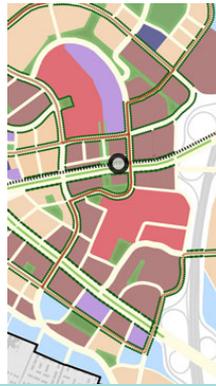


National Environmental Policy Act (NEPA) and Mitigation

Introduction to NEPA and Mitigation for the TxDOT Project Development Process (PDP)

Published:
October 2014





Agenda

Welcome, introductions, objectives	30 minutes
Lesson 1: Introduction to NEPA and PDP	1 hour
Break	20 minutes
Lesson 2: Mitigation: Process and Practice	
1 hour	
Break	20 minutes
Lesson 3: Integrated Ecological Framework	1 hour
Break	20 minutes
Workshop Review and Summary	20 minutes



Introduction and Overview

- Introductions
- Review learning objectives
- Workshop materials



Self Introductions

- What is your name?
- What is your position/role in planning, design or environmental, etc.?
- Do you have NEPA experience?
- Do you prepare or review NEPA documents?
- What do you expect from this workshop?



Workshop Learning Objectives

At the end of this workshop you should be able to:

- Describe NEPA concepts and documents
- Describe mitigation in the project development process
- Describe the Integrated Ecological Framework (IEF)

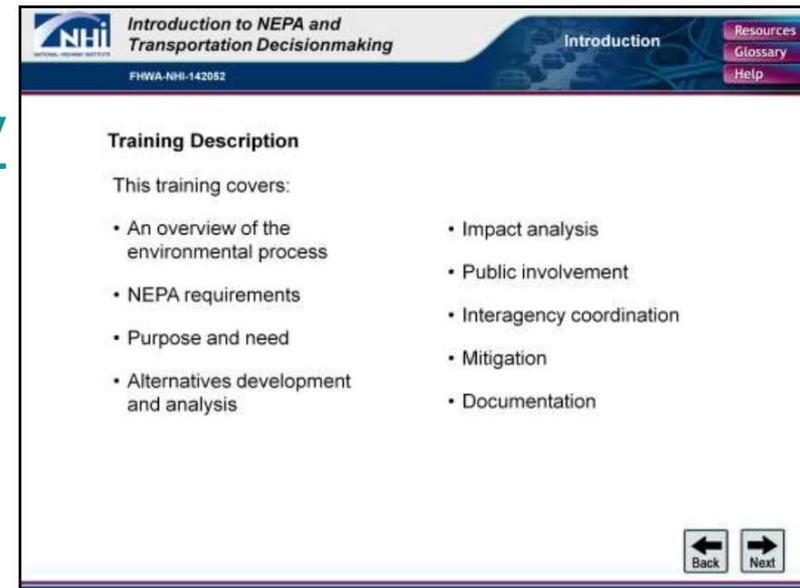


Workshop Background

- Participant notebook
 - Slides
 - ENV forms and documents
 - Examples
- Expectations
 - Introduction and overview
 - Identify compliance issues
 - Not an expert, but wise

National Highway Institute Course

- **Introduction to NEPA and Transportation Decision Making**
- FHWA-NHI-142052 NEPA Tutorial
- Free online course
- <http://www.nhi.fhwa.dot.gov>
- Self-paced
- Takes approximately 4 hours



The screenshot shows a web page for the NHI course. The header includes the NHI logo, the course title 'Introduction to NEPA and Transportation Decisionmaking', the course number 'FHWA-NHI-142052', and navigation links for 'Introduction', 'Resources', 'Glossary', and 'Help'. The main content area is titled 'Training Description' and lists the topics covered by the training.

Introduction to NEPA and Transportation Decisionmaking
FHWA-NHI-142052

Introduction Resources Glossary Help

Training Description

This training covers:

- An overview of the environmental process
- NEPA requirements
- Purpose and need
- Alternatives development and analysis
- Impact analysis
- Public involvement
- Interagency coordination
- Mitigation
- Documentation

Back Next

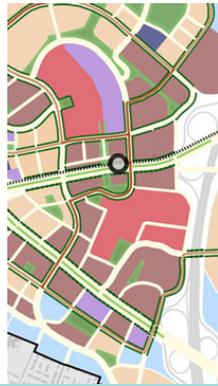
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NEPA and Mitigation

LESSON 1

Introduction to NEPA and the Project Development Process (PDP)

August 2014





Lesson 1 – Learning Objectives

At the end of this lesson you should be able to:

- Describe NEPA and document classification
- Describe how documents and mitigation fit into the TxDOT project development process (PDP)
- Identify resources and forms for completing documents in the TxDOT PDP
- Explain scoping in the PDP
- Identify deficiency issues



WHY?

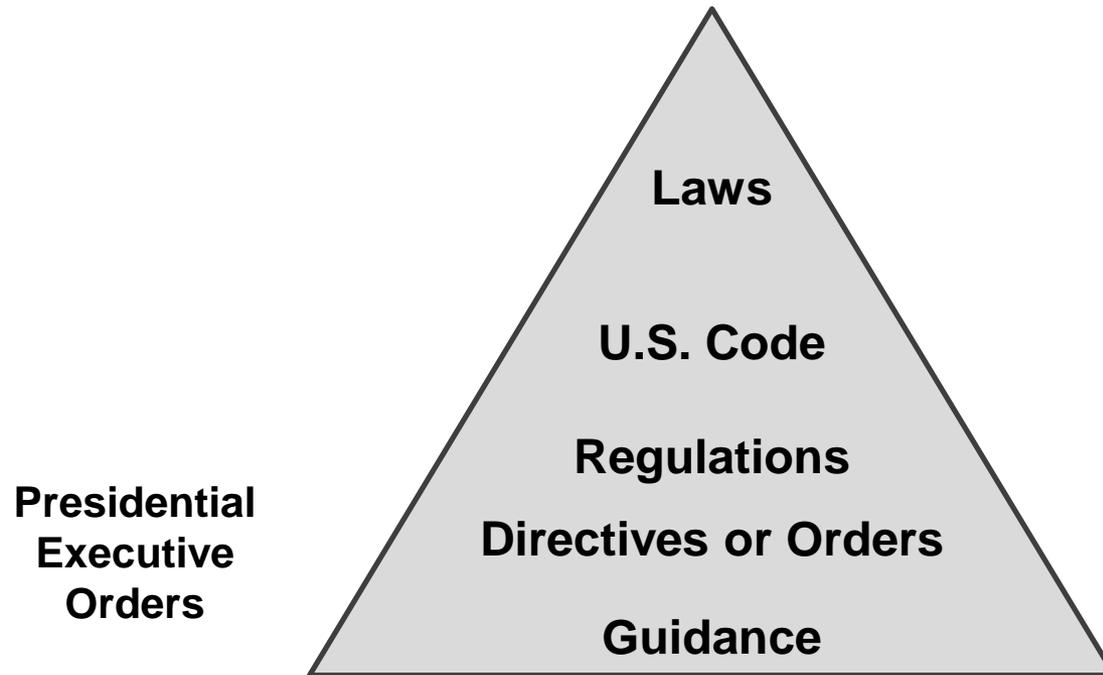
- Why conduct NEPA?
- Why prepare all these documents?
- What's in it for me?



Laws, Rules, and MOUs

- National Environmental Policy Act (1969)
- 43 Texas Administrative Code (TAC) Chapter 2
- Memoranda of Understanding (MOU)
 - FHWA
 - TPWD

Legislation Hierarchy



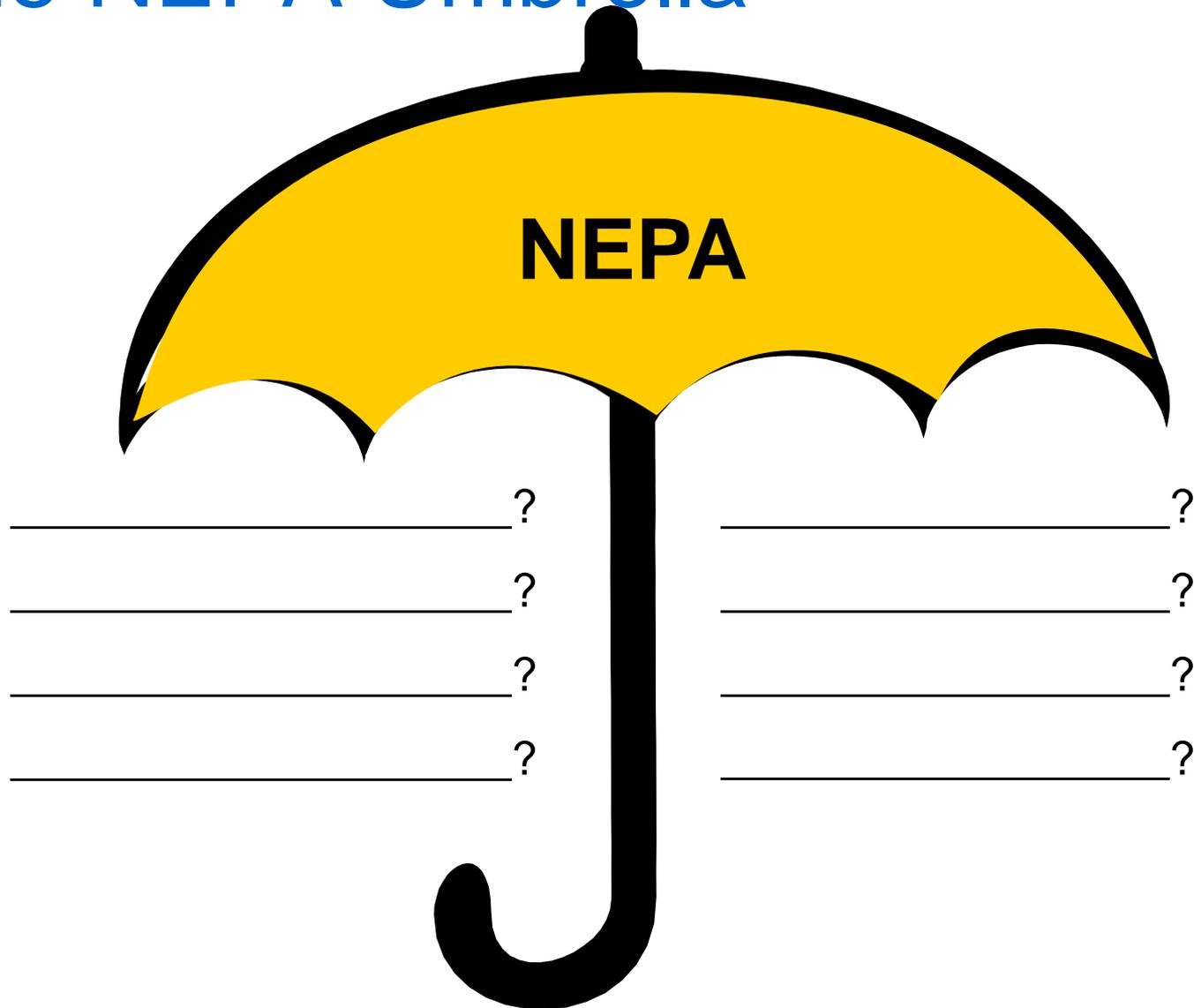


The National Environmental Policy Act of 1969

- Defines Federal policy
- Applies when there is a “Federal action”
- Establishes process requirements:
 - Considers social, economic, and environmental impacts in decisions
 - Considers alternatives
 - Involves both the public and the concerned agencies
- Requires environmental documents



The NEPA Umbrella

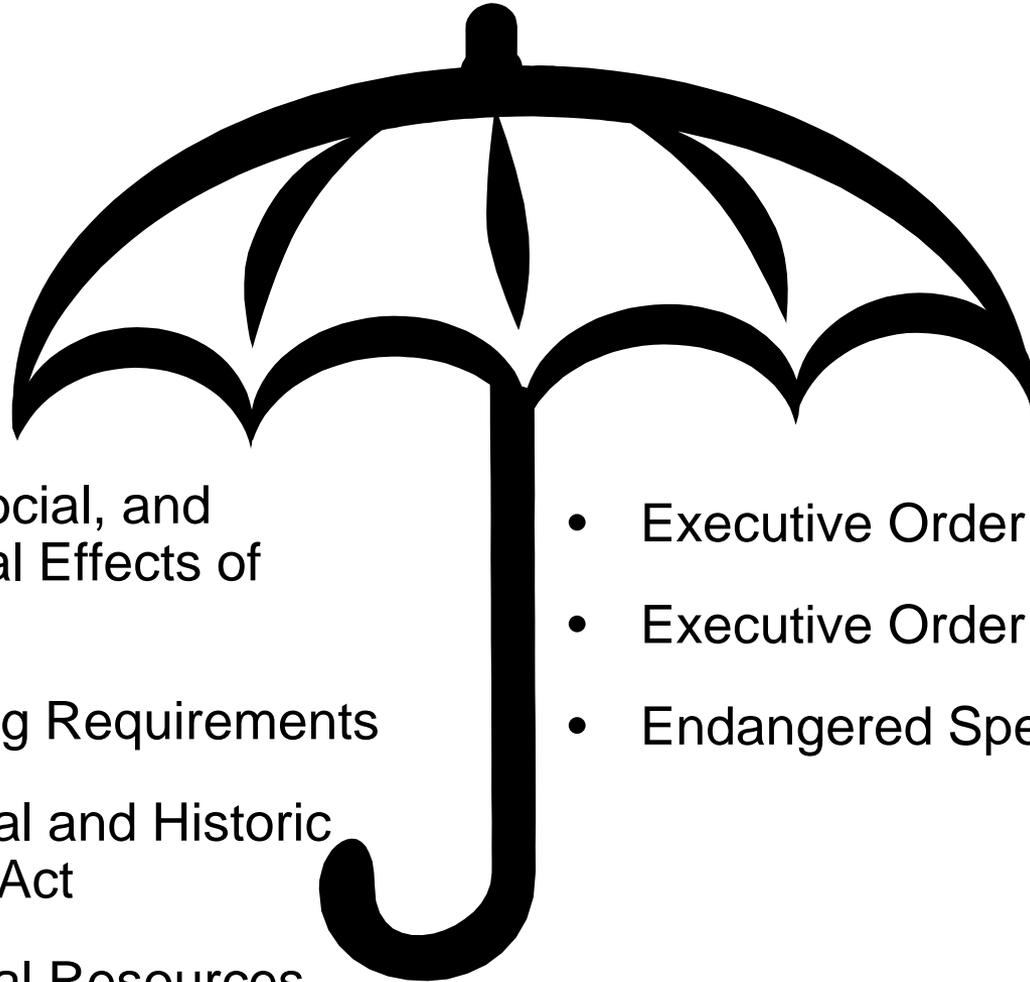


The NEPA Umbrella



- Title VI Civil Rights Act of 1964
- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
- Executive Order 12898
- Section 4(f) of USDOT Act
- Clean Air Act
- Clean Water Act
- Farmland Protection Policy Act
- National Historic Preservation Act

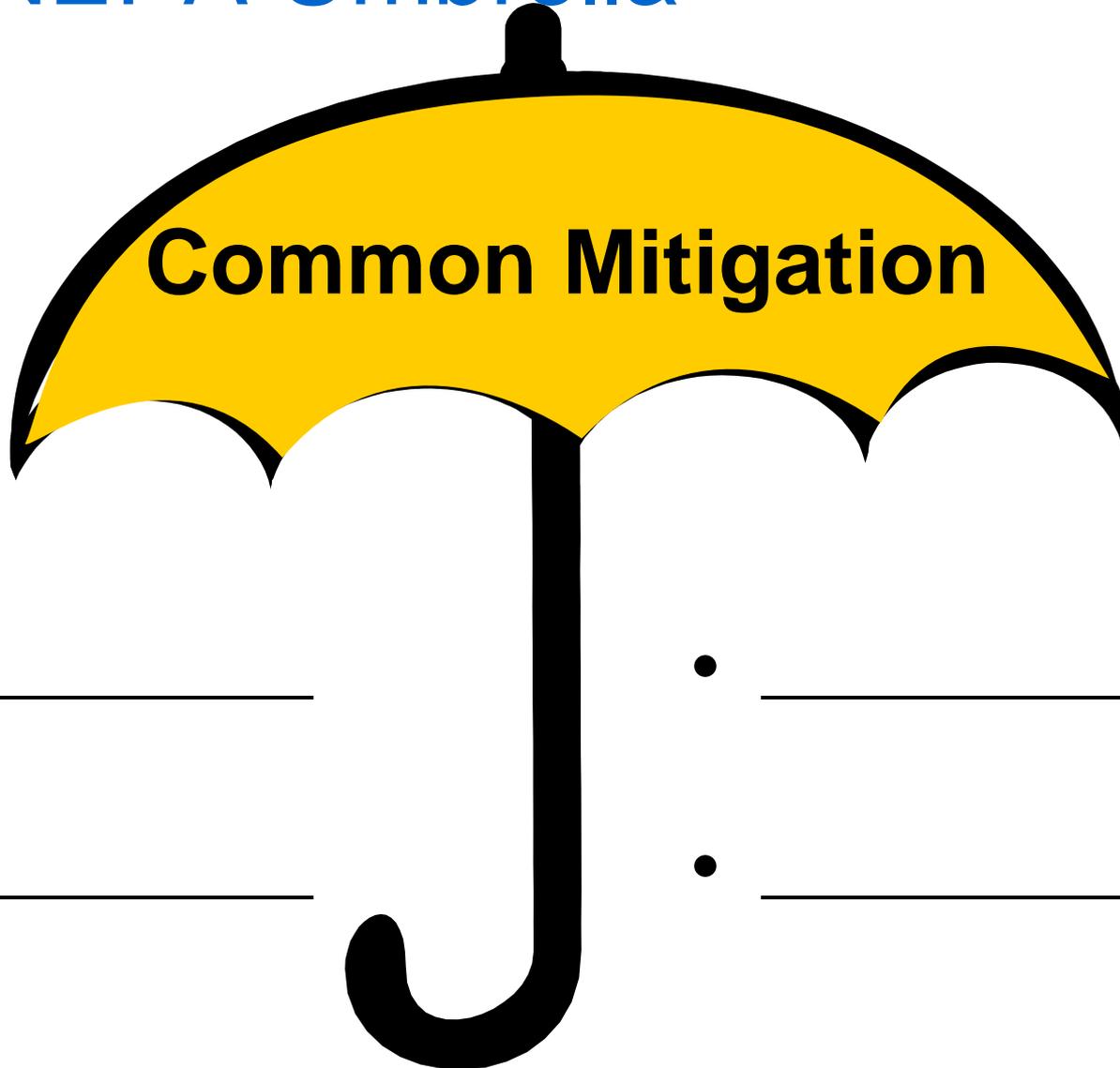
The NEPA Umbrella



- Economic, Social, and Environmental Effects of Highways
- Public Hearing Requirements
- Archaeological and Historic Preservation Act
- Archaeological Resources Protection Act
- Executive Order 11990
- Executive Order 11988
- Endangered Species Act



The NEPA Umbrella



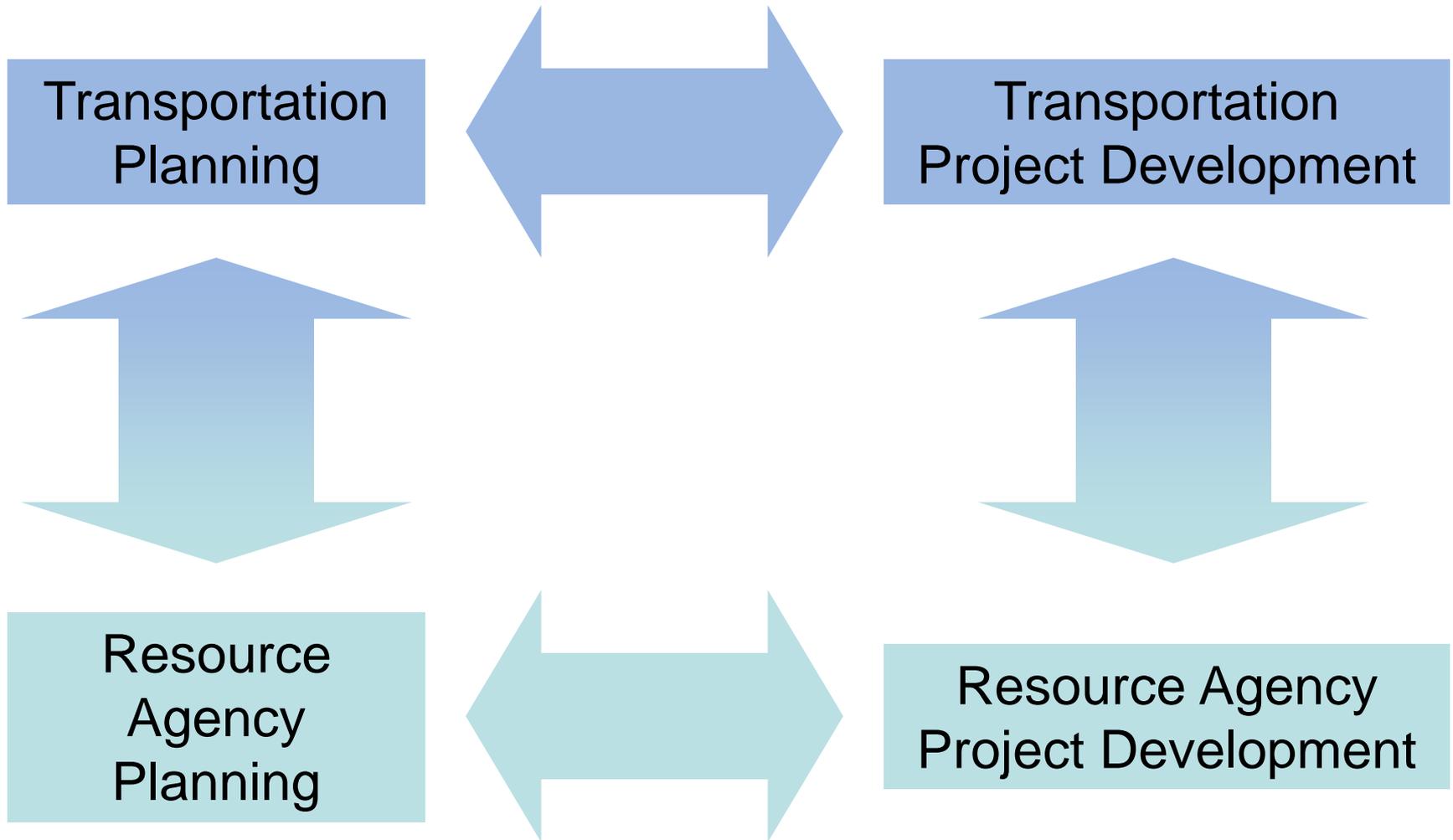
Common Mitigation

- _____
- _____

- _____
- _____



A Better Model? Linked and Integrated

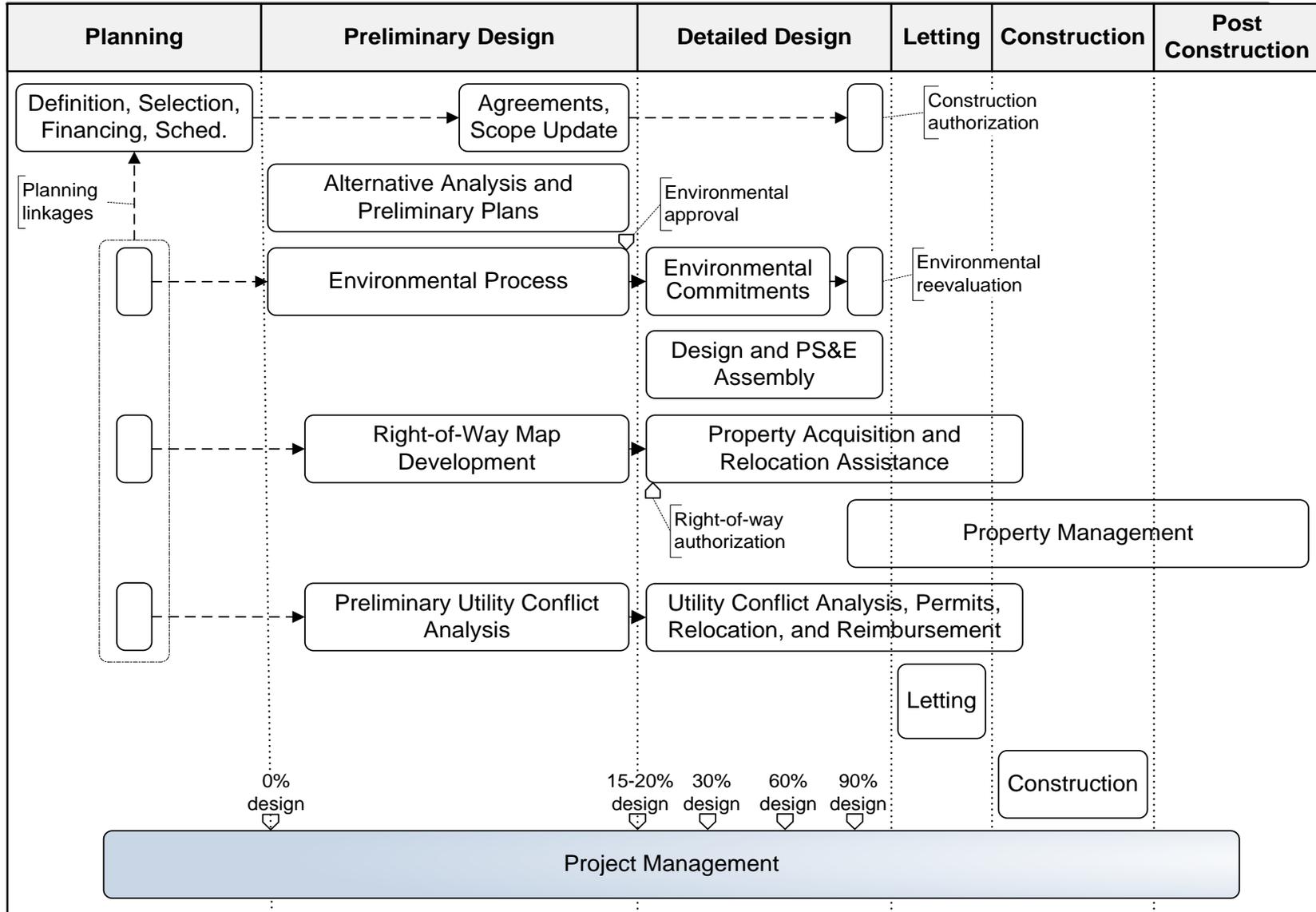




PEL and IEF

- Planning and Environmental Linkages (PEL)
- Regional Ecological Framework (REF)
- Integrated Ecological Framework (IEF)
 - FHWA's SHRP2 C06

Project Development Process





How Are NEPA Documents Classified?

- Environmental Impacts Statement (EIS)
- Environmental Assessment (EA)
- **Categorical Exclusion (CE)**
 - **(c) – list** (similar to BCE)
 - **(d) – list** (similar to PCE + peer reviewed)

Projects specifically listed in 23 CFR 771.117 (c) and (d)



Where Do You Start?

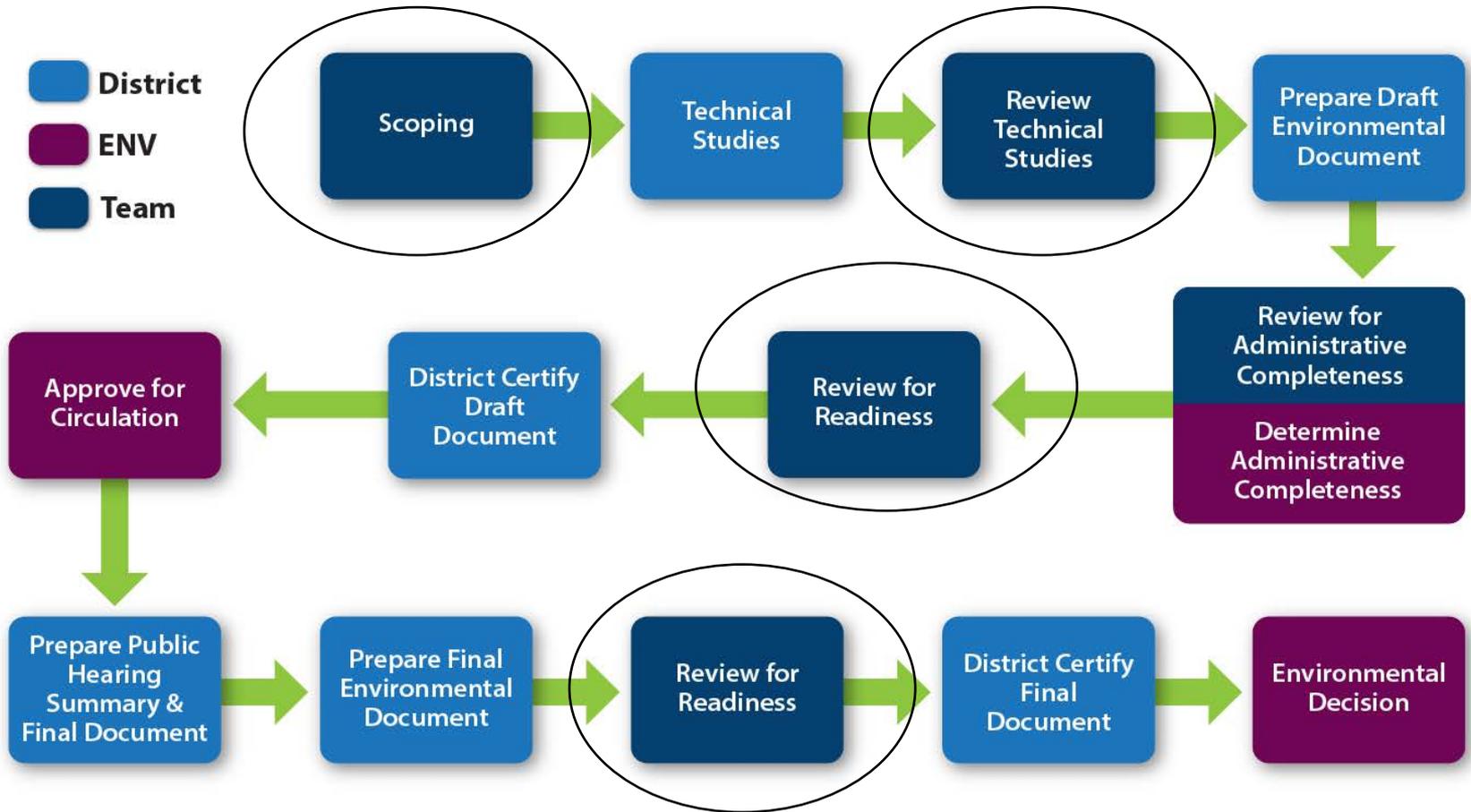
- Field/Site visit?
- Risk assessment?
- Data collection?
- Purpose and need?
- Schematic/Layout?
- Funding source?
- Project partners?
- MPO and TIP?
- Noise analysis?
- Archeological?
- Historical?
- Waters?
- Bio?
- Air quality?
- Project coordination requests?
- EJ?
- Public involvement?



Scoping and Risk Assessment

- Called many things, scoping, risk assessment and checklists, etc.
- The overall purpose is to:
 - Coordinate early with the public and agencies.
 - Determine scope of project and study area.
 - Identify important and minor issues.
 - Allocate assignments.
 - Identify activities and their timing.
 - Identify other studies.
 - **Determine document type.**

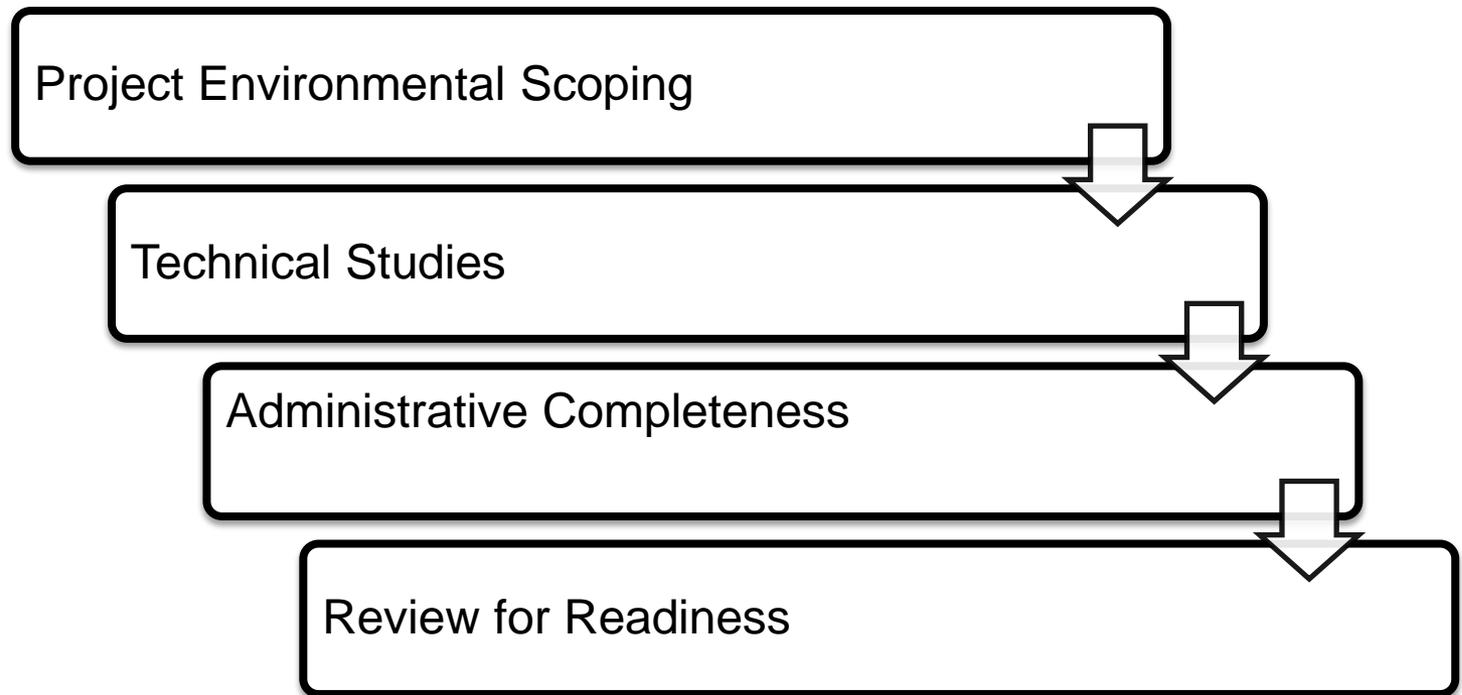
NEPA Assignment Process



Basic QA/QC Stages

for EA/EIS

- See QA/QC Process in NEPA Assignment Application



Checklists

- Use checklist to determine class of action

Project Scope and Environmental Issues Checklist

for Categorical Exclusions (CEs), D-List State Transportation Project
Blanket Categorical Exclusions (BCEs) and FHWA Transportation Project
Programmatic Categorical Exclusions (PCEs)

Part A: Project Scope

Restatement of Project Scope.

Check this box if this project scope replacement concerns the project.

I. Project Definition

Control Section Job Number(s) (CSJ):

Facility Name: <Enter Facility Name>

County Name: <Enter County Name>

Project Description: <Describe all project activities>

Project Limits:

CE Determination Form

Project Identification				
Highway: <u>Enter highway here</u>	County: Choose an Item.		CSJ #: <u>Enter CSJ Number</u>	
District: Choose an Item.		Associated CSJs: <u>Enter associated CSJ numbers</u>		
Limits/From: <u>Enter Limits/From</u>				
Limits/To: <u>Enter Limits/To</u>				
Select the specific CE:	(c) List	Choose an Item.	(d) list	Choose an Item.

Proposed CE Determination *(This section to be signed by a TxDOT staff member on behalf of the department delegate.)*

By my signature below, I confirm that I have reviewed the project file and I have determined that:

The project does not involve unusual circumstances, leading to significant environmental impacts, including:

- Significant impacts to planned growth or land use for the area
- Relocation of significant numbers of people
- Significant impacts on any natural, cultural, recreational, or other resource
- Significant air, noise, or water quality impacts
- Significant impacts on travel patterns
- Other impacts which, individually or cumulatively, have significant environmental impacts

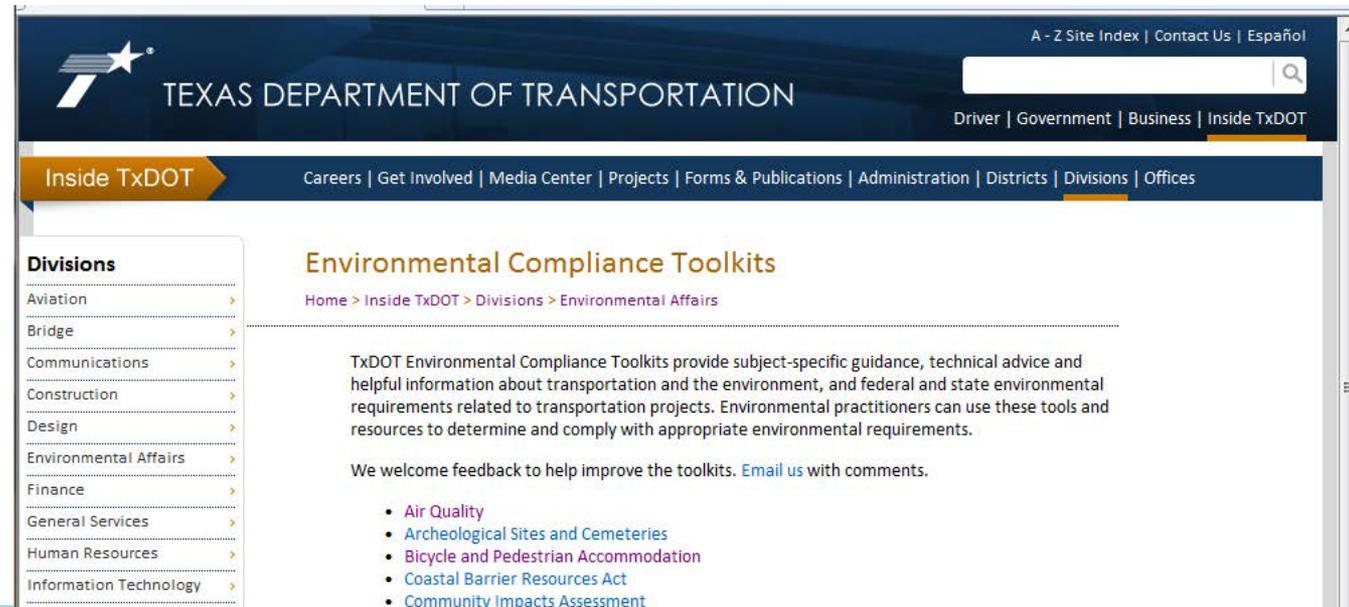
The project does not involve substantial controversy on environmental grounds

The project will not have a significant impact on properties protected by Section 4(f) of the DOT Act or Section 106 of the National Historic

Resources for Documents

- Environmental Compliance Toolkits
 - Project Scope and Environmental Issues Checklist
 - CE Determination Checklist
 - **July 2014 – TxDOT NEPA Workshop**
 - Other TxDOT forms and checklists

- ECOS



The screenshot displays the Texas Department of Transportation (TxDOT) website. The header features the TxDOT logo and the text "TEXAS DEPARTMENT OF TRANSPORTATION". Navigation links include "A - Z Site Index", "Contact Us", "Español", "Driver", "Government", "Business", and "Inside TxDOT". A search bar is located in the top right. Below the header, a secondary navigation bar includes "Inside TxDOT" and links for "Careers", "Get Involved", "Media Center", "Projects", "Forms & Publications", "Administration", "Districts", "Divisions", and "Offices". The main content area is titled "Environmental Compliance Toolkits" and includes a breadcrumb trail: "Home > Inside TxDOT > Divisions > Environmental Affairs". The text describes the toolkits as providing subject-specific guidance, technical advice, and helpful information about transportation and the environment. A call to action invites users to provide feedback via email. A list of toolkits is provided:

- [Air Quality](#)
- [Archeological Sites and Cemeteries](#)
- [Bicycle and Pedestrian Accommodation](#)
- [Coastal Barrier Resources Act](#)
- [Community Impacts Assessment](#)

A sidebar on the left lists various divisions with right-pointing chevrons:

- Aviation
- Bridge
- Communications
- Construction
- Design
- Environmental Affairs
- Finance
- General Services
- Human Resources
- Information Technology



Is It a CE?

- Bridge replacement

- Frontage Road

See July 2014 TxDOT Workshop Examples



Which NEPA document?

- Look in TxDOT Guidance and 23 CFR 771.117 (c) and (d)
- “c-list” CEs
 - Operational ROW, less than \$5 million fed share, less than \$30 million total and 15% fed share, etc.
- “d-list” CEs
 - Modernization, operational, bridge reconstruction, replacement, etc.

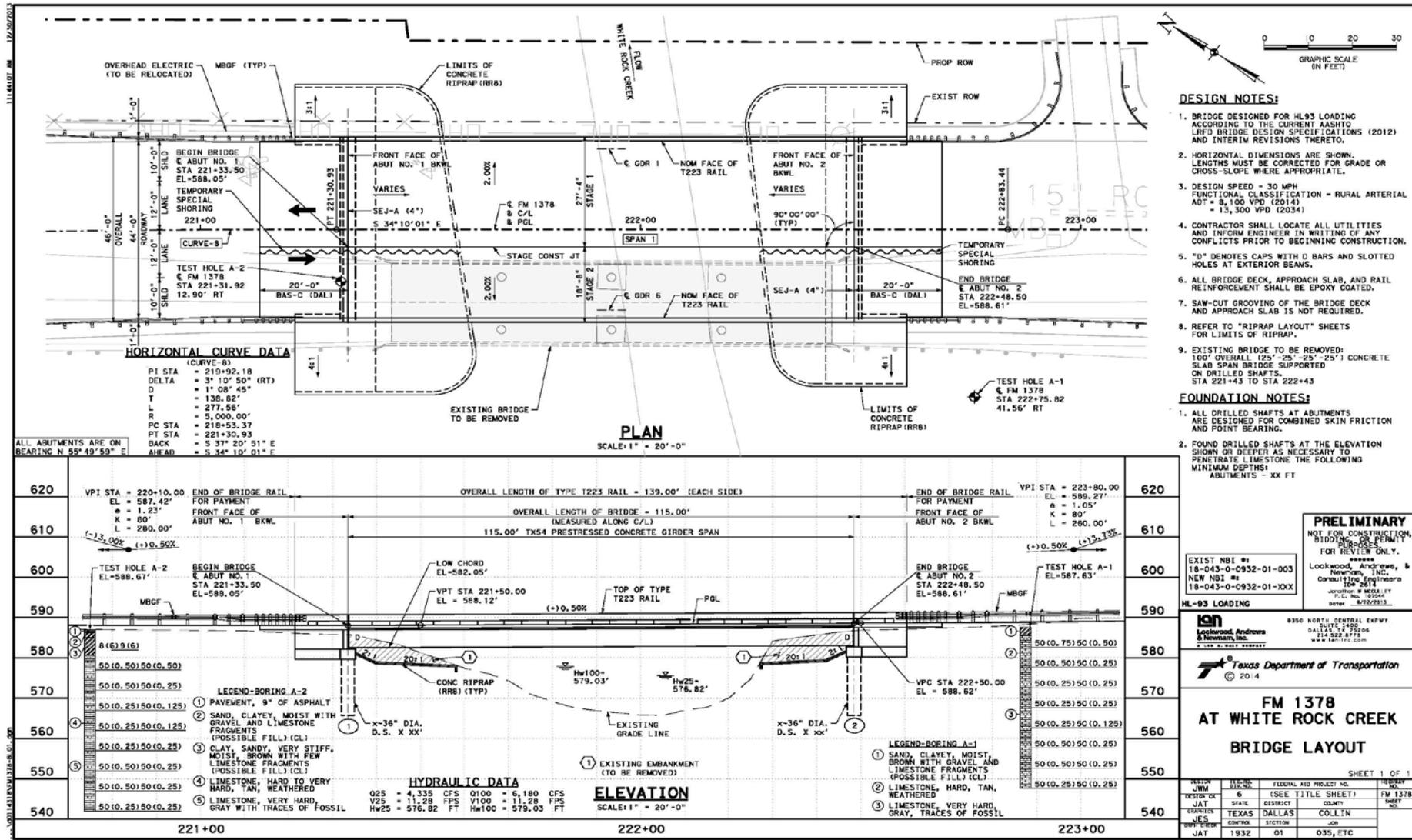


Which NEPA document?

1. Bridge replacement and approaches
 - \$4.5 million – 80% federal/20% state
 - No new ROW
 - Replaces 1970 bridge with minor horizontal adjustment
2. New frontage road
 - \$35 million – 80% federal/20% state
 - No new ROW

**SEE TAB 2 May Workshop/page 127-137 in July 2014 NEPA Workshop
in NEPA Assignment Training Binder**

Bridge Layout



- DESIGN NOTES:**
- BRIDGE DESIGNED FOR HL-93 LOADING ACCORDING TO THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (2012) AND INTERIM REVISIONS THERETO.
 - HORIZONTAL DIMENSIONS ARE SHOWN. LENGTHS MUST BE CORRECTED FOR GRADE OR CROSS-SLOPE WHERE APPROPRIATE.
 - DESIGN SPEED = 30 MPH
 FUNCTIONAL CLASSIFICATION = RURAL ARTERIAL
 ADT = 8,100 VPD (2014)
 = 13,300 VPD (2034)
 - CONTRACTOR SHALL LOCATE ALL UTILITIES AND INFORM ENGINEER IN WRITING OF ANY CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.
 - "D" DENOTES CAPS WITH D BARS AND SLOTTED HOLES AT EXTERIOR BEAMS.
 - ALL BRIDGE DECK, APPROACH SLAB, AND RAIL REINFORCEMENT SHALL BE EPOXY COATED.
 - SAW-CUT GROOVING OF THE BRIDGE DECK AND APPROACH SLAB IS NOT REQUIRED.
 - REFER TO "RIPRAP LAYOUT" SHEETS FOR LIMITS OF RIPRAP.
 - EXISTING BRIDGE TO BE REMOVED: 100' OVERALL (25'-25'-25'-25') CONCRETE SLAB SPAN BRIDGE SUPPORTED ON DRILLED SHAFTS. STA 221+43 TO STA 222+43

- FOUNDATION NOTES:**
- ALL DRILLED SHAFTS AT ABUTMENTS ARE DESIGNED FOR COMBINED SKIN FRICTION AND POINT BEARING.
 - FOUND DRILLED SHAFTS AT THE ELEVATION SHOWN OR DEEPER AS NECESSARY TO PENETRATE LIMESTONE. THE FOLLOWING MINIMUM DEPTHS:
 ABUTMENTS - XX FT

PRELIMINARY
 NOT FOR CONSTRUCTION
 BIDDING OR PERMIT
 FOR REVIEW ONLY.

EXIST NBI #:
 18-043-0-0932-01-003
 NEW NBI #:
 18-043-0-0932-01-XXX

Lookwood, Andrews, & Newnam, Inc.
 Consulting Engineers
 1801 26th
 Irving, TX 75038
 DATE: 8/22/2013

TX 8350 NORTH CENTRAL EXPWY. DA LUIS 2400
 214 222 8778
 www.tdot.texas.gov

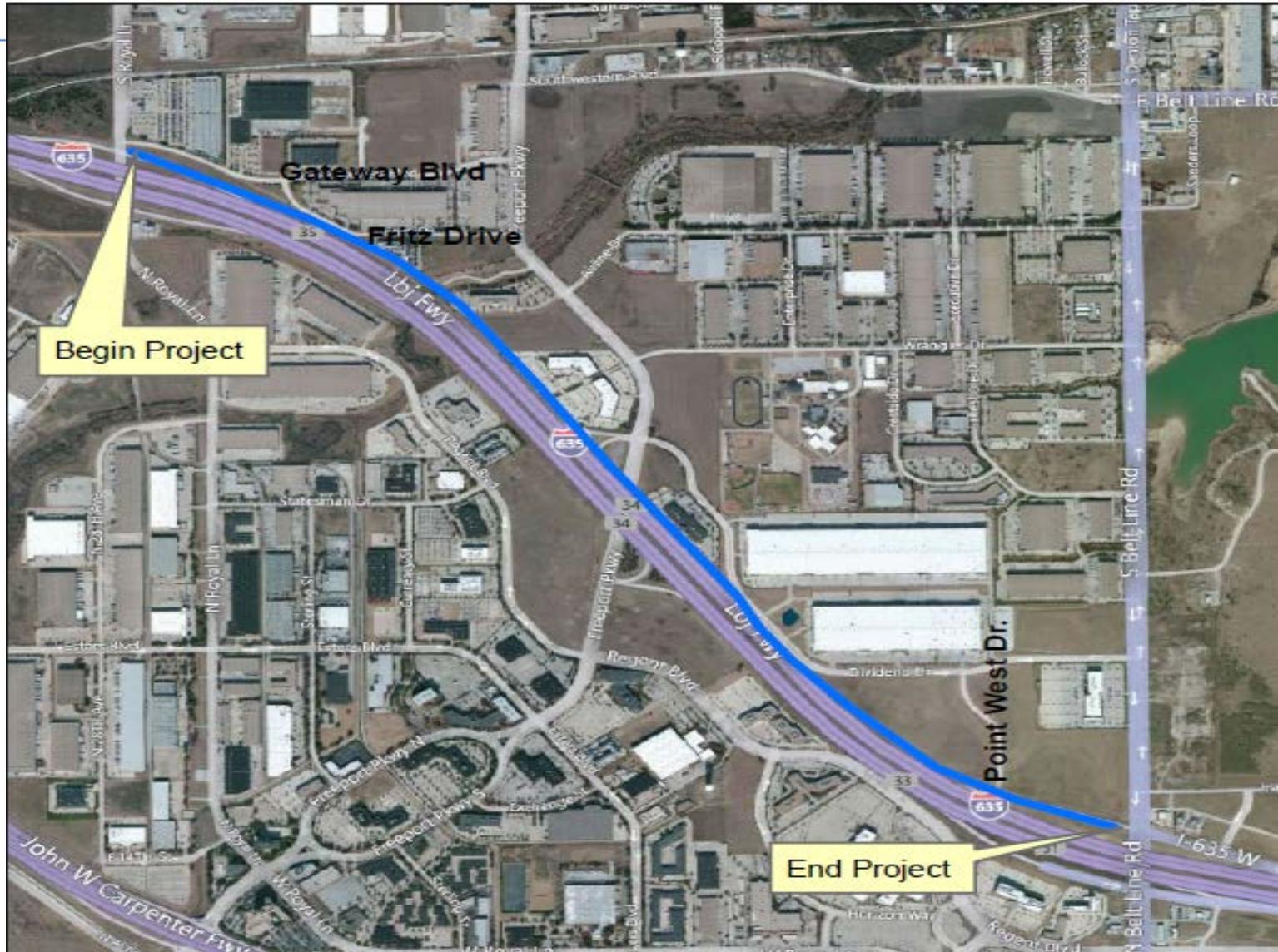
Texas Department of Transportation
 © 2014

**FM 1378
 AT WHITE ROCK CREEK
 BRIDGE LAYOUT**

SHEET 1 OF 1

DESIGN	JWM	CHECKED	JAT	FEDERAL AID PROJECT NO.	
DRAWN BY	JAT	SCALE	(SEE TITLE SHEET)	STATE	TX
DATE	8/22/13	SECTION	1	COUNTY	FM 1378
APPROVED	JES	SECTION		CITY	
DATE	8/22/13	SECTION		JOB	
CONTROL	JAT	SECTION		CONTRACT	1932 01 035, ETC

Frontage Road





Summary

- NEPA is a process for good decision making that aligns with the transportation planning process.
- Many different laws affect the transportation development process.
- The project development process is complicated, with many simultaneously moving parts and decisions.



Lesson Review

- Why do we prepare NEPA documents?
- How do you determine the correct NEPA document and class of action?
- When do you prepare the documents?
- What resources do you use?



Lesson learned

- Make site visits!
- Document, document, document everything.
 - ECOS
 - Tech Studies, etc.
- When reviewing documents, provide detailed and specific language, or examples.



Feedback request

(Be Constructive)

- Share your experience on environmental document and review processes.
- Assuming deficiencies and issues exist:
 - What are the most critical deficiencies or issues?
 - What is your solution or suggestion?
 - What do you need help with?
 - What resources do you need?



Deficiencies and Issues?

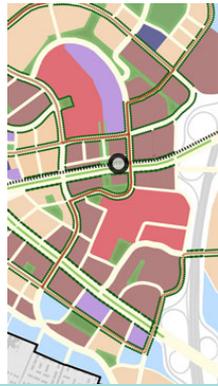
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NEPA and Mitigation

LESSON 2

Mitigation 101 - Process and Practice

August 2014





Introduction and Overview

- Introductions (new participants)
- Review learning objectives
- Workshop materials

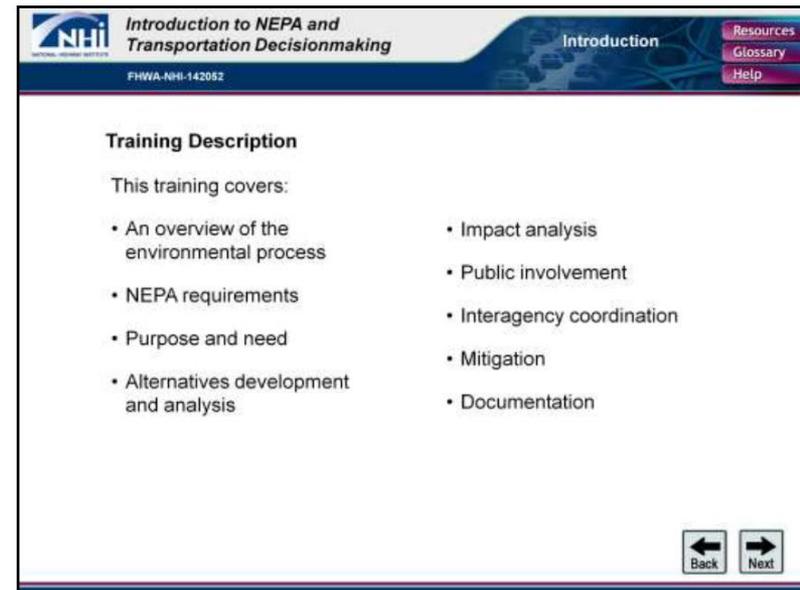


Self Introductions (New Participants)

- What is your name?
- What is your position/role in planning, design, or environmental, etc.?
- Do you have mitigation experience?
- Do you prepare or review mitigation documents?
- What do you expect from this workshop?

National Highway Institute Course

- **Introduction to NEPA and Transportation Decision Making**
- FHWA-NHI-142052 NEPA Tutorial
- Free online course
- <http://www.nhi.fhwa.dot.gov>
- Self-paced
- Takes approximately 4 hours



The screenshot shows the course page for 'Introduction to NEPA and Transportation Decisionmaking' (FHWA-NHI-142052). The page features a blue header with the NHI logo and navigation links for 'Resources', 'Glossary', and 'Help'. The main content area is titled 'Training Description' and lists the following topics:

- An overview of the environmental process
- NEPA requirements
- Purpose and need
- Alternatives development and analysis
- Impact analysis
- Public involvement
- Interagency coordination
- Mitigation
- Documentation

Navigation buttons for 'Back' and 'Next' are located at the bottom right of the page.



Summary of Mitigation Challenges

- Mitigation cost tracking not precise
- Mitigation monitoring/tracking needs improving
- Improvements to permit information clarity are needed
- Risk aversion is a big driver for regulatory agencies and reluctance to change
- Different regions may have different methods and requirements



Summary of Mitigation Issues

- Agency coordination is a continuing challenge
- Maintaining institutional relationships and knowledge is difficult (and needed)
- Success is dependent on good data
- Mitigation is generally project-focused, so using regional and integrated approaches is difficult



Lesson 2 - Learning Objectives

At the end of this lesson, you should be able to:

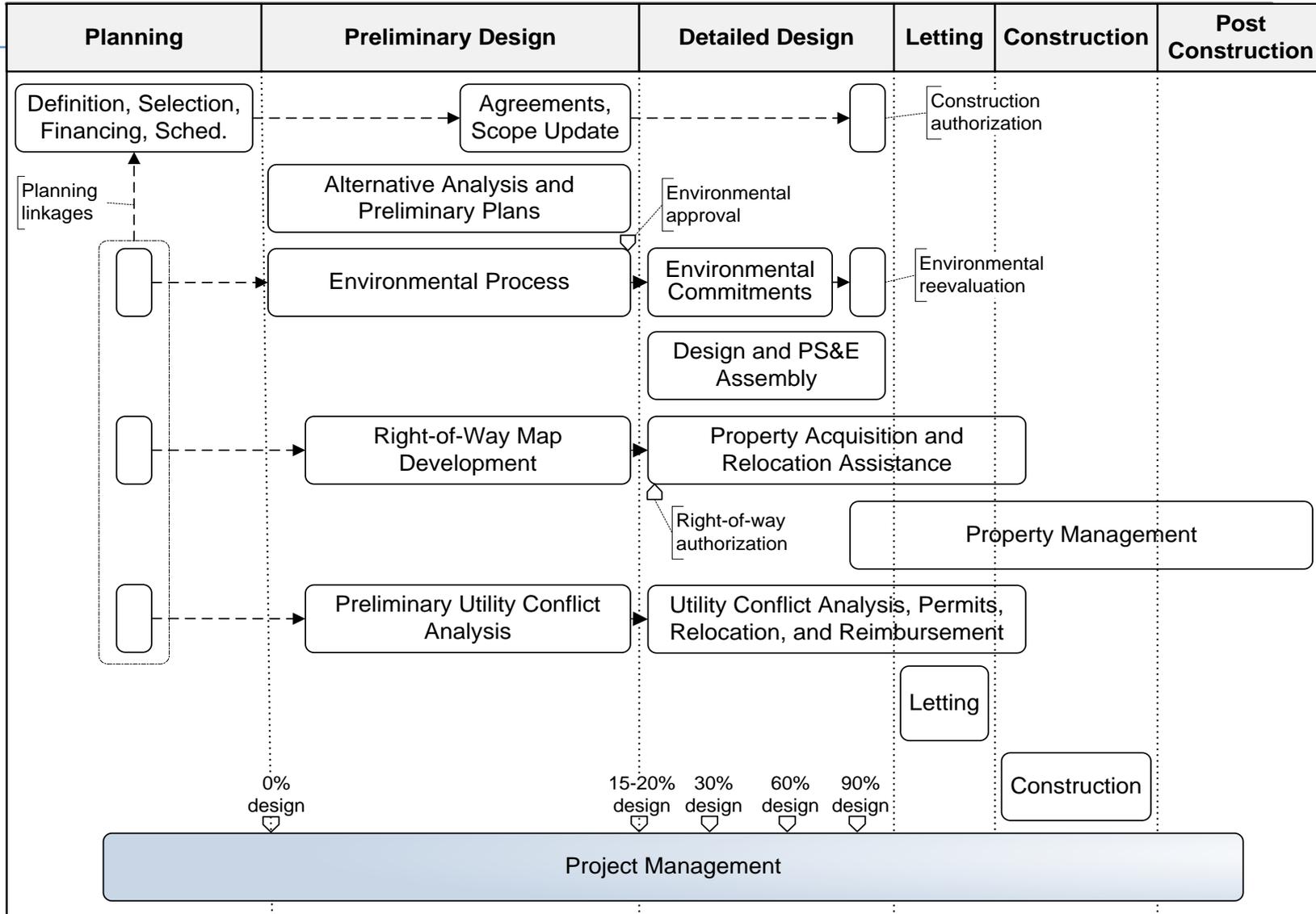
- Describe common types of mitigation
- Identify mitigation milestones in the PDP timeline
- Describe costs associated with mitigation
- Describe examples of mitigation best practices
- Identify compliance issues in the PDP



Mitigation

- Which laws may require mitigation?
- Which laws USUALLY require mitigation?
- Which mitigation is USUALLY the most costly?
- Where are potential mitigation cost savings?

Project Development Process





Transportation and Environmental Legislation

Four key statutes commonly addressed in transportation decision making include:

- Section 404 of the Clean Water Act.
- Section 4(f) of the U.S. Department of Transportation Act of 1966.
- Section 106 of the National Historic Preservation Act.
- Endangered Species Act (ESA).
 - Also see TPWD MOU.



Mitigation Approach

- Mitigation within NEPA decision making follows an ordered approach known as “sequencing”
 - Mitigation decision making should start with alternatives and impact analysis
- Mitigation sequencing involves understanding the affected environment and assessing transportation effects throughout project development – plan, design, construct, maintain



Mitigation Sequence

- Avoid
- Minimize
- Repair – Rehabilitate – Restore
- Reduce
- Compensate



Match Each Description to the Appropriate Sequencing Approach Stage

Sequencing Stage

Description

- | | |
|-----------------|---|
| a. Avoid | a. Provide substitute resources or environments to make up for the impacts on an affected environment. |
| b. Minimize | b. Correct the effects of an impact by returning the affected environment to its original condition. |
| c. Rehabilitate | c. Limit the degree or magnitude of the action and its implementation. |
| d. Preserve | d. Reduce or eliminate the impact over time through maintenance operations during the life of the action. |
| e. Compensate | e. Prevent environmental impacts by not taking certain actions, or parts of an action. |

Match Each Description to the Appropriate Sequencing Approach Stage

Sequencing Stage

- a. Avoid
- b. Minimize
- c. Rehabilitate
- d. Preserve
- e. Compensate

Description

- a. Provide substitute resources or environments to make up for the impacts on an affected environment.
- b. Correct the effects of an impact by returning the affected environment to its original condition.
- c. Limit the degree or magnitude of the action and its implementation.
- d. Reduce or eliminate the impact over time through maintenance operations during the life of the action.
- e. Prevent environmental impacts by not taking certain actions, or parts of an action.



Mitigation and the NEPA Process

- Effective mitigation starts at the beginning of the NEPA process, not at the end.
- Mitigation must be an integral part of the alternatives development and impact analysis process.
- Analysis of project alternatives should first seek to avoid and minimize the impacts before the project decision and other mitigation commitments are made.

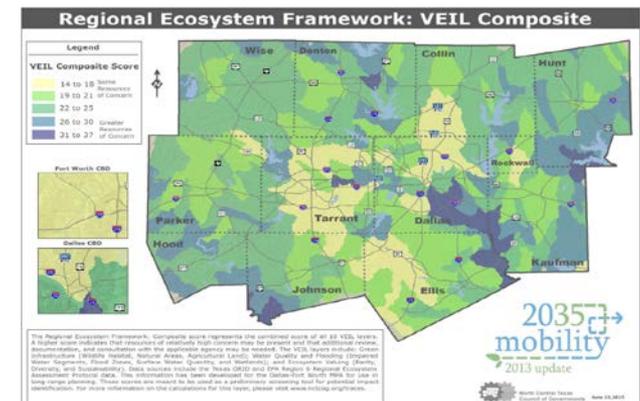


Resources with MPOs

- Metropolitan planning organizations (MPOs) provide an important potential resource and partner for regional mitigation coordination efforts.
- HGAC
- NCTCOG

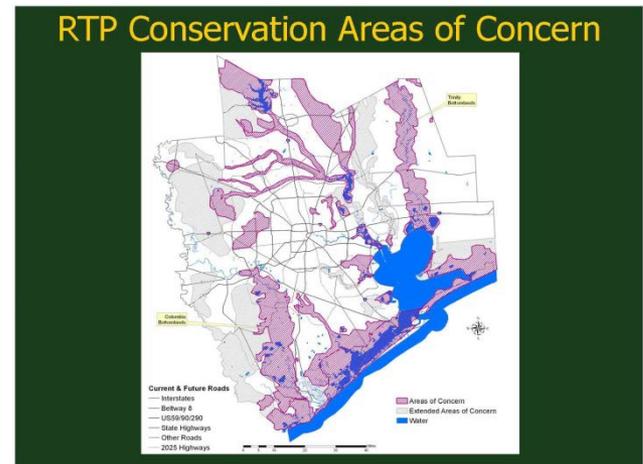
NCTCOG

- USACE and NCTCOG Agreement (2011)
 - MOA led to Coordinated Permit Process to expedite 404 permits
 - Saves 2–3 months on the overall permitting process
- SHRP 2 Implementing Eco-Logical Implementation Assistance

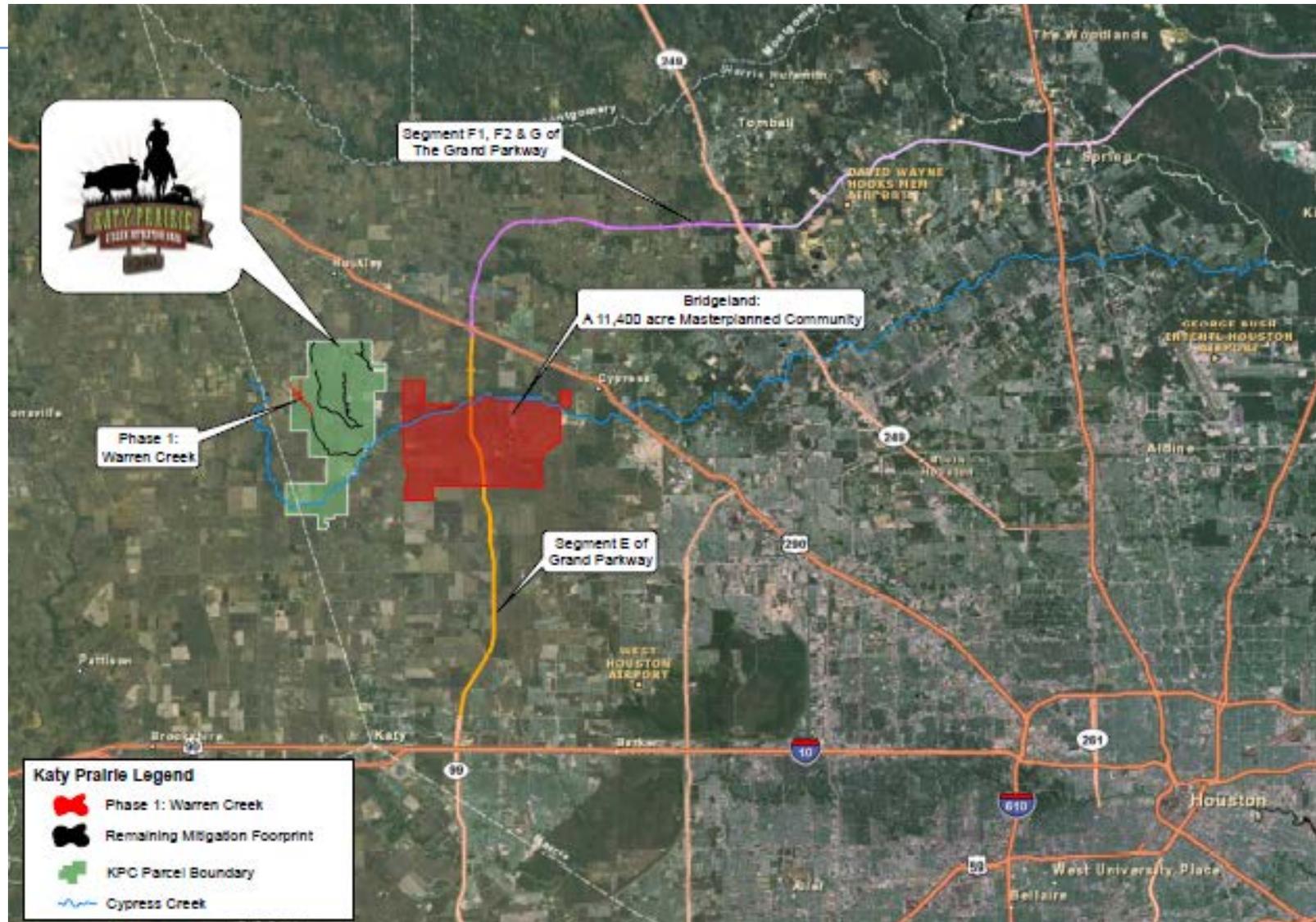


HGAC

- Regional Decision-Support System
- Allows for an inventory of high value environmental resources.
- Acts as a data clearinghouse for organizations and the public.



Grand Parkway





Grand Parkway

- Lessons learned
- Share your lessons
 - Roadway alignment decades old
 - Earlier identification needed:
 - Construction estimates
 - Mitigation cost estimates
 - Anticipating and planning for mitigation costs
 - Mitigation impact on cost of construction/time
 - Maximum mitigation (beyond required)



TxDOT Mitigation Procurement Policy

June 17, 2013 Memo

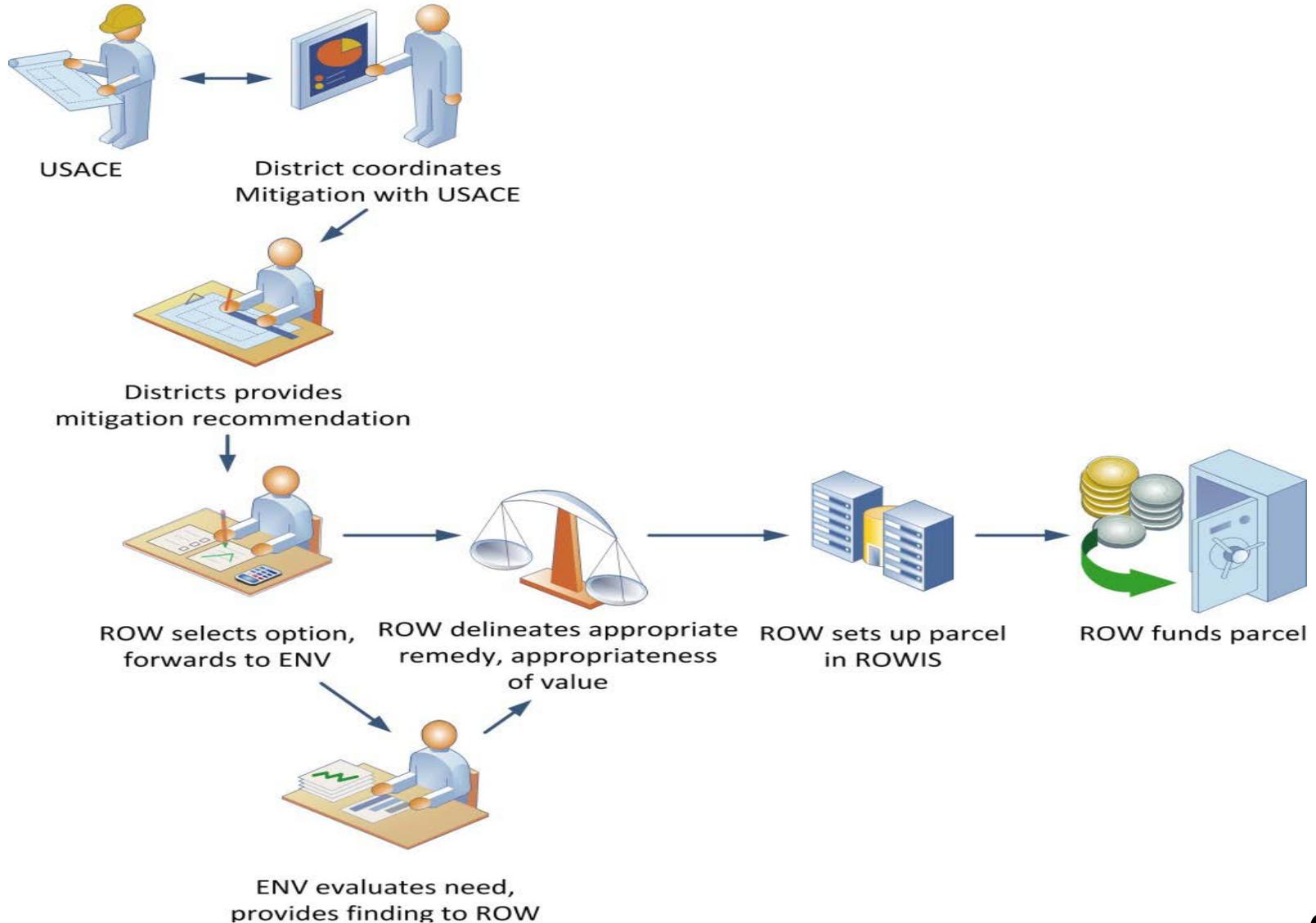
- Mitigation Purchase Authorization Process
- 404 permit hierarchy
 1. Credits from a mitigation bank
 2. Credits from an in-lieu fee program
 3. Permittee-responsible mitigation
- Each Corps District may have specific guidance
 - Fort Worth/Tulsa uses TXRAM
 - Galveston uses iHGM and Galveston Stream Method
- RIBITS



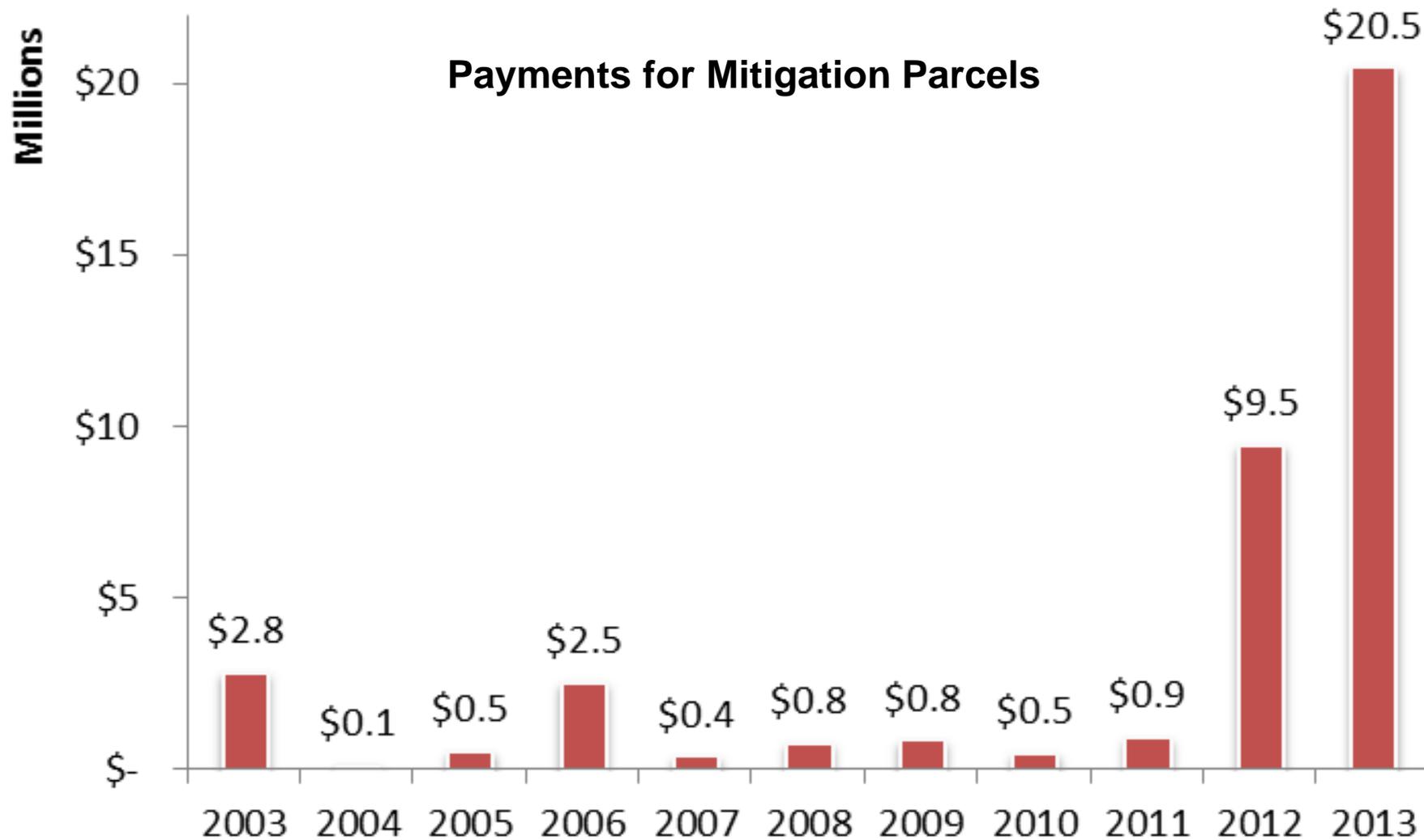
Best Value Mitigation

- Service area of the impacts
- Solicit bids from banks with suitable credits
- Mitigation banks
- In-lieu fee programs (if available)

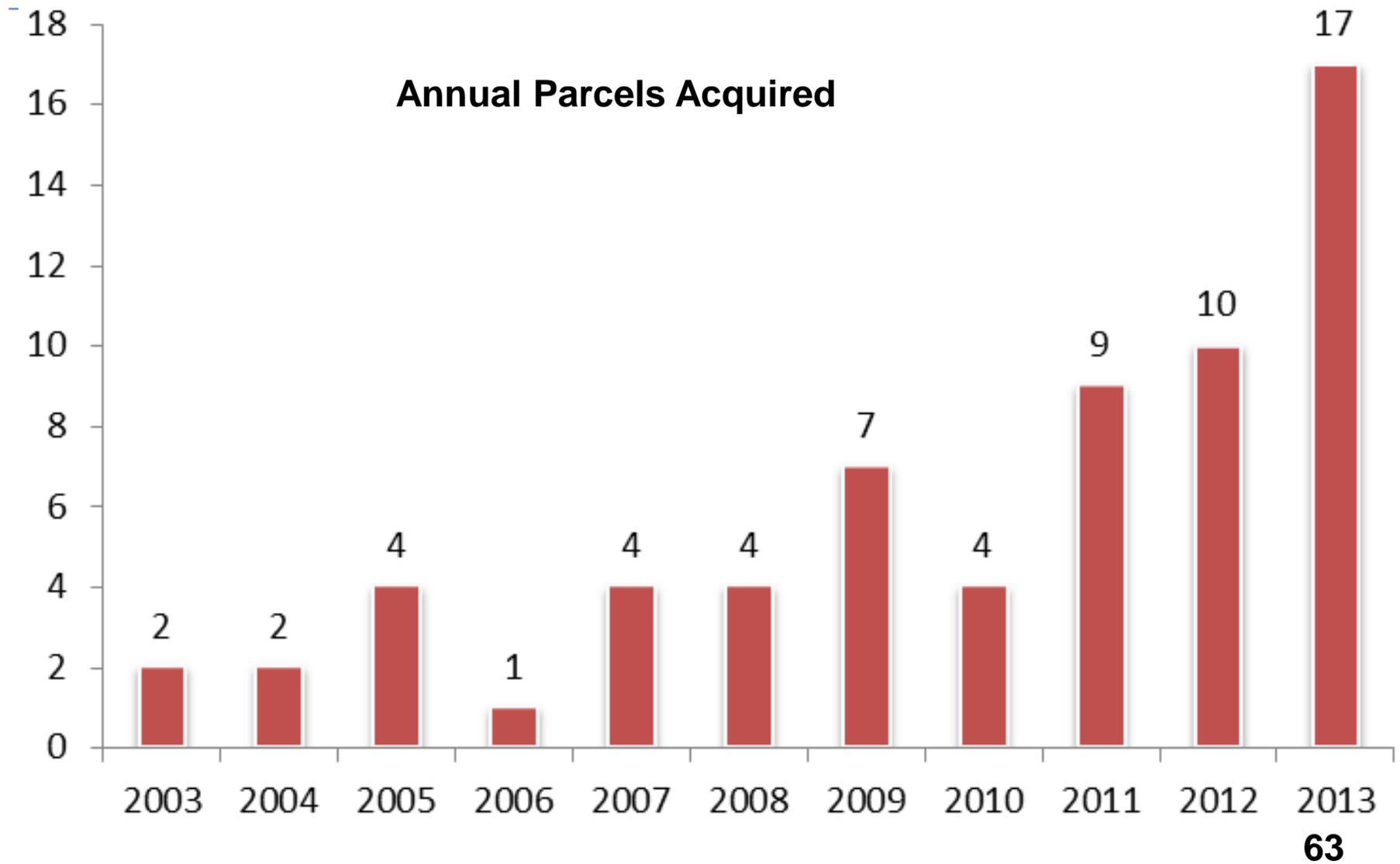
ROW and Mitigation Process



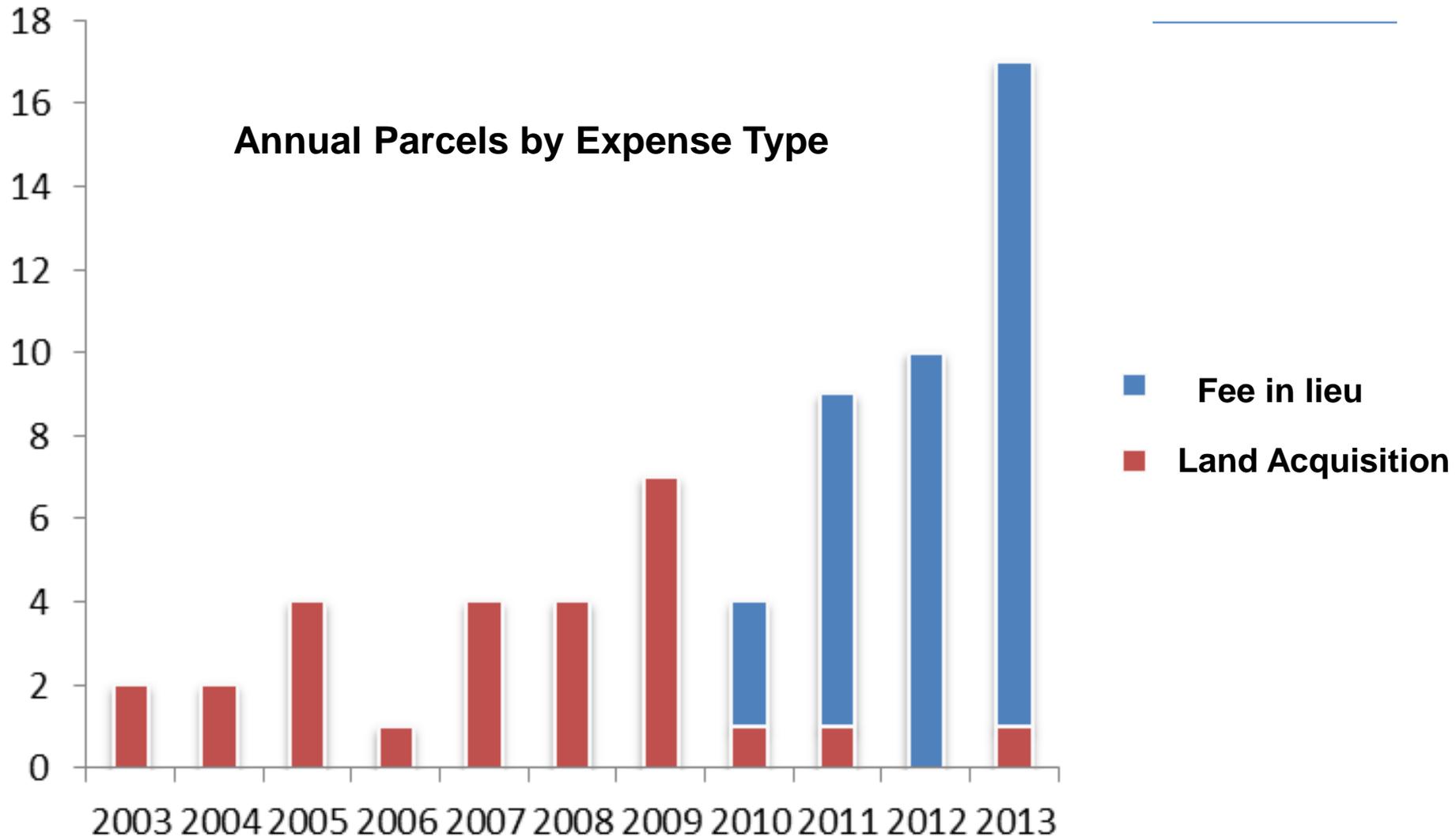
ROWIS - Mitigation Costs



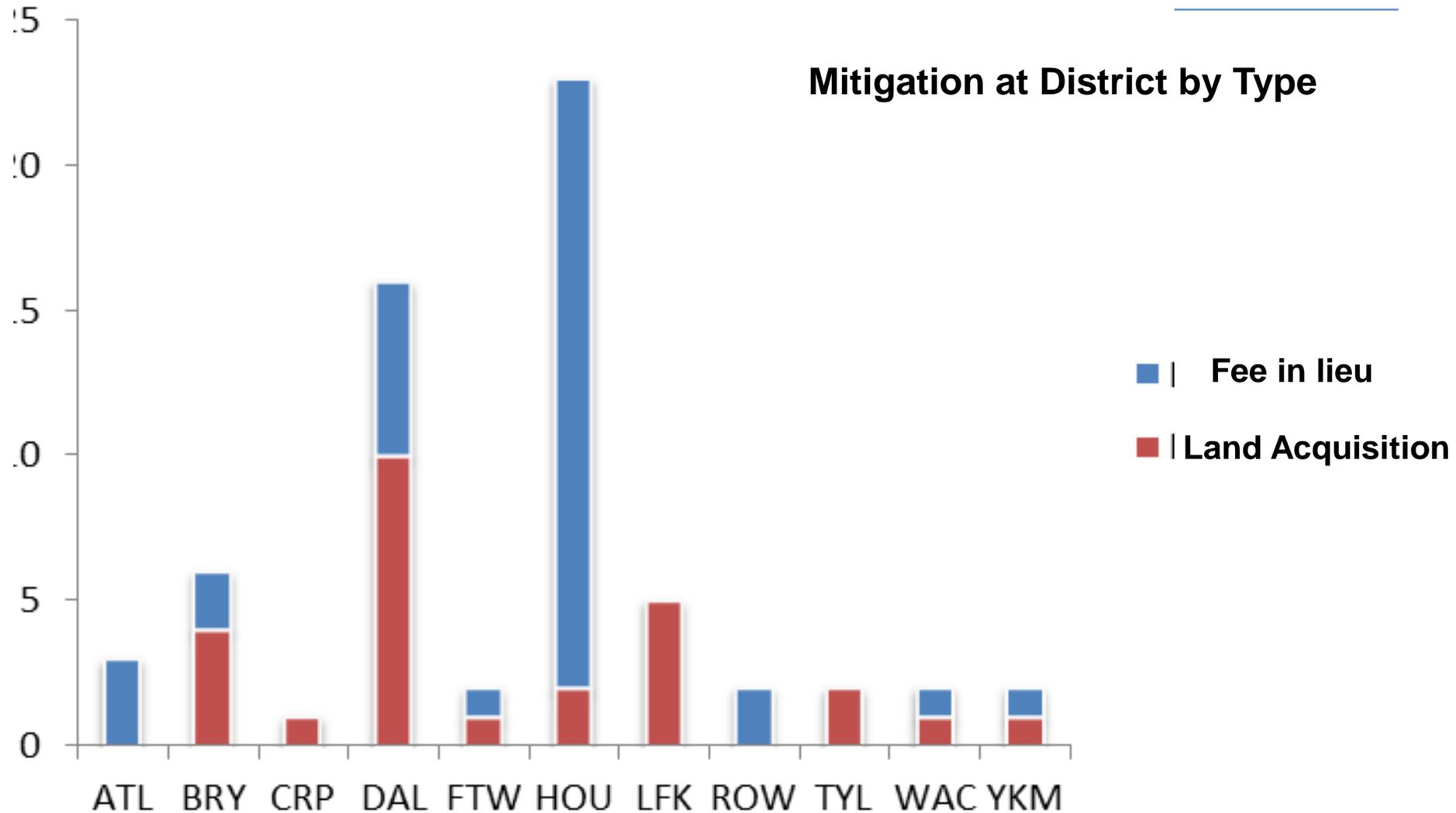
ROWIS – Mitigation Costs



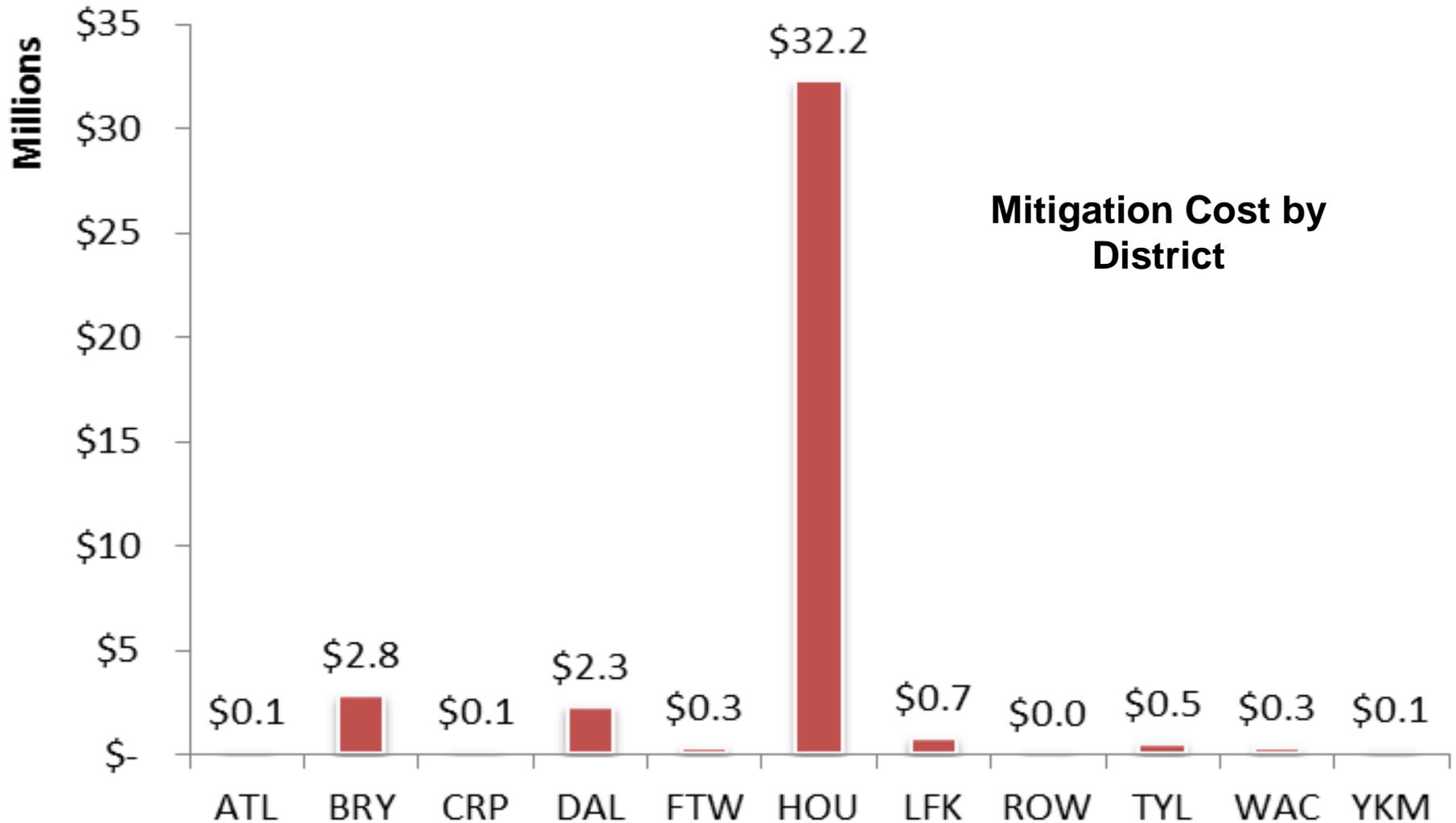
ROWIS - Mitigation Costs



ROWIS – Mitigation by Type



ROWIS – Mitigation Cost





Environmental Permits Issues and Commitments (EPIC)

- Any permit, issue, coordination commitment, or mitigation obligation necessary to satisfy social, economic, or environmental impacts of a project
 - Stormwater permits
 - Wetlands permits
 - Cultural resources
 - Vegetation impacts/threatened or endangered species coordination
 - Traffic noise mitigation
 - Any other special environmental issues



Environmental Permits Issues and Commitments (EPIC)

- Mitigation includes:
 - Avoidance – altering a project so that an impact does not occur
 - Minimizing – modifying a project to reduce the severity of an impact
 - Enhancement – adding desirable features to blend more harmoniously within community
 - Compensation – undertaking an action to alleviate an impact



Environmental Permits Issues and Commitments (EPIC)

- **Permits**

- U.S. Army Corps of Engineers permit
- U.S. Coast Guard permit

- **Issues**

- Hazardous materials
- Storm water management plan

- **Commitments**

- Avoiding an archeological site until after excavation
- Relocating a historic structure prior to any demolition work
- Constructing noise walls
- Designating “no-work areas” to protect wetlands or species



Environmental Permits Issues and Commitments (EPIC)

- EPICs and PS&E
 - EPICs should be reflected in PS&E so the inspector and contractor are aware of them
 - Standard EPIC sheet available online under “Standards”
 - District and ENV staff work together to ensure EPIC sheet is incorporated into the PS&E
 - Saves time, money, and prevents violations!

Environmental Permits Issues and Commitments (EPIC)

Notes To Designer:

- Do not alter Sheet Design or Font style, size or weight - match text attributes.
- If additional space is needed for a numbered section, fence and adjust sections up or down as needed. Do not renumber sections or alter section numbers.
- Auto-catch should be addressed thoroughly and verify the necessary day items are set up to be printed by October 15, 2012.

Revised May 2012

DISCLAIMER:
The use of this standard is governed by the Texas Engineering Practice Act. The user of any title shall be responsible for the accuracy of the information and for the consequences of any errors or omissions resulting from its use.

I. STORMWATER POLLUTION PREVENTION PLAN-CLEAN WATER ACT SECTION 402

TPDES TXR 1500001 Stormwater Discharge Permit or Construction General Permit required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 1122.

- No Action Required Required Action
- No Action Required Required Action

Action No.

- Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000
- Comply with the SWSP and revise when necessary to control pollution or required by the Engineer.
- Post Construction Site Notice (CSN) with SWSP information on or near the site, accessible to the public and TCEQ, EPA or other Inspectors.
- When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, submit NOI to TCEQ and the Engineer.

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas. No equipment is allowed in any stream channel below the ordinary High Water Mark except an approved temporary stream crossings or drill pads.

The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

No Permit Required
 Nationwide Permit 14 - PON not Required (less than 1/10th acre waters or wetlands affected)
 Nationwide Permit 14 - PON Required (1/10 to 1/2 acre, 1/3 In tidal waters)
 Individual 404 Permit Required
 Other Nationwide Permit Required: NRP# _____

Required Actions: List Waters of the US Permit applies to, location in project and check Best Management Practices planned to control erosion, sedimentation and post-project TSS.

- Indian Creek
-
-
-

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

Best Management Practices for applicable 401 General Conditions:

Erosion	Sedimentation	Post-Construction TSS
<input checked="" type="checkbox"/> Temporary Vegetation	<input checked="" type="checkbox"/> Silt Fence	<input type="checkbox"/> Vegetative Filter Strips
<input type="checkbox"/> Biomats/Netting	<input type="checkbox"/> Rock Bars	<input type="checkbox"/> Retention/Irrigation Systems
<input type="checkbox"/> Mulch	<input type="checkbox"/> Triangular Filter Dike	<input type="checkbox"/> Extended Detention Basin
<input type="checkbox"/> Seeding	<input type="checkbox"/> Sand Bag Bars	<input type="checkbox"/> Constructed Wetlands
<input type="checkbox"/> Interceptor Swale	<input type="checkbox"/> Straw Bale Dike	<input type="checkbox"/> Wet Basin
<input type="checkbox"/> Diversion Dike	<input type="checkbox"/> Brush Berms	<input type="checkbox"/> Erosion Control Carpet
<input type="checkbox"/> Erosion Control Carpet	<input type="checkbox"/> Erosion Control Carpet	<input type="checkbox"/> Mulch Filter Berms and Socks
<input type="checkbox"/> Mulch Filter Berms and Socks	<input type="checkbox"/> Mulch Filter Berms and Socks	<input type="checkbox"/> Compost Filter Berms and Socks
<input type="checkbox"/> Compost Filter Berms and Socks	<input type="checkbox"/> Compost Filter Berms and Socks	<input checked="" type="checkbox"/> Vegetation Liner Ditches
	<input type="checkbox"/> Stone Outlet Sediment Traps	<input type="checkbox"/> Sand Filter Systems
	<input type="checkbox"/> Sediment Basins	

III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

No Action Required Required Action

Action No.

-
-
-
-

IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical.

No Action Required Required Action

Action No.

-
-
-
-

V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS TREATY ACT.

No Action Required Required Action

Action No.

- Timber Conebrake Rattlesnake, Plains Spotted Skunk, Texas Garter Snake
-
-
-

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediate area, and contact the Engineer immediately.

Special Note: The Migratory Bird Act of 1918 states that it is unlawful to kill, capture, collect, possess, buy, sell, lease or transport any migratory bird, nest, young, feather or egg in part or in whole, without a federal permit issued in accordance with the Act's policies and regulations. The contractor would remove all old migratory bird nests from any structure where work would be done from October 1 to February 15. In addition, the contractor would be prepared to prevent migratory birds from building nests between February 15 to October 1. In the event that migratory birds are encountered on-site during project construction efforts to avoid adverse impacts on protected birds, active nests, eggs and/or young would be observed.

LIST OF ABBREVIATIONS

BMP: Best Management Practice	SPCD: Spill Prevention Control and Countermeasure
CGP: Construction General Permit	SRPP: Storm Water Pollution Prevention Plan
DSND: Texas Department of State Health Services	PDR: Pre-Construction Notification
FHWG: Federal Highway Administration	PSL: Project Specific Location
MOU: Memorandum of Agreement	TQSD: Texas Commission on Environmental Quality
MOU: Memorandum of Understanding	TPDES: Texas Pollutant Discharge Elimination System
MS4: Municipal Separate Stormwater Sewer System	TPWD: Texas Parks and Wildlife Department
NETA: Migratory Bird Treaty Act	TxDOT: Texas Department of Transportation
NOI: Notice of Intention	TSD: Threatened and Endangered Species
NRP: Nationwide Permit	USACE: U.S. Army Corp of Engineers
NOI: Notice of Intent	USFWS: U.S. Fish and Wildlife Service

VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General applies to all projects:

Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used. Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, oils, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labeling as required by the Act. Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:

- Dead or distressed vegetation (not identified as normal)
- Trash piles, drums, containers, barrels, etc.
- Unpleasant smells or odors
- Evidence of leaching or seepage of substances

Does the project involve any bridge class structure rehabilitation(s) or replacement(s) (bridge class structures not including box culverts)?

Yes No

If "No", then no further action is required.

If "Yes", then TxDOT is responsible for completing asbestos assessment/inspection. Are the results of the asbestos inspection positive (is asbestos present)?

Yes No

If "Yes", then TxDOT must retain a DSHS licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled demolition.

If "No", then TxDOT is still required to notify DSHS 15 working days prior to any scheduled demolition.

In either case, the Contractor is responsible for providing the data(s) for abatement activities and/or demolition with careful coordination between the Engineer and asbestos consultant in order to minimize construction delays and subsequent claims.

Any other evidence indicating possible hazardous materials or contamination discovered on site. Hazardous Materials or Contamination Issues Specific to this Project:

No Action Required Required Action

Action No.

-
-
-

VII. OTHER ENVIRONMENTAL ISSUES

(Includes regional issues such as Edwards Aquifer District, etc.)

No Action Required Required Action

Action No.

-
-
-

GENERAL NOTE:

Any change orders and/or deviations from the final design must be reported to the Engineer prior to commencement of construction activities, as additional environmental clearance may be required.

Texas Department of Transportation Dallas District Standard			
ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS (EPIC)			
FILE NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.	
6	See title sheet		FM 961
STATE	DISTRICT	COUNTY	
TEXAS	DALLAS	Collin	
CONTROL	SECTION	JOB	SHEET NO.
1012	03	017	

71



Mitigation Review

Describe:

- Common types of mitigation
- Mitigation procurement and funding process
- Costs associated with mitigation
- Examples of mitigation best practices
- Mitigation compliance issues



Feedback request

(Be Constructive)

- Share your experience on mitigation practice and process.
- Assuming deficiencies and issues exist:
 - What are the most critical deficiencies or issues?
 - What is your solution or suggestion?
 - What do you need help with?
 - What resources do you need?

Deficiencies and Issues

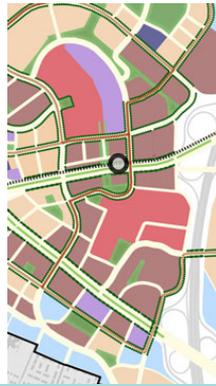
- _____
- _____
- _____
- _____

NEPA and Mitigation

LESSON 3

Introduction to the Integrated Ecological Framework (IEF)

August 2014





Introduction and Overview

- Introductions (new participants)
- Review learning objectives
- Workshop materials



Lesson 3 - Learning Objectives

At the end of this lesson, you should be able to:

- Describe Integrated Ecological Framework (IEF)
- Describe Regional Ecological Framework (REF)
- Describe the project development process
- Identify IEF resources
- List IEF stakeholders
- List steps in the IEF process



What are PEL, REF, and IEF?

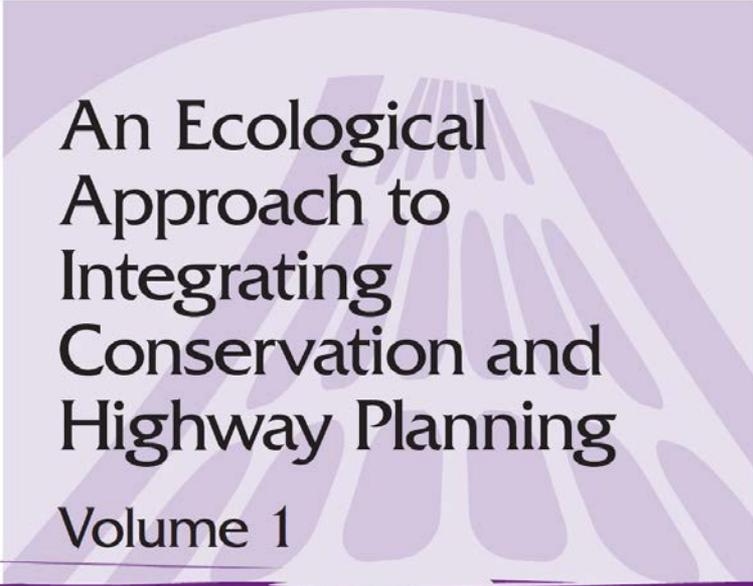
- Planning and Environmental Linkages (PEL)
- Regional Ecological Framework (REF)
- Integrated Ecological Framework (IEF)
 - FHWA's SHRP2 C06

SHRP2

Integrated Ecological Framework (IEF)

Research Products

REPORT S2-C06-RW-1

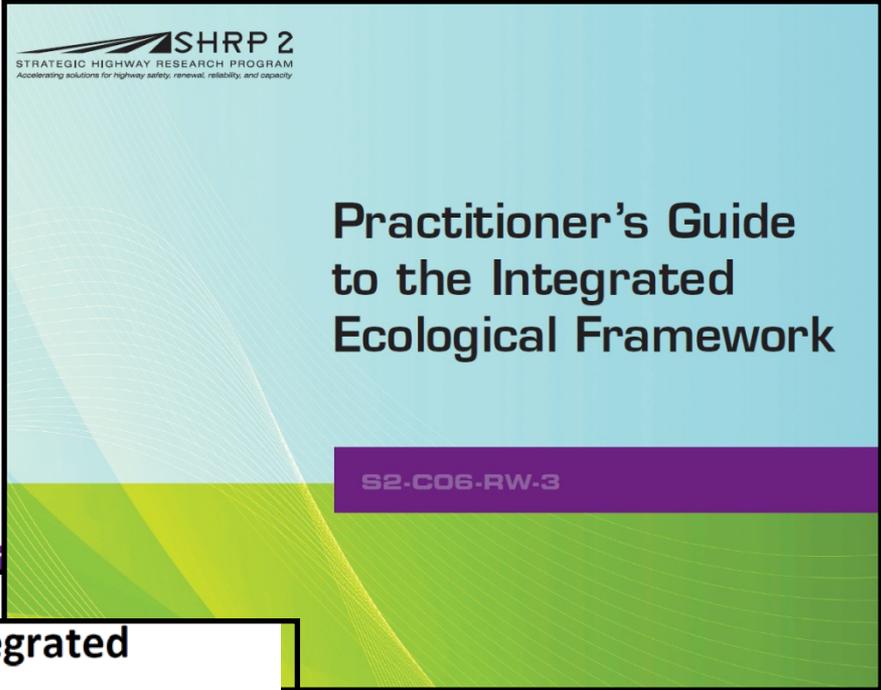


An Ecological Approach to Integrating Conservation and Highway Planning

Volume 1



SHRP 2
STRATEGIC HIGHWAY RESEARCH PROGRAM
Accelerating solutions for highway safety, renewal, reliability, and capacity



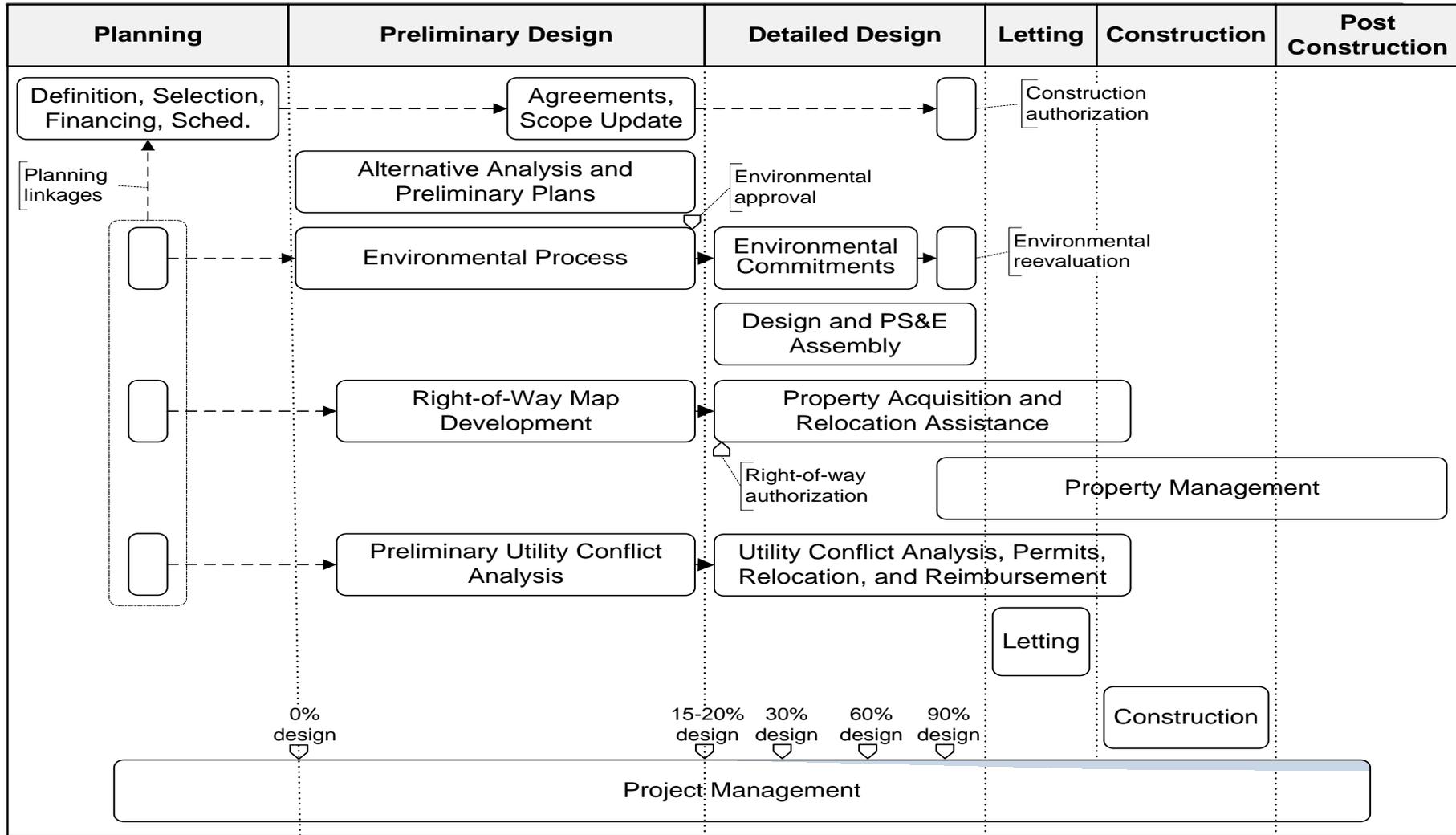
Practitioner's Guide to the Integrated Ecological Framework

S2-C06-RW-3

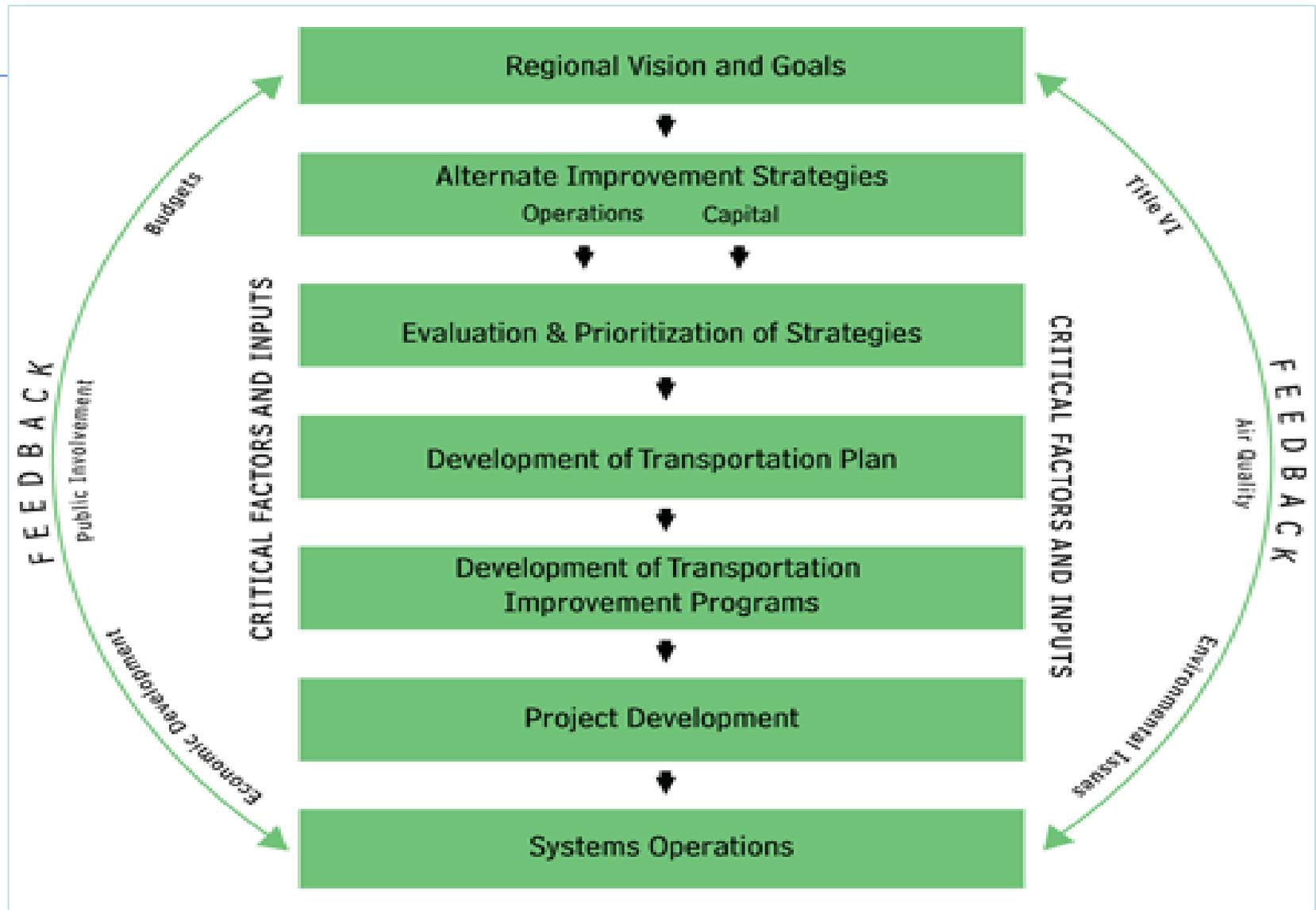
Manager's Guide to the Integrated Ecological Framework

October 2013

Project Development Process



Transportation Planning Process





What is IEF ?

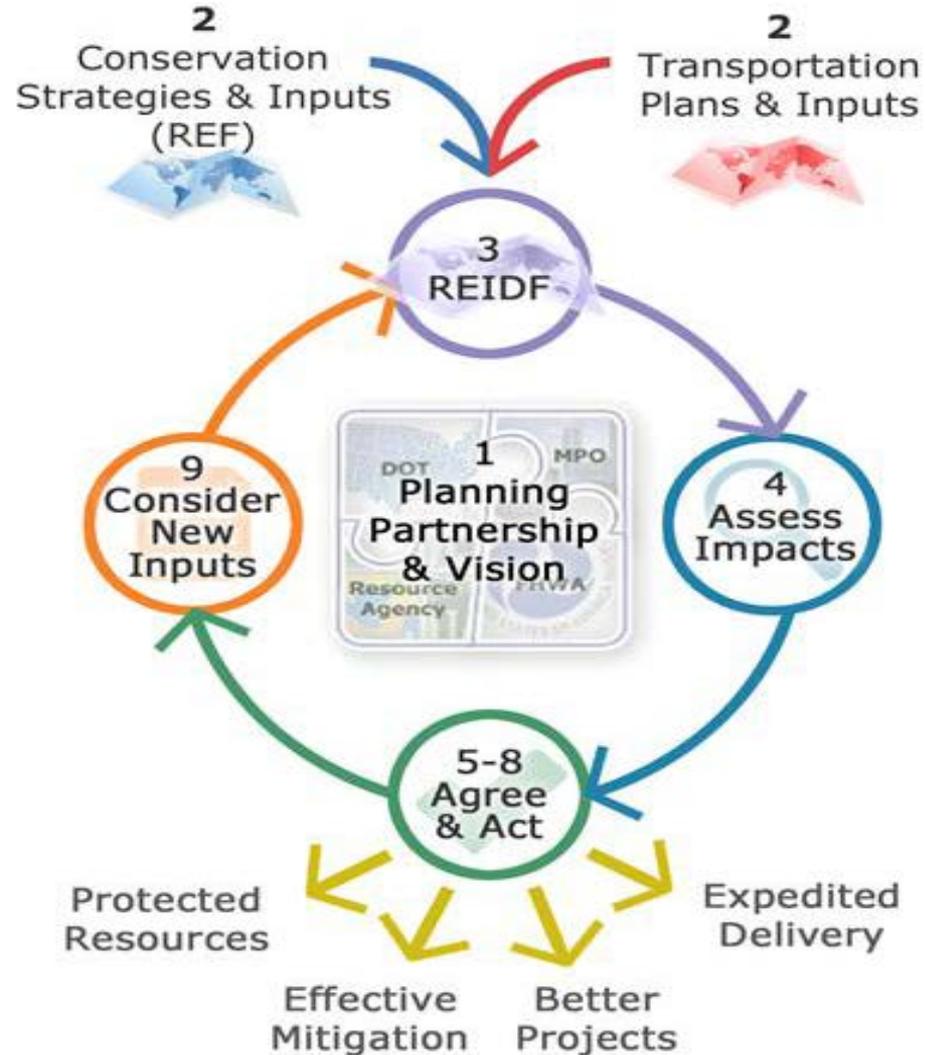
- Science-based approach
- Identifies ecological priorities
- Integrates with transportation decision making



How Does NEPA Assignment Fit?

- NEPA assignment complements IEF
- Early identification of environmental issues
- Early project scoping
- Documentation and class of action

Integrated Ecological Framework





Integrated Ecological Framework Steps

1. **Build and strengthen collaborative partnerships and vision**
2. **Create the regional ecological framework (REF)**
3. **Define transportation and infrastructure scenarios for assessment**
4. **Create a regional ecosystem and infrastructure development framework (REIDF)**

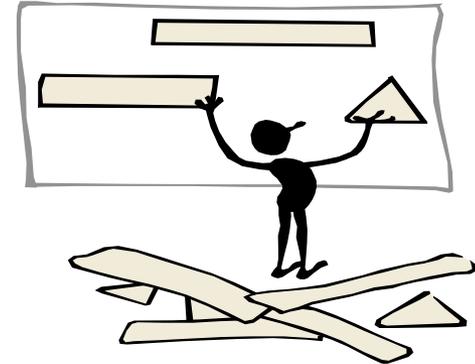
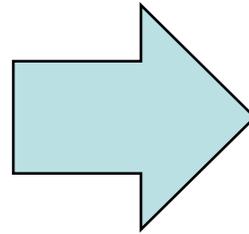
5. Establish and prioritize ecological actions
6. Develop crediting strategy
7. Develop programmatic consultation, biological opinion, or permit
8. Implement agreements, deliver conservation and transportation projects

6. Monitor and update REIDF

Step 1: Build Collaborative Partnerships and Regional Vision

What do I do?

- Define the geographic planning area.
- Identify the stakeholders, transportation planning agencies, and resource agencies.

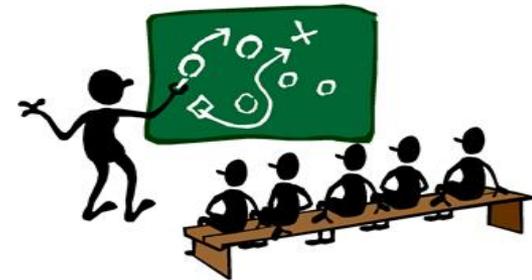
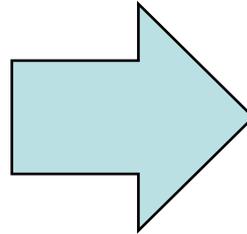


Stakeholders agree on vision, document roles, and responsibilities.

Step 2: Create a Regional Ecosystem Framework (REF)

What do I do?

- Identify spatial data needed to create current conditions.
- Prioritize ecological resources.
- Identify important data gaps.
- Define priority areas for conservation and mitigation.

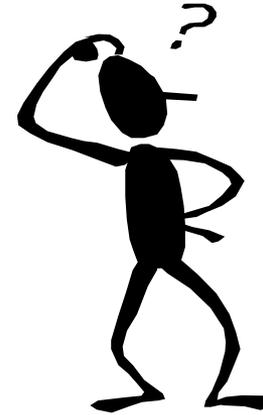
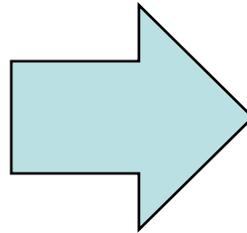


Define your ecosystem and its important elements.

Step 3: Define Transportation and Infrastructure Scenarios

What do I do?

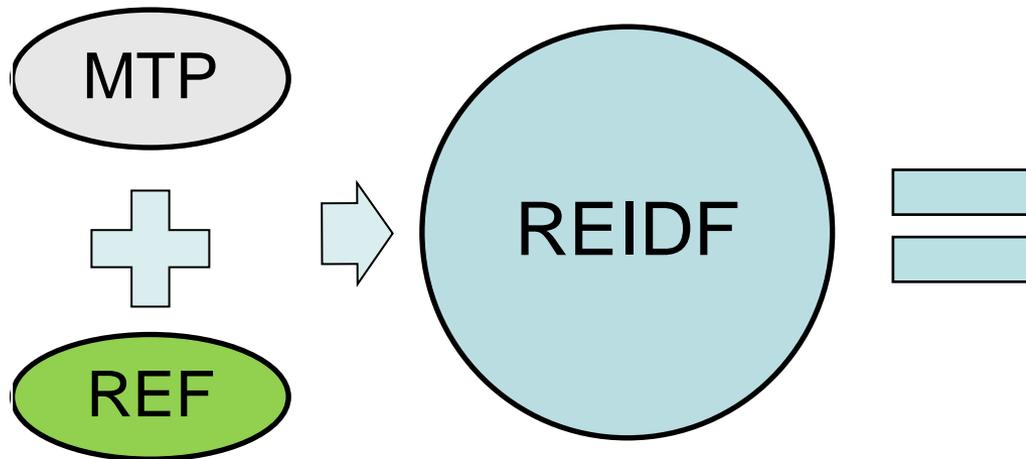
- Use MTP (and other planning data) to define your transportation network's future.
- Ask “what if?” to define future scenarios.



Define your transportation plan's effects on the region.

Step 4: Regional Ecosystem and Infrastructure Development Framework (REIDF)

What do I do?

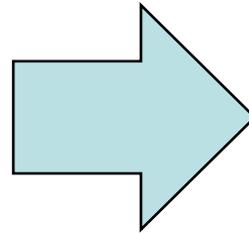


How does the transportation system intersect with the ecosystem?

Step 5: Implement Agreements, Mitigation, and Prioritize Actions

What do I do?

- Prioritize ecological actions.
- Develop crediting strategy.
- Develop programmatic consultation.
- Deliver conservation and transportation projects.

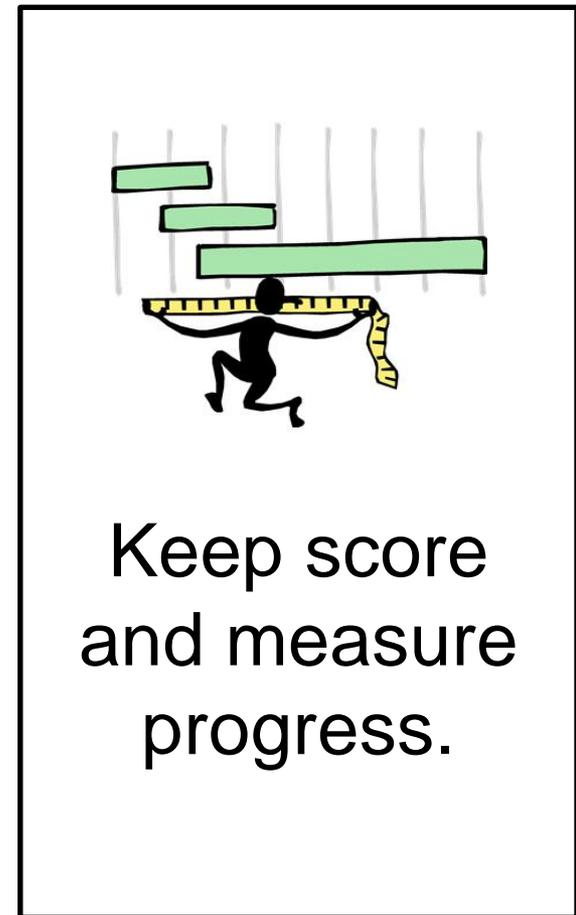
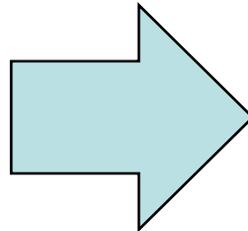


Use stakeholder agreements to preserve both ecosystem and transportation system.

Step 6: Monitor and Update the REF and REIDF

What do I do?

- Measure, monitor, and update the REIDF.





Scaling IEF

- How do you scale IEF to
 - Projects, corridors, regions, and resources?
 - Who are the Stakeholders?
- Which IEF steps are you doing now?
- How are you building an REF/REIDF?
- How are you documenting on-going efforts?



IEF Lessons (from Literature)

- Find day-to-day tasks that DOT and regulatory agencies can actually do
- Address significant time lags between environmental information into planning and project delivery
- Track administrative records and commitments to remove uncertainty in knowledge
- Transportation planning not seen as the appropriate venue



IEF Lessons (from Project)

- Relies on multiagency cooperation
 - Many moving parts
 - Multidisciplinary
- Difficult to achieve buy-in based on perceived benefits
 - Concept and benefits are difficult to articulate to managers and executives
 - Mitigation is traditionally project-specific, not regional
 - A fundamental change in mitigation approach



Why Do We Need REF, IEF, etc.?

- Proposed MAP-21 rules
- Programmatic mitigation
 - Statewide by DOT
 - Metropolitan Planning Organizations
 - Regional/Rural Planning Organizations



Proposed MAP-21 Rules

- **Programmatic Mitigation**
- Local, regional, ecosystem, watershed, statewide, or similar scale that may:
 - Encompass multiple environmental resources within a defined geographic area(s) or may focus on a specific type(s) of resource(s) such as aquatic resources, parkland, or wildlife habitat.
 - Address or consider impacts from all projects in a defined geographic area(s) or may focus on a specific type(s) of project(s).



MAP-21 Planning Rules

Programmatic Mitigation

- Identify options for mitigating impacts early:
 - Wetlands
 - Endangered species
 - Cultural resources
- Develop standards for:
 - Mitigation procedures
 - Fee programs
 - Resource agency coordination



Programmatic Mitigation May Include

- Existing condition of natural and human environmental resources within the area
- Economic, social, and natural and human environmental resources
- Inventories existing or planned environmental resource banks for impacted resources
- Standard measures for operating procedures for mitigating certain types of impacts
- Adaptive management procedures, monitoring actual impacts against predicted impacts



Programmatic Mitigation

- What is in your region that could use programmatic mitigation?
- Identify a corridor, region, resource, or species, etc.
- What standard, measure, or mitigation could you propose?



IEF Review

- Describe Integrated Ecological Framework (IEF).
- Describe Regional Ecological Framework (REF).
- How do you scale IEF?
- List IEF stakeholders.
- List steps in the IEF process.



Workshop Review

- Outcomes
 - Describe NEPA concepts and documents
 - Describe mitigation in the PDP
 - Explain IEF
- Questions and answers
- Take away?
- Evaluations