INTELLIGENT TRANSPORTATION SYSTEMS

OVERVIEW

Intelligent transportation systems (ITS) encompass a broad range of wireless and wire line communications-based information and electronics technologies focused on relieving congestion and improving traveler safety. When integrated into the transportation system's infrastructure, and in vehicles themselves, these technologies provide many of the tools necessary to address current transportation problems, particularly in the areas of safety improvements and enhanced traveler information. ITS also helps transportation officials anticipate and address future demands through an intermodal strategic approach to transportation.

ITS applies current and emerging technologies in such fields as information processing, communications, control, and electronics, into an integrated system capable of providing real-time traffic information to the traveling public. Effectively integrated and deployed, ITS technologies offer many benefits, including more efficient use of our infrastructure and energy resources, significant improvements in safety, mobility, accessibility, and productivity.

ITS is a federally supported program and was initiated with enactment of the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA). It continues to be supported by categorical funding through the current Federal Surface Transportation Authorization Act, SAFETEA-LU.

ITS ARCHITECTURE

It is requirement in the SAFETEA-LU legislation that each metropolitan planning area develop and maintain what is called an ITS system architecture. This architecture is a blueprint of means and methods in which the region and the state will integrate technology into the overall management of the system. Presently, an ITS architecture has not been developed for Morgantown. A statewide architecture has, however, been developed by the WVDOT and provides the similar roadmap for ITS integration throughout the state for a period of the next 20 years. When it is developed, the Morgantown area architecture will be coordinated with the plan already developed by the state.

Example – Changeable Message Sign

Pole Mounted Closed Circuit Television Camera

The statewide architecture has been developed through a cooperative effort by the state's transportation agencies, covering all modes and all roads in the state. The architecture represents a shared vision of how each agency's systems will work together in the future, sharing information and resources to provide a safer, more efficient, and more effective transportation system for travelers in the state.

The architecture is an important tool that will be used by:

- Operating agencies to recognize and plan for transportation integration opportunities in the state and, more importantly, in their specific region.
- Planning agencies to better reflect integration opportunities and

operational needs into the transportation planning process.

- Other organizations and individuals that use the transportation system in the state.

The architecture provides an overarching framework that spans all of these organizations and individual transportation projects.

The geographic scope of the statewide architecture is the entire state, and the West Virginia architecture was coordinated with similar work completed in:

- Kentucky
- Maryland
- Ohio
- Pennsylvania
- Virginia

There are no regional ITS architectures within the state, even though there are several designated MPOs. At the time that the regional architectures are developed, they will need to be coordinated with the statewide architecture, and in the case of Morgantown, the architecture will need to be coordinated with Pennsylvania work.

The timeframe considered in the statewide architecture is a 20-year outlook. This means that the architecture addresses existing ITS systems as well as those planned for development over the next 20 years. More specifically, the statewide ITS architecture focuses on systems or elements that will be deployed over the next 5 years. Still, the statewide ITS architecture represents a snapshot of the currently anticipated ITS and other projects based on information gathered from stakeholders, and research from agency websites or documents. As such, the architecture will require regular updates to ensure that it maintains accurate representation of the region.

The architecture covers services across a broad range of ITS, including traffic management, maintenance and construction operations, emergency services, transit management, traveler information, archived data management, and electronic payment, and commercial vehicle operations.

The 6-year plan does not include deployment of any ITS related devices (changeable message signs, closed circuit television camera, pavement sensors, automated gates, etc. within the Monongalia County study area.