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16. Abstract Federal and state transportation planning statutory and regulatory laws require transportation projects to be consistent with transportation plans and improvement programs before a federal action can be taken on a project requiring one. Significant delays in project delivery can occur if the federal funding is withheld when projects are found to be inconsistent with transportation plans and improvement programs. This issue is especially critical for projects in nonattainment and maintenance areas because an inconsistent project might trigger a conformity failure or delayed determination for the entire plan and/or program.  The researchers found that the main challenges leading to project inconsistencies are insufficient communication over the changes to projects' design concept and scope, cost, and estimated letting date. The research team developed a Project Consistency Guidebook (PCG), a Supplementary Information Document (SID), and a project consistency checklist. The guidebook explains how project planning and development interact with the regional and project level air quality conformity process, and details procedures and tools that TxDOT and Texas Metropolitan Planning Organizations can use to understand and maintain project level conformity and project consistency with applicable transportation plans and programs. The SID provides an overview of the subjects relevant to project consistency. The project consistency checklist serves as a guide to keep track of the changes to a project.					
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**MAINTAINING PROJECT CONSISTENCY WITH TRANSPORTATION  
PLANS THROUGHOUT THE PROJECT LIFE CYCLE WITH AN  
EMPHASIS ON MAINTAINING AIR QUALITY CONFORMITY:  
TECHNICAL REPORT**

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## **DISCLAIMER**

This research was performed in cooperation with the Texas Department of Transportation (TxDOT) and the Federal Highway Administration (FHWA). The contents of this report reflect the views of the authors, who 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 FHWA or TxDOT. This report does not constitute a standard, specification, or regulation. The United States Government and the State of Texas do not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the object of this report.

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# TABLE OF CONTENTS

<b>List of Figures</b> .....	<b>ix</b>
<b>List of Tables</b> .....	<b>x</b>
<b>List of Acronyms</b> .....	<b>xi</b>
<b>Chapter 1: Introduction</b> .....	<b>1</b>
Project Overview .....	2
Definition of Project Consistency .....	2
Approach.....	2
Literature Review.....	3
Interviews.....	4
<b>Chapter 2: Background</b> .....	<b>7</b>
Overview of Transportation Planning.....	7
What It Involves.....	8
Planning and Environment Linkages.....	16
Failure of Transportation Conformity.....	26
Project Consistency.....	28
Project Consistency Regulations.....	28
Projects that Are Subject to Project Consistency.....	29
Consistency and Federal Action .....	30
Project Consistency and Transportation Conformity.....	31
Consequences of Project Inconsistency .....	32
<b>Chapter 3: State-of-the-Practice</b> .....	<b>35</b>
TxDOT Project Development Process/Structure .....	35
TxDOT's Environmental Process .....	37
Planning/Preliminary Survey .....	39
Interagency Coordination.....	39
Environmental Documentation .....	39
Public Involvement.....	39
Environmental Clearance.....	40
Environmental Reevaluation.....	40
Permitting.....	40
Environmental Commitments after Clearance.....	40
Key Stakeholders .....	41
TxDOT Resources .....	42
Environmental Manual.....	42
Transportation Planning Manual.....	42
Project Development Process Manual .....	42
Standards of Uniformity for Projects without Federal Highway Administration Involvement .....	43
Practices by TxDOT Districts and Texas MPOs .....	44
Practices by Other State DOTs .....	45
California Department of Transportation.....	45
Florida Department of Transportation .....	46
Ohio Department of Transportation.....	47
<b>Chapter 4: Findings and Recommendations</b> .....	<b>49</b>

Causes that Lead to Inconsistency .....	49
Consistency at Critical Junctures in the Project Development Process .....	51
Project Consistency Responsibility.....	54
Maintaining Project Consistency .....	55
Preventing Project Inconsistency through Effective Project Data Management .....	57
Best Practices to Maintain Project Consistency.....	59
Project Inconsistency Detection.....	61
Tools and Resources Available for Maintaining Project Consistency.....	62
The Role of the Finance Division .....	63
<b>Chapter 5: Summary and Conclusions .....</b>	<b>65</b>
<b>Appendix A. Fort Worth Checklists.....</b>	<b>67</b>
<b>Appendix B. Pharr District Checklist .....</b>	<b>71</b>
<b>Appendix C. Caltrans Communication Plan Flow Chart .....</b>	<b>75</b>
<b>Appendix D. Caltrans Communication Methods.....</b>	<b>77</b>
<b>Appendix E. FDOT’s Efficient Transportation Decision Making.....</b>	<b>79</b>
<b>Appendix F. Project Forms Used by Florida Department of Transportation .....</b>	<b>81</b>
<b>Appendix G. Project Consistency Checklist.....</b>	<b>85</b>
<b>References.....</b>	<b>87</b>



## LIST OF FIGURES

Figure 1. Three Cs of an Effective Transportation Planning Process.....	8
Figure 2. Overview of Transportation Planning Process.....	9
Figure 3. Key Transportation Planning Documents. ....	12
Figure 4. Plan and Program Document Process Flow Diagram. ....	15
Figure 5. Transportation Planning Process. ....	19
Figure 6. Transportation Conformity.....	20
Figure 7. Federal Review and Approval Process for MTP Air Quality Conformity.....	25
Figure 8. Texas Conformity Review Process. ....	27
Figure 9. Federal and State Project Consistency Requirements. ....	29
Figure 10. Overview of Transportation Conformity Process.....	31
Figure 11. Consequences of Project Inconsistency.....	32
Figure 12. Estimated Time for Texas Transportation Conformity Process.....	34
Figure 13. Overview of TxDOT Project Development Process. ....	36
Figure 14. Environmental Process Activities.....	37
Figure 15. Relational Process Flow Diagram. ....	52
Figure 16. Helpful District Activities for Maintaining Project Consistency. ....	54
Figure 17. Helpful MPO Activities for Maintaining Project Consistency.....	55
Figure 18. The Expected Minimum Level of Communication for PCM.....	56
Figure 19. Example Workflow for Preventing Project Inconsistencies.....	59
Figure 20. Tools for Maintaining Project Consistency.....	62

## LIST OF TABLES

Table 1. Literature Review Information Sources.....	3
Table 2. Final List of Interviews.....	4
Table 3. Texas Transportation Plans and Programs.....	13
Table 4. Texas Transportation Conformity Process. ....	21
Table 5. Main Functions and Roles of State DOTs and Local MPOs ( <i>I</i> ). ....	41
Table 6. ODOT Project Development Process Paths.....	48
Table 7. Project Development Process-Plan/Program Alignment.....	53

## LIST OF ACRONYMS

BRE	Biennial Revenue Estimate
Caltrans	California Department of Transportation
CO	Carbon Monoxide
CE	Categorical Exclusion
CAA	Clean Air Act
CMAQ	Congestion Mitigation and Air Quality
DCIS	Design and Construction Information System
DOT	Department of Transportation
DOD	Division of Design
EA	Environmental Assessment
ECOS	Environmental Compliance Oversight System
EIS	Environmental Impact Statement
ENV	Environmental Affairs Division
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Authority
FIN	Finance Division
FONSI	Finding of No Significant Impact
FDOT	Florida Department of Transportation
FPAA	Federal Project Agreement Authorization
IRB	Institutional Review Board
L RTP	Long-Range Transportation Plan
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
MVEB	Motor Vehicle Emissions Budget
MOVES	Motor Vehicle Emission Simulator
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
OPRs	Offices of Primary Responsibility
ODOT	Ohio Department of Transportation
PM	Particulate Matter
PS&E	Plans, Specifications, and Estimates
P6	Primavera Version 6
PCG	Project Consistency Guidebook

PD	Project Development
PMC	Project Management Committee
PMO	Project Management Office
PTN	Public Transportation Division
RTP	Regional Transportation Plan
ROW	Right-of-Way
SOU	Standard of Uniformity
SIP	State Implementation Plan
SLRTP	Statewide Long-Range Transportation Plan
STIP	Statewide Transportation Improvement Program
SID	Supplementary Information Document
TCEQ	Texas Commission on Environmental Quality
TxDOT	Texas Department of Transportation
TFMP	Texas Freight Mobility Plan
TCM	Transportation Control Measures
TDM	Travel Demand Model
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TP&D	Transportation Planning and Development
TPP	Transportation Planning and Programming
USC	United States Code
UTP	Unified Transportation Program
VMT	Vehicle Miles Travelled

## **CHAPTER 1: INTRODUCTION**

Streamlined project delivery is one of the goals of the Texas Department of Transportation (TxDOT) leadership. Any unnecessary delay in the project delivery process may exacerbate the cost of the project. Federal and state transportation planning statutory and regulatory laws require transportation projects to be consistent with metropolitan transportation plans (MTP) and transportation improvement programs (TIP) before the Federal Highway Administration or the Federal Transit Authority (FTA) take federal action on a project requiring one.<sup>1</sup> Consequently, significant delays in project delivery can potentially occur as the federal funding would be withheld for such projects and FHWA/FTA would not authorize their construction until the inconsistencies are fully addressed.

This issue is especially critical for projects in nonattainment and maintenance areas. This is because an individual project's conformity is directly linked to the consistency of the projects with appropriate transportation plans (MTP) and improvement programs (TIP and Statewide Transportation Improvement Program [STIP]); a non-conforming project might trigger a conformity failure for the entire TIP. For example, a project is no longer conforming to the State Implementation Plan (SIP) if it becomes inconsistent with the Metropolitan Transportation Plan, the Transportation Improvement Program, the Statewide Transportation Improvement Program, and the Unified Transportation Program (UTP). Therefore, maintaining project consistency is an essential component of TxDOT's project development (PD) process, which helps the agency to minimize project processing time, reduce project development cost, and balance risks.

This research project helps TxDOT to establish a Project Consistency Management (PCM) to minimize the risk of project inconsistency. The project delivers this by developing the following:

- A Project Consistency Guidebook (PCG).
- Project Consistency Training Material.
- A Project Consistency Checklist.

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<sup>1</sup> Including signing a Record of Decision (ROD), Finding of No Significant Impact (FONSI), or approval of a Categorical Exclusion (CE) for a project.

## **PROJECT OVERVIEW**

This project investigated the various aspects of the project development process that TxDOT conducted, and focused on how to maintain project consistency through the letting stage. The research team gained an understanding of the regulations of transportation planning, the project development life cycle, and how they relate to the general and project-level transportation conformity process. This project provides TxDOT an insight to stakeholders' involvement in maintaining project consistency and key challenges that hinder project consistency during the project development process. Also, this project outlines tools and resources that will assist in TxDOT's goal of maintaining project consistency.

### **Definition of Project Consistency**

Project consistency refers to the federal and state requirements that a project be consistent with the applicable MTP, TIP, and/or STIP. A project must be consistent with these planning documents with regard to three major elements:

- Design concept, including project limits, location, type of facility, and scheduled letting date.
- Design scope, including specific information such as number of lanes, length, signalization, etc.
- Project cost.

For the purposes of this project, maintaining project consistency is relevant to projects listed in the MTP, UTP, TIP, STIP, and conformity documentation. Plan and program consistency with the goals and objectives of the Statewide Long-Range Transportation Plan (SLRTP) is a statutory requirement. The SLRTP includes the projects listed in the MTPs, UTP, TIPs, and STIP by reference, so by definition, the subordinate plans and programs are assumed to be consistent with the SLRTP.

## **APPROACH**

The overall approach for achieving the objectives of this study consists of the following four basic steps:

1. Identify information sources and obtain and review appropriate information through literature review and interviews.

2. Process the information and obtain details on key issues (i.e., processes and practices).
3. Identify needs and problem spots based on detail information of previous steps.
4. Develop solutions to address the needs based on findings of steps 2 and 3.

## Literature Review

The researchers conducted an extensive literature search and synthesis to provide context/understanding of project consistency regulations and practices, with a focus on the PD process’s relationship with the planning and programming documents.

The literature synthesis was assembled based on preliminary interviews with TxDOT staff, a review of current practices, findings from published and internet sources, and other information sources. The primary information sources include materials from FHWA, TxDOT, MPOs, TxDOT partner agencies, state DOTs, or other agencies from outside Texas. The research team compiled a list of target information sources (see Table 1).

**Table 1. Literature Review Information Sources.**

Agency	Year	Title
FHWA/FTA	2007	The Transportation Planning Process Key Issues, A Briefing Book for Transportation Decision Makers, Officials, and Staff
FHWA	2010	Transportation Conformity, A Basic Guide for State & Local Officials
TxDOT	2001	Transportation Planning Manual
TxDOT	2012	Project Development Process Manual
TxDOT	2004	Environmental Manual
TxDOT	2011	Standards of Uniformity for Projects without Federal Highway Administration Involvement, Transportation Planning Consistency, and Fiscal Constraint
TxDOT	2012	Project Scope and Environmental Issues Checklist for CEs, BCEs, and PCEs
TxDOT	2012	Project Scope for Environmental Review Documents
TxDOT	2012	Project Scope Amendment
City of Port Angeles	2011	Project Development Checklist
Colorado DOT	2003	Non-Programmatic Categorical Exclusion Environmental Review Summary
University of Princeton	2012	Project Audit & Review Checklist
Arizona DOT	2009	Development Process Checklist
Georgia DOT	2011	Plan Development Process
Kentucky Transportation Cabinet	2011	Local Public Agency Project Development Checklist

## Interviews

In addition to the literature synthesis, researchers conducted a series of interviews to document current practices and efforts in maintaining project consistency. For example, Districts of Fort Worth and Pharr have developed the checklists for tracking the environment management process and project status, which are shown in Appendix A and Appendix B. These interviews involved staff from TxDOT divisions (Transportation Planning and Programming, Environmental Affairs, Finance), select Texas MPOs and TxDOT Districts, and other state DOTs who are directly involved in the project planning and development process.

The interviews helped the research team to gain an understanding of the stakeholders' roles and responsibilities during the project life cycle. The initial list of target interviewees was developed based on the input from the Project Management Committee (PMC). As the interviews progressed, this list was expanded to include other staff and stakeholders per interviewees' suggestions. This effort included obtaining the approval of the Texas A&M's Institutional Review Board (IRB).

The interviews were conducted in person, through conference calls, and email. The research team contacted state DOTs that have similar characteristics as TxDOT such as large population, many transportation projects, and nonattainment metropolitan areas. The interviews with state DOTs occurred through conference calls. Table 2 shows the final list of the interviews.

**Table 2. Final List of Interviews.**

District	Austin, Beaumont, Dallas, El Paso, Fort Worth, Houston, Pharr, Paris, San Antonio, and Waco
MPOs	Beaumont, Brownwood, Capital Area MPO (CAMPO), El Paso, Harlingen, Houston-Galveston Area Governments, San Antonio, Sherman, and Waco
TxDOT Divisions	Right-of-Way (ROW), Toll Authority, Transportation Planning and Programming (TPP), Environmental Affairs (ENV), Finance (FIN), Project Management Office (PMO)
Federal Agencies	Federal Highway Administration (FHWA)
State DOTs	California, Ohio, Florida



Prior to the interviews, all participants received information on the project and were notified that the Human Subjects Protection Program and the IRB at Texas A&M University have already reviewed the research study. They were informed about the purpose and approach of the study. Finally, the participants received a list of possible questions pertaining to the project development process.



## **CHAPTER 2: BACKGROUND**

As stated earlier, federal and state transportation planning statutory and regulatory laws mandate that transportation projects must be consistent with transportation plans (MTP) and programs (TIP and STIP) before the Federal Highway Administration or the Federal Transit Authority can take federal action requiring one.<sup>1</sup> If not, federal funding can be withheld for such projects and FHWA/FTA would not authorize their construction until the inconsistencies are fully addressed. This chapter provides background on the transportation planning process, federal environmental regulations specifically the National Environment Policy Act of 1969 (NEPA) and conformity regulations and its relevance to maintaining project consistency.

### **OVERVIEW OF TRANSPORTATION PLANNING**

“Transportation planning is a cooperative process designed to foster involvement by all users of the system, such as the business community, community groups, environmental organizations, the traveling public, freight operators and the general public, through a proactive public participation process conducted by MPOs, state DOTs, and transit operators” (1).

Transportation planning is used by state and local governments to decide which transportation projects to fund (1). Because transportation has broad impacts, transportation planning involves not only transportation goals such as mobility, accessibility, and connectivity, but it also involves social aspects, such as economic vitality, the environment, livability, social equity, safety, security, and financial constraints (2). An effective transportation planning process is one that is continuing, cooperative, and comprehensive (see Figure 1) (3).



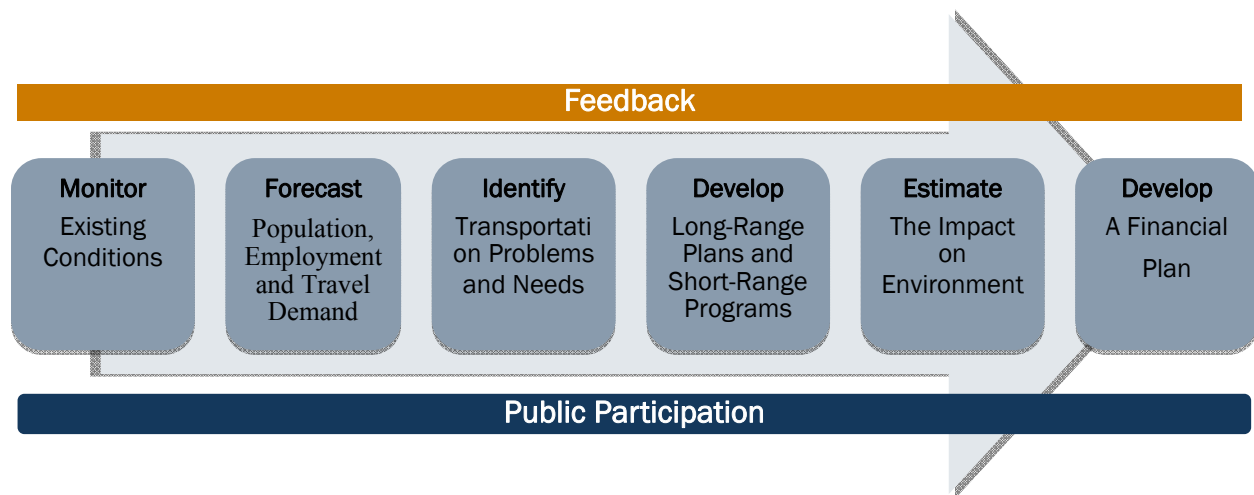
**Figure 1. Three Cs of an Effective Transportation Planning Process.**

### **What It Involves**

Transportation planning has several steps:

- Preparing an inventory of existing systems and evaluating existing conditions.
- Forecasting future population and employment growth, including assessing projected land uses in the region and identifying major growth corridors.
- Identifying current and projected future transportation problems and needs, and analyzing, through detailed planning studies, various transportation improvement strategies to address those needs.
- Developing long-range plans and short-range programs of alternative capital improvement and operational strategies for moving people and goods.
- Estimating the impact of recommended future improvements to the transportation system on environmental features, including air quality.
- Developing a financial plan for securing sufficient revenues to cover the costs of implementing strategies.
- Constructing/implementing improvements and monitoring system performance.

Figure 2 shows key elements of the transportation planning process and the importance of input and feedback from stakeholders is important throughout the process.



**Figure 2. Overview of Transportation Planning Process.**

Transportation planning is conducted at the statewide and metropolitan levels. TxDOT and the MPOs are the two most important agencies/institutions involved in planning for publicly funded transportation infrastructure projects in Texas. TxDOT is responsible for the state maintained road network, which is commonly referred to as “on-system” facilities. MPOs are responsible for planning for transportation infrastructure in the current and expected urbanized areas over a 20-year forecast period. Texas MPOs vary greatly in organizational size, structure, available resources (both number of employees and available funding), and program emphasis.

*Categories of the Planning Documents*

This section provides more detail about the transportation plans and programs following a top-down hierarchy. The planning documents can be broadly categorized as *System Planning* and *Project Planning* documents.

**System Planning.** The following comprise the System Planning initiatives (4):

- **Statewide Long-Range Transportation Plan** – The SLRTP provides a system-level planning perspective and details TxDOT’s long-term transportation goals and strategies. The 24-year plan 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 refers to the projects included in TxDOT’s UTP 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, the discussion focuses on policies, program and strategies by mode as opposed to project level mitigation activities (5).

- **Metropolitan Transportation Plans (MTPs)** – MTPs are long-range (typically projected for a 20–25-year period) transportation plans for urban areas that exceed 50,000 people. The MPO, in cooperation with TxDOT and publicly owned transit services, have developed these plans. MTPs identify policies, programs, transportation needs, 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 socioeconomic profile of the area and environmental considerations. Some MPOs also develop regional transportation plans which are equivalent to the MTP.

**Project-Level Planning.** The Project-Level Planning initiatives comprise the development of the UTP, which is a 10-year program that TxDOT used 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, ROW acquisition, and design (6). The UTP lists planned projects in terms of 12 categories (such as safety, strategic priority, and transportation enhancement) 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.

The Finance Division developed the TxDOT’s Cash Forecast, a component of the UTP, and is comprised of revenues, expenditures, and fund balances. This forecast is essential to project selection and the timing of project development and implementation. The forecast is based on an analysis that considers:

- Historical trends.
- The Comptroller’s Biennial Revenue Estimate (BRE).
- Current law.

- Current events.
- Other appropriate sources.

Expenditures are carefully balanced with incoming revenues to ensure that sufficient funds will be available beyond the biennium to make project payouts over several years.

Additionally, FIN projects future expenditure totals based on:

- Budgets established under the General Appropriations Act.
- Planned contract-letting amounts in the UTP.
- Remaining obligations on previously let projects.
- Other relevant data.

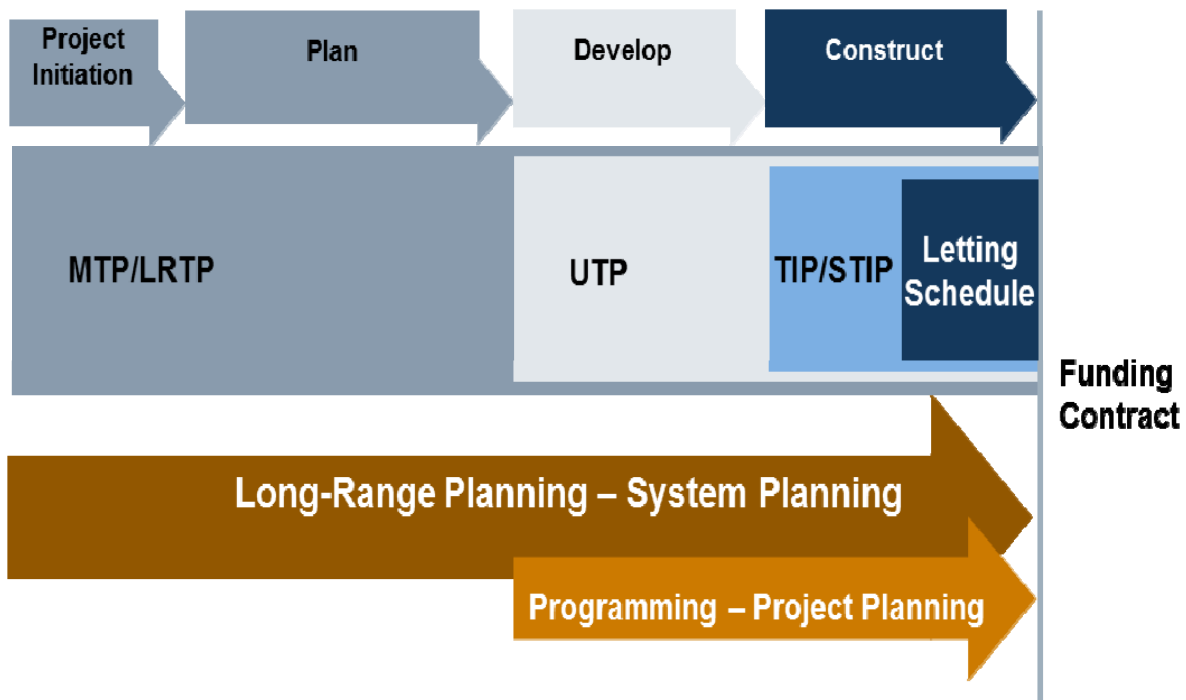
Finally, the Cash Forecast enables TxDOT to establish its annual “letting” budget. Letting is the process of providing notice, issuing proposals, receiving bids, and awarding vendor contracts for transportation improvements. The letting schedule is described in the following sections.

**Transportation Improvement Program (TIP) and Statewide Transportation Improvement Program (STIP).** Each MPO and TxDOT District develops a TIP of their region’s urban and rural transportation needs that are consistent with the SLRTP and the MTP. The TIPs represent a medium-term (typically four years) capital improvement program of multimodal transportation projects. All federally funded projects have to be included in the TIP. The STIP is TxDOT’s four-year capital improvement program and includes the various TIPs that the MPOs and TxDOT Districts have developed. The TIPs and STIP include more detailed project cost estimates and available funding sources. These programs represent how TxDOT and local agencies plan to allocate available funding resources based on the region’s transportation needs. The TIP and the STIP are similar in that they are fiscally constrained, four-year programs that are consistent with applicable long-range plans. However, there are also important differences between the two documents.

- A TIP is a stand-alone document, approved at the local level, which includes projects within a rural area or MPO boundary. TIPs do not require federal approval.
- The STIP is subject to a statewide public involvement process that culminates in a single public hearing in Austin, Texas, before its adoption by the Commission.
- Once the STIP is adopted, both the FHWA and the FTA approves it.

- Federal dollars cannot be expended on a project in a TIP unless that project is listed, individually or by reference, in the STIP. With few exceptions, projects must generally be included in a TIP and the STIP in order to advance to construction or implementation.

**Letting Schedule.** This schedule lists projects that will be let within the next two 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. Figure 3 illustrates the most important transportation planning documents that TxDOT and the MPOs have developed.



**Figure 3. Key Transportation Planning Documents.**

Table 3 summarizes the various plans and programs that TxDOT and its partner agencies have developed and used.



**Table 3. Texas Transportation Plans and Programs.**

Plan/Program	Developed By	Approved By	Time Period	Content	Update Cycle
TxDOT Strategic Plan	TxDOT	Texas Transportation Commission	5 Years	TxDOT's operational goals and strategies	Every 2 Years
Statewide Long-Range Transportation Plan (SLRTP)	TxDOT	Texas Transportation Commission	20+ Years	Future goals, strategies, and performance measures for the multi-modal transportation system	Every 4 Years
Metropolitan Transportation Plan (MTP) Attainment	MPO	MPO Policy Board	20+ Years	Policies, programs, and projects for development that respond to adopted goals and expenditures for state and federal funds over the next 20+ years	Every 5 Years
Metropolitan Transportation Plan (MTP) Non-Attainment	MPO	MPO Policy Board	20+ Years	Policies, programs, and projects for development that respond to adopted goals and expenditures for state and federal funds over the next 20+ years	Every 4 Years*
Unified Transportation Program (UTP)	TxDOT	Texas Transportation Commission	10 Years	Multimodal projects authorized for planning/development activities over a 10-year period	Annual
Transportation Improvement Programs (TIPs)-TxDOT Rural	TxDOT Districts	Governor (delegated to TxDOT)	4 Years	Multimodal transportation projects/investments	Every 2 Years
Transportation Improvement Programs (TIPs)-MPO	MPOs	MPO Policy Board	4 Years	Multimodal transportation projects/investments	Every 2 Years
Statewide Transportation Improvement Program (STIP)	TxDOT	USDOT (FHWA/FTA)	4 Years	Multimodal transportation projects/investments	Every 2 Years
State Implementation Plan (SIP)	TCEQ and Non-Attainment MPOs	EPA	N/A	A description of control strategies, or measures to deal with pollution, for areas that fail to achieve national ambient air quality standards (NAAQS)	Revised as needed

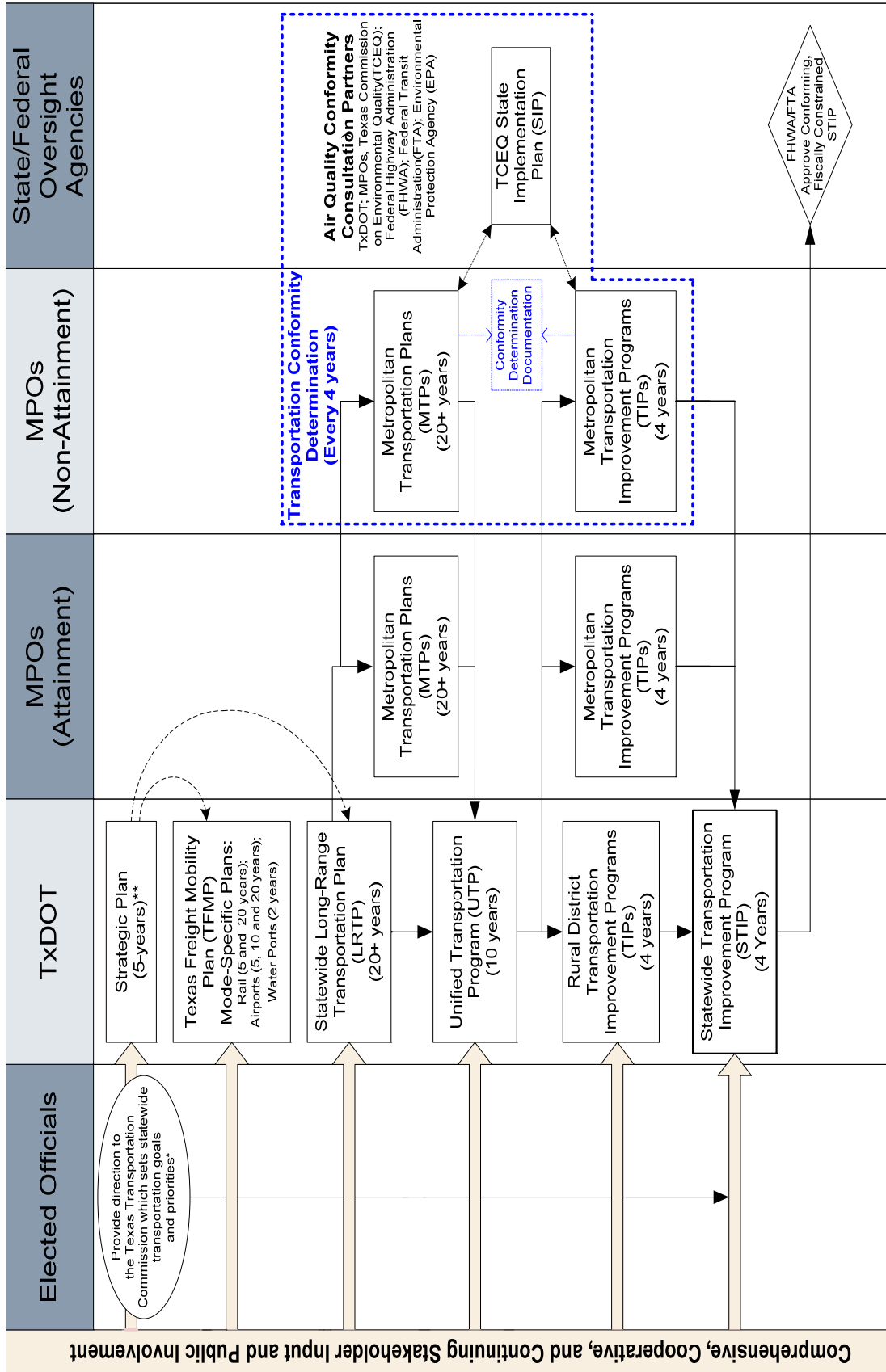
\*Update/approval dependent on a Transportation Conformity Determination that demonstrates projects meet all air quality conformity requirements of the Clean Air Act Amendments

As projects and services are delivered, TxDOT and the MPOs monitor system performance, reevaluate needs and available funding, and update the respective plans and programs accordingly.

The MPOs and the state DOT are the major partners in the transportation planning process. Transportation planning is a cooperative process because no single agency is responsible for the entire transportation system. In metropolitan areas, the MPO is responsible

for actively seeking the participation of all relevant agencies including transit agencies and stakeholders in the planning process, whereas the state DOT is responsible for activities outside metropolitan areas. In addition to the transportation planning process, the MPO and state DOT also work together on individual transportation projects.

Figure 4 outlines the planning document process flow and identifies the group responsible for the development of individual transportation plans and programs.



\* Elected Officials provide direction to the Commission, but are also engaged in the PI process and development of all plans and programs  
 \*\* TFMP and Modal Plans and TxDOT's LRTP reflect, and are consistent with, TxDOT's Strategic Plan goals

**Figure 4. Plan and Program Document Process Flow Diagram.**  
 (Source: TxDOT, Transportation Planning and Programming Division, 2013)

## **Planning and Environment Linkages**

Transportation activities impact many aspects of the environment (air quality, ecology, and noise) with pollutant emissions, congestion, and infrastructure expansion. Transportation officials and stakeholders are now recognizing that their decisions have long-term implications and impacts, and therefore are working on how to prepare metropolitan and statewide transportation plans and programs accordingly. The NEPA established a national policy to promote the protection of the environment through the actions and programs of federal agencies. Traditionally, NEPA regulations have been linked to the project development process, which will be discussed further in the project development process section of the report. Recently, some states have recognized the need to incorporate the environmental process including NEPA review into earlier stages of project development process (i.e. planning and programming).

State and local agencies can achieve significant benefits by incorporating environmental and community values into transportation decisions early in planning and advancing these considerations through project development and delivery. These activities can include the following benefits (7):

- **Relationship-Building** – By enhancing inter-agency participation and coordination efforts and procedures, transportation planning agencies can establish more positive working relationships with resource agencies and the public.
- **Process Efficiencies** – Improvements to inter-agency relationships may help to resolve differences on key issues as transportation programs and projects move from planning to design and implementation. Conducting some analysis at the planning stage can reduce duplication of work, leading to reductions in costs and time requirements, thus moving through the project development process faster and with fewer issues.
- **On-the-Ground Outcomes** – When transportation agencies conduct planning activities equipped with information about resource considerations and in coordination with resource agencies and the public, they are better able to conceive transportation programs and projects that effectively serve the community's transportation needs. This can reduce negative environmental impacts, and incorporate more effective environmental stewardship.

Before projects are developed for construction, TxDOT Districts, local governments, MPOs, transit agencies, and others identify transportation needs through traffic and mobility studies. Projects are developed and incorporated in short- and long-term planning.

Opportunities for consideration of environmental consequences occur in both the planning and the programming stages of project implementation. The following sections highlight how environmental considerations fit in each planning and programming stages (8):

- **Statewide level**
  - Environmental considerations are primarily goal-oriented (i.e., preserving air quality, limiting wetland impacts, etc.).
  - The statewide plans typically include regional and local projects.
  - There are statewide planning efforts for major interstate corridors, such as I-35 and others.
- **Regional/MPO level**
  - Environmental considerations are still primarily goal-oriented (i.e., protecting sensitive environmental resources from development, etc.).
  - Important modal decisions are made at the regional/MPO level, and environmental considerations are an important part of those decisions.
  - Environmental specialists can provide environmental information to the planning process.
- **Project level**
  - Environmental considerations are often examined from a fatal flaw view.
  - Purpose and need are generally established at this point.
  - The input of environmental specialists is very appropriate so that major environmental impacts are avoided.
  - The input of planners can eliminate redundant work during the environmental process because planners are aware of work that has already been completed.
  - For major projects only. Simple added-capacity projects will not undergo corridor analysis.

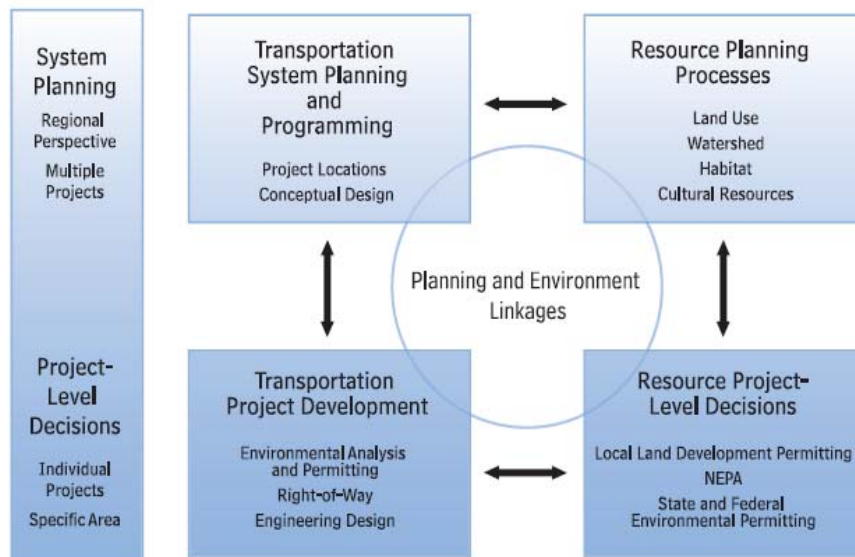
## *The National Environmental Policy Act and the Transportation Planning Process*

The NEPA process is designed to promote environmentally sound transportation decisions and cannot be used as a justification for decisions already made. A new coordinated approach between planning and project development contributes to the selection of transportation investments that reflect community needs from an active public involvement process and are sensitive to the environment. The first stages of the NEPA process—development of project purpose and need—should build upon the transportation needs identified during planning and will be the basis for the final selection of an alternative for design and construction.

Another direct link between NEPA and transportation planning is the requirement that a project in a nonattainment or maintenance area should be included in a conforming plan and TIP before it can be advanced. A major change in the project scope and design as it evolves during the NEPA process triggers a conformity and plan reassessment. In addition, other information gathered during the planning process can enhance the project development studies required under NEPA. Data collection related to environmental features, analysis of projected transportation system usage, and attendant impacts on environmental quality can provide important information to the NEPA process (9).

The FHWA and FTA act as lead federal agencies, and are responsible for implementing the NEPA process and working with state and local project sponsors during transportation project development. The NEPA process is designed to assist transportation officials in making project decisions that balance engineering and transportation needs with the consideration of social, economic, and environmental factors. This process allows for involvement and input from the public, interest groups, resource agencies, and local governments. The NEPA process is used as an umbrella for compliance with over 40 environmental laws, regulations, and executive orders. This process also provides an integrated approach to addressing impacts to the human and natural environment from transportation projects.

Figure 5 shows the planning process and how it relates to the environmental process. It shows the linkages between various environmental and planning stakeholders involved in planning process and the new approach planning and environmental is moving toward.



*Source: A Briefing Book for Transportation Decision Makers, Officials, and Staff. Federal Highway Administration (1).*

**Figure 5. Transportation Planning Process.**

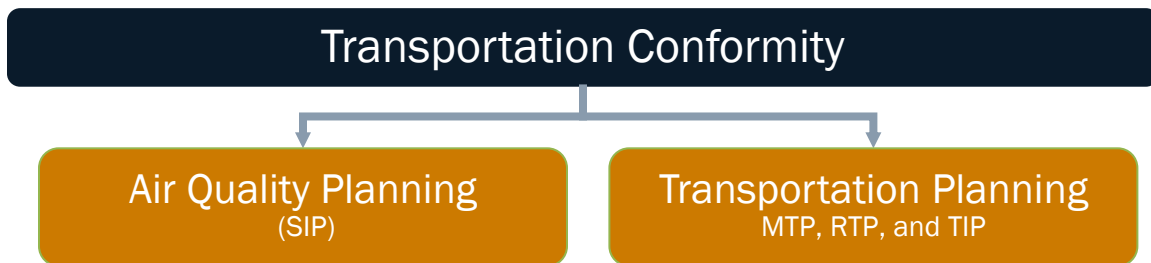
Transportation plans and programs are not subject to the environmental review process under NEPA. However, federal planning rules provide guidance that has allowed TxDOT to better incorporate information, analysis, and products from its planning process into project-level NEPA documents by engaging in the following activities during plan and program development:

- 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.
- Development and documentation of a consultative process for stakeholder participation that is separate and discreet from the public involvement process.
- Inclusion of visualization techniques to describe plans, programs, and projects.
- Increased accessibility to published plans, programs, and public involvement proceedings using multiple electronic formats.

## Transportation Conformity

Transportation conformity applies to areas that do not meet the National Ambient Air Quality Standards for specific pollutants and are referred to as nonattainment and maintenance areas. Transportation conformity is a way to ensure that federal funding and approval goes to those transportation activities that are consistent with air quality goals. Conformity applies to transportation plans, TIPS, and projects that the FHWA or the FTA have funded or approved in areas that do not meet or previously have not met NAAQS for ozone (O<sub>3</sub>), carbon monoxide (CO), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), or nitrogen dioxide (NO<sub>2</sub>). MPOs and state DOTs must demonstrate conformity of transportation plans and certain projects before federal funding is awarded (5).

Air quality planning is the principal framework for national, state, and local efforts to protect air quality from certain man-made pollution sources. In Texas, the Texas Commission on Environmental Quality (TCEQ) administers air quality planning through the development of the State Implementation Plan. Transportation conformity is the process that links transportation planning and air quality planning (see Figure 6).



**Figure 6. Transportation Conformity.**

The Clean Air Act (CAA) requires transportation conformity. The goal of conformity is to ensure that FHWA and FTA funding and approvals are given to transportation projects that will not:

- Cause or contribute to any new violations of the National Ambient Air Quality Standards.
- Increase the frequency or severity of NAAQS violations.
- Delay timely attainment of the NAAQS or any required interim milestone.



The CAA requires that transportation and air quality planning should be integrated in areas that the Environmental Protection Agency (EPA) has designated as nonattainment or maintenance areas. These areas are those that fail or failed in the past to meet NAAQS for the criteria pollutants defined in the CAA.

A consultative group of reviewing agencies representing the EPA, FHWA, FTA, TCEQ, TxDOT, and MPOs located in nonattainment and maintenance areas carries out the transportation conformity process. Table 4 shows that the time frame for the Texas transportation conformity process, when not accelerated, is typically 12–18 months for the completion of technical work, review, revisions to address comments (if needed), and public involvement.

**Table 4. Texas Transportation Conformity Process.**

Step	Responsible Entities	Action	Time Frame
1	MPO	Prepares a pre-analysis plan to collectively reach a conformity determination and presents it to the consultative partners for review and consensus	1–2 months
2	MPO (or consultant), TPP Traffic Analysis staff	Runs the travel demand model, including all new projects; calculates emissions using latest EPA-approved emission factor model; input/ output data validated	6–12 months
3	MPO	Completes calculations, prepares narrative, and finalizes conformity documentation	2 months
4	MPO	Alerts reviewing agencies that public involvement is commencing; completes a public involvement process that includes one or more public meetings and a 30-day comment period; responds to public comments-incorporating any necessary changes into conformity documentation	1–2 months
5	MPO Policy Board	Adopts conformity determination and submits conformity documentation to reviewing agencies (30-day review)	< 1 month
6	FHWA, FTA, EPA, TCEQ, TxDOT (TPP Planning & Traffic Analysis staff, ENV Air Quality staff)	Review, submit questions or comments to MPO to be addressed	1 month
7	MPO	Considers, responds to comments (copying all consultative partners); MPO may schedule conference calls to expedite review/resolution of comments	1 month
8	MPO, FHWA, FTA, EPA, TCEQ, TxDOT (TPP Planning/ Traffic Analysis staff, ENV Air Quality staff)	Follow up with additional questions/responses until all issues are resolved	2 weeks
9	TPP Planning staff, TCEQ, EPA	Submit individual concurrence letters to FHWA.	1 week
10	FHWA, FTA	Issues a final joint conformity determination letter and notifies MPO and review partners.	1 week

A conformity determination is applicable to MTP/RTP (regional transportation plan), or TIP and is required:

- When an MPO MTP/RTP or TIP is amended to include new project(s), or changes to existing projects, of air quality significance that were not included in a previously conforming MTP/RTP and TIP.
- When a region's air quality goals change (typically under the NAAQS).
- When there are changes in the SIP related to an area's motor vehicle emissions budget.
- Every four years (as required under federal regulation).

**Project-Level Conformity.** To demonstrate project-level conformity, a project in a nonattainment or maintenance area must come from a conforming MTP and TIP. The project's design concept and scope cannot change significantly from the project outline in the MTP and TIP (5). The project-level conformity analysis must have used the latest planning assumptions and latest emissions model. In PM nonattainment or maintenance areas, there must be a demonstration of compliance with any control measures in the SIP. In CO and PM nonattainment and maintenance areas, additional analysis may be necessary to determine if a project has localized air quality impacts. This localized air analysis is referred to as a hot-spot analysis (10). The FHWA or FTA will determine the project-level conformity prior to a project approval and/or funding. All federally funded or approved highway and public transportation projects subject to general conformity requirements are required to also meet project-level conformity requirements. All transportation projects subject to conformity are required to meet the following project-level conformity requirements:

- Come from the currently conforming MTP and TIP.
- Have a design concept and scope that must not have changed significantly from that in the MTP and TIP.
- In PM nonattainment and maintenance areas, projects coming from currently conforming MTPs and TIPs must demonstrate compliance with any control measures in the SIP.

In addition to the routine project-level conformity required in the project development process, project-level conformity must be demonstrated again under following criteria:

- Significant change occurs in the early project development phase.
- More than three years have passed since the most recent major step to advance the project.
- Supplemental environmental document for air quality purposes has been initiated.

**Designations.** The EPA uses the term “designation” to describe the air quality status in an area for any of criteria pollutants according to the requirements of the CAA. This agency designates areas as “attainment” (meeting), “nonattainment” (not meeting), or “unclassifiable” (insufficient data) after monitoring data are collected by state, local, and tribal governments (11).

An area is declared as being in nonattainment when the readings at one or more monitoring sites show the area has persistently exceeded the current NAAQS levels for one or more pollutants. A demonstration of transportation conformity is required for federal supported transportation projects in areas that the EPA has designated as not meeting a NAAQS. Maintenance areas have previously violated air quality standards, but currently meet such standards and have an approved CAA maintenance plan.

After an area has been declared a nonattainment area for one or more pollutants, several actions must occur. Section 176(c) of the CAA requires a demonstration of “transportation conformity.” That is, the nonattainment area MPO(s) must demonstrate, through regional emissions analysis, that the estimated on-road motor vehicle emissions of projects included in the MTP from which the three-year TIP is drawn will be less than the allowable estimated on-road motor vehicle emissions listed in the SIP. If an area cannot show that the planned projects in the MTP (and TIP) will allow the area to meet or be less than the emissions levels that the SIP required, then the MPO must modify its TIP and MTP by removing projects or adding other controls and programs until the SIP emissions requirements are met. Failure to comply with this requirement can result in the freezing of all federal funds (both FHWA and FTA) and possibly more severe restrictions (4).

**Specific Planning Requirements for Nonattainment Areas.** Areas classified as nonattainment and maintenance have specific requirements in addition to the attainment-area MTP development process. First is the requirement to perform a conformity determination in accordance with the EPA conformity regulations in 40 CFR §51. Section 8 of this regulation

discusses air quality and conformity. As part of this conformity determination, the MTP shall include design concept and scope descriptions of all existing and proposed transportation facilities in sufficient detail, regardless of the funding source, to permit the conformity determinations required (4).

For Transportation Management Areas (TMAs) that are nonattainment areas for CO and ozone, the MTP shall include the identification of single-occupancy vehicle projects that result from a congestion management system meeting federal requirements. Additionally, these areas must provide an opportunity for at least one formal public meeting annually to review planning assumptions and the MTP development process with interested parties and the general public.

Each metropolitan area must review and update their MTP on a regular basis. The purpose is to confirm the MTP's validity and consistency with current and forecast transportation and land-use conditions and trends, and to extend the forecast period. For attainment areas, the cycle for reviewing and updating the MTP is every five years. The nonattainment areas must review and update the MTP every four years (4).

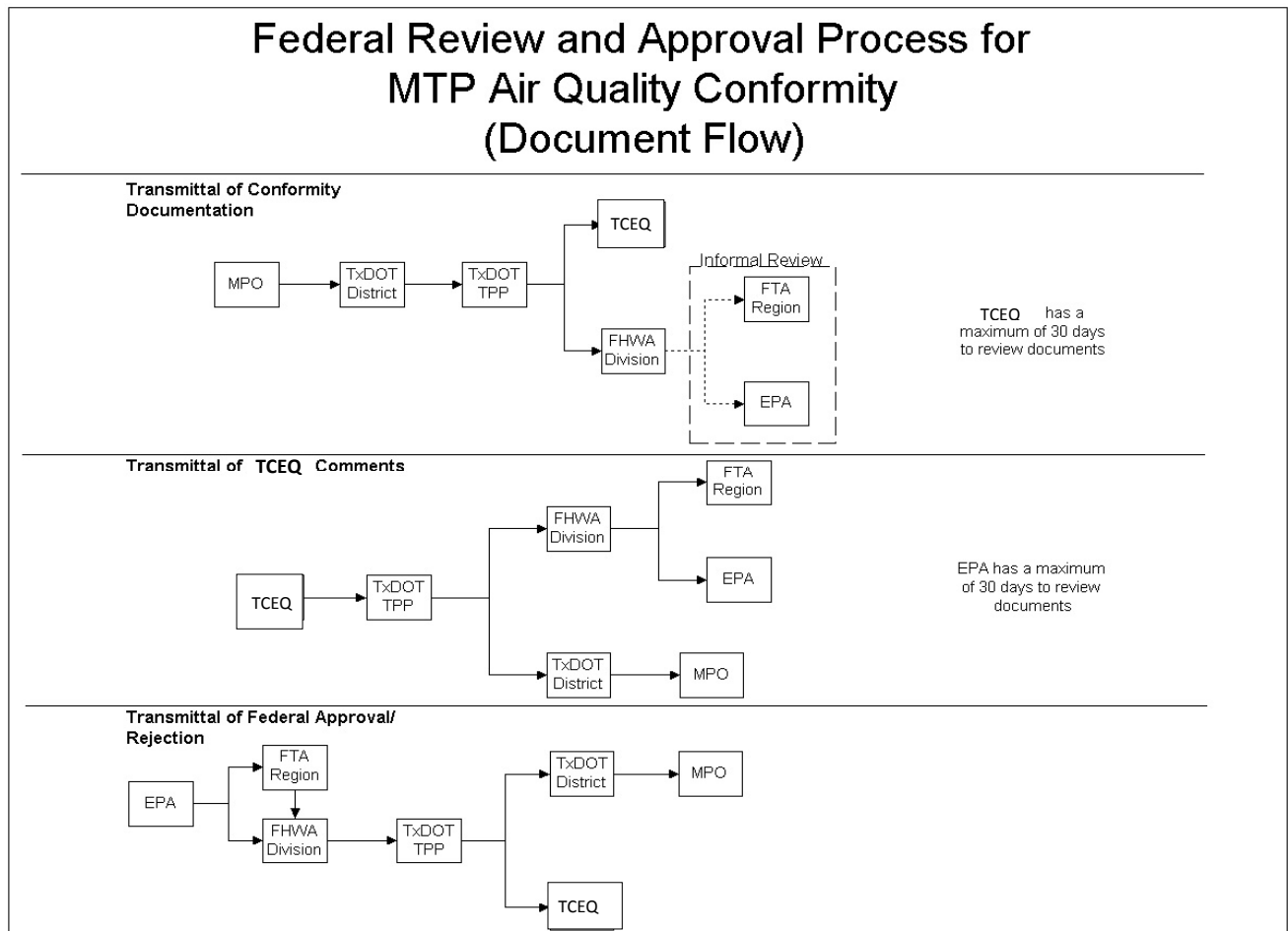
#### *Conformity Demonstration*

The MPO must demonstrate "transportation conformity" on its MTP and TIP every four years. Any revision to the TIP or MTP requires the MPO to resubmit transportation conformity documentation to the EPA for review and approval. Several other conditions require the MPO to demonstrate transportation conformity. Conformity must be demonstrated (4):

- Within 18 months of a state's initial submission of a control strategy SIP or a maintenance plan that contains a Motor Vehicle Emissions Budget (MVEB).
- Within 18 months of EPA approval of a control strategy SIP revision or maintenance plan that establishes or revises an MVEB or adds, deletes, or changes Transportation Control Measures (TCMs).
- Within 18 months of EPA promulgation of an implementation plan that establishes an MVEB or adds, deletes, or changes TCMs.

Transportation conformity is demonstrated for an area by using two computer models: a travel demand model (TDM), and an emissions estimation model. The TDM is a computer model for the nonattainment area that uses forecast demographics and job information to estimate future vehicle miles traveled (VMT) over the proposed roadway network that included the project

improvements in the MTP and TIP. The information from the TDM is used as input information to the emissions model. The emissions model currently used for estimating emissions is Motor Vehicle Emission Simulator (MOVES), which the EPA had developed and released. The MOVES model is currently the standard model required for all the conformity demonstration for all states except California. The total emissions that the emissions model predicted for each required year must not exceed the limits established in the SIP. Figure 7 shows the federal review and process for MTP air quality conformity.



Source: *Transportation Planning Manual, Texas Department of Transportation (4).*

**Figure 7. Federal Review and Approval Process for MTP Air Quality Conformity.**

## **Failure of Transportation Conformity**

If a regional conformity determination is not made on the MTP/regional transportation plan or TIP during the required schedule, the area has a one-year grace period to make the determination before there is a conformity lapse. During this one-year grace period, only the following types of projects can proceed:

- Exempt projects.
- Transportation control measures in approved SIP.
- Projects approved by FHWA/FTA before lapse.

### *Travel Demand and Emissions Modeling Process*

TDM and emissions modeling are two key components of the conformity process. A TDM is a tool used to support the transportation planning process by:

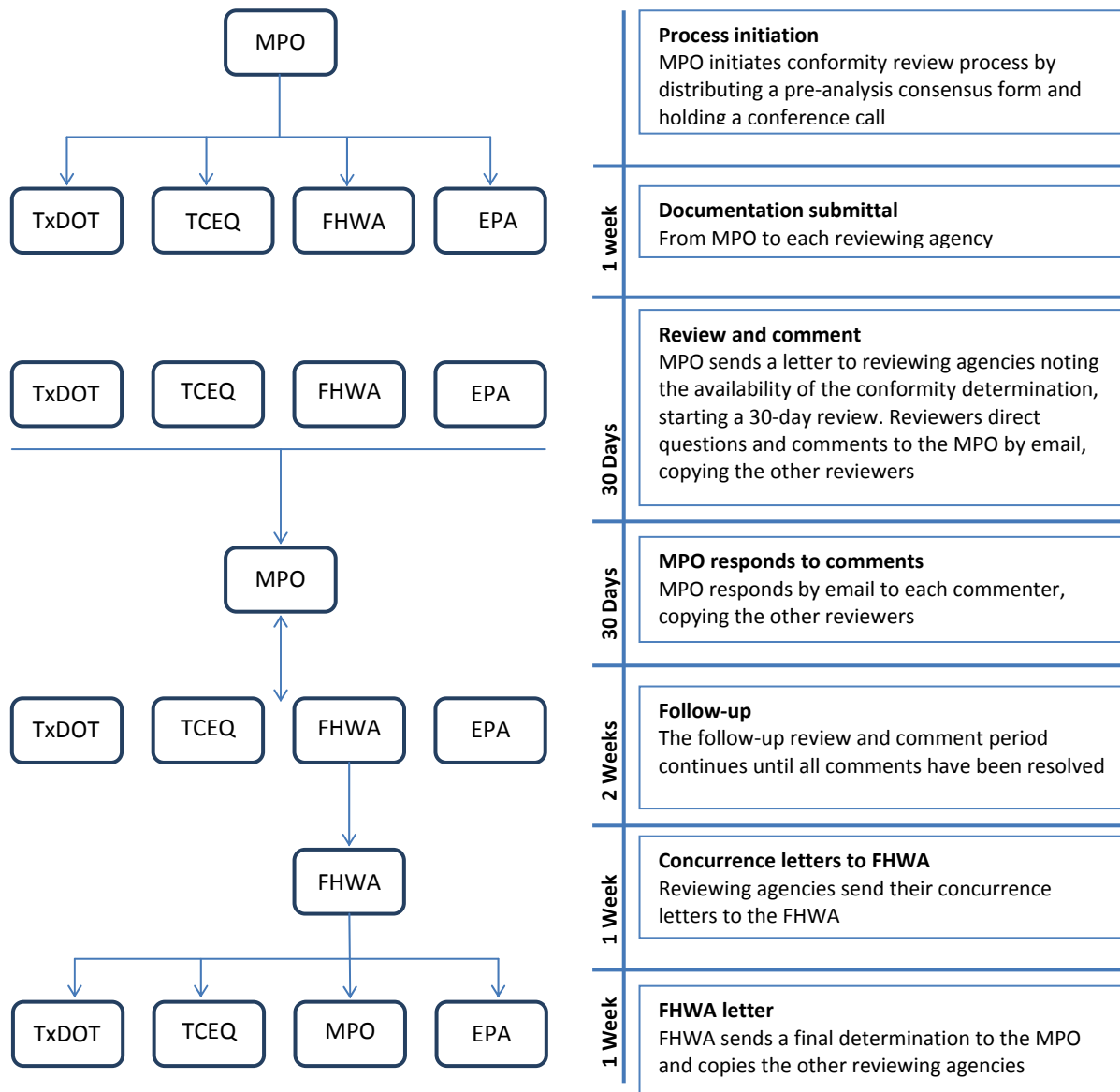
- Developing traffic forecasts.
- Testing alternative transportation scenarios.
- Evaluating transportation systems.

The TDM can also help determine compliance with air quality conformity standards. TDMs are commonly used to predict the demand for transportation services, such as roads, and to assist in the development of alternative plans. These models use a link-node network tied to geographic coordinates to characterize travel patterns in the urban area. Associated with this network are data attributes such as number of lanes, roadway type, volume, speed, and capacity. These activity data can be used with the factors from the emissions model to create detailed, spatially distributed emissions rates at the local level (12).

Emissions modeling is a CAA requirement for regions in nonattainment for certain human-health impacting compounds, such as ozone and fine PM. Running and non-running mobile source emissions inventories are developed with the help of a TDM. VMT estimates from a TDM are combined with emissions factors from an air quality model to calculate the total transportation sector contribution of pollutants into the atmosphere. The project-level conformity also requires an assessment (hot-spot analysis) of localized emissions impacts for certain projects.

An emissions factor is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. Emissions factors have long been the fundamental tool in developing national, regional, state,

and local emissions inventories for air quality management decisions and in developing emissions control strategies. More recently, emissions factors have been applied in determining site-specific applicability and emissions limitations in operating permits by federal, state, local, tribal agencies, consultants, and industry (13). Figure 8 shows the timeline of the Texas conformity review process.



Source: Texas Technical Working Group for Mobile Source Emissions website (14).

**Figure 8. Texas Conformity Review Process.**

## **PROJECT CONSISTENCY**

Project consistency refers to the federal and state requirements that transportation projects must be described consistently in all applicable plans, programs, conformity documentation, and environmental documents with regard to the following elements:

- Design concept, including project limits, location, type of facility, and scheduled letting date.
- Design scope, including specific information such as number of lanes, length, signalization, etc.
- Project cost.

For the purposes of this project, maintaining project consistency will be in the context of the MTP, UTP, TIP, and STIP, and will not include the SLRTP, based on the current practices of TxDOT and MPOs. For the purposes of this project, it is assumed that a project must be consistent with the SLRTP before it is adopted in the STIP.

### **Project Consistency Regulations**

Federal and state transportation planning statutes and regulations (23 CFR 450 and 43 TAC 16, respectively) require transportation projects to be consistent with transportation plans and programs. This way, the FHWA (under NEPA regulations) can sign a Record of Decision, Finding of No Significant Impact, or approve a Categorical Exclusion for a project delegated to TxDOT/ENV under MAP-21 effective February 12, 2014. Figure 9 summarizes the requirements of federal regulations with regard to the plans and programs that are subject to maintaining project consistency. Each project or project phase included in the TIP, in metropolitan planning areas, must be consistent with an approved MPO transportation plan.



**MTP**

- Projects described in ROD, FONSI, or CE shall be consistent with the MTP.
- All project phases planned within the life of the transportation plan have to be included in the fiscally constrained MTP for FHWA approval.

**TIP & STIP**

- Must be fiscally constrained and must include a financial summary that is fiscally constrained to funding forecasts of TxDOT's Finance Division.
- Inclusion of projects only if consistent with state and local long-range plans.
- The timing of subsequent phases should be consistent with the MTP and

*Source: Adapted from 23 CFR 450 (15) and Texas Administrative Code 43 TAC 16 (16)*

### **Figure 9. Federal and State Project Consistency Requirements.**

#### **Projects that Are Subject to Project Consistency**

All non-exempt transportation projects funded, developed, or that require TxDOT and/or FHWA/FTA action must be consistent with appropriate planning documents (i.e., MTP, TIP, and STIP). Project consistency and project-level conformity requirements are usually determined during the federal environmental review process.

All non-exempt transportation projects listed individually in a TIP and STIP must be consistent with an MTP (where applicable), and the UTP for the purposes of fiscal constraint.

Some types of projects may be excluded from an MPO TIP and the STIP by agreement between TxDOT and the MPO in accordance with requirements established in Title 43, Texas Administrative Code (TAC) 16.101(d). Those projects include:

- Safety projects funded under 23 USC 402 (highway safety programs and emergency relief projects, except those involving substantial functional, location, and capacity changes).
- Planning and research activities, except those activities funded with National Highway System or Surface Transportation Program funds other than those used for major investment studies.

- Projects under 23 USC 104(b)(1), (b)(4), and 144 that are for resurfacing, restoration, rehabilitation, reconstruction, or highway safety improvement, and which will not alter the functional traffic capacity or capability of the facility being improved.

The types of projects listed above are less likely to encounter delays due to project inconsistency because they are less likely to be included in an MTP/regional transportation plan, UTP, TIP, or the STIP. However, the following are notable exceptions:

- An MPO may opt to include individual projects that would be “exempt” by federal definition under the agreement. If a project is listed individually for whatever reason, it will be treated as a non-exempt project during federal review.
- Projects, even those that could be exempted by definition, and considered of regional significance, must be listed individually.
- Project and project phases that will have an impact on air quality in nonattainment areas.

While project consistency is required for projects from all areas, it is particularly important for areas that are subject to transportation conformity, i.e., those designated as nonattainment or maintenance for ozone, CO, NO<sub>2</sub>, or PM.

### **Consistency and Federal Action**

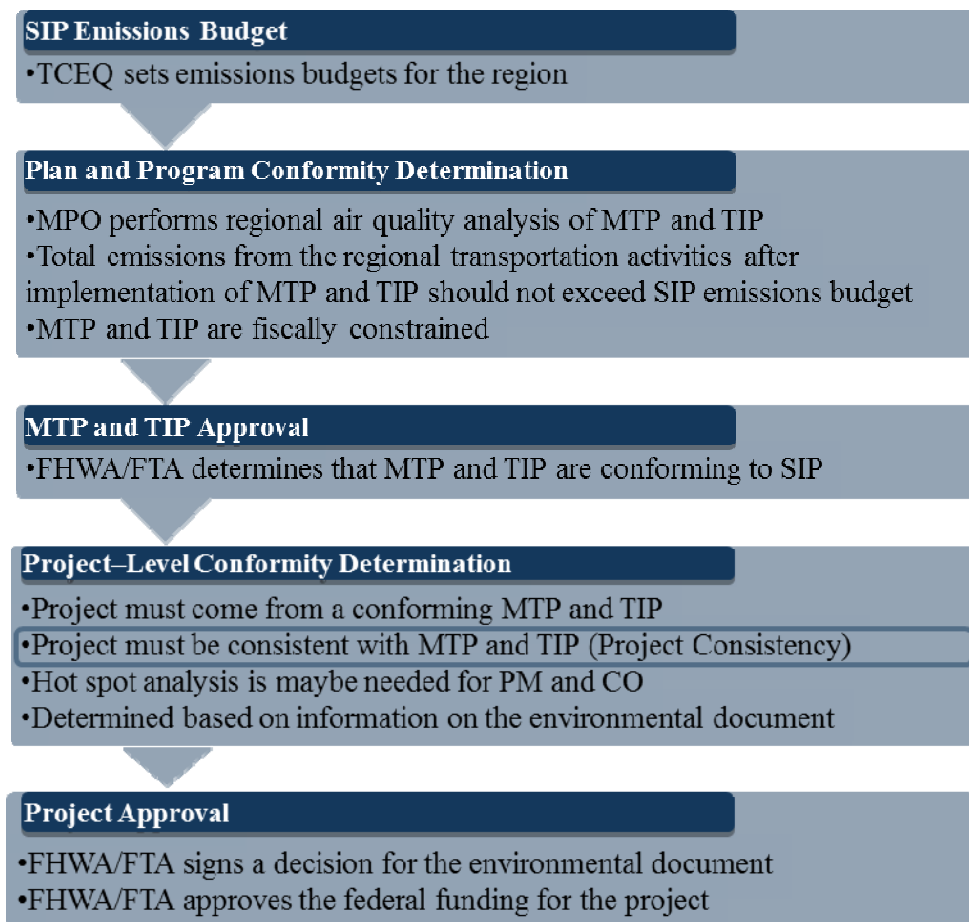
A project funded with federal dollars that is, by definition, required to be listed in a fiscally constrained and conforming MTP/regional transportation plan and TIP, must be consistently described in those documents in order to receive federal action. There is no federal requirement stipulating consistency of plans and programs with the UTP. However, projects listed in an MTP/regional transportation plan and TIP must be consistent with the UTP because TxDOT demonstrates the fiscal constraint of the STIP, and all included TIPs, via the UTP. This document focuses specifically on project consistency to facilitate the following federal actions:

- Approval of the STIP.
- Conformity determinations (approval of modeled network consistent with a fiscally constrained MTP/regional transportation plan and TIP in a nonattainment or maintenance area).

- Approval of an Environmental Assessment (EA), Environmental Impact Statement (EIS) or Categorical Exclusions (CE).
- Approval of a Federal Project Agreement Authorization (FPAA) (required for the reimbursement of project costs with federal funds).

### Project Consistency and Transportation Conformity

Project consistency is one of the key criteria for project-level conformity determination and an important factor for the regional transportation conformity for MTP and TIP. Figure 10 shows an overview of the major elements of the transportation conformity process.



**Figure 10. Overview of Transportation Conformity Process.**

Federal project-level conformity requirements state that projects need to be from and consistent with a currently conforming MTP and TIP. A failure of project conformity as a result

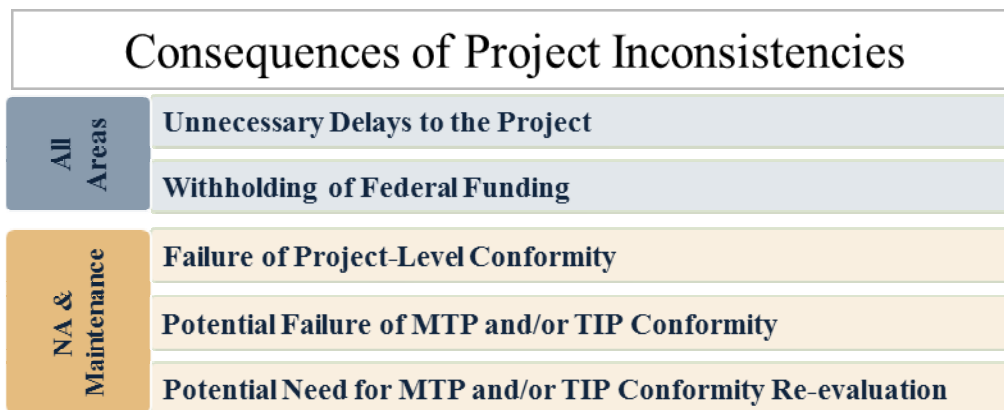
of project inconsistency can potentially result in failure of regional transportation conformity and a need for a conformity re-determination.

### Consequences of Project Inconsistency

In general, if a project does not meet the federal project consistency requirements, the FHWA will not take action on the project. When federal action cannot be taken due to project inconsistency, delays occur, and those delays put TxDOT at financial risk. More importantly, without these federal actions, TxDOT cannot be reimbursed with federal funds for eligible project costs. Figure 11 summarizes the potential consequences of a project inconsistency

This issue is especially critical for projects in nonattainment and maintenance areas since an inconsistency-induced failure of project-level conformity can affect the region’s transportation conformity determination. According to the federal project-level conformity requirements, a project is no longer in conformity if its design concept and scope:

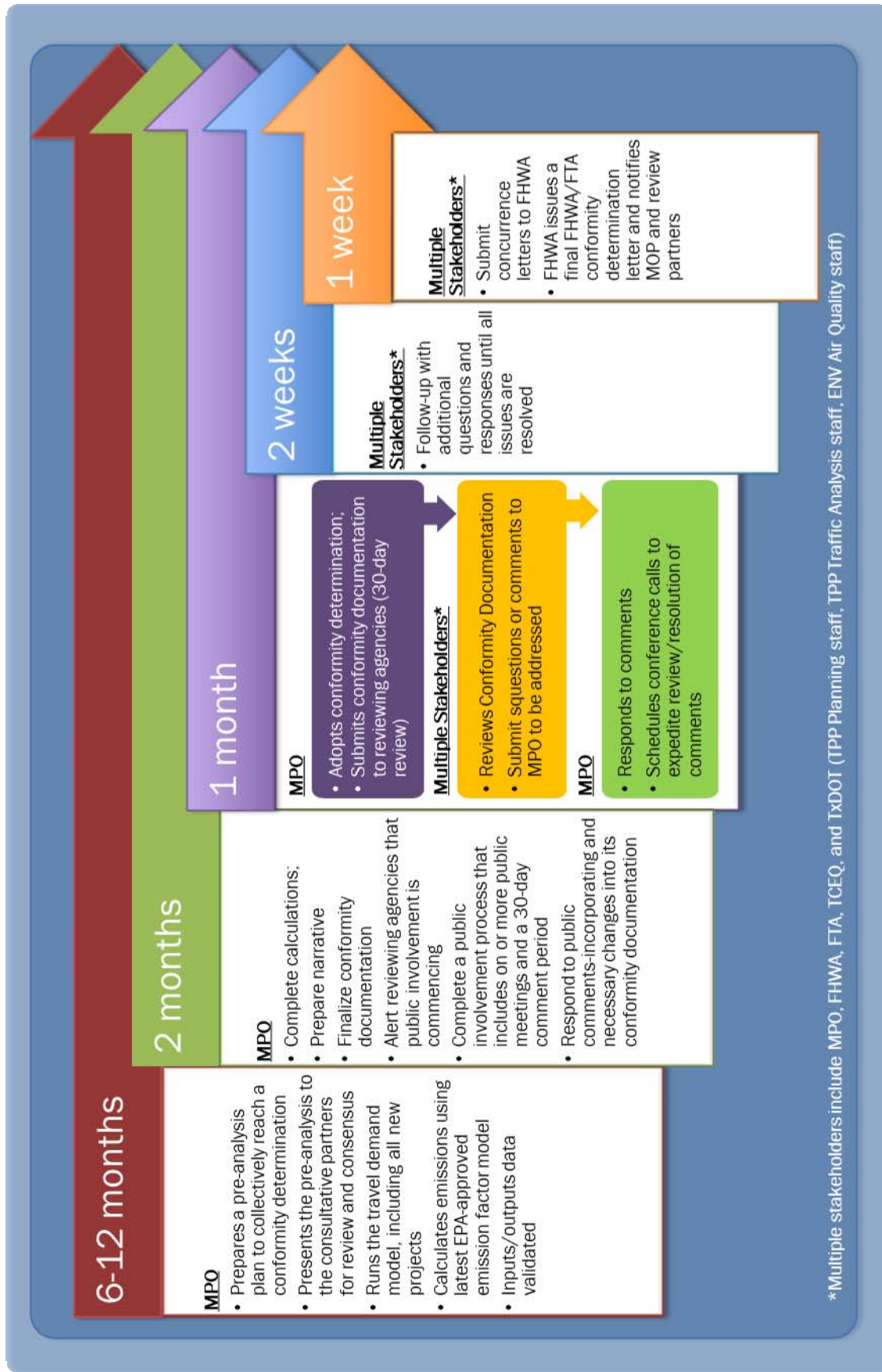
- Has changed from what was originally included in the regional emissions analysis.
- Was not adequate to determine the contribution of a project to regional emissions in the MTP and TIP.



**Figure 11. Consequences of Project Inconsistency.**

In addition to unnecessary delays for the project and withholding of federal funding, a failure of project conformity can potentially result in failure of regional air quality conformity and a need for a conformity reevaluation. A regional conformity reevaluation can cause an excessive delay for the project. In some cases, the FHWA/FTA can authorize only limited types of projects until the conformity redetermination for MTP and/or TIP is complete.

To demonstrate the type of delays a project inconsistency can cause, Figure 12 provides an overview of the expected time required for major steps of the conformity reevaluation process.



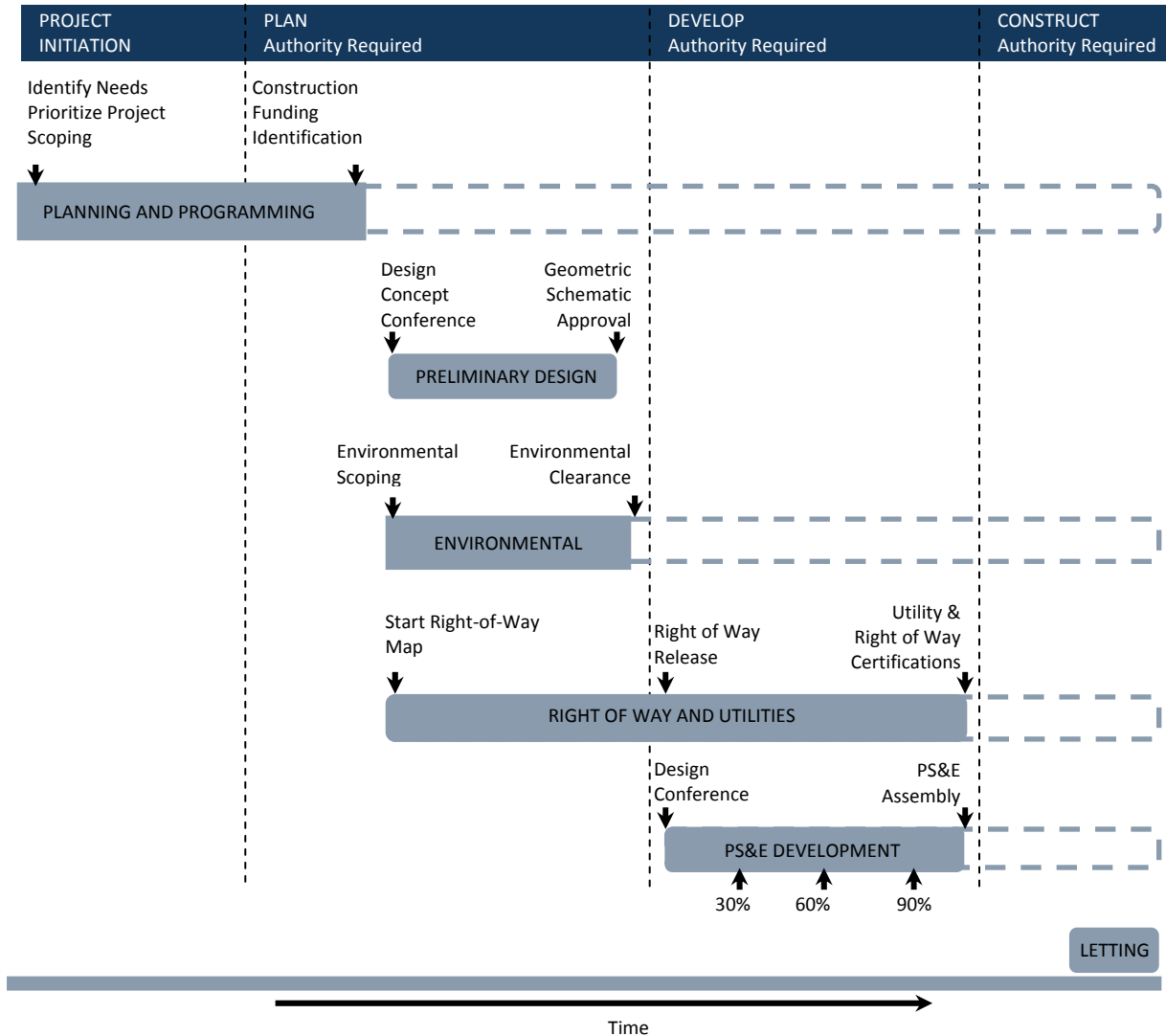
**Figure 12. Estimated Time for Texas Transportation Conformity Process.**

## **CHAPTER 3: STATE-OF-THE-PRACTICE**

This chapter outlines the federal regulations relevant to maintaining project consistency and provides an overview of the project development process for Texas transportation projects. The chapter details specific information of how the TXDOT projects are developed and the timeframe for major phases of the project. The research team also reviewed the environmental process and relevant TxDOT manuals such as the environmental, project development, and transportation manuals to gain an understanding of the project development process. Finally, the research team interviewed other state DOTs to gain an understanding of how they maintain project consistency and what resources they use. A review of the state DOT resource material gathered from the interviews is provided in this chapter.

### **TXDOT PROJECT DEVELOPMENT PROCESS/STRUCTURE**

Generally, a project life cycle shows the distinct phases that a project undergoes as it progresses. Organizations can divide projects into phases to provide better management control. Collectively, these phases are known as the project life cycle. TxDOT identifies four general stages in the project life cycle: project initiation, planning, development, and construction. TxDOT Districts, in conjunction with MPOs, manage the project through these four stages. Figure 13 shows a simplified overview of the TxDOT project development process and where key TxDOT divisions are involved.



Source: Adapted from TxDOT Project Development Process Flowchart (13).

**Figure 13. Overview of TxDOT Project Development Process.**

Project development can take between three and 20 years to complete, based on factors such as the scope of the project, environmental impacts, and the time necessary to acquire the needed ROW. However, six to 10 years is considered typical. Project development is initiated when a project advances from a planning document into the UTP. The process occurs in the following phases:

- 1) Planning (project-specific planning activities).
- 2) Design.
- 3) Environmental.

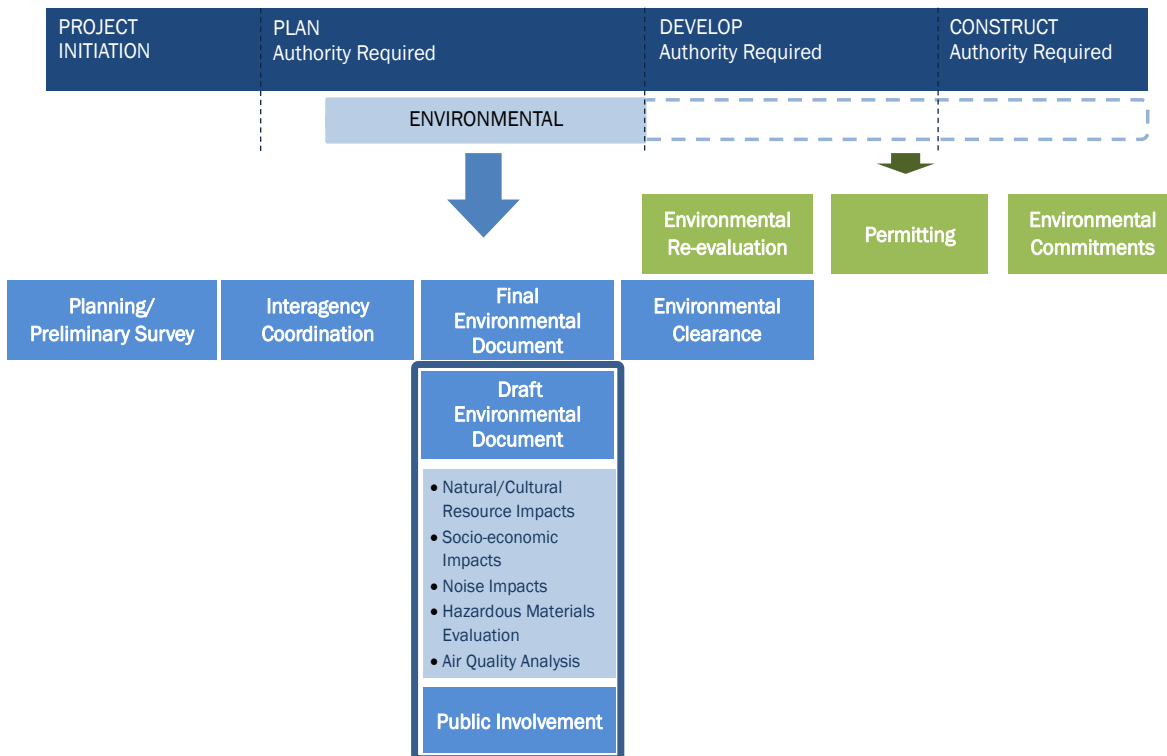


- 4) ROW acquisition.
- 5) Plans, Specifications, and Estimates.
- 6) Letting.

## TXDOT'S ENVIRONMENTAL PROCESS

Congress developed and approved the National Environment Policy Act in 1969 as legislation to protect the environment. Under NEPA, federal agencies are required to consider NEPA environmental issues before making any major decisions on federally funded projects. Federally funded transportation projects are therefore subject to the provisions of NEPA.

TxDOT's environmental review process involves a number of activities to ensure that proposed projects meet all relevant environmental laws, regulations (including NEPA provisions), and policies. Numerous federal laws and regulations govern the environmental process. Figure 14 illustrates where the environmental process falls within TxDOT's project development process and the typical activities that comprise the environmental process.



**Figure 14. Environmental Process Activities.**

The environmental review process follows when projects advance from long-range plans into the UTP and the project develop phase of planning. Transportation project effects can vary from very minor to significant impacts on the natural and human environments. To account for the variability of project impacts, three basic “classes of action” are allowed and determine how compliance with NEPA and/or state regulatory requirements is carried out and documented.

These classes of actions are as follows:

- **Environmental Impact Statement** – An EIS is prepared for projects where it is known that the action will have a significant effect on the environment.
- **Environmental Assessment** – An EA is prepared for actions in which the significance of the environmental impact is not clearly established. Should environmental analysis and interagency review during the EA process find a project to have no significant impact on the quality of the environment, a Finding of No Significant Impact is issued.
- **Categorical Exclusions** – CEs are issued for actions that do not individually or cumulatively have a significant effect on the environment.

Preparing the environmental document often requires gathering data from ground surveys, as well as federal, state, and local agency databases. Mitigation measures must be detailed and the required permits disclosed in the environmental document as applicable. A final environmental document is developed based on the feedback received from resource agencies and the public.

Obtaining the environmental clearance is a critical requirement to proceed with the design phase. It involves obtaining approval of the environmental document. Review and approval of the environmental document is the responsibility of a designated state agency (for non-federal aid projects) or the FHWA (for federal aid projects). An environmental reevaluation is sometimes required after the approval of the environmental document. Situations that could warrant an environmental reevaluation include:

- Changes in design, scope, land use, or ROW requirements.
- New environmental impacts or changes to environmental impacts since the approval of the environmental document.
- Regulatory changes.
- After five years of no activity (e.g., no design work or ROW acquisition).

This section briefly describes each of these activities.

### **Planning/Preliminary Survey**

This activity involves initial data collection and determining potential environmental impacts, initial assessment of the project site, and evaluation of design alternatives.

### **Interagency Coordination**

This activity involves contacting local offices of resource agencies to discuss resource issues in connection with the proposed project.

### **Environmental Documentation**

Planned projects are classified according to their potential to have a significant impact. Depending on the impact, one of the following environmental review documents will be required:

- **Categorical exclusion** – A CE applies to projects that, based on previous experience, do not have significant environmental impacts.<sup>2</sup>
- **Environmental assessment** – An EA applies to projects for which the significance of the environmental impacts is unclear. The outcome of the EA is either a Finding of No Significant Impact or the need to prepare an Environmental Impact Statement.
- **Environmental Impact Statement** – An EIS applies to projects that are believed will have significant social, economic, and/or environmental impacts.

Preparing the environmental document often requires gathering data from ground surveys, as well as federal, state, and local agency databases. Mitigation measures must be detailed and the required permits disclosed in the environmental document as applicable. A final environmental document is developed based on the feedback received from resource agencies and the public (see next section).

### **Public Involvement**

This activity involves actively engaging the public and transportation stakeholders to solicit input into the development of plans and programs as well as their involvement in the

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<sup>2</sup> Whether an impact is significant is dependent on the broader community perspective, the context, and intensity of the impact (i.e., whether the impact can be mitigated or not).

determination of the location and funding of transportation facilities and services. Public involvement activities vary, depending on the type and complexity of the project as well as the social, economic, and environmental factors that may impact the proposed project.

### **Environmental Clearance**

This activity involves obtaining approval of the environmental document, which is a critical requirement to proceed with the design phase. Review and approval of the environmental document is the responsibility of a designated state agency (for non-federal aid projects) or FHWA (for federal aid projects).

### **Environmental Reevaluation**

Environmental reevaluation is sometimes required after the approval of the environmental document. Situations that could warrant an environmental reevaluation include:

- Changes in design, scope, land use, or ROW requirements.
- New environmental impacts or changes to environmental impacts since the approval of the environmental document; regulatory changes.
- After five years of no activity (e.g., no design work or right-of-way acquisition).

### **Permitting**

A number of permits may need to be obtained, given the location and scope of the project. All permits need to be obtained before the TxDOT Environmental Division will grant letter of authority approval.

### **Environmental Commitments after Clearance**

This activity involves conducting activities needed to comply with environmental commitments. It usually starts during design and can continue through construction and even after construction during maintenance and operation of the facility.

## KEY STAKEHOLDERS

An MPO and the state department of transportation are the major partners in the transportation planning process. Transportation planning is a cooperative process because no single agency is responsible for the entire transportation system. In metropolitan areas, the MPO is responsible for actively seeking the participation of all relevant agencies including transit agencies and stakeholders in the planning process, whereas the state DOT is responsible for activities outside metropolitan areas. In addition to the transportation planning process, the MPO and state DOT also work together on individual transportation projects. Table 5 shows the primary functions of state DOTs and MPOs in the planning context.

**Table 5. Main Functions and Roles of State DOTs and Local MPOs (1).**

Main Functions	
State DOTs	<ul style="list-style-type: none"> <li>▪ Develop and maintain a SLRTP</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Based on the LRTP, DOTs develop a STIP (a statewide program of transportation projects and services) to achieve the state’s multimodal transportation goals, using spending, regulating, operating, management, and financial tools that serve as intermediate plans</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Provide opportunities for the public to be involved in the development of plans and programs as well as the location and funding of transportation facilities and services</li> </ul>
Local MPOs/Regional Council of Governments	<ul style="list-style-type: none"> <li>▪ Establish a setting for regional decision making</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Identify and evaluate transportation improvement alternatives</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Develop and maintain a MTP</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Develop a local or regional TIP to achieve local and regional multimodal transportation goals</li> </ul>

TxDOT and MPOs are the major partners responsible for keeping projects consistent with planning documents. TxDOT District project managers and the director of Transportation Planning and Development (TP&D) play a central role in maintaining project consistency.

It is highly important for Districts and MPOs to identify the staff responsible for key consistency-related steps/activities during the project development process, both inside their own agency and their partner agency. Responsibilities should be clearly explained and assigned to staff, and an effort should be made to ensure that they know the responsible party for the other activities. How to assign responsibility to stakeholders is discussed in the following chapter.

## **TXDOT RESOURCES**

The literature synthesis and project cycle overview of this project were assembled based on preliminary interviews with TxDOT staff, a review of current practices, findings from published and internet sources, and other information sources, including those available through:

- Texas A&M Transportation Institute (TTI)/Texas A&M University System libraries.
- Transportation Research Board's Transportation Research Information Services (TRID) database.
- EPA's and state DOT websites.
- General website searches to obtain the information to complete the project.

The research team identified three TxDOT manuals and a Standards of Uniformity (SOU) guide that directly relates to the project development process to maintain project consistency. These manuals clarify the corresponding regulations in each phase and provide streamlined guidance to ensure that the project development process complies with both federal and state transportation planning requirements and regulations. A list of the manuals and the SOU reviewed in this task are included in the following section.

### **Environmental Manual**

This manual provides technical information for the ENV Division of TxDOT. Specifically, it outlines the policies and practices relating to environmental analysis and the transportation project development process. The manual also provides information on guiding projects through the environmental clearance process of NEPA. It outlines the roles and responsibilities for Districts and ENV.

### **Transportation Planning Manual**

This manual provides guidance on the Texas planning process for rural and metropolitan areas and the statewide transportation plan. The manual outlines the federal and state requirements and regulations.

### **Project Development Process Manual**

The manual provides technical guidance for the project development process and how stakeholders can properly move a project through the process to meet all state and federal regulations. Intended for TxDOT personnel, this manual describes each development process

from the project initiation to letting. It defines the task for each process, provides a reminder list of tasks needed, improves communication and understanding of the process, and outlines responsibilities through the process.

### **Standards of Uniformity for Projects without Federal Highway Administration Involvement**

TxDOT's ENV Division has developed the guide to projects without FHWA involvement in proposed projects, called *Standards of Uniformity for Projects without Federal Highway Administration Involvement*. The SOU is designed to ensure that all NFPPs using it during the development process will comply with air quality-related requirements. Specifically, if an NFPP is developed in accordance with this SOU, the project should conform to all applicable laws, regulations, implementation plans, or other federal and state air quality requirements pursuant to the federal and Texas CAAs. Any exceptions that affect the use of this SOU should be coordinated through the ENV's Air Quality staff. In this research project, sections of the SOU that correlate to the project development process have been reviewed. These include the following items:

- **Air Quality** – This section includes the overall procedure for defining an NFPP project. In detail, it provides the description for item sufficiency and basic criteria on planning documents and the project development process. Regulations on areas with different types of pollutants are also listed for both the federal and state level.
- **ROW** – This section lists the documents required for early ROW acquisitions, explaining the purpose of each type of document. It is a comprehensive checklist for each project during the early acquisition phase. It also lists the needed level of support for the project required from local governments.
- **Transportation Planning Consistency and Fiscal Constraint** – This section provides procedures on how to check the consistency of the environmental document, the STIP and the MTP. A detailed flowchart is presented to guide the actions toward regionally-significant projects and early project scoping. Consistency language is also identified in the guide.

## PRACTICES BY TXDOT DISTRICTS AND TEXAS MPOS

Besides the standardized the guides listed in the previous section, TxDOT also identified the four general stages in the project life cycle, namely:

- **Phase 1: Project Initiation.**
  - Transportation needs are identified and a prioritized list of future projects is developed.
  - Projects on the prioritized list are selected and placed in the STIP.
  - The scoping process occurs, which develops a range of alternatives, and identifies significant impacts and issues that will be addressed. This process includes preliminary NEPA documents.
- **Phase 2: Planning.**
  - The major developments during this phase include:
    - Project structuring.
    - Feasibility analysis.
    - Alternative project selections.
    - Mapping environmental documentation.
    - Public and agency coordination.
    - Preliminary site surveying.
  - At the end of this phase, the environmental clearance should be finalized and ROW should have begun preliminary data collection.
- **Phase 3: Development.**

The phase includes the approval of the project design and the ROW acquisition.
- **Phase 4: Construction.**

The phase includes the development of the plan, specification, and estimates of the project and the final processing letting component.

TxDOT divisions, in conjunction with MPOs and Districts, manage the project through these four stages.

Various TxDOT divisions are responsible for guiding a project through the development process and ensuring that the project remains consistent. The following section describes what TxDOT refers to as distinct *chapters* of the project development process and the divisions' roles in furthering project development.



## **PRACTICES BY OTHER STATE DOTs**

Except for the review of TxDOT existing resources and practices, some other states' successful practice and examples were reviewed as well and are illustrated in the following section.

Majority of DOTs have developed their own process for project development. The research team reviewed the project development process of three other DOTs—California, Florida, and Ohio. These states all have nonattainment areas, which are comparable to TxDOT. The California Department of Transportation (Caltrans) and the Florida Department of Transportation (FDOT) have similar organization structures as TxDOT, while the Ohio Department of Transportation (ODOT) established a comprehensive planning and programming database online, which all stakeholders can share. All state DOTs have developed their own project development process and manual identifying their specific problems and concerns during the project development process. They have also developed corresponding strategies to manage those problems. The research team tried to identify how these agencies address project consistency problems.

### **California Department of Transportation**

Caltrans shares the similar management system as TxDOT. However, Caltrans has a specific division, Division of Design (DOD), which provides the procedures, policy, standards, guidance, technical assistance, and training needed to facilitate California transportation improvements and system integrity. DOD is responsible for the development and consistent application of Caltrans' policies during the project development process (17).

DOD's responsibility covers all projects on state highways, regardless of funding, and projects involving state or federal programs on local facilities. This Division which comprises 11 offices, provides guidelines and procedural directives for conducting the project development process. It also gives recommendations to ensure project consistency in each phase. The Design Program develops design solutions by:

- Seeking out and synthesizing information and customer feedback.
- Adopting best practices and design information to promote safety, statewide consistency, efficiency, and quality.

- Assisting customers in the application of design information and practices to facilitate the resolution of project development issues.

In order to maintain the project consistency, Caltrans also develop the particular communication plan and method to reinforce the timely update of any change throughout the project development process, which are shown in Appendix C and Appendix D.

### **Florida Department of Transportation**

Florida's DOT, unlike California, does not have a specific division to provide guidance on the project development process, but FDOT established the Efficient Transportation Decision-Making process (ETDM) in 2004, to achieve considerable reductions in delays, late project changes, and challenges associated with project development (see Appendix E). The ETDM process creates linkages between land use, transportation, and environmental resource planning initiatives through early, interactive agency involvement. These linkages reduce the time and effort, and in turn, the cost, to make transportation decisions.

Efficiency is gained through the planning and programming screen, which enables resource agencies to agree to issue permits at a much earlier stage in the planning process. The first screen is at the long-range transportation plan, and the second is prior to the development of FDOT's Work Program, which is a five-year listing of all transportation projects planned for each fiscal year. Environmental Technical Advisory Teams (ETATs) are involved in each of FDOT's seven geographic Districts that consist of FDOT District staff, MPO staff, and resource agency planning and permitting staff who coordinate and consult using the two screening events. The main accomplishments and benefits of following the ETDM include (18):

- Early identification of avoidance/minimization options.
- Socioeconomic effects balanced with the natural environment.
- Disputed projects/issues identified early-on and addressed before programming.
- Attention focused on key technical issues, not on proving the negative.

- Agencies and affected communities have ready access to quality data.
- Summary reports provide feedback and facilitate continuous improvement.

Appendix F includes the project forms that FDOT used to track the environmental documents.

### **Ohio Department of Transportation**

ODOT has recently developed a new project development process website that serves as a powerful information portal for all things related to the project development process. Using the available information on ODOT's website, the research team could not determine how ODOT organizes its project development process within the agency.

To enhance the projects' fluidity and flexibility, ODOT:

- Developed the training portal tailored to their own cases.
- Designed a toolkit to guide decision makers through the new process.
- Eventually provided five paths for project development to identify the likelihood of needed tasks for a certain project path (see Table 6).

Additionally, each project will be evaluated to determine if a task is appropriate. The main goals of ODOT are to:

- Minimize project processing time.
- Reduce costs.
- Balance risks (19).

**Table 6. ODOT Project Development Process Paths.**

Path 1	Projects are defined as “simple” transportation improvements generated by traditional maintenance and preventive maintenance. They involve minor structure and roadway work with no ROW/utility impacts.
Path 2	Projects are considered simple projects; however, these jobs can involve ROW/utility impacts limited to strip takes.
Path 3	Projects involve a higher level of complexity than projects in Path 1 or 2 such as: <ul style="list-style-type: none"> <li>• Moderate roadway and structure work.</li> <li>• Intersection and minor interchange upgrades.</li> <li>• Minor realignments.</li> <li>• Reconstruction.</li> <li>• Median widening, etc.</li> </ul> They can involve utility and ROW impacts, including relocations.
Path 4	Projects involve complex roadway and structure work that may add capacity such as: <ul style="list-style-type: none"> <li>• Highway widening.</li> <li>• New alignments in suburban or rural settings.</li> <li>• Reconstruction.</li> <li>• Access management.</li> <li>• Complex bridge replacement.</li> <li>• Multiple intersection/interchange alternatives.</li> </ul> They may have high utility and/or ROW relocations/impacts.
Path 5	Projects have the highest complexity and involve projects such as: <ul style="list-style-type: none"> <li>• New capacity-adding alignments in complex urban centers.</li> <li>• Major highway widening.</li> <li>• Reconstructed interchange.</li> <li>• New interchange.</li> </ul> These projects will have high ROW relocations/impacts, complex utility issues, multiple alternatives, and access management issues.

*Source: Ohio Department of Transportation, Project Development Process, 2011. (20)*

## CHAPTER 4: FINDINGS AND RECOMMENDATIONS

Chapter 4 describes the key circumstances that project inconsistency occurs, how to detect existing inconsistencies, and how to maintain the project consistency. This chapter summarizes the key sections that were developed into a project consistency guidebook for practitioners to reference during the project development process. A project consistency checklist was also developed to streamline the evaluation of the consistency of projects. The last section provides an overview of the available tools and resources to assist in maintaining the project consistency.

### CAUSES THAT LEAD TO INCONSISTENCY

Projects that are listed individually will likely be listed in an MTP, the UTP, a TIP, and the STIP at various junctures during the project development process. Then, these projects may be described in detail in an environmental document should one be required. Projects in nonattainment areas will likely have all project phases (P.E., ROW, and Construction) listed individually.

Some projects are developed over long periods of time, so it is quite natural that the design, scope, estimated cost, or letting date will change over time as the project development process is carried out. As the number of times a project and its phases are listed in various documents increases, so does the risk of project inconsistency.

The causes of project inconsistency can be numerous, but the following is a summary of the most common causes:

- **Projects evolve** – The long periods of time that elapse between stages in the planning, project development, and environmental processes increase the chances that a project’s design, scope, estimated cost, or estimated letting date will change. When changes are not communicated, it is difficult to maintain project consistently in every document in which the project has been listed—from project initiation to construction.
- **Inconsistency in regulatory processes** – Though inadvertent, some of the regulatory requirements for planning, transportation conformity, and NEPA evaluations are inconsistent in terms of the timing and criteria under which the federal actions related

to each process can occur. In addition, a project of significant scope may be subject to changes in established regulations and administrative rules over time without the benefit of being “grandfathered.”

- **Communication** – More to the point, there can be a lack of communication between the numerous local, state, and federal entities responsible for the completion of the plans, programs, and processes to advance a project from inception to construction. For example, if the project description is changed during the preliminary design phase, TxDOT would need to notify the MPO to update the project description in the MTP before that project is carried into the TIP with an inconsistent (or rather, incorrect) project description.
- **Complexity of Funding Scenarios** – Programming transportation projects is a dynamic process. Changes in funding levels, fund sources, agency operations, economic conditions, current law, timing of project schedules, and other factors<sup>3</sup> such as changes in the estimated cost of a project over the time it takes to develop a project, will result in changes to one or more aspects of a project’s scope, design, or description. The changes would have to be revised in the appropriate planning and environmental documents.

Examples of possible inconsistencies are listed below:

- The project design concept and scope are not consistent with that provided in the MTP, TIP, and/or STIP, and/or the scopes do not match the funding amounts that the FIN Division projected.
- The project is not fiscally constrained because:
  - It is not included in the fiscally constrained portion of the MTP.
  - The project funding type is not consistent with that in the MTP, TIP, and/or STIP.
  - The total project cost significantly exceeds that provided in the MTP, UTP, TIP, and/or STIP (by more than 50 percent).

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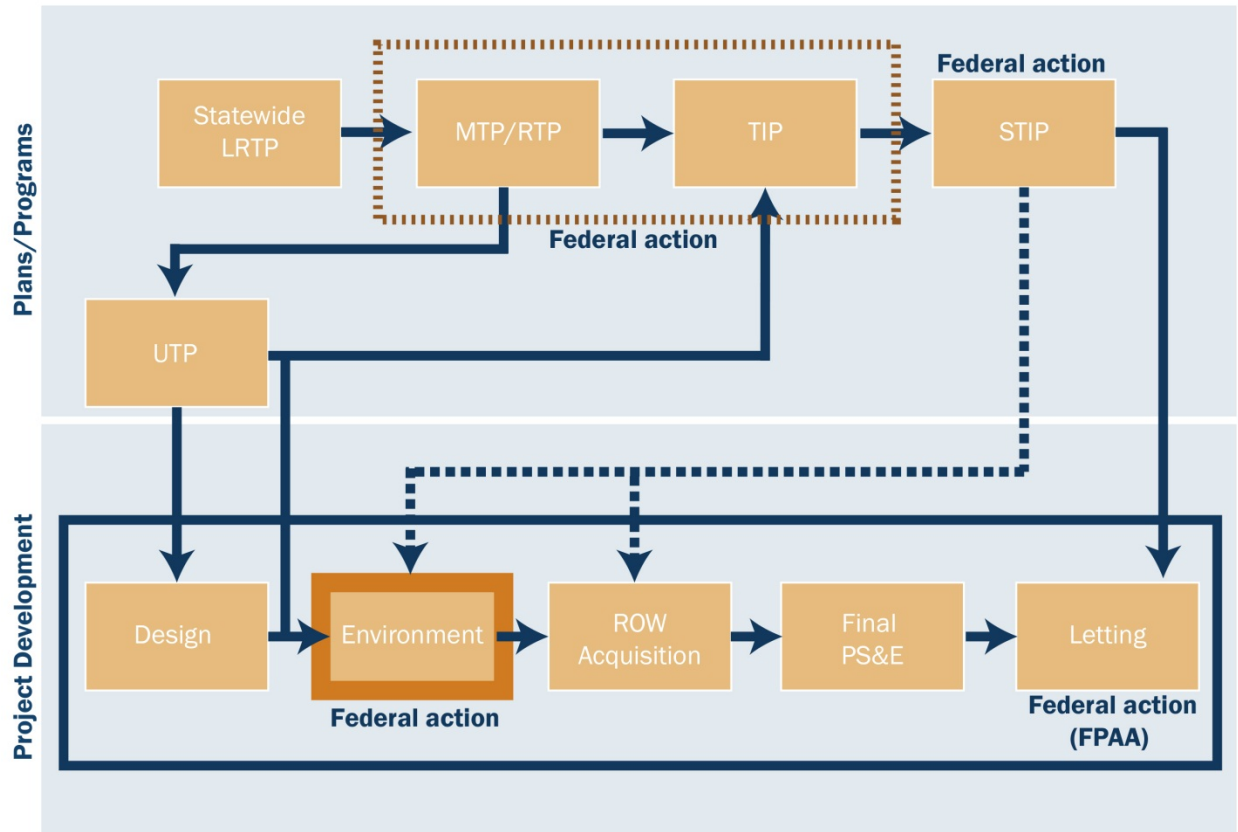
<sup>3</sup> 2014–2023 Cash Forecast. TxDOT. August 2013.

- A project is not included in the STIP or TIP but is found earlier in the planning documents such as the MTP and UTP.
- In areas subject to transportation conformity (i.e., nonattainment and maintenance areas), the project completion year is not consistent with the MTP and/or TIP regional emissions analysis years for conformity determination.

## **CONSISTENCY AT CRITICAL JUNCTURES IN THE PROJECT DEVELOPMENT PROCESS**

For some projects, inconsistency is unavoidable, given the complexity of the various processes to which projects are subject. The successful delivery of projects requires time and effort on the part of many professionals at local, state, and federal transportation planning and regulatory agencies. While no one can control the outcomes of all the various phases and steps in the planning, project development, and environmental processes, one can only attempt to better understand the relationships between the various processes.

Critical junctures are synonymous with the federal actions. Projects are generally designed to conform to federal planning and environmental regulations under the assumption that federal funding may be required to complete some or all of the project development activities or actual construction. The planning, environmental, and project development processes are interdependent and somewhat sequential in nature. Some processes have phases or steps that are under way concurrently at any given time when federal action may be requested (see Figure 15).



- Legend**
- Planning Process
  - Conformity Process (Nonattainment areas only)
  - Project Development Process
  - Environmental Process

Source: TxDOT, Transportation Planning and Programming Division, 2014.

**Figure 15. Relational Process Flow Diagram.**

Table 7 aligns the phases in the project development processes to the plan and program documents that need to be reviewed for consistency.



**Table 7. Project Development Process-Plan/Program Alignment.**

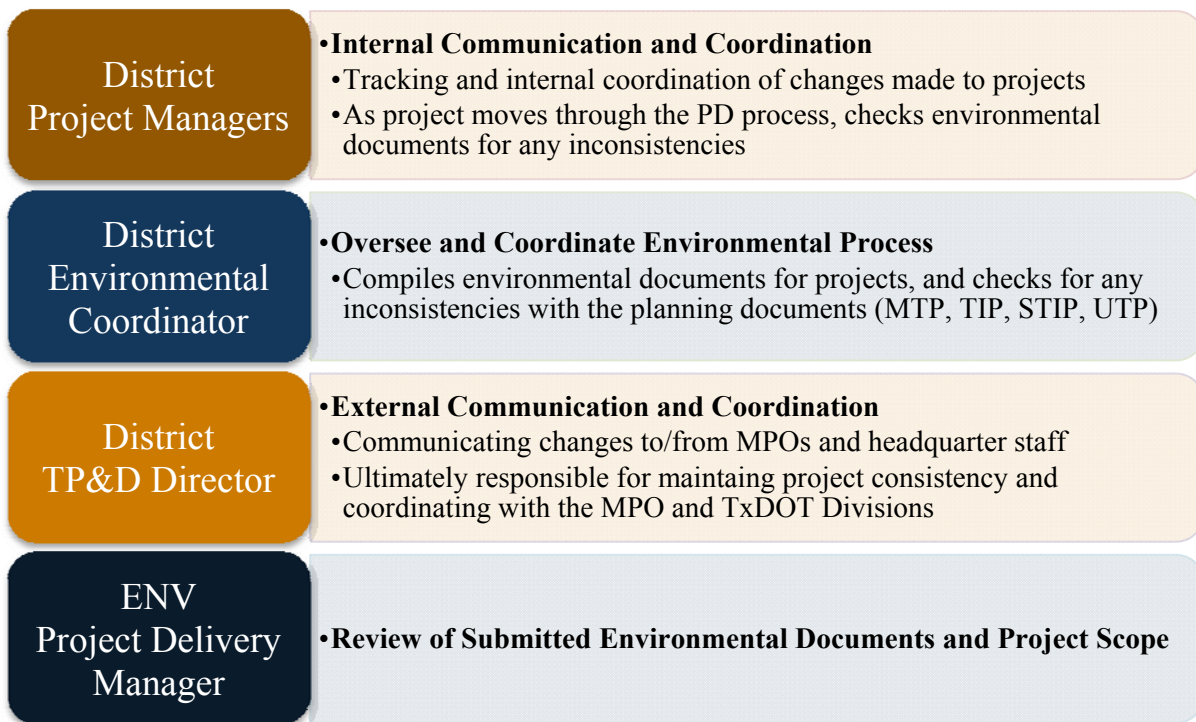
<b>Phase</b>	<b>Step</b>	<b>Plan/Program* Checked for Consistency</b>
<b>Planning</b>	Need and Purpose Determination	MTP
	Project Authorization (Must have PLAN authority)	MTP/UTP
	Compliance with Planning/Study Requirements	MTP/UTP
	Construction Funding Identified	MTP/UTP
<b>Design</b>	Design Concept	MTP/UTP
	Data Collection	MTP/UTP
	Public Meetings	MTP/UTP
	Preliminary Geometric Schematics	MTP/UTP
	Value Engineering	MTP/UTP
	Schematic Approval	MTP/UTP
	Public Hearing	MTP/UTP
<b>Environmental</b>	Preliminary Environmental Issues	MTP/UTP/TIP
	Interagency Coordination	MTP/UTP/TIP
	Environmental Documentation	MTP/UTP/TIP
	Public Hearing	MTP/UTP/TIP
	Environmental Clearance**	MTP/UTP/TIP/STIP
<b>ROW Acquisition</b>	ROW/Utility Data Collection	MTP/UTP/TIP/STIP
	Mapping and Property Description	MTP/UTP/TIP/STIP
	Appraisal and Acquisition	MTP/UTP/TIP/STIP
	Utility Adjustment	MTP/UTP/TIP/STIP
<b>Plans, Specifications, and Estimates (PS&amp;E)</b>		MTP/UTP/TIP/STIP
<b>Letting</b>		MTP/UTP/TIP/STIP
*As a general rule, a project would be present in the listed plan/program		
**Conformity documentation if project is in a nonattainment area		

*Note: Federal regulations do not require consistency with the Unified Transportation Program; however, the UTP is how TxDOT chooses to show fiscal constraint. Therefore, the UTP needs to be checked for consistency as well.*

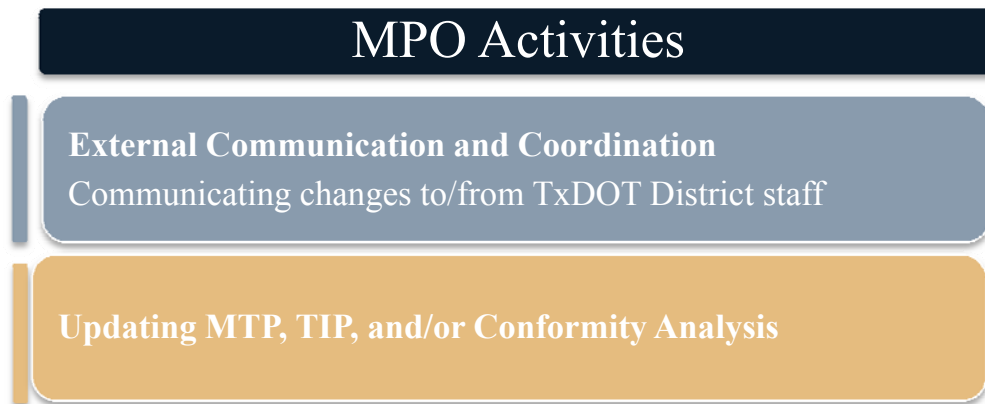
## PROJECT CONSISTENCY RESPONSIBILITY

TxDOT and MPOs are the major partners responsible for keeping projects consistent with planning documents. TxDOT District project managers and the director of Transportation Planning and Development play a central role in maintaining project consistency.

It is important for Districts and MPOs to identify the staff responsible for key consistency-related steps/activities during the project development process, both inside their own agency and their partner agency. Figure 16 and Figure 17 list the most common steps/activities that can be used for this purpose along with the most appropriate TxDOT staff member. Responsibilities should be clearly explained and assigned to staff, and an effort should be made to ensure that they know the responsible party for the other activities.



**Figure 16. Helpful District Activities for Maintaining Project Consistency.**



**Figure 17. Helpful MPO Activities for Maintaining Project Consistency.**

TxDOT project managers are usually the individuals overseeing project development and are in a position to coordinate and track all changes to a project during this process. In some Districts, a separate project manager (i.e., environmental project manager) oversees the environmental process activities for a project. Project managers report to the TP&D director on any issues or challenges regarding project development at internal meetings. The TP&D director communicates these issues to outside stakeholders including the MPO at the Technical Advisory Meetings. The District environmental coordinator coordinates the District’s activities regarding the preparation of environmental documents for projects.

Because TxDOT project managers are the closest person to projects and subsequent changes made to these, they are the responsible party to maintain consistency by ensuring that all changes are coordinated and communicated internally in an effective and timely manner. The District TP&D director is usually the responsible person to ensure that all the changes are communicated effectively and quickly with external partners, specifically MPO staff.

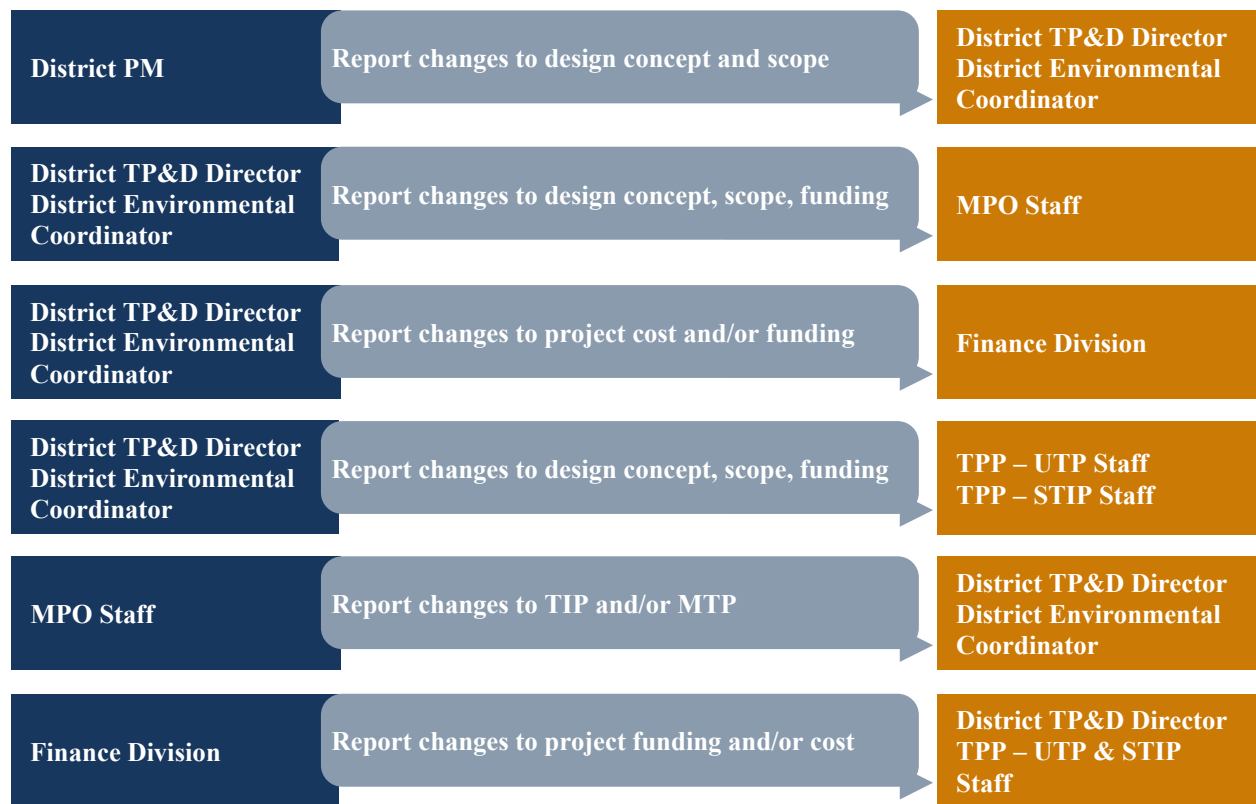
**MAINTAINING PROJECT CONSISTENCY**

Maintaining project consistency, or Project Consistency Management, is an ongoing process and covers all phases of project development. It becomes critical during the last four years of the project development process (i.e., when projects are listed in the TIP and STIP).

The scoping document is a collection of the first set of information on a project. It is often used as the foundation for setting up the project in different documents and database

systems within and outside TxDOT. A robust scoping coupled with early coordination ensures that the project is set up by various stakeholders in a consistent and timely manner. This early consistency has been indicated to greatly help the stakeholders to maintain the consistency of information in the later stages of the project development.

The project should be consistent with all applicable planning documents throughout the project development process and into the preparation of the environmental review document. The main mechanism through which ENV and FHWA/FTA check for project consistency is the environmental review document and applicable planning documents (i.e., MTP, TIP, STIP, and UTP). If the project design concept or scope changes significantly after the project is environmentally cleared, a reevaluation will be required and planning documents will likely need to be updated. Figure 18 shows the minimum level of communication for successful project consistency management.



**Figure 18. The Expected Minimum Level of Communication for PCM.**

## **PREVENTING PROJECT INCONSISTENCY THROUGH EFFECTIVE PROJECT DATA MANAGEMENT**

The basic principle of project consistency management is a seemingly simple task that becomes a challenge in practice because at any given time, there are multiple teams working on different aspects of a project and each use different tools and data resources. That is why project inconsistencies are strongly associated with a breakdown of communication and poor coordination. Establishing a systematic process for this task can greatly help Districts to simplify the coordination of efforts between different parties and achieve the goal of PCM.

The following proposed steps can help in establishing such a process. The goal of these steps is to establish project inconsistency prevention as a routine part of project development process at the District level.

- **Step 1: Training** – Make sure that all project managers have a general understanding of the:
  - Project delivery process.
  - Planning and programming documents.
  - Environmental process.
  - Transportation conformity.
  - Importance of maintaining project consistency.

Chapters 2 and 3 of this document provide an introduction to these items.

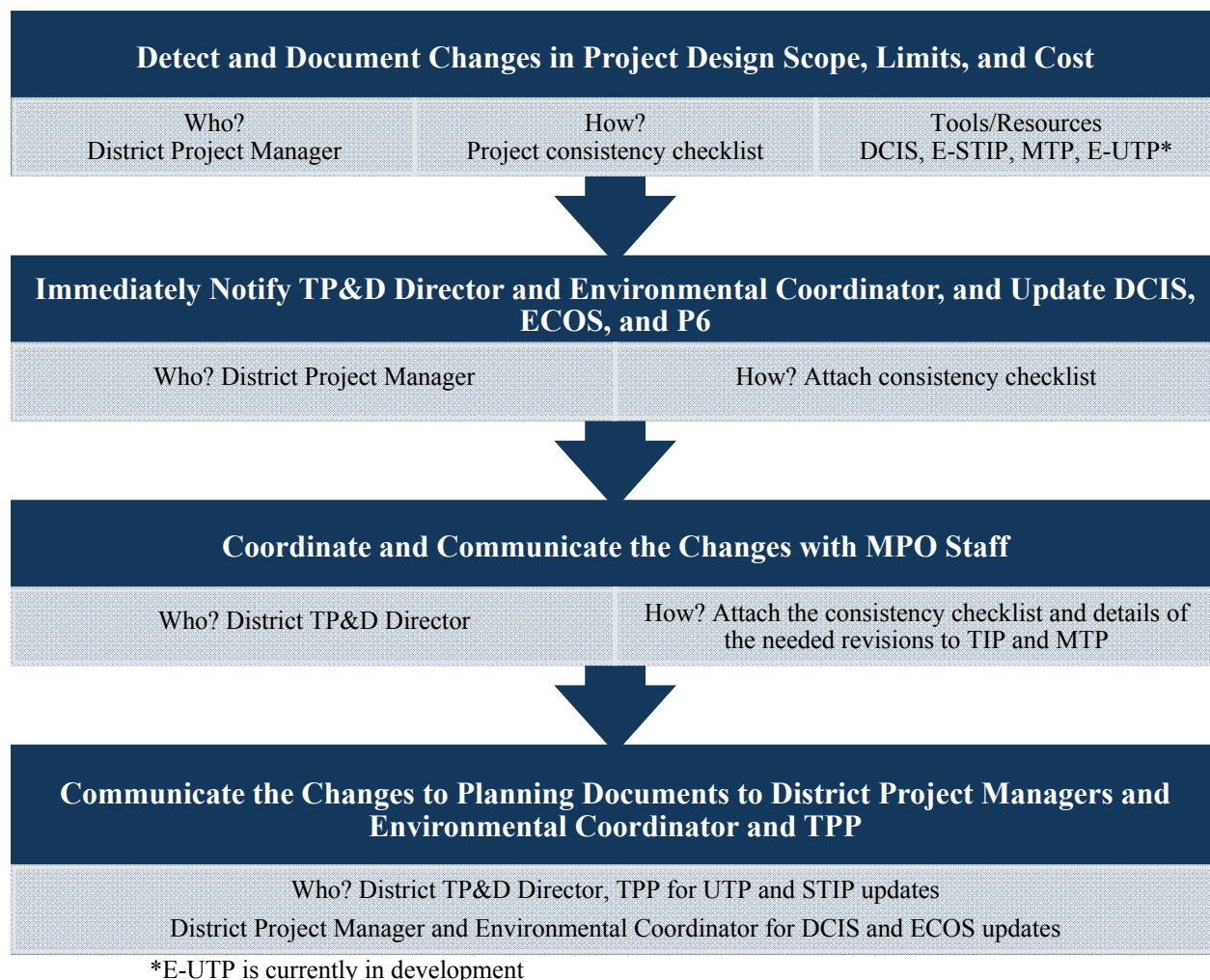
- **Step 2: Assign Responsibility** – Clear roles assignment is an important factor in establishing an effective PCM process. Ensure that all staff and parties involved in the project inconsistency prevention, specifically project managers, have a clear understanding of their responsibility in the process. Their role needs to be explicitly articulated and communicated.
- **Step 3: Authority and Tools** – To establish an effective PCM process, project managers should be assigned the authority to meet their responsibilities and be equipped with the right tools to accomplish them. The next section provides an overview of the tools and data sources (i.e. Design and Construction Information System [DCIS], Environmental Compliance Oversight System [ECOS], MTP, E-STIP, E-UTP) that TxDOT District staff can use to maintain project consistency. The

consistency checklist in Appendix G can be used as a guide to keep track of the changes to a project.

- **Step 4: Establish a PCM Work Flow** – Establishing a workflow helps to clarify the steps necessary for maintaining project consistency. A workflow is a depiction of a sequence of operations and connected steps, which demonstrate the elements and flow of work in a simple form. A basic workflow communicates and identifies the following three major points and establishes simple and effective interactions between them.
  1. How the project changes should be identified and communicated through different project development process stages (action steps and time)?
  2. Who is held accountable for each step?
  3. Where supporting tools and resources are located?

Figure 19 shows a simple project inconsistency prevention workflow for maintaining project consistency. Each District can modify this diagram to fit their needs and current practice.

- **Step 5: Systematic Coordination and Communication** – Having a set of effective communication and coordination procedures, specifically with MPO staffers, is fundamental to achieve a successful project consistency management process. At many TxDOT Districts, communication and coordination occur on a personal level. While personal level communication and coordination is necessary and works in many instances, it has a few major flaws that can cause a breakdown of communication:
  - Risk of discontinuity: Staff turnovers can cause a major breakdown of communication until the new person establishes the working/personal relationship.
  - No guarantee of a minimum level of communication: It requires a strong personal level relationship of the staff and can become unreliable if a strong working/personal relationship does not exist between the parties.



**Figure 19. Example Workflow for Preventing Project Inconsistencies.**

## **BEST PRACTICES TO MAINTAIN PROJECT CONSISTENCY**

The best practices for maintaining project consistency can be categorized as follows:

- **Education/Training** – A basic understanding of the planning, project development, and environmental processes (and how those processes are advanced through federal actions) will encourage teamwork and facilitate better communication between personnel at the various transportation entities.
- **Roles and Responsibilities** – Clearly defined roles and responsibilities will ensure that when project inconsistencies are discovered, the appropriate personnel can be alerted to take corrective action to avoid project delays.

- **Planning Tools** – The use of available planning tools to track the progress of project development will ensure that project inconsistencies can be detected, reported, and corrected in a consistent and timely manner.
- **Communication** – Communicating changes to a project’s design concept or scope, estimated project cost, or letting date to offices of primary responsibility (OPRs) at the time of occurrence will facilitate the timely revision of any plan, program, or document requiring federal action to advance the project.

The following are examples of best practices with regard to establishing a system of communication and coordination that TxDOT Districts have done:

- **Regular Meetings with MPO** – The TP&D director and/or environmental coordinators in some Districts have monthly or quarterly meetings with MPO staffers. The main purpose of these meetings is to keep MPOs aware of any changes to projects as well as amendments or updates needed in the planning documents. Items such as project scope, costs, and limits are discussed in the meetings. A popular and effective practice is to prepare a list of projects to be discussed and send it to all participants in advance.
- **Regular Internal Project Meetings** – Some Districts have regular internal meetings between the various District departments working on projects, including design, environmental affairs, and planning. These internal meetings help maintain communication as a project is developed at the District level. The involved parties are usually the District planners, environmental coordinators, and design engineers. These meetings are held on a regular basis or at critical junctures such as 30 percent, 60 percent, and 90 percent design or environmental analysis completed.
- The Districts that hold these meeting as their business routine noted that the meetings have helped them ensure that the environmental coordinators and project managers are communicating regarding the environmental documents. They also saw that the limits, scope, and project descriptions are kept consistent in all necessary documents.



## PROJECT INCONSISTENCY DETECTION

Project inconsistencies can occur despite all the precautions taken to prevent them. Early detection of these inconsistencies will help in minimizing unforeseen delays to the project. A project inconsistency detection process serves as a second line of defense in these situations. The goal is to detect and address the inconsistencies before they cause major delays as a result of a need for project and/or plan changes.

The focus of the PCM is to detect and address the inconsistencies at critical junctures along the project development process. The following proposed steps can help on establishing such a process.

- **Step 1: Check Project Consistency at Critical Junctures** – Critical junctures are points during the project development process at which a project inconsistency can be detected and addressed. Common critical junctures are shown with arrows in Figure 13 (the project development process flowchart in Chapter 3). It is recommended that the Districts select at least three critical junctures for the purpose of project inconsistency detection, each covering a different stage of the project development. Districts can also establish schedule-based critical junctures (i.e., semi-annual or annual). The following is a recommended list of points for this purpose:
  - Design concept conference.
  - 30 and 90 percent PS&E development.
  - Environmental scoping.
  - Annual scheduled checking for all projects listed on TIP, STIP, UTP, and SPA list with an expected letting data within the next four years.

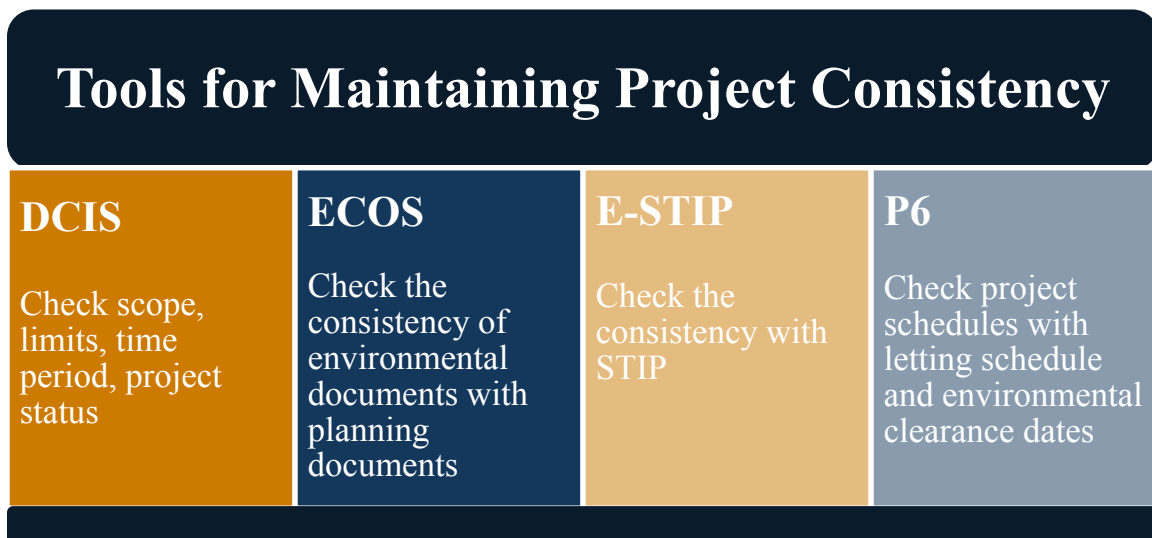
The consistency check list in Appendix G is created to assist the District project manager in checking for potential inconsistencies. The tools and data sources available to District staff are discussed in the next section.

- **Step 2: Coordinate and Communicate** – Once a project inconsistency is detected, the project manager should immediately notify the District TP&D director on the details of the detected inconsistency. The TP&D director or the person assigned for external coordination will coordinate the effort with the partners to address the inconsistency (e.g., MTP, UTP, TIP or STIP revision).

The TP&D director coordinates with the MPO staff on projects that need MTP and/or TIP revisions. The MPO will communicate with the District when revisions are made to the documents. The District will then need to make sure that DCIS reflects the changes accurately. The Districts need to communicate with TPP for STIP and UTP revisions, and would also need to update the revision date field in DCIS.

## TOOLS AND RESOURCES AVAILABLE FOR MAINTAINING PROJECT CONSISTENCY

TxDOT has various software systems that are used throughout the various stages of the project development process. Figure 20 shows the software systems that can be useful for the project consistency checking.



**Figure 20. Tools for Maintaining Project Consistency.**

- **Design and Construction Information System** – is a statewide computer network that allows all TxDOT Districts and TxDOT divisions to maintain project data in a common format. The information is used to prepare the MTP, STIP, UTP, and the letting schedule. DCIS is often the primary tool to check for the updated information on individual projects and a key tool for project consistency checking.
- **Environmental Compliance Oversight System** – is a statewide computer application for stakeholders involved in the environmental process to provide enhanced tracking, reporting, and metrics for environmental issues. It provides an

automated initial scoping form that generates recommended tasks to be performed based on the information that the user had entered.

- **E-STIP** – is TxDOT’s electronic statewide transportation improvement program database that collects and stores project information for all highway, transit, non-motorized, and statewide planning projects to be constructed/implemented within the four-year STIP horizon. A similar format is in development for the UTP.
- **Primavera Version 6 (P6)** – is the new project management tracking program that users can access information on transportation projects in one database in real time. It creates project schedules for project development work beginning with preliminary tasks such as surveying, environmental clearance, Right-of-Way acquisition, and utility coordination, through schematic and final planning, and contract letting.

## **THE ROLE OF THE FINANCE DIVISION**

The main focus of this document is to outline the responsibilities and best practices at the District level where the majority of changes to a project occur. However, there are changes that are initiated at the divisions, most notably the FIN and TPP.

FIN is involved at the very end of the project development process when the project is ready to let, but before the FHWA allocates the funding. FIN receives a letting list from the Districts every month listing the projects that are environmentally cleared. Shortly before the letting date of a project, FIN prepares an FPAA and sends the package to FHWA/FTA for their authorization to proceed. The FPAA package includes:

- Project location information.
- Description of work.
- ENV clearance.
- STIP approval.
- The amount of federal funds and the specific federal program that FIN estimated the project will need as well as any non-federal fund sources.

After FHWA/FTA signs the FPAA, TxDOT can begin to incur costs for federal reimbursement. FIN communicates with the Districts in two ways:

- FIN updates the funding changes that will impact the FPAA package sent to FHWA for authorization. In most cases, the Districts know about the funding changes before FIN and TPP; therefore, the District staff needs to communicate the changes to FIN and TPP.
- In some cases, TxDOT administration can make changes to funding of projects. Examples of such cases are budget cuts and the American Recovery and Reinvestment Act of 2009. In these cases, it is the responsibility of FIN to communicate the changes to the Districts and TPP in a timely manner.

## CHAPTER 5: SUMMARY AND CONCLUSIONS

Streamlined project delivery is a federally mandated goal that the TxDOT leadership supports to achieve a more efficient and effective transportation system in Texas. Federal and state transportation planning statutory and regulatory laws require transportation projects to be consistent with transportation plans and improvement programs before the FHWA or the FTA can take federal action on a project<sup>4</sup> requiring one. Consequently, significant delays in project delivery can potentially occur as the federal funding would be withheld for such projects and FHWA/FTA would not authorize their construction until the inconsistencies are fully addressed.

This issue is especially critical for projects in nonattainment and maintenance areas. This is because an individual projects' project-level conformity is directly linked to the consistency of the projects with appropriate transportation plans and improvement programs. Also, a non-conforming project might trigger a conformity failure or delayed determination for the entire plan and/or program.

The research team investigated the various aspects of the project development process as TxDOT conducted it, with a focus on how to maintain project consistency through the letting stage. Through an extensive literature review and interviews with TxDOT and MPO staff, the researchers gained an understanding of the regulations of transportation planning, project development life cycle, and how they relate to the general and project-level transportation conformity process. This project provides TxDOT an insight to stakeholders' involvement in maintaining project consistency and key challenges that hinder project consistency during the project development process. This project also outlines tools and resources that will assist in TxDOT's goal of maintaining project consistency.

The researchers found that the main challenges leading to project inconsistencies are insufficient communication over the changes to the projects' design concept and scope, cost, and estimated letting date. Factors such as the evolution of the project throughout the project development process, inconsistencies in regulatory processes, and complexity of funding scenarios significantly contribute to project inconsistencies. As the number of times a project and its phases are listed in various documents increases, so does the risk of project inconsistency.

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<sup>4</sup>Including signing a ROD, FONSI, or approval of a CE for a project.

Early detection and improved internal and external communication are the key factors in minimizing the risk of delays due to project inconsistencies. This research provides a set of tools and recommended practices to assist TxDOT and MPO staff in maintaining project consistency throughout the project development process.

The research team developed a project consistency guidebook (PCG), a supplementary information document (SID), and a project consistency checklist. The guidebook explains how project planning and development interact with the regional and project level air quality conformity process. The PCG also details the procedures and tools that TxDOT and Texas MPOs can use to understand and maintain project level conformity and project consistency with applicable transportation plans and programs. The SID provides an overview of the subjects relevant to project consistency. The project consistency checklist serves as a guide to keep track of the changes to a project.

The TxDOT project delivery team and their District and MPO counterparts can use the PCG and the SID to facilitate project consistency management at different levels. Both documents combine the different aspects and practices of key partners of the project development into a unified framework, specifically addressing the project consistency. The guidebook also provides recommendations on developing a project consistency maintenance plan.

The research team will work with the ENV and TPP staff to implement the findings of this study in a series of workshops and training sessions for TxDOT Districts and Texas MPOs.

## APPENDIX A. FORT WORTH CHECKLISTS



### Environmental Management System Plans, Specifications and Estimates (PS&E) Stage Gate Checklist

Who is to fill out form? Recommended Project Manager communicating with AP&D and/or Environmental personnel. District decision.		
Except for Final Review, all questions may not be able to be filled in and can be left blank. To complete Final Review and proceed to Construction stage, all questions must be answered and addressed appropriately unless otherwise noted by you at end of form.		
CCSJ #:	Highway:	Report Date:
District:	Construction Limits:	County:
Responsible TxDOT Office:	Consultant:	
Type of Permits/Commitments: (Populated from AP&D Stage Gate Checklist)		
Type of Review: <input type="checkbox"/> Initial Review <input type="checkbox"/> 30% Review <input type="checkbox"/> 60% Review <input type="checkbox"/> Final Review		
Note: Number of reviews will be determined by complexity of project. Final Review must be done on all projects in order to advance to letting.		
Description of Project:		
<b>AP&amp;D STAGE GATE CHECKLIST:</b>		
<input type="checkbox"/> Yes <input type="checkbox"/> No	1. Has the AP&D Stage Gate Checklist been approved for Advancement to PS&E?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	2. Has the AP&D Stage Gate Checklist been reviewed by Designer?	
<b>NEPA:</b>		
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3. Has the project received NEPA clearance?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4. Has the project obtained the required environmental permits and approvals from State and Federal Agencies?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5a. If NEPA clearance was received have the project limits or scope changed?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5b. If the project limits or scope have changed per 5a, has the designer coordinated with AP&D to ensure NEPA compliance?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5c. If additional permits and/or other approvals have been obtained, is the project consistent with the additional permits and/or approvals?	
<b>Storm Water Management &amp; SWP3:</b>		
<input type="checkbox"/> Yes <input type="checkbox"/> No	6. Has a SWP3 been developed in accordance with the Construction General Permit (CGP)?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7. Do the plans and specifications have sedimentation basins depicted on the plans in accordance with the CGP or if not, has justification (impracticable) for not doing so been provided?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8. Do the plans and specifications detail which BMPs will be used to control erosion and sedimentation?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9. Do the plans and specifications have SWP3 Layout Sheets having each BMP numbered with label for installation and removal dates available to be filled in during construction?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10. Has the SWP3 Sheet been completely filled out appropriately??	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11. Do the plans and specifications detail timelines or milestones when construction activities will temporarily or permanently cease due to environmental concerns on a portion of the site?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. Do the plans and specifications detail when and what stabilization measures are to be initiated?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. Do the plans and specifications detail velocity dissipation devices if they are utilized?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	14. Do the plans and specifications include control of construction debris and chemicals exposed to storm water?	
<b>Water Resource (including: rivers, streams, wetlands, navigable waterways, aquifer, and coastal protection):</b>		
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15. Do the plans identify wetlands and provide for wetland protection and mitigation?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16a. Do the plans address protection of navigable streams and waters of the U.S. and is consistent with the permit obtained (USACE Section 10 or Section 404 Permit or US Coast Guard Section 9 Permit).	
	16b. Type of Section 404 permit(s) obtained?	
	16c. Other Permits obtained: <input type="checkbox"/> USACE Section 10 <input type="checkbox"/> US Coast Guard Section 9 Permit	
	Note: Permits required should be identified in AP&D Stage Gate Checklist. If additional are needed, ensure they are included and addressed appropriately.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	17. Will work that could result in solid materials, including building materials, becoming a discharge into the waters of the U.S. covered by a Section 404 Permit for this project?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	18. Has a construction technique been included for work in wetland areas?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	19. Has a Section 401 Water Quality Certification Tier 1 Checklist been completed for this project and have mitigation measures been included in the plans?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	20. Are any applicable Section 401 Water Quality BMP's included in plans?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	21a. If required by the Edwards Aquifer Protection Plan, do the plans and specifications show protected areas and mitigation for this project?	

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	21b. Type of Edwards Aquifer Plan?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	22. Do the plans show project requirements for groundwater protection (e.g., Conservation District requirements)?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	23. Do the plans show requirements for the Texas Coastal Management Plan for this project, if required?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	24. Do the plans show mitigation requirements for the impacts to the waters of the U.S.?
<b>Biological Resources</b>			
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	25. Do the plans show vegetation protection areas, including trees?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	26. Do the plans show and specify protection of threatened or endangered species/habitats?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	27. Do the plans and specifications depict any provisions pertaining to endangered species and/or migratory bird areas and protective measures?
<b>Cultural Resources</b>			
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	28. Does PS&E incorporate archeology permits and commitments in the EPIC sheet?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	29. Does PS&E incorporate historical permits and commitments in the EPIC sheet?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	30. Do the plans protect known archeological sites?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	31. Do the plans protect historical property and markers?
<b>Air &amp; Noise</b>			
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	32. Do the plans and specifications detail dust control measures to be used during construction?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	33. Do the plans/specifications include the Texas Emission Reduction Plan or other emission reduction incentive measures?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	34. Do the plans/specifications include measures for reducing idling of equipment and vehicles?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	35. Do the project plans detail noise control measures to be used during construction, if required?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	36. Do the plans include noise mitigation for post construction operations?
<b>Hazardous Materials</b>			
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	37. Do the plans show potential hazardous material and are abatement measures included?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Hazardous material media(s) and/or substance(s) identified in AP&D or PS&E Stage: _____
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Or is the coordination requirement included when abatement is addressed through a separate contract?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	38. Do the plans address handling special waste disposal?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Waste media(s) and/or substance(s) identified in AP&D or PS&E stage: _____
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	39. Do the plans address bridge demolition notification requirements?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	40. Does the PS&E include a soil and groundwater management plans, if required?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	41. Has District Office approval been obtained for including the handling of hazardous materials in the PS&E?
<b>Ensuring Environmental Document Compliance:</b>			
<input type="checkbox"/> Yes	<input type="checkbox"/> No		42a. Has anything been identified during PS&E process that would require AP&D and/or Environmental personnel to be notified?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	42b. If yes, has AP&D and/or Environmental personnel been notified?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		43a. Has anything been identified during PS&E process that would require the Environmental Document to be updated?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	44b. If yes, has the Environmental Document been updated?
<b>PS&amp;E Requirements</b>			
<input type="checkbox"/> Yes	<input type="checkbox"/> No		45. Has the EPIC plan sheet been completed and included in plans to include all environmental requirements including what is in the NEPA document?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		46. Are all commitments identified on the AP&D checklist and any other commitments identified in the PS&E process been noted in the plan set appropriately?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		47. Does the PS&E communicate the environmental requirements and environmental work requirements to the contractor?

Outstanding issues:

<input type="checkbox"/> Initial Review	Signed: _____	Date: _____
<input type="checkbox"/> 30% Review	Signed: _____	Date: _____
<input type="checkbox"/> 60% Review	Signed: _____	Date: _____
<input type="checkbox"/> Final Review	Signed: _____	Date: _____
<input type="checkbox"/> Advance to Letting and Construction Stage Gate Checklist	Signed: _____	Date: _____

Contact/Help





## Environmental Management System Advance Planning and Development (AP&D) Stage Gate Checklist

Form 2442  
(Rev. 06/12)  
Page 2 of 3

<b>Who is to fill out form? Recommended: the Project Manager communicating with Environmental personnel. District decision.</b>		
Except for Final Review, all questions may not be able to be filled in and can be left blank. To complete Final Review and proceed to PS&E stage, all questions must be answered and addressed appropriately unless otherwise noted by you at end of form.		
CCSJ #:	Highway:	Report Date:
District:	Construction Limits:	County:
Responsible TxDOT Office:	Consultant:	
Type of Permits/approvals required: <input type="checkbox"/> TPDES (402) <input type="checkbox"/> 404 <input type="checkbox"/> Section 106 <input type="checkbox"/> Section 4(f) <input type="checkbox"/> Section 6 (f)		
Other: _____		
Note (Write in any that are required.): _____		
Type of Review: <input type="checkbox"/> Initial Review <input type="checkbox"/> Second Review (Approximately 50% of schematic process) <input type="checkbox"/> Final Review		
Note: Number of reviews will be determined by complexity of project. Final Review must be done on all projects in order to advance to PS&E development.		
Description of Project: _____		
<b>Schematic:</b>		
<input type="checkbox"/> Yes <input type="checkbox"/> No	1. Is a Schematic required for the project?	
<b>Environmental Documentation, Community Impacts and Environmental Justice:</b>		
<input type="checkbox"/> Yes <input type="checkbox"/> No	2. Is an Environmental document required for the project?	
	Type of document: <input type="checkbox"/> BCE <input type="checkbox"/> PCE <input type="checkbox"/> CE <input type="checkbox"/> EA <input type="checkbox"/> EIS	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3. Has the FHWA given approval for further processing the NEPA document?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	4. Is public involvement required?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. Have public involvement requirements been satisfied for this project?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. Have pertinent public concerns or comments been addressed in the environmental analysis? (Note: This is not referring to providing a response to comments, but to make sure that pertinent issues are acknowledged and analyzed).	
<input type="checkbox"/> Yes <input type="checkbox"/> No	7. Will ROW be acquired that includes the relocation of homes, businesses, community areas, etc.?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	8a. Will project activities lead to changes in access or travel patterns for any roads?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8b. Has 8a been properly addressed?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	9. Will project impacts be disproportionately borne by Environmental Justice Population(s)?	
<b>Storm Water</b>		
<input type="checkbox"/> Yes <input type="checkbox"/> No	10. Will the project be covered under the Construction General Permit?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	11. Is less than one acre to be disturbed by the project?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	12. Will one (1) acre or more be disturbed by the project?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	13. Will five (5) acres or more be disturbed by the project?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	14. Is the project within a regulated/Phase I or II (Hicome Rule) MS4 area?	
<b>Water Resources</b>		
<input type="checkbox"/> Yes <input type="checkbox"/> No	15. Will an Edwards Aquifer Abatement Plan be required?	
	Type of Edwards Aquifer Plan? <input type="checkbox"/> Water Pollution Abatement Plan <input type="checkbox"/> Contributing Zone Plan	
<input type="checkbox"/> Yes <input type="checkbox"/> No	16. Will a Groundwater Conservation District be potentially impacted by the project?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	17. Will filling, dredging, or excavating in any water body, river, creek, stream, wetland, or wet area be conducted?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	18. Will 401 Water Quality Certification be addressed?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	19a. Will a 404 permit be required?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	19b. Type of Section 404 Permit: <input type="checkbox"/> #3a <input type="checkbox"/> #3b <input type="checkbox"/> #3c <input type="checkbox"/> #14 <input type="checkbox"/> #15 <input type="checkbox"/> #23 <input type="checkbox"/> #25 <input type="checkbox"/> #33	
<input type="checkbox"/> Yes <input type="checkbox"/> No	20. Is construction to be performed within the 100-year flood zone?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	21. Will a USACE Section 10 permit be required?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	22. Will a US Coast Guard Section 9 permit be required?	
<b>Cultural Resources</b>		
<input type="checkbox"/> Yes <input type="checkbox"/> No	23. Will an archeological site located within existing or proposed ROW be impacted?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	24. Will an archeological impact assessment be required?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	25. Will a historic structure or district be impacted by the project?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	26. Will the project impact a Depression-era Roadside resource such as a culvert, etc. with masonry features?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	27. Will publically owned parks and recreational areas be potentially impacted by the project?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	28. Are historical markers present in or adjacent to the project?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	29. Is a cemetery present in or adjacent to the project area?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	30. Is an irrigation canal or other feature present or adjacent to the project area?	

<b>Biological Resources</b>			
<input type="checkbox"/> Yes	<input type="checkbox"/> No		31. Will trees be removed during the project construction?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		32. Will construction activities impact protected/endangered species or their habitat? Type of Habitat? <input type="checkbox"/> Fish _____
<input type="checkbox"/> Yes	<input type="checkbox"/> No		33. Could migratory bird(s) be affected by the project including habitat? (e.g. will nests/trees/bridges be removed during the nesting season?)
<input type="checkbox"/> Yes	<input type="checkbox"/> No		34. Will the project impact a protected/endangered species?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		35. Will the project impact wildlife refuges or other managed lands?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		36. Will farmland be impacted?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		37. Will mitigation be required for Biological Resources?
<b>Air &amp; Noise</b>			
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	38. Is the project included in and consistent with the applicable transportation plan?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	39. Is the project included in and consistent with the MTP and TIP?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	40. Is the project included in and consistent with the applicable STIP?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		41. Is a Traffic Air Quality Analysis (TAQA) (qualitative) required?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		42. Is a Traffic Air Quality Analysis (TAQA) (quantitative) required?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		43. Is a Mobil Source Air Toxins (MSAT) analysis required?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		44. Is a noise analysis required?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		45. Will construction noise mitigation be required?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		46. Will operating noise mitigation be required?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		47. Will air quality control measures be required during construction?
<b>Hazardous Materials</b>			
<input type="checkbox"/> Yes	<input type="checkbox"/> No		48a. Are hazardous materials potentially present in the project ROW?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		48b. Hazardous material: Media(s) <input type="checkbox"/> soil <input type="checkbox"/> groundwater <input type="checkbox"/> vapor <input type="checkbox"/> particulate/air Substance(s): <input type="checkbox"/> gasoline <input type="checkbox"/> lead based paint <input type="checkbox"/> NRM <input type="checkbox"/> asbestos <input type="checkbox"/> oil and gas wastes <input type="checkbox"/> crude _____
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	49. Have potential hazardous material been identified on adjacent properties?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		50. Will a bridge structure be demolished in the project?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		51. Will construction activities require abatement of asbestos at the project site?
<input type="checkbox"/> Yes	<input type="checkbox"/> No		52. Will construction activities require abatement of lead-based paint at the project site?
<b>Ensuring Environmental Document Compliance</b>			
<input type="checkbox"/> Yes	<input type="checkbox"/> No		53a. Has anything been identified during AP&D process that would require Environmental Document to be updated?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	53b. If yes, has Environmental Document been updated appropriately?
<b>Final Schematic</b>			
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	54. Have all environmental requirements/commitments, etc. been addressed in Schematic?

List all environmental commitments identified to date:

List any issues that have not been completed in AP&D that will be completed by AP&D concurrently with PS&E development but must be completed prior to letting:

1. \_\_\_\_\_
2. \_\_\_\_\_

Comments or special direction to Designers:

<input type="checkbox"/> Initial Review	Signed: _____	Date: _____
<input type="checkbox"/> Second Review	Signed: _____	Date: _____
<input type="checkbox"/> Final Review	Signed: _____	Date: _____
<input type="checkbox"/> Advance to PS&E Stage Gate	Signed: _____	Date: _____

# APPENDIX B. PHARR DISTRICT CHECKLIST

## PROJECT SUMMARY/STATUS REPORT

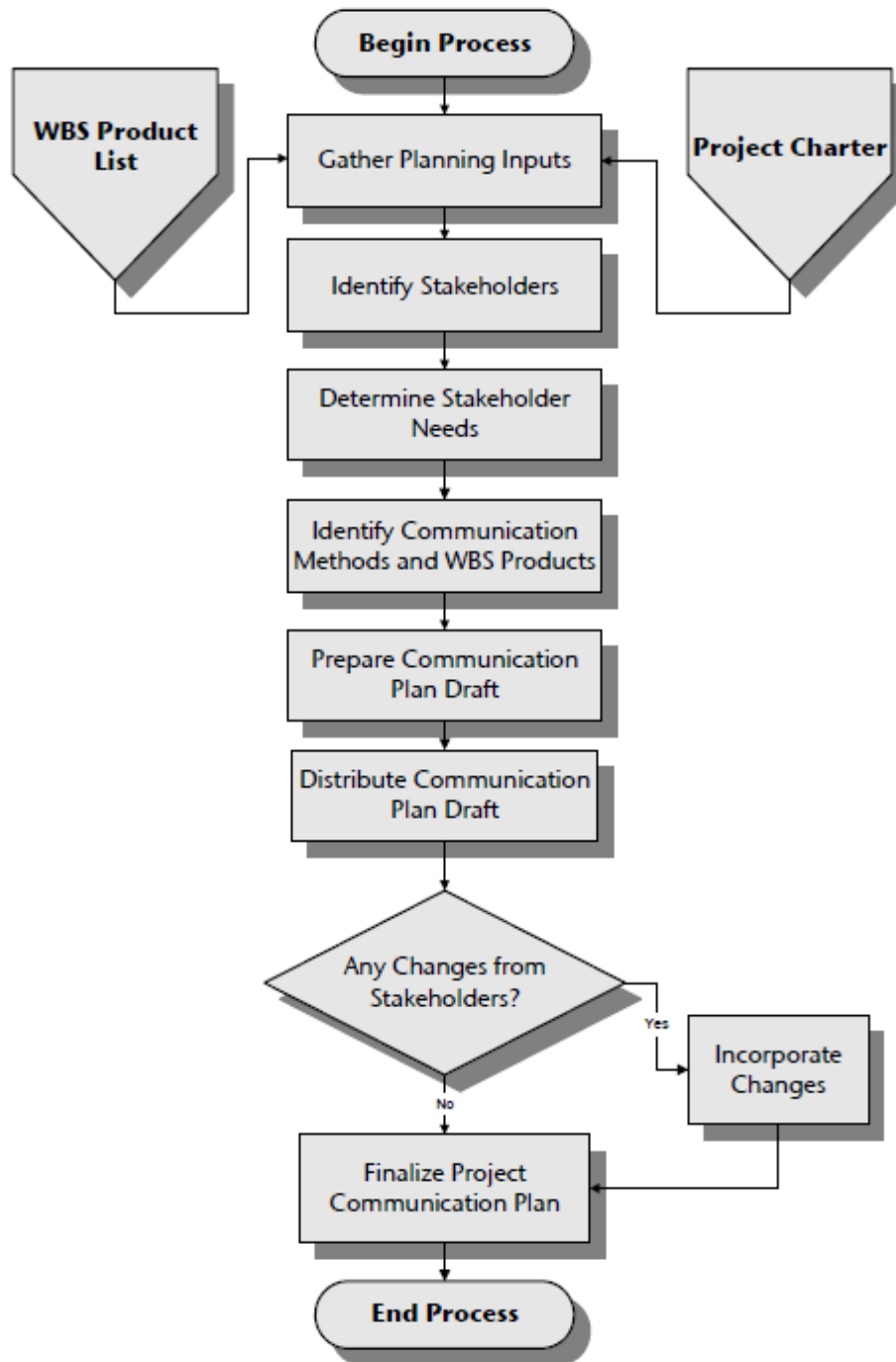
Project: FM 508		Resp Office: CMS		Report Date: July 17, 2007		
CSJ: 0342-04-026		PM: Arnold H. Trevino		<input checked="" type="checkbox"/> On Schedule <input type="checkbox"/> Behind Schedule		
County: Cameron	Highway: FM 508	Estimated Cost: \$17,000,000		Let Date: Jan-07		
From: Bus 77 East		To: FM 509		ENV Date: 12/1/07		
Description: Construct 4 Lane Divided Urban					PS&E Date:	
Scope: <input checked="" type="checkbox"/> Survey <input checked="" type="checkbox"/> Schematics <input checked="" type="checkbox"/> ENV Doc <input type="checkbox"/> ROW Map <input type="checkbox"/> PS&E <input type="checkbox"/> ROW Acquisition					ROW Date:	
LG PP	LG:		Contact:		Consultant: S&B	
	Cons Selection Process: <input type="checkbox"/> S <input type="checkbox"/> A		Cons Fee: <input type="checkbox"/> S <input type="checkbox"/> A		LG Bid Document: <input type="checkbox"/> S <input type="checkbox"/> A	
	Total Funding: \$		Type:	Fed %:	State %:	
	Max Reimb: \$		Reimb to Date: \$		Rem Balance: \$	
	Comments:					
AGREEMENTS	<b>DESCRIPTION</b>	<b>N</b>	<b>S</b>	<b>E</b>	<b>ENTITY</b>	<b>COMMENTS</b>
	EDC: <input type="checkbox"/> PE <input type="checkbox"/> R <input type="checkbox"/> C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		N/A
	AFA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		N/A
	CMA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		N/A
	RR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		7-17-07 Working on SWA to extend the project limits
	Signal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		N/A
	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		N/A
	ROW	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		7-17-07 Pending on ROW Width between Expwy and Bus 77
	Temp Construction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		N/A
	Comp Utility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		N/A
	Utility Joint Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		N/A
	FAA (Permit)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		N/A
O: ROW	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		NO Work Authorization for Right - of - Way	
DESIGN DATA	<b>DESCRIPTION</b>	<b>N</b>	<b>R</b>	<b>O</b>	<b>COMMENTS</b>	
	Aerial Photo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	7-17-07 Pending SWA to extend the project limits	
	Field Survey	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	7-17-07 Pending SWA to extend the project limits	
	Subsurface Utilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Subgrade Testing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Exist Pvmnt Testing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10-16-06 Completed	
	Soil Borings/D50	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3-9-07 Completed	
	Falling Weight Data	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3-9-07 Completed	
	Traffic Data	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8-27-07 should be obtain	
	Signal Warrants	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	7-12-07 According to Traffic Section - No signal are warranted for this project.	
	Lighting Warrants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	
O:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
COORDINATION	<b>DESCRIPTION</b>	<b>N</b>	<b>S</b>	<b>C</b>	<b>COMMENTS</b>	
	Pre-Design Mtg	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8-30-07 Meeting pending to widen ROW between Bus 77 and Expwy.	
	Value Engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	
	Utility - Initial	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9-4-07 after meeting to complete schematic will mail a copy to utility Company's	
	Utility - Interim	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Utility - Final	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Outfalls	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7-12-07 Existing Outfall locations and Being Analyze / My not need new outfalls	
	Irrigation Districts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Drainage Districts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	FEMA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	
	Local Entities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	
	MAPO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6-15-07 Meet w/ Consultant's and Property owner on Water over roadway/property	
	Public Meeting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Added capcity and my need ROW / my afford a meeting	
Public Hearing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
O:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

		N	S	A	COMMENTS
<b>SUBMITTALS</b>	Schematic	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6-1-07 Pending Row between Bus 77 and Expwy 83 / Meeting on 8-30-07
	DSR Summary	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Design Waivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	Design Exceptions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	Pavement Design	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10-16-06 Completed
	ENV Info/Exhibits	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ENV Document: CE (type)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ENV EPIC Sheets	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ENV Re-Evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	ENV Continuous Activity Ltr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	ROW Map/PP/FN/TS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7-17-07 No Supplemental Work Authorization in place / Pending on Meeting
	RR Exhibits	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7-17-07 No Supplemental Work Authorization in place for Rail Road
	FAA Exhibits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	TCP (to DSRC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	Bridge Layouts	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(See Comments Below)
	Scour Evaluations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Ret Wall Layouts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	Ret Wall Stability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	Accel Constr Strategy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	PS&E Package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
O:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		N	S	C	COMMENTS
<b>ENVIRONMENTAL</b>	Purpose & Need	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Alternatives Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Asbestos Survey/Testing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7-17-07 My need for bridge widening
	Asbestos Mitigation Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	HazMat Database Search	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8-30-07 Pending on Meeting / Gas Station at inter. of Bus77 and FM 508
	Phase I HazMat Survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Phase II HazMat Survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	HazMat Mitigation Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Arch Right of Entry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Archeological Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Historical Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Section 106 Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Section 4f Evaluation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	US Waters/Wetlands Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	USACOE Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Waters of US Determination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Wetland Delineation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	Wetland Mitigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	T&E Species Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	USFWS Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	TPWD Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Biological Assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	T&E Mitigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	Noise Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Noise Abatement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
	Air Quality Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Socioeconomic Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C&I Impacts Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Opportunity for PH Afforded	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
PH Summary, Analysis & Cert	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

DESCRIPTION		N	S	A	COMMENTS	
PERMITS	USACOE Pre Con Notice	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Sect 404 NW Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Sect 404 Individual Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Coast Guard Permit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	
	IBWC Permit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	
O:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
DESCRIPTION		N	S	C	ENTITY	COMMENTS
ROW	Acquisition #	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		8-30-07 Pend on ROW between Bus77 and Expwy 83
	Relocations #	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		8-30-07 Pend on ROW between Bus77 and Expwy 83
	Comp utilities #	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		8-30-07 Pend on ROW between Bus77 and Expwy 83
	O:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
CRITICAL PENDING ISSUES/CONCERNS						



## APPENDIX C. CALTRANS COMMUNICATION PLAN FLOW CHART



Source: Caltrans, Office of Project Management Process Improvement, *Project Communication Handbook*, 2007.  
[http://www.dot.ca.gov/hq/projmgmt/documents/pchb/project\\_communication\\_handbook\\_2nd\\_ed.pdf](http://www.dot.ca.gov/hq/projmgmt/documents/pchb/project_communication_handbook_2nd_ed.pdf)





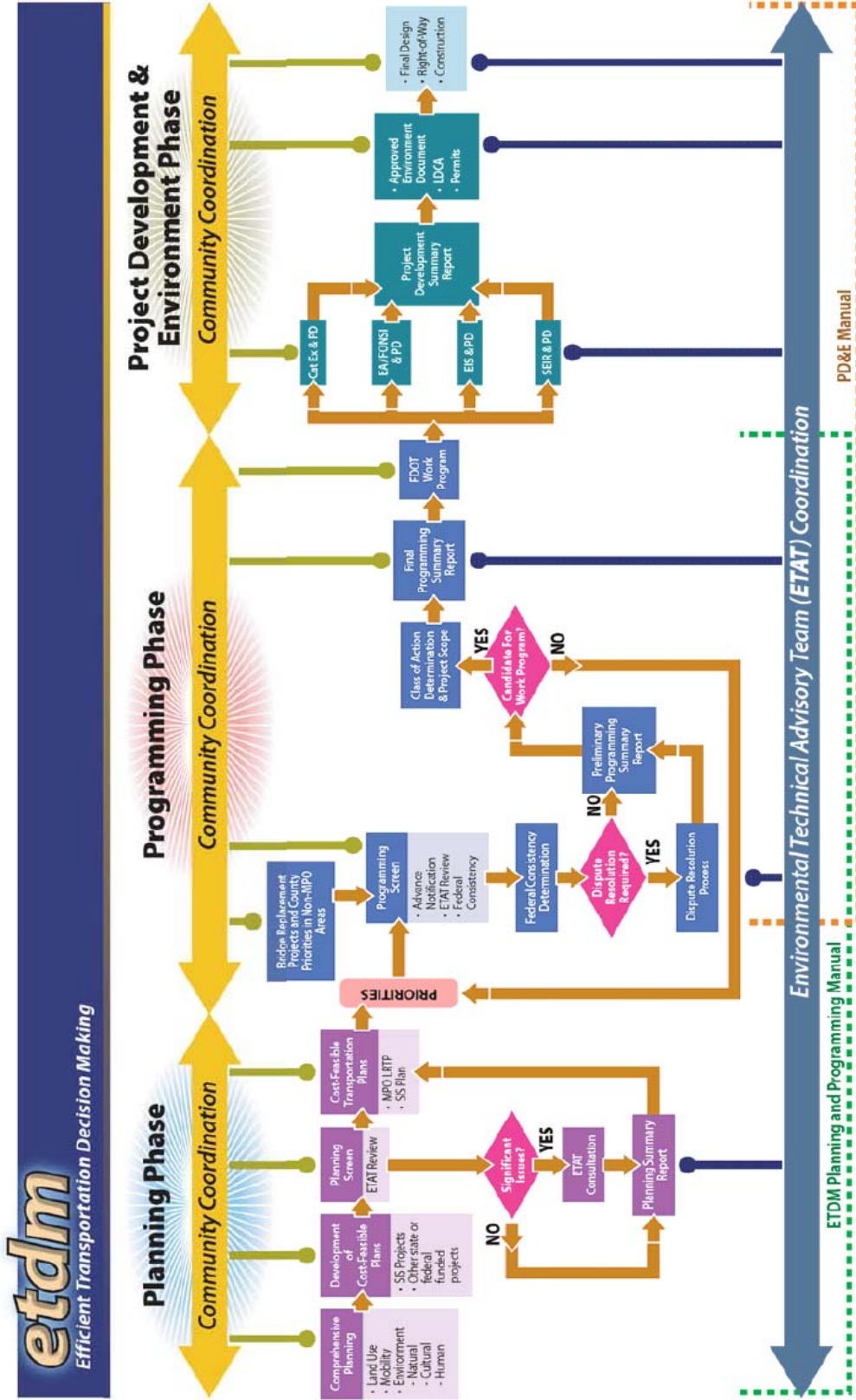
## APPENDIX D. CALTRANS COMMUNICATION METHODS

Method	Purpose	Responsibility	Frequency	Audience
Project development team meeting	Develop a formal baseline workplan, which is used to define, monitor, and manage project execution.  Identify the basic task elements of a project and assess the resource needs for delivering a project within an assigned time frame.	Project manager	Weekly until baseline workplan is signed	Project manager and all stakeholders
Project management senior staff meeting	Communicate changes in Department policy or procedures, manage program expectations, and enhance training processes.	Single focal point (SFP) or Chief of PPM	Weekly at designated time	Project manager and functional managers
Project status review meeting	Report status and progress of scheduled milestones and activities.  Identify and discuss problems and solutions for project obstacles.	SFP or Chief of PPM	Monthly at designated time	Project manager, DDDPPM, and database administrative staff
Project team meeting	Report project status and progress of scheduled milestones and activities.  Identify and discuss project issues and corrective actions.	Project manager	As needed (weekly, monthly, quarterly, or ad hoc)	Project manager, functional managers, and task managers working on the specific project
Office meeting	Report status and progress of projects and scheduled tasks.  Identify and discuss office related issues.	Project manager, functional manager, or task manager	Weekly	Office supervisor and staff
External customer and/or supplier meeting	Involve external customers and suppliers in the project.  For more information, see "Involve the Community" on page 19.	Project manager, functional manager, or task manager	As needed	All stakeholders
Project Internet site	Report status and progress of scheduled milestones and activities.	Webmaster	as needed	All stakeholders
Teleconference	Communicate changes in Department policy or procedures, manage program expectations, and enhance training processes.  Report status and progress of scheduled milestones and activities.  Identify and discuss problems and solutions for project obstacles.	Varies	Weekly at designated time	HQ staff, project manager, DDDPPM
Correspondence (letters, memos, email, etc.)	Document status of action items, decisions made, and problems encountered.	All stakeholders	As needed	All stakeholders
Site visit	Identify and discuss problems and solutions for project obstacles.	Project manager or functional manager	As needed	All stakeholders

*Source: Caltrans Project Communication Handbook. Second Edition (2007).*  
[www.dot.ca.gov/hq/projmgmt/documents/pchb/project\\_communication\\_handbook\\_2nd\\_ed.pdf](http://www.dot.ca.gov/hq/projmgmt/documents/pchb/project_communication_handbook_2nd_ed.pdf)



# APPENDIX E. FDOT'S EFFICIENT TRANSPORTATION DECISION MAKING



Source: Federal Highway Administration, Environmental Review Toolkit, Case Studies, Florida: Efficient Transportation Decision-Making Process, [http://environment.fhwa.dot.gov/integ/case\\_florida.asp](http://environment.fhwa.dot.gov/integ/case_florida.asp)





## Planning Requirements for Environmental Document Approvals with Segmented Implementation

<b>Document Information:</b>				
<b>Date:</b> _____	<b>Document Type:</b> _____	<b>EIS/EA /CE II</b> _____	<b>Document Status:</b> _____	<b>Draft/Final</b> _____
<b>Project Name:</b> _____ <small>(PD&amp;E Project Title)</small>		<b>FM #:</b> _____ <small>(Original FM#)</small>		
<b>Project Limits:</b> _____ <small>(NEPA Logical Termini/PD&amp;E Study limits)</small>		<b>ETDM #:</b> _____		
<b>Are the limits consistent with the plans?</b>		Y/N (Limits presented for approval should be consistent with LRTP, TIP/STIP. If no, explain)		
<b>Identify MPO(s) (if applicable):</b> _____ <small>(Provide MPO(s) Name)</small>		<b>Original PD&amp;E FAP#</b> _____ <small>(FAP# Assigned to the PD&amp;E if applicable)</small>		

<b>Segment Information:</b> (Add additional tables as needed to describe all segments within the logical termini limits. Clearly identify segment representing the next funded phase)					
<b>Segment Limits:</b>				<b>Segment FM #:</b>	
<b>Currently Adopted CFP-LRTP</b>		<b>COMMENTS</b>			
Y/N		(If N, then provide detail on how implementation and fiscal constraint will be achieved)			
PHASE	Currently Approved TIP	Currently Approved STIP	TIP/STIP \$	TIP/STIP FY	COMMENTS
PE (Final Design)	Y/N	Y/N	\$		(provide comments as appropriate describing status, activities, and implementation steps needed to achieve consistency)
R/W	Y/N	Y/N	\$		(provide comments as appropriate describing status, activities, and implementation steps needed to achieve consistency)
Construction	Y/N	Y/N	\$		(provide comments as appropriate describing status, activities, and implementation steps needed to achieve consistency)

<b>Segment Information:</b> (Add additional tables as needed to describe all segments within the logical termini limits. Clearly identify segment representing the next funded phase)
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<b>Segment Limits:</b>	<b>Segment FM #:</b>				
<b>Currently Adopted CFP-LRTP</b>	<b>COMMENTS</b>				
<b>Y/N</b>	(If N, then provide detail on how implementation and fiscal constraint will be achieved)				
<b>PHASE</b>	<b>Currently Approved TIP</b>	<b>Currently Approved STIP</b>	<b>TIP/STIP \$</b>	<b>TIP/STIP FY</b>	<b>COMMENTS</b>
<b>PE (Final Design)</b>	Y/N	Y/N	\$		(provide comments as appropriate describing status, activities, and implementation steps needed to achieve consistency)
<b>R/W</b>	Y/N	Y/N	\$		(provide comments as appropriate describing status, activities, and implementation steps needed to achieve consistency)
<b>Construction</b>	Y/N	Y/N	\$		(provide comments as appropriate describing status, activities, and implementation steps needed to achieve consistency)

**FDOT Preparer's Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_ **Phone #:** \_\_\_\_\_

**Preparer's Signature:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**\*Attach: LRTP, TIP, STIP pages**

**FDOT FHWA Form**

**Project Name:** \_\_\_\_\_

**Financial Project Number:** \_\_\_\_\_

**FHWA Reviewer:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Planning Requirements Summary (FHWA Planners complete):  Planner: _____ Date: _____	YES	NO	Comments
1. Is project fully reflected in current <i>cost-feasible</i> LRTP?			
2. Is project in current TIP?			
3. Is project in current STIP and consistent with the TIP?			
4. Is the project described in the TIP and STIP consistent with the cost-feasible LRTP with regard to project description, limits, implementation, and funding? If NO, describe outcome of conversation with District to produce consistency.			
5. Are the cost-feasible LRTP, TIP, and STIP consistent with the project implementation as demonstrated in the project schedule? If NO, describe outcome of conversation with District to produce consistency.			
6. Is the environmental document consistent with the project implementation as demonstrated in the project schedule? If NO, describe outcome of conversation with District to produce consistency.			

Source: Florida State Department of Transportation, *Project Development Process and Engineering Considerations*, 2011, 4-29-4-31. [http://www.dot.state.fl.us/emo/pubs/pdeman/Pt1ch4\\_112111-current.pdf](http://www.dot.state.fl.us/emo/pubs/pdeman/Pt1ch4_112111-current.pdf)



## APPENDIX G. PROJECT CONSISTENCY CHECKLIST

Project Manager							
District PD&E							
District Env. Coordinator							
DCIS Current Information	CSJ#						
	District						
	County						
	Roadway						
	Limits From						
	Limits To						
	Project Description						
	Ongoing and Completed Steps	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Estimated Year of Completion	20__ __					
	Phased Project	Yes <input type="radio"/> No <input type="radio"/>		If the answer is Yes, are all the phases that fall within the MTP timeframe included in the MTP?			Yes <input type="radio"/> No <input type="radio"/>
Applicable Planning Documents	<input type="radio"/> Env. Doc/NEPA	<input type="radio"/> MTP	<input type="radio"/> TIP/STIP	<input type="radio"/> UTP or SPA			
Conformity	Only applicable to <u>nonattainment and maintenance</u> areas	The 1 <sup>st</sup> year in which the project is included in the MTP emissions analysis			The Last Year in which the project is NOT included in the MTP emissions analysis		
	Analysis Years (AY) for MTP Conformity Determination	20__ __			20__ __		
	The expected year of completion MUST fall between these years.						
Design Concept	Project Scope Consistency (for non-grouped projects)	Env. Doc/NEPA	DCIS	MTP	TIP/STIP	UTP or SPA	Comments
	Current Time Frame of Planning Documents	Start	20__ __	20__ __	20__ __	20__ __	
		End	20__ __	20__ __	20__ __	20__ __	
	Date on which information was checked from each document	MM, DD 20__	MM, DD 20__	MM, DD 20__	MM, DD 20__	MM, DD 20__	
	Expected Let Date (MM/YYYY)	MM, 20__ __	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	
	Expected Year of Completion	20__ __	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	
	CSJ#		<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	
Roadway		<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict		
Design Scope	Type of facility		<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	
	Limit From		<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	
	Limit To		<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	
Project Cost	Number of Lanes		<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	
	Length (mi)		<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	
	Signalization (if yes, how many?)		<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	
	Access Control (if yes, how many?)		<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	
	Number and Location of Interchanges		<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	<input type="radio"/> Consistent <input type="checkbox"/> Conflict	
Project Cost	Project Cost Consistency (All projects with cost >\$1.5M)	Env. Doc/NEPA	DCIS	MTP	TIP/STIP	UTP or SPA	Comments
	Total Project Cost						
Project cost in DCIS, TIP/STIP, and UTP/SPA must NOT exceed what is contained in the MTP by more than 50%.							



## REFERENCES

- (1) The Transportation Planning Process: Key Issues. A Briefing Book for Transportation Decisionmakers, Officials, and Staff. U.S. Department of Transportation, 2007, <http://www.planning.dot.gov/documents/briefingbook/bbook.htm>. Accessed October 2013.
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