

## **GIS Data and Technology to Support Transportation and MPO Decision-making and Planning using an Eco-Logical Approach within the Kansas City Region**

### **Presenter**

Tom Gerend  
MARC & MPO  
[tgerend@MARC.ORG](mailto:tgerend@MARC.ORG)

### **Co-Presenter**

Tom Jacobs

The Mid-America Regional Council (MARC) is the metropolitan planning organization (MPO) serving the nine county bi-state Kansas City region including Missouri and Kansas. MARC submitted an application and was selected to receive FHWA funding in 2008 to implement an Eco-Logical approach to MPO transportation planning in the Kansas City region. The approach includes research and advancements in the use of GIS data and technology and best practices to carry out the role of a regional council and MPO and transportation planning and projects.

Advancements include the use of data need assessments, incorporation of GIS data earlier in the transportation and regional planning process, and data sharing. MARC utilizes a diversity of existing GIS data available from other agencies and data sources. MARC maintains data sharing arrangements with many governmental agencies. Efforts to utilize GIS data include an extensive regional GIS-based natural resources inventory (NRI) characterizing the quality, extent, and distribution of aquatic and terrestrial natural resources with potential conservation or restoration value. Use of GIS to integrate this data with other diverse GIS data sets allows analysis and synthesis of integrated GIS maps that offer community planners and policymakers the opportunity to see where potentially high-value natural resources are located in relation to developed areas and other community assets and transportation. This information and GIS maps will be woven into regional discussions and workshops to coordinate an action plan for linking environmental and transportation planning.

GIS technology and MARC's GIS-based NRI tool are essential components for data and integration efforts. To complete the NRI, a natural resources classification and inventory method was created to provide consistent data across the state line and among collaborating agencies. MARC began developing the NRI inventory of digital map data showing valuable natural resource assets and ecological features in the Kansas City region in 2003. The NRI initiative was funded by the U.S. Environmental Protection Agency and is intended to provide a framework for the local and regional levels and is expected to support transportation and MPO decision-making and planning to achieve outcomes of high quality livable environments through coordinated efforts for conservation and economic development and transportation. This GIS-T session will focus on GIS data sources and database compilation and best practices to include use of GIS as a technology applied to pursuing an "Eco-Logical" approach to support MPO and transportation decision-making, planning, and projects.

Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects is a multi-agency initiative, and publication downloadable at:

[http://www.environment.fhwa.dot.gov/ecological/eco\\_entry.asp](http://www.environment.fhwa.dot.gov/ecological/eco_entry.asp)