

Eco-Logical Webinar Series



Step 4: Assessing Effects on Conservation Objectives

*Featuring the Southeast Michigan Council of
Governments*

Presenter

Amy Mangus, Southeast Michigan
Council of Governments

Moderator

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Planning



Integrated Eco-Logical Framework (IEF)

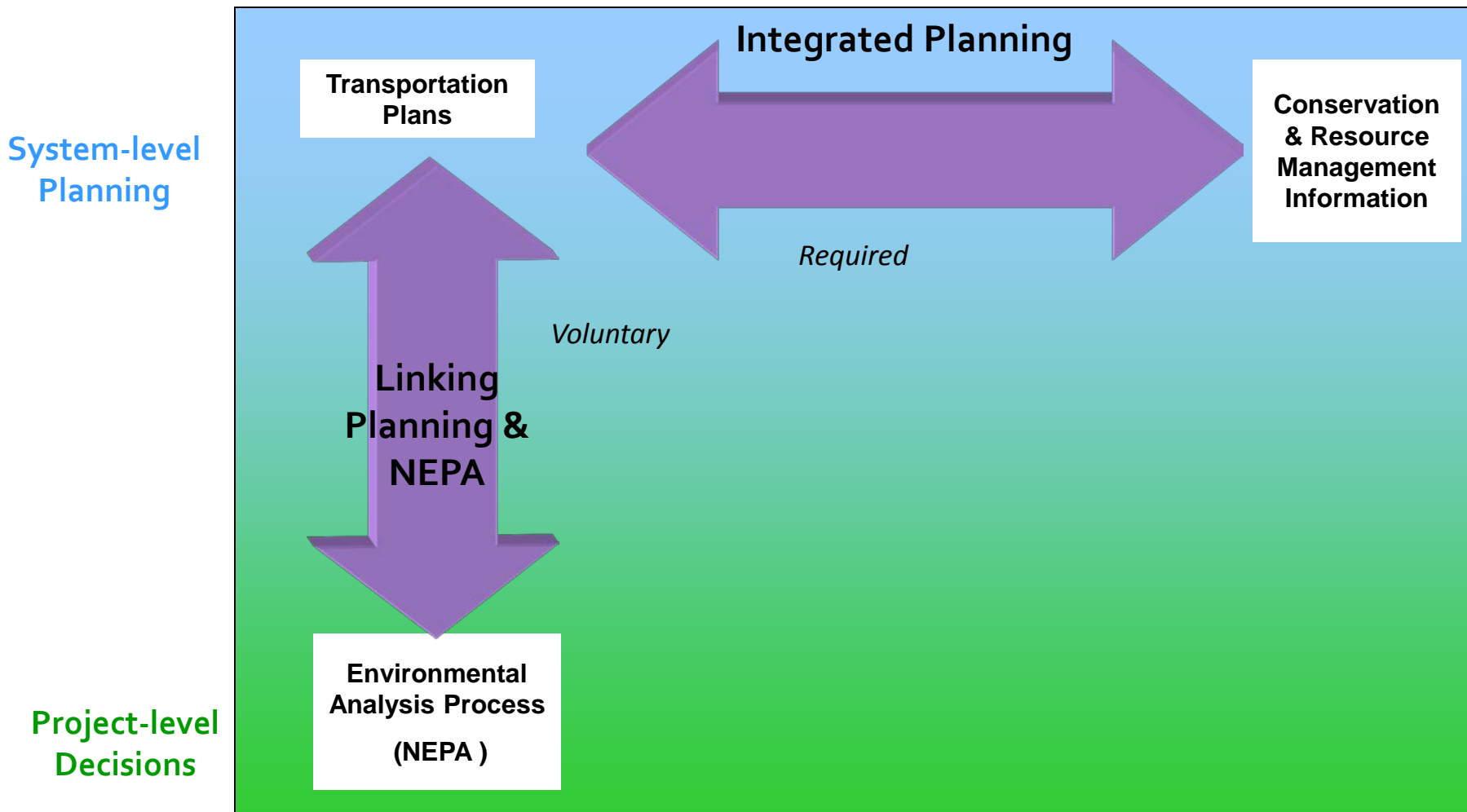
- Process to guide transportation and resource specialists in the integration of transportation and ecological decisionmaking.
- Helps identify potential impacts to environmental resources very early in the planning process.

Steps of the IEF (and the Eco-Logical approach)

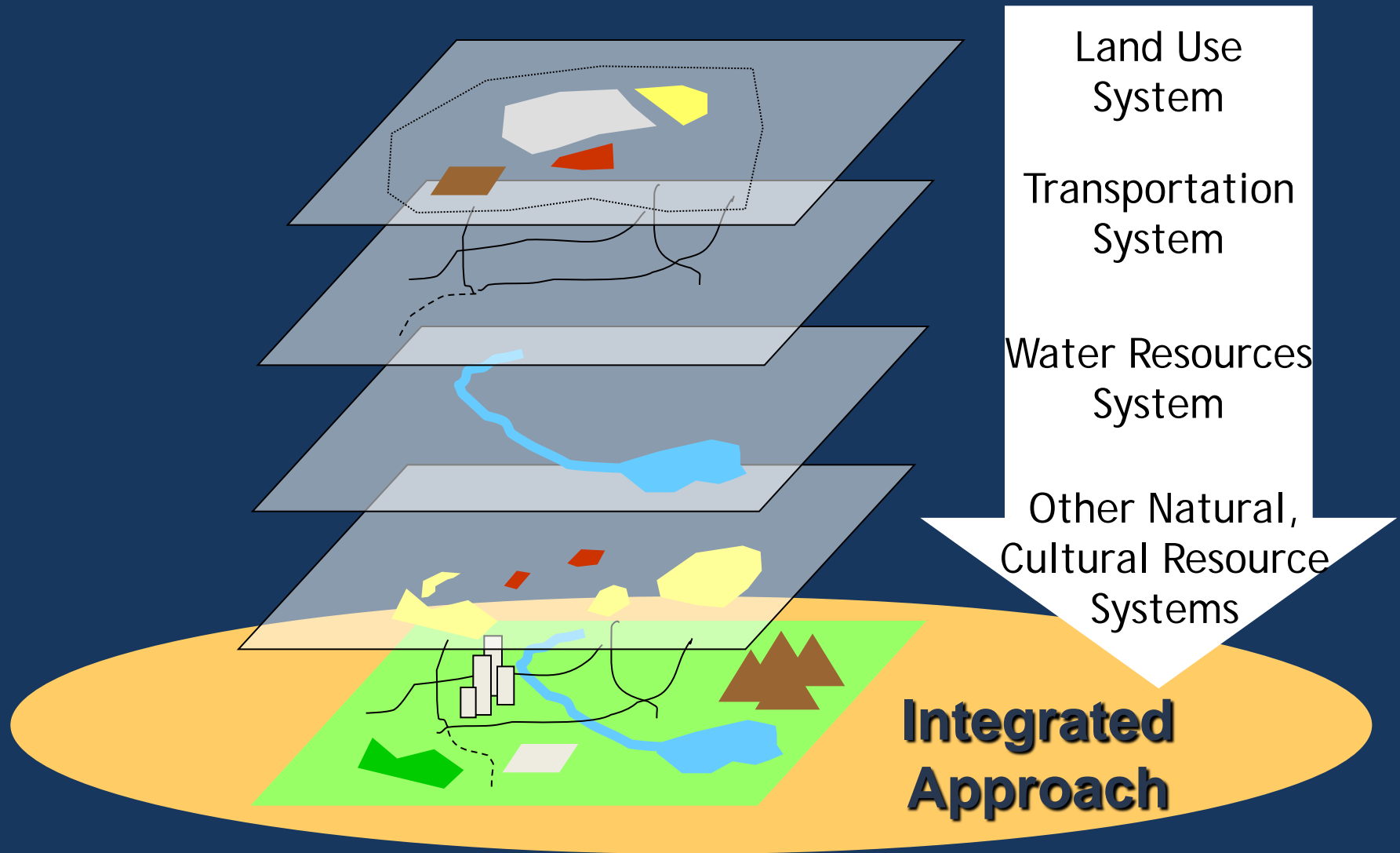
1. Build and strengthen collaborative partnerships
2. Integrate natural environment plans
3. Create a Regional Ecosystem Framework (REF)
- 4. Assess effects on conservation objectives**
5. Establish and prioritize ecological actions
6. Develop crediting strategy
7. Develop programmatic consultation, biological opinion, or permit
8. Implement agreements, adaptive management, and deliver projects
9. Update REF



Elements of PEL



Integrated Planning



Step 4: Assess Effects

Key actions

- Spatially relate proposed infrastructure to distribution of habitat priorities.
- Estimate effects of projects early in the planning process before detailed NEPA analysis
- Transportation agencies with planning responsibilities can coordinate with resource agencies on data needs and assessment techniques.

Step 4: Assess Effects

Benefits of assessment in integrated planning

Environmental stewardship

1. An understanding of transportation effects and potential mitigation areas
2. Identification of agency preferences regarding avoidance, minimization, potential conservation, and restoration investments

Project predictability

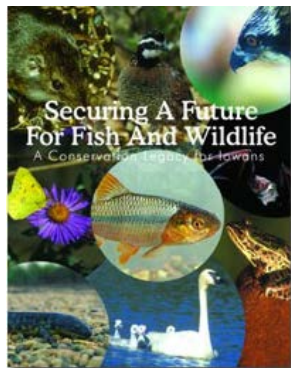
1. Identification and quantification of mitigation needs from anticipated transportation impacts
2. Take advantage of mitigation opportunities available in the short-term that may no longer be available later, when the project is implemented



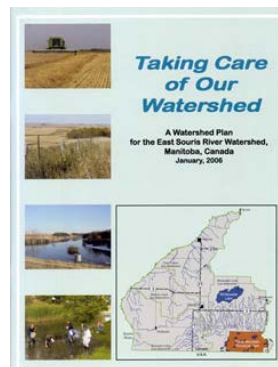
Agency Coordination: Data and Information Sharing

- Data from partner agencies can inform the assessment of proposed projects
- Basis for early consideration of the effects of alternative transportation solutions on environmental, community, and cultural resources
- Resource agency outputs relevant to transportation planning include:

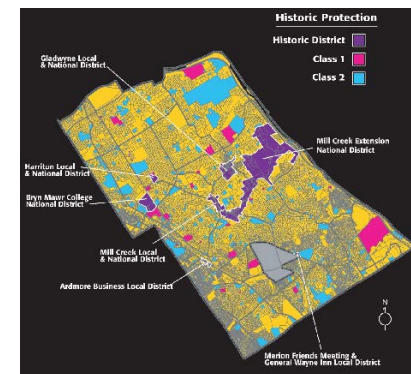
State Wildlife Action Plans



Watershed Management Plans



Historic Resource Inventories





Agency Coordination: Documentation Benefits

- Synopsis of coordination: level of participation and how you coordinated.
- Identify transportation agencies involved in the planning study
- What steps will need to be taken with each agency during NEPA scoping?



Benefits for Mitigation

An assessment of potential impacts of transportation projects can inform future regional mitigation activities.

Environmental mitigation activities are “intended to be regional in scope, and may not necessarily address potential project-level impacts.”

- 23 CFR 450.104





Benefits for Mitigation

Example:

South Carolina DOT –
Carolina Bays Ecosystem Initiative



Example:

Mississippi DOT –
Deaton Ecological Preserve



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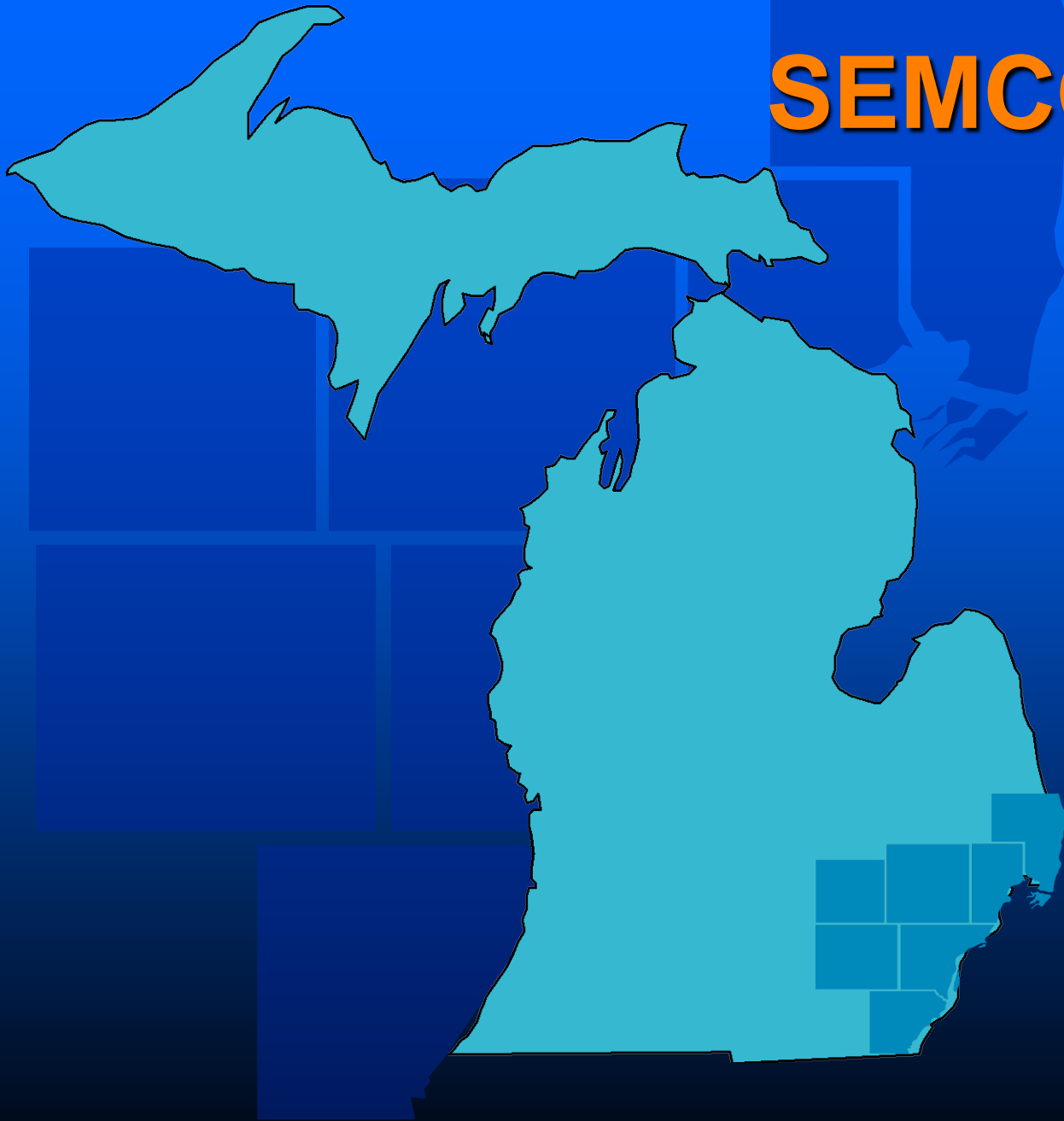
SEMCOG

Southeast Michigan Council of Governments

Eco-Logical Step 4: Assess Effects on Conservation Objectives

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SEMCOG



SEMCOG

Transportation & the Environment

- Transportation system impacts environment
- Goals of our process
 - Raise awareness of environmental issues in transportation planning/design
 - Implement environmentally friendly practices in construction/maintenance
 - Document in Regional Transportation Plan



Task Force

- Federal Highway Administration
- U.S. Geological Survey
- Little Traverse Bay Bands of Odawa Indians
- Michigan Departments of Geographic Information, Environmental Quality, Natural Resources, and Transportation
- Michigan State Historic Preservation Office/State Archeologist
- Local Road Agencies
- Environmental Interests

Regional Approach

A faint, light blue map of the Southeastern United States is visible in the background, showing the outlines of Florida, Georgia, South Carolina, North Carolina, and Alabama.

- Identify environmentally sensitive resources
- Analyze possible impacts of transportation projects on resources
- Recommend mitigation guidelines during all transportation project phases

At What Stage is the Information Used?

- Prior to project selection
- Potential impacts after receiving list of projects

What This Process is Not

- Not a project level analysis
 - Complementary processes already in place to analyze impacts in detail
- Not a determining factor in project selection
 - Impacts do not necessarily indicate project should not be implemented

Environmentally Sensitive Resources

•Water resources	•Cemeteries
•Wetlands	•Historic Bridges
•Groundwater Resources	•Heritage Routes & Natural Beauty Roads
•Floodplains	•Historic Bridges
•Woodlands	•Nonmotorized Facilities
•Historic Sites	

Impact Analysis

- Buffer analysis around transportation projects
 - 250 feet – ¼ mile
- Determine which resources in proximity to environmentally sensitive resources

Table 21

Area of Influence

Environmental Resource	Project Type						
	Bridges	Congestion Capacity	Congestion Non-Capacity	Nonmotorized	Pavement	Rail	Study
Lakes and Streams	250'	¼ mile	¼ mile	250'	¼ mile	¼ mile	¼ mile
Designated Trout Lakes/Streams & Natural Rivers	250'	¼ mile	¼ mile	250'	¼ mile	¼ mile	¼ mile
Wetlands	250'	¼ mile	¼ mile	250'	¼ mile	¼ mile	¼ mile
Flood Prone Areas	250'	¼ mile	¼ mile	250'	¼ mile	¼ mile	¼ mile
Wellhead Protection Areas	250'	¼ mile	¼ mile	250'	¼ mile	¼ mile	¼ mile
Sinkholes	250'	¼ mile	¼ mile	250'	¼ mile	¼ mile	¼ mile
Trees	250'	¼ mile	¼ mile	250'	¼ mile	¼ mile	¼ mile
Parks and Recreation Areas	250'	250'	250'	250'	250'	250'	250'
Historic Sites	250'	250'	250'	250'	250'	250'	250'
Cemeteries	250'	250'	250'	250'	250'	250'	250'
Heritage Routes & Natural Beauty Roads	250'	250'	250'	250'	250'	250'	250'
Historic Bridges	250'	250'	250'	250'	250'	250'	250'
Nonmotorized Facilities	250'	250'	250'	250'	250'	250'	250'

Sample Buffer Analysis





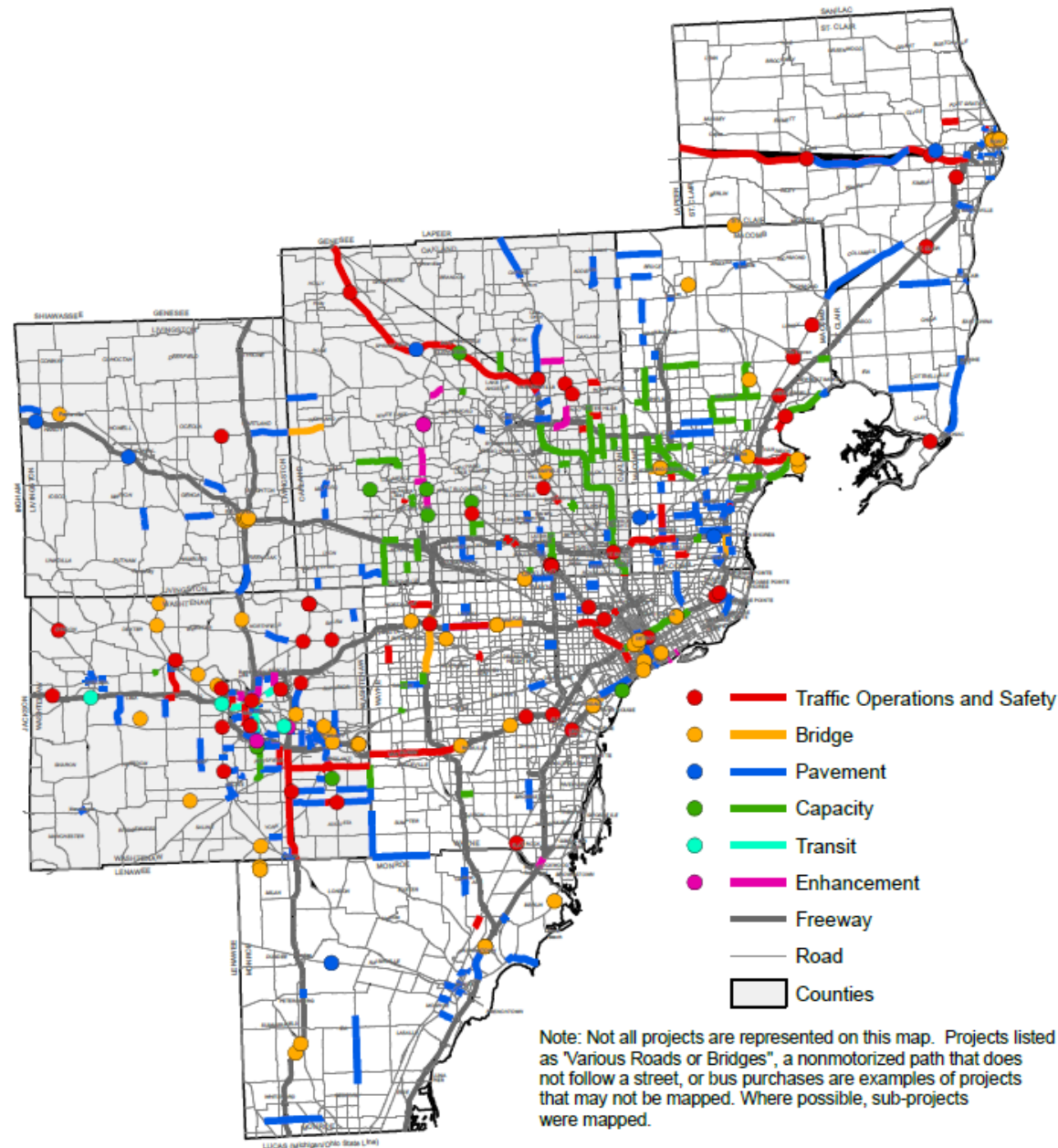
-  Pavement project
-  ¼ mile buffer
-  Woodlands
-  Possibly impacted woodlands



Figure 74

Projects Included in the 2040 Regional Transportation Plan



Possible Project Impacts

Project Type (Total Number of Projects Planned)	Number of Projects Potentially Impacting Resources										
	Water Resources ¹	Wetlands	Flood Prone Areas	Groundwater Resources ²	Trees	Parks & Recreation Areas	Historic Sites	Cemeteries	Heritage Routes Natural Beauty Roads	Historic Bridges	Nonmotorized Facilities
Bridge (47 projects)	30	18	23	1	47	14	1	0	0	3	11
Congestion - Capacity (109 projects)	91	89	60	6	108	26	7	5	6	1	17
Congestion - Non-Capacity (10 projects)	5	8	4	0	10	1	0	0	0	0	0
Nonmotorized (8 projects)	1	3	1	1	8	4	1	0	0	0	4
Pavement (283 projects)	228	193	121	33	283	74	32	17	24	1	51
Rail (0 projects)	0	0	0	0	0	0	0	0	0	0	0
Study (14 projects)	13	12	5	4	14	4	0	1	1	0	5

¹Water resources consist of lakes and streams, designated trout lakes/streams, and Natural Rivers.

²Groundwater resources consist of wellhead protection areas and sinkholes.

Source: SEMCOG.

Mitigation Guidelines

- Practices to be considered during all project phases
 - Planning/design
 - Construction/maintenance
- Overall guidelines applying to all projects
- Resource specific guidelines

Integrating Environmental Issues in the Transportation Planning Process: Guidelines for Road and Transit Agencies

January 2007

Getting the Word Out

A large, dark blue silhouette of a person's head and shoulders, facing right. The person has their hand on their chin, suggesting they are in deep thought or listening intently. The silhouette is positioned on the right side of the slide, partially overlapping the title and the list of bullet points.

- Educational opportunities
- Information to project selection group
- Continued analysis in 2040 RTP
- Online mapping tool

SEMCOG... Creating Success in Southeast Michigan

Transportation Data

Environmental Sensitivity

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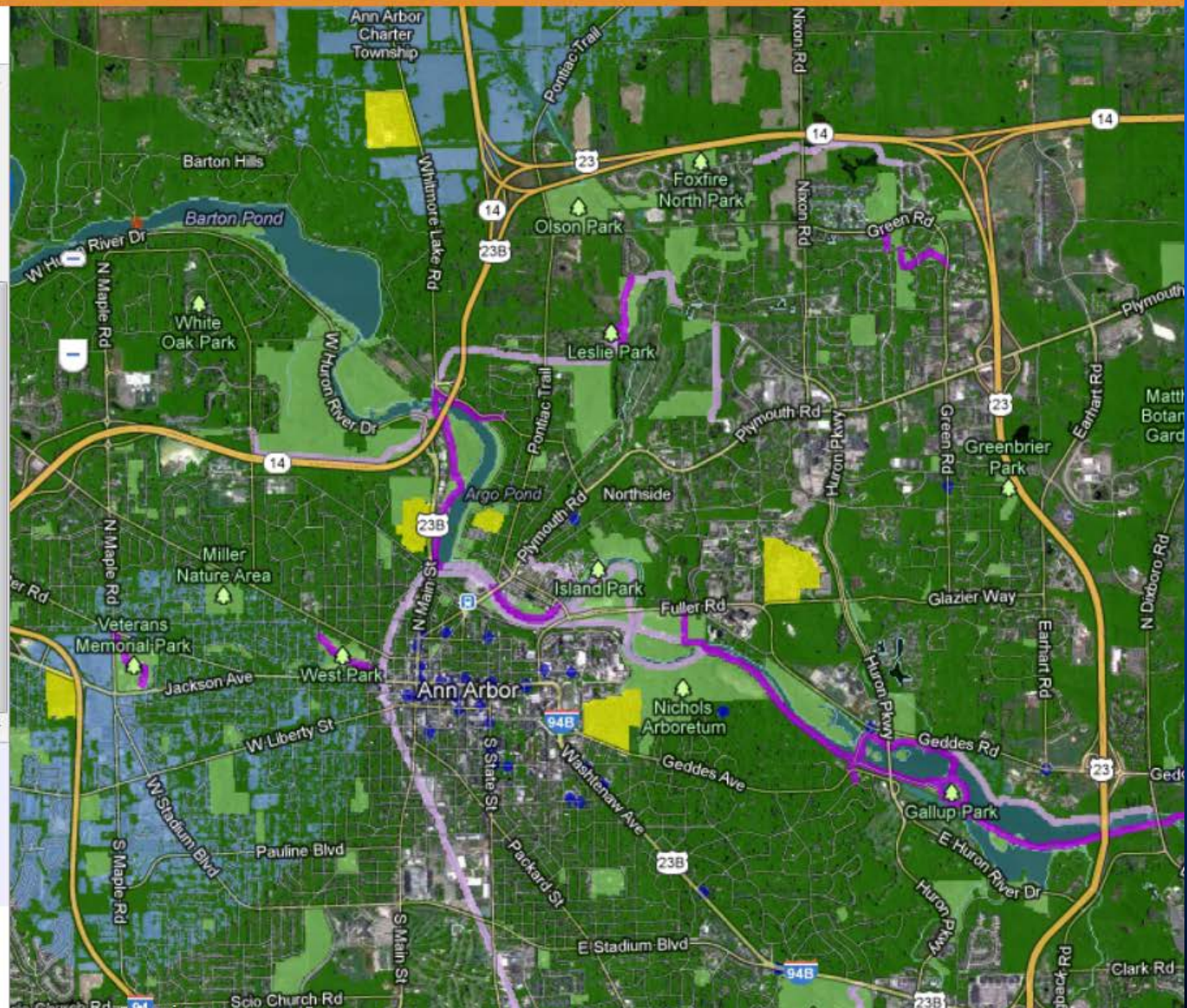
Physical Resources

- Historic Bridge
- Historic Site
- Heritage Route
- Natural Beauty Road
- Exist. Nonmotorized
- Plan. Nonmotorized
- Cemetery
- Flood Plain
- Park & Rec Area
- Woodland

Water Resources

- Karst
- Water Feature
- Natural River
- Trout Lake/Stream
- Wellhead Protection

[More information](#)



SEMCOG... Creating Success in Southeast Michigan

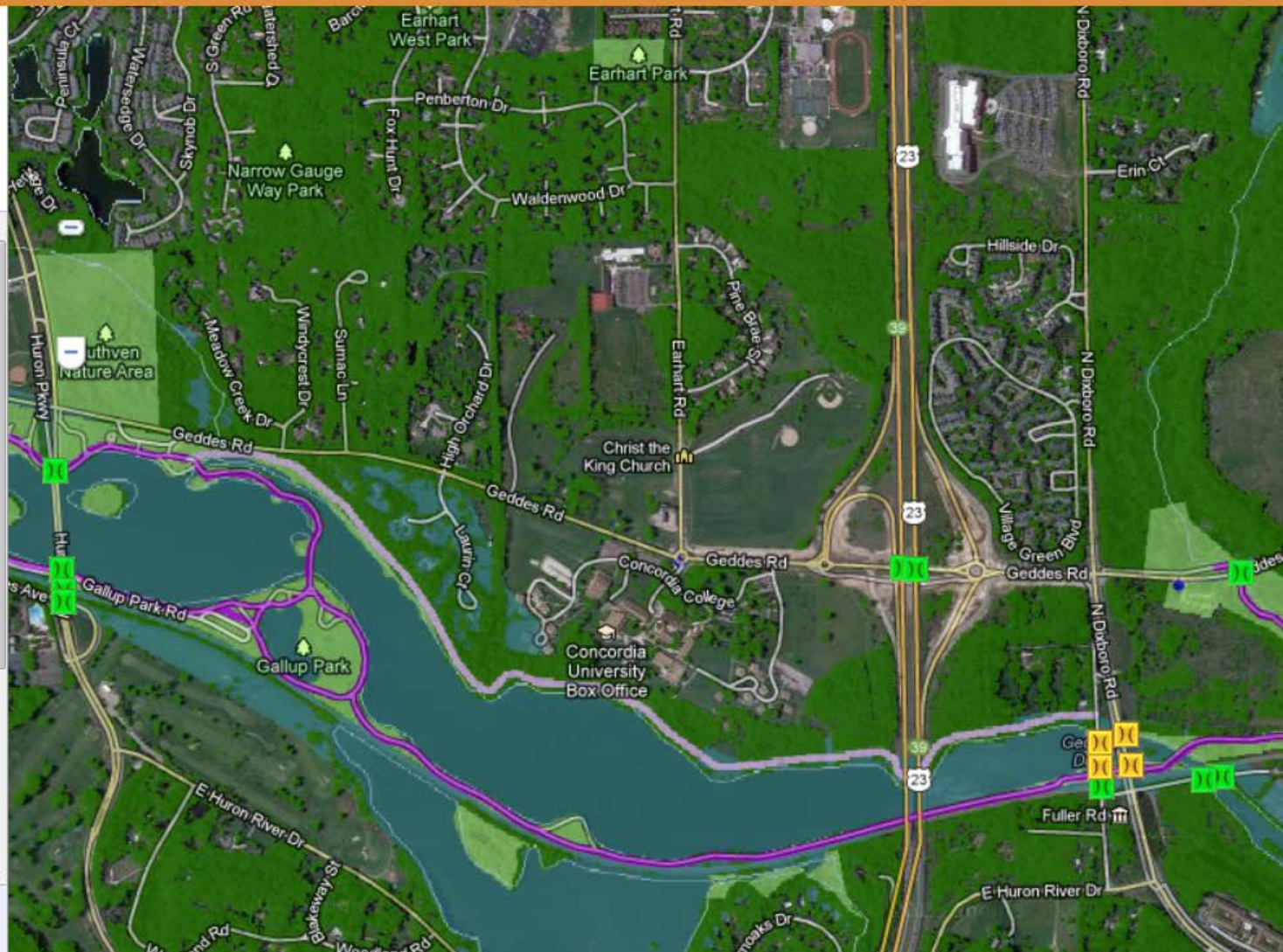
Transportation Data

Zoom in and click on roads to obtain more information or to see street view.

Display map layers by checking the boxes below. The map legend is shown by clicking on the layer name.


- ☒ **Bridges**
 - ☐ Status
 - ☐ Deficiency
- ☐ **Transportation Projects**
- ☐ **Intersections**
 - ☐ Crash Frequency
 - ☐ Major and Minor
- ☐ **Road Segments**
 - ☐ Pavement Condition
 - ☐ Crash Frequency
 - ☐ Traffic Volume
- ☐ **Corridor Priorities**
 - ☐ Regional
 - ☐ Safety
 - ☐ Pavement
 - ☐ Bridges
 - ☐ Congestion
- ☐ **Municipal Boundaries**

 About this map



Next Steps

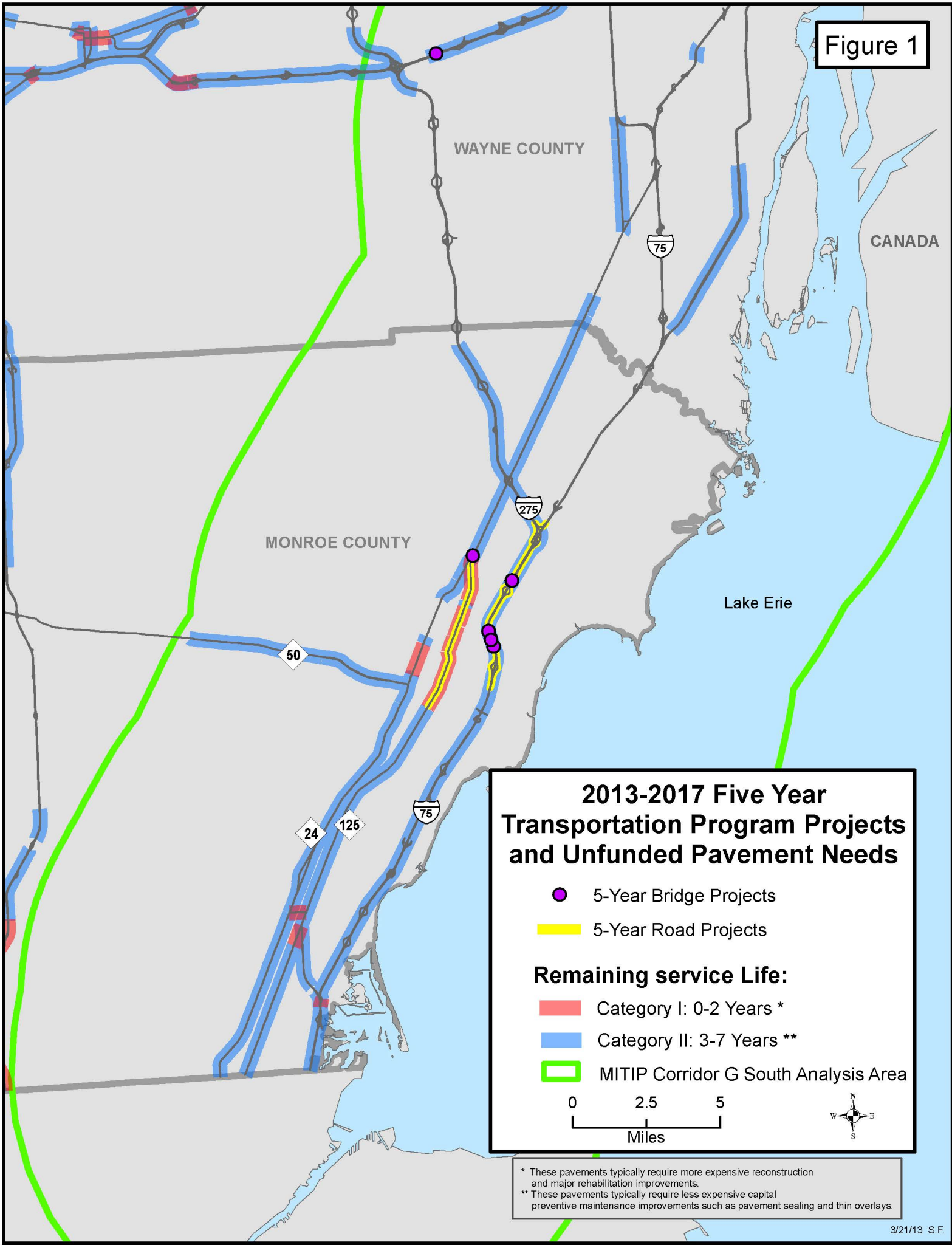
- Adding additional data
- Implementing agencies
- Advanced assessment such as Monroe County Conservation Planning



Eco-Logical Step 4: Assess Effects on Conservation Objectives

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Figure 1



2013-2017 Five Year Transportation Program Projects and Unfunded Pavement Needs

- 5-Year Bridge Projects
- 5-Year Road Projects

Remaining service Life:

- Category I: 0-2 Years *
- Category II: 3-7 Years **
- MITIP Corridor G South Analysis Area

0 2.5 5
Miles

N
W E
S

* These pavements typically require more expensive reconstruction and major rehabilitation improvements.
** These pavements typically require less expensive capital preventive maintenance improvements such as pavement sealing and thin overlays.