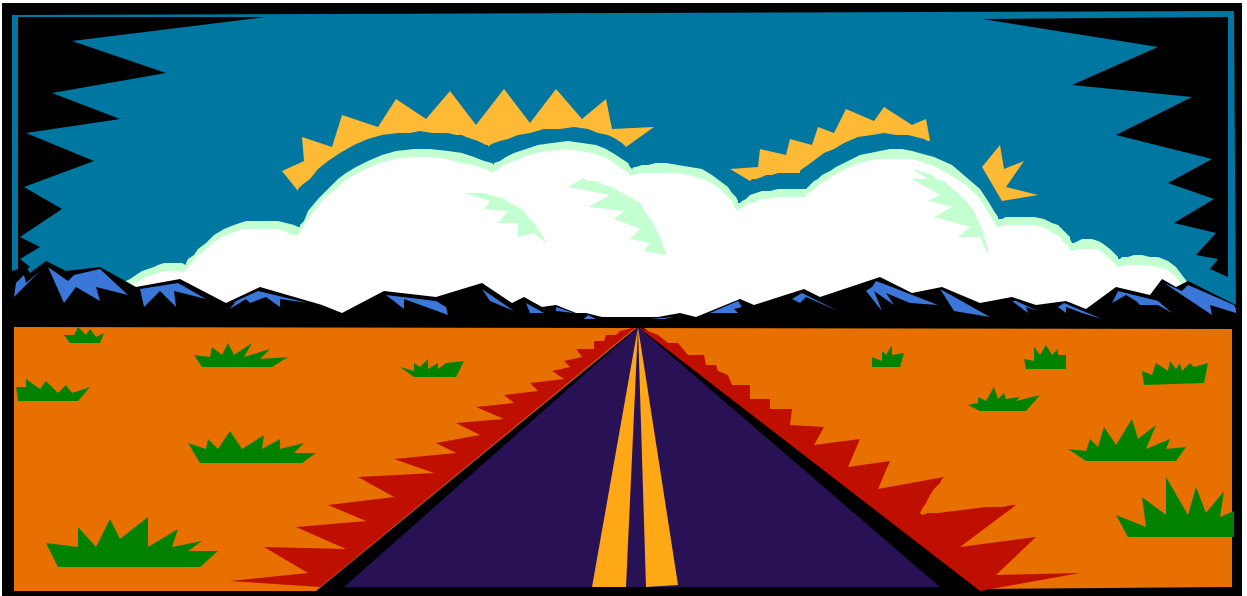


# ENVIRONMENTAL STREAMLINING

## GUIDEBOOK



Prepared for the Texas Department of Transportation  
By the Texas Transportation Institute



# **Environmental Streamlining Guidebook**

by

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## **DISCLAIMER**

The contents of this report reflect the views of the author, who is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official view or policies of the Federal Highway Administration or the Texas Department of Transportation. This report does not constitute a standard, specification, or regulation. The researcher in charge was John H. Overman, A.I.C.P.

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# Chapter 1 – Introduction

## Guidebook Organization

The Guidebook is organized to include an overview of environmental streamlining issues and perspectives.

- Chapter 1 – Introduction
- [Chapter 2 – National Streamlining Perspectives](#)
- [Chapter 3 – Streamlining Issues](#)
- [Chapter 4 – Streamlining Tools](#)
- Appendices – [Directory of Contacts, NEPA Compliance Categories, Environmental Documents](#)

## Streamlining and Environmental Stewardship – The Big Picture

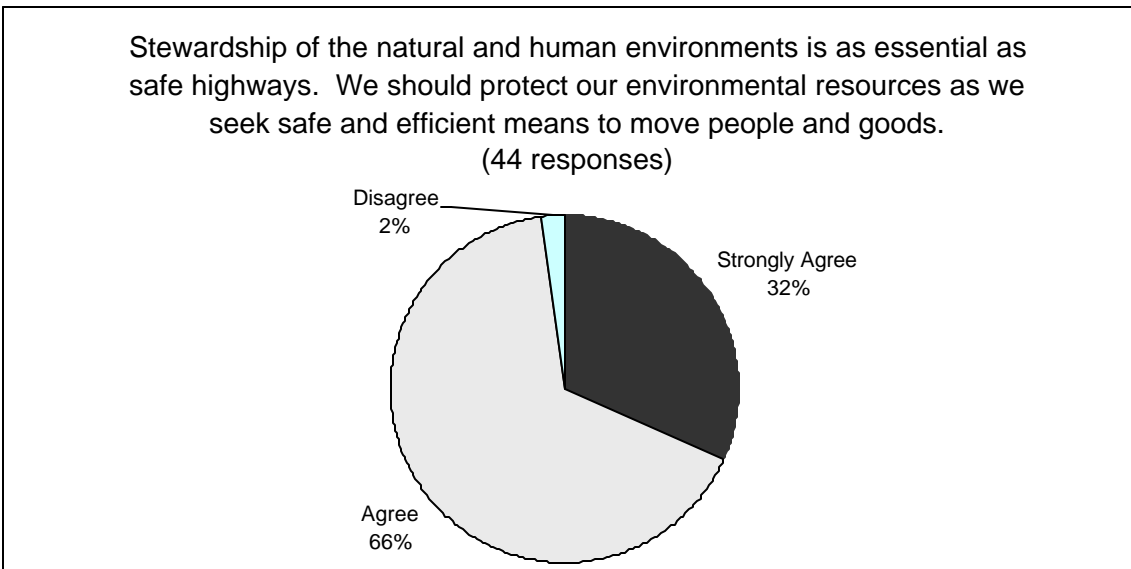
Each year there are typically over 1000 project lettings by Texas Department of Transportation (TxDOT) totaling around 3 billion dollars. Approximately half of these projects require some form of environmental clearance document in the form of categorical exclusion (CE), blanket CE, or environmental assessment (EA). Nearly all of the projects require at least some form of environmental consideration or permit. Streamlining efforts that improve only a fraction of the total project lettings can bring significant benefits to the TxDOT and Texas citizens.

To successfully accomplish streamlining during the environmental clearance process, it is necessary to keep the “big picture” in mind while navigating the necessary clearance requirements. Compare the environmental clearance process to a Texas highway map. When viewed at a nose’s length, a map of Texas looks like lines, numbers, dots, and symbols with some familiar names. Only after stepping back is the unmistakable image of Texas clear. Visualizing the entire environmental clearance process is as important as the ability to locate and navigate all those state highways to get to your destination. Many environmental clearance rules and requirements can be as circuitous as the lines on

a highway map, but the big picture remains the same – build a safe transportation system while protecting the environment.

***What Do Practitioners Think About The Big Picture?***

What do environmental coordinators think about the big picture? The opinion survey conducted as part of this project confirms that environmental stewardship is important to nearly all of the practitioners surveyed. See [Figure 1](#) below.



**Figure 1. Opinions on Environmental Stewardship**

Environmental stewardship can be a combination of attitude, ethics, and behavior. Stewardship is defined as taking care of other people’s possessions or interests. Since the environment belongs to everyone, and since transportation facilities are also the public domain, it is a tall order for state transportation employees to be stewards of the transportation system and the environment.

**TxDOT Environmental Policy**

It is the policy of the Texas Department of Transportation (TxDOT) to preserve and, where practicable, enhance the environment. TxDOT includes environmental considerations in its vision, mission, and goals. Increasing regulatory requirements, greater public awareness, and greater demands from policy makers are reasons to address TxDOT impacts on the environment.

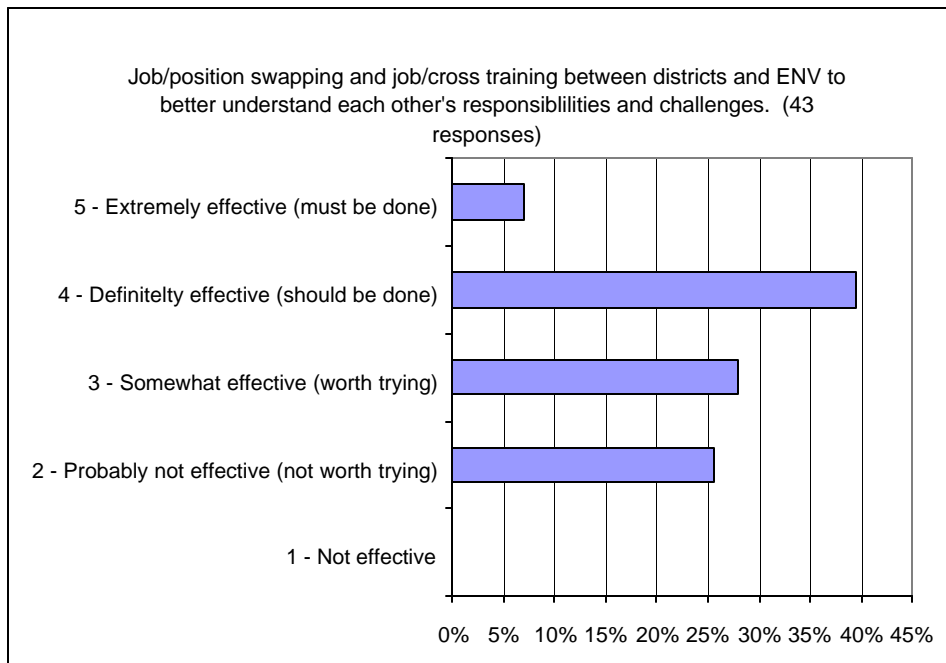
Many streamlining obstacles originate from the detailed tasks and permitting process that must be undertaken. Try to view the project development process from two perspectives, one that allows you to keep the big picture in mind and the other that allows you to focus on important details.

### Strategies for Streamlining

In the same opinion survey of TxDOT environmental and planning practitioners, a list of possible strategies to address streamlining obstacles was explored. The following streamlining strategies received the most favorable support.

#### *Environmental Cross Training*

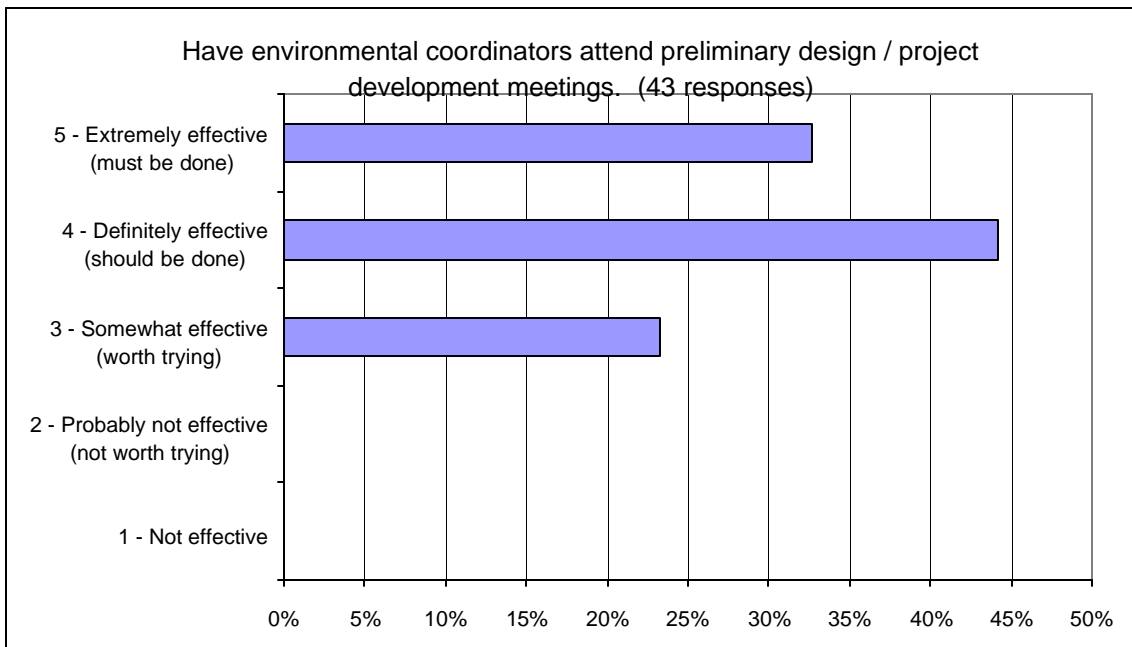
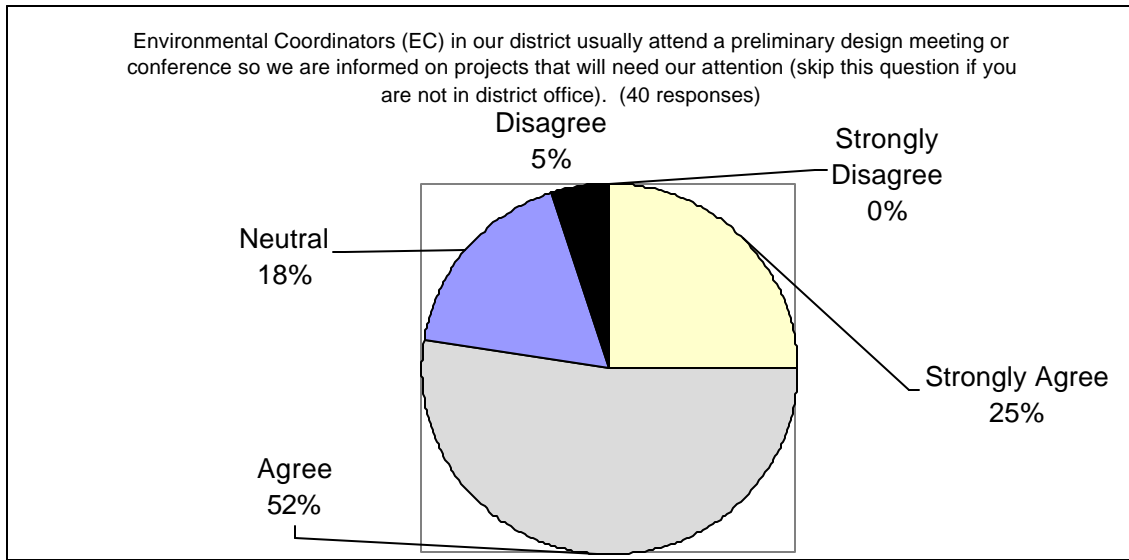
Environmental cross training involves an exchange of work experiences between the districts and the division. Project managers and environmental specialists from TxDOT's Environmental Affairs Division (ENV) would reverse roles with district environmental coordinators. The exchange would allow each practitioner to gain a better understanding of the other's unique job challenges as well as to build trust. See [Figure 2](#) below.



**Figure 2. Opinions on Job Cross Training Streamlining Strategy**

### *Attend Preliminary Design Conferences*

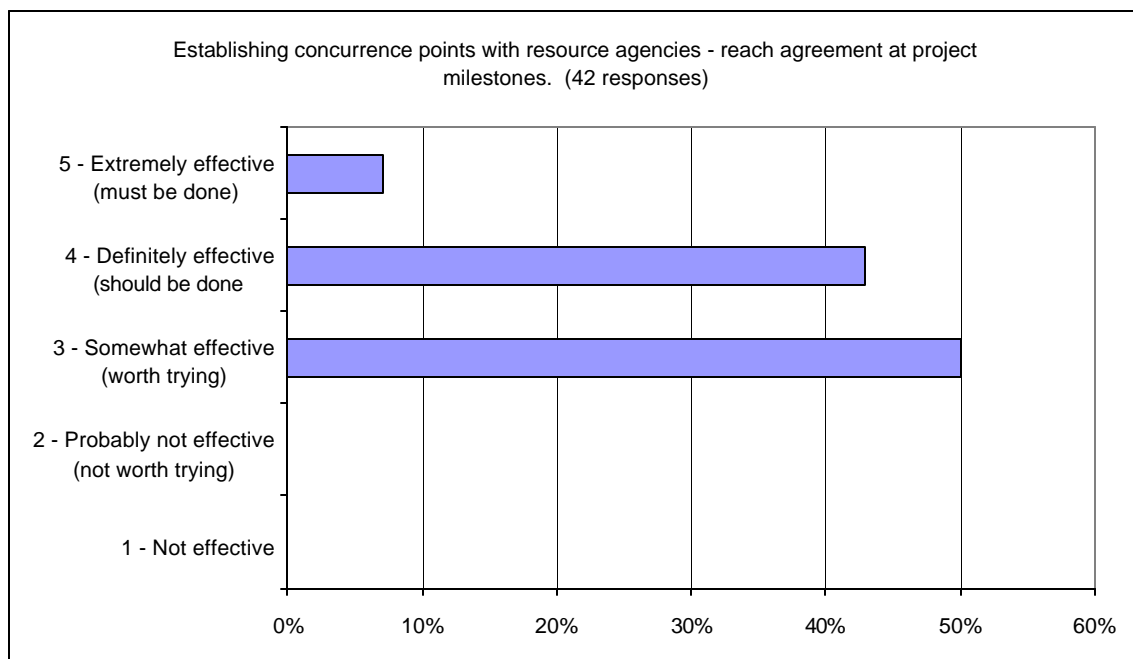
Having district environmental coordinators attend preliminary design conferences is routine in many districts. Participation by environmental coordinators is critical to identifying environmental problems before they occur and pursuing avoidance instead of mitigation. See [Figure 3](#) below.



**Figure 3. Opinions on Preliminary Design Conference Attendance**

### ***Establishing Concurrence at Project Milestones***

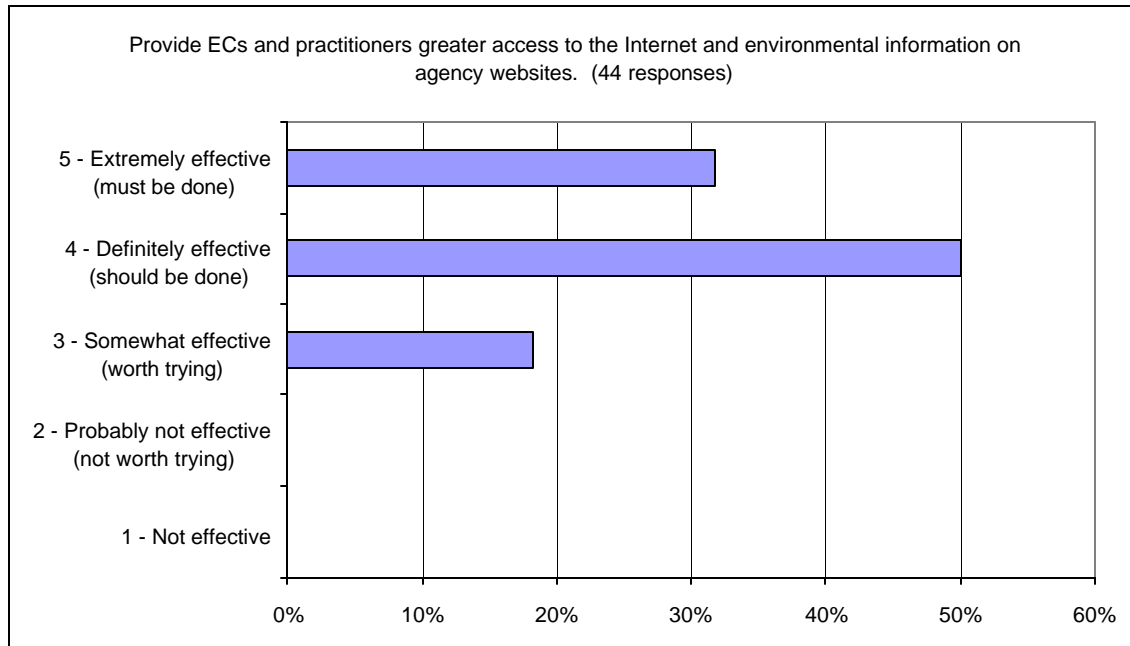
Establishing concurrence points at project milestones serves to address several aspects of streamlining. It can prevent repeatedly revisiting the same issue, or establish consensus to eliminate issues from further analysis. Once a milestone is reached, consensus with resource agencies (formal or not) forms the basis for advancing the project. Use the project development process chart to identify where to set appropriate milestones. Milestones build consensus on build alternatives, and demonstrates to the public how and why decisions are being made. See [Figure 4](#) below.



**Figure 4. Opinions on Establishing Concurrence Points at Project Milestones**

### ***Greater Access to the Internet and Agency Websites***

Nearly all of the federal resource agencies, and most state resource agencies, provide guidance documents on their websites to aid in environmental assessment, permitting, and clearance processes. Additionally, many metropolitan planning organizations and resource agencies are repositories for environmental and demographic data that can be used in environmental analysis and screening. See [Figure 5](#) on the following page.



**Figure 5. Opinions on Internet Access for Practitioners**

### *Other Streamlining Strategies*

The previous four streamlining strategies highlight the ones that received the most favorable rankings. Other streamlining strategies that received favorable rankings are listed below:

- funding more positions at TxDOT;
- establishing conflict resolution procedures with resource agencies;
- more programmatic agreements and programmatic permits;
- joint interagency staff training and workshops;
- environmental education for design staff and construction inspectors;
- joint environmental education and training with participation from design staff, construction inspectors, and environmental coordinators;
- earlier involvement of environmental coordinators on projects;
- earlier involvement of resource agencies on projects;



- continuous EC involvement from planning through project development and construction;
- more interaction and cooperation between TxDOT and resource agency senior management;
- create project working groups that include planners, designers, environmental staff, and resources agencies;
- use more information technology and electronic networking resources such as project management software or virtual office to share documents and coordinate design and environmental activities; and
- more “on the ground” environmental monitoring/inspection at construction projects.

### **What It Takes to Streamline**

Although incorporating streamlining strategies into practice requires a department-wide effort, streamlining success stories usually begin with efforts by individual practitioners. Based on the interviews and surveys of environmental professionals at TxDOT, the following are common traits among project development participants who are streamlining. According to the people in the environmental clearance trenches, this effort is what it really takes to streamline.

### ***Continue Doing the Job –TxDOT Is Already Streamlining***

Many environmental streamlining efforts by individuals go unnoticed or unrecognized. Individuals are simply doing their part to clear projects. By doing a good job and being a good steward, streamlining will follow. When you have streamlining success, don't be shy about sharing it with your peers, partners, and the public. It builds trust and confidence with transportation development partners.

### ***Better Communication and Information***

Not necessarily more communication, but better communication and better information is needed. Improve project communication and information exchange. This improved communication includes maintaining an open dialogue with resource agencies, consulting

partners, and contractors. Effective written communication in environmental scopes of work, plan sheets, general notes, and concise environmental documents is also important. Stay connected to the process and keep information flowing.

Keeping information flowing inside the department is also critical. Make an effort to become involved by asking questions and being informed on the whole process and not just one part of it. Stay connected to the area offices, districts, and the division. If you have good information, share it.

### ***Build Relationships and Build Trust***

Streamlining occurs when the stakeholders and partners in the transportation development process trust each other. Trust from the public and resource agencies reduces the need to continually verify everything, thereby reducing the time it takes to explain, document, and reassure.

### ***Use Technology (It pays in the long run)***

“It will take too long to learn to do it that way.” That is a common refrain from those who wish to continue preparing documents, creating databases, and compiling environmental information the same old way. Yes, it may take longer the first time you try new software or to compile a document, but it may speed the environmental clearance process the next time. Do you remember the typewriter or a bookshelf full with the entire Code of Federal Regulations (CFR)? Environmental information is being collected, stored, and communicated more effectively than ever before because of technology – use it.

### ***Everyone Is on the Same Team – Be a Project Partner***

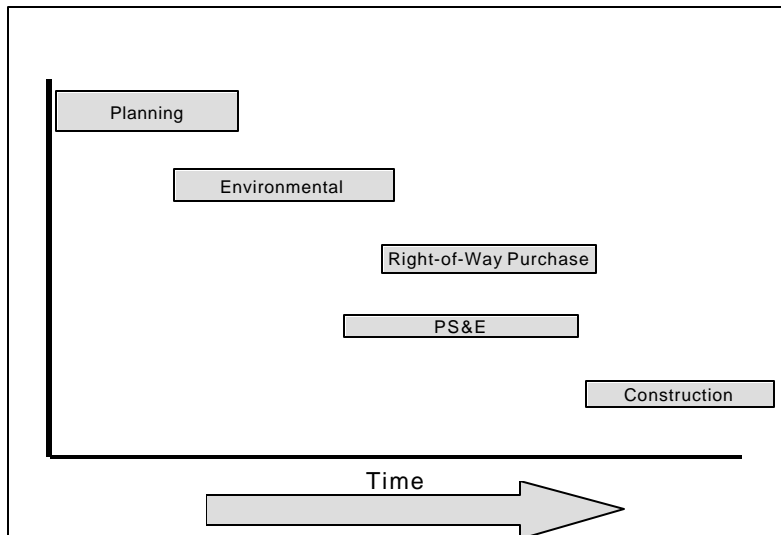
Be a partner not a problem. Working as a team toward a common goal is one of the most frequently mentioned and observed traits in successful streamlining efforts. When everyone from planners, designers, and environmental specialists, to construction managers and contractors work for the goal of completing the project, streamlining

occurs. On larger projects, consider forming a project team to facilitate the project development process.

Streamlining can occur at different stages of development and so can obstacles to streamlining.

### When to Streamline

There are opportunities to streamline at each stage of project development from planning through construction. When is the best time to streamline? The answer is whenever the opportunity arises, but earlier is better. [Figure 6](#) presents a general project development timeline.



**Figure 6. General Project Development Timeline**

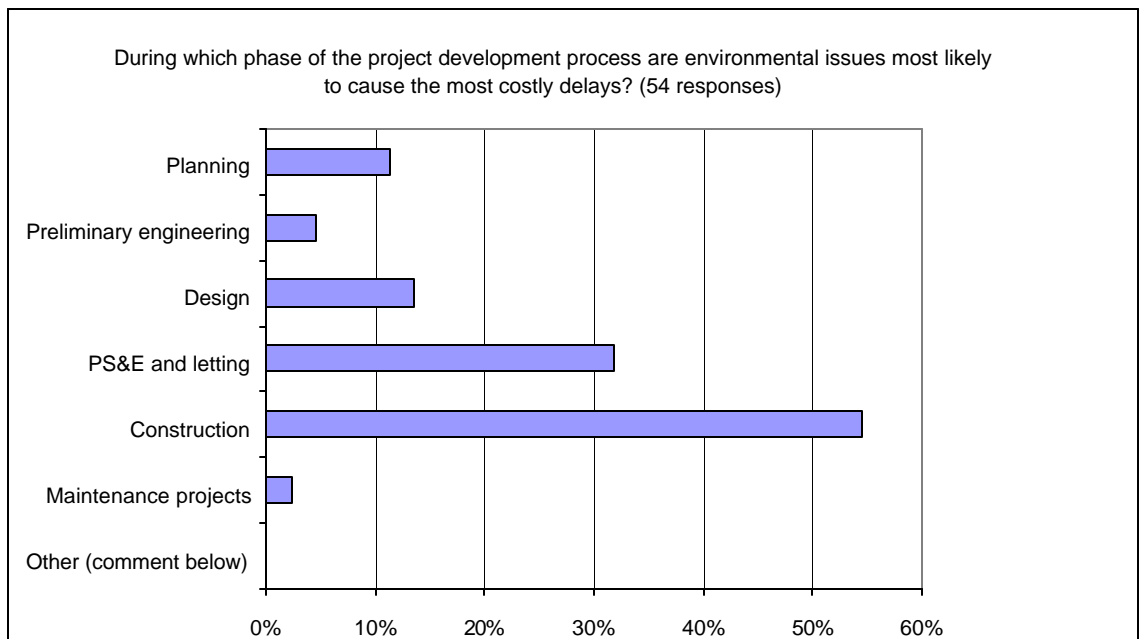
The survey responses indicate that doing everything you can before construction begins is the best approach. Unexpected environmental issues such as discovering “ghost tanks” during construction cannot be prevented, but using contingency plans and evergreen contracts for a quick response can be used to minimize project impacts. Being prepared is streamlining too.

### ***Project Size Does Not Matter***

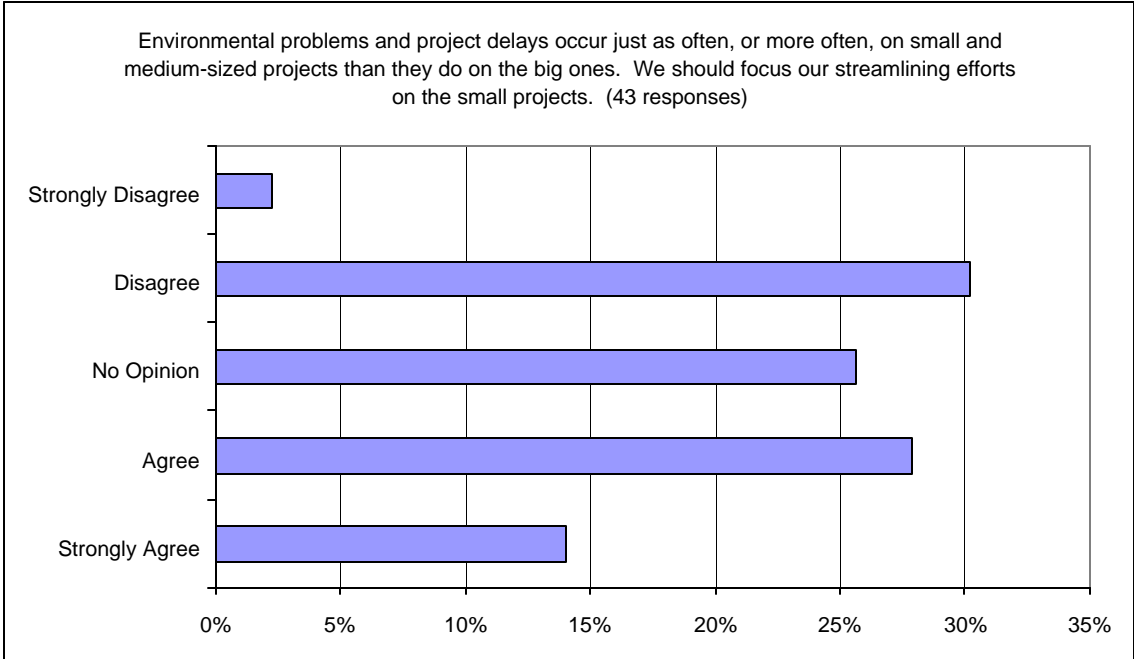
One conclusion based on information collected in the project is that delays resulting from environmental problems occur just as frequently on small projects as large ones.

Therefore, look for opportunities to streamline on all projects regardless of size.

Streamlining on everything from maintenance and resurfacing projects to capacity improvements, bridge replacements, and expansion projects can yield benefits. For most districts, the volume of smaller projects that use blanket CEs are greater in comparison to those requiring EAs. Give every project environmental document and issues, big or small, equal consideration. [Figure 7](#) shows the environmental coordinators' opinions on where delays can be costly. The results of the opinion survey in [Figure 8](#) appear to show that project size does not matter when it comes to delays.



**Figure 7. Opinions on Environmental Delays**



**Figure 8. Opinions on When Delays Occur**



## Chapter 2 – National Streamlining Perspectives

### NEPA Background

The National Environmental Policy Act (NEPA) affects nearly all aspects of transportation development. In 1969, Congress passed and President Richard Nixon signed into law, the National Environmental Policy Act of 1969. The act set forth the basic policy for protection of the environment and accomplished three major goals:

- It set national environmental policy.
- It established a basis for environmental impact statements (EISs).
- It created the Council on Environmental Quality (CEQ), (<http://www.whitehouse.gov/ceq/>).

NEPA requires many government agencies to use an interdisciplinary approach in planning and decision making for actions that impact the environment. It requires an assessment of environmental impacts on human environment and consideration of alternatives and mitigation where feasible. The CEQ developed regulations for the environmental impact assessment process and documentation. In addition to NEPA, the provisions of other statutes, regulations, and executive orders affect the decision making on federally assisted transportation projects, (<http://ceq.eh.doe.gov/nepa/nepanet.htm>).

### 23 CFR 771

The United States Department of Transportation environmental regulations are contained in 23 CFR 771. These regulations are the basis for surface transportation projects. In general, 23 CFR 771 requires:

- documentation to demonstrate compliance,
- an evaluation of alternatives including the “no-build” alternative,
- public involvement, and
- mitigation when necessary ([www.fhwa.dot.gov/](http://www.fhwa.dot.gov/)).

## **FHWA Definition of Streamlining**

The Transportation Efficiency Act for the 21<sup>st</sup> Century (TEA-21) challenges the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) to implement “environmental streamlining.” Environmental streamlining means different things to different people, but the term is generally used to describe a new way of doing business that brings together the timely delivery of transportation projects with the protection and enhancement of the environment. FHWA describes environmental streamlining this way:

“In its simplest terms, environmental streamlining consists of cooperatively establishing realistic project development time frames among the transportation and environmental agencies, and then working together cooperatively to adhere to those time frames. Because major transportation projects are affected by dozens of Federal, State, and local environmental requirements administered by a multitude of agencies, improved interagency cooperation is critical to the success of environmental streamlining.”

## **Federal Streamlining Strategies**

During the 2001 TxDOT Environmental Streamlining Workshop, FHWA representatives described streamlining this way: “Streamlining is a more efficient and effective way to review and advance environmental clearance processes.”<sup>1</sup>

The federal streamlining strategies included:

- program efficiency – timely reviews, early and continuous involvement;
- flexible mitigation – avoidance of impacts where possible, programmatic agreements;
- resource management – adequate staffing, agency agreements, interagency training;
- dispute resolution processes and conflict avoidance;

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<sup>1</sup> Comments are from 2001 TxDOT Environmental Streamlining Workshop, February 6-7, Austin, Texas. See the Workshop Summary of Proceedings available on the TxDOT Environmental Division website, (<http://www.dot.state.tx.us/insdot/orgchart/env/streamline/streamline.htm>).



- measuring continuous improvement – measurement of progress through best practices, evaluation techniques, benchmarking, and performance standards;
- early involvement by agencies in the planning stage of development;
- more efficiency through programmatic agreements, watershed/system view;
- proactive agency participation and shared decision making;
- continuous communication at all levels.

(A complete description of federal streamlining efforts is available on the FHWA website: [www.fhwa.dot.gov/environmental/strmlng.htm](http://www.fhwa.dot.gov/environmental/strmlng.htm).)

### **State DOT Streamlining Summaries**

FHWA maintains a website for sharing State Department of Transportation (SDOT) environmental streamlining best practices (<http://environment.fhwa.dot.gov/strmlng/es6stateprac.asp>) and should be referenced for a more comprehensive listing of SDOT streamlining activities. Additionally, an on-line center for the discussion of environmental issues called *RE:NEPA* provides a “community of practice” open to anyone at: <http://nepa.fhwa.dot.gov/ReNepa/ReNepa.nsf/home>. Provided below is a summary of a few selected SDOT practices and links to their websites.



#### ***California- Division of Environmental Analysis***

The Division of Environmental Analysis (<http://www.dot.ca.gov/hq/env/index.htm>) acts as the department compliance lead and assists the districts and transportation partners. Publications, guidance, manuals, and forms can be found at <http://www.dot.ca.gov/hq/env/resource/pubs/pubs.htm>. They include works on air quality, biological resources issues, cultural resources, archeology, architectural history, community impact assessments, history, hazardous waste management, noise studies, and stormwater production (Caltrans, Division) (<http://www.ecoiq.com/transportation/>).

## ***California- Environmental Handbook***

The Environmental Handbook currently consists of four volumes: Environmental Process, Procedures, and Documentation; Cultural Resources (Archaeological and Historical); Biological Resources; and, Community Impact Assessment (<http://www.dot.ca.gov/hq/env/resource/pubs/handbook/handbook.htm>).



## ***Florida***

Florida has been selected as a pilot state for developing and implementing a streamlining process (<http://www.dot.state.fl.us/emo/esp/esp.htm>). Its goal is to work with all agencies to develop a more efficient transportation decision-making process while protecting Florida's very rich and diverse environmental resources.

## ***Florida- Environmental Management Office***

The Environmental Management Office of Florida is developing a coordinated environmental review process for transportation projects in Florida. Included in the web sources is meeting information for the "Developing Efficient Transportation Decision Making Processes," covering streamlining obstacles and strategies (<http://www.dot.state.fl.us/emo/esp/esp.htm>).

## ***Florida- Environmental Screening Analysis, Community Impacts, and Cultural Resources Criteria***

The Environmental Screening Analysis is a list of questions related to the environmental screening criteria. Also included are questions on community impacts and cultural resources. Each question is followed by a brief explanation as to the intent of the question.



### ***Maryland***

Maryland State Highway Administration's Project Planning Division developed its Best Practices Example, "Maryland's Streamlined Environmental and Regulatory Process." 11/9/00 is available at <http://www.sha.state.md.us/>.

#### ***Maryland - Streamlined Environmental and Regulatory Process***

The project efforts focus on updating the existing "NEPA/404" process. The Streamlined Environmental and Regulatory Process consists of 18 steps. Also listed are steps to conflict resolution. Participating agencies have agreed to commit their resources to the fullest practicable extent.



### ***Minnesota - Archaeological Predictive Model***

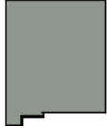
The Minnesota DOT process included scoping, interpretation, design, and review followed by either survey design or concurrence. More efficient cultural resources showed in review that more projects were cleared, less mitigation were needed, and a faster turnaround time was implemented (<http://www.dot.state.mn.us/environment/> and [http://carey078.itre.ncsu.edu/WLS/CLASSES/May11\\_2001/HTML/lect1/outfile.html](http://carey078.itre.ncsu.edu/WLS/CLASSES/May11_2001/HTML/lect1/outfile.html)).



### ***Nevada - Structured Decision Process: Nevada IH-580 Preliminary Design***

This project faced many challenges including: highly visible/audible alignment through Pleasant Valley, geothermal activity with hydrothermally altered soils, difficult-to-regenerate terrain, two stands of pine forest, wetlands and springs, historical/cultural resources, and the longest, highest bridge in Nevada. The project created an alternative

selection process using a decision model also known as decision support software (<http://www.nevadadot.com/>).



### ***New Mexico- Environmental Stewardship and Community Impact Self Assessment***

The New Mexico State Highway and Transportation Department (NMSHTD) and New Mexico Division Office of FHWA performed an Environmental Performance Assessment that resulted in a strategic plan to improve performance in the future and created environmental performance measures. The Environmental Responsibility Compass Measure (ERCM) provides an evaluation of how well the department as a whole is performing as well as a snapshot in time so that projects can be periodically reevaluated to chronicle improvement or decline over time. The process includes public involvement and community impact, mitigation and enhancement, agency coordination, and the decision process (<http://www.nmshtd.state.nm.us/>).



### ***New York- Environmental Handbook for Transportation Operations***

The New York State DOT (NYSDOT) has developed an Environmental Handbook for Transportation Operations (<http://www.dot.state.ny.us/eab/oprhbook.html>) which provides general awareness and guidance of the primary environmental requirements that apply to the types of activities conducted by NYSDOT operations. It is not intended to substitute for the actual regulations and interpretations by environmental resource personnel, but rather to serve as a flag for certain issues that may require more assistance.

### ***New York- Environmental Initiative***

The New York State Department of Transportation Environmental Initiative (<http://www.dot.state.ny.us/eab/epm.html>) purpose is to advance state environmental

policies and objectives. As with most DOTs, strict regulatory compliance had long been a part of the culture at the DOT, but the state wanted to do more than just streamline an adversarial process or “green up” a few projects. NYSDOT’s Environmental Initiative is more than just an effort to incorporate environmental features into a project, streamline a regulatory process, or improve interagency communications. It is a public service ethic that provides a philosophical basis for accomplishing all these things and more.

The NYSDOT has made available an Environmental Initiative Guidelines and Procedures (<http://www.dot.state.ny.us/eab/eieab3.pdf>). Environmental Initiative examples are found at <http://www.dot.state.ny.us/eab/eiexampl.html> and <http://www.dot.state.ny.us/eab/envinit.html>.



### ***North Carolina-Project Development and Environmental Analysis***

The Project Development & Environmental Analysis (P.D.E.A) is project development tools to achieve excellence and trust in providing transportation systems (<http://www.dot.state.nc.us/planning/pe/>).



### ***Ohio-Environmental Services***

Ohio DOT’s (ODOT) Environmental Services (<http://www.dot.state.oh.us/oes/>) provides environmental training, technical support, and policy development. Available documents include Ecological Guidelines ([http://www.dot.state.oh.us/oes/eco\\_guide.htm](http://www.dot.state.oh.us/oes/eco_guide.htm)), Archeological Report Guidelines ([http://www.dot.state.oh.us/oes/report\\_guide.htm](http://www.dot.state.oh.us/oes/report_guide.htm)), and Environmental Site Assessment Guidelines (<http://www.dot.state.oh.us/oes/ECOESA/esagui~1.pdf>) (ODOT, Environmental).

### ***Ohio DOT's Nine-Step Transportation Development Process***

The ODOT's Nine-Step Transportation Development Process (<http://www.dot.state.oh.us/oes/pdp.htm>) was established to accomplish the task of complying with NEPA while developing a process that is interdisciplinary, systematic, and reproducible. The process encourages early integration of planning for environmental and engineering activities, on-going communication between agencies and the public, operational flexibility, and ability to adapt.



### ***Oregon - Collaborative Environmental Agreement Process***

The Collaborative Environmental Agreement Process (CEAP) (<http://www.odot.state.or.us/eshtm/>) is a joint initiative to streamline the environmental process among 10 state and federal agencies. Documents were developed that clarified Oregon DOT's (ODOT) environmental stewardship responsibilities and provided guidance for decision makers (ODOT, Services).

### ***Oregon - Geospatial Database: Oregon IH-5 Condition Report***

The Interstate 5 Transportation Condition Report is a comprehensive electronic tool for corridor planning (ODOT, 18). The environmental value of this report included resource mapping, data dictionary, red flag issues, access to associated data, and aerial photos ([http://carey078.itre.ncsu.edu/WLS/CLASSES/May11\\_2001/HTML/lect1/outfile.html](http://carey078.itre.ncsu.edu/WLS/CLASSES/May11_2001/HTML/lect1/outfile.html)).

### ***Northwest Environmental and Transportation Streamlining Forum: Idaho, Montana, Oregon, and Washington***

The Northwest Environmental and Transportation Streamlining Forum: Idaho, Montana, Oregon, and Washington (<http://www.odot.state.or.us/eshtm/streamline.htm>) is a four-state effort consisting of the Departments of Transportation for Idaho, Montana, Oregon, and Washington together with their respective offices of U.S. Fish and Wildlife, U.S. Forest Service, and National Marine Fisheries Service (Northwest).



### ***Pennsylvania***

The Pennsylvania Department of Transportation has created statewide environmental initiatives including performance goals, cross training with the Environmental Protection Agency (EPA), and participation in the Mid Atlantic Transportation and Environment Initiative (MATE).

#### ***Pennsylvania- The “Corridor O” Project***

The “Corridor O” Project (<http://www.corridor-o.com/>) is Pennsylvania’s Model for Environmental Streamlining. The Four-Stage Project Development Process includes the Visioning Stage, Development Stage, Refinement Stage, and Final Comparison Stage. The cornerstone of this process is early public and agency involvement.

#### ***Pennsylvania- Maximum Information, Minimum Space***

Pennsylvania created a CD-ROM that condenses information for a stretch of highway, making it more convenient to access. It includes alternatives related to farmlands, wetlands, and other environmentally sensitive areas. Maximum Information, Minimum Space is Pennsylvania’s lean, new environmental impact statement.



### ***Washington- Environmental Resources Utilization Analysis of TEA-21***

The Washington DOT developed the Environmental Resources Utilization Analysis ([http://www.wsdot.wa.gov/eesc/environmental/programs/regcomp/tea21/TEA\\_21.htm](http://www.wsdot.wa.gov/eesc/environmental/programs/regcomp/tea21/TEA_21.htm)).





## Chapter 3 – Streamlining Issues

### **TxDOT Environmental Streamlining Workshop**

On February 6 and 7, 2001, approximately 70 transportation professionals convened at the J. J. Pickle Research Center in Austin, Texas, to participate in the “Project Development Streamlining Workshop.” The workshop was sponsored by TxDOT with cooperation and participation from FHWA. The participants in the workshop shared ideas on a broad range of environmental issues affecting the transportation project development process at TxDOT. As part of the workshop, TxDOT environmental coordinators and planners identified what they believed were obstacles to streamlining.

Listed below are early comments from the workshop participants on roadblocks to streamlining:

- Lack of trust between agencies
- Resource agencies not having vested interest in project
- Lack of flexibility/rigid interpretation of laws
- Too much comfort in the “old ways”
- Different agency agendas and goals
- Us vs. them (rather than “we”) mentality
- Misunderstanding of agency roles and process
- Turnover/new staff in all agencies, lack of experience and knowledge
- Inconsistency – different districts, agency staff interpret rules differently, have different expectations (also affected by turnover), and changing priorities
- Lack of communication
  - Internally – on status of projects, on potential impacts
  - Externally – with other agencies
  - Lack of conflict resolution procedures

- Lack of clearly defined environmental requirements (mind-reading)
- Lack of empowerment of staff “at the table”
- Lack of agency participation in TxDOT meetings
  - Don’t respond to invitations
  - Don’t participate early enough
  - Don’t participate throughout the project
  - Resource agencies want to know more detail before information is available
- Lack of resources: too many projects and too few Full-Time Employees (FTE) on all agencies’ parts
- Revisiting work/decisions that have been made

Many of the issues listed above were echoed in the opinion survey of environmental coordinators. Communication and early involvement were a recurring theme in both the workshop and the survey. However, many of the issues cited above revolved around external relationships with outside resource agencies. For streamlining to be successful, it also must start within the organization.

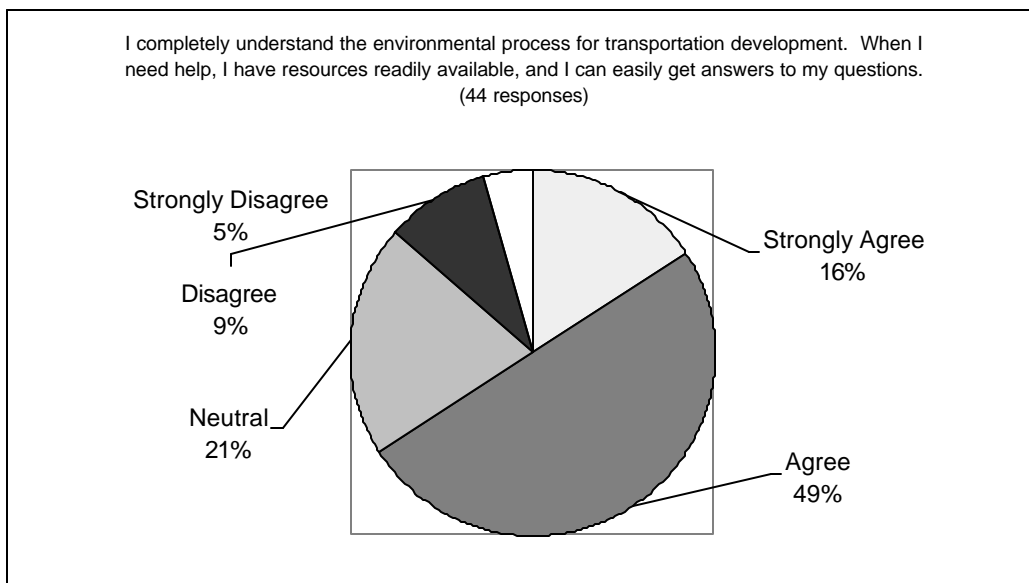
### **TxDOT Environmental Coordinator Experience**

Finding streamlining opportunities requires knowledge of the entire environmental clearance process. Practitioners who responded to environmental streamlining opinion surveys were generally very experienced. [Table 1](#) shows that 69 percent of the respondents to the survey have more than 9 years experience in transportation and/or the environment. [Figure 9](#) indicates that most practitioners believe they understand the environmental clearance process and have adequate resources.

**Table 1. Survey Respondents Work Experience**

<b>Years Transportation/Environmental Experience</b>	<b>Percent of Respondents</b>
0-3	7.70
4-8	23.10
more than 9	69.20

Assuming that most of the respondents to the survey are experienced and knowledgeable, what are the issues that hinder streamlining? In some cases, it is a matter of resources. That includes information resources and staff resources.



**Figure 9. Understanding the Environmental Clearance Process**

### **Environmental Issues Affecting Project Development at TxDOT**

The following sections are examples of issues raised in various meetings and discussions of the environmental issues and the project development process. In some instances, the example is a composite of several similar problems encountered by different districts. Some examples result from issues external to TxDOT. If you see any of these situations coming, start looking for solutions early.

### ***Environmental Information Continuity – Keep Environmental Information Moving***

Planning-level environmental information needs to continue into project-level analysis. Whether it's background on the alternatives analyses or potential community concerns, avoid “pitching information over the fence” into the next phase of development. Greater continuity in the exchange of information from planning to design streamlines because:

- It reduces document preparation time, especially in development of the purpose and need statement and other assessments.
- It helps avoid duplicate efforts and starting over on analysis when the groundwork had already been done.
- It calls attention to problems identified in planning, fatal flaws, or discovering new development obstacles that may need specific design accommodations.

### ***Changing Environmental Conditions***

Environmental factors not identified early become problematic later due to either unforeseen conditions or the changing nature of the site conditions and environmental priorities. In some instances, it may take so long for a project to reach development stages that conditions may have changed and require reexamination. One example cited was when neighborhood issues and environmental justice were not considered for a project planned 5-7 years ago. Now, the project is in development but the environmental justice issues are problematic because considerations were not made earlier to study the neighborhood impacts. Develop a matrix of environmental issues and alternatives to keep track of environmental issues that change.

### ***Keep Environment Commitments – Put Requirements in Plan Sheets and Notes***

A common issue that was identified was when contractors and equipment operators did not adhere to or did not have adequate direction regarding excavation/grading plans. As a result, environmental commitments were not met regarding saving a wetland or sensitive habitat (as an example). In general, the environmental permitting and documentation process is performed well, but the implementation on the project at “ground level” falls short.

The suggested streamlining recommendations are:

- Place greater emphasis and detail on plan sheets to clearly show critical environmental information including
  - Avoidance areas for endangered species
  - Mitigation areas
  - Wetland boundaries
  - Avoidance areas for cultural resources
  - Temporary work areas
  - Stockpiling locations for contaminated soils
- Distinguish between “high probability” and “low probability” areas
- Include TxDOT Environmental Contacts and Resource Agency Contact information
- Include documentation requirements in specifications as needed
- Include contingency plans and schedules for unexpected environmental occurrences
- Contract management and engineering services
- Communicate with the area offices

One suggestion from a district environmental coordinator was to ask to be on the invitation list for all pre-construction meetings. Although she could not possibly attend them all, being on the invitation list enabled her to attend the really sensitive or difficult projects where extra pre-construction environmental guidance would be helpful. At a minimum, be sure to contact the area offices and construction managers to alert them of environmental issues that could slow the project.

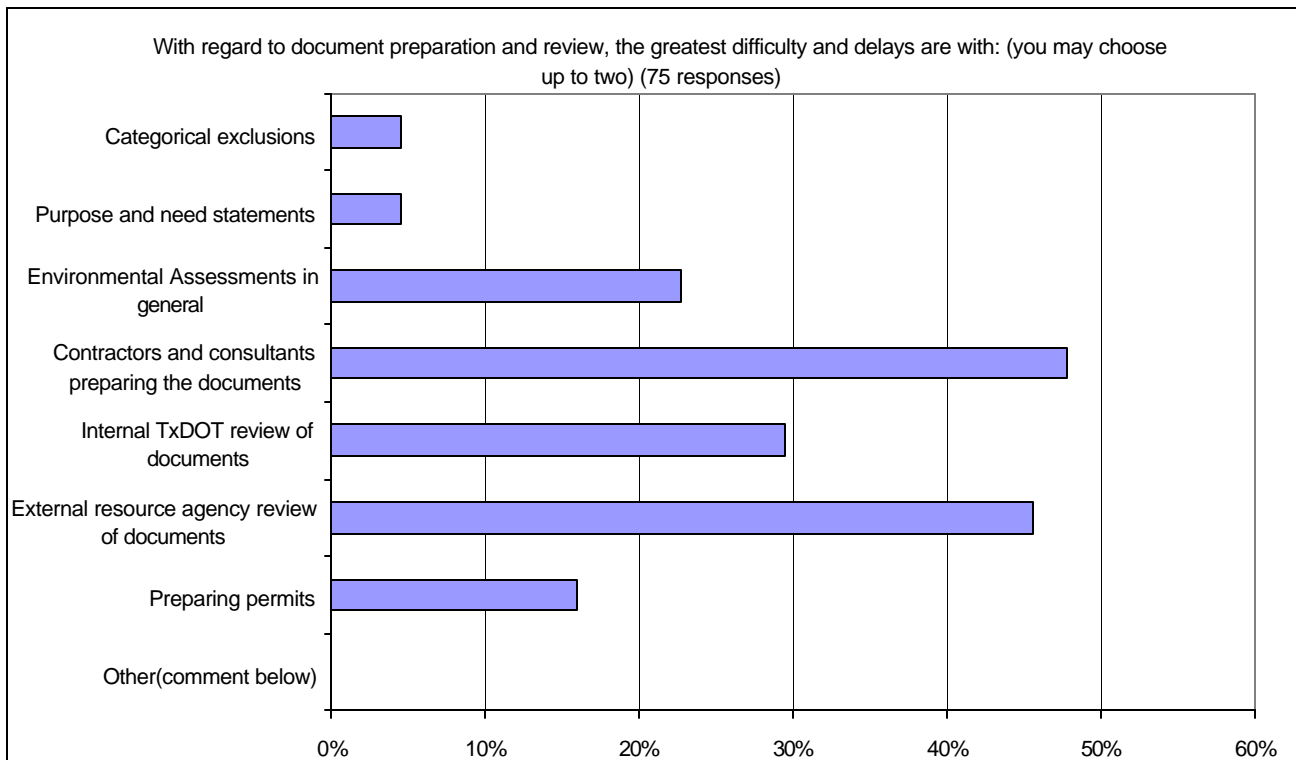
### ***Contract Management and Document Preparation***

Environmental coordinators may have limited quality control on outside work performed by consultants and their subcontractors, but they can certainly influence the outcome. Although many environmental consultants are available, finding those with environmental working experience on TxDOT projects is difficult. Placing more

emphasis on consultant selection and managing consultants was mentioned as an appropriate response. In particular, provide detail on environmental tasks in requests for proposals and in scopes of work. Work with the consultants as if they are development partners.

The environmental documents prepared by consultants were identified by environmental coordinators as a problem in the streamlining survey. (See Figure 9.) Respondents noted that documents prepared by consultants cause greater delays than resource agency reviews. On the other side of the coin, consultants indicated that the scope of work lacked specificity so they were left guessing on expectations. The lesson here is if you clearly set expectations for your document, those expectations will be met by the consultants.

- Use the new scope of work for environmental services.
- Establish good working relationships with consultants.



**Figure 10. Environmental Coordinator Opinions on Document Delays**

### ***Environmental Coordination with Transportation Partners***

When TxDOT performs cooperative projects with local governments, counties, or other entities, that entity may be given responsibility for the environmental documentation and clearance. Situations arise where environmental information and documents from the local entity are inadequate. TxDOT is then put in the awkward position of having responsibility for a project and little influence over meeting environmental requirements. Meet with local partners early, and agree on roles and expectations.

### ***Concise Environmental Documents***

A familiar complaint among district and division environmental professionals was that of voluminous assessments, that in some cases, are not necessary. The EA should be more concise and contain less extraneous material. Longer assessments take more time to review, make finding information tedious, are expensive to reproduce, and frustrate the public review. This complaint is currently being addressed through training modules being developed and delivered by the environmental division, a new scope of work for environmental services, and environmental assessment format.

### ***FEMA and Local Government Coordination***

A problem arises from Federal Emergency Management Act (FEMA) requirements and local government coordination. In some instances, there is no local representative to coordinate and address compliance with FEMA requirements. In other instances, local requirements exceed minimum FEMA requirements, yet TxDOT is obligated to design and construct to the minimum. Local governments expect TxDOT to absorb additional design and construction costs for those requirements that exceed the minimum.

### ***Issues Considered but Eliminated from Further Analysis***

This problem is primarily associated with ensuring that environmental issues that are considered and found to have no or minimal affect are eliminated from further analysis and are properly documented. The problem arises when a particular issue is repeatedly

raised and reexamined unnecessarily. Address this problem by building consensus during project development and setting project concurrence milestones.

### ***Thinking beyond the Right-of-Way Lines***

This streamlining issue is more conceptual in nature. During project development, there is a tendency to only examine issues between the right-of-way lines. Expanding consideration of environmental impacts outside the right-of-way can prevent potential development obstacles in the future. This tendency is particularly true of environmental justice and water resource considerations.

### **Solving Problems – What the Districts and Division Are Doing**

Below is a brief list of how the districts and division address streamlining issues. [Chapter 4](#) also presents some of these approaches in greater detail.

### ***Preliminary Engineering and Concept Coordination Meetings***

Districts are having Preliminary Design and Concept Conferences/Meetings that are more inclusive and comprehensive in scope. The meeting helps facilitate the flow and transition of environmental information and requirements, document problematic issues, and document environmental issues that have been considered but eliminated from further analysis. Additionally, district ECs are included earlier in the process. Where Metropolitan Planning Organizations (MPOs) are involved, the MPOs help with the “environmental memory” and transition.

### ***Environmental Tracking System (ETS)***

The ETS provides a tracking system for documents and milestones to aid in coordination. Expanding the use and access to ETS potentially increases communication and coordination.



### ***Improved Plan Sheets***

Districts are including more plan sheets (where appropriate) with specific environmental information and clear instructions. In several instances, plan sheets were described as being very effective.

### ***Revised Environmental Assessment Format and Documents***

The environmental assessment format has been revised to be more concise. (See [Chapter 4.](#)) Also improving are purpose and need statements to help with early planning and conveying environmental information. Many districts prepare an informal purpose and need statement to help with early recognition of environmental problems.

### ***Use of Pre-Certification for Environmental Consultants***

TxDOT has a pre-certification process to improve the quality of environmental services provided by consultants. Expanded use of pre-certified consultants and verification may be needed to improve the effectiveness of the program, particularly the sharing of district experiences with various firms. Additionally, putting more specific environmental language and requirements in engineering Request for Proposals (RFP) may improve the quality of the engineering and environmental product.

### ***Use of Evergreen Contracts/Contractors***

TxDOT uses an “Evergreen Contract” to enable the use the services of pre-qualified environmental consultants familiar with TxDOT processes. The use of evergreen consultants has been effective in addressing environmental issues quickly.

### ***Division of Environmental Work between District and Division***

Depending on the resources and expertise in the districts and division, TxDOT works together to allocate the necessary resources to get the job done and coordinates environmental reviews.

### ***District Coordination with MPOs and Local Officials***

In most instances, TxDOT does a good job of coordinating with MPOs and local officials early to identify potential obstacles in the project development process.

### ***Environmental Training Courses***

ENV will be conducting a series of Environmental Training Courses in the districts with participation of the district EC. This effort should go a long way toward improving the effectiveness in which environmental issues are addressed in project development.

### ***Working with the Corps of Engineers***

Tips on working with the Corps of Engineers are as follows:

Get to know the personnel in the district(s) in which you are working, and become familiar with their procedures.

- If at first you don't succeed, read the instructions.
- Use **all** of the Corps Regulatory websites as resources.
- Acknowledge the heavy regulatory program workload.
- Avoid, minimize, and compensate.
- For more information on wetlands visit these agency websites:

National Regulatory Program Home Page:  
[www.usace.army.mil/inet/functions/cw/cecwo/reg/](http://www.usace.army.mil/inet/functions/cw/cecwo/reg/)

Fort Worth District Regulatory Home Page:  
[www.swf.usace.army.mil/regulatory/](http://www.swf.usace.army.mil/regulatory/)

Galveston District Regulatory Home Page:  
[www.swg.usace.army.mil/reg/](http://www.swg.usace.army.mil/reg/)

Tulsa District Regulatory Home Page: [www.swt.usace.army.mil/reg/](http://www.swt.usace.army.mil/reg/)

## Chapter 4 – Streamlining Tools

### Purpose and Need (P&N) Statement Development

The purpose and need statement is like the trail boss on a Texas cattle drive. It guides the herd of project issues toward development. The statement briefly specifies the underlying purpose and need for which TxDOT is proposing alternatives to a proposed action. It must clearly demonstrate that a need exists, and how the need will be met based on tangible and quantifiable data. The P&N includes a written description of the transportation problem(s) that a transportation improvement project is intended to address. The P&N statement is used by planners, decision makers, and the public, to identify and compare project alternatives against their associated impacts, and to ultimately select a preferred alternative.

#### *Basic P&N Requirements:*

- define the transportation need that the project is intended to address;
- establish the logical project termini and intermediate control points; and
- demonstrate the project has independent utility (i.e., is a usable and reasonable expenditure if no other transportation improvements were made in the area).

#### **How can P&N statements help streamline the clearance process?**

**Answer: Early coordination.** One of the commonly noted obstacles to streamlining is maintaining the continuity of information from planning into project development. A well thought out purpose and need statement can help carry the needed environmental information forward from planning stages into project development. Use the P&N statement as a tool to identify critical environmental issues. Have planners and environmental coordinators attend preliminary design conferences. Establish a project coordination team for large and complicated projects to maintain project memory.

### *Content of Purpose and Need Statements*

The purpose and need statement (P&N) is a living document that should evolve and be reexamined as project information is developed. For example, if an alternative originally suggested in the P&N does not serve the critical elements of the project as more information is developed, then that alternative can be eliminated from further study.

Figure 11 provides an example outline for a P&N statement.

Purpose and need should include the following elements:

- **Project Status** – describe the history of the project including participating agencies and actions taken to date. State where the proposed action is described in the Metropolitan Transportation Plan (MTP), Long Range Plan (LRP), Transportation Improvement Program (TIP), and State Transportation Improvement Program (STIP), as applicable.
- **System Linkages** – describe how the proposed project links to the transportation system.
- **Capacity** – describe current, projected, and ultimate capacity and level of service for the proposed facility.
- **Legislation** – identify any federal, state, or local mandates for the action.
- **Social and/or Economic Development** – identify economic and land use changes that support the need to add capacity (e.g., a new school).
- **Modal Relationships** – describe how the proposed action will interact, connect, or complement other modes such as airports, bus, rail, trails, or other transportation service.
- **Safety** – describe, if applicable, how the project will improve safety. Use accident data if available.
- **Roadway Deficiencies** – describe existing roadway deficiencies such as load limits or high maintenance costs and how the action will improve the deficiencies.

## *Examples of Purpose and Need Statements*

TxDOT proposes to upgrade US 29 from Plain Rd. to Polk St. from a two-lane rural roadway to a four-lane divided, non-controlled access highway facility. The proposed upgrade is needed because of the safety concerns and the volume of heavy truck traffic within the project limits.

### ***P&N Statement Example Outline***

1. Introduction
  - 1.1. Project history
  - 1.2. Study area description
  - 1.3. Functional classification
2. Purpose and Need
  - 2.1. Improve traffic flow and level of service
    - 2.1.1. Traffic conditions
    - 2.1.2. Truck traffic
  - 2.2. Reduce travel times between project termini
  - 2.3. Improve safety
    - 2.3.1. Roadway deficiencies
    - 2.3.2. School bus safety
    - 2.3.3. Accident analysis
  - 2.4. Enhance regional mobility connectivity
    - 2.4.1. Modal relationships
  - 2.5. Accommodate future economic growth and development
  - 2.6. Legislation affecting need
3. Conclusion

**Figure 11. P&N Statement Example Outline**

## **Environmental Assessment Outline**

A revised environmental assessment outline provides opportunity to streamline by including:

- “issues eliminated from detailed study” in [Chapter 1](#),
- combining the affected environment and environmental consequences into the same chapter,
- narrowing the field to reasonable alternatives, and
- including matrices for comparison of alternatives and potential environmental effects.

## Chapter 1: Purpose & Need for the Project

Purpose of the Project

Need for the Project

Objectives of the Project

Focus of this Environmental Analysis

D.1 Planning Process

D.2 Related Studies and Relevant Documents

D.3 Issues Studied in Detail

D.4 Issues Eliminated from Further Study

E. Applicable Regulatory Requirements and Required Coordination

## Chapter 2: Description of the Alternatives

Process Used to Develop the Project Alternatives

Requirements for and Benefits of Alternatives

B.1 Principal Design Requirements

B.2 Desired Design Benefits

B.3 Environmental Protection and Enhancement Requirements

Alternatives Eliminated from Detailed Study

Detailed Description of Reasonable Alternatives

D.1 Alternative A: No-Build

D.2 Alternative B: Build Alternative #1

## Chapter 3: Affected Environment & Environmental Consequences

A. Name of Issue #1

A.1 Existing Environment

A.2 Environmental Consequences of Implementing Alternative A (No Build)

A.3 Environmental Consequences of Implementing Alternative B (Build)

Name of Issue #2

B.1 Existing Environment

B.2 Environmental Consequences of Implementing Alternative A (No Build)

B.3 Environmental Consequences of Implementing Alternative B (Build)

## X. Summary and Comparison of Potential Effects

Matrices

Tables

Drawings

Other data presentations

## Chapter 4: Recommendation of the Preferred Alternative

Identification and Rationale for the Preferred Alternative

A.1 Preferred Alternative (one sentence)

**Figure 12. Environmental Assessment Outline**

## Compensatory Mitigation/In Lieu Fee Mitigation

Subchapter H, Chapter 201, Transportation Code was amended during the 77<sup>th</sup> Texas Legislative 2001 session by adding Section 201.6061 as follows:

Sec. 201.6061. PAYMENT OF FEE TO PUBLIC AGENCY OR PRIVATE ENTITY IN CONNECTION WITH MITIGATION OF CERTAIN ADVERSE ENVIRONMENTAL IMPACTS. If authorized by the applicable regulatory authority, the department may pay a fee to an appropriate public agency or private entity in lieu of acquiring or agreeing to manage property for the mitigation of an adverse environmental impact that is a direct result of a state highway improvement project. (77th Legislative Session 2001)

The first Fee in lieu of mitigation was first used for an endangered plant species along State Highway 6 to mitigate loss of habitat for the Navasota ladies tresses. [Table 2](#) provides a comparison between the use of conservation easements and compensatory mitigation.

**Table 2. Compensatory Mitigation Comparison**

Real Property or Conservation Easement Purchase	In Lieu Fee Payment
Calculate amount of compensation acreage in Formal Consultation with US Fish and Wildlife Services (USFWS)	Calculate amount of compensation acreage in Formal Consultation with USFWS
Purchase real property or conservation easement 1. Find habitat 2. Find required amount of acreage in habitat 3. Find willing seller of habitat 4. Real estate negotiations/transactions 5. Develop species management monitoring plan for property 6. Manage species/property for life of project by TxDOT or contract service	Pay in lieu fee to approved recipient  Fee = Amount of acreage + 20% for edge effect + 15% of total acreage for administrative costs

## Environmental Planning and Comparison Matrix

Matrices can be used to display how the various alternatives compare. Matrices are used in decision support software and planning analysis. Typically, on the right side of the matrix, there are columns for the various alternatives including the no-build alternative. The far left column usually contains the list of environmental and operation categories and considerations. Then, each category is either given a value or weight by some factor

for each alternative. There are many variations of matrices with different levels of detail that can be used. Example matrices are provided in Tables 3, 4, and 5.

**Table 3. Example Alternatives Comparison Matrix**

Criteria	Measure	No build	Alternative 1	Alternative 2
<b>Operational Goal</b>				
Traffic	(description/value)			
Safety/Accidents	(description/value)			
(other)				
<b>Mobility Goals</b>				
Reduce Travel Times	(description/value)			
Community Access	(description/value)			
(others)				
<b>Community Categories</b>				
Minority neighborhoods	(description or impact)			
Historic buildings	(number or weight)			
(others)				
<b>Environmental Categories</b>				
Wetlands	(Acres)			
Water Quality	(hi-med-low impact)			
(others)				

**Table 4. Checklist Analysis for a Proposed Activity and Alternatives**

Environmental Attribute	Proposed Activity	Alternative		
		A	B	C
		No Action	Reduced Action	Increased Action
Water Quality	110 <sup>1</sup>	0	132	107
Air Quality	88	361	143	0
Species Diversity	24	222	360	221
Land Use	88	153	25	152
(Any Category)	x	x	x	x
Impact of Each Activity	337	800	660	570

<sup>1</sup>The higher the number, the greater the impact.  
(Baldwin, Environmental Planning and Management, 262)



**Table 5. Example Summary of Major Environmental Impacts of Alternatives**

Impact Category	Alternative			
	A	B	C	PA
Wetlands Filled in hectares (acres)	44 (108)	76 (187)	60 (147)	46 (114)
Wetland Functional Units Lost in FCUs	605	1,585	1,233	666
Wetlands Protected (Legacy Nature Preserve) in hectares (acres)	144 (356)	233 (576)	217 (535)	134 (332)
Wetland Functional Units Preserved and Restored in FCUs	612	188	311	695
Legacy Nature Preserve in hectares (acres)	440 (1,088)	856 (2,116)	621 (1,535)	506 (1,251)
Wildlife Mitigation Area in hectares (acres)*	128 (137)	–	–	128 (317)
Potentially Developable Upland in hectares (acres):				
Total	1,837 (4,539)	1,677 (4,144)	1,797 (4,440)	1,785 (4,410)
East of Roadway Alignment	573 (1,416)	833 (2,058)	853 (2,108)	660 (1,631)
Potential Relocations:				
Residences	7	14	5	4
Businesses	16	10	9	14
Farmsteads	0	2	0	0
Horse Paddocks	15	16	8	10
Section 4(f)/6(f) Properties:				
Use of Recreational Resources in hectares (acres)	1.6 (3.9)	4.9 (12.1)	5.3 (13.0)	4 (9.8)
Use of Historic Properties	1	1	1	1
Farmland Lost in hectares (acres)				
Prime	34 (84)	72 (178)	36 (90)	26 (64)
State-Import	3 (7)	2 (5)	3 (7)	0**
Cost	\$372,000,000	\$451,000,000	\$378,000,000	\$369,000,000

PA = Preferred alternative.

\* Wildlife mitigation measures have not been developed for Alternatives B and C at this time because they are not the proposed alternative and the mitigation could differ from the PA or Alternative A.

\*\* As of 1999. (<http://www.dot.state.ut.us/legacy/FEISSUMMARY.htm>, 10/29/01)

### ***Environmental Analysis Checklists***

Checklists are used by many SDOTs to ensure requirements are met. They can be very useful in communicating information quickly and efficiently. Checklists can also be counterproductive by being so prescriptive they limit a truly objective consideration of issues. Environmental streamlining is not just adding another checklist to the process. Be sure to evaluate whether adding another checklist to the environmental clearance process is necessary. Look below to the “checklists for checklists.”

- Does the new checklist replace several previous checklists?
- Does the new checklist communicate the information more efficiently?
- Does the new checklist prompt you to think about options, or remove “professional judgement?”

### ***Working with Word Tip***

Many streamlining solutions also originate from accomplishing detailed tasks involved in document preparation. For example, putting schematic drawings created in *Microstation* into an environmental document created in *Microsoft Word* is an important detail that can be frustrating if you have never done it. Try the steps on the following page ([Figure 13](#)) next time.

## INSERTING MICROSTATION DRAWINGS INTO MICROSOFT WORD DOCUMENTS

1. Enter Microstation file that contains the drawing to be inserted into Word document.
2. Place fence around drawing as you would normally do for plotting on 8 1/2"x11" or 11"x17" paper.
3. Access Microstation plotting.
4. In the plotting window, go to "SETUP" and select "DRIVER."
5. Attach the **emf.plt** driver that is normally located at  
**D:\Bentl y\Workspace\system\plotdrv\.**
6. Select "PLOT." Microstation will name the newly created plot file "filename.emf" and place it in a default directory. You can change the name of the file and where it is saved but you must keep the **.emf** extension.
7. Now enter Microsoft Word and open the document file into which you want to insert the plot file.
8. Add a new page to the document at the location where you want to insert the plot file.
9. Select "INSERT PICTURE FROM FILE" and select and insert the plot file.
10. Finally, adjust picture using Microsoft Word commands and you are finished.

Hints: 1. Do not use color graphics.  
2. You may have to adjust line weights.

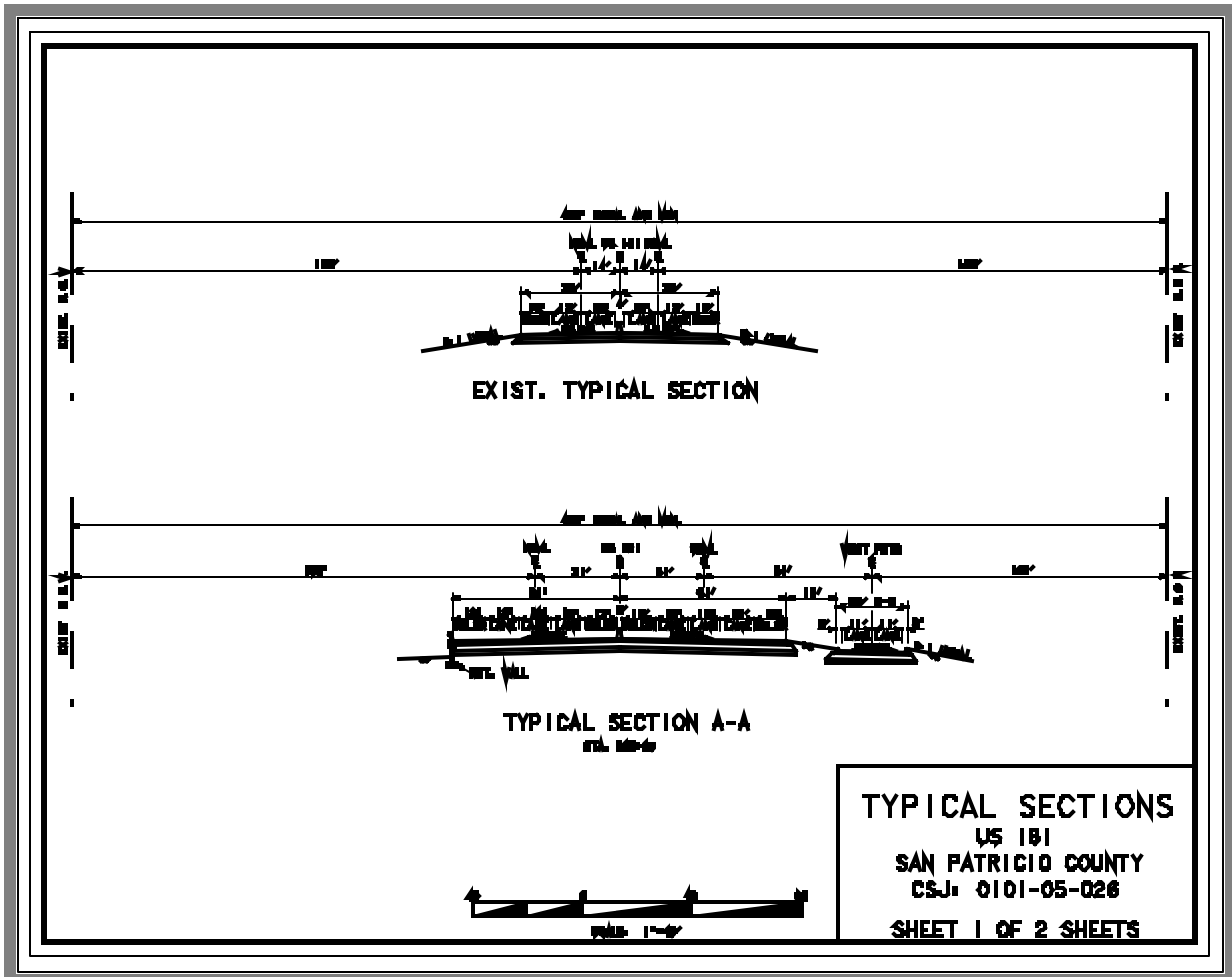


Figure 13. Inserting Microstation Drawings into Word Documents

### ***Loop 12/IH-35E Streamlining Project***

The Loop 12/IH-35E project in Dallas, Texas, formed a Project Coordination Work Group (PCWG) including ENV, FHWA, and U.S. Army Corps of Engineers (COE) to get early participation and involvement in the development of the schematic and environmental assessment. Transportation Planning and Programming Division (TP&P) allowed Texas Transportation Institute (TTI) to perform the traffic design analysis and the Design Division to initially review the schematic design. The resource agencies' early involvement in the coordination and review of the EA led to streamlining successes. It was one of the 10 nationwide selected by the American Association of State Highway and Transportation Officials (AASHTO). For information about streamlining on that project please contact Mr. Nasser Askari at (214) 320-6628.

### ***Project Websites***

Many districts and SDOTs nationwide use websites to display project information and explain community and environmental impact information on a project website. The Kelly Parkway project in San Antonio is a good example. See [http://kelly-parkway.com/English2/index\\_e.htm](http://kelly-parkway.com/English2/index_e.htm) for more information.

Another example of a project web site is the "Dallas High-Five" project in Dallas. See <http://www.dallashighfive.org/>.

### ***Put It on the Plan Sheets***

*Put it on the plan sheets!* If you have specific environmental requirements on your project, put them on the plan sheets. Whether it's avoidance or mitigation, detail the action on plan sheets. Some districts use specific environmental plan sheets or callouts to notify contractors of areas to avoid. Another method used by some districts, when possible, is to have environmental coordinators attend pre-construction conferences to be sure the contractors know the environmental issues of concern. At a minimum be sure to contact the area offices and construction managers to alert them of environmental issues that could slow the project.

### ***Hazardous Materials Management Section***

Reducing delays caused by the occurrence of contamination involves early identification and assessment of known and suspected contaminated areas. The earlier contamination is identified, the more time there is to consider options to resolve the problem.

The Hazardous Materials Management Section streamlining strategy focuses on training, guidance, and contracting assistance. A two-day module focusing on conducting initial site assessments will be offered. Guidance documents are available on the TxDOT Intranet to aid in early identification and corrective action of contaminated media in TxDOT ROW. Also contracting assistance in the form of “evergreen” contracts provides a statewide pool of environmental services providers. Contact: David L. Boswell, P.E., Hazardous Materials Management Section. See Hazardous Materials in Project Development Draft Guidance on the Intranet (Crossroads) <http://crossroads.org/env/env-hmm-hmpdgd.html>.

### ***Scientific Services Contracts for Environmental Documentation***

Scientific services contracts allow TxDOT to award contracts for environmental, cultural, and historical studies. The contracts are awarded via sealed competitive proposals and consider price as well as qualifications. (This in contrast to professional services contracts for engineering services.) The benefits of using scientific services include:

- using more detailed scope of services for EAs and CEs;
- explicit performance specifications, reducing time-consuming re-writes;
- work can start ahead of design to integrate NEPA into early project development;
- avoid appearance of “design and defend;”
- begin agency coordination before design;
- begin design with knowledge of constraints; and
- formalize existing process that is seldom documented.

Contact Tom Bruechert with the Environmental Division.

### *More Streamlining Tips from the Districts*

- Don't overlook or underestimate the importance of environmental justice and community impacts.
- Be prepared for unexpected contamination. Have a contingency plan and use evergreen contracts to address issues like ghost tanks.
- Use a decision matrix when evaluating and comparing alternatives. It is easier to compare multiple environmental and engineering concerns in one setting.
- Some people call it early planning. Others call it a fatal flaw analysis. Either way, identify all the critical environmental issues you can early so you can be prepared to address them as the project develops.
- Benchmark the progress of the environmental clearance process. When a milestone is reached, take the opportunity to get concurrence from all of the development partners. Document to the public and development partners the project reached this milestone to avoid re-visiting it later.
- Environmental coordinators should ask for invitations to pre-construction meetings. Coordinators certainly can't make all of the pre-construction meetings, nor do they need to. But, when coordinators are alerted to projects with important environmental issues, they can explain to contractors what is expected and what to watch out for.
- Work with design engineers early. Keep them informed on environmental issues that may affect the project. Pay particular attention to wetlands, sensitive habitat, historical structures, and possible contamination.
- Establish and maintain good coordination and communication with the area office. Get to know the construction managers, and let them know you want to help speed the project by preventing environmental problems.
- If possible, get involved in the environmental aspects of scope of services for design contracts.
- If you haven't started yet, use a digital camera.
- Be an advocate for the project – not just in your area of interest or environmental concern. Use your knowledge of your specialty to advance the project, not build roadblocks. For example, if haz-mat issues arise use your knowledge of the regulations to find alternative disposal or faster permitting. Use your personal relationship with regulators to explain situations and ask for assistance. Don't cry wolf when there is not one.

## Quotes from Practitioners

Prepare an informal purpose and need statement early. Have planning prepare the P&N.

We try to avoid parks because it adds at least 1-2 years to the project. Also, if we have displacements and lack of public support, the project clearance takes a long time. Environmental justice and Section 8 Housing take a long time to process. Public support should be listed on the above list.

To avoid lengthy delays, we try in our designs to avoid any impacts to the some categories like wetlands, historic properties, and 4(f) lands. The rest of the categories we can work with.

Coordination with the General Land Office (GLO) on projects such as bridge replacements where GLO lands may be involved. In addition to requiring coordination, LSLS surveys, easement applications, etc., there is substantial cost and delay in determining if an easement is necessary

Streamlining can be made easier by two means. One is when we become involved in the process as early as possible. By this I don't mean when the engineers want us to be, but when we can make a difference in avoiding some of the conflicts within TxDOT, between agencies, and with the public. The other is when we have a good trusting relationship with the resource agencies. This has in the past been an adversarial relationship, in which everything is subject to negotiation. This needs to change, and will itself 'streamline' the process at no cost to anyone.

There is too much formal correspondence between agencies where an email will provide a more than adequate paper trail.

Most of the time, we as environmental specialists are dealt the task of making up the purpose and need statements. The purpose and need should have already been established and documented.

Documents need to be written concisely with respect to purpose and need so other alternatives that do not meet the purpose and need and do not have public support can be dismissed.

I do think that more on the ground monitoring of projects needs to occur...each district should have a person(s) located in construction section of the district who is a liaison between the design, environmental, and construction sections.

To me the most important thing right now is getting the contractors and inspectors educated and get them to keep the commitments made.

I constantly monitor our District Construction Letting schedule from the present to 3 years in the future. By doing this, I am always aware of upcoming projects which will require environmental documentation so I can collect data prepare and submit the document in a timely manner.

Several projects stand out that have in common early coordination, cooperation, and trust. These projects went through a process that was about as short as possible, while allowing all to be heard and the resources to be protected. We once had to buy property to compensate for habitat losses on a project. Property purchases are a slow process, yet it was done in a timely manner. On two other projects, we knew we had archeological remains, so we included everyone and worked out a plan. Not everything went according to plan, but it was much better than no plan at all.



I have a form that I request the engineer to fill out and send to me. The information requested by the form serves two purposes. The first is to gather information that I need and he has probably already looked up (such as who built the existing and when). The second is to help the engineer consider the appropriate issues in the conceptual stage of project development. Once the engineer has completed the form, I can dangerously assume that the project has developed enough for me to get involved. This is usually long before the PDC. Sometimes, I fill out the form at the PDC but if I have the form before the PDC, I will try to sift out any fatal flaws before attending the meeting.

Early on in the development/revision of the schematic for the above project, engineers and environmental personnel worked together. Endangered species habitat (Piping Plover) was identified and avoided after consultation with resource agencies. By doing this early and effectively, delays are hoped to be eliminated. The project is currently being cleared environmentally.

The JFK Causeway Project (CSJ 617-2-46) is an example of early involvement. The environmentally sensitive area and the diverse concerns over safety, water circulation, etc. Required early involvement with the public and the resource agencies. This project has been discussed and planned for many many years but once we moved into the actual EA phase we held a partnering workshop with key stakeholders and resource agency personnel. We sent out questionnaires ahead of time and sent out reports after the workshop. It helped get everyone on the same page and put names and faces together of the people that would be involved.

On the US 181 Portland project (Moore Ave. overpass) we knew that we would have hazmat issues during construction. We had blanket purchase orders in place prior to construction to handle petroleum contaminated soil, treatment of dewatering fluids.

On FM 517 there was a project to build a retention pond adjacent to Dickinson Bayou. Early coordination using a field visit with the COE and the designer allowed for construction of the project with no fill material into existing wetlands. One formal letter and a few emails allowed TxDOT to construct this project with only a letter from the COE stating, as described, there would be no COE approval required for construction of this retention pond.

In this district we have environmental commitment plan sheets for the contractor to follow. It is done early and they are placed in the plans, specifications, and estimates.

Our district requires the environmental coordinator to attend all Preliminary Concepts Conferences or Design conferences, public meetings, public hearings, etc. I feel this is a critical step in avoiding delays associated with ENV.

## **Recommendations**

- Continue to implement and monitor existing streamlining initiatives at both the division and district offices with a focus on strategies showing support from practitioners and planners.
- Improve environmental information sharing early in the project development process, particularly in the development of purpose and need statements, and the transition from project planning to preliminary design
- Increase education and outreach to TxDOT design consultants on the environmental clearance process, and clearly communicate project requirements in scopes of work.
- Increase education and outreach to TxDOT construction contractors on keeping environmental commitments and provide critical environmental information on plan sheets and general notes.
- Publicize environmental successes in transportation development to the public and stakeholders to build trust.
- Embrace the use of information technology and document management software for communicating and exchanging project environmental information.
- Provide cross-training opportunities and professional development to environmental staff at the district and division to strengthen working partnerships and reduce turnover.
- Customer service attitude toward the project and partners

# APPENDIX A – Directory of Contacts

## TxDOT District Environmental Contacts

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Shirley Foster (HR Officer) .....	2570
Lorie Ledesma-Ramirez (Auto. Mgr.).....	2578
Mark Rodriguez (Automation Help).....	2541
Courtney Dumas (ETS Contract).....	2774
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Allen Bettis .....	2747
Jon Budd .....	2640
Lain Ellis .....	2109
Chuy Gonzalez.....	2641
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Cindy Tennis.....	2721

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Ralph Newlan.....	2611
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## **Appendix B – NEPA Compliance Categories**

### **Natural Resources Protection Compliance**

NEPA requires the assessment of human and natural environment for federal actions. The following is a list of federal and state laws, rules, and executive orders that protect the human and natural environment.

#### ***Endangered Species Act of 1973 as Amended (15 USC 1531-1543)***

The Endangered Species Act (ESA) of 1973 ensures that federal actions (or actions using federal funds) do not jeopardize the existence of any listed endangered or threatened species, or adversely modify or destroy critical habitat of such species. The purpose of the act is to conserve threatened and endangered species and their habitats. Consult with the United States Fish and Wildlife Service (USFWS) for more information.

#### ***Migratory Bird Treaty Act 16 USC §703-712***

Please check with TxDOT's Environmental Division on the requirements of the Migratory Bird Treaty Act requirements.

#### ***Fish and Wildlife Coordination Act of 1958 (16 USC 661-666[C])***

The Fish and Wildlife Coordination Act (FWCA) of 1958 requires that federal agencies obtain comments from the USFWS and the state agency responsible for fish and wildlife, Texas Parks and Wildlife Department (TPWD). This coordination is required whenever a project impacts a stream channel or other body of water.

#### ***Farmland Protection Policy Act (FPPA)***

The Farmland Protection Policy Act (7 USC 4201 et seq.) is implemented by federal regulations published in 7 CFR 658. The purpose of the act is to prevent unnecessary conversion of farmland.

### ***Coastal Barrier Resources Act (CBRA)***

The Coastal Barrier Resources Act outlines requirements to minimize the loss of life and damage to the coastal barrier systems along the Atlantic and Gulf coasts. CBRA identifies coastal areas that will be protected by placing restrictions on the use of federal funds for developmental activities, including federally funded highway projects.

### ***Texas Coastal Management Program (TCMP)***

The TCMP is based primarily on the Coastal Coordination Act of 1991 (33 Tex. Natl. Res. Code ann. 201 *et. seq.*). The TCMP established a Coastal Coordination Council (CCC) headed by the Texas Land Commissioner. The CCC (a multi-agency panel) reviews projects and reviews proposed rules to determine whether projects or actions in coastal counties conform to the TCMP.

### ***Rivers and Harbors Act of 1899***

The U.S. Army Corps of Engineers (USACE) began regulating activities in navigable waters with the Rivers and Harbors Act of 1899. The act includes waters defined as navigable by the Coast Guard but may also include rivers which were historically navigable or which with modification may be available for future use to transport interstate commerce.

### ***Federal Water Pollution Control Act/Clean Water Act (CWA) of 1972***

The CWA (33 USC 1251B1387, as amended) was enacted to maintain and restore the chemical, physical, and biological integrity of the waters of the U.S. The broader jurisdiction under this law includes not only navigable waters, but most waters of the country and adjacent wetlands.



### ***National Pollutant Discharge Elimination Control System (NPDES) 1990***

The purpose of this legislation is to improve the quality of the nation's rivers, lakes, and streams by reducing pollution from nonpoint sources. NPDES requires storm water discharge permits (EPA C Section 402, Water Quality Act of 1987).

### ***National Flood Insurance Act (NFIA) of 1968***

The purpose of the NFIA is to provide flood insurance to property owners in flood-prone areas. The National Flood Insurance Program (NFIP) was established to reduce future flood losses through local floodplain management and requires participating cities, counties, or states to adopt floodplain management ordinances containing certain minimum requirements intended to reduce future flood losses. Federal Emergency Management Agency (FEMA) has jurisdiction.

### ***Executive Order 11988***

Executive Order 11988 requires all federal agencies to comply with NFIP criteria. It is the basis for assessment of flood hazards that may be related to highway improvements encroaching on or affecting base flood level.

### ***Executive Memorandum of April 26, 1994***

The subject of the Executive Memorandum signed by President Clinton is landscaping on federal projects. In addition, TxDOT issued "Guidance on Environmentally Beneficial Landscaping Practices & NEPA Compliance," dated July 5, 1996. The guidance requires that federal projects be designed to:

- use regionally native plants for landscaping;
- design, use, or promote construction practices that minimize adverse effects on the natural habitat;
- seek to prevent pollution by, among other things, reducing fertilizer and pesticide use; and

- implement water-efficient and runoff reduction practices. (See the TxDOT *Landscape and Aesthetics Manual* for more information.)

### ***Section 404 Regulatory Program***

The Council of Environmental Quality (CEQ) established the 404 Regulatory Program making it unlawful to discharge dredged or fill material into waters of the U.S. without first receiving authorization from the U.S. Army Corps of Engineers. The Section 404 Program can issue *Nationwide Permits* and individual *404 permits*.

### **Cultural/Socio-Economic Resources Protection Compliance**

#### ***Texas Antiquities Code***

The Texas Antiquities Code and its implementing rules require that TxDOT notify the Texas Historical Commission (THC) when proposed projects have the potential to affect cultural resources that may qualify as State Archeological Landmarks. For more information on the Texas Antiquities Code, see the TxDOT *Project Development Policy and Practice Manual*.

#### ***National Historic Preservation Act (NHPA) of 1966***

The NHPA (Section 106) requires federally funded and permitted projects to consider historic properties and to coordinate these effects with the THC and interested parties, and to avoid or mitigate any adverse effects on historic properties. Historic properties are any buildings, structures, objects, or archeological sites eligible for the National Register of Historic Place (National Register). (See <http://www.achp.gov/regs.html>.)

FHWA has executed a programmatic agreement with THC, the Advisory Council on Historic Preservation, and TxDOT setting for TxDOT's Section 106 responsibilities. FHWA has executed a separate programmatic agreement with the THC, the Advisory Council on Historic Preservation, and TxDOT for enhancement projects. Each programmatic agreement requires that TxDOT complete the Section 106 coordination on behalf of FHWA.

### ***U.S. Department of Transportation (USDOT) Act of 1966***

Section 4(f) of the USDOT Act requires documentation when right-of-way will be taken from publicly owned parks, recreation areas, wildlife or waterfowl refuges, publicly or privately owned historic sites, and archeological sites that merit preservation in place. For federally funded projects, the documentation must prove that there is no prudent or feasible alternative to the proposed action and that the project includes all possible planning to minimize harm to the resource.

Section 4(f) evaluations require TxDOT to prepare documentation that describes a wide range of project alternatives that would avoid taking the resource and includes a plan to minimize harm to any affected historic properties.

### ***Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21)***

The Intermodal Surface Transportation Act of 1991 had a strong focus on transportation planning and the environment. TEA-21 continues that focus, requiring the integration of certain aspects of transportation planning into the environmental process. TEA-21 calls for a proactive public involvement process that provides complete information, timely public notice, full public access to key decisions, and early and continuing public involvement in the development of an intermodal transportation system. For more information on TEA-21, see the TxDOT *Project Development Policy and Practice Manual*.

### ***Title VI of the Civil Rights Act of 1964***

Title VI of the Civil Rights Act of 1964 assures that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination on the basis of race, color, national origin, religion, age, sex, or disability. TxDOT certifies all project-related public hearings for compliance with Title VI. For a copy, see [http://www.fhwa.dot.gov/environment/title\\_vi.htm](http://www.fhwa.dot.gov/environment/title_vi.htm).

### ***Uniform Relocation Assistance and Real Properties Acquisitions Act (URARPA)***

The URARPA of 1970, amended in 1987, mandates that property owners receive compensation for properties acquired for transportation projects and requires non-discriminatory right-of-way policies with regard to appraisals and acquisitions of homes and businesses and residential relocations.

### ***Executive Order 12898 – Environmental Justice***

Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (1994) requires that federally funded projects identify and address disproportionately high and adverse health and environmental impacts to minority populations and low-income populations (See <http://www.epa.gov/docs/oejpubs/execordr.txt.html>.)

### ***Native American Graves Protection and Repatriation Act (NAGPRA)***

The NAGPRA requires that agencies and museums receiving federal funds must identify tribal affiliations for Native American remains and return those human remains to the interested groups. (See <http://www.cast.uark.edu/products/NAGPRA/nagpra.dat/lgm003.html>.)

### ***Executive Order 13007 (EO 13007)***

EO 13007 states that agencies shall attempt to avoid damaging “Indian sacred sites” on federal and Indian lands. EO 13007 is concerned with adverse effects to locations of “traditional cultural properties” (TCP) and the need to maintain accessibility by Indian religious practitioners to TCPs.

### ***Air Quality***

The Clean Air Act (CAA) (42 USC 7401-7626) established permanent federal support for air pollution research and provided federal assistance to states for development of

pollution control agencies. The act has been amended several times. The 1990 CAA established specific criteria that must be met for air quality nonattainment areas.

### ***Resource Conservation and Recovery Act (RCRA)***

RCRA governs the management of non-hazardous (solid) waste, hazardous waste, and underground storage tanks. Specifically, the RCRA program regulates solid waste recycling and disposal; federal procurement of products containing recycled materials; waste minimization; hazardous waste generators and transporters; and hazardous waste treatment, storage and disposal facilities (TSDFs). The assessment should seek to avoid liability by identifying known or possible hazardous waste and contamination.

### ***Comprehensive Environmental Response, Compensation Liability Act (CERCLA)***

CERCLA of 1980, commonly referred to as “Superfund,” provides EPA authority to respond to releases or threatened releases of hazardous substances, pollutants, or contaminants that may endanger human health or the environment. CERCLA requires reporting of releases, establishes the liability of persons responsible for releases of hazardous substances, and established a trust fund to provide for cleanup when no responsible party can be identified.

### ***Texas Water Code***

Under Chapter 26 of the Texas Water Code, Texas Hazardous Substances Spill Prevention and Control Act, a “person responsible” or “responsible person” for discharges or spills of hazardous substances includes owner or operators of either a vessel or of a facility from which a spill emanates, and any other person who causes, suffers, allows, or permits a spill or discharge. The current property owner is ultimately responsible for contamination leaving the property or affecting groundwater.

### ***Community Impacts***

Community impacts require analysis of the social and economic resources in a community and how they are affected by the project. See FHWA's "Community Impact Assessment: A Quick Reference for Transportation" (FHWA-PD-96-036).

The community impact assessment may include considering land use changes, economic and business effects, mobility and access issues, public safety, displacements, and other transportation modes. Be sure to include the positive community effects a project may have and encourage public involvement and participation.

## Appendix C – Environmental Documents

Documentation of the environmental assessment process is required for nearly all actions. The documents provide a description of the social, economic, and environmental impacts of a project. There are four basic categories of documents. Each successive document builds upon the previous one and becomes more detailed. The level of environmental analysis and documentation generally increases for larger and more complex projects. See [Figure C-1](#) for an overview of the environmental documentation process.

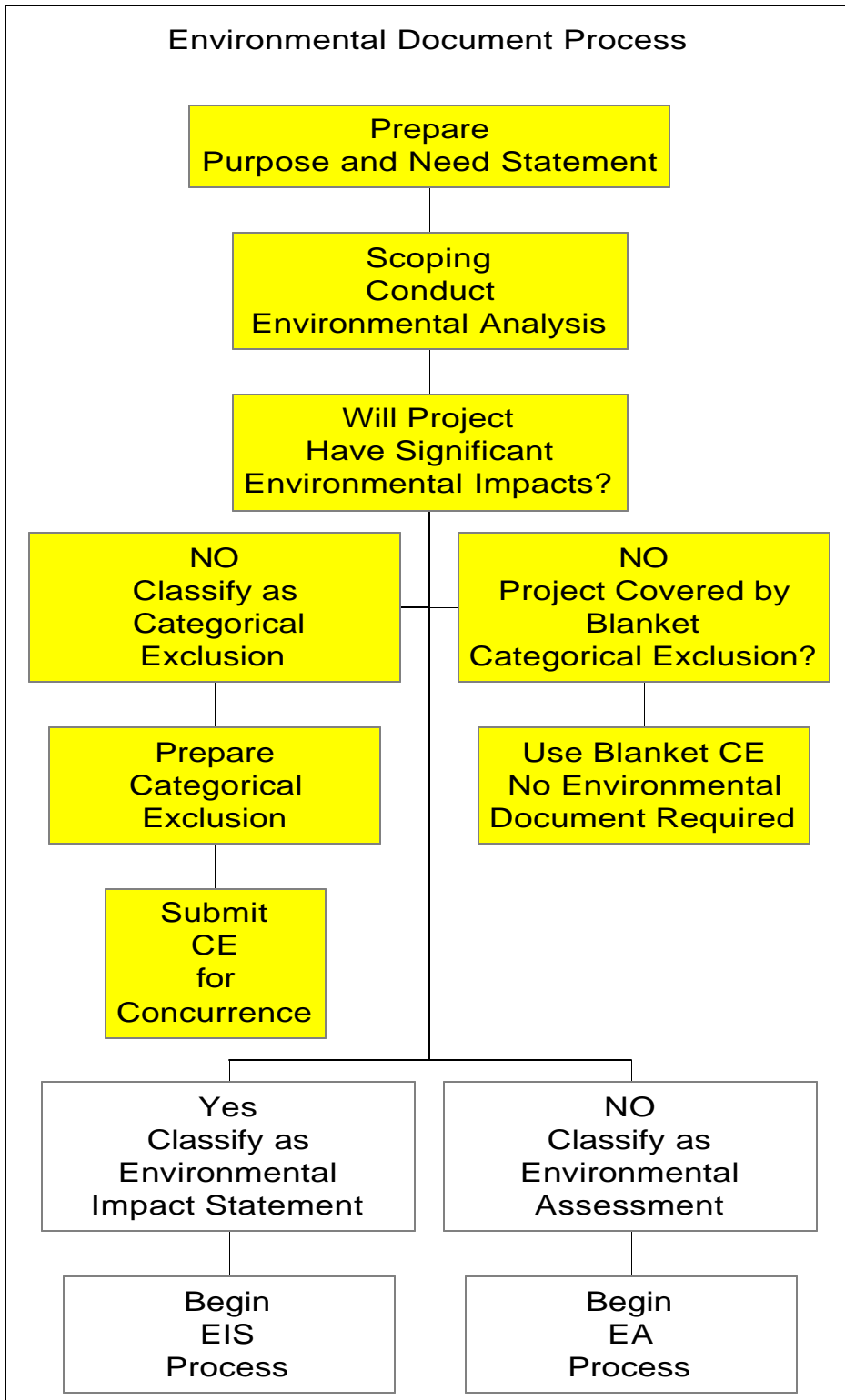


Figure C-1. NEPA Documentation Process



### ***Categorical Exclusions (CE)***

A categorical exclusion is a document for projects that have minimal social, economic, or environmental impact. These projects typically involve maintenance, improvement, or routine actions and projects that do not significantly affect the environment. CEs constitute the vast majority of projects or actions that would be encountered for small urban or rural transit providers.

Some types of CEs require little or no documentation. These are known as ***Blanket CEs*** and include projects or activities such as installing small passenger facilities, landscaping, traffic signals, bus rehabilitation, facility and vehicle upgrades, or ridesharing.

***Programmatic CEs*** can be used for projects meeting specific criteria where TxDOT and USDOT have agreements with the resource agencies. These types of projects must conform to the State Implementation Plan (SIP), be consistent with the Coastal Zone Management Plan, and not impact any federally listed endangered species or habitat.

The CE document should include and describe:

- the proposed action;
- alternatives;
- right-of-way requirements, costs, and funding sources;
- characteristics of the project area with a site map and location;
- potential impacts;
- a description of mitigation, if any; and
- public and/or agency comments including supporting comments from local entities.

A summary of TxDOT's project development process and environmental clearance process is provided in [Figure C-2](#).

# Project Development Process

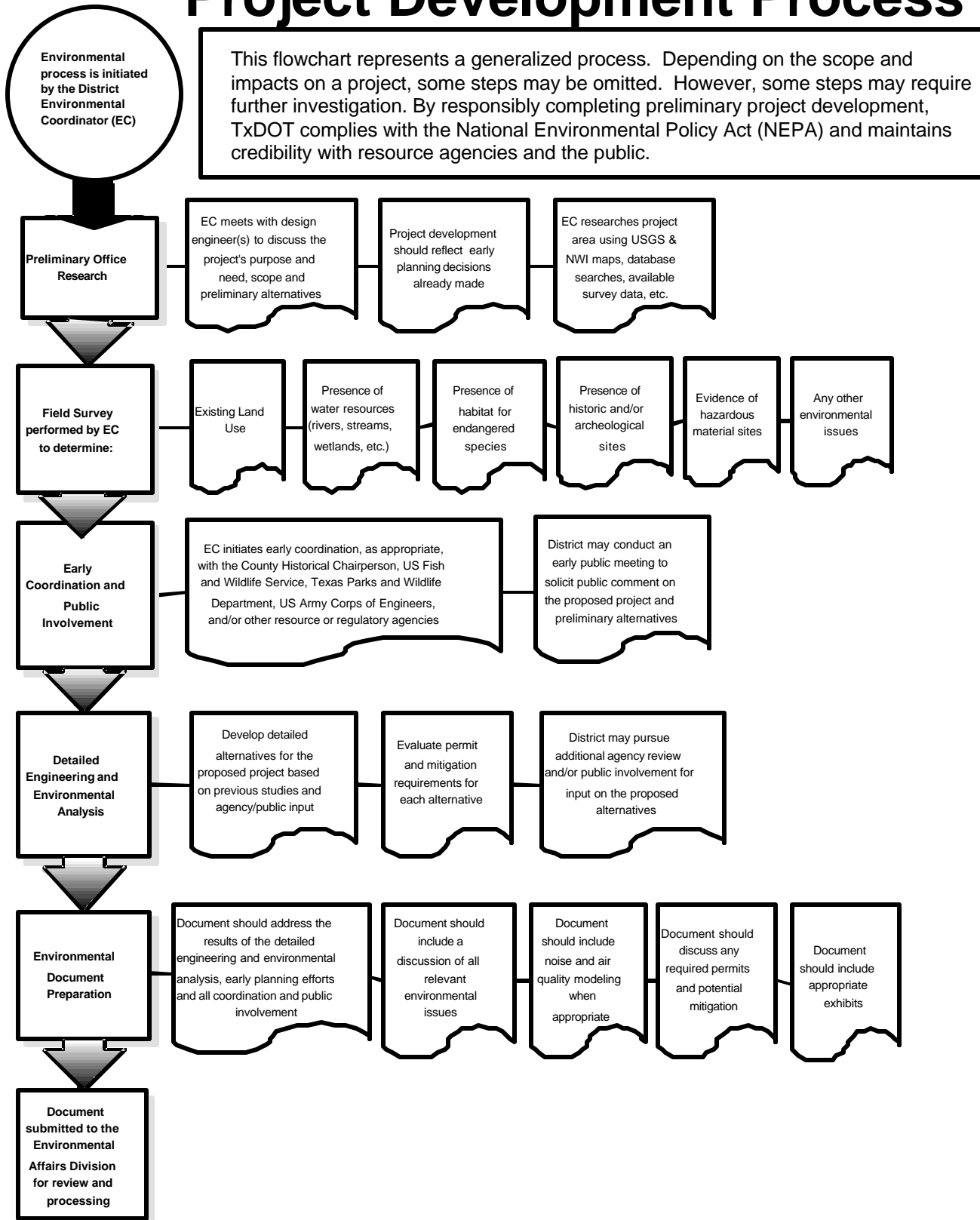


Figure C-2. Project Development Process

## **NEPA Document Preparation Resources**

NEPA NET at <http://ceq.eh.doe.gov/nepa/nepanet.htm>

FTA Office of Planning at: <http://www.fta.dot.gov/>

Council on Environmental Quality: <http://www.whitehouse.gov/ceq/>

FHWA Office of Planning, Environment, and Real Estate:

<http://www.fhwa.dot.gov/environment/genrlenv.htm>

Community Impact Assessment Guide: <http://environment.fhwa.dot.gov/projdev/tmcmcia.htm>

Total Process Time for Environmental Clearance, R.O.W. and P.S.&E. *																	
Based on Documents Received in ENV: Oct 01, 2001																	
Project Type	ROW	Parcels	Scientific Surveys (a)	Date Document Received in ENV	ENV Review Complete/Possible Revision Request Sent to District	District Revision submitted to ENV (b)	Agency Coordination completed (c) (required) 45 days allowed per MOU	Public Involvement (d)	FHWA Reviews Environmental Document and Grants approval for Further processing	Public Hearing or Public Hearing Opportunity Advertised Held (e)	District Submit Public Hearing Summary and Analysis/Certification Documentation/FHWA Approval 30 days	NEPA Approval (F) and 404 Authorizations	Receipt of P.S.&E. in Austin (g)	Average Time for ROW Acquisition to meet March 2001 Letting	Environmental Clearance for construction (Letter of Authority Date)	Letting Date	Total Process Time for ENV, ROW, and P.S.&E.
BCE	N						** 15-Nov-01	(h)				15-Nov-01	28-Dec-01	0	14-Feb-02	3-Apr-02	3-5 months
PCE	N		3-Jul-01	1-Oct-01	15-Oct-01	29-Oct-01	13-Dec-01	(h)				13-Dec-01	26-Jan-02	0	14-Mar-02	1-May-02	6-9 months
PCE	Y		3-Jul-01	1-Oct-01	15-Oct-01	29-Oct-01	13-Dec-01	27-Dec-01				27-Dec-01	12-Sep-02	6-12	28-Dec-02	3-Jan-03	10-18 months
SCE	N		3-Jul-01	1-Oct-01	15-Oct-01	29-Oct-01	13-Dec-01	(h)				13-Dec-01	26-Jan-02	0	14-Mar-02	1-May-02	6-9 months
SCE	Y		3-Jul-01	1-Oct-01	15-Oct-01	29-Oct-01	13-Dec-01	27-Dec-01				27-Dec-01	12-Sep-02	6-12	28-Dec-02	3-Jan-03	10-18 months
CE	N		3-Jul-01	1-Oct-01	15-Oct-01	29-Oct-01	13-Dec-01	(h)	(I) 1-Jan-02			12-Jan-02	26-Feb-02	0	13-Apr-02	5-Jun-02	8-11 months
CE	Y		3-Jul-01	1-Oct-01	15-Oct-01	29-Oct-01	13-Dec-01	27-Dec-01	(I) 1-Jan-02			26-Jan-02	29-Nov-02	6-12	27-Jan-03	6-Mar-03	11-20 months
EA	N		3-Jul-01	1-Oct-01	15-Oct-01	29-Oct-01	13-Dec-01	12-Jan-02	11-Feb-02	28-Mar-02	12-May-02	11-Jun-02	3-Aug-02	0	10-Sep-02	9-Nov-02	12-15 months
EA	Y	1-12	4-May-01	1-Oct-01	15-Oct-01	29-Oct-01	13-Dec-01	12-Jan-02	11-Feb-02	28-Mar-02	12-May-02	11-Jun-02	26-Sep-03	12-18	12-Dec-03	2-Jan-04	20-31 months
EA	Y	25-30	4-May-01	1-Oct-01	15-Oct-01	29-Oct-01	13-Dec-01	12-Jan-02	11-Feb-02	28-Mar-02	12-May-02	11-Jun-02	26-Sep-04	24-30	12-Dec-04	2-Jan-05	32-43 months Continuous Activity memo or Re-evaluation Required
EA	Y	31-60	4-May-01	1-Oct-01	15-Oct-01	29-Oct-01	13-Dec-01	12-Jan-02	11-Feb-02	28-Mar-02	12-May-02	11-Jun-02	2-Apr-05	36	13-Jun-05	10-Jul-05	44-49 months Continuous Activity memo or Re-evaluation Required
EA	Y	61-90	4-May-01	1-Oct-01	15-Oct-01	29-Oct-01	13-Dec-01	12-Jan-02	11-Feb-02	28-Mar-02	12-May-02	11-Jun-02	26-Sep-05	42	13-Dec-05	2-Jan-06	50-55 months Continuous Activity memo or Re-evaluation Required
EA	Y	91-120	4-May-01	1-Oct-01	15-Oct-01	29-Oct-01	13-Dec-01	12-Jan-02	11-Feb-02	28-Mar-02	12-May-02	11-Jun-02	2-Apr-06	48	14-Jun-06	10-Jul-06	56-61 months Continuous Activity memo or Re-evaluation Required

EIS Projects Average 5 years to Complete the Environmental Process, R.O.W. and P.S.&E.

\* Represents Approximately 85% of Projects Received at ENV. Typical Projects are defined as those projects that do not have significant impacts.

\*\* Majority of BCEs do not require any coordination with resource agencies. In some instances however, coordination may be appropriate.

(a) Notify appropriate ENV Branch 3-5 months prior to document submittal (depends on magnitude of surveys). Right of Entry is requested prior to survey. Examples: Cultural resource and natural resource survey

(b) Assumes only 1 revision. (c) Section 106 coordination may take longer or be initiated at different time.

(d) Allow 2 weeks for Meeting with Affected Property Owners and 1 month for Public Meetings - Note: Public Meetings and MAPOS may occur earlier in the process.

(e) District submits advertisement to ENV 2 weeks before 1st publication. (f) It may be necessary to have a percentage of P.S.&E. complete to grant environmental clearance or secure 404 permits.

(f) It may be necessary to have a percentage of P.S.&E. complete to grant environmental clearance or secure 404 permits.

(g) P.S.&E. advanced and finalized. (h) It may be appropriate to conduct public involvement. (I) If project does not qualify for a PCE it may require review/approval from FHWA.