

Appalachian Transportation Institute (ATI) Research Project Description

Project Number:

TTP 00-11

Project Title:

Development of a Transportation and Economic Development Information System for the state of West Virginia (TEDIS-WV) delivered over the Internet.

Primary Investigator Contact Information:

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Project Objectives:

The objective is to design, develop, and test a system for delivering important transportation and economic development information using GIS technology over the Internet for a variety of users including governmental agencies and the general public

Project Abstract:

The WV Department of Transportation is currently pursuing the integration of GIS technology across the agency including web delivered capabilities and functionality. This project will develop a prototype system that will store and disseminate transportation and economic development information for the entire state of West Virginia through a website that offers GIS capabilities (TEDIS-WV). This system will utilize satellite and aerial imagery as background for overlays of transportation and economic development data including capabilities for queries by users with little or no GIS training or expertise.

Task Descriptions:

- 1) Review the various types of satellite and aerial imageries that appropriate for utilization.
- 2) Design a user-friendly web page to demonstrate TEDIS-WV capabilities
- 3) Select the appropriate transportation system and economic development data to be incorporated in to the TEDIS-WV and the appropriate software, hardware and network requirements.
- 4) Development of an imagery based GIS system incorporating multiple resolution of imagery
 - a. Color balancing and mosaiking of Landsat 7 satellite imagery at 30m color and 15m panchromatic for the entire state of West Virginia.
 - b) Color balancing and mosaiking approximately 2000 Digital Ortho Quarter Quad (DOQQ) images 1m resolution for the entire state of West Virginia.
- 5) Integrate multiple overlay capabilities of transportation and economic development data in prototypical scenarios which will limit the extent of data storage and dissemination to less than state-wide in some cases i.e. county level, city level or even project level.
- 6) Deployment and testing at a variety of locations throughout the state and nation.
- 7) Operations and maintaining.

Milestones, Dates, Schedule:

Start date: September 1, 2001

End date: August 30, 2002

Yearly and Total Budget:

\$109,120.00

Student Involvement:

The project will provide employment support for at least three graduate students. The student workers will support the Principal Investigator as project assistants.

Relationship to Other Research Projects:

Thus project will utilize data collected from several ATI projects to demonstrate the capabilities of the systems in addition to sharing of research data between Principal Investigators. Current and past ATI projects that will provide useful data include but may not be limited to:

- TRP 99-01: Automated Road Extraction Using Satellite Images
- TRP 99-02: Preserving Branch Line Railroads
- TRP 99-03: Lincoln County Transportation Study
- TRP 99-04: Integrated Track Stability Assessment and Monitoring System
- TRP 99-07: A Rock Fall Rating System For Slopes Along Highways In West Virginia and Kentucky
- TRP 99-08: Abandoned Tire Health Risk Survey/Analysis
- TRP 99-09: Pre-Construction Assessment of Wetlands To Be Built Along The Tolsia Highway
- TRP 99-10: Endangered Species Identification Along Corridors In West Virginia Using GIS
- TRP 99-11: Maximizing Economic Benefits From The Greenbrier River Trail
- TRP 99-13: Commodity Flows In Northern West Virginia
- TRP 99-15: Impacts Of The Appalachian Corridors On Small Businesses
- TRP 99-16: McDowell County Transportation Study
- TRP 99-23: Survey Of Truck Parking Places (Private) In West Virginia
- TRP 99-27: Using FLI-MAP Technology For Transportation Applications-Research Initiation Project

This project is also proposed to represent an implementation option and support for the project TRP 99-32: GIS Implementation Strategy for WV.

Technology Transfer Activities:

The project will result in a web site for assist in transferring research results in addition to dissemination of other data to interested parties including the DOT of West Virginia. Several live demonstrations are planned across the state at appropriate regional and national conferences

Potential Benefits of this Project:

Cost savings for transportation planning and permitting in addition to operational support through future incorporation of ITS capabilities.

TRB Keywords: