

**Federal Highway Administration
Office of Operations**

Current Program Activities

As Of

March 2003

**Federal Highway Administration
Office of Operations
Current Program Activities Report**

This report summarizes recent activity of selected programs within the Office of Operations. For additional information about these or other activities, contact the program manager noted in each section. Additionally, more information may be available on the Office of Operations’ web site: <http://www.ops.fhwa.dot.gov>. This report will be updated quarterly.

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**Office of Operations
Program Activities**

I. NON-RECURRING CONGESTION

A. Traffic Incident Management (TIM): Program Manager, Dave Helman
(david.helman@fhwa.dot.gov)

- i. **TIM Self-Assessment** – As part of the Congestion Vital Few Goal for FHWA, a TIM self-assessment tool was developed. The self-assessment is intended as a diagnostic for metropolitan areas. The tool is to be completed for the top 75 urban areas through a multi-agency panel of state and local transportation, public safety and private sector partners involved in the traffic incident management program being assessed. Trends in results will be used to guide program decisions. Individual results will not be available. The first round of assessments is scheduled to be completed by March 31, 2003.
- ii. **TIM Performance Measures** - TTI performed a study of various types of performances measures used to evaluate the progress of traffic incident management programs around the country. The study included performance data collected by both transportation and public safety agencies, and examined how the data was classified, used and stored. The final report was received in December 2002. It will be published on the EDL and on the Operations Traffic Incident Management web site in the spring of 2003.
- iii. **TIMTOW** - The Towing and Recovery Association of America (TRAA) is leading an effort to prepare a Traffic Incident Management Handbook for the industry. Industry members who are active in traffic incident management programs around the country will write it. The purpose of the document is to facilitate the understanding of traffic incident management programs within the industry and to describe how industry members should involve themselves in local programs. The draft of the document will be introduced and discussed at the 2003 TRAA Legislative and Leadership Conference in Washington, DC, in March 2003. The final document is expected to be completed by July 2003.
- iv. **CAD FOT (Computer Aided Dispatch Field Operational Test)** -This FOT provides for the creation of teams in two states (Utah and Washington) to provide integration of data among transportation management and public safety CAD system databases to make rapid exchange of unambiguous incident-related information possible. This data integration will facilitate quicker and more appropriate response by secondary responders and provide better traffic and incident –related information to public safety agencies. The teams consist of a transportation agency and its systems integrator and a public safety agency and its CAD vendor. The Cooperative Agreements have been executed and kick-off meetings are scheduled in March 2003. The FOT is expected to be completed by January 2005.
- v. **IIMS (Integrated Incident Management System)** - The IIMS is a project in New York City (NYC) to send pictures and incident information from a first responder on-the-scene to secondary responders (NYC Department of Transportation and Department of Sanitation). The information is provided directly to off-site supervisors enabling them to make faster and more accurate response of their

resources without having to travel to the incident scene first. The project has been expanded citywide using CMAQ funds. The evaluation of the initial ITS FOT portion of IIMS will be completed in June 2003.

- vi. **“Managing Traffic Incidents and Roadway Emergencies”, National Highway Institute (NHI) Course No. 133048** – This course is being revised (completion expected in mid - 2003). This workshop addresses many on-scene operations and communications issues as well as organizational issues. It will continue to be presented to mid and upper level transportation, public safety and private sector partners. A technical walk-through of the revised course is expected to be completed in April 2003. A pilot will be presented in June 2003; and the course will be available in August 2003.
- vii. **Model Procedures Guide** - The Model Procedures Guide for Highway Incidents is being prepared under the auspices of the National Fire Service Incident Management System. The Guide addresses on-scene incident command and control protocols (Incident Command) for traffic incidents and introduces an Incident Command System (ICS) position for Traffic Control. The Guide will be vetted to a wide range of transportation and public safety practitioners early in 2003 and should be completed later in the year. Selected transportation and public safety representatives review, March 2003; Public review, April 2003. Final revisions and approval by National Fire Service Incident Management System Consortium October 2003.
- viii. **TIM Program Case Studies**- This study, beginning in FY03, will investigate and document the various types of Traffic Incident Management program institutional structures in about 12 locations. The final case studies report will discuss how the programs were formed, what events or decisions lead to their formation, how they are sustained (institutionally, technically and financially), successes and failures (lessons learned), changes made since inception to support or strengthen the programs and recommendations on program structure needed to support multi-agency programs to effectively manage and resolve traffic incidents. The study is expected to be completed in January 2004.

B. Work Zone Management: Program Manager, Scott Battles
(Scott.Battles@fhwa.dot.gov)

- i. **Work Zone Self-Assessment** - As part of the Congestion Vital Few Goal for FHWA, a work zone self-assessment tool was developed. The self-assessment tool is designed to serve as a diagnostic for a state to determine areas for future focus. Each State was to complete the self-assessment by January 2003. Approximately 51 out of 52 State self-assessments have been received and analysis of the results has begun. Trends in results will be used to guide program decisions. The self-assessment tool is available on the web at <http://www.ops.fhwa.dot.gov/wz/pub/WZSelfassessVitalFew.htm>. Results of individual state results are not available.
- ii. **Notice of Proposed Rulemaking (NPRM) for 23 CFR 630, Subpart J** - FHWA intends to publish an NPRM to update its current rule (23 CFR 630 Subpart J) pertaining to work zones. This action follows an advanced NPRM published last year. Based on the comments, an NPRM is under development and a publication is

expected in April 2003. The proposed rule will be accessible at <http://www.fhwa.dot.gov/workzones>.

- iii. **ITS and Work Zones Crosscutting Study** - Work zones present mobility and safety challenges to travelers and road workers. As infrastructure deteriorates and more road work is done under traffic to repair existing facilities, the use of intelligent transportation systems (ITS) in work zones is a growing consideration. Using ITS in work zones can help ease traveler frustration and prevent crashes. The purpose of this study is to educate maintenance and construction engineers and public sector managers about ITS technologies for work zones. The study examined how transportation departments in Illinois, Michigan, New Mexico and Arkansas used ITS in their work zones. The four sites used ITS technology to monitor and manage traffic, including providing traveler information and enhancing incident response. Information covered in the study report and brochure include why the systems were selected, design and operational characteristics, any issues/lessons learned, and the benefits derived from using the systems. The report also profiles other ITS-related work zone products, systems and techniques. The report and brochure can be obtained through the website at <http://ops.fhwa.dot.gov/wz/its.htm>
 - iv. **Full Closures for Work Zones Case Study** - The purpose of this study is to raise awareness among construction engineers and managers of the applications and benefits of full road closure during rehabilitation and construction activities. Full road closures remove the worker-traffic interaction. This allows full access to the entire roadway section on which work will be performed and potentially improves efficiency and safety, and shortens the duration of work. Six field applications were researched, and project descriptions, rationale for using full closure, benefits, and lessons learned for each site was developed as part of the cross-cutting study. Information on the full road closure strategy implemented in each area was gathered from site visits, interviews, and project related publications. A study report and a brochure describing the findings are under development and will be available in mid-2003 via the work zone website www.fhwa.dot.gov/workzones.
- C. Road Weather Management:** Program Manager, Paul Pisano
(Paul.Pisano@fhwa.dot.gov)
- i. **Best Practices CD on Road Weather Management** - The CD captures a variety of traffic, emergency and maintenance management practices that alleviate the impacts of weather. The best practices were obtained through interviews with state and local practitioners. Each practice documented includes information on the applications, results, lessons learned and contacts for further information. It is being expanded to include other success stories. The target completion for the 2.0 Release is May 2003. The CD is available via the ITS Cooperative Deployment Network (ICDN) at http://www.nawgits.com/fhwa/rw_mgt_cd_req.html
 - ii. **Maintenance Decision Support System (MDSS)** - The MDSS is a decision support tool for winter maintenance managers. It fuses relevant road weather, maintenance practices, and maintenance resource data into a “one-stop shop,” facilitating decisions about winter weather treatment strategies. FHWA recently released a prototype of the decision support software system. The prototype is available for ordering from the National Center for Atmospheric Research at

www.rap.ucar.edu/projects/rdwx_mdss/. The system is being demonstrated in Iowa, in coordination with the Iowa DOT and Iowa State University. Results of the Iowa demonstration will be reported at the next MDSS Stakeholder meeting in June 2003.

- iii. **Fundamentals of Road Weather Management, NHI course No. 137030A.** - A one-day course is under development to introduce transportation decisions makers to the basics behind road weather information systems and the ways that they can be applied to address a host of weather related problems. Topics include a review of road weather problems, meteorology for the non-meteorologist, technology resources and implementations, and case studies. To be completed by June 2003.
- D. Special Events Management:** Program Manager, Jon Obenberger (jon.obenberger@fhwa.dot.gov) Special events are an important and recurring part of the operating environment that influences the performance and reliability of travel on the surface transportation system. The advanced planning, stakeholder coordination, and management of various day-to-day event activities for planned specific special events is not a commonly accepted, understood, or a consistent practice. Special events require service providers, event operators, and public agencies that normally don't work together, to plan, cooperate, and coordinate activities prior to, during, and after the event. To provide a solid foundation for practitioners needing information and expertise on planning and managing special events, a number of projects are planned or underway. A **Technical Reference** providing guidance and recommended practices will be completed in September 2003, and will be accompanied by a **brochure** briefly explaining special events planning and management techniques. The technical reference will serve as the foundation for development of an **NHI training course**, which will be initiated in Fall 2003. A **National Conference** on planned special events is also planned for 2004.

II. RECURRING CONGESTION

- A. Freeway Management and Operations:** Program Manager, Jon Obenberger (jon.obenberger@fhwa.dot.gov). The freeway system in urban areas involves a complex collection of interdependent roadway infrastructure elements, facilities, traffic management centers (TMCs), operational strategies, service providers, and modes. Public agencies are faced with the challenge of preserving mobility, improving the reliability, enhancing the productivity, and meeting the public's expectations for safe and efficient travel on freeway facilities. Freeway management and operations involves the practice of combining personnel, operational strategies, advanced technologies, traffic management centers, and other techniques to proactively manage travel and control traffic on freeway facilities.
- i. **Freeway Management and Operations Handbook** - This publication is designed to present an overview of the various institutional and technical issues associated with the planning, design, and operation of a freeway network, associated freeway management strategies, and ITS components. The intended audience of the Handbook is transportation professionals who are involved with or responsible for any issue or task that may directly or indirectly influence the performance of traffic on a freeway facility, including planning and design of freeway facilities, operational strategies or programs to manage travel and control traffic on freeway

facilities, and the technology infrastructure to provide these capabilities. The final version of the revised Freeway Management and Operations Handbook will be completed by July 2003 and distributed by October 2003.

- ii. **Freeway Management & Operations Training Course, NHI Course #13375** -The purpose of the Freeway Management and Operations training course is to provide participants with a general appreciation and understanding of the key policies, challenges and barriers, institutional issues, technical and other issues to consider in the planning, design, implementation, management, operation, evaluation, and marketing of freeway facilities. The pilot presentation for this course will be completed by September 2003 with the course available for presentation in early 2004. The Freeway Management and Operations Handbook will serve as the primary reference for this course.
 - iii. **Managed Lane Case Studies and Primer** – Managed lanes are freeway facilities where one or more operational strategies are proactively used to maintain free-flow conditions on a specific lane or set of lanes. Managed lanes address mobility, safety, and financial objectives and can significantly improve the performance of freeway facilities. However a number of issues critical to advancing managed lanes require greater understanding (e.g., legislative authority, demand forecasting, revenue use, design, management, traffic management and operation). A number of projects will be completed or initiated in 2003. These projects will develop tools to assist practitioners to raise the awareness and understanding of the benefits and potential of various managed lanes strategies. A case study of managed lanes in Houston will be complete in July 2003. A cross-cutting study on current practices and trends and a primer for senior managers will be completed by October 2003.
- B. HOV Lanes:** Program Manager, Jon Obenberger (jon.obenberger@fhwa.dot.gov)
- HOV lanes are a proven and viable operational strategy to help move more people along congested urban and suburban routes. HOV facilities are a strategy to assist public agencies and transportation service providers to address the mobility, safety, productivity, environmental, and quality of life challenges that exist within metropolitan areas. As part of an overall approach to handle the demand for travel and to address the impacts of traffic congestion, HOV lanes can be a practical option to adding more general purpose travel lanes.
- i. **HOV Training Course, NHI Course #13375** - The purpose of this course is to provide participants with a general appreciation and understanding of the key policies, institutional issues, challenges and barriers, technical, and other issues to consider in the planning, design, implementation, management, operation, evaluation, and marketing of HOV facilities. This course is targeted at a wide range of individuals who may be responsible for or involved in activities that influence the HOV program, system, facility, or specific support services. The technical reference around which this course is developed is *NCHRP Report 414: HOV Systems Manual*. A pilot presentation will be completed by October 2003 and the course will be available for presentation in early 2004.
 - ii. **HOV Pooled Fund Study (PFS)** – This study provides a forum to identify and address issues that are common among public agencies. The goal is to assemble regional, state, and local agencies, transportation service providers, and FHWA to identify issues, suggest, select, and initiate projects and initiatives to address these

issues. Seven States are currently members of the PFS, but others can join at any time. The latest information on the TMC PFS activities can be accessed at: <http://hovpfs.ops.fhwa.dot.gov> The HOV PFS members selected the following projects to be initiated in 2003:

- HOV Enforcement – develop a technical reference, primer, and brochure providing guidance and best practices on how to successfully operate an HOV lane, design an HOV facility, and integrate needs of enforcement into an HOV program.
- Safety Considerations of HOV Facilities – develop a technical reference, primer, and brochure providing guidance and best practices on how to integrate the consideration of safety into all aspects of an HOV program and each phase in the life cycle of an HOV facility. The focus of this project is to conduct safety-related research to validate best practices on: design features, transit facilities, enforcement area and traffic incident management provisions, or signing or pavement marking.
- HOV Performance Monitoring, Evaluation, & Reporting - develop a technical reference, primer, and brochure providing guidance and best practices to monitoring, evaluation, and report on HOV system performance. The purpose of this project is to achieve improved performance monitoring, data management, evaluation and reporting practice, which will in turn, foster improved planning, design and performance management.
- HOV Hours of Operation and Eligibility Requirements – develop a technical reference, primer, and brochure that provides guidance and best practices on how to evaluate and assess the impacts of the hours of operation and different users on HOV facility. This project will address specific the trade-offs in setting and changing eligibility requirements and operating periods.

iii. **HOT Lane Reference Guide** - The technical reference on how to implement and operate (HOT) lanes is now available at <http://www.ops.fhwa.dot.gov/travel>.

C. Arterial Management: Program Manager, Pam Crenshaw
(pam.Crenshaw@fhwa.dot.gov)

- i. **Traffic Signal Control Systems Handbook** - The Traffic Signal Control Systems Handbook is in the process of a comprehensive revision to reflect the changes in technology and it's associated standards, the state of the practice, and recent FHWA requirements. This updated version will continue to help users understand the basic elements of traffic control systems and serve as a basic reference for the practicing traffic engineer. Completion by September 2003.
- ii. **Communications for Traffic Control Systems Handbook** - The Communications for Traffic Control Systems Handbook is being updated to reflect the significant changes in communication technology that has occurred since the last update in 1993. The updated handbook will be a reference manual to assist practitioners with addressing the various technology issues associated with the development of a communication system to support traffic operations. Completion by December 2003.
- iii. **Computerized Traffic Signal Systems Course Primer** - This primer will consolidate the information contained in the Computerized Traffic Signal Systems Course NHI #133010. This primer will explain the Systems Engineering Process

and how it relates to the planning, design, implementation, operation and management of signal systems. Available July 2003.

- iv. **Develop Traffic Signal Design Course NHI #133028** - This course provides participants with skills to evaluate the process by which signal control projects are developed, designed, implemented, maintained and operated. This course addresses the application of the manual of Uniform Traffic Control Devices to intersection displays, as well as signal timing, computerized traffic signal systems, control strategies, integrated systems, traffic control simulation and optimization software. Available September 2003
 - v. **Small Communities Handbook and Video** -This handbook will be developed to deliver traffic management strategies related to small communities and rural region's traffic management systems. Within the handbook, systems that apply various ITS components for ATMS and ATIS to appropriate categories of traffic and network characteristics will be covered. Other topics covered will be, integrated and isolated traffic signals, small traffic signal systems, traffic management systems for seasonal and episodic events, and the communication systems that maybe applicable for incident, emergency and disaster management. Available June 2003. This video will provide visual information and highlight the progressive and innovative practices documented in the Small Communities Traffic Management Benefits Study. A range of small communities of various sizes and populations will be highlighted in order to capture the unique aspects of each. Available May 2003
 - vi. **Assessment of the State-of-the-Practice In Low Cost Traffic Engineering Improvements (Primer)** - This effort will assess the low cost strategies and programs being utilized by local agencies to manage their arterials. This will include considering traffic signalization, signal hardware and software, signing, markings, and geometric design and construction. Outreach efforts to follow may consist of short-term support to help jurisdictions keep their signals re-timed on a cyclical basis, training jurisdictions on the tools available to help with arterial management, or the issuance of guidance documents. Available May 2003
- D. Traffic Management Centers:** Program Manager, Jon Obenberger (jon.obenberger@fhwa.dot.gov). TMCs are a key component of integrated surface transportation systems. They perform the three basic functions of gathering, synthesizing and disseminating traffic and travel condition information.
- i. **Configuration Management for Transportation Management Systems, NHI Course #137042:** The purpose of this course is to demonstrate the benefits, its role, and how configuration management supports the development and operation of transportation management systems. This course is designed for individuals engaged with or responsible for the planning, design, implementation, management, operation or maintenance of transportation management systems. Pilot presentation will be completed by September 2003 with the course available for presentation in early 2004.
 - ii. **Changeable Message Sign (CMS) Projects:**
 - CMS Chapter in MUTCD: Develop a recommended chapter on CMS for consideration and inclusion in future update of the MUTCD by December 2003.

- Color & Animation Research: assess the impacts of color and animation with displaying messages on CMSs, and make recommendations for updates to the Manual on Uniform Traffic Control Devices (MUTCD) regarding design, and operation of such applications. A contract will require developing a list of key topics, issues to consider, and a work plan to test and evaluate impacts of color and animation topics identified as priorities. The contract will be in place by December 2003.
 - Dynamic Features of CMS: assess the impacts of dynamically displaying messages on CMSs. Make recommendations for updates to the MUTCD regarding design, and operation of such applications. . A contract will require developing a list of key topics, issues to consider, and work plan to test and evaluate impacts of dynamic features of displaying messages and operating CMS. The contract will be initiated by May 2003.
- iii. **TMC Pooled Fund Study (PFS)** - The TMC PFS is to a forum to identify and address issues that are common among public agencies. The goal is to assemble regional, state, local agencies, and FHWA to identify issues, suggest, select, and initiate projects and initiatives to address these issues. Agencies are encouraged to join now, to participate with the 28 current members in the activities of the TMC PFS for 2003. In the past three years, nine projects have been initiated or completed. The latest TMC PFS information can be accessed at <http://tmc pfs.ops.fhwa.dot.gov>. The TMC PFS has recently completed the following four projects:
- Transportation Management System Maintenance Concept and Plans: This project produced a technical reference on how to develop a maintenance program and multi-year plan that provides the policies, resources, environment, and procedures that are necessary to support TMC operation, as well as how to integrate consideration of maintenance into all phases of the transportation management system life cycle. This document is available at: http://tmc pfs.ops.fhwa.dot.gov/cfprojects/new_detail.cfm?id=27&new=0.
 - Changeable Message Sign (CMS) Operation and Messaging: A technical reference was developed that provides guidance and identifies best practices on the operation and display of messages on CMS. This document was written for personnel in state, regional, and local transportation agencies that have responsibility for the operation of and/or message design for large permanent or portable CMS. This document is available at: http://tmc pfs.ops.fhwa.dot.gov/cfprojects/new_detail.cfm?id=25&new=0.
 - TMC Operator Requirements, Position Descriptions, and Software – Phase 1: A technical reference and matrices was developed to show the relationships between TMC functions, operations personnel tasks, and the knowledge, skills, and abilities a person must possess to accomplish the required tasks. The final report and spreadsheets used to generate these matrices is available at: http://tmc pfs.ops.fhwa.dot.gov/cfprojects/new_detail.cfm?id=26&new=0.
 - Configuration Management (CM) for Transportation Management Systems: A technical reference was developed that provides guidance and best practices on CM control processes, accounting system, managing a CM program and activities, job and/or position requirements, tools, and how to apply these

techniques and concepts throughout the life cycle of a system. This document is available at:

http://tmcdfs.ops.fhwa.dot.gov/cfprojects/new_detail.cfm?id=24&new=0.

The following projects were selected by the TMC PFS members to initiate in 2003 or are already under development:

- Coordinated Management of Traffic on Freeways & Arterials – The purpose of this project is to develop a technical reference that provides direction, guidance, and recommended practices related to the management of traffic on freeways and surface streets for different congestion causing scenarios. This project will address the advanced planning and stakeholder coordination; institutional issues, challenges, and barriers; operational policies, procedures, and plans; real-time management of travel, control of traffic, coordination of resources, and services; electronic infrastructure and system interfaces to support the proactive management of travel within a freeway corridor; and strategies to develop, maintain, and improve the use of plans and procedures within an urban freeway corridor. The final document will be completed by October 2003.
- TMC Operations Concept & Requirements – The purpose of this new project is to develop a technical reference to assist practitioners that may be involved in, or responsible for, the development of and revisions to a concept of operation and functional requirements for a TMC. A detailed technical reference is needed to provide direction, guidance, and best practices associated with developing a concept of operations and functional requirements for a TMC.
- TMC Operator Requirements & Position Descriptions – Phase 2: The purpose of this new project is to revise the draft technical reference document and enhance the spreadsheet that was developed in Phase 1 of this project. This enhanced software product that will be developed in Phase 2 will provide the capabilities to allow public agencies to use this tool to develop operator requirements, tasks, Knowledges, Skills and Abilities (KSA's), and position descriptions.
- TMC Business Plans. The purpose of this new project is to develop a reference document that provides direction, guidance, and recommended practices related to the preparation and development of multi-year business plans for TMCs and outlines the various business planning models that have been successfully employed by transportation agencies to ensure the long-term sustainability of TMCs and associated ITS applications.

E. Traveler Information: Program Manager, Bob Rupert (Robert.Rupert@fhwa.dot.gov)

- i. **ATIS/511 Guidance and Lessons Learned** – This activity provides a means to share information with others that may be planning to develop traveler information systems. The information is gathered from locations that are deploying 511 and other traveler information services. The activity will include coordination and cooperation with the 511 Deployment Coalition and its members to gather, process, and/or disseminate the information.
- ii. **Amber Alert Guidance and Support Program** - This activity includes the Amber Alert Plan Assistance Program that provides \$125,000 to States to help them determine how transportation agency resources (e.g., changeable message signs) can best be used when child abduction alerts are issued by law enforcement agencies, including looking at enhancements to the communications between law

enforcement and transportation agencies. This activity will also develop guidance and information about best practices for transportation agencies when issuing child abduction alert messages. This guidance will be based upon the experiences and lessons learned by agencies that have been involved in providing child abduction alert messages, and on sound engineering practices in crafting messages for display by roadside equipment. Guidance will be available by October 2003.

- iii. **Synthesis of Practice on Posting Travel Time Information on CMS** – This activity will gather information from agencies that are providing travel time information on changeable message signs, and produce a report on the impacts of that travel time information on the transportation networks. The report will also include information and experiences from these agencies about their decisions to provide travel time information and the challenges they encountered. The report will be completed by October 2003.
- iv. **Intelligent Transportation Infrastructure Program (ITIP)** – This ongoing program is designed to enhance regional surveillance and traffic management capabilities in up to 21 metropolitan areas while developing an ability to measure operating performance and expanding traveler information through public/private partnerships. Implementation activities are complete in Philadelphia and Pittsburgh. Implementation activities are just getting underway in Chicago.

III. **DAY-TO-DAY OPERATIONS**

A. Manual on Uniform Traffic Control Devices: Program Manager, Ernie Huckaby (ernest.huckaby@fhwa.dot.gov)

- i. **MUTCD Update** is currently in an update cycle. The docket for public comments on a Notice of Proposed Amendment (NPA) closed in August 2002. Publication of a Final Rule is expected in October 2003. Significant items contained in the NPA include:
 - (1) Fluorescent coral color (optional) for Incident Management signs
 - (2) More guidance on HOV Lane signing and signing on surface roadways approaching freeway interchanges
 - (3) Advance street name sign standards/guidance & larger legend size for overhead & high-speed road street name signs
 - (4) Pedestrian countdown signals & revised pedestrian clearance time calculations
 - (5) Pedestrian & disabled accessibility in work zones
 - (6) In-street pedestrian crossing signs
- ii. **Traffic Control Devices Pooled Fund Study** - The current process for updating the MUTCD is time-consuming. The experimental feature process is the only existing mechanism for using an innovative traffic control device. FHWA has established a pooled fund study for traffic control devices that is intended to provide a quicker way to assess low risk traffic control devices and applications. FHWA and eleven states have committed funds and we are soliciting two local jurisdictions to participate on the pooled fund panel that will have its initial meeting in April 2003.

B. Access Management: Program Manager, Cherie Kittle (cherie.kittle@fhwa.dot.gov)

- i. **Access Management NHI Course No. 133078** - This course is being revised and expected to be completed in late 2004. The revisions will include guidance found

- in the upcoming Access Management Handbook which TRB is publishing and distributing later this spring. The current course will continue to be presented.
- ii. **Access Management Library** is a CD consisting of a collection of over 300 access management documents and guidelines related to techniques and design, is now available. The CD also contains past conference proceedings for reference purposes. These CD's will be distributed to past and future course and conference participants and will be available at future conferences.
- C. Asset Management:** Program Manager, John Harding (John.Harding@fhwa.dot.gov)
- i. **Linkages between Operations and Asset Management** - Current activity has focused on investigating linkages between the philosophy of asset management and the deployment and management of operational assets. To establish a baseline for discussion, a paper has been completed that explores the linkages between operations and asset management. In addition to and included in the paper, a high level categorized list of operational assets has been produced to assist in framing the scope of any operations-asset management relationships. This information will be used to develop a future operations asset management program.
 - ii. **Signal System Management System Project** - In the near term, research activity will focus on understanding and identifying the elements of a comprehensive traffic signal system management system. This project will investigate and identify the physical, system, and human resource assets that generically comprise a typical signal system implementation. It will identify policy guidelines, data, performance measures, and the analytical tools needed to manage the assets of a signal system and produce the information necessary to support asset management decision-making. Preliminary analysis will also be conducted on the benefits of a signal system asset management approach. This preliminary analysis will include the development of theoretical alternative signal system investment plans that range from conservative to aggressive, what the risks and trade-off are between plans, and indicate what level of signal system benefits each investment strategy may yield.

IV. REGIONAL OPERATIONS COLLABORATION AND COORDINATION (ROCC)

Program Manager, Wayne Berman (wayne.berman@fhwa.dot.gov)

- A. Primer on “Regional Transportation Operations Collaboration and Coordination”:** This Primer is intended to introduce the concepts and guiding principles for Regional Transportation Operations Collaboration and Coordination. It will be printed, distributed, and promoted during FY’03.
- B. Regional Planning for Operations Training Course:** This course is intended to provide instruction on concepts, principles, and experiences of Regional Transportation Operations Collaboration and Coordination. It is intended primarily for professionals with day-to-day experience in management and operations in both transportation and public safety communities. A pilot course and a train-the-trainer session will be delivered in late FY 03.
- C. TRB Policy Initiative of Regional Concept of Operations:** This policy initiative with the TRB is intended to define a Regional Concept of Operations, articulate the benefit and importance of it, and identify the steps necessary to make it an accepted and valued

action for transportation operators and public safety managers in metropolitan areas. A workshop to provide input to this policy initiative was held in February 2003.

V. MEASURING CONGESTION AND THE PERFORMANCE OF THE HIGHWAY SYSTEM

A. **Performance Measurement:** Program Manager Dale Thompson (dale.Thompson@fhwa.dot.gov)

- i. **Mobility Monitoring Program** - FHWA is working closely with TTI to develop and calculate area wide, travel-time based performance measures using archived data from freeway management systems in 23 metropolitan areas. This program which acquires archived data from ITS and traffic management centers will add up to 15 more cities to its base of 23 cities during FY 03 and will produce a third year of reporting from existing sites. Visit the mobility monitoring program web site at <http://mobility.tamu.edu/mmp>.
- ii. **Monthly Urban Congestion Reporting** - This on-going program acquires traveler data from web sites in 10 metropolitan areas and uses it to calculate key travel time reliability performance measures.
- iii. **Developing reliability measure outreach materials** - This on-going program is exploring how travel time reliability performance measures might be “branded” to broaden acceptance of their use by public agencies.

B. **Traffic Analysis Tools:** Program Manager, John Halkias (john.halkias@fhwa.dot.gov)

- i. **Next Generation Simulation (NGSIM) Core Algorithms and Data Sets** – This effort is to develop a core of open behavioral algorithms in support of traffic simulation with supporting documentation and validation data sets that describe the interactions of multi-modal travelers, vehicles and highway systems. These products will be openly distributed and made freely available to the broad transportation community.
- ii. **Traffic Analysis Tool Primer** - An overview of traffic analysis tools. Target completion date is Spring 2003.
- iii. **Decision Support Methodology for Selecting Traffic Analysis Tools** – This is an on-going project to assist traffic engineers and traffic operations professionals in the selection of the correct type of traffic analysis tool for operational improvements. In addition, this document will assist in creating analytical consistency and uniformity across State Departments of Transportation and Federal/regional/local transportation agencies. Target completion date is Spring 2003.
- iv. **Guidelines for Applying Traffic Micro-simulation Modeling Software** – These guidelines are designed to provide practitioners with guidance on the appropriate application of micro-simulation models to the estimation of traffic performance for freeways, highways, rural roads, and city streets. These guidelines will aid practitioners in the development, calibration, and application of micro-simulation models. Target completion date is Spring 2003.

VI. FREIGHT MANAGEMENT AND OPERATIONS

A. **Freight Analysis Framework State Profiles:** Freight profiles for all 50 States plus the District of Columbia have been mapped, distributed to Divisions and States for comment, and have been submitted to Congress, as requested. The profiles include

- summary level data, maps of current and forecasted truck flows, and other rail and water maps. The Intermodal Bottleneck Evaluation Tool (IBET), developed by Bureau of Transportation Statistics (BTS), the Secretary's Office of Intermodalism, and FHWA's Office of Freight Operations (HOFM), will be released summer, 2003. Congestion maps for each State will be developed as a follow on to the State profiles, and completed summer, 2003. HOFM is working with States and State coalitions to define appropriate corridor metrics and to identify the strategic value of highway sections and alternate routings in the event of environmental or manmade impacts on highway system performance. Program Manager Bruce Lambert (Bruce.lambert@fhwa.dot.gov).
- B. Benefit/Cost of Freight** - HOFM has completed research on the linkage between transportation development and the economy, including a framework for an analytical system. The procedures are being tested on four freight improvement projects representative of a variety of mainline highway and connector improvements. In 2003, a refined model will be developed and guidance and training provided to States, MPOs, and other freight stakeholders. The tool will enable project, corridor, and regional capture of the direct and secondary industry reorganizational effects of capital and operating improvements. This program will result in enhancements to national investment/performance tools and the creation of state and local level tools to evaluate the economic effects of infrastructure improvements. Program Manager, Harry Caldwell (Harry.Caldwell@fhwa.dot.gov).
- C. Freight Professional Development (FPD)** - In cooperation with the Office of Environment and Planning and the Resource Centers, a one-day Freight Awareness Workshop for States and Metropolitan Planning Organizations (MPOs) is being updated and deployed. A "Talking Freight" Seminar Series co-sponsored with AASHTO, American Metropolitan Planning Organization (AMPO), DOT, and FHWA Freight Council will be executed by June 03. By summer, a FPD strategic roadmap will be completed. The roadmap will identify courses, tools, and outreach activities planned for development and delivery in FY 2004 and beyond. We will institute a new FPD website or "Resource Library" including freight training, education, technical assistance and other information. A freight transportation Best Practices manual is being developed for State DOTs and MPOs. An FPD brochure with Freight News Fact Sheets on FPD resources, customer outreach feedback, training opportunities and gaps, and proposed new training courses for 2004-2005 is being published. In cooperation with the National Highway Institute, an assessment of a previous Landside Access Course is being conducted. If warranted, the course will be updated in 2004. Program Manager, Scott Johnson (Scott.Johnson@fhwa.dot.gov).
- D. Electronic Documents:** The HOFM Size and Weight Team is developing an automated system whereby the FHWA Division Offices and State DOTs will be able to develop and transmit the required program documents through a closed computer network. Anticipated delivery date is June 2004. Five States will be selected to participate in the pilot of this program, beginning in 2003. Program Manager, Phil Forjan at (Phillip.Forjan@fhwa.dot.gov).
- E. Size & Weight Databases and Reporting Requirements:** The databases have been updated with the FY01 information submitted by State DOTs and the Measures of

Activity Tables and Charts have been placed on the Truck Size and Weight web page. Historic databases enabling States to track reporting requirement trends will be posted on the HOFM website by end of March. Program Manager, Kathy Busby at (Kathy.Busby@fhwa.dot.gov).

F. Training and Technical Assistance: HOFM Size and Weight will be offering technical assistances to States in development of comprehensive State enforcement programs in 2003. Program Managers, Kathy Busby (Kathy.Busby@fhwa.dot.gov) and Phil Forjan (Phillip.Forjan@fhwa.dot.gov)

G. Freight Technology and Security: Through the Intermodal Freight Technology Working Group (IFTWG), a private sector oriented consortium of freight interests, freight technologies to enhance productivity and security are being tested. These include tests of e-seals for maritime containers moving through international borders; biometric identification for air cargo and drayage operations; chassis tracking systems; and other projects as defined with significant advantages. In addition, the Freight Operations Office is cooperating internationally to develop Electronic Data Interchange (EDI) standards for cargo movement and to define the physical and operating characteristics of the “container of the future” for international trade. Program Manager, Mike Onder (Michael.under@fhwa.dot.gov).

VII. TRANSPORTATION SECURITY AND EMERGENCY MANAGEMENT

A. Military Coordination Exercises: FHWA is conducting 1-day exercises with major military power projection platforms to bring together military and transportation agencies to review procedures and roadway operations during a military deployment. Five exercises are planned for FY 2003 as follows: North Carolina (03/18/03), Georgia (03/25/03), California (date to be determined), Washington State (date to be determined), and New York (date to be determined.). Program Manager Al Benet (alfonso.benet@fhwa.dot.gov)

B. Reducing Vulnerability of Agency-Owned Telecommunications system: The intelligent infrastructure is a critical resource in managing during a disaster. Just as the vulnerability of traditional transportation infrastructure is being assessed and measures are being taken to reduce its vulnerability, comparable efforts are needed for our electronic infrastructure. This project will look at several existing systems and prepare a report that analyzes what we know about agency-owned telecommunications systems and how they can be made less vulnerable to attack. Program Manager Vince Pearce (vince.pearce@fhwa.dot.gov)

C. Transportation Emergency Response/Recovery Workshops: Surface transportation is a critical element in responding to and recovering from any disaster, whether natural or man-made. A first key step in making the best use of transportation during a crisis is to have relationships in place and to have worked through core issues. This project will fund a dozen workshops around the nation to bring transportation agencies together with their partners to work through simulated terrorist attacks on the transportation system. Program Manager Vince Pearce (vince.pearce@fhwa.dot.gov)

D. Emergency Management Requirements: An initiative is beginning that will capture high-level information requirements for emergency managers. The project will also analyze various existing transportation models to assess the level to which they meet emergency managers’ requirements. Program Manager Brandy Meehan

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VIII. PROMOTING INTEGRATED ITS DEPLOYMENT

- A. ITS Standards Implementation:** The ITS Standards Program is working toward the widespread use of standards to encourage the interoperability of ITS systems and interchangeability of devices. The Standards Program is maturing from a primarily standards development program to a standards implementation program by rapidly moving into standards implementation support. Such support includes helping to build credibility in the standards through testing and case studies, providing standards resource information, supporting training and technical assistance to deployers, developing deployment experience-based guidance such as "lessons learned," and assessing the readiness of standards for deployment. For more information on ITS Standards contact Barry.Zimmer@fhwa.dot.gov
- i. **DMS Procurement Workshop, Version 2** - Development of Version 2 of the DMS Procurement Workshop with version 2 of the Guide is expected to be completed in July/August '03. Completion is dependent on the SDO balloting process.
 - ii. **Environmental Sensor Station (ESS) Specification Guide and Training Module** Developing the ESS Guide and the training module, target completion date, July 2003.
 - iii. **ITE Training Workshops** - Suite of four one day workshops is available through ITE;
 - **ITS Standards Overview** - A one-day overview of ITS standards, intended for transportation professionals and policy makers involved in ITS deployment;
 - **Center-to-Center Communications and Traffic Management Data Dictionary** - A one-day introduction to the use of DATEX or CORBA to exchange data among ITS centers. Also includes an introduction to the Traffic Management Data Dictionary;
 - **Dynamic Message Signs** - A one-day introduction to the use of the NTCIP standard for dynamic message signs and other NTCIP standards, for deployers and designers of traffic control and management systems;
 - **Actuated Traffic Signals** - A one-day introduction to the use of standards for transportation professionals who are deploying traffic control and management systems using actuated traffic signal controllers.
 - iv. **Standards Technical Assistance (IQC)** - The Federal Highway Administration has established an ITS Standards Field Support Team (SFST). This Team is composed of FHWA and Private Sector Specialists who are prepared to provide short-term, on-call assistance in the area of ITS Standards. The goal of the Team is to support and facilitate the deployment of Intelligent Transportation Systems that advance National and Local Needs while implementing ITS Standards.
- B. Regional ITS Architecture Development:** Until a regional ITS architecture is in place, all major ITS projects must have a project level architecture to ensure proper consideration of regional integration. All ITS projects must be developed using a systems engineering process. Elements of this process include: concept of operations, functional requirements, identification of agencies and roles, identification of applicable standards, alternative analysis, procurement options, and system operations

and management. Program Manager, Pam Kordenbrock
Pamela.Kordenbrock@fhwa.dot.gov

- i. **ITS Architecture Training and Technical Assistance Program** – FHWA continues to sponsor a variety of training and technical assistance activities designed to assist States and metropolitan areas develop and implement effective ITS architectures. In FY 2003 this effort will be expanded to focus more on use and maintenance of completed regional architectures, and systems engineering.
- ii. **Regional ITS Architecture Guidance** - A document has been completed and been distributed. This guidance document is the basis for the Regional ITS Architecture Process Workshop that is being conducted around the country. All sessions of the architecture workshop will be offered tuition-free to participants. Scheduling will be done through FHWA Division Offices. Visit the ITS web site (<http://www.its.dot.gov>) for further information.