



**I-95 Corridor Coalition  
Policy & Strategic Planning Webcast  
Wednesday, October 20, 2010**

**Minutes**

**1. Welcome, Introductions & Agenda Review**

George Schoener welcomed all to the webcast, and provided background on the meeting agenda and work planning process. The primary purpose of this webcast was to develop a proposed group of projects – the Policy & Strategic Planning Committee Year 19 Work Plan - for submission to the Steering Committee. At a meeting scheduled for November 9, the Steering Committee will review the proposed Year 19 Work Plans submitted by the Coalition’s committees and will forward to the Executive Board those projects recommended for funding.

The funding available for Coalition projects is tied to the Authorization of the Surface Transportation Bill, and is unknown at this time. The current bill expired September 30, 2009, and has been continued under a series of extensions – through which the Coalition’s funding has been allocated incrementally.

**2. Project Proposals**

The following projects were discussed to provide updates and/or proposals for funding in Year 19. Attached to these minutes are copies of the project proposals and the presentation slides.

- Concept of Operations for the Administrative Functions Surrounding Collection of VMT-based Charges in a Multi-State Environment
  - Requested Funding: \$300,000 in Year 19 (total cost \$835,000)
- Data Acquisition to Support Analysis of Freight Corridors
  - Requested Funding: \$100,000
- Green Corridors Sustainability Initiative
  - Requested Funding: \$75,000
- Performance Measures Using the Vehicle Probe Project Data II
  - Requested Funding: \$215,000
- Integrated Corridor Analysis Tool (ICAT) Maintenance and Support
  - Requested Funding: \$100,000

**3. Discussion on Project Proposals**

Mark Muriello moderated the discussion to determine projects to recommend to the Steering Committee for funding. It was suggested that the Committee consider prioritization of the projects in the event that the Coalition’s project requests exceed the available funding.

It was determined that all proposed projects should move forward to the Steering Committee, as detailed in the attached project package, and with the recommended funding. Should the Steering Committee require the program track committees to reduce

the funding requests, the Policy & Strategic Planning Committee leadership was directed to consider reductions to project funding rather than elimination of projects.

**Webcast Participants:**

- ATA – Ted Scott
- Cambridge Systematics – Lance Grenzeback
- CONEG – Rich Brancato
- Delcan – Richard Mudge
- Delaware DOT – Greg Oliver
- FHWA – Greg Jones
- I-95 Corridor Coalition – George Schoener, Marygrace Parker, Bill Stoeckert
- Maine DOT – Ken Sweeney
- Maryland DOT – Adam Howell
- Maryland Transportation Authority - Melissa Williams
- New York State DOT – Robert Zerrillo
- North Carolina DOT – Susan Howard
- Port Authority of NY & NJ – Mark Muriello
- Regional Plan Association – Rich Barone
- Telvent – Gary Euler, Patty Reich
- Virginia DOT – Erik Johnson
- WilMAPCO – Dan Blevins
- Other – David Ewing

**Attachments:**

- Project Proposals
- Presentations



## MEMORANDUM

To: George Schoener – Executive Director

From: Mark Muriello (PANYNJ) and Greg Oliver (DelDOT)  
Policy & Strategic Planning Committee Co-Chairs

Date: October 12, 2010

Subject: Year 19 Project Submissions

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On behalf of the Policy & Strategic Planning Committee, we submit the following project proposals for consideration in the Year 19 Work Plan:

### ***Concept of Operations for the Administrative Functions Surrounding Collection of VMT-based Charges in a Multi-State Environment***

- Objective: Phase 1 of the I-95 Corridor Coalition’s multi-state VMT analysis reviewed the administrative, institutional and legal issues associated with VMT-based charges. Phase 1 established the foundation for a more detailed and specific analysis in selected contiguous states. This project request, Phase 2, will be based on actual operating environments and current conditions in the selected states and will analyze adaptations that would need to be made to administer VMT-based charges.
- Requested Funding: \$300,000 in Year 19 (total cost \$835,000)

### ***Data Acquisition to Support Analysis of Freight Corridors***

- Objective: The objective of this project is to acquire data to support an analysis of corridor-level freight flows. Under this project, the Coalition would acquire data on freight demand and freight flows by commodity type and mode. The intent is to negotiate an agreement with IHS-Global Insight to provide the data through their TRANSEARCH freight database service. The data would be tailored to the Coalition region and would support multistate- and corridor-level analyses, supplementing rather than replacing state-level and metropolitan-level freight databases (some of which are purchased from IHS-Global Insight).
- Requested Funding: \$100,000 (estimate)

### ***Green Corridors Sustainability Initiative***

- Objective: Continue to build upon the work of the Green Corridors Initiative to share best practices, create resources for members, engage with partners and work as a regional player to support sustainability efforts for member agencies.
- Requested Funding: \$75,000



### ***Performance Measures Using the Vehicle Probe Project Data II***

- Objectives:
  - Expand the capabilities of the existing web-based visual analytics tool to look at how existing volume detector data and incident data can be fully merged into it to allow for further performance monitoring and bottleneck causal analysis by member agencies;
  - To produce a Bottleneck Performance Report based on annual trends in congestion at the major bottlenecks in the corridor using vehicle probe data;
  - To investigate how data on the sources of congestion (demand, incidents, weather, and work zones) can be integrated into the trends report;
  - To develop realistic histories of intercity travel times for use in the SafeTrip trip planner.
- Requested Funding: \$215,000

### ***Integrated Corridor Analysis Tool (ICAT) Maintenance and Support***

- Objective: To maintain and support ICAT to remain current. The activities include:
  - Data maintenance and updating
  - Application developing and marketing
  - WebCAT and DataCAT enhancements
  - Technical support
- Requested Funding: \$100,000



## I-95 Corridor Coalition Year 19 Project Proposal

<b>Project Name:</b>	Concept of Operations for the Administrative Functions Surrounding Collection of VMT-based Charges in a Multi-State Environment
<b>Estimated Total Project Cost:</b>	\$835,000 (\$300,000 from Year 19)
<b>Coalition Share:</b>	\$835,000
<b>Local Share:</b>	\$ pooled
<b>Agency Sponsor:</b>	Policy & Strategic Planning Program Track
<b>Contact Persons:</b>	Mark Muriello and Greg Oliver
<b>E-mail Address:</b>	<a href="mailto:mmuriello@panynj.gov">mmuriello@panynj.gov</a> ; <a href="mailto:Gregory.oliver@state.de.us">Gregory.oliver@state.de.us</a>
<b>Telephone Numbers:</b>	212-435-4836; 302-760-2525

### Project Overview:

Phase 1 of the I-95 Corridor Coalition’s multi-state VMT analysis was one of the first projects in the U.S. to review the administrative, institutional and legal issues associated with VMT-based charges. That project provided a good initial overview of desired system functionality. It addressed the required administrative functions needed to collect VMT charges and highlighted the key issues and concerns that Coalition members would need to consider in a multi-state VMT arrangement. The project considered potential institutional arrangements and used the existing, limited information to develop estimated costs for administering VMT charges.

The Phase 1 Coalition VMT project established the foundation and the groundwork for a recommended more detailed and specific analysis in selected contiguous states as a Phase 2 follow on project.

The Phase 2 project will be based on actual operating environments and current conditions in the selected states and will analyze specific adaptations that would need to be made to administer VMT based charges.

The Phase 2 analysis will include a detailed and targeted analysis of operational processes, legal frameworks and institutional arrangements, and how they may need to be adapted to incorporate a VMT-based charge should Coalition members consider such a direction.

Phase 2 will analyze the alignment of required VMT administrative functions to those existing functions most prevalent within state DMVs, toll authorities and state Revenue Agencies. A high-level concept of operations and transition plan will be developed for the Coalition.

Technology considerations would not be further reviewed or studied as this type of work is currently underway in projects sponsored by other organizations. This study would assume that VMT charges could accommodate the complex functionality identified in the Phase 1 research. The concept of operations that would be prepared would address only the administrative functionality required to move to a VMT-based charge system recognizing that the technology would need to gather robust data, transmit continuously and be interoperative.



## Objectives:

1. To further refine the already identified administrative requirements;
2. To identify current state and agency functions and systems that could be or would need to be changed to accommodate a VMT program and its required multi-state information exchange;
3. To assess current interagency arrangements, especially the E-ZPass Interagency Group (IAG) and arrangements between state Transportation Departments (DOTs) and their sister revenue agencies;
4. To develop a concept of operations for a multi-state VMT-based road user charging system that would meet the needs of the states and relevant agencies;
5. To develop specific model legislation based on input from state representatives and relevant stakeholders;
6. To further assess the potential use of the National Motor Vehicle Title and Information System (NMVTIS) (and its model applications) as the potential interconnectivity system for exchanging vehicle ownership information among the states as a basis to share and transfer both VMT and registration information;
7. To further refine costs based on actual cost information on similar functions from the selected states and with general input from industry;
8. To keep Coalition members informed on VMT-related research and its potential impacts and implications; and
9. To consider any federal role in state and agency VMT considerations.

## Scope:

Work activities will include:

- Formation of a project work group consisting of representatives from relevant departments and agencies of the participating states
- Information dissemination to Coalition members regarding the continuing and ongoing federal efforts underway to evaluate the application of VMT-based charges
- Conduct interviews and operational assessments for the completion of a detailed analysis and review of current operating systems and processes in the selected states regarding their vehicle registration and title systems, their E-ZPass back office operations, their current revenue and fuel tax collection procedures, their customer call center operations and other key areas pertaining to their registration (enrollment) and revenue collection activities.
- Engage in additional discussions with the International Registration Plan (IRP), E-ZPass Interagency Group (IAG), toll agencies planning all-electronic tolling conversions, the American Association of Motor Vehicle Administrators (AAMVA), the Federation of Tax Administrators and up to three industry representatives to further evaluate existing cooperative mechanisms for revenue collection, reconciliation and clearinghouse functions.
- Further assess and evaluate the potential use of The National Motor Vehicle Title and Information System (NMVITS) as a possible system, or as a model for a system, to serve as a multi-state electronic exchange of information supporting many of the key functions of a VMT-based system.
- Interface with the federal government and, in particular US DOT and the Internal Revenue Service, to integrate an analysis surrounding the possible interfaces between state collection agencies and the IRS that would be necessary for a multi-state system to work effectively.



- Prepare model state legislation authorizing collection and enforcement of a vehicle miles charge (VMT) as part of a multi-state pilot program.
- Evaluation of the most promising transition paths in the selected states from the existing motor fuel tax to a VMT-based charging system, highlighting advantages, disadvantages and critical issues involved in each.
- Develop more refined administrative costs based on the further review of current systems in place in the selected states, any more detailed costs available and cost estimates, which are potentially available from vendor industry inputs or from other worldwide applications of systems to collect similar charges.
- Complete a final report including a multi-state concept of operations for the Coalition based on input and information from all above tasks combined.

**Funding:**

Funding for the project will be provided from several sources:

- Year 18 approved project - \$250K
- Available Coalition funds from previous years – \$285K
- Year 19 program - \$300K



## I-95 Corridor Coalition Year 19 (FY '11) Project Proposal

Due Date: August 25, 2010  
Submit to: Marygrace Parker by e-mail to [i95mgp@ttlc.net](mailto:i95mgp@ttlc.net)

Project Name:	Data Acquisition to Support Analysis of Freight Corridors
Estimated Total Project Cost:	\$ 100,000
Coalition Share:	\$ 100,000
Local Share:	TBD
Agency Sponsor:	
Contact Person:	
E-mail Address:	
Telephone Number:	

### I. PROBLEM TITLE

#### Data Acquisition to Support Analysis of Freight Corridors

### II. PROBLEM STATEMENT

Many of the projects supported by the I-95 Corridor Coalition's Intermodal Passenger and Freight Transportation Program Track Committee (IMPTC) have recommended additional study of commodity flows in the corridor. For example, the Truck Bottlenecks Study recommended overlaying commodity flow data on congestion data to determine which bottlenecks inhibit the movement of the highest-value freight in the corridor. The Mid-Atlantic Rail Operations Study recommended further study of rail freight flows in order to help better prioritize freight improvement needs in the Mid-Atlantic rail network. And the Short-Sea Shipping initiative recommended identification of potential port pairs that could be the ends of a Marine Highway Transportation service, providing a modal option for heavier, lower-value, less time-sensitive freight.

However, the Coalition has no ongoing program to obtain current and comprehensive data on freight demand and freight flows by commodity type and mode in the Coalition region. Prior Coalition projects have generally purchased the necessary freight data on a project-by-project basis or assembled data provided by member states and MPOs. This approach is costly because each effort to acquire or assemble data is a one-off effort, requiring considerable staff time and expense. Exacerbating the problem is the fact that as state transportation planning budgets shrink, states and MPOs are purchasing less freight data and waiting longer between updates. This makes it more difficult to assemble a current and consistent picture of freight flows and trends from member data alone. Freight data are available from the Federal Highway Administration (FHWA). The FHWA's Freight Analysis Framework (FAF) is updated every five years and the data are available free to the states and Coalition, but the freight data are reported by state and FAF region, a scale that is too aggregated and too large to be of use in many Coalition, member state, and MPO studies. More current, more disaggregate, and less costly freight data are needed by the Coalition for its studies and Coalition support of member projects that affect multistate freight flows.



### III. OBJECTIVE

The objective of this project is to acquire data to support an analysis of corridor-level freight flows. Under this project, the Coalition would acquire data on freight demand and freight flows by commodity type and mode. The intent is to negotiate an agreement with IHS-Global Insight to provide the data through their TRANSEARCH freight database service. The data would be tailored to the Coalition region and would support multistate- and corridor-level analyses, supplementing rather than replacing state-level and metropolitan-level freight databases (some of which are purchased from IHS-Global Insight).

The Coalition's freight data would be used by:

- Coalition policymakers to understand current and projected multistate freight flows and trends. Current and comprehensive information is a critical input to transportation investment and economic development decisions;
- Coalition staff and consultants to conduct freight projects. Standardized freight data would mean fewer one-off data purchases and lower overall costs; and
- States and MPOs to support state and metropolitan freight studies. The Coalition data would provide states and MPOs with a current and comprehensive "big picture," allowing states and MPOs to focus their limited funds on regional and corridor studies.

The Coalition's freight data would be used for:

- Identification of critical freight infrastructure in the corridor, including highways, rail lines, and ports of entry. Freight flow data could be mapped to the Coalition's highway and rail networks using existing tools like ICAT, and the facilities supporting the most tonnage, twenty-foot equivalent units (TEUs), and value of freight movement could be identified.
- Clarification of the relative shares of local versus through traffic on critical components of freight infrastructure. By identifying local versus through traffic, highways and rail lines that carry primarily local or intra-state traffic could be distinguished from facilities that serve relatively large quantities of interstate traffic. The vast majority of freight traffic on any given link in the transportation system is likely to be local or intrastate, but some facilities may have larger relative shares of interstate traffic than others. Information about commodities could be used to estimate the value of freight as well as tonnage and TEUs.
- Overlaying data on freight movements on identified bottlenecks in the highway and rail networks to determine which bottlenecks are inhibiting the highest-value freight, the largest volume of freight, or the largest share of interstate vs. intrastate freight, for example.
- Identification of corridors that could potentially support Marine Highway transportation services or rail shuttle services, which would provide appropriate modal options in the corridor for growing volumes of lower-value, less time-sensitive freight and allow trucks to continue to focus on growing volumes of the highest-value, most time-sensitive freight.
- Testing of "what-if" scenarios in which planned or unplanned closures of major freight-carrying facilities result in a diversion of freight traffic to alternate routes. Analyses of this nature have been performed using overall traffic data, but better information about the origins and destinations of freight moving in the corridor would improve the accuracy and usefulness of the information produced by these scenarios.



The Coalition’s freight data would be used on the following existing and planned Coalition projects, many of which are part of the Coalition’s planned Freight Corridor Program:

Application of Freight Data	Region-Wide Freight Corridor Projects	Northeast Freight Corridor Projects	Mid-Atlantic Freight Corridor Projects	Southeast Freight Corridor Projects
Estimate current and future tonnage, TEUs, and value of freight moving on multimodal system to identify where more multimodal capacity is needed to optimize the existing system and encourage economic growth	<ul style="list-style-type: none"> <li>Freight Corridors Overview; Industry/Supply Chain Profiles</li> <li>Freight Performance Measures</li> </ul>	<ul style="list-style-type: none"> <li>Northeast Truck Operations Study: Highway Program</li> <li>Marine Highway Corridors and Port Strategic Plans</li> <li>NEROps Phase III: Rail Program</li> </ul>	<ul style="list-style-type: none"> <li>Mid-Atlantic Freight Corridors Pilot</li> <li>Marine Highway Corridors and Port Strategic Plans</li> </ul>	<ul style="list-style-type: none"> <li>Southeast Truck Operations Study Phase I: Bottlenecks/Projects Inventory</li> <li>Marine Highway Corridors and Port Strategic Plans</li> <li>Southeast Rail Operations Study (SEROps) Phase III: Rail Program</li> </ul>
Describe characteristics of current and future freight (tonnage/TUEs/value and origins-destinations) moving through bottlenecks and proposed improvement projects	<ul style="list-style-type: none"> <li>Industry/Supply Chain Profiles</li> <li>Freight Performance Measures</li> </ul>	<ul style="list-style-type: none"> <li>Northeast Truck Operations Study (NETOps): Highway Program</li> <li>Northeast Rail Operations Study (NEROps) Phase III: Rail Program</li> </ul>	<ul style="list-style-type: none"> <li>Mid-Atlantic Freight Corridors Pilot</li> </ul>	<ul style="list-style-type: none"> <li>Southeast Truck Operations Study (SETOps): Highway Program Phase II: Highway Program</li> <li>Southeast Rail Operations Study (SEROps) Phase III: Rail Program</li> </ul>
Assess business case for providing modal options (e.g., rail shuttle, Marine Highway services)	<ul style="list-style-type: none"> <li>Freight Solutions Toolbox</li> <li>Benefits Assessment Phase I and Phase II</li> </ul>	<ul style="list-style-type: none"> <li>Marine Highway Corridors and Port Strategic Plans</li> <li>Northeast Rail Operations Study (NEROps) Phase III: Rail Program</li> </ul>	<ul style="list-style-type: none"> <li>Mid-Atlantic Freight Corridors Pilot</li> <li>Marine Highway Corridors and Port Strategic Plans</li> </ul>	<ul style="list-style-type: none"> <li>Marine Highway Corridors and Port Strategic Plans</li> <li>Southeast Rail Operations Study (SEROps) Phase III: Rail Program</li> </ul>
Identify critical components of freight infrastructure and test “what-if” scenarios to determine what might happen with freight flows in the event of a planned or unplanned closure	<ul style="list-style-type: none"> <li>Freight Resiliency Project</li> </ul>	•	•	•



#### IV. PROPOSED APPROACH

States, metropolitan planning organizations (MPOs), and port authorities in the Coalition region purchase TRANSEARCH data from IHS-Global Insight or have active agreements regarding access to various IHS-Global Insight data products. The Coalition's data acquisition anticipates leveraging these existing agreements, providing a corridor-level overlay that focuses on the major flows of freight between subregions of the I-95 Corridor. The data would be more detailed than the state and BEA economic region data provided by the FHWA's Freight Analysis Framework (FAF) but less detailed than the county-level data typically purchased by states and MPOs for regional and metropolitan freight studies. The Coalition freight data would be available to Coalition members through the ICAT DataCAT.

The project would address the following issues:

- What is the appropriate level of detail (between FAF region- and county-level) for Coalition, State and MPO needs?
- What restrictions would there be on state and MPO access to and use of the data?
- How much overlap or duplication would there be between the Coalition data purchase and ongoing state data purchases?
- Could states supplement the Coalition's higher-level (aggregated) data by purchasing more detailed data for specific areas?
- Would supplemental data be purchased through the Coalition contract or directly from IHS-Global?
- Would it be cost effective for the states to contribute to the Coalition's purchase of data?
- How would the Coalition's data be integrated into ICAT?
- What provisions should be made for QA/QC for the data?

The project would develop a consensus among the member states and negotiate with IHS-Global Insight to determine if the appropriate data could be purchased at a price and under conditions acceptable to all parties.



## I-95 Corridor Coalition Year 19 Project Proposal

<b>Project Name:</b>	<b>Green Corridors Sustainability Initiative</b>
<b>Estimated Total Project Cost:</b>	\$75,000
<b>Coalition Share:</b>	\$75,000
<b>Local Share:</b>	\$0
<b>Agency Sponsor:</b>	

### Project Overview:

The objective of this project is to continue to build upon the work of the Green Corridors Initiative to share best practices, create resources for members, engage with partners and work as a regional player to support sustainability efforts for member agencies.

The Coalition’s Green Corridors Initiative (GCI) kicked off in 2010, supported by a strong working group of member agency employees with an interest and background in furthering environmental protection and stewardship in the Coalition region. This working group established a three-year plan for the GCI linked to the Coalition’s 2040 Vision Opportunity to “provide a forum to discuss and coordinate sustainability strategies including climate mitigation and adaptation.” The working group members identified the following strategies to meet this goal:

- Establish a working group comprised of a strategic team of Coalition members to provide input and direction with respect to a Green Corridor program for the I-95 Corridor.
- Facilitate education and awareness of sustainability programs and/or related best practices amongst agencies in the I-95 Corridor. This would include coordination with other entities involved in education/best practice sharing.
- Identify sustainability practices that potentially benefit advancement of a Green Corridor by incorporation of such programs in/across multiple jurisdictions.
- Identify the “Sustainability Players” in the Corridor, current status of the (un?) Green corridor, institutional barriers and/or challenges that may constrain the development of a “Green Corridor” and identify strategies/actions to address them.
- Identify and establish performance measures that can be utilized to assess sustainability progress in the corridor
- Serve as a test bed for technologies that may promote and/or support sustainability.
- Identify funding options/opportunities beyond the Coalition traditional funding program that could support advancement of a Green Corridor through support of new initiatives and/or further support current initiatives underway within agencies. This can also apply to initiatives that might benefit from multi-agency/multi-state/Corridor level coordination and resource pooling and/or public/private partnerships.

In its first year, the GCI has launched an Eco-Driving Campaign, working in close collaboration with the North Carolina DOT. The Campaign will include posters with eco-driving tips targeted at the long-distance traveler, displayed at rest areas along I-95; partnerships with AAA and other agencies; and a toolkit for transportation agencies interested in implementing their own eco-driving program. The Coalition web site will host



an eco-driving page with information, downloadable templates and other tools for agencies, and links to other sites.

A second project identified in the Three-Year Plan is the Sustainability Map. This effort, funded with funds initially allocated to the diesel emissions project, will further a number of the strategies set out in the Three-Year Plan, including: facilitating awareness of sustainability programs, identifying sustainability practices, and identifying the “sustainability players” in the Corridor. The effort will begin with a scan of sustainability programs throughout the Corridor region that will be used to produce an overview document with a sustainability “state of the Corridor” description of the Coalition region.

As a follow-on to these two efforts, funds are needed in Year 19 to fund continued work on these initial projects, promote best practices of sustainability programs, and serve the Coalition members in supporting regional sustainability initiatives and research. The thinking and research behind sustainability and climate change is changing quickly, and in important ways that impact transportation agencies. Therefore, it is critical that the Coalition have funds to continue to engage in this dialogue, support coordination, and fund relevant research. The GCI working group will continue to work in partnership with the AASHTO Center for Environmental Excellence to ensure that the effort is complementary and not duplicative of their case study program or other efforts. The GCI working group will look for opportunities to support multi-state initiatives, and promote efforts appropriate at the corridor-level scale.

These Year 19 funds will allow the GCI working group to:

- Create an interactive, updatable web page, or forum, to be a home for the Green Corridor Initiative’s research and products. Possibilities for the web page include multi-media features, such as hosting videos of member agency staff describing relevant programs, the problems they are facing, etc. The GCI will explore opportunities to promote member sustainability programs and policies through hosted webcasts, which can be recorded and posted online for future viewers.
- Convert the Sustainability Map document to an interactive element that will serve as a resource for information sharing and best practices from throughout the region. The “map” will continue to be updated as new programs begin, and others evolve. In addition to serving as a resource, the map will also help the GCI working group identify other model programs (such as the Eco-Driving Program) that could be relevant for a regionally coordinated effort and worthy of future Coalition funding.
- Monitor the current work underway on sustainability performance measures (e.g. GreenLITES at NYSDOT, work by FHWA, and others), explore the applicability of these programs at the corridor-level, understand Coalition needs, and gauge interest and applicability.
- Continue to act as a regional player with groups such as the Regional Greenhouse Gas Initiative (and their Transportation and Climate Initiative) to promote the coordination of electric vehicle fueling stations throughout the Coalition region.



## I-95 Corridor Coalition Year 19 Project Proposal

<b>Project Name:</b>	Performance Measures Using the VPP Data - II
<b>Estimated Total Project Cost:</b>	\$215,000
<b>Coalition Share:</b>	\$215,000
<b>Local Share:</b>	\$ pooled
<b>Agency Sponsor:</b>	Policy & Strategic Planning and Travel Information Services Program Tracks
<b>Contact Person:</b>	Bill Stoeckert
<b>E-mail Address:</b>	wstoeckert@yahoo.com
<b>Telephone Number:</b>	774-207-0367

### Project Overview:

*Objectives:* (1) Expand the capabilities of the existing web-based visual analytics tool to look at how existing volume detector data and incident data can be fully merged into it to allow for further performance monitoring and bottleneck causal analysis by member agencies; (2) To produce a Bottleneck Performance Report based on annual trends in congestion at the major bottlenecks in the corridor using vehicle probe data; (3) To investigate how data on the sources of congestion (demand, incidents, weather, and work zones) can be integrated into the trends report; (4) To develop realistic histories of intercity travel times for use in the SafeTrip trip planner.

### *Scope:*

#### Objective #1:

The following features would be explored and added to the web-tool to extend its value to member agencies:

- Allow for individual definition of bottlenecks. While there is general consensus from Coalition member agencies that the current bottleneck definition is acceptable, many users have requested the ability to custom define the free flow speed percentage. Because these measures are calculated once during data collection, allowing for custom definitions, while doable, will represent a significant challenge to developers and systems architects.
- Integrate AADT, HPMS, and real-time volume detectors into the tool. While INRIX is great at calculating speed and travel-time measurements along stretches of roadways, volume data is not available. This effort would evaluate methodologies for integrating agency detector and HPMS data into the tool to allow planners to understand the relationships between INRIX speed data and roadway volumes.
- Allow for user-defined date ranges for Travel-Time Reliability
- Creation of printable and emailable “overview” reports that could include
  - Facility overviews
  - Rankings of high/low performing roadways
  - Trend analysis—which roads are getting better vs. getting worse
  - General facility statistics



- More closely coupling incidents with bottlenecks. Defining clear methodologies for how to associate incidents and bottlenecks so that recurring and non-recurring congestion can be quantified and analyzed.
- Measuring the Hours of Congestion per mile

Each of these measures would be integrated into the existing visual analytics tool set, and new charts and graphics would be created that would allow practitioners to easily explain these measures to policy makers and the general public.

Objective #2: The current Bottleneck Performance Report established a baseline of congestion conditions at the major bottlenecks in the I-95 Corridor. *Bottlenecks are seen as a bellwether for congestion* in the corridor because they are the dominant cause of recurring congestion. Further, nonrecurring congestion is exacerbated at these locations where there is little or no excess capacity to absorb the effect of disruptions.

To be useful to practitioners and policy-makers, it is desirable to produce this Bottleneck Performance Report on an annual basis so that *trends in congestion* can be established. The methodology for developing congestion statistics has been developed in the current year project. This needs to be extended by processing 2010 data and developing reporting formats for communicating the trends.

Objective #3: Developing congestion performance statistics (e.g., delay, Travel Time Index, reliability measures) will show if conditions are improving or deteriorating from year to year – but they don't explain why a trend exists. Therefore, to provide further explanation for the trends – and more importantly, to identify areas for additional attention – associating trends with causation factors is needed. That is, what were the characteristics of disruptions – demand, incidents, weather, and work zones – that contributed to the overall congestion statistics? A companion trends system for these factors would provide the information necessary to understand the nature of the congestion problem at individual bottlenecks. This understanding will then lead to specific actions (projects or policies) targeted at the individual problems.

The causal factors trend system would start in 2010 by developing key measures to be tracked (e.g., incident duration, lane-hours lost due to work zones, precipitation events) and identifying the data sources to support them. In this regard, the project would coordinate closely with the RITIS program as it is assembling these types of data from Coalition member agencies. Then, to the extent possible, a 2010 baseline will be established for these measures so that future trends can be developed. If 2009 data also exist at certain locations, then trends can begin to be identified in the proposed study.

Objective #4: Finally, the current year's project developed a sophisticated procedure for realistically representing actual travel times for a long distance trip. Basically, the procedure works by superimposing a vehicle trajectory on the network populated with vehicle probe data. The vehicle's trajectory is tracked in time and space, and its progress at any point is determined by the conditions on the link at the time it gets there. This procedure could be run against 2009 and 2010 data to produce a library of historic travel times between major origins and destinations. The travel times for a trip would be keyed to the start time of the trip. For example, a trip between I-495 in suburban D.C. and downtown Baltimore that begins at 4:00 PM might have an average (or median) travel time of 105 minutes and a 95<sup>th</sup> percentile travel time of 135 minutes. This information could be provided to SafeTrip 21 users for improved trip planning.



## I-95 Corridor Coalition Year 19 Project Proposal

<b>Project Name:</b>	ICAT Maintenance & Support
<b>Estimated Total Project Cost:</b>	\$100,000
<b>Coalition Share:</b>	\$100,000
<b>Local Share:</b>	\$ 0
<b>Agency Sponsor:</b>	Policy & Strategic Planning Program Track

### Project Overview:

In Year 17, the Integrated Corridor Analysis Tool (ICAT) advanced to an operational system for use by Coalition members with the creation of the WebCAT and DataCAT websites. WebCAT provides a user-friendly, interactive web-based map display that allows users to view ICAT data and Coalition-produced thematic maps; DataCAT is a web-based repository and download site for ICAT data. As with any system, a moderate investment in annual maintenance and support will help maintain ICAT's currency and utility.

\$100K of ICAT maintenance and support over the last year has achieved the following:

- Incorporation of state highway planning networks to the integrated ICAT highway network. Twelve States have been fully integrated: (DC, DE, MA, MD, ME, NC, NH, NJ, PA, RI, VA, VT). Three States are in the process of being integrated (FL, NY, SC). Two States (CT, GA) are updating their networks, which should be available for inclusion in ICAT in the Spring of 2011.
- Improvements were made to the WebCAT and DataCAT websites, including the development of a WebCAT user guide, enhanced query, selection and data extraction features in WebCAT, and updates to several WebCAT databases.
- Long-term options for hosting WebCAT and DataCAT were investigated.
- Applications using ICAT data were demonstrated.
- Technical support was provided to WebCAT and DataCAT users.

This project proposal requests that \$100K be included in the Year 19 program for ICAT maintenance and support so that ICAT can continue to remain current and be adequately supported. These funds would be used in the following areas:

- **ICAT data maintenance and updating.**
  - Collect and incorporate updated road attribute data from Coalition member State DOTs
  - Update national databases used in WebCAT (e.g., HPMS, NBI, FARS) with most current versions.
  - Update ICAT auto and truck trip tables using most recent demographic and economic forecasts.



- **ICAT application development and marketing**
  - Work with interested Coalition partners to develop specific applications using ICAT data and analysis tools to demonstrate ICAT capabilities in multi-state planning, performance measurement, and operations.
  - Demonstrate ICAT to other Coalition Program Tracks and potential partners through presentations and demonstration videos.
- **WebCAT and DataCAT enhancements**
  - Develop enhanced user interfaces, query and selection capabilities, and new analysis capabilities in WebCAT, based on feedback from ICAT users.
  - Acquire new geospatial databases or additional attributes for existing ICAT databases, based on feedback from ICAT users.
- **ICAT technical support**
  - Provide on-line and telephone technical support to ICAT users

Prioritization of ICAT enhancements and applications will be coordinated with Coalition representatives on the ICAT Project Working Group.