge rehab, reconstruction or replacement or the construction of grade separation to replace existing at-grade crossings.

**Section 1320** encourages memorandum of agency agreements for early coordination between agencies. Such early coordination activities shall include:

- Technical assistance on identifying potential impacts and mitigation issues in an integrated fashion
- Potential appropriateness of using planning products and decisions in later ERP.
- Identification and elimination from detailed study in the ERP of issues that are not significant or have been covered by prior environmental reviews
- Identification of consultation requirements so agencies can prepare analysis concurrent with planning activities

## 7. Current TxDOT Practices and Implementation Considerations

Interviews conducted within Texas revealed the current practices within Texas regarding transportation planning and the NEPA processes and identified several important considerations with regard to implementing any linkage initiative.

Within Texas, very few agencies or districts have attempted new initiatives that involved integrating the NEPA and transportation planning processes. The project sponsor (usually the TxDOT district) is responsible for the NEPA review process and the regional and local planning agencies don't get too involved. Transportation plans such as the MTP include some high-level information (typically from the NEPAassist tool provided by the Environmental Protection Agency

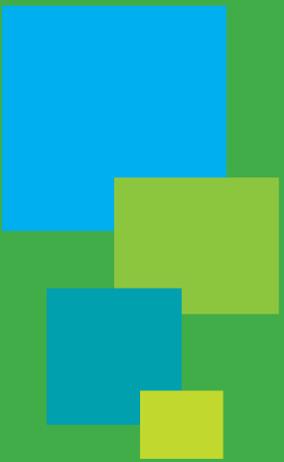
(EPA) and some mitigation strategies, but in general the MPO does not get involved in the NEPA review. Any corridor studies done in the planning process contain additional information, but corridor studies are not done for all projects, and even the corridor studies provide only a broad level environmental analysis and identify fatal flaws.

Any linkage initiative should take into consideration the following observations and recommendations:

- Linkage program should be adapted to different organization sizes and characteristics. Many MPOs and districts are limited by their size. For example, some MPOs have limited full-time staffers, making it difficult to conduct more than the basic tasks. Thus, undertaking many initiatives to link the NEPA and planning processes would not be practical for them. Furthermore, these regions may not have many EIS level projects that would benefit the most from any linkage initiatives. Any initiative linking regional and project planning with NEPA should consider the limited resources of smaller MPOs and other agencies.
- Any linkage program should not be a simple shift of tasks from environmental sections to planning sections without changing funding. Many of the methods discussed to link regional and project planning with NEPA involve including more environmental information in planning documents. This places a greater burden on planning sections and should be accompanied by appropriate levels of additional funding.
- The NEPAassist tool provided by the EPA is a good start, but it needs to be improved. The NEPAassist tool is useful for including broad level information in transportation plans, but the user agencies can only view the information. They don't have direct access to it. This means they can't directly supplement the GIS layers viewed through NEPAassist with their own GIS data or data from other agencies. NEPAassist has the potential to be a very effective data sharing tool (along the lines of the tools mentioned in Section 4) if it were improved.
- A common observation regarding the NEPA process concerned the federal requirements that projects be fully funded and accurately identified in transportation plans. These requirements greatly reduce flexibility and many times unnecessarily increase workloads. An example given by several interviewees describes a situation where a 10-lane highway is needed in a certain region. Due to funding concerns, however, only six lanes can currently be built; the other four are planned for later. It would be ideal if TxDOT and the MPO could identify the 10-lane highway in their transportation plans and provide one NEPA document for the entire highway. Instead, they have to identify the six-lane highway and the four-lane addition as separate projects with separate funding and separate NEPA documents.
- Communication and coordination between stakeholders generally was considered good. All of the MPOs and districts interviewed felt they had good relationships with each other. The relationships with TxDOT division headquarters or resource agencies were also generally considered good, although there were a few exceptions. In a few cases resource agencies felt understaffed and did not want to be too involved in the planning process, because it didn't specifically fall under their purview. Communication and coordination with stakeholders was widely considered a best practice and despite the positive remarks from many agencies, there was still mention of room for improvement.

These recurrent themes and recommendations were identified in essentially every interview. Other issues that were mentioned less frequently include the following:

- Concerns over attempting to put too much detail into transportation plans. Identifying high-level environmental concerns, potential fatal flaws, and early mitigation strategies is fine, but it might be too much to ask more from MPOs and other planning agencies.
- Having experienced NEPA document preparers in planning departments is extremely helpful and allows the documents to be drafted in such a way that they can be better used in the NEPA process.
- Walking potential project sites with resource agency representatives is a great way to



improve early coordination and communication. In general, if resource agencies see attention to environmental concerns, they will be receptive to working with the project sponsor.

As might be expected, the best and most innovative practices are generally found in large metropolitan areas with more resources such as Dallas and Houston. The North Central Texas Council of Governments in particular includes environmental analysis and studies in their transportation plans. The Houston-Galveston Area Council is starting to move towards this direction and is trying to include more alternatives and environmental analysis in their long-range plans

## **8. Conclusions**

Fully implementing all of the listed recommendations can be challenging due to time and resource constraints. Agencies involved with transportation planning will have to make decisions regarding which recommendations are the most feasible to implement and the degree to which they will be implemented. Implementing these recommendations will require initial costs in the form of time, money, and staffing resources, but in the long run they should streamline the project delivery process and provide efficiency savings that will recover the upfront investment.

The ideal process in the future involves a fully integrated approach that incorporates all recommendations listed in this resource. This process would utilize

- Specific guidelines on the NEPA-related content that should be included in the transportation plans.
- Handbooks and manuals identifying the roles and responsibilities of various agencies as well as when and how to develop information for projects.
- GIS-based data sharing tools able to automatically generate reports/screening forms for specific projects.
- Communication strategies designed to stimulate early involvement from all stakeholders and bridge the gap between environmental and planning staffers.

Furthermore, any new initiative, regardless of how extensive, should take into account the implementation considerations listed in this resource:

- The new MAP-21 bill.
- The different sizes and resources of the different organizations implementing the initiative.
- The funding and resource limitations of the agencies involved— the state and federal resource agencies in particular.
- The need for strong stakeholder and upper management support or designated champions to promote and garner support for the initiative.

## Appendix A. Long-Range Planning and Environmental Linkages Questionnaire

*This questionnaire is adapted from the questionnaire provided through FHWA's PEL program.* Much of the language is copied verbatim, with changes being made to adjust the questionnaire to focus on long-range planning rather than project planning.

This questionnaire is intended to act as a summary of the long-range planning process and ease the transition from planning to a National Environmental Policy Act (NEPA) analysis. Often, there is no overlap in personnel between the planning and NEPA phases of a project, so consequently much (or all) of the history of decisions made in the planning phase is lost. Different planning processes take projects through analysis at different levels of detail. NEPA project teams may not be aware of relevant planning information and might re-do work that has already been done.

*Instructions: These questions should be used as a guide throughout the planning process, not just answered near completion of the process. When the NEPA review is started, this questionnaire will be given to the project team.*

### 1. Background:

- 1.1. Which agency is responsible for the long-range plan this questionnaire describes (state DOT, local agency, other)?
- 1.2. What is the name of the long-range transportation plan?
- 1.3. Who was included on the team completing the long-range plan and who was responsible for completing this questionnaire (name and title of agency representatives, consultants, etc.)?
- 1.4. Provide a brief chronology of the planning activities conducted while drafting the plan, including the year(s) the studies were completed.
- 1.5. Are there recent, current, or near future planning studies that may be relevant?

### 2. Methodology used:

- 2.1. Did you use NEPA-like language? Why or why not?
- 2.2. Did anyone on the team completing the long-range plan have an environmental (NEPA) background?

### 3. Agency coordination:

- 3.1. Provide a synopsis of coordination with federal, tribal, and state regulatory and resource agencies. Describe their level of participation and how you coordinated with them.
- 3.2. Which transportation agencies (e.g., FHWA, TxDOT, public or rural transit agencies, etc.) did you coordinate with or were involved while drafting the long-range plan?

### 4. Public coordination:

- 4.1. Provide a synopsis of your public involvement efforts.

### 5. Purpose and Need documentation in the long-range plan:

- 5.1. For the projects identified in the long-range plan (if individual projects were identified) were the purpose and need also identified or referenced? If not, how are the projects consistent with the general goals and objectives described in the long-range plan?
- 5.2. Are general goals and objectives described in such a way that they can be referenced in the purpose and need sections of projects? Can data provided in the long-range plan be applied to the purpose and need section at a project level?
- 5.3. Is legislation (federal, state, or local) mandating certain projects or outlining certain goals referenced or discussed?

**6. Range of alternatives:** Planning teams need to be cautious during the alternative screening process; alternative screening should focus on purpose and need and fatal flaw analysis. In-depth alternatives analysis of environmental considerations should not be done until the actual NEPA process. This may help minimize problems during discussions with resource agencies. Alternatives that have fatal flaws or do not meet the purpose and need will not be considered reasonable alternatives, even if they reduce impacts to a particular resource. Detail the range of

alternatives considered, screening criteria, and screening process, including:

- 6.1. What types of alternatives were considered for specific projects?
- 6.2. Were any fatal flaws identified for certain alternatives?
- 6.3. For alternative(s) that were screened out, briefly summarize the reasons for eliminating the alternative(s).
- 6.4. Which alternatives could be brought forward into NEPA and why?
- 6.5. Did the public, stakeholders, and agencies have an opportunity to comment during this process?
- 6.6. Were there unresolved issues with the public, stakeholders, and/or agencies?

**7. Planning assumptions and analytical methods:**

- 7.1. What are the forecast years used in the long-range plan?
- 7.2. Were the methods used to forecast future demand, capacity, development, housing, etc. documented? Briefly describe these methods.
- 7.3. What were the future year policy and/or data assumptions used in the transportation planning process related to land use, economic development, transportation costs, and network expansion?
- 7.4. Which assumptions made in the planning process may not be applicable at a later date? What specific assumptions are most likely to change?

**8. Environmental resources (wetlands, cultural, etc.) reviewed.** For each resource or group of resources reviewed, provide the following:

- 8.1. In the long-range plan, at what level of detail was the resource reviewed and what was the method of review?
- 8.2. What maps and data have been provided to identify if this resource is present for a specific project and if it is present, whether or not it is a concern?
- 8.3. Are there any issues/concerns that need to be considered during NEPA, including potential resource impacts and potential mitigation requirements (if known)?

**9. List environmental resources you are aware of that were not reviewed in the long-range plan.** Why were these environmental resources not reviewed?

**10. Were cumulative impacts considered in the long-range plan?** If yes, provide the information or reference where the analysis can be found.

**11. Describe any mitigation strategies discussed at the planning level.**

**12. What needs to be done during NEPA to make information from the long-range plan available to the agencies and the public?** Are there products or components of the long-range plan that can be used or provided to agencies or the public during the NEPA scoping process?

**13. Are there any other issues a future project team should be aware of?** Examples: Controversies, utility problems, access or ROW issues, encroachments into ROW, land owners and/or groups challenging the project, contact information for stakeholders, special or unique resources in the area, etc.

## Appendix B. Sample Report from Utah's GIS Data Sharing Tool

This sample report appears in the Utah DOT's September 2011 PEL user guide (*The Planning and Environmental Linkages (PEL) Approach*).

# PEL REPORT

## I-15 MP 351.5 TO MP 362.0, FROM BOX ELDER/WEBER CL TO BRIGHAM CITY SOUTH INTERCHANGE (300' ROW ASSESSED)

<b>HYDROLOGY</b>	<b>GEOLOGY</b>	<b>ZONING</b>
<b>WATERSHEDS</b>	<b>LIQUEFACTION POTENTIAL</b>	Zoning Intersected:
Watersheds Intersected:	Tier I: High and High to Moderate: 506.6 acres	<b>Box Elder County</b>
Outlet Bear River : 119.3 acres	<b>TOTAL: 506.6 acres</b>	Agriculture/Rural Residential: 22.4 acres
Box Elder Creek-Black Slough : 90.1 acres	Liquefaction Potential Intersected: High	Agriculture/Very Low Density: 302.9 acres
First Salt Creek-Willard Bay Reservoir : 297.3 acres	<b>SLOPE</b>	Commercial: 33.9 acres
<b>TOTAL: 506.6 acres</b>	Tier II: 25-30%: 2.6 acres	Industrial/Manufacturing/Extractive: 73.8 acres
<b>STREAMS</b>	Tier III: 15-25%: 4.6 acres	Low Density: 69.2 acres
Streams: 2,426.2 feet	<b>TOTAL: 7.2 acres</b>	Mixed Use/TOD: 3.3 acres
Tier I: Stream and Buffer: 5.5 acres	<b>OPEN SPACE</b>	Unknown: 0.0 acres
Tier II: Intermediate Buffer Zone: 4.3 acres	<b>AGRICULTURAL PROTECTION AREAS</b>	<b>Weber County</b>
Tier III: Outer Buffer Zone: 11.8 acres	Tier I: Protected Land Use: 2.1 acres	Industrial/Manufacturing/Extractive: 1.8 acres
<b>TOTAL: 21.6 acres</b>	<b>TOTAL: 2.1 acres</b>	<b>CULTURAL RESOURCES</b>
<b>CANALS</b>	<b>OPEN SPACE</b>	<b>ARCHEOLOGICAL SITES</b>
Tier I: Canal and Buffer: 4.0 acres	Tier I: Section 4(f) Implications: 121.2 acres	Tier I: Section 106 Implications: 0.0 acres
<b>TOTAL: 4.0 acres</b>	<b>TOTAL: 121.2 acres</b>	<b>TOTAL: 0.0 acres</b>
<b>LAKES</b>	<b>PARKS</b>	<b>PEDESTRIAN</b>
Lakes: 1.4 acres	Tier I: Section 4(f) Implications: 1.3 acres	<b>BIKE ROUTES</b>
Tier I: Lake and Buffer: 11.7 acres	<b>TOTAL: 1.3 acres</b>	<b>TOTAL: 1,321.3 feet</b>
Tier II: Intermediate Buffer Zone: 13.8 acres	Parks Intersected: Park	<b>BUS STOPS</b>
Tier III: Outer Buffer Zone: 54.5 acres	<b>PRIME FARMLAND</b>	1 Intersections
<b>TOTAL: 80.0 acres</b>	Tier I: Prime Farmland: 20.4 acres	<b>CHILDREN</b>
<b>WETLANDS</b>	Tier II: Prime Farmland with 1 Condition: 23.0 acres	<b>SCHOOL(S)</b>
Wetlands: 20.0 acres	<b>TOTAL: 43.4 acres</b>	Tier I: Immediate Proximity: 2 school(s)
Tier I: Wetland and Buffer: 45.7 acres	<b>LAND USE</b>	<b>TOTAL: 2 school(s)</b>
Tier II: Intermediate Buffer Zone: 21.7 acres	<b>LAND USE</b>	<b>CONCENTRATION OF CHILDREN</b>
Tier III: Outer Buffer Zone: 67.7 acres	Land Use Intersected:	Tier III: 10%-30% > County: 2 block group(s)
<b>TOTAL: 135.1 acres</b>	Agriculture : 69.9 acres	<b>TOTAL: 2 block group(s)</b>
<b>FLOODPLAINS</b>	Commercial/Industrial : 2.2 acres	Scenario Average: 35.27%
Tier I: 100-yr Floodplain: 1.4 acres	Residential : 0.5 acres	Box Elder County: 36.06%
<b>TOTAL: 1.4 acres</b>	<b>TOTAL: 72.6 acres</b>	Weber County: 30.92%
<b>WATER QUALITY</b>	<b>LAND DEVELOPMENT</b>	<b>POPULATION CHARACTERISTICS</b>
Tier I: Source Protection Zone: 3.8 acres	Land Development Intersected:	<b>POPULATION DENSITY</b>
<b>TOTAL: 3.8 acres</b>	Developed, Open Space - Low Intensity : 4.0 acres	Scenario Average: 31,374.2/mi <sup>2</sup>
<b>ECOLOGY</b>	Developed, Medium - High Intensity : 523.1 acres	Box Elder County: 747.0/mi <sup>2</sup>
<b>WILDLIFE ACTION AREAS</b>	<b>TOTAL: 527.1 acres</b>	Weber County: 34,148.0/mi <sup>2</sup>
Wildlife Action Areas Intersected:	<b>PRIVATE/PUBLIC OWNERSHIP</b>	<b>SEX RATIO</b>
<b>Great Salt Lake Shorelands</b>	Private/Public Ownership Intersected:	
Outlet Bear River: 119.3 acres	Private	
Box Elder Creek-Black Slough: 90.1 acres	Private: 410.7 acres	
First Salt Creek-Willard Bay Reservoir: 297.3 acres	State	
<b>RARE PLANTS</b>	SL&F: 25.4 acres	
Tier I: Protected Species Potential Habitat: 132.9 acres	USP: 70.5 acres	
<b>TOTAL: 132.9 acres</b>		

