Regional Intelligent Transportation Systems Plan
2019 Progress Report on Implementation

Introduction

The Florida-Alabama, Okaloosa-Walton, and Bay County Transportation Planning Organizations worked as partners to complete the Regional Intelligent Transportation Systems (ITS) Plan. The Regional ITS Plan was adopted in September of 2010 by each of the three TPOs. The purpose of this report is to outline how each partner has strived to implement the recommendations outlined in the Regional ITS Plan. The vision outlined in the Regional ITS Plan is a looped system that benefits the region.
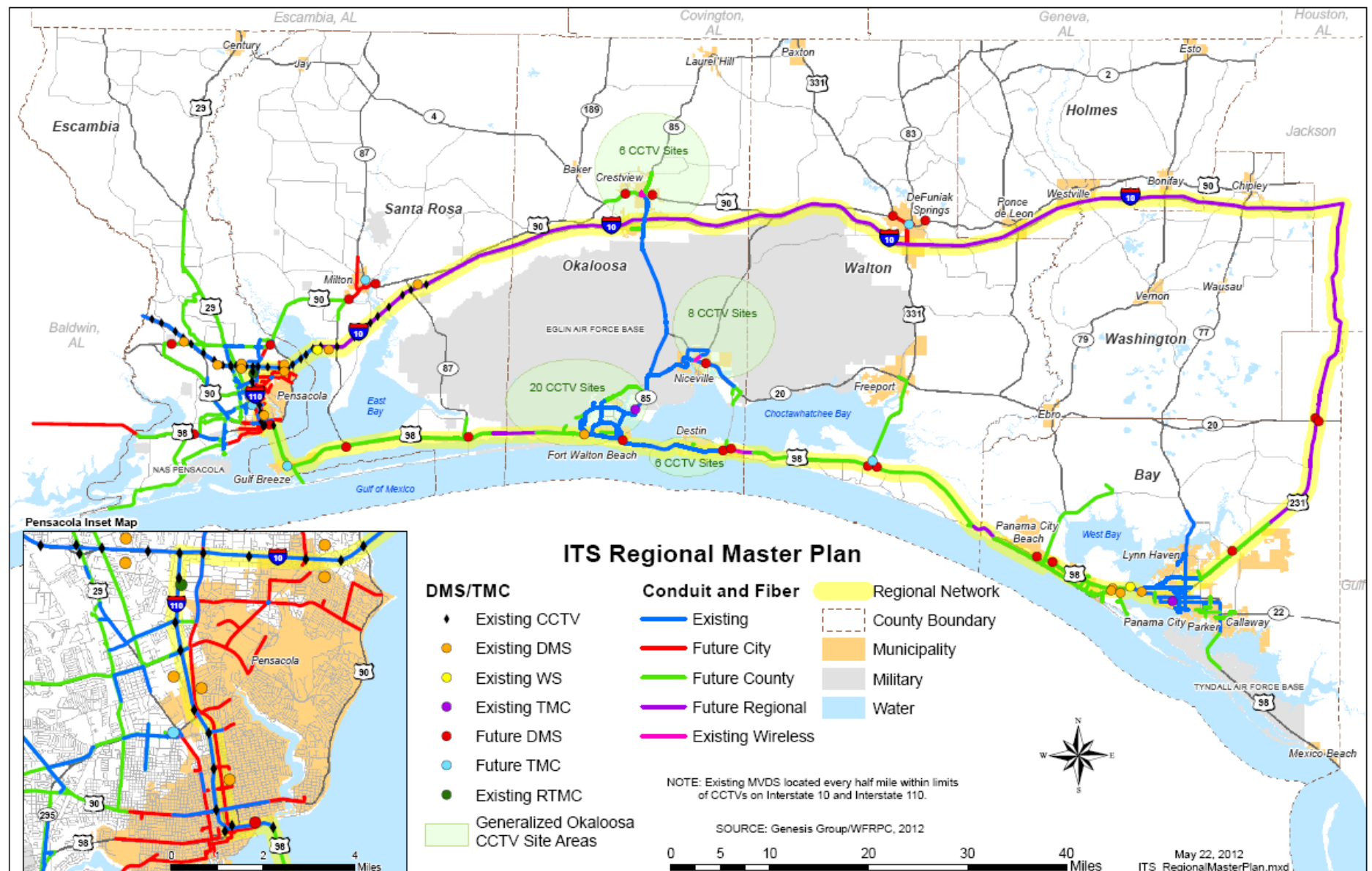
ITS is a program aimed at using computers and communications to make travel smarter, faster, safer, and more convenient. ITS helps reduce the cost of moving goods and services to the marketplace.

The Regional ITS Plan includes a list of ITS system needs for each TPO. Existing ITS networks in each TPO are identified and evaluated in the Regional ITS Plan. Moreover, future needs are evaluated and additional staffing needs for operation and maintenance of future ITS improvements and the implementation of a regional ITS network to benefit all three TPOs is included. The following is a progress report of what each TPO has employed or is planning to employ to implement the recommendations outlined in the Regional ITS Plan.

Regional ITS Network

Sharing transportation information with transportation system users is a key characteristic of ITS applications. As transportation systems become more complex and interconnected, there is a need to share information with others in order to maximize the efficiency of the transportation network. In the Regional ITS Plan, a regional ITS network is recommended to connect all ITS components for all stakeholders in the region. Fiber optic cable is proposed along US 98 throughout the region. A fiber optic ring could be created with the proposed fiber running along US 98 to US 231 in Bay County, north to I-10, west on I-10 to I-110 in Escambia County, and south on I-110 to US 98. Figure 1 illustrates the existing and future needed fiber optic cable for a looped ITS network. A preliminary cost for the additional fiber optic cable is $3,291,740 (2010 Dollars). Cameras, Dynamic Message Signs (DMS), Microwave Vehicle Detection Systems (MVDS), and a weather station exist along I-10 and I-110 to help with incident detection and motorist information.

Figure 1- ITS Regional Master Plan Map

ITS Regional Master Plan

DMS/TMC
- Existing CCTV
- Existing DMS
- Existing WS
- Existing TMC
- Future DMS
- Future TMC
- Existing RTMC
- Generalized Okaloosa CCTV Site Areas

Conduit and Fiber
- Existing
- Future City
- Future County
- Future Regional
- Existing Wireless
- Regional Network
- County Boundary
- Municipality
- Military
- Water

NOTE: Existing MVDS located every half mile within limits of CCTVs on Interstate 10 and Interstate 110.

SOURCE: Genesis Group/WFRPC, 2012

May 22, 2012
ITS_RegionalMasterPlan.mxd

Florida-Alabama TPO

On September 8, 2010, through Resolution FL-AL 10-37, the Florida-Alabama TPO approved the Regional ITS Plan which includes the Florida-Alabama TPO, Okaloosa-Walton TPO, and Bay County TPO regions. The Florida-Alabama TPO has continually ranked the Escambia-Santa Rosa Regional ITS Project as one of the top priorities in the Transportation Improvement Program (TIP). An ITS Technical Working Group has been created to oversee the ITS implementation efforts in the Escambia and Santa Rosa Counties. The Escambia-Santa Rosa ITS Working Group meets monthly and is made up of representatives from Escambia and Santa Rosa Counties, the City of Milton, the City of Gulf Breeze, the City of Pensacola, West Florida Regional Council, and the FDOT. The group works together to ensure the ITS system is comprehensive and includes a funding plan for the implementation and operation of a regional Advance Traffic Management System (ATMS) and a regional Traffic Management Center (TMC) and related infrastructure.

Escambia County and Santa Rosa County

Since adoption the Regional ITS Plan, the following ITS projects have been deployed in the Escambia and Santa Rosa Counties:

- In 2013, the FDOT funded a continuing contract for implementation of an Active Arterial Management System on SR 291 (Davis Highway). The system consists of approximately 2.5 miles of arterial roadway from the intersection of Davis Highway at Johnson Avenue to the intersection of Davis Highway at SR 750 (Airport Boulevard) and ends at the Pensacola Regional Transportation Management Center (RTMC). The primary goals of this system are to improve safety, congestion, emergency response, incident management, and traffic flow along Davis Highway. Signalized intersections which are integrated in the Davis Highway System include Johnson Avenue, Klinger Street, University Parkway, Olive Road, Northcross Lane, I-10 WB Ramp, I-10 EB Ramp, Bloodworth Lane, Creighton, and Burgess Road. In 2016, two additional signalized intersection were added to the Davis Highway Active Arterial Management System at Longley Avenue and Airport Blvd.

- In 2013, FDOT awarded a design-build contract for implementation of the ATMS Phase I on Brent Lane/Bayou Blvd from North Palafox Street to North 12th Avenue, on North Palafox from Brent Lane to East Fairfield Drive, and on East Fairfield Drive from North Palafox Street to North 12th Avenue. The system includes integration of 18 signalized intersections along these corridors. This project included design, construction and integration of ITS infrastructure, including ten (10) cameras, approximately 6.7 miles of fiber optic cable, an Ethernet communication network, center to center communication, Closed Circuit Television (CCTV), and modification of existing closed loop systems. The project was completed in 2015 and accepted in January 2016.

- In 2015, Escambia County entered into a continuing professional services contract with DRMP, Inc. to provide general traffic engineering operation and management services including signal retiming, transportation engineering, planning and other support services for Escambia and Santa Rosa Counties. In general, the consultant is functioning as an extension of staff for traffic engineering related services.

- In 2015, the Florida Department of Transportation and City of Pensacola initiated development of the Escambia-Santa Rosa Regional ATMS Feasibility Study and Implementation Plan project. The feasibility study will define a comprehensive plan to update and modernize traffic management tools and capabilities to prepare and assist the local agencies to meet their increasingly complex future transportation challenges. The Implementation Plan will be a blueprint for the modernization of the Escambia County and Santa Rosa County signal systems. A hardline communication link will be provided throughout the region with the deployment of 144-count single-mode fiber optic cable along key highways and arterials. More than 150 miles of fiber will be deployed either through proposed underground conduit or via the utilization of existing aerial spans, creating a direct link between all devices and TMC. Isolated signals or remote corridors will be brought onto the grid with the use of wireless network communication in the interest of cost savings. The regional ATMS will be implemented in two phases (phase II and phase III) at an approximate cost of $42,000,0000. The proposed work for phase II carries an estimated cost of $25,000,000 and for phase III an estimated $17,000,000. The Escambia-Santa Rosa Regional ATMS Feasibility Study and Implementation Plan was completed in 2017. A copy of the Escambia-Santa Rosa Regional ATMS map is shown below.

-
-
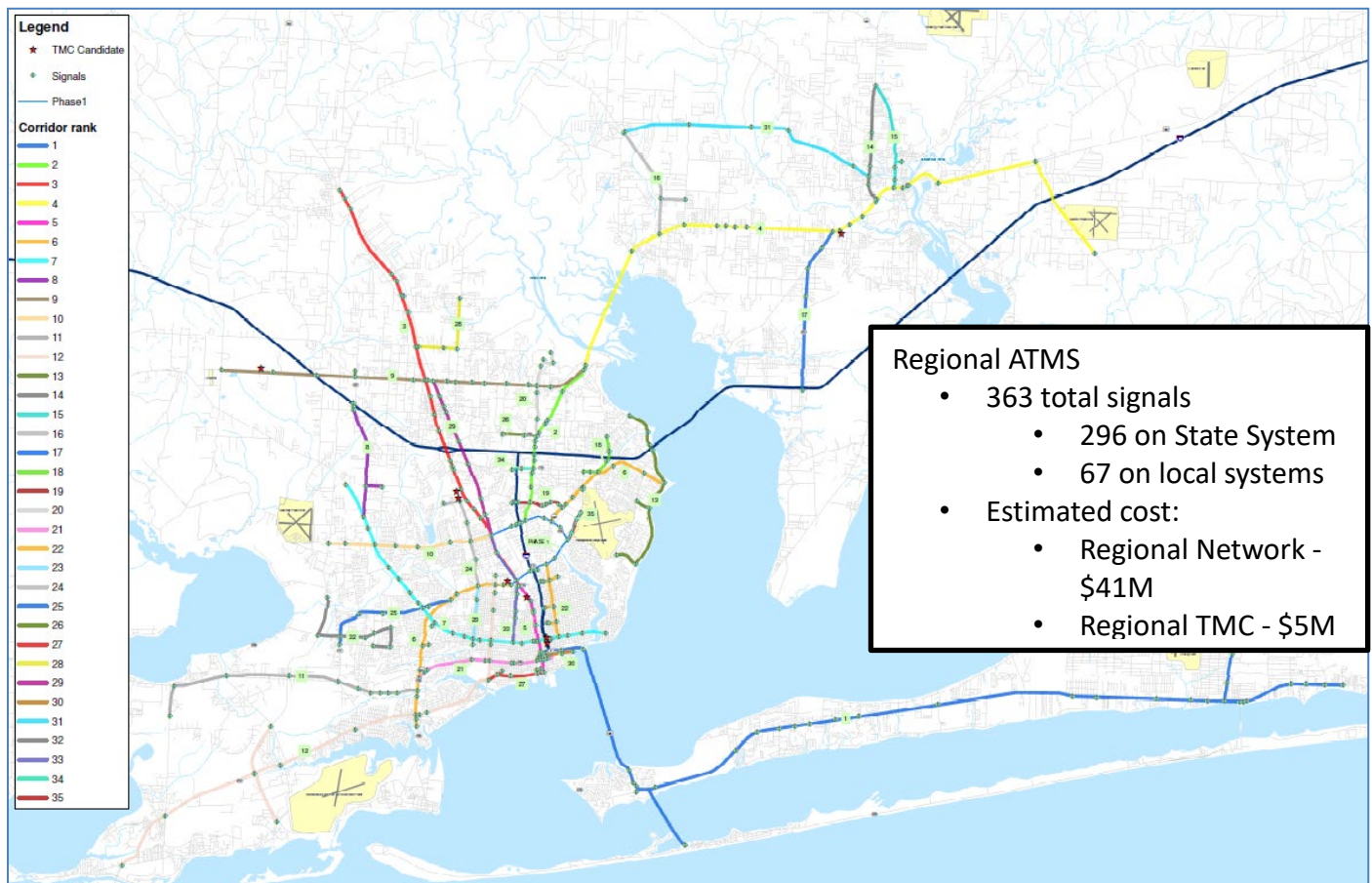
- Received FDOT funds in the amount of $60,000 to replace 2 signal cabinets and wireless communication devices to establish communication for 3 signals in the City of Milton.

- Received FDOT funds in the amount of $151,600 for purchase of 18 UPS battery backup systems for 18 major intersections, 32 new batteries for 8 intersections and replacement of traffic signal cabinets at 2 intersections in the City of Pensacola.

Currently 110 signals are interconnected within FL-AL TPO Region. These signals are operated from Escambia County and City of Pensacola Traffic Operations Centers.

Lillian, Alabama
Installation of fiber optic cables is recommended along the US 98 corridor or CCTVs at the signalized intersections in the unincorporated community of Lillian in Southwest Baldwin County, Alabama. A recommendation in the Regional ITS Plan is that these signals can be monitored by a small TMC. The total estimated 2010 capital costs are $647,031 for 56,321 feet of fiber optic cable and conduit and five CCTVs in Lillian, Alabama.

Okaloosa-Walton TPO

Okaloosa County

Okaloosa County has an extensive ITS system already in place according to the Regional ITS Plan adopted by the Okaloosa-Walton TPO on September 16, 2010, through Resolution O-W 10-27. According to the Regional ITS Plan, Okaloosa County would benefit from additional fiber optic cable, CCTVs, and DMSs.

The crossing of the Mid-Bay Bridge with fiber, as recommended in the Regional ITS Plan is complete and will enhance the county's traffic control communication system that allows for redundancy to the Destin and Niceville/Bluewater Bay intersections. Wireless communication installations have been maintained to intersections to the system along the western portion of US 98 including Hurlburt Field and west to the county line. In 2018 the County and FDOT formed an agreement to install fiber in the western portion of US 98 to replace the wireless communications making the existing links more reliable. The use of additional technologies is underway to link the remaining off system signalized intersections to on the system in the remote location of: SR 4 Baker, US 90 Milligan and US 90 at Antioch Rd. Okaloosa County directed FDOT consultant to perform two major signal retiming projects for the US 98 arterial in Destin (2016) and Beal and Mary Esther in 2017. In 2018 the County and FDOT has been conducting timing studies for SR 85 in in the Crestview area. A study was performed for the portion of SR 85 south of US 90 for the weekday periods in late 2017 with ongoing studies for the weekends on the south portion and remain northern portion in 2018.

The County conducted some fine tuning to the signal timing programs along SR 20 for intersections west of Rocky Bayou bridge. This task was performed by a consultant and paid for by FDOT/TPO allocated annual box fund for the computerized advance traffic management system. The County has replaced the wireless link between White Point Road and Mid-Bay Bridge Connector on SR 20 with fiber optics as the tree canopy was degrading the existing wireless communications link. Progress on wireless cellular communications to the three remaining/remote intersections is progressing forward but not without its own set of challenges due to cell modem coverage issues at these locations. As mentioned above the US West 98 ITS upgrade project is moving forward with an approved utility permit and construction to begin during the second half of 2019 with completion possible be the end of the year. As planned twenty additional CCTV's have been procured and the plan is to install these items at various locations for either replacing existing outdated equipment or installing at new locations over the year.

The County and FDOT entered into a Joint Participation Agreement in 2016 for the planning, design and construction of a Traffic Management Center with location finalized this year. The next phase will include the design plans development with construction to follow. The plan is estimated to be completed sometime in 2021.

Table 1 shows the progress of ITS system implementation in Okaloosa County.

Table 1 - Existing Inventory, Future ITS Needs, and 2019 Progress for Okaloosa County

Okaloosa County- Incorporated and Unincorporated				
Item	Unit	Existing (2010)	Complete (2019)	Future
Signalized Intersections On System / Off	Each	141	138 / 3	3 / 0
Wireless Communication	Number of Intersections	8	13**	3
Cameras	Each	19	75	20
DMS	Each	1	1	3
TMC	Each	1*	Concept/Location Completed	1

*Currently a temporary TMC resides at Okaloosa County Traffic signal Operations Office. Future needs are identified to add a TMC in the next few years.

**Five new signals were installed in summer of 2015 in Destin for pedestrian crossings. These signals were planned to be put on the fiber optic network, but it was determined by the County to use wireless technology as a cost savings benefit.

The County's goal is to have monitoring capabilities at nearly all signalized intersections. Currently, 75 CCTVs exist throughout Okaloosa County at intersections in the following areas:

- South County - Fort Walton Beach, Shalimar, Mary Esther Urbanized Area (excluding Destin) - 35 CCTVs
- Destin Area - 13 CCTVs
- Niceville/Bluewater - 14 CCTVs
- Crestview Area - 13 CCTVs

Walton County

Fiber optic cable along with CCTV cameras and DMS are also recommended in Walton County. Fiber optic cable is not proposed to extend from DeFuniak Springs to US 98. Development is sparse on US 331 and connecting cable is not cost feasible. A TMC is also not feasible in this county. However, small control rooms in existing offices will allow existing staff to monitor ITS systems in each maintaining agency.

Walton County has entered into a JPA with FDOT in the amount of $100,000. The JPA has allowed procurement of a traffic engineer to facilitate ITS deployment in Walton County. The new traffic engineer, funded through the JPA, will maximize the capabilities and optimization of the existing system of traffic signals within the county, and perform other valuable traffic operations and engineering duties throughout the region. After covering salary expenses, the budget for this project will fund resources to support the traffic engineer's work. Table 2 shows the progress of ITS implementation in Walton County and the City of DeFuniak Springs.

Table 2 - Existing Inventory, Future ITS Needs, and 2018 Progress for Walton County and City of DeFuniak Springs

Item	Unit	Existing (2010)	Future	Projected Cost (2010)	Complete (2018)
Walton County					
Signalized Intersections	Each	22	*	N/A	28
Fiber Optic Cable and Conduit	Linear Feet	None	190,363	$2,093,993	None
Cameras	Each	None	10	$55,000	None
DMS	Each	None	4	$640,000	None
TMC Small Office	Each	None	1	$10,575	None
City of DeFuniak Springs					
Signalized Intersections	Each	9	*	N/A	N/A
Fiber Optic Cable and Conduit	Linear Feet	None	24,592	$270,512	None
Cameras	Each	None	6	$33,000	None
TMC small office	Each	None	1	$10,575	None

*No future needs are identified in the Regional ITS Plan.

Bay County TPO

According to the Regional ITS Plan, Bay County has numerous signalized intersections and roadway corridors that could benefit from ITS expansion, particularly in the City of Panama City Beach. Growth of the beach area continues, and the signals on the beach need to be coordinated with the TMC. In addition, extending the ITS network on US 98 West would benefit this major corridor. Adding CCTVs and additional fiber cable for coordination of signals can be controlled by the existing TMC.

Many of the ITS future needs recommended in the Regional ITS Plan have been funded since 2010 to include installation of over 450,000 linear feet of fiber optic cable and conduit. In addition, two Remote Weather Information Systems have been installed. See Table 3 for a progress of ITS system implementation in Bay County.

Table 3 - Existing Inventory, Future ITS Needs, and 2018 Progress for Bay County

Bay County- Incorporated and Unincorporated					
Item	Unit	Existing (2010)	Future	Projected Cost (2010)	Complete (2018)
Signalized Intersections	Each	178	*	N/A	187
Fiber Optic Cable and Conduit	Linear Feet	250,679	359,499	$3,954,489	459,613
Cameras	Each	43	25	$137,500	96
DMS	Each	4	5	$800,000	5
TMC	Each	1	*	N/A	1
Weather Station	Each	1	*	N/A	1

*No future needs are identified in the Regional ITS Plan.

Summary

The goal of this progress report on TPO implementation of the recommendations outlined in the Regional ITS Plan that was adopted in September 2010, is to remind the TPO partners in the region that the vision is to create a looped ITS system that integrates the ITS systems built in each TPO area and provides a compatible and seamless ITS link. If there is a break in the link, other ends of the looped system can communicate, providing information for movement of freight, emergency vehicles and the traveling public. There is a clear economic benefit to looping the systems. The first priority is to build reliable and compatible systems within each TPO area and to work with the FDOT on creating a seamless ITS network.