Implementing Eco-Logical in North Central Texas (SHRP2 C06)
Regional Perspective

Population
- 2012: 6.7 million
- 2035: 9.8 million
- 4th Largest MSA by Population

Area
- 12 counties
- 9,441 square miles
- 2nd Largest Metropolitan Planning Area

Economy
- Home to 18 Fortune 500 Firms
- Ranked 6th in Gross Metropolitan Product
Needs Exceed Available Revenue

Can’t Build Our Way Out of Congestion

Use Sustainable Development to Reduce System Demand & Provide Multimodal Options

Emphasis on Environmental and Quality of Life Issues

Maximize Existing System

Invest Strategically in Infrastructure

DFW Long-Range Planning Context
Traditional Transportation Project Development Process

SYSTEM PLANNING

Metropolitan Transportation Planning

NEPA Process

PROJECT PLANNING

PROJECT DESIGN/CONSTRUCTION

REGULATORY/RESOURCE AGENCY REVIEW
Enhanced Transportation Project Development Process

- SYSTEM PLANNING
  - Metropolitan Transportation Planning
  - NEPA Process
- PROJECT PLANNING
- PROJECT DESIGN/CONSTRUCTION

Planning and Environment Linkages

REGULATORY/RESOURCE AGENCY COORDINATION AND CONSULTATION
Planning & Environmental Linkages

Resource Agency Consultation & Coordination
➢ TRACES
➢ USACE/NCTCOG Agreement

Planning Analyses
➢ Regional Toll Analysis
➢ Mobile Source Air Toxins (MSAT) Analysis
➢ Environmental Justice Analysis
➢ MTP Project Environmental Scoring

Data Tools
NEPAssist
Environmental Justice Index
Regional Ecosystem Framework
Project Focus
Develop Regional Ecosystem Framework (REF) to help identify, assess, and avoid environmental impacts of proposed infrastructure projects and to enhance multi-agency understanding of critical resource protection areas.

Vital Ecosystem Information Layers (VEIL)

<table>
<thead>
<tr>
<th>Green Infrastructure</th>
<th>Water Considerations</th>
<th>Ecosystem Value</th>
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<tbody>
<tr>
<td>Wildlife habitat</td>
<td>Impaired water segments</td>
<td>Rarity</td>
</tr>
<tr>
<td>Natural areas</td>
<td>Flood zones</td>
<td>Diversity</td>
</tr>
<tr>
<td>Agricultural land</td>
<td>Surface water quantity</td>
<td>Sustainability</td>
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</tbody>
</table>
The Regional Ecosystem Framework: Composite score represents the combined score of all 10 VEIL layers. A higher score indicates that resources of relatively high concern may be present and that additional review, documentation, and consultation with the applicable agency may be needed. The VEIL layers include: Green Infrastructure (Wildlife Habitat, Natural Areas, Agricultural Land); Water Quality and Flooding (Impaired Water Segments, Flood Zones, Surface Water Quantity, and Wetlands); and Ecosystem Valuing (Biodiversity, and Sustainability). Data sources include the Texas GRID and EPA Region 6 Regional Ecosystem Assessment Protocol data. This information has been developed for the Dallas-Fort Worth MPA for use in long-range planning. These scores are meant to be used as a preliminary screening tool for potential impact identification. For more information on the calculations for this layer, please visit www.nctcog.org/ traces.
Environmental Considerations
Implementing Eco-Logical

2013: Received SHRP 2 Lead Adopter Incentive Implementation Assistance Funds

PLANNING
- Update REF and Identify Mitigation Focus Areas

PROJECT
- Apply REF to Corridor Feasibility Study

MITIGATION
- Implement a Regional Shared Value Mitigation Program
Planning Emphasis

Update REF and Identify Mitigation Focus Areas

Parsons Slough-Trinity River Subwatershed Ecosystem Priorities

Legend
- County Boundaries
- Streams
- TNC Priority Areas
- USACE FW/Mitigation Bank Sites

LANDUSE (2010)
- Residential
  - Single Family
  - Multi Family
  - Mobile Home
- Commercial
  - Office
  - Retail
  - Hotel / Motel
  - Large Stadium
  - Mixed Use
- Industrial
  - Industrial
- Institutional
  - Group Quarters
  - Institutional / Semipublic
- Education
- Infrastructure
  - Roadway
  - Utilities
  - Railroad
  - Communication
  - Transit
- Airport
  - Airport
  - Runway
- Dedicated
  - Parks / Recreation
  - Landfill
  - Cemeteries
  - Flood Control
- Undeveloped
  - Under Construction
  - Vacant
  - Residential Acreage
  - Ranch Land
  - Timber Land
  - Farm Land
  - Improved acreage
  - Parking

Highest Scoring VEIL Layers: Flood Zone, Wetlands, Rarity, Natural Areas
Resources of Concern: Water Quality and Flooding, Green Infrastructure, Ecosystem Value
Resource Agencies: USACE, TPWD
Potential Opportunities: Establish conservation easements; establish conservation areas or parks; incorporate buffer zones; link landscapes together through green infrastructure plans

Subwatershed Location in Region

DRAFT
Apply REF to Corridor Feasibility Study

Loop 9 Corridor

- Determine feasibility of using REF as tool to address conservation needs and potential mitigation strategies for a corridor in the pre-NEPA stages
- Create Corridor Conservation and Restoration/Enhancement Vision
- Recommend Improvements to REF
- Create regional process for using REF in corridor studies

Ecological Importance in Corridor

1 – Lowest Ecological Importance
2 – Medium-Low Ecological Importance
3 – Medium Ecological Importance
4 – Medium-High Ecological Importance
5 – High Ecological Importance

EPA’s Regional Ecosystem Assessment Protocol
Regional Shared Value Mitigation Program

*Effort to simultaneously expedite transportation projects and enhance resource stewardship through a programmatic mitigation approach.*

- Develop Potential Mitigation Project Database
- Prioritize Shared Value Mitigation Projects
- Provide Feedback to REF
- Reserve Funds for Pilot Program
Coordination with TxDOT

**Planning**
- Use of Regional Ecosystem Assessment Protocol (REAP) data
- Participation in development of first iteration of REF

**Project-Level**
- Strong relationship between NCTCOG and TxDOT districts
- TxDOT taking on approval of environmental documents
- USACE Section 214 Agreement
- *Involvement in applying REF to Loop 9 Corridor Study*

**Mitigation**
- Provided funds for mitigation research
- *Involvement in SVM program approach*
Integration of Geospatial Tools and Data

SHRP2 C40: Eco-Plan

- NCTCOG staff tested Eco-Plan
- Would be helpful as one-stop shop for environmental data

Data Coordination

Requesting environmental data from project partners

- Local governments
- Resource and regulatory agencies
- Non-governmental organizations
- Private sector
Desired Outcomes

Enhanced Ecosystem Approach

Relationships
- Maintain relationship with TxDOT
- Strengthen relationships with resource and regulatory agencies

Resources
- Use REF in planning process
- Coordinate transportation and resource agency goals
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