MEMORANDUM

TO: Transportation Planning Board

FROM: Andrew J. Meese, AICP ajm
Principal Transportation Planner

DATE: July 20, 2005

SUBJECT: Background Materials for the Transportation Planning Board July 20, 2005 Work Session on the "CapCom" Regional Transportation Coordination Program

The following materials are provided as background information to the discussion of the "CapCom" regional transportation coordination program at the July 20 TPB Work Session:

- Correspondence leading to the scheduling of the July 20 Work Session from the TPB Citizens Advisory Committee, the TPB, VDOT, MDOT, and DDOT, April 19 – June 27, 2005 (p. 3)
- White Paper: *CapCom – The Need for Regional Transportation Coordination and the Plan for Its Implementation*, Philip Tarnoff, University of Maryland, May 18, 2005 (p. 15)
- TPB Resolution R7-2005: Endorsement of Actions to Improve Regional Transportation Communications and Coordination During Incidents (includes letters of support from DDOT, MDOT, VDOT, and the Capital Wireless Integrated Network (CapWIN) Executive Leadership Group), November 17, 2004 (p. 19)
- TPB Resolution R17-2004 – Recommended Actions to Improve Regional Transportation Communications and Coordination During Incidents, May 19, 2004 (p. 31)
- TPB Staff White Paper on Transportation Findings and Recommendations of the REETC Annex, April 21, 2004 (p. 51)
- Excerpt-Overview of the Regional Emergency Evacuation Transportation Coordination (REETC) Annex of the Regional Emergency Coordination Plan (RECP^{SM}), March 17, 2004 (p. 85).

Attachments

Correspondence leading to the scheduling of the July 20 Work Session from the TPB Citizens Advisory Committee, the TPB, VDOT, MDOT, and DDOT

April 19 – June 27, 2005

CITIZENS ADVISORY COMMITTEE
For The National Capital Region Transportation Planning Board

Metropolitan Washington Council of Governments
777 North Capitol Street, NE, Suite 300
Washington, DC 20002

April 19, 2005

Daniel Tangherlini, Director, District of Columbia Department of Transportation
Robert Flanagan, Secretary, Maryland Department of Transportation
Pierce Homer, Secretary, Virginia Department of Transportation
Phil Mendelson, Chair, National Capital Region Transportation Planning Board (TPB)
Michael Knapp, First Vice Chair, National Capital Region Transportation Planning Board
Catherine Hudgins, Second Vice Chair, National Capital Region Transportation Planning Board
David Snyder, Chairman, Management, Operations, and Intelligent Transportations Systems Policy Task Force (MOITS) for the Transportation Planning Board
Michelle Pourciau, Deputy Director, District of Columbia Department of Transportation
Marcia Kaiser, Director, Office of Programming and Planning, Maryland Department of Transportation,
JoAnne Sorensen, Virginia Department of Transportation
Ron Kirby, Director, Department of Transportation Planning, Metropolitan Washington Council of Governments

Dear Sirs and Madams:

Much constructive effort and discussion have taken place through the National Capital Region Transportation Planning Board concerning incident response coordination and communication by our region's transportation agencies.

It has been understood that efforts by the TPB's Management, Operations, and Intelligent Transportations Systems Policy Task Force have led to a consensus among the local Departments of Transportation in support of establishing CapCom, a transportation coordination program, to bolster the region's preparedness. It has been proposed that CapCom be housed under the Mid-Atlantic Communications Inter-Operability Partnership (MACIP) at the University of Maryland.

On behalf of the Citizen Advisory Committee (CAC) for the Transportation Planning Board, I am writing to encourage a deliberative but prompt conclusion to the exploratory stage of this effort and a clear and concerted, region-wide commitment to take expeditious action to implement the recommendations of the MOITS Policy Task Force. It is now more than three and one half years since 9/11.

Do you support the establishment of CapCom? If you do not, could you articulate the reasons? Any meritorious perspective warrants careful – and expeditious – consideration. It is particularly critical at this point that there be a clear consensus of top-level, regional support for establishing CapCom – or, in the alternative, at least clarity and urgency with respect to considering any other option or viewpoint.

If you do support establishing CapCom, do you favor your local department of transportation committing its proportionate share of $3.2 million for the estimated, ongoing annual capital and operating costs? Assuming the $2 million approved recently by the U.S. House of Representatives is approved by Congress and signed into law by President Bush, it is expected to reach our region at the end of 2005. But without securing sufficient monies sooner to meet start-up costs, the need for CapCom remains unfulfilled.

On behalf of the CAC, I urge all recipients of this letter to meet together for a deliberative and conclusive discussion on: our region's needs relative to the ability of transportation agencies to respond to and communicate with the public regarding consequential incidents; appropriate solutions; and a financial plan to implement them. A group "summit" discussion would provide the opportunity to air and address any significant questions or concerns so that we can overcome compartmentalization and delay. This region cannot afford to see this critical issue languish.

Soon, the constructive conversation and effort on this issue will have gone on for four years. The time has come for a deliberative conclusion and expeditious action to honor our paramount obligation to ensure public safety.

Sincerely,

Dennis Jaffe

Dennis Jaffe
Chair
Citizen Advisory Committee for the Transportation Planning Board

cc: Judith Davis, Chair, Metropolitan Washington Council of Governments
Jay Fisette, Vice Chair, Metropolitan Washington Council of Governments
Anthony Williams, Vice Chair, Metropolitan Washington Council of Governments
Bruce Williams, Chair, National Capital Region Emergency Preparedness Council
Phil Tarnoff, Center for Advanced Transportation Technology

May 11, 2005

Mr. Dennis Jaffe, Chairman
Citizens Advisory Committee for the
National Capital Region Transportation Planning Board
777 North Capitol Street, N.E., Suite 300
Washington, D.C. 20002-4290

Subject: Support of the CapCom Regional Transportation Coordination Program

Dear Mr. Jaffe:

Thank you for your April 19, 2005 letter regarding the proposed regional transportation coordination program known as "CapCom". Several actions of the National Capital Region Transportation Planning Board (TPB) in recent months demonstrate the TPB's support for establishment of such a program. TPB Resolution R7-2005 of November 17, 2004 endorsed the concept of using the Capital Wireless Integrated Network (CapWIN) Program and governance structure as the basis for a regional transportation coordination program, and requested action from the departments of transportation and the University of Maryland to prepare a proposed work program.

That work program was presented to and endorsed by the TPB on January 19, 2005, for an organization to perform regional transportation coordination activities, and addressed potential startup and ongoing funding needs, funding sources and mechanisms, schedule, and a pilot program of activities and staffing. The TPB also directed that this support be communicated to the Chief Administrative Officers Committee, including a request for initial funding from the FY 2005 Urban Area Security Initiative (UASI) Program.

The Chief Administrative Officers and the states' Senior Policy Group (SPG) for Homeland Security considered CapCom and numerous other proposals for F.Y. 2005 UASI funding in deliberations during March and April. On May 4, the SPG announced a $1 million UASI grant toward establishment of CapCom.

While the TPB is pleased that UASI funding has been obtained, the TPB also recognizes that the operation of CapCom presents a long-term funding issue that will have to be supported through regular transportation funding sources. Since we are now in the period of updating our National Capital Region financially Constrained Long-Range Transportation Plan (CLRP), I have asked that department of transportation submissions to the CLRP reflect support for the regional coordination program. The exact level of funding from each possible source is still under exploration, but it must be sufficient for undertaking the core activities of CapCom.

An ad hoc steering committee of key personnel from the District of Columbia, Maryland, and Virginia Departments of Transportation, the Washington Metropolitan Area Transit Authority, the University of Maryland, and TPB has been meeting over the past year to shepherd CapCom as well as other activities to strengthen regional transportation coordination. Actions under this committee have included improvements to current communications procedures and protocols, identification of opportunities for technological improvements and interoperability, and guidance for the University of Maryland's development of the detailed CapCom UASI funding application. The TPB has been briefed on a regular basis on these activities by Mr. Tarnoff, TPB member David Snyder, and John Contestabile of MDOT. The ad hoc committee also has been laying the groundwork both regionally and on an individual agency basis for senior-level transportation agency consideration of how to proceed with a regional coordination program.

Your suggestion of a regional high-level discussion is timely, and is consistent with the groundwork laid by TPB and the ad hoc committee. In this regard, a TPB Work Session devoted to the topic of CapCom has been scheduled at 10:30 A.M. on July 20, 2005, immediately prior to the TPB meeting that day. Transportation agency leadership, TPB members, and other stakeholders will be invited to participate.

I share your sense of urgency on establishment of CapCom, and, by copy of this letter, will share my concerns with the senior leadership of our region's transportation agencies. Thank you again for the attention you and the members of the Citizens Advisory Committee have given this topic. If you have any further questions, please contact Andrew Meese of TPB staff at (202) 962-3789. I appreciate your support of this top priority of the TPB.

Sincerely,

Phil Mendelson
Chairman
National Capital Region Transportation Planning Board

Cc: Secretary Robert Flanagan
Secretary Pierce Homer
Director Dan Tangherlini
General Manager Richard White

COMMONWEALTH of VIRGINIA

Office of the Governor

Pierce R. Homer
Secretary of Transportation

P.O. Box 1475
Richmond, Virginia 23218

(804) 786-8032
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May 31, 2005

Mr. Dennis Jaffe, Chairman
Citizen Advisory Committee for the National
Capital Region Transportation Planning Board
Metropolitan Washington Council of Governments
777 North Capitol Street, N.E., Suite 300
Washington, D. C. 20002

Dear Mr. Jaffe:

Thank you for my copy of your letter regarding CapCOM. The Virginia Department of Transportation (VDOT) is strongly behind the concept of a regional operation coordination process, protocol, and structure and shares your concern on the commitment and financial support from all regional stakeholders. VDOT has been working cooperatively with its counterparts in Maryland, the District of Columbia, WMATA, and the University of Maryland in an Ad Hoc Steering Committee format in planning such a structure and securing start-up funding support. Virginia will do what it can to contribute the success of CapCOM.

I am happy to inform you that the region was awarded $1 million from the FY05 Urban Area Security Initiative (UASI) Program as the start-up fund. The initial work on developing a work plan can readily leverage this fund. Once a detailed work plan is developed, VDOT will carefully review and program financial support appropriately into our budget process. VDOT is hopeful that the $2 million Congressional earmark that still remains in the House Transportation Bill will be approved. VDOT will contribute to the required matching funds as it has been contributing to regional projects ever since the region started receiving earmark funding. It is, however, too premature to provide a tangible financial commitment on the annual operating fund without a detailed plan available for consideration as VDOT views CapCOM as a long-term operating entity instead of a one-time project.

You indicated in your letter that a tentative institutional structure for CapCOM was proposed and then approved by the Transportation Planning Board (TPB). VDOT supported, and funded, the work in developing such an institutional structure for CapCOM. This financial support indicated VDOT's commitment, support, and leadership from the beginning on the establishment of CapCOM.

You suggested a regional high-level discussion and I am happy to inform you that a TPB Work Session is planned for July 20, 2005 on this topic. VDOT will participate in this important regional dialogue.

If you have more questions in the future regarding CapCOM, please contact Dick Steeg at (703) 383-2459. Mr. Steeg is VDOT's representative to the ad hoc steering committee developing CapCOM and other regional operational issues.

Let me assure you that it is in VDOT's best interest to establish a regional transportation coordination entity, like CapCOM, to oversee the planning, communications, and dissemination of status information associated with the region's transportation system during major incidents.

Again, thank you for your letter.

Sincerely,

Pierce R. Homer

PRH:es

Copy: Mr. Philip A. Shucet, VDOT Commissioner
Ms. Dennis Morrison

Maryland Department of Transportation
The Secretary's Office

Robert L. Ehrlich, Jr.
Governor
Michael S. Steele
Lt. Governor
Robert L. Flanagan
Secretary
James F. Ports, Jr.
Deputy Secretary

June 1, 2005

Mr. Dennis Jaffe, Chair
Citizen Advisory Committee for the
Transportation Planning Board
Metropolitan Council of Governments
777 North Capitol Street, NE, Suite 300
Washington, D.C. 20002

Dear Mr. Jaffe:

Thank you for your letter of in which you expressed your support for the region's transportation coordination program known as CAPCOM. Mr. John Contestabile, Director of the Office of Engineering, Procurement, and Emergency Services here at the Maryland Department of Transportation, has been working for several months with an ad hoc group of transportation leaders to develop this concept.

Please understand that we fully realize the importance of transportation coordination during incidents; both everyday occurrences as well as those related to homeland security. The ad hoc group has been exploring and implementing a number of improvements in our respective agency's practices, procedures and communication methods toward the goal of improved coordination. We are pleased that the Senior Policy Group members also view this activity as important and awarded $1 M for this effort. Not withstanding, you correctly point out that there is an ongoing cost to continue to support this initiative that would fall to the region's transportation agencies.

I will be meeting with my staff to discuss this issue in some detail prior to the planned Transportation Planning Board work session slated for July 20, 2005. We would expect to have a Department position we can share at that meeting. Thank you for your interest in and support of this initiative.

Sincerely,

Robert L. Flanagan
Secretary

My telephone number is 410-865-1000
Toll Free Number 1-888-713-1414 TTY User Call Via MD Relay
7201 Corporate Center Drive, Hanover, Maryland 21076

cc: Mr. John M. Contestabile, Director, Office of Engineering, Procurement & Emergency Services, MDOT
Mr. Pierce Homer, Secretary, National Capital Region Transportation Board
Ms. Marsha Kaiser, Director, Office of Planning and Capital Programming, MDOT
Mr. R. Earl Lewis, Jr., Assistant Secretary for Administration, MDOT
Mr. Phil Mandelsen, Chairman, National Capital Region Transportation Planning Board
Mr. James F. Ports, Jr., Deputy Secretary, MDOT
Mr. Dan Tangerlini, Director, National Capital Region Transportation Planning Board
Mr. Richard White, General Manager, National Capital Region Transportation Planning Board

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

OFFICE OF THE DIRECTOR

JUN 27 2005

Mr. Dennis Jaffe
Citizen Advisory Committee for
National Capital Region Transportation Planning Board
777 North Capitol Street, N.E., Suite 300
Washington, DC 20002-4290

Subject: CapCom Regional Transportation Coordination Program

Dear Mr. Jaffe:

This is in response to your letter regarding the need for the National Capital Region (NCR) to come to a consensus on CapCom. Over the past three years, the region has made significant improvements in incident response coordination and communication. However, much more needs to be accomplished.

The District Department of Transportation staff has been involved in guiding the CapCom effort through their active participation in the Ad Hoc Steering Committee. We believe that your suggestion about a TPB working session devoted to the topic of CapCom is timely. The outcome of this discussion should help us reach consensus on this subject.

Sincerely yours,

Dan Tangherlini
Director

Cc: Councilman Phil Mendelson, Chair, NCR Transportation Planning Board

White Paper:

CapCom – The Need for Regional Transportation Coordination and the Plan for Its Implementation

Philip Tarnoff, University of Maryland

May 18, 2005

CapCom – The Need for Regional Transportation Coordination And the Plan for Its Implementation

Philip J. Tarnoff, Director
Center for Advanced Transportation Technology
University of Maryland
May 18, 2005

Background

CapCom represents a cooperative effort of the Washington region's transportation agencies with the support of the Transportation Planning Board (TPB) and the Greater Washington Board of Trade. CapCom is a targeted activity responsible for overseeing the planning, communications and dissemination of status information associated with the region's transportation system during incidents. The region's support of the CapCom effort results from an evaluation of previous incidents, a review of existing operating procedures, and a review of the Regional Emergency Evacuation Transportation Coordination Annex for transportation (R-ESF #1) worksheets. From these reviews, it was concluded that continued and accelerated progress was needed toward improved regional coordination during transportation incidents and other major events.

The Need

A number of significant procedural and communications improvements have been made in the area of transportation incident response in general, and emergency response in particular, over the past few years, and transportation agency personnel have strong working relationships that facilitate coordination of the transportation sector's response to incidents. However, with current operational procedures it is an added challenge for individuals who are participating directly in the response to incidents to provide real-time regional information about the status of the transportation system. The best incident management requires real-time receipt of information, predefined action plans, and quick information dissemination to providers and the public.

- Coordination at the incident scene is the responsibility of individuals with many other important responsibilities.
- Currently, the media must contact multiple agencies to develop a comprehensive picture of regional transportation status.
- It has been a challenge for response personnel from individual agencies to convene and create coordinated regionwide, multi-agency operations plans. This may be accomplished in a more timely fashion if a regional program with experienced operations personnel, able and assigned to take a regionwide perspective, is assigned the responsibility for ensuring that such plans are developed.
- For existing regional communications systems to operate effectively, clear responsibilities, procedures, and protocols must exist for initiating and following up on inter-agency communications, and this could be facilitated by a program with a regional perspective.

There is a need for enhancements that expedite the region's capability to coordinate regional response to transportation incidents.

The CapCom Concept

CapCom is being established to fulfill the following roles:

- Information Backbone – CapCom will be responsible for the development, implementation, and maintenance of the RITIS (Regional Integrated Transportation Information System) data/status information exchange system, and the use of the integrated electronic communications paths, both wireline and wireless, as the electronic backbone of the RITIS regional transportation data exchanges. In their award of a $1 million FY2005 Urban Area Security Initiative (UASI) grant in response to the University of Maryland's CapCom proposal, the states' Homeland Security Senior Policy Group singled out the importance of this activity.
- Live Transportation Information Exchange Among Agencies – CapCom will serve as a focal point for information regarding the status of the transportation system regionally on an everyday basis, including at critical times during incidents. CapCom would receive and disseminate all available data regarding the status of all modes and major transportation routes in the region. While the incident is in progress, CapCom personnel would be responsible for establishing and scheduling communications among all involved parties in the transportation sector.
- Public Information – CapCom, through its tracking of regional incidents and shared data, will play a vital role in ensuring that transportation status information is provided to the public. It will make transportation information available directly to the public through the Internet and potential future 511 telephone systems, relying upon RITIS and its associated automated transportation information sharing systems. It will also enhance information availability through individual agency public information officers as well as the traditional commercial radio and television media traffic information outlets. CapCom will help ensure that this transportation status information is coordinated, timely, and thorough.
- Planning – CapCom will be responsible for development of concepts of operations required to define transportation sector procedures and responsibilities for coordination and communication during major incidents. CapCom will support coordination of transportation sector preparation activities prior to incidents, as well as post-incident analysis to advise future regional emergency preparation, with the objective of continuous improvement in regional coordination through modifications to standard operating procedures, training and exercises.

The creation of an organization whose sole responsibility is the planning, communication and information dissemination for regional incidents is a critical step toward improved incident management for the transportation system in the Metropolitan Washington region.

TPB Resolution R7-2005

Endorsement of Actions to Improve Regional Transportation Communications and Coordination During Incidents

(includes letters of support from DDOT, MDOT, VDOT, and the Capital Wireless Integrated Network (CapWIN) Executive Leadership Group)

November 17, 2004

ITEM 12 - Information
November 17, 2004

Endorsement of Actions to Improve Regional Transportation Communications and Coordination During Incidents

Staff Recommendation: Adopt Resolution R7-2005 endorsing actions to improve regional transportation communications and coordination during incidents.

Issues: None

Background: At the May 19 TPB meeting, the Board approved a recommended course of action to be implemented over the next six months to improve regional transportation communications and coordination during incidents. At the July and September meetings, the Board was briefed on progress on the implementation of technical and operational improvements to regional transportation communication and coordination procedures. The Board will be asked to endorse a specific set of actions to improve regional transportation communication and coordination procedures during incidents.

TPB R7-2005
November 17, 2004

NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD
METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS
777 NORTH CAPITOL STREET, N.E.,
WASHINGTON, D.C. 20002-4239

RESOLUTION TO ENDORSE ACTIONS TO IMPROVE REGIONAL TRANSPORTATION COMMUNICATIONS AND COORDINATION DURING INCIDENTS

WHEREAS, the National Capital Region Transportation Planning Board (TPB), as the metropolitan planning organization for the Washington Metropolitan area, is responsible under the provisions of the Transportation Equity Act for the 21st Century (TEA-21) for developing and carrying out a comprehensive, continuing and coordinated transportation planning process for the metropolitan area; and

WHEREAS, among the planning factors that TEA-21 requires to be addressed in the metropolitan transportation planning process is consideration of projects and strategies that will promote efficient system management and operation; and

WHEREAS, on September 11, 2002, the Metropolitan Washington Council of Governments (COG) Board of Directors adopted the Regional Emergency Coordination Plan (RECP[SM]) which was developed in response to the attack of September 11, 2001; and

WHEREAS, the RECP includes a Regional Emergency Support Function 1- Transportation Chapter and a Regional Emergency Evacuation Transportation Coordination (REETC) Annex, which were developed by representatives of all of the transportation agencies in the region, endorsed by the TPB March 17, 2004, and approved for inclusion in the RECP[SM] by the COG Board of Directors on April 14, 2004; and

WHEREAS, the new REETC Annex identified key recommendations for future regional emergency preparedness activities, including the urgent need to strengthen emergency communications and coordination in the transportation sector; and

WHEREAS, on May 19, 2004, the TPB endorsed a course of action by the region's transportation agencies to strengthen communications and coordination during incidents, including development of a work program identifying the specific technical and operational improvements and duty rotation procedure, funding requirements, and schedule to ensure the expeditious implementation of the course of action over the following six months; and

WHEREAS, in May 2004 working groups of key Washington Metropolitan Area Transit Authority, District of Columbia, Maryland, and Virginia Department of Transportation

representatives were established to foster implementation of the course of action; and

WHEREAS, on July 21 and September 15, 2004, the TPB was briefed on progress on the course of action; and

WHEREAS, the Greater Washington Board of Trade has been instrumental in focusing attention on regional emergency transportation coordination by holding a series of discussions with representatives of the Washington region's transportation agencies and of the TRANSCOM organization of the New York-New Jersey-Connecticut metropolitan area, and has encouraged establishment of a transportation coordination functionality and staffing for metropolitan Washington similar to TRANSCOM; and

WHEREAS, the Capital Wireless Integrated Network (CapWIN) Program, an incident response field communications and data sharing system, has been developed under a partnership of the transportation and public safety agencies of the Washington metropolitan area, aided by the technical expertise of the University of Maryland Center for Advanced Transportation Technology, George Mason University, the University of Virginia, the International Association of Chiefs of Police, and the International Association of Fire Chiefs; and

WHEREAS, on November 17, 2004, the TPB was briefed on the CapWIN Program, including that CapWIN currently contains the fundamental governance structure, staff, and other elements required for a program that can be expanded and can accommodate regional transportation and public safety technology and operations coordination; and

WHEREAS, using the CapWIN Program as the basis for a regional transportation coordination program will ensure the development of a program that can be rapidly implemented and efficiently operated, while avoiding duplication with other ongoing activities; and

WHEREAS, the District of Columbia, Maryland, and Virginia Departments of Transportation and the CapWIN Executive Leadership Group in the attached letters have endorsed the concept of using the CapWIN Program as the basis for a regional transportation coordination program;

NOW, THEREFORE, BE IT RESOLVED THAT the National Capital Region Transportation Planning Board:

1) Urges continued progress by the region's transportation agencies in improving regional transportation communication and coordination during incidents;

2) Endorses the concept of using the CapWIN Program and governance structure as the basis for a regional transportation coordination program in the Washington

metropolitan area; and

3) Requests that the District of Columbia, Maryland, and Virginia Departments of Transportation and the Washington Metropolitan Area Transit Authority collaborate with the University of Maryland Center for Advanced Transportation Technology to prepare a proposed work program for presentation to the TPB on January 19, 2005, for an enhanced CapWIN organization to perform regional transportation coordination activities, including potential startup and ongoing funding needs, potential funding sources and mechanisms, a schedule of phases of implementation, and a description of a near-term pilot program of coordination activities and staffing.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

HILIP A. SHUCET
COMMISSIONER

14685 Avion Parkway
Chantilly, VA 20151
(703) 383-VDOT (8368)

September 7, 2004

The Honorable James P. Moran, Jr.
Member, US House of Representatives
2239 Raybourn House Office Building
Washington, DC 20515-4608

Dear Congressman Moran:

This letter is to express the Virginia Department of Transportation's (VDOT) support for exploring the concept of using the CapWIN System as the basis for a regional transportation coordination program in the Washington DC Metropolitan area. CapWIN's current government structure, staff, and infrastructure provide a good foundation for developing such a program. Its use as the basis for regional transportation coordination will ensure the development of a program that can be rapidly implemented and efficiently operated, while avoiding duplication with other ongoing activities.

VDOT has been using technology to enhance its traffic management in the Northern Virginia region since the 1980s. We believe that everyone benefits when the Washington DC metropolitan area operates cooperatively as a region. The need for a regional transportation coordination program has been identified. Since VDOT is one of leading agencies that initiated and supported the development of CapWIN and understands its capability and potential, we could very likely leverage the investment we have made to CapWIN.

We recognize that more work needs to be done and consideration must be given to ensure an appropriate balance of transportation, police, and fire representation in the program's operation. In addition, the CapWIN System must be expanded to ensure around-the-clock staff coverage. These issues and many more details must be addressed prior to final regional approval of the concept.

As an active provider of transportation services in the Washington, DC region, we are confident of the success of this approach and are requesting your support.

Sincerely,

Richard W. Steeg
Assistant District Engineer for Maintenance and Operations

Copy: Connie Sorrell
E. E. Hull
Amy McElwain

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

★ ★ ★

Office of the Director

September 9, 2004

The Honorable Congressman Jim Moran
US House of Representatives
2239 Rayburn Building
Washington, DC 20515-4608

Dear Congressman Moran.

This letter is written to express our support for the concept of using the CapWIN project as the basis for a regional transportation coordination program in the Washington, DC metropolitan area. We believe that CapWIN currently contains the fundamental government structure, staff, and other elements required for such a program. Its use as the basis for regional transportation coordination will ensure the development of a program that can be rapidly implemented and efficiently operated, while avoiding duplication with other ongoing activities.

We recognize that more work needs to be done. Consideration must be given to ensuring an appropriate balance of transportation, police and fire representation in the program's operation. In addition, the CapWIN must be expanded to ensure round-the-clock staff coverage. These issues and many more details must be addressed prior to final regional approval of the concept.

As an active provider of transportation services in the Washington, DC region, we are confident of the success of this approach.

Sincerely,

Michelle Pourciau

Michelle Pourciau
Deputy Director

2000 14th Street, N.W., Washington, D.C. 20009 (202) 673-6813

Robert L. Ehrlich, Jr., *Governor*
Michael S. Steele, *Lt. Governor*

SHA State Highway Administration

Robert L. Flanagan, *Secretary*
Neil J. Pedersen, *Administrator*

Maryland Department of Transportation

September 8, 2004

The Honorable James Moran
United States House of Representatives
2239 Rayburn Building
Washington DC 20515-4608

Dear Congressman Moran:

This letter is written to express the Maryland State Highway Administration's (SHA) support for the concept of using the Capital Wireless Integrated Network (CapWIN) project as the basis for a regional transportation coordination program in the Washington, DC metropolitan area. We believe that CapWIN currently contains the fundamental governance structure, regional participation, staff, and other elements required to provide a firm foundation for such a program. Its use as the basis for regional transportation coordination will ensure the development of a program that can be rapidly implemented and efficiently operated, while avoiding duplication with other ongoing activities.

The SHA recognizes that more work needs to be done. Consideration must be given to ensuring an appropriate balance of transportation, police, and fire representation in the program's operation. In addition, the CapWIN must be expanded to ensure round-the-clock staff coverage. These issues and many more details must be addressed prior to final regional approval of the concept.

As active provider of transportation services in the Washington, DC region, we see significant potential benefits and are confident of the success of this approach. If you need further assistance, please do not hesitate to contact Mr. Michael Zezeski, SHA's Director of the Coordinated Highway Action Response Team (CHART), at 410-582-5605, mzezeski@sha.state.md.us, or 1-800-543-2515. SHA will be pleased to assist you. Of course, you should never hesitate to contact me directly, if you prefer.

Sincerely,

Neil J. Pedersen
Administrator

cc: Mr. Michael Zezeski, Director of CHART, SHA

My telephone number/toll-free number is 410-545-0400 or 1-800-206-0770
Maryland Relay Service for Impaired Hearing or Speech 1.800.735.2258 Statewide Toll Free

Street Address: 707 North Calvert Street • Baltimore, Maryland 21202 • *Phone* 410.545.0300 • www.marylandroads.com

CapWIN
Capital Wireless Integrated Network

6305 Ivy Lane Suite 300
Capital Office Park
Greenbelt, MD 20770

www.CapWIN.org

September 10, 2004

The Honorable Jim Moran
U.S. House of Representatives
2239 Rayburn Building
Washington, D.C. 20515

Subject: **Regional Transportation Coordination Program**

Dear Representative Moran:

I am writing this letter to express our support for the concept of using the Capital Wireless Integrated Network (CapWIN) system as the basis for a regional transportation coordination program in the Washington, DC metropolitan area. We believe that CapWIN currently contains the fundamental governance structure, staff, technical resources, and other elements required for such a program to be successful. CapWIN's use as the basis for regional transportation coordination will ensure the development of a program that can be rapidly implemented and efficiently operated, while avoiding duplication with other ongoing activities. CapWIN already provides mobile communications to transportation and public safety agencies in the region and could readily facilitate traditional wire-line networks as well. The proposed Coordination program could take advantage of the existing network and staff without having to build a duplicate system. We believe that a partnership with CapWIN would save time, resources and better serve the region.

The Executive Leadership Group of the CapWIN System is comprised of public safety, transportation and political leaders in the Washington Metropolitan Region. This unique governance structure has been in place for nearly three years. Our members have first hand knowledge as to the value and potential benefits of developing integrated communications systems such as the **Regional Transportation Coordination Program**. It is our belief that the **Regional Transportation Coordination Program** and the CapWIN System have potential for becoming national models for demonstrating new technology, the benefits of partnerships, and successful outcomes when community, transportation, and public safety leaders work together towards a common goal.

As Chair of the CapWIN Executive Leadership Group, I wish to express our support and willingness to host the **Regional Transportation Coordination Program.** We will need additional resources to provide operational support and to develop additional functionality. Our Executive Leadership Group looks forward to developing an even closer partnership within the region.

Respectfully,

Chief Edward Plaugher (Ret)
Arlington County, Virginia
Chair, CapWIN Executive Leadership Group

301.614.3700 TEL UNIVERSITY OF MARYLAND 301.614.0581 FAX

TPB Resolution R17-2004

Recommended Actions to Improve Regional Transportation Communications and Coordination During Incidents

May 19, 2004

ITEM 9 - Action
May 19, 2004

Approval of Recommended Actions to
Improve Regional Transportation
Communications and Coordination During Incidents

Staff Recommendation: Adopt Resolution R17-2004 to endorse recommended actions to improve regional transportation communications and coordination during incidents.

Issues: None

Background: At the April 2, 2004 TPB meeting, the Board was briefed on options and recommendations for improving regional transportation communication and coordination during incidents. These options were developed in response to a request by the National Capital Region Emergency Preparedness Council (EPC) at its March 4 meeting. On May 4 the recommendations were reviewed by the TPB Management, Operations, and Intelligent Transportation Systems (MOITS) Task Forces. The EPC was briefed on the recommended improvements at its May 6 meeting.

TPB R17-2004
May 19, 2004

NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD
METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS
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WASHINGTON, D.C. 20002-4239

RESOLUTION TO ENDORSE RECOMMENDED ACTIONS TO IMPROVE REGIONAL TRANSPORTATION COMMUNICATIONS AND COORDINATION DURING INCIDENTS

WHEREAS, the National Capital Region Transportation Planning Board (TPB), as the metropolitan planning organization for the Washington Metropolitan area, is responsible under the provisions of the Transportation Equity Act for the 21st Century (TEA-21) for developing and carrying out a comprehensive, continuing and coordinated transportation planning process for the metropolitan area; and

WHEREAS, among the planning factors that TEA-21 requires to be addressed in the metropolitan transportation planning process is consideration of projects and strategies that will promote efficient system management and operation; and

WHEREAS, on September 11, 2002, the Metropolitan Washington Council of Governments (COG) Board of Directors adopted the Regional Emergency Coordination Plan (RECP) which was developed in response to the attack of September 11, 2001; and

WHEREAS, the RECP includes a Regional Emergency Support Function 1 –Transportation Chapter and a Regional Emergency Evacuation Transportation Coordination (REETC) Annex, which were developed by representatives of all of the transportation agencies in the region; and

WHEREAS, an update of the REETC Annex engaging a broad-based group of transportation, emergency management, federal , and other stakeholders in the region was completed in 2003, endorsed by the National Capital Region Emergency Preparedness Council (EPC) on March 4, 2004, reviewed by the TPB on March 17, 2004, and endorsed by the COG Board of Directors on April 14, 2004; and

WHEREAS, the new REETC Annex identified three key recommendations for future regional emergency planning activities to be pursued by the EPC, including carrying out regional emergency management coordination efforts on a continuing basis, conducting a coordinated regional public education campaign on emergency preparedness, and ensuring that timely information is provided to the public during incidents; and

WHEREAS, the REETC Annex identified a fourth key recommendation, that of strengthening emergency communications and coordination in the transportation sector, to be pursued by the TPB; and

WHEREAS, pursuant to this fourth recommendation, the TPB at its April 21 meeting was briefed on options and a follow-up recommendation on a course of action for improving regional transportation communication and coordination during incidents, the TPB Management, Operations, and Intelligent Transportation Systems (MOITS) Task Forces at their May 4 meeting reviewed the recommendations and course of action for implementing these improvements, and the EPC at its May 6 meeting reviewed the recommended proposed course of action; and

WHEREAS, the course of action for strengthening regional transportation communication and coordination during incidents includes a program of technical and procedural improvements, training, and deployment of the region's transportation agency staffs as described in the attached materials; and

WHEREAS, the pending Administration, House, and Senate proposals for reauthorization of TEA-21 all provide new authority and funding eligibility for improving regional transportation communication and coordination response to traffic incidents and for emergency evacuation; and

WHEREAS, on May 4 the MOITS Task Forces established working groups to facilitate the implementation of the course of action;

NOW, THEREFORE, BE IT RESOLVED THAT the National Capital Region Transportation Planning Board

- endorses the recommended course of action for improving regional transportation communication and coordination during incidents as described in the attached materials, and

- directs the MOITS Task Forces and working groups to develop a work program identifying the specific technical and operational improvements and duty rotation procedure, the funding requirements and schedule to ensure the expeditious implementation of the course of action over the next six months.

Recommended Improvements to Regional Transportation Communication and Coordination During Incidents

David Snyder
Falls Church City Council
And Chair, Management, Operations, and
Intelligent Transportation Systems (MOITS) Policy Task Force

Presentation to the
National Capital Region Transportation Planning Board
May 19, 2004

Background

- On April 21, the TPB reviewed options and follow-up recommendations from the revised Regional Emergency Evacuation Transportation Coordination (REETC) Annex of the RECP[SM]

- Since the April 21 TPB:
  - May 4 – Proposed course of action reviewed by TPB's Management, Operations, and Intelligent Transportation Systems (MOITS) Task Forces, and new working groups established to oversee implementation
  - May 6 – Follow-up options and recommendations reviewed by EPC

Response to REETC Annex Recommendations

- First three recommendations being pursued by EPC:
  1) Carrying out regional emergency management coordination efforts on a continuing basis

  2) Conducting a coordinated regional public education campaign on emergency preparedness

  3) Ensuring that timely information is provided to the public during incidents

- Fourth recommendation being pursued by TPB:
  4) Strengthening emergency communications and coordination in the transportation sector

Strengthening Transportation Communications and Coordination

- The TPB has reviewed alternatives and proposed a course of action for strengthening transportation communications and coordination during significant transportation incidents and emergency situations

- Anticipated additional costs for proposed actions are moderate for a metropolitan area the size of the Washington region, on the order of a few million dollars per year

Course of Action for Strengthening Transportation Communications and Coordination

- A program of technical and procedural improvements, training, and duty rotation of the region's transportation agency staffs will be implemented over the next six months
  - Working groups have been established to address technical systems upgrades and procedural changes
  - First changes could be implemented by end of summer
- If implementation of the above actions proves insufficient, creation of a new organization should be considered, modeled after New York's TRANSCOM

Technical Improvements

- Integration of technical systems and databases among key transportation and public safety operations centers
- Examples:
  - Automated sharing of computerized roadway condition data among DDOT, MDOT, VDOT, WMATA, and other agencies
  - Automated sharing of traffic incident information received by public safety agencies with transportation agencies
  - Automated communication between computer-aided dispatch (CAD) systems, geographic information systems (GIS), and other data systems
  - Improved linkages and compatibility between paging systems maintained by individual transportation agencies and the RICCS[SM]

Operational Improvements

- Review and update of major transportation agencies' standard operating procedures to
  - Better reflect regional coordination duties
  - Ensure interagency compatibility of procedures

- Examples:
  - Improved procedures for public safety field personnel to quickly report situations to transportation centers so that transportation agencies can immediately address ripple effects
  - Clear guidelines on when agency operations personnel should send RICCS[SM] messages
  - Monthly test exercises of transportation and public safety communications and coordination procedures

Duty Rotation Among Major Transportation Agencies

- DOTs and WMATA will dedicate existing or new members of their staffs within their own operations centers exclusively for regional coordination duties on a rotating basis

- Examples:

  - Designating operations staff persons exclusively to monitor regional roadway and transit systems, and be ready to initiate and shepherd regional communications in the event of an incident

  - Monitoring, updating, and sharing of construction and rehabilitation schedules among all agencies

  - Shepherding advance regional transportation communications and coordination for large special events

Strengthening Transportation Communications and Coordination Will Require New Funding

- A funding structure needs to be identified for these improvements
- Critical that the funding structure not detract from existing transportation operations resources
- Pending Administration, House, and Senate bills for reauthorization of the federal transportation program all provide:
  - Overall increased funding levels
  - New authority and funding eligibility for
    - Regional coordination of transportation system management and operations
    - Emergency evacuation and response

Pending Federal Transportation Reauthorization Legislation

- Aims to "...ensure efficient and effective transportation systems management and operations...through collaboration, coordination, and real-time information sharing, at a regional level, between transportation system managers and operators, public safety officials, and the general public..."
- Encourages the implementation of regional transportation system management and operations initiatives including emergency response, evacuation, and traffic incident management
- Enables use of CMAQ and STP funds for these purposes
- Provides the Secretary of Transportation with additional discretionary funds for these purposes
- Since all three bills (Administration, House, and Senate) contain nearly identical language on this topic, this is certain to be an emphasis area

Next Steps

- In consultation with the newly-formed working groups:
  - Develop a work program with funding requirements and schedule for implementation
  - Develop a recommendation on an oversight structure for collaborative activities
  - Provide periodic progress reports to the TPB on the transportation strengthening activities as well as related EPC emergency management, public education, and public information activities

Outlook

- There is strong momentum among transportation agencies for implementing improvements in regional communications and coordination capabilities to respond to significant transportation incidents and emergency situations

- Continued close two-way coordination is needed with EPC's ongoing work on regional emergency management, public education, and provision of timely public information

- We ask TPB endorsement today of Resolution R17-2004 to initiate these activities

TPB Staff White Paper on Transportation Findings and Recommendations of the REETC Annex

April 21, 2004

ITEM 7 - Information

April 21, 2004

Report on Transportation Recommendations of the Regional Emergency Evacuation Transportation Coordination Annex

Staff Recommendation: Receive briefing on the update of the annex and the transportation recommendations.

Issues: None

Background: This item was deferred from the March 17, 2004 meeting. At the February 18 meeting, the Board was briefed on the update of the Regional Emergency Evacuation Transportation Coordination Annex of the Regional Emergency Coordination Plan. On March 4 the National Capital Region Emergency Preparedness Council was briefed on the update of the annex and requested that TPB address the transportation recommendations.

OPTIONS FOR STRENGTHENING REGIONAL COMMUNICATIONS AND COORDINATION IN THE TRANSPORTATION SECTOR

DRAFT

Staff Report to the
National Capital Region
Transportation Planning Board
April 14, 2004

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OUTLINE

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1. Executive Summary

The recently revised Regional Emergency Evacuation Transportation Coordination (REETC) Annex is a vital component of the Regional Emergency Coordination Plan (RECP[SM]). As a result of the April 2003 – March 2004 development process of the revised REETC Annex, a number of key recommendations have been made:

- Carry out regional emergency management coordination efforts on a continuing basis
- Conduct a coordinated regional public education campaign on emergency preparedness
- Ensure that timely information is provided to the public during incidents
- Strengthen emergency communications and coordination in the transportation sector.

This paper addresses the fourth of those recommendations, on strengthening communications and coordination in the transportation sector. Four major options have been identified to accomplish this strengthening:

- Technical systems and database integration
- Procedural changes and additional training of existing staffs
- A duty rotation cycle among existing major transportation agency staffs
- Creation of a new regional transportation communications and coordination organization.

This paper describes each option, assesses how it will address the region's needs, identifies advantages and disadvantages of each approach, and gives planning estimates of potential start-up and annual operating costs. All four options would strengthen regional coordination. The option for creating a new regional organization appears to have the greatest potential to solve the identified needs, but also has significant cost and institutional considerations. The other options would aid regional communications strengthening with potentially lesser cost and complexity, but likely would be less effective because each provides only part of the answer.

The upcoming reauthorization of the federal transportation program is expected to offer new impetus and funding opportunities for addressing regional transportation operations and emergency preparedness issues. The need for strengthening regional communications and coordination in the transportation sector has been clearly identified. There is now a window of opportunity for action; this paper offers four options for consideration by the region's policy makers.

2. Introduction

Background

The Metropolitan Washington Council of Governments (COG) adopted the Regional Emergency Coordination Plan (RECP[SM]) on September 11, 2002. Included in the RECP[SM] was a Regional Emergency Support Function (R-ESF) #1 – Transportation chapter, as well as a Regional Emergency Evacuation Transportation Coordination (REETC) Annex. R-ESF #1 and the REETC Annex addressed regional emergency transportation issues, with the R-ESF #1 having an overall perspective, and the REETC Annex focusing particularly on events that might involve evacuation or other protective actions for the population.

An update of the REETC Annex was undertaken from April 2003 to March 2004. The revised REETC Annex incorporated a structure to address how regional emergencies often begin, unfold, and evolve, strategies to address incident evolution and periods of uncertainty in that evolution, associated protective actions planning, public warning and education strategies, and human behavioral considerations. It benefited from lessons learned in real incidents, as well as input generated by a series of scenario-based emergency transportation planning workshops held in conjunction with the Annex update process.

An important focus of the RECP[SM] and REETC Annex was regional communications and coordination utilizing the Regional Incident Communications and Coordination System (RICCS[SM]) established by the region following the September 11, 2001 attacks. The RICCS[SM] functions to support emergency notifications and interagency conferencing, utilizing text messages to recipients' pagers, cell phones, or e-mail, and conference calls among key regional decision makers and responders. Conference calls enable regional incident assessment, coordination of decisions, and crafting of common messages to the media and public.

Recommendations from the Revised REETC Annex

The key recommendations coming from the REETC Annex revision process were to:

- Carry out regional emergency management coordination efforts on a continuing basis
- Conduct a coordinated regional public education campaign on emergency preparedness
- Ensure that timely information is provided to the public during incidents

- Strengthen emergency communications and coordination in the transportation sector.

Continuing Coordination Efforts: Emergency management and law enforcement agencies were seen as central to any efforts to carry out regional emergency management coordination on a continuing basis. A main focus may be to continue scenario-based workshops, other training, exercises, or drills. Such a set of regional exercises has been proposed, led by emergency management agencies, and funded with U.S. Department of Homeland Security Urban Area Security Initiative (UASI) FY2003 monies. It was recommended that exercise leaders cover some of the issues identified in the REETC Annex, notably transportation "ripple effects" of incidents (including incidents that are not per se transportation incidents). Information created during Annex development includes definitions and supporting materials for nine further transportation-involved scenario workshops. Effective RICCS^{SM} utilization is a critical in these workshops, including a focus on who will initiate and use RICCS^{SM}, when will it be used, and what will be discussed. Also critical is how to accomplish the task of timely information sharing between transportation and emergency management, including from the incident site.

Public Outreach and Education: The second key recommendation emanating from the revised REETC Annex was to conduct a coordinated regional public education campaign on emergency preparedness. Time is short in emergencies, so pre-event education of the public is critical. The public must recognize that different emergencies may require different kinds of response on their part (e.g., sheltering-in-place for one type of hazard versus evacuating from another type). Both transportation and emergency management input is critical to public education concepts. From the transportation perspective, emphasizing avoidance of unnecessary travel is critical for management of transportation systems demands. Fortunately, such a coordinated regional public education campaign has been proposed, advised by a committee of the region's local government public information officers, and funded with FY2003 UASI monies.

Timely Information During Emergencies: A third key recommendation was for the region's leadership to ensure that timely information is provided to the public during incidents. Timely, effective messages or instructions need to go out to people everywhere on what they need to know and do during the emergency. Messages must be action-oriented, credible, consistent, timely, specific and simple. This key need is supported by actions following the REETC Annex: further workshops, a public education campaign, and, the effort that is the focus of this paper, the strengthening of emergency communications and coordination in the transportation sector.

Strengthening Emergency Communications and Coordination in the Transportation Sector: This fourth key recommendation from the REETC Annex is critical because successful transportation system management during

emergencies depends upon availability of systems and staff to monitor incident information, to share information among transportation and other agencies, and to assist in informing the public. This paper considers options for strengthening these capabilities.

REETC Annex Response and Request by the National Capital Region Emergency Preparedness Council

At its March 4, 2004 meeting, the National Capital Region Emergency Preparedness Council (EPC) endorsed the REETC Annex for distribution, and made a number of associated requests. The EPC requested the continuation of scenario-based workshops and training. The EPC supported the need for a coordinated regional public education campaign on emergency preparedness (including a component of advice for sheltering in place). It agreed that emergency management, transportation, law enforcement, and public information agencies should develop and implement procedures to ensure that the public receives timely and accurate information during incidents. It also requested that the National Capital Region Transportation Planning Board (TPB) and staff analyze alternatives for providing improved coordination and communication among transportation and other agencies during incidents.

This paper responds to the request from the EPC to the TPB by examining:

- The ways regional transportation sector communications and coordination have taken place as incidents have unfolded, both in workshops and in real events
- Descriptions, advantages, disadvantages, and potential costs of four options identified by the Emergency Transportation Work Group and staff.
- Communications responsibilities and functions within the transportation sector, including potential gaps
- The key stakeholder transportation agencies of the region and their operations

long advanced notice and duration of this event seemed to be critical factors in the success of the regional communications and coordination, but advanced notice does not occur in most other types of regional emergencies.

Bomb Threat Near the Stadium-Armory Metrorail Station (December 12, 2003): A perimeter established near a vehicle suspected of containing explosives closed the Metrorail Blue and Orange lines in the vicinity of the Stadium-Armory station in Washington. The closure occurred during the morning rush hour, and, at the time, the duration of the closure was unknown. No explosion occurred, and the scene was cleared within a few hours. This event, like other similar events, "snowballed" with transit congestion and effects far away from the incident site. There were concerns on delays of word on the closure reached the general public, and on what information was given to passengers already in or accessing the Metrorail system. It was again stated that personnel involved in the incident were "too busy" to use the RICCS^{SM} to engage regional coordination and communications.

Metrorail Red Line Tunnel Fire (March 18, 2004): An electrical fire in the Metrorail Red Line tunnel between the Dupont Circle and Woodley Park/Zoo/Adams Morgan stations caused a sudden and unexpected closure and stoppage of the Red Line during this day's morning rush hour. Passengers already in the system had to exit and find alternative means of transportation; many walked miles to their destinations. Concerns were expressed on the timeliness and helpfulness of communications with the public during this incident, as well as the lack of multi-agency efforts to manage the regional transportation impacts of the incident. RICCS^{SM} was used, but not to its full potential (limited text messages only late in the duration of the incident), and mostly after the incident was well underway.

REETC Annex Workshops and Discussions

In the fall of 2003, the R-ESF #1 – Emergency Transportation Work Group convened a series of three workshops, based upon emergency situations and scenarios, to examine transportation communications and coordination during emergencies, as well as related issues.

The first workshop (held October 29, 2003) involved a perimeter around a vehicle laden with explosives in the Reagan National Airport parking garage. The closure lasted through the afternoon and the evening rush hour, necessitating closure of the Metrorail Blue and Yellow Lines, the Virginia Railway Express, US 1, the George Washington Memorial Parkway and other area roadways, and the evacuation of airport facilities and nearby buildings in the Crystal City area of Arlington. This workshop raised a number of regional communications and coordination issues reflected in later workshops as well as in real events.

3. Examination of How Transportation Communications and Coordination Occur As Incidents Unfold

Experiences During Recent Regional Incidents

One of the best ways to gain an understanding of communications and coordination needs in the transportation sector is to look at experiences in recent regional incidents, notably how and when regional communications take place as an incident unfolds. Incidents should be examined from the perspective of what is known at a given moment. For example, at the beginning stages of an incident, the true nature and severity are not known, even to personnel right at the incident scene, yet transportation ripple effects may already be causing problems far from the scene. It is also likely not known how long an incident will last; what seems like a limited incident can snowball to affect a wide area. Lack of communications in the early stages of incidents has been a hindrance in managing the transportation effects of those incidents.

Terrorist Attacks (September 11, 2001): The transportation sector utilized a number of longstanding communications methods, including landline phones, cellular phones with a "push-to-talk" radio feature, radios, and highway variable message signs. Though there were great and commendable efforts on the part of involved agencies, a number of transportation problems ensued that day in part because there was no established regional means of coordination among all involved public safety, traffic, transit agencies, and decision-makers in a timely manner.

"Tractor Man" (March 17-19, 2003): A lone tractor-driving protester threatened to detonate a bomb, and a public safety perimeter formed around the protester closed many regionally critical roadways in the Mall area, causing traffic snarls over three days. There were concerns expressed on whether public safety agencies considered the traffic impacts of forming such a large perimeter and the length of time taken to clear the incident. There were associated concerns expressed for a lack of communications and updates of information from knowledgeable personnel on the incident scene out to transportation agencies and the general public regionally. At this time, the RICCS^{SM} had been established and was available for communications among involved agencies, but was not used to its potential; it was stated that personnel at the scene were "too busy" to engage regional coordination and communications.

Hurricane Isabel (September 17-20, 2003): A great deal of regional coordination and communications were undertaken in advance of and during Hurricane Isabel, both within the transportation sector and among other sectors and regional decision-makers. The region collaborated on intertwining decisions on whether to close government offices, schools, and the Metro system, and when to do so, utilizing RICCS^{SM} numerous times during the week. The relatively

Information from law enforcement was identified as an issue – whether there is an effective feedback mechanism for agencies to obtain verified/official follow-up information. The question of when and how regional communications and coordination should be activated in interjurisdictional, intermodal scenarios was discussed—there seemed to be hesitancy in triggering the regional process in a situation where there was no one agency clearly in charge, and when the information known at the time had a high level of uncertainty.

The question of which agency takes the lead in transportation sector communications was discussed. The RECP[SM] states that the transportation agency in the primarily affected jurisdiction is to initiate conference calls, but that agency may also be the one busy and overburdened with response to the incident. Workshop participants recommended establishing strategies to encourage communications/notifications between non-transportation agencies and transportation agencies when transportation is affected, and to ensure that someone will be in charge of public information coordination. It was also noted that the transportation sector will need strategies to address the actions it will take given limited incomplete and conflicting information, such as when it is not known how long a situation will last, or even exactly what the problem is.

The second workshop (November 14, 2003) considered a two-part scenario of a regional ice storm, and, separately, a downtown apartment discovered to be laden with explosives. The workshop tested a staged or timed release of workers or evacuees. In addition to communications issues already mentioned, this workshop illustrated the critical role of knowledgeable public safety and emergency management personnel, and yet the difficulty of having these personnel participate in regional transportation communications at such a busy moment.

The third workshop (December 3, 2003) examined the scenario of a complete closure of the Metrorail system for an extended period of time. This workshop showed that with sufficient time to get the regional communications process rolling, it would occur, but there was still an issue with what happens in the critical first hours of an incident, regarding public actions, evacuation, safety, and information. Protective actions issues associated with such an emergency were discussed, such as contamination or decontamination, what facilities would have to be open or closed, and length of closure time, issues on which transportation management personnel likely are not knowledgeable. These discussions reinforced that effective coordination between the public safety and emergency management agencies with transportation agencies will be critical for the region, so that transportation agencies may be aware of critical public safety or emergency management information that will affect transportation systems and management.

Summary

Many regional incidents will be of the nature that no one agency or jurisdiction is in charge. In almost no case has an agency or staff had as its primary responsibility regional communications and coordination; it was a responsibility that falls upon all participants in addition to numerous other duties during an emergency, and has slipped behind other priorities and remained undone.

4. Review of Options for Strengthening Communications and Coordination in the Transportation Sector

During development of the revised REETC Annex, four major options were identified for strengthening regional emergency communications and coordination in the transportation sector. This section explains these options, illustrates how they may work, advantages or disadvantages of the approaches, and cost implications. The four options are not mutually exclusive; rather, they represent four levels of effort that might be undertaken as needed individually, in combination, or mixed-and-matched.

The options for strengthening regional communications and coordination in the transportation sector are summarized in Table 1, and descriptions of the four options follow.

The discussion of options has as a background the activities currently undertaken in the region regarding transportation management and operations. The appendix to this paper contains additional detail and background, including summaries of current responsibilities, means, and practices for regional communications and coordination in the transportation sector. It describes the important associated activities of transportation system monitoring and having staff with transportation expertise available for coordination and response activities. It also describes major technical, agency, and interagency activities undertaken in the region, together with descriptions of the major transportation operations centers.

Table 1. Comparison of Options for Strengthening Regional Emergency Communications and Coordination in the Transportation Sector

OPTION*	ADVANTAGES	DISADVANTAGES	POTENTIAL COST	COMMENTS
Technical Systems and Database Integration	Important activity that supports all other options; no significant increase in number of personnel needed	Does not address procedures or responsibilities, only improves data availability	$5-10 million over a five-year period; 5-7 staff persons; this activity is scalable	Widely supported among the region's technical personnel because it will help them do their individual jobs better, but does not address the core issue of regional coordination staffing and responsibility.
Procedural Changes and Training of Existing Staffs	Lowest cost among the options; begins to address procedural issues	Does not address the key issue of how personnel already busy with assigned primary duties will be able to undertake this additional responsibility; track record of this approach to date is mixed	$500,000 annually and continuing; 3-5 staff persons	All involved agencies must commit from the leadership to the technical level, and maintain this commitment. This would be an additional burden on already-busy staff.
Duty Rotation Cycle Among Major Transportation Agencies	Addresses the core issue of personnel being assigned the primary duty of regional coordination; no new organization or center	Cost; no ongoing cost savings versus creating a new organization; continuing coordination among several involved agencies will be necessary	$5-10 million start-up costs over the first three years, plus $3 million to $4 million annual operating cost; 15-20 staff persons	Start-up costs may be lower than for starting a new organization. Ongoing operations are vulnerable if a key agency is unable to meet its obligations.
Creation of a New Regional Transportation Communications and Coordination Organization	Definitive answer to address the core issue of personnel being assigned and knowledgeable on regional coordination; accomplished task without detriment to duties of each agency's personnel	Cost and institutional complexity	$10 million start-up costs over the first three years, plus $3 million to $4 million annual operating cost; 15-20 staff persons	New York's TRANSCOM organization provides a successful model of this type of organization. Views have been expressed that a new organization will compete with existing agencies for funding, and that new monies should be given to existing agencies instead.

*Options are not mutually exclusive. Options 1 and 2 would be valuable support activities to either Option 3 or Option 4.

Option 1: Strengthening though Technical Systems and Database Integration

Description: Strengthen regional emergency communications and coordination in the transportation sector by investing in technical systems to improve computer and telecommunications connections among the region's major transportation and public safety operations centers.

Background: The region has numerous roadway management, transit operations, and public safety centers. These centers often feature telecommunications and other technological connections to the systems they manage, but often only limited connections to other agencies' centers. Particularly important is the current migration to automated systems, based upon computers and databases designed for each agency's own needs, and how different agencies' computers can talk to one another and share data. For example, if a public safety call (911) center operator logs calls into a computer-aided dispatch system, this information could be shared automatically with the computer database in a transportation operations center. Then either automatically or by personnel action, transportation personnel can become aware of the necessary information. The automated comparison or juxtaposition of this particular piece of data with other incoming data may alert transportation personnel to a condition or incident, thereby causing personnel to initiate regional coordination.

There are cost and organizational implications of this approach. Such a system would have to be built and maintained, collaboratively among all involved agencies, perhaps with one agency taking the lead. There are historical examples in the region and elsewhere, and almost all require designation of a lead agency or staff.

There are systems in place that can be building blocks for further systems integration, including the Maryland CHART system and software (see the Appendix for more details), and the Capital Wireless Integrated Network (CapWIN). CapWIN (see the Appendix for more details) enables data sharing among responder vehicles at incident sites; CHART software is a basis for the traffic management activities and equipment of the Maryland Department of Transportation. As likely would be the case for the communications strengthening options described in this paper, the multi-million dollar CapWIN project necessitated use of federal transportation and law enforcement grants, creation of a board of directors, staff support obtained from the University of Maryland, contractor support, and staffing and time from participating agencies. Likely there would be a strong relationship between CapWIN and technical activities envisioned under this option.

Advantages: The main advantage of this approach is that information entered by an operator in one center into an agency database theoretically can be

automatically shared with other agencies' databases, and thereby to other necessary personnel and centers, with little or no further time-consuming action on the part of those personnel. For example, if personnel from a highway operations center notes an accident on its system and logs this information into its agency database, this incident information might immediately be shared with other necessary agencies. Time not spent on regional communications remains free for response activities by those personnel. Other technical systems can scan data, and if thresholds are met, an alarm may be sounded, all with little or no additional human intervention.

Disadvantages: A critical disadvantage of pursuing systems integration alone is that it does not per se address the question of ensuring that personnel will take action for regional emergency transportation coordination. It must be noted that systems integration would be helpful under almost any scenario to help each agency perform its tasks better. However, the cost, time, and complexity to achieve good results from such a system should be considered. As increasing numbers of transportation and public safety centers come into existence and are considered for technical systems integration, the level of complexity and costs rise. Other disadvantages include the impacts of equipment failures and the need for a central function or responsibility, at least temporarily, to oversee and undertake the technical work tying a myriad of technical systems into one unified systems.

Cost: Cost would depend upon the amount and complexity of technical systems integration undertaken, but staff has used an estimate of $5-10 million over a five-year period. This cost is scalable depending upon the amount of systems integration contemplated.

Outlook: The proposal to undertake systems integration activities enjoys widespread support among technical and operations staffs of the region's transportation agencies. It is felt that this would be a cost-beneficial activity that will improve each agency's ability to do its job, and will help answer the need for regional communications. It is vital that better information will be available to all parties, though this does not ensure regional coordination will take place based upon this information unless there are personnel, procedural, or organizational changes as discussed in the other three options.

Option 2: Strengthening through Procedural Changes and Training of Existing Staffs

Description: Strengthening regional emergency communications and coordination in the transportation sector by A) commitment by the leadership of the region's transportation agencies to enhance integration of regional coordination and communications, including the RECP[SM] and RICCS[SM], into each agency's own operating procedures (e.g., written into their operations

manuals), and B) additional associated training of operations center personnel. Leadership of each agency would have to commit the time and effort of their staff to examine how best to integrate the regional systems. It will also be vital to undertake exercises and drills both individually and collectively to ensure integration.

Background: Currently personnel from the region's transportation agencies shoulder the burden of regional emergency notifications, information sharing, and the triggering of conference calls as necessary. A major additional source of information has been the "RICCS^{SM} Host Center", a role fulfilled currently by the District of Columbia Emergency Management Agency. The official role of the RICCS^{SM} Host Center is to assist authorized RICCS^{SM} users in transmitting messages those users need to transmit, or to support arrangements for conference calls if needed. However, the Host Center also occasionally sends incident notifications to transportation, public safety, and other authorized recipients on incidents that do or may affect transportation systems, reported by police or, perhaps surprisingly, heard from radio or television media outlets. This duty by Host Center personnel is among the many duties of personnel not specialized in transportation, and therefore the Host Center cannot be seen as a definitive source of information for day-to-day transportation incident information.

Regional communications and coordination, therefore, currently is as an adjunct to duties assigned by the particular agency. However, because the region has these existing, well-equipped centers with incident management personnel, opportunities can be considered for strengthening their role through enhanced training and agency operating procedures (addressing regional communications and coordination).

Each agency has policies and procedures established over many years, ranging from explicitly written rules and procedures to non-formalized practices learned and evolved in on-the-job experience. Procedures vary from agency to agency, depending upon the jurisdictional laws and practices under which each agency functions. The RECP^{SM} and RICCS^{SM,} established only after the September 11, 2001 attacks, are relatively new, limiting the time and efforts to incorporate them into the operations procedures of the region's agencies (particularly across a wide range of personnel).

Often for the region's transportation agencies, only a limited number of personnel, mostly those who have been active in the COG regional emergency planning process, have utilized RICCS^{SM} and are knowledgeable about it. Other agency personnel may be either unaware of or not interested in utilizing the system. The RECP^{SM} and RICCS^{SM} may also benefit from a more thorough consideration of the operations procedures of various transportation agencies, but that is a challenge because of the number and complexity of those

procedures, as well as possible reluctance on the part of participating agencies to share information that is internal and sensitive from a security standpoint.

In 2003, COG staff gave on-site RICCS[SM] training to member agency staffs at four of the region's major transportation operations centers, those of the District of Columbia Department of Transportation, the Maryland State Highway Administration, the Virginia Department of Transportation, and the Washington Metropolitan Area Transit Authority. COG staff remains available for additional RICCS[SM] training. However, such training can only be considered as a seed for continuing training and ongoing use by personnel within these operations centers, due to the large number of ever-changing personnel, and the need to integrate RICCS[SM] into each agency's own operating procedures.

Advantages: The main advantage of this option is that it is perhaps the lowest cost of the four identified options, though there is still a significant and continuing cost involved because there will always be staff turnover and new procedures to address. Ease of implementation is another advantage. It is possible to undertake this activity almost entirely with existing staffs and equipment, though some additional funding for exercises or for regional support would be beneficial. Each agency can custom-tailor its approach to its needs.

Disadvantages: The main disadvantage of this approach is that it does not answer the question of how personnel primarily responsible for agency-specific duties will have time for monitoring and recognizing when an incident crosses the line into being a regional incident, and then acting "with a regional hat on" to initiate and lead regional transportation communications and coordination, over and above agency-specific duties that still need to be fulfilled.

Cost: Potential cost of this item would vary by the amount and specificity of the training and procedures development undertaken, but we have assumed an order-of-magnitude estimate of $500,000 per year regionally, on a continuing annual basis, including regional staff costs and individual agency costs.

Outlook: Training is a must if regional communications and coordination are to take place. The willingness of the leadership of the region's transportation agencies to enhance how their standard operating procedures and protocols address regional communications and coordination, including use of the RICCS[SM], should be considered. And even trained staff working with enhanced procedures still may not have sufficient time in many emergencies to adequately address regional communications and coordination over and above their agency-specific duties.

There have already been a number of efforts to bring stakeholders together, provide training, and discuss the need to coordinate as envisioned in the RECP[SM]. However, a look at the experiences during emergencies since the September 11 attacks shows, despite these training and outreach efforts, the

RICCS[SM] has rarely been used to its potential. The approach also leaves a number of concerns unanswered. Compatibility of procedures across agencies is a concern (for example, one agency may send a RICCS[SM] message for all road closures, whereas another agency may send a message only if the road closure is expected to exceed a threshold duration such as 30 minutes). There must be assurance that all necessary operations personnel in each agency receive training, and not just one or two who happen to be the ones assigned to go to regional meetings, hoping they will be the ones on duty at the time the emergency occurs. Since staff turnover is an issue, training will be a continuing challenge.

Option 3: Strengthening through a Duty Rotation Cycle Among Existing Major Transportation Agency Staffs

Description: Strengthen regional emergency communications and coordination in the transportation sector by assigning to the District of Columbia, Maryland, and Virginia Departments of Transportation, and the Washington Metropolitan Area Transit Authority, on a rotating basis, an expanded duty to be ready to trigger, broker, or undertake regional coordination communications. The duty rotation would cycle, perhaps on a period of a week or a month. These transportation agencies with 24-hour operations centers would be the agencies able to shoulder this duty.

Background: Each of these four agencies already undertakes actions related to communications and coordination, incident management, dispatching and notification, and information logging. Their primary duties are to undertake these activities for the systems they own and manage, and, secondarily, to share information with other agencies. Currently no single transportation agency is authorized to act on behalf of the entire region, in the way comparable to public safety agencies utilize the incident command system at an incident site. This option addresses this by proposing to assign these agencies this duty on a rotating basis within their existing operations centers, with their own existing or expanded staffs.

Some type of governance structure, at least on a voluntary basis, may have to be developed to ensure these activities are coordinated and sustained. Each agency will have to incur or be compensated for the additional cost of doing its share of the regional coordination activity.

Advantages: The main advantage of this approach is that no new institution is necessary, and no new center would have to be built. Needs in terms of additional staff or equipment would be moderate. The four agencies may benefit from having such dual-role personnel with this kind of knowledge, available at sometimes for other, agency-specific duties. Another advantage is that this process could be developed relatively quickly, given availability and

commitment of funding for this activity, potentially from federal or other sources not already utilized for agency activities.

Disadvantages: Increased staffing needs in a variety of agencies, and concerns about greatly increased task loads in the "on-duty" time periods, are disadvantages to this approach. A number of centers would have to be equipped so regional coordination work can be done, which may lead to some redundant investments (though redundancy may be beneficial from a security standpoint). Another concern is that all included agencies must maintain this effort. If any agency for whatever reason is unable to fulfill its portion of this duty, additional burden will be placed on the remaining agencies, or the necessary communications and coordination may go undone. For this and other reasons, the potential effectives of the duty rotation concept for regional communications and coordination may be considered unproven and uncertain.

Cost: Additional staff and equipment would be necessary to undertake this activity whether decentralized, as under this option, or centralized, as under the fourth option. Cost would be similar for both Options 3 and 4 (with perhaps some savings on startup costs for Option 3 versus Option 4), about $5 million to $10 million for start-up costs over the first two-to-three years for Option 3, and $3 million to $4 million annual operating costs, and staffing needs of about 15-20 persons.

Outlook: The duty rotation concept is noteworthy because it answers the question of personnel specifically being on duty, monitoring the region, and ready to initiate regional coordination and communication activities, not as a second priority to agency-specific duties, and not to the detriment of any agency-specific responsibilities. The institutional complexity of four agencies maintaining these activities, however, does not appear to be less than the institutional complexity of creating a new, separate organization as described in the option below, and there do not seem to be major long-run cost advantages to the approach.

Option 4: Creation of a New Regional Transportation Communications and Coordination Organization

Description: Create a new regional organization whose specific primary duty is to monitor regional transportation system conditions and be ready to initiate and facilitate the regional communications and coordination process in the transportation sector. This organization would hire and train specialized staff who would become experts in coordinating regional transportation management, supporting and under the direction of the region's existing transportation agencies.

Background: A new regional organization could serve as the region's transportation information broker among its transportation and public safety agencies. It could be modeled after the TRANSCOM (Transportation Operations Coordination Committee) operation in the metropolitan New York-New Jersey-Connecticut Metropolitan Area, nationally recognized as an effective means to optimize regional mobility during unexpected transportation system failure. The organization's dedicated staff would be ready to trigger, broker, or undertake regional coordination communications. The organization's governance and functions would be tailored to the particular needs of the Washington region.

The separate, dedicated staff and necessary equipment of this organization might be housed at one of the existing major transportation agency operations centers in the region, rotated among those centers, or in a separately developed and dedicated center (as is the case for New York's TRANSCOM). Utilization of an existing center may save some costs, but may have challenges regarding having sufficient space and equipment, and the ability to tailor these to the needs of the regional coordination function without infringing on the needs of the host center.

It is envisioned that such an organization would be a membership organization of its stakeholder agencies, as is TRANSCOM, with agencies such as the state and local departments of transportation, transit agencies, and state or other police agencies comprising the Board of Directors of the organization. It would be a service organization, dedicated to the needs of its member agencies. TRANSCOM (New York) does not control or direct any activity of its member agencies; in fact, it is the member transportation and public safety agencies that direct what TRANSCOM does for them – providing timely information and notifications to help each agency do its job better.

Advantages: The main advantage of creating a new organization is that it is the most definitive answer to regional emergency communications and coordination needs, since it would be tailored exactly toward those needs. Other advantages of creation of a new organization include the development of a permanent staff with expertise on regional incidents and communications, avoidance of increased burden of existing agency staffs, ability to tailor the staff and equipment exactly to the needs of the function, and the ability to have the new organization answer directly to the existing member agencies.

Disadvantages: The critical disadvantages to this approach are the challenge, complexity, and cost of creating a new institution. This option would be as or more costly than the options listed above. Initial costs may be higher if a new separate and dedicated facility is developed for the organization, with lower but still significant costs if a portion of an existing center is used. There also have been views expressed that a new organization would compete for funding against the existing agencies and operations centers, and that new monies

invested in operations would be better spent improving existing activities at existing centers. If such a new organization were started without new monies to support it, it would probably not be a net benefit to the region, since it might force other vital transportation operations programs to be cut. Also, although TRANSCOM in New York has proven its effectiveness since its 1986 inception and is widely supported and lauded by its member agencies, nationally it is a unique organizational model (coming from the large and unique level of institutional complexity of the New York metropolitan area), not proven in any other metropolitan area.

Cost: Based upon review of (New York) TRANSCOM's operations, such a new organization with fully regional, 24-hour-a-day operations might be expected to have a start-up cost of about $10 million over the first two-to-three years), an annual operating cost of about $3-4 million, and a permanent staff of about 15-20 persons.

Outlook: A new regional organization is perhaps the boldest option to addressing regional transportation communications and coordination needs. The Washington metropolitan area has a jurisdictional complexity similar to the New York metropolitan area, and the role of TRANSCOM there has been embraced and supported by a wide range of agencies. New additional funding would be critical to the overall success of a new organization so as not to detract from other necessary activities of the region's transportation agencies. A new organization has strong potential for addressing the region's emergency transportation communications and coordination needs while aiding the region's transportation and public safety agencies in the performance of their individual agency duties.

5. Conclusion

The findings from the REETC Annex development process and experiences during regional incidents since the September 11 attacks demonstrate the need for regional emergency transportation communications and coordination improvements. This paper describes the background and issues related to these considerations, and lays out a number of options for strengthening regional emergency transportation communications and coordination needs. This paper does not recommend any one of the approaches; rather, it identifies and explains them so that an informed discussion on the strategies can take place. While the four approaches all have advantages, disadvantages, and varying cost implications, there is widespread agreement that something must be done to strengthen this vital function.

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APPENDIX
Existing Communications and Coordination Responsibilities and Capabilities in the Transportation Sector

This appendix examines the status of the region's transportation communications and coordination activities and responsibilities as a background to the needs and options identified in this paper.

1. Communications Responsibilities

Even after establishment of the RECP[SM] and the RICCS[SM], ensuring inter-agency coordination in major incidents has remained an issue, particularly during "non-transportation" incidents that secondarily impact transportation conditions. Recognizing that an incident has become a regional incident, especially if there is a significant level of uncertainty about the nature of the incident, remains a challenge for member agency personnel. Personnel busy with incident response have also had to shoulder the additional burden of inter-agency communications, and this has been a difficulty from a resource and time perspective. There is no designated authority or staff to shepherd regional interagency transportation communications on a unified, metropolitan-wide basis. All such communications depend upon existing agency staff to add interagency notifications and communications to their already demanding emergency duties. Options for strengthening communications capabilities within the transportation sector were identified during the course of revising the REETC Annex to address this staffing challenge:

- Further exploring potential technical improvements, particularly interagency database integration
- Improving the effectiveness of the current "voluntary" coordination through training and exercises
- Increasing the specificity of the current "voluntary" coordination, perhaps through an agency-by-agency duty rotation cycle
- Creating and funding a dedicated staff to undertake a specialized function of regional transportation information sharing. For example, metropolitan New York-New Jersey-Connecticut has such an institution, called TRANSCOM.

During the REETC revision process, stakeholders expressed a variety of support, concerns, or objections on all three of these potential approaches, with regard to effectiveness, cost, or institutional complexity. In particular, the cost and cost-effectiveness of establishing a dedicated staff in a new TRANSCOM-like institution was of great concern to many participants. Thus how best to strengthen regional transportation communications and coordination remains to be addressed, and is the topic of this paper.

2. Means of Interagency Communications

The R-ESF #1 – Transportation chapter of the RECP[SM] lists means of communications that may be used by the region's transportation agencies. Most commonly used are unilateral messaging on matters that may have specific interest to individual members, by text messages, e-mail messages, telephone calls, voice messages, and some cellular telephones' "push-to-talk" feature. Communications may be individual-to-individual, or may be routed through one or more of the agencies' operations centers. The RICCS[SM] includes features enabling stakeholders' transmission of text messages; many jurisdiction specific radios and other systems are also utilized.

In instances when personnel from many agencies need to confer, often for reasons of collaboration on decision-making, conference calling may be used. The RICCS[SM] includes features enabling conference calls to be quickly convened. When a representative of one of the transportation agencies (usually one of the major agencies defined as "Level A" agencies in R-ESF #1) wants to initiate a conference call in response to an incident or emergency, the initiator agency will first notify the other agencies through the RICCS[SM] of the need to convene a conference call. This notification can occur by telephone, cellular phone, digital radio, cellular telephone, pager, e-mail, or other means if necessary. This also established a process whereby critical communications between R-ESF #1 member organizations can take place even if the telephone and cellular systems are experiencing overloads.

3. Transportation Systems Surveillance

A critical role for the transportation sector is the need for transportation systems conditions to be monitored. Traffic flow and transit operating conditions are clearly important aspects, but others may include whether debris blocks a roadway, structural safety of a bridge (such as after flooding), or whether public safety responders have closed a facility (but may not have had a chance to notify others of the blockage).

Transportation system conditions are monitored in a variety of ways. Agencies have cameras at key locations, but there is far from universal coverage of the system. Equipment such as in-pavement detectors provides additional data on traffic flow. In emergency situations, live observations by personnel in the field, bus and train drivers, observation aircraft, and the radio and television media will be important, including at or near the incident site.

4. Expertise of Personnel

Raw information is of limited value without the expertise and ability of personnel to understand the implications of and act upon the information if need be. One of the critical issues observed in the workshops held and in actual regional incidents is the ability to recognize that one of any number of small incidents that happen every day has crossed a threshold to be a regional incident; knowledgeable staff have the ability to make such recognitions. Once a regional incident has begun, knowledgeable personnel can:

- Help keep track of aspects of the incident or its ripple effects
- Know to contact personnel or entities that may need to be notified
- Help coordinate actions or responses, including coordination of managing of transportation ripple effects, determine that an incident has ended, and assist in recovery activities.

This can be further illustrated by examples:

- An incident in the parking lot of the Pentagon would be widely understood to have military and public safety implications, but personnel with transportation-specific knowledge may immediate recognize the big transportation management impact to the major bus-rail transfer center adjacent to the Pentagon. This means it will be critical for getting word in a timely fashion to transit management personnel and customers that utilize that transfer center.

- A downtown Washington incident may cause traffic tie-ups that look like they will back up into Arlington. Knowledgeable personnel may recognize that Arlington needs to be notified as soon as possible, among other reasons so they may adjust their nearby traffic signal timing to assist in traffic management in the area.

- An incident on the Metrorail system may have quickly developing impacts on suburban bus systems that serve Metrorail stations. Knowing who needs to be notified and quickly doing so would be a benefit of having knowledgeable staff ready.

The above examples are based upon actual events. If the impact is to a functional area not in the responsibility of the managing agency, often the notification has not occurred in a timely fashion. These examples help show the difficulty facing personnel with an assigned primary responsibility in an incident to anticipate and send notifications concerning all potential side and ripple effects of that incident.

5. Technical Systems and Databases

Enhanced technical systems can help facilitate proper information flow with less human intervention or interpretation. A typical example that has been used in operations centers around the country is an automated computer analysis in an incoming stream of data (for example, from in-pavement traffic detectors), with an alarm sounded notifying operations personnel if certain criteria are met (such as detection of stopped traffic on a freeway).

Many public safety and transportation operations centers log incidents or actions of their agencies into computer databases. Operations personnel must manually input (type) this information into the computer. Once operators have entered this information into an agency's database, theoretically it could be harvested in an automated fashion to be shared with other transportation or public safety operations centers or personnel. The development of Internet technical protocols in recent years enables such data sharing. Even camera images are readily shared on the Internet or Internet-like private computer networks.

Key projects have been undertaken in recent years to improve technical systems design and integration. Examples include the Maryland State Highway Administration CHART System, which provides a software platform for sharing of State Highway data, and the Virginia Department of Transportation Northern Virginia Intelligent Transportation Systems Architecture, which addresses the design and format of how data may be shared. Much of the work identified in these projects, however, remains because of the numerous agencies, sites, and databases involved. These systems address necessary regional emergency coordination situations, such as cases where the incident is not detected by automated equipment, or the nature of the incident is uncertain (particularly true for quickly unfolding non-transportation public safety emergencies) and timely appropriate information cannot be entered into the database. These systems also still depend upon the expertise, ability, and timely action of operations center personnel to enter relevant information into a computer.

Systems integration is promising and potentially quite cost-effective. The idea has been strongly supported by technical staffs of the region's transportation agencies. It likely would be beneficial under almost any envisioned scenario to improve regional transportation communications and coordination.

6. Transportation Operations Centers

The region is served by transportation operations centers, operated by the District of Columbia, Maryland, and Virginia Departments of Transportation, the Washington Metropolitan Area Transit Authority, and several local departments of transportation and transit agencies in the area. These centers

often feature telecommunications and other technological connections to the systems they manage. They have staffs, communications, and database capabilities. They act as focal points of the agency's operations activities, and a point of contact as needed to other agencies, either fellow transportation agencies in different areas, or different functional agencies (such as public safety agencies) within their area. They may ramp up in times of emergency, and serve as transportation emergency operations centers.

Centers typically feature radio and other telecommunications equipment, video feeds and displays from cameras at key locations on the transportation system, computers and database systems, and, critically, dedicated operations staffs overseeing the relevant transportation system, ready to act if a situation arises. Actions may include posting or sharing of information on variable message signs, Web sites, out to fellow agencies, or out to media outlets such as commercial broadcast radio traffic reporters; dispatch of relevant transportation field personnel to an incident site, or marshaling of transportation resources needed for a particular incident (e.g., tow trucks, dump trucks, traffic signal maintenance crews, utility repair crews); control of roadway system management technologies (e.g. retiming of traffic signals, ramp meters, high-occupancy vehicle facility gates); or coordination of roadway and bus operations.

Major centers include:

- District of Columbia Integrated Transportation Management System (ITMS) and Center: The District's transportation management center was newly opened in 2003, and is located in the Reeves Center Building. A supporting system of interconnected traffic signals, cameras, and other equipment is in the process of being installed. The creation of the ITMS has greatly increased the ability of the District to coordinate its transportation management with other agencies and jurisdictions.

- Maryland Department of Transportation CHART Statewide Operations Center (SOC): MDOT's State Highway Administration operates this center, designed and built in the 1990s, in Hanover, Maryland, near BWI Airport. The CHART SOC is interconnected with satellite Transportation Operations Centers co-located in State Police barracks in Annapolis, Baltimore, College Park, and Rockville. The SOC and TOCs have the ability to view and control dozens of cameras, receive data feeds from traffic detection equipment control variable message signs, dispatch State Highway Administration personnel to incident scenes, communicate with fellow agencies, and to serve as "war room" for statewide transportation management during an extended incident, such as occurred during Hurricane Isabel.

- Virginia Department of Transportation Smart Traffic Center (STC): VDOT runs this operations center in Arlington near the Pentagon. The STC can view and control VDOT cameras, receives data feeds from traffic detection equipment, dispatch VDOT personnel to incident scenes, and communicate with fellow agencies. Personnel also have abilities to communicate with and change the timing of hundreds of Northern Virginia traffic signals under VDOT control. Additionally, the STC manages the system of Northern Virginia high-occupancy vehicle (HOV) facilities, include signs and gates.

- Washington Metropolitan Area Transit Authority Operations Center: This downtown Washington center is the hub of all WMATA communications, dispatching, and surveillance of WMATA's buses and trains. An important aspect of WMATA is that it also has a police force, so that transportation management and public safety activities are contained within one agency.

- Local jurisdiction centers include the Montgomery County Advanced Transportation Management System in Gaithersburg and the Prince George's County TRIPS Center in Largo.

7. Regional Interagency Operations Coordination Activities

A critical consideration regarding the region's well-equipped transportation operations centers is that they are, by definition, dedicated to the system they own and operate, within their own jurisdiction. Regionwide, interagency, intermodal activities typically are secondary to the primary activity of managing within each agency's jurisdiction. Nevertheless, these agencies and personnel have recognized the need for coordination, and a number of coordination activities have taken place in recent years.

- Regional Transit Operators Emergency Working Group: Convened by WMATA since 9/11, this group brings together transit operations personnel from around the region to discuss procedures for transit coordination in emergencies, and was influential in development of the R-ESF #1 and the REETC Annex of the RECP[SM].

- Capital Wireless Integrated Network (CapWIN): The CapWIN project, launched in 2000, is a partnership between the States of Maryland and Virginia and the District of Columbia to develop an integrated transportation and criminal justice information wireless network. This will integrate transportation and public safety data and voice communication systems in two states and the District of Columbia and will be the first multi-state transportation and public safety integrated wireless network in the United States. The project will have national implications in technology transfer including image/video transmission and the inclusion of transportation

applications in an integrated system. This project can potentially build a foundation for networks in the region (and nationally). The project will be completed in multiple phases including an initial strategic planning phase (completed), the implementation phase (currently underway) and a continuous development and expansion phase. The status of the project is ongoing "beta-testing" for some agencies. Wider implementation would necessitate additional funding. See www.capwin.org for more details.

- National Capital Region Transportation Planning Board (TPB) Activities: The TPB, as the federally-designated metropolitan planning organization (MPO) for the Washington region, has since 1997 convened the Management, Operations, and Intelligent Transportation Systems (MOITS) Policy and Technical Task Forces. The MOITS Task Forces and numerous technical subcommittees have created forums for discussion, collaboration, and coordination on topics such as traffic signals, regional ITS architecture, traveler information, and transportation incident management. MOITS participants also were active in the ad hoc R-ESF #1 – Emergency Transportation Work Group that supported development of the REETC Annex.

- Maryland Suburban Regional Operations Coordination Committee (ROCC): this partnership of the Maryland SHA, the Montgomery County Department of Public Works and Transportation, and the Prince George's County Department of Public Works and Transportation, began in the 1990s to collaborate on the coordination of traffic management and roadway incident management on the roadways controlled by those three agencies. Activities include regular meetings, technical systems development, and integration of systems among the three agencies.

- Annual Regional Transportation Incident Management Conference: Since 2001, the major transportation agencies of the region have convened this conference, taking place in annually in November, to discuss important related topics and to encourage familiarity among the rank and file of the region's transportation and associated public safety operations personnel.

Excerpt-Overview of the Regional Emergency Evacuation Transportation Coordination (REETC) Annex of the Regional Emergency Coordination Plan (RECP[SM])

March 17, 2004

ITEM 13 - Information
March 17, 2004

Report on Coordination Planning Recommendations for Regional Transportation Evacuation/Protective Actions

Staff Recommendation: Receive briefing on the update of the Regional Emergency Evacuation Transportation Coordination (REETC) Annex of the Regional Emergency Coordination Plan and on the transportation recommendations.

Issues: None

Background: At the February 18 meeting, the Board was briefed on the update of the REETC Annex. On March 4 the National Capital Region Emergency Preparedness Council was briefed on the update of the annex and requested that TPB address the transportation recommendations. TPB representative David Snyder is to report back to the Emergency Preparedness Council on May 6 on the status of the transportation recommendations.

Regional Emergency Evacuation Transportation Coordination Annex

Excerpt – Overview

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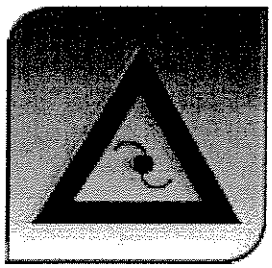

Regional Emergency Evacuation Transportation Coordination Annex

OVERVIEW OF THE REVISED REGIONAL EMERGENCY EVACUATION TRANSPORTATION COORDINATION (REETC) ANNEX

The Metropolitan Washington Council of Governments (COG) adopted the Regional Emergency Coordination Plan (RECP[SM]) on September 11, 2002. Included in the RECP[SM] was a Regional Emergency Support Function (R-ESF) #1 – Transportation chapter, as well as a Regional Emergency Evacuation Transportation Coordination (REETC) Annex. R-ESF #1 and the REETC Annex addressed regional emergency transportation issues, with the R-ESF #1 having an overall perspective, and the REETC Annex focusing particularly on events that might involve evacuation or other protective actions for the population.

A new update of the REETC Annex was undertaken from April 2003 to March 2004. The revised REETC Annex represented an improvement over the September 2002 edition by incorporating the following features:

- An increased level of involvement of federal, state, and local emergency management agency personnel, bringing their vital perspectives into the document
- An improved structure to address how regional emergencies often begin, unfold, and evolve, and strategies to address incident evolution and periods of uncertainty in that evolution
- Better integration with associated protective actions planning, including public warning and education strategies and human behavioral considerations
- More technical detail in the transportation analysis, with better supporting information, databases, and Geographic Information System (GIS) files
- Lessons learned in real incidents, as well as input generated by a series of scenario-based emergency transportation planning workshops held in conjunction with the REETC Annex update process.

The revised REETC Annex follows the standard RECP[SM] chapter outline:

- An "Introduction" section, including a listing of participating agencies and overview of the REETC Annex.
- A "Policies" section, describing the relationship of the REETC Annex to participating agency actions.

- A "Situations" section, examining twelve situations critical to emergency transportation planning.
- A "Concept of Coordination" section, addressing how R-ESF #1 will coordinate (similar to a "concept of operations").
- A "Responsibilities" section, including systems responsibilities and "essential elements of information" to be shared with R-ESF #5 (Information and Planning).
- A "Preparedness Cycle" section, addressing maintenance of regional readiness on REETC Annex issues.

Following the main text of the REETC Annex, there are three extensive appendices:

- Appendix I contains a set of emergency through route and Metrorail maps, resulting from coordination that took place during revision of the REETC Annex, and reflecting the maps and routings designated by and under the purview of the District of Columbia, Maryland, and Virginia Departments of Transportation and the Washington Metropolitan Area Transit Authority. It was noted in developing the Annex that routes to be used in emergencies are not fixed in advance; rather, they should be identified by officials as safe and appropriate to use according to the nature of the regional emergency.
- Appendix II is a review of findings from technical analysis on potential impacts of successful demand management and public messaging strategies on the region's transportation system during an emergency.
- Appendix III contains sets of worksheets to provide structure to transportation agency coordination during regional emergencies, including detailed (filled-in) worksheets resulting from workshop discussions held during the REETC Annex update, other sample (filled-in) worksheets addressing several different types of regional emergencies, and a set of blank, ready-to-use worksheets that transportation agencies may utilize in emergencies to guide interagency communications.

Revision of the REETC Annex to Reflect Stages or Chronology of a Regional Incident

The REETC Annex follows the same format as the other components of the existing RECP[SM], with revised and improved details. These details address *communications strategies* among transportation stakeholders; *systems management strategies* to get the optimum performance out of roadways and transit in the evacuation or other emergency; and *demand-oriented strategies* to encourage prioritization of use of transportation infrastructure by those who most need it. The structure has been revised to reflect the typical chronology or evolution of an incident and its key stages. These stages may be summarized as:

- Discovery of an incident
- Initial transportation reaction and advice
- Convening of transportation representatives (R-ESF #1)
- Convening of regional decision-makers (R-ESF #5 [Information and Planning])
- Agency follow-through actions, and advice to the public (R-ESF #1 through R-ESF #5 to R-ESF #14 [Media Relations and Communications Outreach])
- Continuance and updates
- Recovery or re-entry actions.

The REETC Annex focuses on transportation coordination during a major emergency involving evacuations or other protective actions, and addresses both components.

Transportation coordination issues examined included transportation system and demand management strategies; communications among transportation agencies; and essential elements of information to be provided to the emergency managers and regional decision makers in R-ESF #5 (Information and Planning). Workshops held during revision of the Annex examined transportation coordination that might take place during specific scenarios, including a potential explosion at Ronald Reagan Washington National Airport, an ice storm, and a complete, extended closure of the Metrorail system. These workshops provided opportunities for stakeholders to probe the effectiveness of regional emergency transportation communication and coordination activities and interactions, such as which agency might take the lead to initiate regional transportation coordination; timing of potential conference calls; and how critical information for transportation management will be obtained and shared.

Protective actions issues associated with emergency transportation were also examined in developing the Annex and in the workshops. These included advance public education; clear warning systems giving appropriate guidance and continuous updates; coordination across jurisdictions, functions, and all levels of government for message content; consideration of special populations such as schools, nursing homes, hospitals, and correctional facilities; and pet or animal considerations in evacuations.

The REETC Annex and Communications

Incidents can affect a large portion of the Washington, D.C. region, with many agencies involved. Even in smaller incidents the impact often will become widespread, especially if they occur at a critical location such as one of the bridges over the Potomac River. It is necessary to recognize early that a local incident may have a widening impact, and that an informed stakeholder should take the lead on shepherding the regional transportation coordination and communications process. Since many incidents affect the entire metropolitan area,

or large portions of it, timely communications are vital inter-jurisdictionally and inter-functionally.

September 11, 2001 was a watershed event in cementing the perception that participants must deal with major incidents as a region, in addition to individual responses. Technology has enabled instant communications, resulting in increased expectations for communicating. One important regional response to 9/11 was to form the means and method for inter-jurisdictional and inter-agency communications and coordination. As a means, COG developed the Regional Incident Communications and Coordination System (RICCS[SM]). As a method, COG developed the Regional Emergency Coordination Plan (RECP[SM]), of which the revised REETC is an important component.

The primary functions of the RICCS[SM] are to support emergency notifications and interagency conferencing. Text messages can be sent to appropriate recipients' pagers, cell phones, or e-mail . Conference calls among key regional decision makers and responders in various function areas can be convened quickly (30 minutes). Such conference calls enable regional incident assessment, coordination of decisions, and crafting of common messages to the media and public. RICCS[SM] supports interagency communications. Information is provided by member agencies (not a new, independent source of information). The Regional Emergency Coordination Plan (RECP[SM]) provides the framework for and structure of the coordination that can be done via the RICCS[SM].

Communications Responsibilities

Challenges have remained in the transportation sector even after establishment of the RECP[SM] and the RICCS[SM]. Enabling and ensuring inter-agency coordination in major incidents has remained a challenge, particularly during "non-transportation" incidents that secondarily impact transportation conditions. Recognizing that an incident has become a regional incident, especially if there is a significant level of uncertainty about the nature of the incident, remains a challenge for member agency personnel. Personnel busy with incident response have also had to shoulder the additional burden of inter-agency communications, and this has been a challenge from a resource and time perspective. There is no designated authority or staff to shepherd regional interagency transportation communications on a unified, metropolitan-wide basis. All such communications depend upon existing agency staff to add interagency notifications and communications to their already demanding emergency duties. Options for strengthening communications capabilities within the transportation sector were examined during the course of revising the REETC Annex to address this staffing challenge:

- Improving the effectiveness of the current "voluntary" coordination through training and exercises

- Further exploring potential technical improvements, particularly interagency database integration
- Increasing the specificity of the current "voluntary" coordination, perhaps through an agency-by-agency duty rotation cycle
- Creating and funding a dedicated staff to undertake a specialized function of regional transportation information sharing. For example, metropolitan New York-New Jersey-Connecticut has such an institution, called TRANSCOM.

Stakeholders expressed a variety of support, concerns, or objections on all three of these potential approaches, with regard to effectiveness, cost, or institutional complexity. In particular, the cost and cost-effectiveness of establishing a dedicated staff in a new TRANSCOM-like institution was of great concern to many participants. How best to strengthen regional transportation communications and coordination remains a key issue which needs to be addressed by the region.

Key Public Communications and Warning Considerations

Studies and discussions leading to this revised edition of the REETC Annex indicated that advance public education and clear, consistent, and timely messaging during an incident have a significant impact on people's behavior in an emergency situation. If people are informed in advance about the different kinds of incidents that might occur, and on how to best prepare for and react to these incidents, they are more likely to act both in their own self-interest and in the overall public interest in effectively managing the emergency.

Case studies and extensive research and experience with civilian responses to emergencies suggest that achieving public compliance with emergency warnings and recommended actions is a major effort, requiring advance public education, careful pre-crafting of messages, and timely and repeated dissemination of unambiguous messages by credible sources over multiple channels of communication. Experience has shown that people are generally reasonable and cooperative when they are given adequate information about an emergency, which underscores the importance of getting official information out as quickly as possible, and updating it regularly.

In emergencies, the "first instinct" of fleeing or evacuating may be exactly the wrong thing to do. It may be safer to stay in place. Advance education on appropriate responses to emergency situations, and good and timely public communications in the event of an emergency are among the most critical components of effective emergency management procedures.

Transportation System Impacts of Communications and Demand Management

In the process of developing this REETC Annex, analysis has been undertaken to test the level of impact that communications and demand management might have on the region's roadway system in an emergency. Appendix II of the REETC Annex shows maps and detail from this technical analysis.

The greatest potential for improvement of flow on the region's roadways, according to the analysis, lies in a reduction of demand (e.g., number of trips). This reinforces the concept that education and messaging to the public not to drive if not necessary for safety reasons may be the best course of action during an emergency. Even moderate levels of compliance with the "if you are safe, stay where you are" message can help alleviate projected congestion and improve flow for both persons evacuating from danger as well as responder vehicles. Analysis conducted during the update of the REETC Annex suggested decreases in travel times by as much as 50% for some critical evacuees, especially in the critical first 30 minutes of a regional incident, when emergency responders and people fleeing danger are most in need of travel.

Demand reduction strategies may offer the possibility of best facilitating the needed transportation response to an emergency, could be developed in the near future, and could be implemented without the large capital expenditures and long construction periods associated with transportation system capacity increases. Additionally, information developed in conjunction with the REETC Annex may help transportation agencies to identify bottlenecks, and in turn to identify which transportation system capacity improvements could further improve levels of service under emergency conditions.

Summary

Revision of the REETC Annex provided an opportunity to strengthen regional emergency transportation coordination, and to identify areas where further strengthening is needed. The need for more extensive public education well before an emergency takes place was made clear, as was the need to have a concerted, coordinated protective actions-focused regional effort to address public information, outreach, and timely messaging during an incident. A need was also identified for continuing planning to strengthen regional emergency communication and coordination in the transportation sector, focused in particular on the management of inter-agency communications, and communications with the public, on a real-time basis during a regional incident.

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