The newly-renamed “Decision Support Group” has produced a broad range of project-based research over the past 15 years. Through the Structured Public Involvement™ protocol (http://spi.uky.edu/), we deliver nationally-recognized innovative project solutions and leading peer-reviewed research regarding the integration of citizen and expert input into infrastructure planning and investment decisions. The Decision Support Group also boasts a strong Geographic Information System (GIS) and Geovisualization capability which is used extensively in many of our projects.

We publish peer-reviewed research into public infrastructure funding strategies and public opinion. More recently, we have taken on Inland Waterways Research within USDOT’s new Tier 1 Multimodal Transportation Infrastructure Consortium with Marshall University, University of Louisville, and Hampton University.

Projects & Research:

**Structured Public Involvement (SPI)** SPI has been deployed to answer questions about planning and design of public transportation, roadway design, multi-billion dollar bridge design, roadway and utility planning and routing, transit system design, archaeological predictive models, threatened and endangered predictive models, and community planning issues such as future land use and nuclear remediation. By combining electronic feedback tools with visualization and mathematical modeling, we help communities plan and design their new worlds.

**GIS and Geovisualization** Our group has developed innovative new GIS applications that can inform both professionals and the public about where something might be, is, or should be. Real-time 3D landscape visualizations allow community members and professionals to better understand the nature of questions about aesthetics of bridge designs, land use futures, power line siting, or the location of archaeological resources or rare species.

**Public Transportation** Decision Support has conducted research for the National Academy of Science, FTA, KYTC, TARC, LexTran, Richmond, and the commutershed region around Lexington. The topics have included fiscal analyses, station design, route locations, service characteristics, and efficiency.

**Finance and Policy Analysis** Decision Support researchers have also published several articles on the structural sources of the highway funding crisis at the state and local levels, as well as several articles on the effectiveness of the International Fuel Tax Agreement (IFTA).

**Education** The Decision Support Group has delivered the Transportation Systems Management (TSM) graduate education program for the past 15 years, to over 200 students in Civil Engineering, Geography, Public Administration, Landscape Architecture, Historic Preservation, and Business. Many current research professionals at KTC are graduates of the TSM program.

**Inland Waterways** The Decision Support Group is currently engaged in a new family of research projects, involving the creation of an Integrated Multimodal GIS Transportation Network, the Economic Impact of Inlands Waterways, and the Workforce and Education Needs for the Inland Waterways System.