SHRP2 SOLUTIONS

STRATEGIC HIGHWAY RESEARCH PROGRAM

Michigan's Approach to the SHRP2 Implementation Assistance Program

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TRB

Role of Michigan DOT

Lead Adopter for two SHRP2 Solutions:

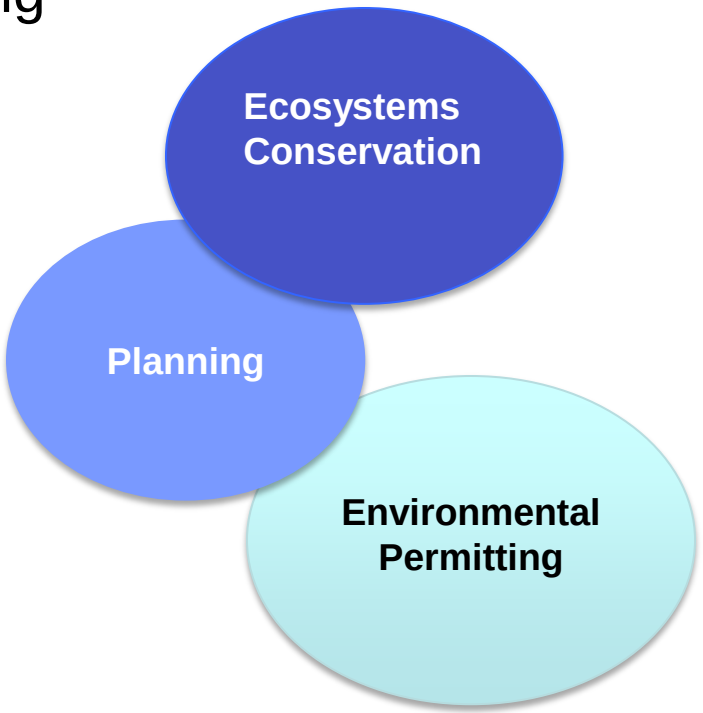
- Implementing Eco-Logical (C06)

- Innovative Strategies for Managing Complex Projects (R10)

Implementing Eco-Logical

Builds on *FHWA's Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects (2006)*

- Creates a roadmap for applying the ecosystem-scale approach to transportation planning
- 9-step process to identify ecological priorities in a region
- Includes tools for:
  - Cumulative effects and alternatives analysis
  - Regulatory assurances
  - Ecosystems crediting



Implementing Eco-Logical

Unique opportunity for Michigan

- Reconstruction of 20 miles of freeway
- I-75 along Lake Erie is busiest truck corridor
- Lake Erie is sensitive ecological area
- $500 million project with 15-year build-out, allows for smart advance planning
- Numerous conservation efforts, opportunities for partnerships and stakeholder engagement

MDOT's Approach

- Allows us to set up a Regional Ecosystem Framework
- Three primary partners:
  - Southeast Michigan Council of Governments (SEMCOG)
  - Michigan Natural Features Inventory
  - Michigan DOT

SEMCOG

MDOT
Michigan Department of Transportation

Michigan Natural Features Inventory

- Technical Advisory Committee (Partners + FHWA + Resource Agencies + Nature Conservancy + Monroe County Planner) as well as stakeholder groups

Environmentally Sensitive Areas

Value to Michigan DOT

SHRP2 Solution – *Implementing Eco-Logical*, will help us:

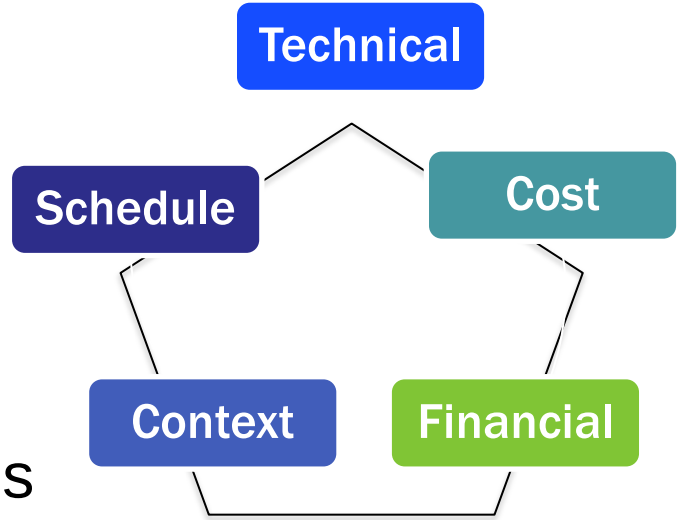
- Identify conservation priorities that will guide mitigation into the future
- Meld transportation and conservation planning
- Get early buy-in from key actors at national, state, local levels

Bottom line: Saves time and money, while building trust and improving the environment along the corridor

Managing Complex Projects

Five dimensional SHRP2 project management model

- Integrates project teams across entire project lifecycle
- Allows DOTS to identify and better understand complexity factors
- Generates complexity maps for visual representation of complexities
- Tools include:
  - Training program for DOT staff
  - Case studies on various types of projects
  - Forms



Why Michigan?
I-75 and I-94 Mega-Projects

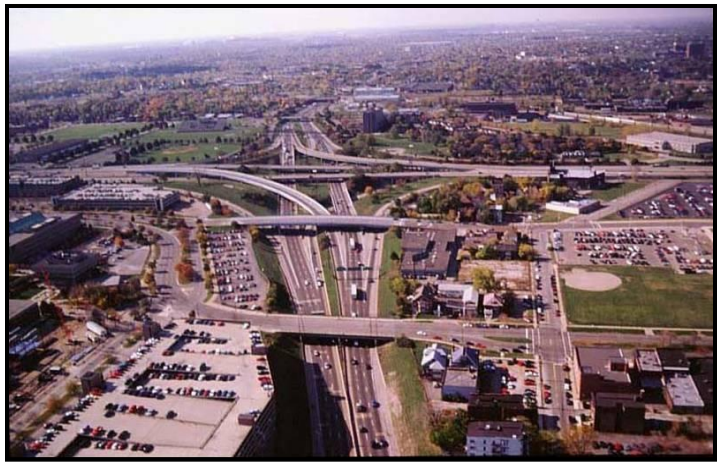
I-94: $1.8 billion project

- 6 lanes built in 1950s
- 6.7 mile rehabilitation
- Major interchanges at I-75 and US-10
- Vital east-west and international trade crossing
- 160,000 AADT

I-94 Project

Complexities:

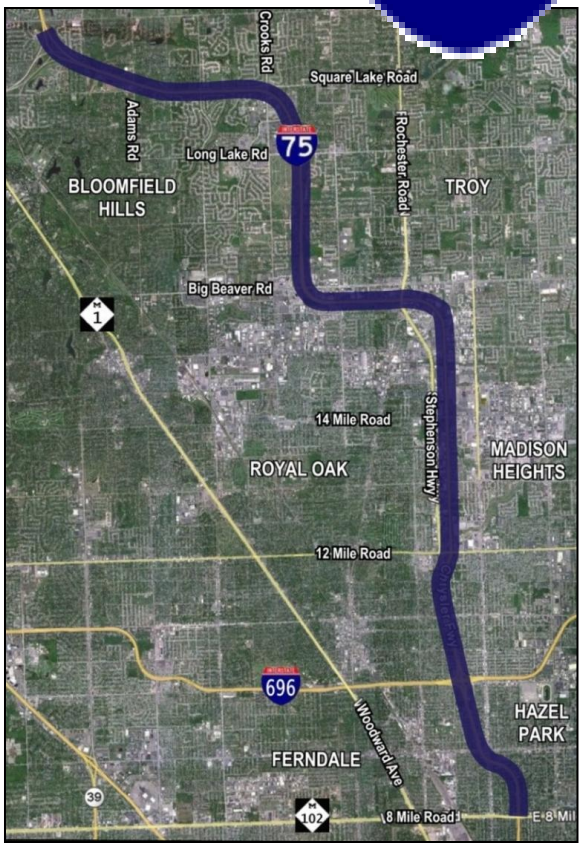
- Numerous railroad bridges
- Dense urban area
- Aging public and private utilities
- Poor soil conditions
- Left-hand entrances and exits
- Numerous pavement resurfacings



Why Michigan? I-75 Project

I-75, $850 million project

- North-south freeway built in 1960s
- Reconstruction of 18 miles, including first HOV lane in Michigan
- Project extends from M-102 to M-59 in Oakland County
- VMT of 103,000 to 174,000



I-75 Project

Complexities:

- Major County route
- Outdated design
- Maintaining traffic under construction for freight, commerce, commuters
- Relocating utilities
- Drainage issues
- Right of way purchases

Michigan's Approach

- Pilot test in October 2012 demonstrated the viability of the Five-Dimensional Project Management concepts
- Apply concepts to development of Project Management Plans and Financial Plans required by FHWA for I-75 and I-94:
  - Assessment and visualization of the project complexity
  - Identifying and agreeing on critical project factors
  - Addressing human, administrative and financial resources to manage the project
  - Removing barriers to success
- Participate in peer-to-peer discussions with other states

Value to Michigan DOT

SHRP2 Solution – *Managing Complex Projects*, will help us:

- Develop formal project management plans for I-75 and I-94
- Generate guidance for future projects
- Investigate applicability for other projects of any size
- Successfully deliver regionally and nationally significant projects
- Use innovative management strategies and comprehensive planning
- Control costs and manage expectations

Questions