

**Application for Funding under the
Operational Tests to Mitigate Congestion Program**

By

Florida Department of Transportation

April 30, 2007



Part I: Background, Problem and Technical Approach

Introduction

This submittal is in response to the U.S. Department of Transportation Request for Application (RFA) for the “Operational Tests to Mitigate Congestion.” Florida DOT is submitting this application on behalf of the I-10 Freight Corridor. The I-10 National Freight Corridor Study is a multi-state Group, which is in an excellent position to effectively participate in this federal effort. The states of the I-10 Freight Corridor are currently working towards similar goals, and are well positioned to quickly implement this project.

As a freight-focused corridor, we are keenly aware of the value of Traveler Information. Traveler information is one of the primary weapons used to fight congestion. This is especially true on longer corridors, as the longer distance travelers have more options for alternate routes or ability to adjust their timing as they approach congested areas. Studies have shown that the top three requested information for commercial vehicles are weather, traffic conditions, and services. For traffic conditions, construction is always at or near the top of the list. Our effort will first focus on construction information. The long-term goal is to provide a full range of services.

This proposal *represents the common interest of the eight state DOTs (California, Arizona, New Mexico, Texas, Louisiana, Mississippi, Alabama, and Florida) that are participating in the study. The I-10 National Freight Corridor Study has proven itself to be a model of cooperation and initiative*, and — through its continued ‘best practices’ approach — is currently developing a template ITS architecture that will be available ‘off the shelf’ to stakeholders throughout the Corridor and beyond.

I-10 Corridor Description and Background

In 2002 and 2003 the Departments of Transportation in the eight states traversed by I-10 came together as partners to conduct a comprehensive evaluation of the entire corridor system, with particular emphasis on the impact of goods movement on the corridor. The National I-10 Freight Corridor Study addressed the need to facilitate goods movement along the Corridor, as well as the feasibility of transportation improvements across a broad range of options. During a Phase 2 study undertaken in 2005, the I-10 Corridor Partnership created a Concept of Operations for Intelligent Transportation Systems (ITS) integration across the corridor, and today the Corridor is working toward a corridor-wide ITS architecture.

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| <ol style="list-style-type: none">1. The name, title, email address and phone number of the person who will act as the point of contact on behalf of the applicant. |
|---|

The point of contract for this application is Mr. Trey Tillander, ITS Software, Architecture, and Standards Administrator, with Florida DOT. His contact information is as follows:



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2. A description of the partner agency, authority, or authorities requesting funding.

Florida DOT is submitting this application on behalf of the entire I-10 Freight Corridor. The I-10 Corridor as defined by the representatives from eight states, which includes the following and is shown on the map below:

- The I-10 Corridor exceeds 2,600 miles in length of which approximately 1,900 miles are rural and 721 are urban.
- Eight (8) states (CA, AZ, NM, TX, LA, MS, AL, FL)
- The I-10 Corridor passes through 15 major urban areas
- The Interstate-10 facility network, coast-to-coast was defined as including:
 - Relevant portions of major NHS facilities connecting to I-10
 - Relevant portions of urban freeways connecting to the I-10
 - All intermodal facilities that influence I-10 operations (ports, airports, rail, etc.)

Exhibit 1: The National I-10 Freight Corridor



Florida DOT is the only agency providing funding for this project, however, the entire corridor will benefit from the use of this grant.

3. The Congressional District or Districts in which the project will be implemented.

The congressional districts include all districts along the I-10 corridor for the entire eight states. The congressional district at which this project is being led is congressional 2 in Florida.



4. Identification of the lead agency and a description of the roles for each public agency or agencies that will be responsible for operating, maintaining, and enforcing the operational testing project, if applicable.

Florida DOT is the lead agency. Florida DOT staff or their consultant will do all technical work related to this project. The other seven states will participate by making their technical staff available as needed, and providing access to the various state web sites. Florida DOT will maintain and operate the web site beyond construction.

5. A management and staffing plan for all partner agencies to include resumes for proposed key personnel.

Mr. Trey Tillander will be the lead on this project. IT staff from Florida DOT will be supplemented by consultant staff as required. Mr. Tillander will oversee the design and implementation. The IT staff will implement the project and provide technical assistance throughout testing.

Mr. Mike Akridge, Manager, Deputy State Traffic Engineer, will serve in an oversight role, ensuring that the needs of the entire corridor are met with this project.

6. A description of the ITS congestion mitigation technologies to be operationally tested.

This project will develop a web site for the entire I-10 corridor that links the various state DOT web sites for congestion, road construction, and major events. Florida DOT will build from the existing I-10 web site, www.i10freightstudy.org. Florida DOT currently maintains this web site on behalf of the entire corridor.

All of the state DOTs have construction information available on their web sites. Many have cameras and real time traffic information. Many states have additional web based services such as those tied with 511 and California's TIMI (Travel Information Maps Integration) project.

This project will provide a single web site with lane closure and construction information for all eight states. Special features available on each states web sites will be highlighted while providing a single point for traveler information for all who travel on I-10. While the emphasis and primary outreach will be to the commercial vehicle community, all travelers will have access to the site.

Florida DOT has experience in creating web sites that are interactive, user-friendly, and graphical based. The web site will be formatted similar to other traffic web sites so as to benefit from previous work, and to be intuitive to the users.

By providing this information via the web, we will be looking for the private sector to use this information to provide value added services.



7. Identification of the facilities that will be covered by the operational test.

The web site is dedicated to the entire length of I-10 – from California to Florida. Other adjacent routes, parallel routes, and feeder routes may be added as appropriate.

8. A plan, including timeline broken down by phases, for implementing ITS congestion mitigation technologies.

Some preliminary work is already being accomplished by existing consultants prior to beginning. The plan is to develop a preliminary web site for internal review in the first quarter of the project. The web site will be reviewed by stakeholders from all states, from the commercial vehicle community, and from the value added services community. The preliminary web site will then be modified as appropriate to take into account the comments from the stakeholders and unveiled to the public in the second quarter. A brief summary of the tasks is illustrated in the following table:

Task/Month		1	2	3	4	5	6
Preliminary web search (completed prior to beginning project)							
Stakeholder needs							
Preliminary design							
Stakeholder review							
Modify web site							
Outreach to stakeholders							

9. A description of the anticipated effects of the ITS congestion mitigation technologies on reducing congestion, altering travel behavior, and encouraging the use of multiple transportation modes.

As part of the current I-10 freight corridor efforts, outreach has been provided to several hundred trucking firms, and numerous trucking associations. Traveler information is always listed as the number one desired benefit. It is critical to their scheduling, and their operational costs.

As stated, the primary audience of this system is the commercial vehicle industry. As considerable outreach has already been made to them, it is expected that the majority are receptive to trying the web site. They have indicated that they desire this information and will use it in selecting routes and timing of deliveries. With the increased use of just-in-time deliveries, accurate information is critical to these companies.

The highway capacity manual uses a minimum passenger car equivalent for heavy commercial vehicles of 2.0. Depending on the traffic and geometry, this value can be significantly higher. Therefore, by targeting the commercial vehicles to remove them from the congested traffic, the actual impact in additional capacity is even greater. By providing this information, commercial fleets can either select alternate routes, or reschedule their arrivals to avoid the worst times and places of congestion.



From the USDOT ITS cost benefits database, traveler information has proven to result in up to 10% reduction in trips, and up to 85% of rerouting. Even a small reduction in trips over the entire corridor translates into large improvements. Traffic in the corridor is over 300,000 vpd in some locations, with commercial vehicle percentages usually above 10%, and in some locations near or above 50%!

10. Plans for monitoring and evaluating operational testing projects, including plans for collection and analysis, before and after assessment, and long term monitoring and documenting of project effects.

Florida DOT and the entire I-10 corridor will be pleased to work with any federal evaluation studies of this effort. Internally, we will track the number of web site hits continuously, and work with the various states on their current performance measures. This can be compared to information on web site hits for the various state sites prior to implementation to determine the effect of the single web site on increased access to information. A follow up web survey will be placed on the web site at a future date to collect data on the impact the site is having on various stakeholders.

11. Plans for meeting all Federal, State, and local legal and administrative requirements for project implementation, including relevant Federal-aid planning and environmental requirements.

Florida DOT continually works with the FHWA to ensure that all legal and administrative requirements will be met. As this is primarily work off of the actual roadways, the environmental impacts are expected to be not applicable.

12. A discussion of previous public involvement, including public meetings, in the demonstration of the proposed ITS operational test to mitigate congestion. Any expressions or declarations of support from public officials, industry, or the public. Future plans for involving key affected parties, coalition building, and media relations, and more broadly for ensuring adequate public and private sector involvement prior to implementation.

The I-10 Freight Corridor has existed as a formal pooled fund study for approximately five years. The eight states have formally committed to work with each other and continue to provide ongoing support for many efforts along the corridor.

There has been considerable public outreach already accomplished. As part of phase I, the commercial sector was heavily involved in the stakeholder process – not just commercial vehicles, but the railroad and waterway sectors also. In the current phase, there is ongoing outreach to the shipper and carrier industry concerning ITS goals and needs. This study is ongoing at the moment with detailed results expected the summer of 2007.

13. A description of private entities, if any, involved in the project and the applicants arrangements therewith, including any cost sharing or debt retirement arrangements associated with revenues.



As a relatively low cost initiative, there has been no solicitation of private sector funding for this effort. However, several different sectors within the private sector are included as stakeholders. Their needs will be used in defining this project. It is anticipated that the value added resellers will use this web site and the information within to promote their services. As a benefit to users throughout the corridor, this is viewed as a positive action. The value of the web site to these resellers could be calculated at a later date to demonstrate a benefit to the industry. Similarly, a cost for the resellers could also be calculated after implementation to demonstrate their investment in the corridor.



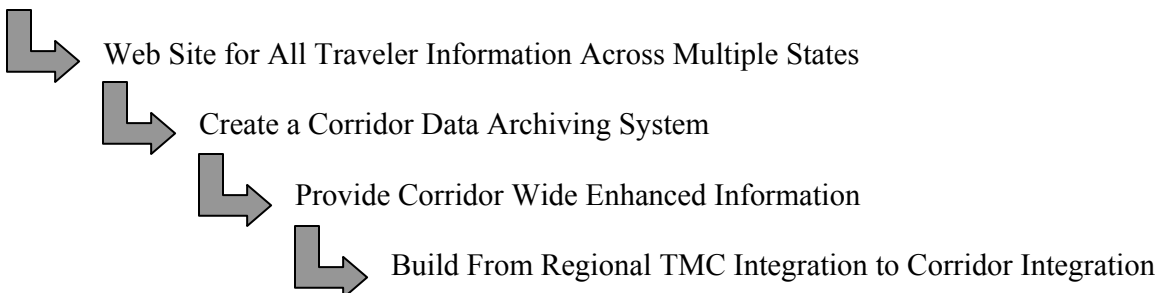
Part II: Operational Testing Value

The operational testing value is already significant. All eight states will actively participate in this effort, so the primary users will already be primary beneficiaries from the operational test. Some other agencies that may benefit in the short term are toll authorities and metropolitan transportation agencies. As they see the benefit of the corridor-wide web site, it is expected that additional local and regional agencies will also participate. The second group to benefit from this test are other corridors. By demonstrating the ease of implementation and the value of working together, it is anticipated that other corridors throughout the country can benefit by applying a similar project to their corridor. It is hoped that this may lead to better national efforts at providing traveler information to all. Additional agencies may be added in the future, including toll authorities and metropolitan agencies.

This effort is viewed as the first step in a long journey to have all TMCs along the I-10 corridor integrated together. The long term vision is to provide physical connectivity between all TMCs throughout the corridor, as well as evolving each to be able to seamlessly share data and potentially control of field equipment. The first step in this journey is to provide a common place for all traveler information. This is accomplished first through a single web site. The I-10 program includes an evolution of this system from a simple web site towards a single archiving and data system before evolving towards system integration. Other ongoing efforts, such as creating the physical links between systems, and identifying standards to be applied to TMCs throughout the corridor will continue parallel to this effort.

Additionally, the use of construction information is just the beginning. Special events and weather related information are expected to be added quickly to the web site. Real time traffic information may be added also, but as a longer corridor, it is somewhat less useful (i.e., the conditions will likely change before a traveler arrives at that particular area). However, predictive travel times will become more viable – especially as this system migrates towards a single data archiving system. By providing predictive travel times many hours in advance, commercial fleets are better positioned to optimize their travel.

Web Site for Work Zones Across Multiple States (including access at all TMCs)





Part III: Budget

A spreadsheet with the detailed cost information is attached. Many of the questions asked in this section are addressed in the spreadsheet.

1. A budget itemized by task, phase and funding year.

All tasks are expected to be completed within the first funding year. The following summarizes the anticipated costs by task.

Task/Month	Staff Hours	Staff Costs	Consultant Hours	Consultant Costs	Total Costs
Preliminary web search (completed prior to beginning project)		\$0		\$0	\$0
Stakeholder needs	40	\$4,800	120	\$13,200	\$18,000
Preliminary design	160	\$19,200	140	\$119,800	\$139,000
Stakeholder review	40	\$4,800	160	\$17,800	\$22,600
Modify web site	100	\$12,000	120	\$17,800	\$29,800
Outreach to stakeholders	80	\$9,600	280	\$31,000	\$40,600

2. A finance and revenue plan, including a budget for capital and operating costs; a description of all funding sources, planned expenditures, and proposed uses of revenues; and a clear tabulation of Federal funds requested and proposed match.

No revenue is expected to be generated by this effort. As stated previously, the reduction in congestion along the corridor is viewed by the participants as sufficient to justify this public expense.

The capital cost is limited to a new web server to handle the increased load. It may be possible to utilize an existing server. Operating costs are assumed to be minimal as FDOT staff and consultants are already maintaining the existing web site.

The cost is assumed to be 80% federal through this OTMC grant program. The local match of 20% will either be through cash or in kind services. The budget is prepared to use in kind services as the local match, but state funds can be used if required.

The attached spreadsheet details the costs including the split between federal funds and proposed match.

3. Detailed spreadsheet and supporting information clearly delineating and supporting all estimated costs by cost element for each of the following periods: (1) Year 1 (12 months); (2) Year 2 (12 months); (3) Year 3 (12 months); and (4) summary of all years. Clearly delineate Federal share versus non-Federal share.

All information is on the attached spreadsheet. There is a direct cost in the amount of \$100,000 for a new web server. Until loads are estimated and the existing servers are reviewed for capacity, the design requirements for the new server can not be made. When these estimates are complete, specific equipment can be priced and this value updated.



There is no travel assumed in the direct costs. However, some printed material for distribution is assumed. Some of this is survey and reports. The final outreach includes pamphlets for distribution to the commercial vehicle driver community.

4. If sub-recipients (lower-tiered organizations and/or individual consultants) will be used in carrying out this project, the following minimum information concerning such should be furnished.

At this moment, no sub-recipient has been selected. It is expected that some of the web site development work will be done by outside consultants (as the costs illustrate). Florida DOT will determine the proper method of procuring those services upon award.

5. The use of a Dun and Bradstreet (D&B) Data Universal Numbering System (DUNS) number is required on all applications for Federal grants or cooperative agreements. Please provide your organization's DUNS number in your budget application.

The DUNS number is included on the spreadsheet.

6. A statement to indicate whether your organization has previously completed an A-133 Single Audit and, if so, the date the last audit was completed.

An A-133 Single Audit has been conducted with Florida DOT on January 31, 2007.