

LETTER of APPLICATION for COUNTY INCENTIVE GRANT PROGRAM

Project Name: Volusia County CCTV network Expansion

Florida Intrastate Hwy System ✓ State Hwy System Local

(a) Applicant: Volusia County

Project Contact Person:

Name: Jon Cheney, P.E.
Title: Volusia County Traffic Engineer
Address: 123 West Indiana Avenue, DeLand, FL 32720-4604
Phone: (904) 736-5968, extension 2709
FAX: (904) 822-5736
Email: jcheney@co.volusia.fl.us

Project Co-Contact Person:

Name: Garry Lester
Title: Volusia County Signal Systems Engineer
Address: 123 West Indiana Avenue, DeLand, FL 32720-4604
Phone: (904) 736-5968, extension 2720
FAX: (904) 822-5736
Email: glester@co.volusia.fl.us

(a) Project Description: (Please use Additional Sheets)

(1) What type of project is being proposed? e. g., road capacity, ITS, traffic operations, safety, pedestrian, bicycle, aviation, transit, port, bridge, resurfacing, etc. (Describe in detail). Include detailed description of the purpose of the project for improving traffic flow and reducing traffic congestion on the state highway system.

The proposed project is an Intelligent Transportation System, Traffic Operations, and Safety project that will install CCTV cameras at the following three intersections:

- SR 421/Dunlawton at CR 4009/Williamson Avenue (Section 79230, Mile Post 0.055)
- SR 421/Dunlawton at SR A1A/Atlantic Avenue (Section 79180, Mile Post 1.246)
- US 17-92 at CR 4162/Dirksen Avenue (Section 79040, Mile Post 1.960).

An ITS closed circuit television (CCTV) pan-tilt-zoom camera will be installed along with signal interconnect at these intersections to mitigate congestion and monitor traffic during incidents or hurricane evacuations on the State Highway

System. Volusia County Traffic Engineering personnel will be able to dial-up the camera, view video images of the intersection, and make necessary signal timing adjustments, if necessary, without driving through heavy congestion to this intersection. According to the FDOT Economic Impacts of ITS in Florida – An Issue Paper (April 1999), traffic signals produce facility-specific travel time savings that range from 8 to 25 percent.

SR 421/DUNLAWTON

The Federal Functional Classification of SR 421/Dunlawton Boulevard is an Urban Principal Arterial. SR 421/Dunlawton Boulevard connects the beachside communities of Daytona Beach Shores, Ponce Inlet, Wilbur-by-the-Sea to Port Orange and Interstate 95. SR 421/Dunlawton Boulevard is also an evacuation route. The intersection of SR 421/Dunlawton Boulevard and SR A1A/Atlantic Avenue includes the second busiest beach access ramp in Volusia County. The camera will allow traffic engineering personnel the ability to monitor beach traffic during the busy beach season to ensure vehicles are not queuing up onto SR A1A or SR 421. This intersection is also critical during hurricane evacuations since this camera will be able to monitor the evacuees from the communities of Daytona Beach Shores, Ponce Inlet, Wilbur-by-the-Sea.

The intersection of SR 421/Dunlawton Boulevard and Williamson Boulevard camera will be used to monitor traffic along Interstate 4 during freeway incidents, special events, and emergency evacuations. (Refer to FDOT Freeway Incident Management Plan for Interstate 4 and Interstate 95: Figure 14 - Road Closure from SR 400/Beville Rd to SR 421 and Figure 15 - Road Closure from SR 421 to SR 44.) The camera will also be able to monitor truck traffic along Williamson Boulevard to assist the Regional Monarch Food Distribution facility located along this roadway. This facility currently handles 300 trucks per day.

US 17-92 AT CR 4162/DIRKSEN ROAD

The Federal Functional Classification of US 17-92 is an Urban Principal Arterial that connects the west Volusia communities of DeLand, Orange City, and DeBary to the Metro Orlando area. The roadway is currently being widened from 2 to 4 lanes from the Seminole County line north to Enterprise Road in Orange City.

According to the Volusia Incident Management Team and the Tri-County Freeway Management Team this intersection is on the primary detour route for any crash located on Interstate 4 between US 17-92 and CR 4146/Saxon Blvd. This will also be a critical intersection once the St. Johns River Bridge begins construction early next year.

VOLUSIA COUNTY CCTV CAMERA SYSTEM

Volusia County has already successfully installed eight CCTV cameras within Volusia County. Of these existing eight cameras, Volusia County has installed five cameras, without any State funding, along the following State Highway

locations: SR 400/Beville at Williamson, US 1 at SR 44 westbound off-ramp, SR 40 at SR A1A, SR 40 and US 1, and SR 40 at Williamson.

(2) Provide map-showing location of project with termini noted.

Detailed project location maps with project termini noted have been included.

(c) Is Project in the FDOT's Five-Year Work Program? ✓ YES NO

(a) If Yes, FIN #: 240948-2-52-01 (Integrate ITS in Volusia County)

According to Trey Tillander, FDOT Project Manager, this application would be considered as part of the video dissemination portion, website portion, and as an "Early Winner."

This project could be considered as a part of RFP-DOT-FFN 00-1 (Request for Proposals for Joint Public-Private Development of Rights-of-Way for the Florida Fiber Network). As part of the FFN project, fiber optic cable will be installed in District 5 between the different City/County Traffic Management Centers (TMC) and the FDOT Regional TMC in Orlando. The video images provided by the three cameras to be deployed by this application, would be received at the Volusia County Traffic Engineering facility in Holly Hill, then transmitted by fiber to the video combination/dissemination equipment to be installed at the Daytona Beach TMC (as part FIN #240948-2-52-01), then transmitted by fiber to the FDOT Regional TMC in Orlando (as part of RFP-DOT-FFN 00-1 or viewed on the website).

Finally, this project could be considered as a part of FIN # 242702 (St. Johns River Bridge project). An early deliverable of this design-build project will be the extension of the Interstate 4 Surveillance and Motorist Information System along Interstate 4 east to the SR 472 interchange. The US 17-92/Dirksen Road intersection is a FDOT Freeway Incident Detour Route location. If an incident occurred during the bridge construction, the US 17-92/Dirksen video images viewed by FDOT operators at the Regional Traffic Management Center in Orlando (as part of RFP-DOT-FFN 00-1 or viewed on the website) could be used to inform traffic reporters and the public of traffic conditions along this detour route.

(d) Certification letter from the chief fiscal officer of Volusia County that sufficient matching funds are available. See attached letter. (If municipality is co-sponsor, also attach letter from city fiscal officer.)

Refer to attached letter from Volusia County Fiscal Office.

(e) **Project Phases**

(1) Identify below if the following work has been completed on the project, who performed or will perform the work, and project schedule.

Work Type	Has this phase been completed? Yes/No	Who performed or Will perform Work? Responsible Agency	Project Schedule/ Duration
Planning (Phase 1X)	N/A		
Project Development Environmental Assessment Study (Phase 1X)	N/A		
Design (Phase 2X)	No	Volusia County	Fall 2000 - 4 weeks
Right of Way Acquisition (Phase 3X)	N/A		
Environmental Permitting	N/A		
Construction (Phase 4X)	No	Volusia County	Winter/Spring 2001 – 4 weeks installation after procurement
Construction Engineering Inspection	No	Volusia County	Winter/Spring 2001 – 4 weeks installation after procurement
Other	N/A		

(f) **Expenditures to date for each project phase and current cost estimate for each project phase.**

Work Type	State Funding	Local Funding	Total Funding	Expenditure Status
Planning (Phase 1X)				N/A
Project Development Environmental Assessment Study (Phase 1X)				N/A
Design (Phase 2X)		\$3,000	\$3,000	Estimate
Right of Way Acquisition (Phase 3X)				N/A
Environmental Permitting				N/A
Construction (Phase 4X)	\$16,800	\$13,200	\$30,000	Estimate ¹
Construction Engineering Inspection		\$600	\$600	Estimate ¹
Other				N/A
Total Requested	\$16,800	\$16,800	\$33,600	

¹ Based upon previous installation of CCTV system in Fiscal Year 1999/2000 by Volusia County Traffic Engineering

(g) Consistency with Florida Transportation Plan, MPO and Local Plans Government Comprehensive Plan

(1) Is this project consistent with the Florida Transportation Plan?

Yes. This project is consistent with the existing FTP Goal 1 (Safe Transportation for residents, visitors and commerce and Goal 4 (Travel choices to ensure mobility, sustain the quality of the environment, preserve community values and reduce energy consumption).

This project is consistent with the forthcoming 2020 FTP – 2000 Update Goal of Safe transportation for residents, visitors and commerce. This project is consistent with the following long-range objectives – improve the safety of commercial vehicle operations, minimize response times for crashes and other incidents, and implement hurricane response and evacuation plans in cooperation with emergency management agencies. This project is also consistent with the Preservation and management of Florida’s transportation system Goal. Specifically it meets the long-range objectives to increase the efficiency of the transportation system using appropriate technologies and other techniques, and improve incident management to minimize the impact on traffic flow.

This project is also consistent with Florida’s ITS Strategic Plan and with FDOT Policy Statement – ITS Concepts and Technologies (Topic No. 000-010-005-d, March 5, 1999): The FDOT recognizes the potential benefits of ITS concepts and technologies in enhancing the efficiency, mobility and safety of Florida’s Transportation Systems.

(2) Is this project consistent with the Comprehensive Plan of the Volusia MPO?

Yes. This project is consistent with the Volusia MPO Congestion Management Plan which recognizes ITS as a traffic management feature that is “becoming a common tool used to manage congestion.” The CMS Plan is a part of the MPO Comprehensive Plan and Long Range Transportation Plan.

ITS is used as a part of the scoring criteria in the Priority Process. Points are assigned to ITS applications for congestion management, traffic operations, and transit operations (video surveillance).

Also refer to attached Resolution from the Volusia MPO.

(3) Is this project consistent with the Local Government Comprehensive Plan?

Yes. This project is consistent with Volusia County’s Comprehensive Plan Objective 2.1.1 – Volusia County shall implement programs to provide a safe, convenient, and energy efficient multimodal transportation system.

(h) If project is not located on the state highway system, justify how the project will alleviate the need for construction or improvements to the state highway system by reducing traffic congestion, and quantitatively estimate the improved through traffic capacity and/or increased level of service afforded the affected state highway.

This project *IS* located on the state highway system.

(i) **Other relevant information necessary to assure compliance with the eligibility requirements and to meet the ranking criteria: (Use additional sheets if necessary.)**

(1) **The extent to which the project will encourage, enhance, or create economic benefit.**

The monitoring of the cameras used in conjunction with revising the signal timings will enhance or create economic benefits by improving the efficiency of the transportation system. Thus providing more efficient movement of goods and services without major infrastructure costs. SR 421, US 17-92, Interstate 4 and Interstate 95 accommodate tourist travel and commuter travel, as well as intrastate and interstate goods shipment and shipments entering or leaving Volusia County. As mentioned earlier, the intersection of SR 421/Dunlawton Boulevard and SR A1A/Atlantic Avenue includes the second busiest beach access ramp in Volusia County. And the intersection of SR 421/Dunlawton at Williamson will be able to monitor the 300 trucks per day handled by the Regional Monarch Food Distribution facility. Trucking is the primary mode for freight shipment in the state in terms of overall tonnage.

The economic benefits from the camera system deployment include reduced travel delay, vehicle operating cost savings and productivity improvements, external cost savings (e.g., improved traffic flow and reduced delays have a positive environmental impact on emissions and energy consumption), and enhanced business efficiency/productivity by reducing overall travel time or by providing a consistent travel time).

(2) **The likelihood that assistance would enable the project to proceed at an earlier date than the project could otherwise proceed.**

Currently, the cameras along SR 421/Dunlawton are programmed in Volusia County's Fiscal Year 2000/2001 Traffic Engineering budget. The camera at Dirksen and US 17-92 is not currently funded. If funding becomes available, it would allow deployment of the cameras at these critical intersections, especially prior to construction beginning on the *St. Johns River Bridge* project (FIN # 242702).

(3) **The extent to which assistance would foster innovative public-private partnerships and attract private debt or equity investment.**

These cameras will be tied into the video dissemination system and website being developed as part of the *Integrate ITS in Volusia* and *FFN* projects (FIN # 240948-2-52-01 and RFP-DOT-FFN 00-1). The FDOT already has public-private partnerships with the local affiliate TV networks to broadcast video images from cameras. These same public-private partners will have the opportunity to broadcast the video images from this project to residents, visitors and commercial businesses; especially during special events, incidents or hurricane evacuations. In order for these images to be broadcast over the TV, the TV affiliates have already committed private investments for the communications equipment at the Regional Traffic Management Center in

Orlando and one TV affiliate has already invested at the Daytona Beach Traffic Management Center.

In addition, the FDOT has public-private partnerships with Central Florida radio networks to broadcast traffic conditions. The traffic conditions, based upon the camera images, viewed by FDOT operators at the Daytona Beach Traffic Management Center could be forwarded to these radio networks to inform traffic reporters and the public of traffic conditions along these detour routes. These video images could also be viewed directly by the radio networks on the website.

(4) The extent to which the project uses new technologies, including ITS, which enhance the efficiency of the project.

This project IS an ITS deployment project to enhance the efficiency, mobility and safety of Florida's Transportation Systems.

(5) The extent to which the project helps to maintain or protect the environment.

This project will install cameras on existing traffic signal poles. Thus, this project will not disturb or threaten any endangered species, damage/destroy any wetlands, or create any additional drainage runoff, which may need collection prior to re-entry into Florida's waterways or aquifer. In fact, by monitoring traffic conditions and adjusting signal timings at signalized locations to improve traffic flow (reduce stops and delays of vehicles) this project will improve and protect the environment (air quality) by reducing emission of air pollution levels.

In addition, if a major hazardous material incident occurred near any of these camera locations, the cameras could review the incident scene; read the vehicle placard, which describes the hazardous material being carried; and determine the severity of the spill. This would be faster than waiting for a HAZMAT team coming on-scene since the team would be fighting through heavy congestion caused by the incident. This information would be forwarded to the responding HAZMAT Clean-up Team. Thus saving valuable time in responding to the emergency by making sure the HAZMAT Team brings the correct counter-agent quantity and clean-up equipment. This will minimize the damage done to the environment by reducing the exposure time of the hazardous material to plants, animals, and groundwater supply.

(6) The extent to which the project includes transportation benefits for improving intermodalism and safety.

INTERMODALISM

The cameras installed, as part of this project, will be linked into the video dissemination system being developed as part of *Integrate ITS in Volusia* project (FIN # 240948-2-52-01). The *Integrate ITS in Volusia* project will include a communication and video link to VOTRAN, the local transit agency. Votran dispatchers will be able to view video images of these three cameras deployed under this grant application. By viewing the camera images, VOTRAN dispatchers will be better able to accommodate for periods of heavy traffic congestion during special

events, morning and afternoon peak traffic periods, or incidents by adjusting transit fleet operations since they are able to talk directly to the transit bus operators.

SAFETY

These cameras are located at critical intersections. During emergency hurricane evacuations the two cameras on SR 421 will be viewed and signal timings adjusted by Volusia County Traffic Engineering to safely evacuate the coastal community. By means of the website being developed as part of the *Integrate ITS in Volusia* project (FIN # 240948-2-52-01); local law enforcement, emergency management officials, or the State Emergency Operations Center (Tallahassee) would also be able to ascertain how the emergency evacuation is progressing along SR 421.

The cameras located at US 17-92/Dirksen and SR 421/Williamson intersections are along designated Freeway Incident Detour Routes. If a major crash occurs along the Interstate near either of these two locations, Volusia County Traffic Engineering will be able to view the video images and adjust the signal timings to safely handle the detour traffic. This signal timing adjustment would be in a faster manner than sending a field technician to adjust the signal timings. The technician would have to fight the detour traffic to get to the signal cabinet. Then the technician would have to view the traffic conditions before making a decision on how to adjust the signal timings. The cameras greatly reduce this response time. In addition, if a major hazardous material incident occurred near any of these camera locations, the cameras could review the incident scene and read the vehicle placard, which describes the hazardous material being carried, faster than waiting for a HAZMAT team coming on scene. This information would be forwarded to the responding HAZMAT Team; thus making sure the HAZMAT Team brings the correct counter-agent to safely neutralize the hazardous material.

- (7) **This project will be administered by a governmental entity other than the FDOT, document that this entity has the fiscal, managerial, environmental, and engineering capabilities to manage the project consistent with federal requirements and has been certified by the FDOT to perform the work.**

Volusia County is LAP (Local Agency Program) certified, and therefore, the Volusia County Traffic Engineering Department would perform all the work. Volusia County Traffic Engineering will also operate and maintain ALL equipment installed. In fact, two were installed last year.

As mentioned earlier, Volusia County has already successfully installed eight CCTV cameras within Volusia County. Of these existing eight cameras, Volusia County has installed five cameras, without any State funding, along the following State Highway locations: SR 400/Beville at Williamson, US 1 at SR 44 westbound off-ramp, SR 40 at SR A1A, SR 40 and US 1, and SR 40 at Williamson.

(8) Can public or private support of the project be demonstrated? (Examples include: written endorsement, formal declaration, resolution, financial donations, or other appropriate means)

Volusia County; West Volusia Community Traffic Safety Team; East Volusia Community Traffic Safety Team; and the Cities of Daytona Beach Shores, DeBary, and Port Orange support this project. Letters of support and/or Resolutions have been attached to this application.

Attachments: Project Location Maps

FIM Plan for Interstate 4 and Interstate 95 (Figures 1, 2, 14, & 15)

Volusia County Fiscal Certification

Volusia County MPO Resolution

County Council Resolution

Daytona Beach Shores Letter of Support

Port Orange Letter of Support

DeBary City Council Resolution

East Volusia CTST Letter of Support

West Volusia CTST Letter of Support

"Traffic Management of Special Events, Detours and Evacuations"