

Action Strategy Paper: Security and Emergency Management

Prepared for the Chicago Metropolitan Agency for Planning

November 2008



the **VOLPE**
center

Anna L. Biton

John A. Volpe National Transportation Systems Center
Research and Innovative Technology Administration
U.S. Department of Transportation

Table of Contents

Executive Summary	1
1.0 Introduction and Context	3
1.1 Introduction	3
1.2 Scope of Paper	4
1.3 Federal Context	4
1.4 Role in Regional Comprehensive Planning	4
1.4.1 Connection to the GO TO 2040 Planning Process	5
2.0 Practices by Peer MPOs.....	5
2.1 Security and Emergency Management in Regional Long Range Transportation Plans	6
2.2 MPO Roles.....	7
2.2.1 Regional coordinator or convener	7
2.2.2 Regional information clearinghouse	8
2.2.3 Champion / Lead Plan Development.....	9
2.3 Incorporating Security / Emergency Management into MPO Activities.....	10
2.3.1 Travel Modeling.....	10
2.3.2 Intelligent Transportation Systems (ITS).....	10
2.3.3 Transit.....	11
2.3.4 Geographic Information Systems (GIS).....	12
2.3.5 Special Needs Populations	12
3.0 Issues and Options for Incorporating Security/Emergency Management in GO TO 2040 Planning.....	14
3.1 Take Advantage of Existing CMAP Activities	14
3.2 Set Policies and Standards	14
3.3 Facilitate Regional Discussion about Security and Emergency Management ..	15
4.0 Recommendations.....	16
4.1 Identify Regional Role and Activities	16
4.2 Develop Security and Emergency-Related Policies	16
4.3 Integrate Security/Emergency Management into Existing CMAP Activities ..	18
4.4 Consider Security/Emergency Management Issues in Evaluating System Performance	18
Conclusion	19
Appendix 1: Federal Grant Programs and Transportation Security Policies.....	20
Grants.....	20
Policies	20
Appendix 2:.....	21
Security and Emergency Planning Regional Long Range Transportation Plans	21
Appendix 3: Potential MPO Activities Related to Security and Emergency Management	27
Appendix 4: Information Sources.....	28

Executive Summary

This action strategy paper provides an overview of how the Chicago Metropolitan Agency for Planning (CMAP) can incorporate security and emergency management into its ongoing planning activities, such as geographical data management and intelligent transportation system development, as well as preparation of the *GO TO 2040* Plan (e.g., building and evaluating scenarios, designing and using indicators, and evaluating capital projects). Specifically, it offers CMAP guidance on framing its role in regional security planning, as well as weaving the topic into ongoing CMAP planning activities. Addressing security and emergency management issues can support the policies, investments and actions needed to implement CMAP's [vision](#) to promote and sustain an efficient urban economy as well as efficient travel throughout the region.

The paper is divided into four sections:

1. Introduction and Context
2. Practices by Peer MPOs
3. Issues and Options for CMAP
4. Recommendations

Examples from leading-edge MPOs around the United States indicate that MPOs are well-placed to play an important role in planning for security and emergency management in a regional setting. It is unlikely and generally inappropriate for an MPO to take primary responsibility for security and emergency management planning. MPOs typically do not own the major transportation assets, have general operational responsibilities, nor are their staff trained as emergency responders. Consequently, the most effective roles for an MPO to play appear to be in coordinating among multiple organizations from local to state to national levels, introducing a regional and multi-modal perspective (including system performance), and collecting and disseminating information during an emergency.

By exploring security and emergency management-related initiatives at peer MPOs, we show how security-related issues can be successfully integrated into the regional comprehensive planning process. An important component of integration is linking security and emergency management to other action strategy topics (e.g., freight, climate change, private-public partnerships, public transportation, arterial and local road improvements, travel demand management, and addressing accessibility). Through a closer look at peer MPOs, it is clear that CMAP could play a distinct and value-added role within the Chicago region, as well as incorporate security and emergency management planning activities into its everyday transportation planning functions, as well as into its comprehensive long-range planning. These activities might include:

- Development of security-related policies;

Action Strategy Paper for CMAP: Security and Emergency Management, page 2

- Consideration of security and emergency management in investment and funding decisions;
- Consideration of evacuation and multi-modal system redundancy (and performance measures) in regional travel modeling;
- Development of an inventory of special needs populations;
- Coordination with other key MPO functions, such as:
 - Regional public transportation support,
 - Geographic Information Systems (GIS) data management and analysis,
 - Intelligent Transportation Systems (ITS) development and support; and
- Development of partnerships across the region to address security and emergency management.

Based on the research reported in this paper, the Volpe Center recommends that CMAP take the following specific steps:

- Identify Regional Role and Activities
- Develop Security-Related Policies
- Integrate Security/Emergency Management Issues into Existing CMAP Activities
- Incorporate Security/Emergency Management in Evaluation System Performance

CMAP can use the planning process to influence the direction of the policies and investments involved in regional security planning. By including security and emergency management in all aspects of key decisions (e.g., land use, infrastructure investments, quality of life, and economic growth and development), CMAP – working with its partners in the region – can significantly increase the degree of success in implementing the Chicago region’s vision, while also improving the region’s transportation system, and supporting federal planning requirements.

1.0 Introduction and Context

1.1 Introduction

This paper complements internal work by CMAP on *GO TO 2040* by developing recommendations on how to incorporate security and emergency management planning in scenarios, indicators, investments, policies, and actions.

In the past several years, MPOs have begun to consider security and emergency management more widely in their planning activities. Events such as the terrorist attacks on September 11, 2001, as well as Hurricanes Katrina and Rita in 2005 highlighted the importance of transportation coordination in response to human and natural disasters. In 2005, the federal surface transportation authorizing legislation (SAFETEA-LU) explicitly expressed this need, stating that: “MPOs shall conduct a metropolitan planning process that provides for consideration of projects and strategies that will “increase the security of the transportation system for motorized and non-motorized users.” Further, under SAFETEA-LU, the metropolitan transportation planning process should be consistent with the [Strategic Highway Safety Plan](#), and other transit safety and security planning and review processes, plans, and programs, as appropriate.

Research of many MPOs around the country indicates that:

- Security and emergency management is still a relatively new area for many MPOs;
- It is unlikely and generally inappropriate for an MPO to take direct responsibility for security and emergency management;
- MPOs typically do not own the major transportation assets, have general operational responsibilities, nor are their staff trained as emergency responders; and
- It is prudent to consider carefully appropriate roles within a specific regional context.

Nonetheless, examples from leading-edge MPOs show that MPOs are well-placed to play a value-added role in regional security and emergency management affairs. The most effective roles for an MPO to play appear to be in:

- Coordinating among multiple participating agencies;
- Introducing a regional and multi-modal perspective (including system performance); and
- Collecting and disseminating information during an emergency.

Information on how MPO leaders address these factors in their planning and decision-making provides a useful framework for CMAP as it designs the details of its *GO TO 2040* Plan.

1.2 Scope of Paper

Using examples of security and emergency management planning within MPOs, we identify primary considerations for CMAP in including security and emergency management in its regional comprehensive planning. These considerations include:

- Development of security-related policies;
- Consideration of security and emergency management in investment and funding decisions;
- Consideration of evacuation and multi-modal system redundancy (and performance measures) in regional travel modeling;
- Development of an inventory of special needs populations;
- Coordination with other key MPO functions, such as:
 - Regional public transportation support,
 - Geographic Information Systems (GIS) data management and analysis, and
 - Intelligent Transportation Systems (ITS) development and support; and
- Development of partnerships across the region to address security and emergency management issues that are not otherwise being addressed.

1.3 Federal Context

As indicated above, MPOs are required by federal transportation policy to consider projects and strategies that will “increase the security of the transportation system for motorized and non-motorized users.” This responsibility has not been clearly defined, leaving some discretion to MPOs to determine how to meet the requirements most appropriately.

There are other federal policies and grant programs related to transportation security and urban areas, such as the [Urban Area Security Initiative](#). While MPOs may not be able to apply directly for funds, they may be able to provide assistance to and/or partner with other agencies that could apply. Some of the examples discussed later in this paper show how MPOs have been able to take advantage of some of the grant programs and support the municipalities in their regions. For more information on federal grant programs and federal transportation security policies, see Appendix 1.

1.4 Role in Regional Comprehensive Planning

Due to the wide variety of political and institutional contexts for MPOs around the country, there is no one model that best illustrates an effective role for MPOs in security /emergency management planning. However, because an MPO already often provides a forum for regional cooperative decision making and also has responsibility for allocating financial resources to improving the performance of the transportation system, the MPO is certainly an important player on the regional stage in which security and emergency management actions are taken.

1.4.1 Connection to the GO TO 2040 Planning Process

Security and emergency management overlaps several other action strategies within the GO TO 2040 Plan. This overlap provides an opportunity to weave in security and emergency management throughout the ongoing planning process, even if it does not play a prominent role as a stand-alone topic. The table below introduces some of the opportunities for inclusion or coordination with other topics.

Topic	Potential Linkages / Considerations
Public-Private Partnerships	Ensure that condition and capacity standards are maintained, and coordinate with private operators
Climate Change/Energy	The need for transportation to adapt to changing weather conditions and account for evacuation needs
Freight	Need to keep freight safe, consider routes for evacuation, maintain communication with multiple private operators, and restore activity after an event
ADA	Develop and maintain information on locations and needs of special populations, ADA-accessible vehicles and equipment. Could be incorporated into MPO's Coordinated Human Services Transportation Plan
TDM	Travel demand management is important for evacuation to maintain capacity of key routes, ensure that people are not stranded
Arterial and local road improvements	Need to ensure that important routes are in good condition; possibly prioritize investments based on security and emergency management needs; keep track of construction activities and temporary closures as they may relate to evacuation needs
Public Transportation	Need to coordinate with RTA, CTA, METRA on evacuation planning, contingencies if public transportation were unavailable. Other potential co-benefits with security investments, for example: security cameras may support the quality and safety of services, thereby supporting more transit usage.
Vehicle technology and fuels	Long-term sustainability and security of the system depends in part on access to vehicles and fuel, and providing alternatives to an unstable reliance on foreign oil.

2.0 Practices by Peer MPOs

This section provides a summary of the work of several leading-edge MPOs in incorporating security and emergency management into their regional comprehensive planning process. Their roles are varied and range from providing general support to existing state and regional activities, to leading training exercises and writing plans.

The MPOs surveyed in this work are primarily in large metropolitan areas, with a level of complexity comparable to the Chicago area. Their activities vary somewhat depending on relatively frequent experience with natural disasters (such as in California and Texas), and direct experience with terrorist attacks (such as in Washington, DC). While some of these MPOs play a more active role than might be appropriate for CMAP, they provide useful models of the types of activities that CMAP could consider for the 30-year planning horizon. The following sections provide information on how these issues are addressed in long range transportation plans, the types of roles that MPOs play, as well as examples of how security and emergency management issues are incorporated into regular MPO activities. It should be noted that while the highlighted activities may overlap with other categories discussed, the categories provide insight into how the MPO views its primary responsibility regarding security and emergency management.

2.1 Security and Emergency Management in Regional Long Range Transportation Plans

As addressing security and emergency management issues is a relatively new task for many MPOs, it typically is not featured prominently in regional Long Range Transportation Plans (LRTPs). The treatment of security issues in the plans reviewed for this paper ranged from a short paragraph stating a vision and overarching policies, to a 20-plus page chapter describing regional conditions, security-related efforts, the role of the MPO, and the regional transportation security strategic plan. In several cases, the security section was available as an appendix. More detailed information is provided in Appendix 2.

The majority of security sections in LRTPs provide basic information on the following topics:

- Federal and state (if applicable) requirements regarding security and emergency management in transportation planning;
- Definition of 'critical infrastructure' and identification of key resources in the region;
- Important state and/or regional partnerships and efforts related to transportation security planning, and the MPO involvement; and
- Specific MPO policies and/or activities related to security and emergency management (both current and planned).

Some MPOs also mention security issues more generally throughout the LRTP, such as the North Jersey Transportation Planning Authority (NJTPA) plan that includes security considerations in the planning goals and factors, investment principles, and investment guidelines. These connections tend to be somewhat vague, however, stating that "security measures should, whenever possible, be included in the planning, design, and implementation of all projects."

Topics such as the importance of transportation system redundancy and the use of regional travel modeling are also introduced in several LRTPs, such as those from North Central Texas COG (NCTCOG), Capital District Transportation Committee (CDTC), and the New York Metropolitan Transportation Commission (NYMTC). Again, however, the discussion lacks specific details or standards. The NJTPA plan highlights several specific projects, and where relevant, mentions how the projects will respond to or help the region to respond to security concerns.

While several MPOs are starting to consider security issues in transportation system performance and project selection, specific quantitative standards are relatively new and not yet common. This might be a place for CMAP to establish itself as a leader among MPOs.

2.2 MPO Roles

2.2.1 Regional coordinator or convener

Because of an MPO's position coordinating among multiple regional entities on a variety of transportation-related issues, the role of coordinator or convener is a natural fit in relation to security and emergency management. Several of the MPOs reviewed for this paper play this role, although all in different ways.

After the attacks on the Pentagon in 2001, the [Metropolitan Washington Council of Governments \(MWCOG\)](#) received a grant from Congress for emergency planning. The general consensus was that communication among agencies needed to be improved. MWCOG already played a role in facilitating discussions of important issues around the region, and began to convene meetings to review emergency response. Through this effort MWCOG was involved with the development of the [Regional Emergency Coordination \(RECP\) Plan](#), and had primary responsibility for the transportation component. The focus of the transportation component is on communication and coordination among jurisdictions and agencies. A newer program¹ has since begun that will be responsible for managing the ripple effects of incidents, including traffic crashes. The program is funded by a combination of a federal earmark and state matching funds. The coordinated approach will mean that agencies give up some of their independent actions and responsibilities. Negotiating these agreements has been challenging at times because the program requires participating agencies to agree to a coordinated approach, which means giving up some of their independent actions and responsibilities.

¹ Conference Proceedings 39: *The Metropolitan Planning Organization, Present and Future*. Security and Emergency Response Breakout Session (pp. 54-58 of 76) <http://onlinepubs.trb.org/onlinepubs/conf/CP39.pdf>. 2006.

The [Sacramento Area Council of Governments \(SACOG\)](#) also plays the role of regional convener and coordinator with respect to security and emergency management. There is no one staff member with overall responsibility for security; it is incorporated into multiple routine planning activities. The three primary areas with activities related to security are transit, ITS, and GIS. The MPO Transit Committee asked SACOG to help coordinate activities in the large 6-county area, with 14 transit providers. Toward that end in October 2007, SACOG hosted a workshop to simulate a flood disaster with several of the region's transit operators. SACOG has also applied for or assisted partners to apply for grant funds to improve regional GIS data.

The [Capital District Transportation Committee](#) in the Albany, NY area views its role as highly collaborative with NYSDOT, to provide a forum for operational discussion related the transportation system in the Capital District. CDTC and NYSDOT Region 1 have established a Regional Operations Committee that focuses on coordination among transportation agencies, public safety, and emergency response teams. CTDC also coordinates public information dissemination strategies and supports regional and local agencies on the local preparedness plans developed by the [State Disaster Preparedness Commission](#).

2.2.2 Regional information clearinghouse

Because MPOs routinely collect and maintain vast amounts of data related to the transportation system in the region, it may be a natural extension for them to maintain and share information that could be important in case of emergency, such as current road closures or operating status of a transit line. It should be noted that it may not be appropriate for the MPO to maintain classified or otherwise sensitive information, or that such information would have different dissemination policies associated with its use.

The [Metropolitan Transportation Commission \(MTC\)](#) in the San Francisco Bay area has been involved with emergency response for nearly two decades, due to earthquake activity in the region. In 1996, a task force with representatives from OES, MTC, Caltrans, airports, seaports, and Bay Area transit operators developed the Trans Response Plan, which defines roles for each agency during an emergency. The key roles for MTC are to facilitate regional transportation public information and regional transportation coordination. MTC also maintains the Regional Transportation Information Clearinghouse, which entails the following steps:

- *Collect and analyze* each agency's damage and operating status.
- *Develop* an ongoing regional transportation status report for all nine counties throughout the course of an emergency.
- *Distribute* regional transportation status reports at regular intervals to transit agencies, the state OES, news media and other public information access venues so the traveling public can be informed as new events occur and situations

change.

The [Southern California Association of Governments \(SCAG\)](#) in the Los Angeles area has begun to assess its strengths in and define its contribution to security and emergency management planning in the region. SCAG's [Regional Preparedness Goal](#) is "to achieve and sustain at risk target levels of capability to prevent, protect against, respond to, and recover from major human-caused or natural events in order to minimize the threat and impact to lives, property and the region." SCAG's plan identifies the key areas of GIS, transportation modeling, and development of a comprehensive regional ITS architecture as its greatest potential contributions to security and emergency management planning in the region.

In addition to the information systems, SCAG recognizes the opportunity to capitalize on its position as a regional convener to educate officials about transportation-related issues related to safety and security, and help facilitate mutual aid agreements between governments. SCAG provides policy advice at the strategic, rather than tactical level.

2.2.3 *Champion / Lead Plan Development*

A less common role for the MPO to play is that of champion or lead plan developer. In this role, the MPO works to develop regional consensus on operations planning and works with operating agencies to create programs and projects that improve system performance. In some cases, system-oriented performance measures might be used to identify strategic operations gaps in the transportation system.

Following Hurricane Rita, the [Houston-Galveston Area Council \(HGAC\)](#) hosted and staffed an Evacuation and Response Task Force with the following objectives:

- Document regional lessons learned from the Hurricane Rita evacuation;
- Improve communication between local governments and regional and state agencies;
- Identify the challenges that face the region; and
- Provide both short- and long-term recommendations.

Since Hurricane Rita, regional councils of government are directed by a Texas Executive Order to play an active role in emergency response and planning. The order directs the councils to establish a unified command structure to respond to hurricanes and other disasters, collect and analyze data on special needs population groups, and develop an evacuation plan. As part of these activities, HGAC has published a "Hurricane Preparation Communications Plan for Populations with Special Needs in the Thirteen County Planning Region."

The [North Central Texas Council of Governments \(NCTCOG\)](#) plays a broad regional role in emergency preparedness, as well as activities specifically related to transportation. The Emergency Preparedness Department (EPD) coordinates trainings

for responders and medication distribution exercises, and has responsibility for developing regional emergency preparedness plans. The EPD works closely and partners with the MPO's transportation department. On the transportation side, NCTCOG plays primarily a coordination role, seeking to improve the security of the transportation system throughout the region by supporting ongoing local, state and federal initiatives. NCTCOG uses the regional travel model to support evacuation and medical distribution planning, and has worked with the transit providers on coordination efforts regarding hurricane evacuation.

2.3 Incorporating Security / Emergency Management into MPO Activities

2.3.1 Travel Modeling

Travel models provide an opportunity to address key system performance issues related to evacuation and transportation security. As the agency with primary responsibility for building and maintaining the regional travel model, an MPO can contribute significantly to regional security and emergency management efforts through targeted use of the model.

As part of assessing potential medicine distribution sites in case of emergency, [NCTCOG](#) uses its regional travel model. They use the model to examine the traffic analysis zones (TAZs) in which the distribution sites are located. Criteria include TAZ origins and destinations, percent of population expected to access each site, additional potential sites in a TAZ, and transportation volumes near the site.

Following Hurricane Rita, [HGAC](#) used the model to examine potential evacuation routes and the impact of different conditions on the highway network using new forecasting tools. Bottleneck points along the freeway system were identified, and alternatives to address these problems were analyzed. On the basis of the capacity of the freeway system, HGAC concluded that clearing the evacuation vehicles would take about 53 hours under ideal conditions, which significantly understates the likely situation. These results further confirm the need for coordinated evacuation efforts.

2.3.2 Intelligent Transportation Systems (ITS)

Intelligent transportation systems (ITS) typically add information and communications technology to transportation infrastructure and vehicles in order to manage several competing factors, such as vehicles, loads, and routes to improve safety and reduce vehicle wear, transportation times, and fuel consumption. MPOs are typically involved with the development of ITS across a region, in order to improve system performance and safety.

On a regional level, ITS may be able to assist in case of emergencies by managing road closures, evacuation management, public transportation security, dissemination of real-time information to motorists and first responder agencies, allocation of resources for

responders' ingress and evacuation egress, and provide routing information for out-of-area responders.

[SACOG](#) is currently working with partner agencies to implement an ITS project called the [STARNET System](#). The web-based model will tie all facilities together for incident management on a daily basis so that all will know what is happening in other systems. It will also partner with the transit agencies that use automatic vehicle location (AVL) technology so that vehicles can be located and accounted for in case of emergency. The baseline functionality is expected to be running by spring 2009. While this system is not intended specifically for security and emergency management application, there is potential for increased connection in the future.

In the [NCTCOG](#) region, ITS infrastructure is an integral part of the Transportation System Security Program. Traffic and transit management center ITS components include closed circuit televisions, lane control signals, dynamic message signs, ramp meters, mobility assistance patrols, vehicle detectors on limited-access facilities, transit vehicle tracking, in-vehicle navigation, integrated radio system/automated vehicle location, automated fleet maintenance system, and automated high occupancy vehicle lane enforcement. These traffic monitoring/incident detection and response systems may all be utilized in improving the security of the regional transportation system.

[SCAG](#) has identified its role in developing the regional ITS architecture as a key contribution to security and emergency management planning in the region. The region's ITS architecture is a framework for ensuring institutional agreement and technical integration of technologies for the implementation of projects or groups of projects under an ITS strategy. Major elements of SCAG's envisioned role include:

- Identifying more command and control for Critical Transportation Infrastructure (CTI);
- Developing mechanisms to make data available through Traffic Management Centers (TMCs) to assist first responders and train them to take advantages of these resources;
- Identifying system detection gaps and using this to prioritize funding;
- Prioritizing command and control infrastructure through funding; and
- Supporting county-level Offices of Emergency Services (OESs) through the programming and planning of funding to TMCs and other activities.

2.3.3 *Transit*

Transit operations are a vital component of successful security and emergency management, as mass transit is necessary for evacuating special needs populations that don't have or cannot access personal vehicles. In addition, given limited capacity in most roadway networks for large-scale evacuation, transit options are essential particularly for those who do have access to their own personal vehicles. In regions with multiple transit providers, coordination is vital to allow different systems to serve

each other's passengers or provide complementary or redundant services as necessary. [While the focus in this paper is on using transit to support security and emergency management, we acknowledge the importance of securing transit assets, in light of attacks on systems in various parts of the world in recent years.]

At the request of the MPO Transit Committee, [SACOG](#) has been active in coordinating with the 14 transit providers (not including Amtrak) in the 6-county Sacramento area. Activities have focused on pre-flooding evacuation rather than recovery. In October 2007, SACOG hosted a workshop to simulate a flood disaster with the region's transit operators. The MPO and regional agencies are now strategizing on how to address the recommendations outlined in the post-exercise report. SACOG also helped to sponsor a Transportation Safety Institute course for regional transit operators – "Effectively Managing Transit Emergencies." While SACOG has coordinated among para-transit providers, it does not have a full inventory of accessible vehicles.

2.3.4 Geographic Information Systems (GIS)

MPOs typically maintain a considerable volume of regional electronic data, on, for example, the transportation network as well as locations of schools and hospitals, water bodies and other key locations. As keepers of such information, it may be appropriate for an MPO to use and provide some of this information for security and emergency management purposes, as well as to maintain additional relevant information. An MPO may also be in a position to apply for grants to develop regional information that aids all municipalities in the region, but would not be feasible for any one municipality to produce or organize. GIS data management may be an instance in which not all of the information would be easily publicly available, as there could be security-related consequences to its sharing.

[SACOG](#)'s role in managing regional data has placed it well to develop a regionally consistent GIS database. In 2003, SACOG received a county OHS grant to develop a common mapping system for the region, which includes a street address maintenance portal. Cities can update addresses weekly and a new file is published monthly and sent to public safety dispatch systems. Some of the name and address data is not shared publicly. Information on public utilities is mostly lacking, as SACOG has had little success in obtaining that information. SACOG also took advantage of another grant opportunity and received funds from the [Urban Area Security Initiative](#) in 2006 to update the imagery and oblique photography for the region. They were able to purchase approximately 1000 square miles worth of data to make available on a regional basis.

2.3.5 Special Needs Populations

Evacuation plans for special needs populations are particularly important, as they frequently cannot evacuate themselves in case of emergency. They may also have less access to emergency information, and therefore require a more concerted outreach

effort. MPOs are required to produce a consolidated human services transportation plan, which involves outreach and coordination with agencies serving some of these populations. While there are potential privacy concerns with maintaining name and address information of people requiring additional assistance, there may be opportunities for improved partnerships with these agencies. In addition, MPOs are required to conduct additional outreach and consider environmental justice issues in planning activities. While most MPOs do comply with these requirements, few do it in a truly comprehensive, trust-building or participatory way. Planning for security and emergency management may provide another opportunity and motivation to work with these communities to build positive, long-term relations.

Since Hurricanes Katrina and Rita in 2005, there has been increased attention and interest in planning for large-scale evacuation of special needs and carless populations. Several reports have reviewed planning documents from large cities, MPOs, and transit agencies to assess their level of preparedness and public communication. Reviewing documents and websites from 50 large MPOs around the country in 2006, Renne, et al. (2008) searched for the following types of information:

- Response Information - whether any information related to emergencies is provided
- Reports - either a report or draft emergency report
- Emergency Maps - maps pertinent to emergencies (i.e., evacuation routes or storm surge maps). Maps simply depicting boundaries or transportation routes were not included.
- Government Plans - government emergency plans
- Resident Plans - normally brochures/websites describing what to do in case of emergency
- Resident Training - emergency training offered through the MPO
- Call Centers - MPO emergency call center
- Contact Information - non-emergency contact information regarding emergency programs.
- Low-income, carless, or special needs - programs related to providing services to low-income/carless/special needs. Research only found services targeted to persons with special needs. Specifically, elderly or people with medical conditions.

Renne, et al. found that nearly 70 percent of the MPOs did not readily supply any of the forms of information considered useful for communicating with the public. In reviewing MPO web sites, plans, and documents, they found that planning for terrorist-related events was much less frequent than planning for natural disasters or emergencies. However, in most cases, the mention of "evacuation," "disaster," "emergency," or "terror" was related to future planning activities or as those identified

by an MPO committee or the public as being needed, rather than planning that had already taken place.

One promising example is [HGAC](#), which partnered with [Houston TranStar](#) in 2007 to develop a hurricane communications initiative targeting populations with special needs. The team's first action was to identify these populations as the elderly, homeless/displaced, illiterate, sight impaired, persons with hearing loss, medical concerns, and the non-English speaking populations. The effort identified challenges, strategies, and tactics for outreach with these populations. They focus on the need to build trust and provide less complex and overwhelming evacuation preparation messages.

3.0 Issues and Options for Incorporating Security/Emergency Management in GO TO 2040 Planning

In this section we suggest several ways that CMAP could incorporate security and emergency management into its planning activities, including preparation of the GO TO 2040 Plan. We also discuss some of the key considerations and tradeoffs that may accompany some of these potential activities.

3.1 Take Advantage of Existing CMAP Activities

Rather than focus on beginning new security and emergency management activities within the MPO, there are many opportunities for CMAP to incorporate security and emergency management considerations into existing activities. Of the MPOs highlighted above, SACOG's work provides a good example of this type of approach. Multiple existing MPO activities could benefit from the addition of security and emergency management attention. These include:

- ITS
- Transit
- GIS
- Regional communications
- Planning for sensitive populations
- Multi-modal system redundancy

3.2 Set Policies and Standards

One way for CMAP to address security and emergency management across the region is to develop policies for how the topic should be considered and prioritized in regional activities. Policies could relate to many topics, such as transportation investment decisions, land use, and regional coordination. It is also possible to set standards for security and emergency management itself, or for transportation system performance, which might include security and emergency management components.

For example, some MPOs set performance measures for the transportation system, which include a component regarding system redundancy or capacity. It does not

appear to be standard practice for many MPOs to include security and emergency management-related performance measures, although more may begin to move in this direction as they continue to take a more comprehensive role in security and emergency management activities. The long-range transportation plans of the [CDTC](#) and [NJTPA](#) both use performance measures that relate to the security and emergency management capabilities of the transportation system, specifically:

- Reserve capacity in the system;
- Percent of person trips that could be accommodated by modes other than auto in an emergency;
- Number of corridors with reasonable alternatives during closure or disruption;
- Amount of risk associated with fixed capacity investment;
- Non-recurring delay on roadways as compared to total delay; and
- “Mobility redundancy,” the percent of population that can reach high-level transit services (e.g., rail, express bus, long-haul ferry) within 15 minutes.

Setting standards for the “minimum acceptable level of security/readiness” or “floor” will have broad implications for CMAP and transportation decisions in the region. For example, capital investment decisions would potentially focus on areas related to security and emergency management, such as prioritizing improvements on key roadways, bridges and tunnels, or addition of transit vehicles. It might also mean prioritizing the ITS system or operations and control facility capabilities.

Designing effective standards and policies also requires discussing and acknowledging tradeoffs within the region. These relate both to the philosophy of how the transportation system might function, as well as how best to use limited available transportation funds. For example, in nearly all major metropolitan areas in the United States, a substantial increase in roadway capacity would be required to accommodate a large-scale evacuation. While this would be effective for evacuating a large population, increasing lane miles to enable an event with a low probability of occurring might conflict with other goals to promote non-motorized transportation, transit use, and environmental protection. Similarly, efforts to improve the safety, security, and redundancy of the transportation network may sometimes conflict with a focus on easing traffic flow in specific areas.

3.3 Facilitate Regional Discussion about Security and Emergency Management

The MPO position provides an important springboard for discussing security and emergency management issues on the regional level. By its very nature, the MPO provides a forum for decision makers to come together to collaborate on key issues that affect multiple municipalities and stakeholders. Steps CMAP could take to lead the discussion include:

- Identify key regional players, their views and interests;
- Reach out to understand stakeholder context – current involvement with long-range transportation planning process, responsibilities, priorities;

- Explore mutual interests and co-benefits; and
- Design and facilitate discussions to develop specific policies and develop consensus on CMAP board.

4.0 Recommendations

We provide the following recommendations to CMAP for considering security and emergency management as part of the *GO TO 2040* Plan process as well as other general planning activities. Given that planning for security and emergency management is a relatively new activity for CMAP, it may be appropriate to use the *GO TO 2040* Plan process to implement the security and emergency management portion of the vision and begin small activities now, with the intention of expanding them in the coming years and plan update cycles, as interest and funding allow.

4.1 Identify Regional Role and Activities

We recommend that CMAP identify value-added roles to play in the Chicago region, regarding security and emergency management. Roles should be identified as necessary by and beneficial to multiple stakeholders, and ideally complement and support existing efforts in the region such as CMAP participation in broader efforts including the [Illinois Terrorism Task Force](#). CMAP should also build on its natural strengths as an MPO to:

- Convene regional leaders;
- Communicate complicated technical information to policy-makers;
- Assist municipalities in developing and formalizing mutual agreements; and
- Maintain focus on a strategic, long-range, multimodal transportation system.

CMAP should also draw on its relative advantages in staff skills and resources, compared to other regional entities. We provide a broad list of potential MPO activities in Appendix 3. While some of these may be relevant for CMAP now, others might be in the future, depending on requirements and opportunities in the Chicago region.

4.2 Develop Security and Emergency-Related Policies

We recommend that CMAP develop policies specifically related to security and emergency management to guide general planning practice, as well as the development of the *GO TO 2040* Plan. Policies could fall into several categories, as shown in the examples below:

<i>Project Selection, Prioritization, and Funding</i>
<ul style="list-style-type: none">• Support designs and fund projects and programs that address security problems and enhance secure travel for all system users. This includes designs and projects that encourage motorists, public transportation riders, bicyclists, and pedestrians to share the transportation network securely.• Explicitly consider security and disaster response issues in facility designs.• Design transportation facilities to withstand extreme conditions and consider

<p>lifecycle costs in budget analyses.</p> <ul style="list-style-type: none"> • Fund new strategies / technologies / projects that can help prevent events. • Design critical components of the transportation system to be fail-safe, self-correcting, repairable, redundant and autonomous. • Prioritize transportation system networks that provide multiple links to each destination, including multiple rail lines, roads, paths and bridges. • Fund regional transportation surveillance systems that can identify potential danger prior to its occurring. • Fund communication systems and other technology to speed response to an incident. • Fund recovery strategies. • Seek additional funding sources to strengthen the security of the region's transportation system. • Consider multimodal redundancy of the transportation network in investment decisions.
<p><i>Intelligent Transportation Systems</i></p>
<ul style="list-style-type: none"> • Support, through planning and programming, the installation, operation, upgrading, and timely maintenance of system infrastructure, including intelligent transportation systems (ITS), to provide for security.
<p><i>Infrastructure and Land Use</i></p>
<ul style="list-style-type: none"> • Establish transportation infrastructure and land use practices that promote/enhance security. • Consider density and mix of uses in planning evacuation scenarios. • Limit growth in areas vulnerable to hazards.
<p><i>Recovery</i></p>
<ul style="list-style-type: none"> • Work with local, state and federal agencies to ensure the rapid repair of transportation infrastructure in the event of an emergency. • Consider strategies such as limiting project scope to strict replacement, design-build contracting, and maintaining data on sensitive environmental characteristics - to facilitate environmental approval of any replacement projects.
<p><i>Planning for Special Needs Populations</i></p>
<ul style="list-style-type: none"> • Ensure that planning takes into account people with special needs. Work with community organizations to identify their needs and maintain effective communications with vulnerable groups. • Plan to allow quick deployment of buses, vans and trains. This requires an inventory of such vehicles and their drivers, and clearly established instructions for their use. • Create a system to prioritize evacuations based on highest risk areas and individual need and ability. • Distribute emergency evacuation information to at-risk populations and all officials, including instructions on pickup locations and what evacuees should bring. Distribute the information regularly, not just during major emergencies. It

should include clear descriptions of where evacuees will be taken and what provision is being made for their pets.

Regional Coordination

- Represent local governments to state and federal governments to ensure that the region has adequate funding and resources for all types of hazards.
- Participate in regional planning for security initiatives, such as evacuation and contingency measures, and homeland security.
- Continue to support existing statewide and metropolitan efforts related to security and emergency management.
- Provide assistance to local governments in planning for all types of hazards.
- Coordinate local plans into a regional plan so multiple jurisdictions in a region can share limited resources during an emergency.
- Coordinate with other regional councils so that regions can borrow resources from nearby regions in the event of a massive catastrophic disaster.
- Create and streamline regional memoranda of understanding agreements that all local jurisdictions can sign onto, ensuring liability concerns are addressed before a disaster.
- Champion agency coordination, training, and information sharing efforts to promote security preparedness throughout the region.

4.3 Integrate Security/Emergency Management into Existing CMAP Activities

There are many opportunities to incorporate security and emergency management considerations into CMAP's existing activities, without requiring a great investment of resources. As discussed, there are multiple existing MPO activities that could benefit from the addition of security and emergency management attention. In particular, we recommend integration into the following existing MPO activities:

- Development of regional ITS architecture;
- Regional travel modeling – include multi-modal system redundancy;
- Regional transit coordination;
- Regional GIS data management ; and
- Inventory and coordination of transportation services for special needs populations.

4.4 Consider Security/Emergency Management Issues in Evaluating System Performance

The system performance measures used in the *GO TO 2040* planning activities and project identification should include criteria relevant to security and emergency management. Important criteria include multimodal system redundancy and risk associated with specific investments. These criteria can be incorporated into modeling and scenario evaluation.

Conclusion

MPOs have important roles to play in contributing to the security and resilience of the regional transportation system and its ability to function during and after regional security incidents and emergency situations. Through exploring security and emergency management-related initiatives at leading-edge peer MPOs, it clear that CMAP could play distinct and value-added roles within the Chicago region, as well as incorporate security and emergency management planning activities into its everyday transportation planning functions and its comprehensive long-range planning embodied in *GO TO 2040*. In addition to continuing (and possibly expanding) its support to the Illinois Terrorism Task Force, CMAP might consider additional activities that demonstrate its ongoing commitment to transportation security and emergency management in the region. These activities might include:

- Development of security- and emergency management-related policies;
- Consideration of security and emergency management in investment and funding decisions;
- Consideration of evacuation and multi-modal system redundancy (and performance measures) in regional travel modeling;
- Development of an inventory of special needs populations;
- Coordination with other key MPO functions, such as:
 - Regional public transportation support,
 - Geographic Information Systems (GIS) data management and analysis, and
 - Intelligent Transportation Systems (ITS) development and support; and
- Development of partnerships across the region to address security and emergency management.

Appendix 1: Federal Grant Programs and Transportation Security Policies

Grants

The [Urban Area Security Initiative \(UASI\)](#) is a program of the U.S. Department of Homeland Security that provides funding to urban areas under potential threat from terrorism. UASI funding is allocated based on the presence of international borders, population and population density, the location of critical infrastructure, and other factors. Sixty urban areas are eligible for funds; the Chicago area is one of seven “Tier 1” areas of greatest concern. In FY 2008, grants were available to non-profit agencies at risk within the urban areas. The funds were primarily for target hardening, but the program also seeks to integrate nonprofit preparedness activities with broader state and local preparedness efforts.

The Department of Homeland Security offers other grant programs related to transportation security. These include:

- [Trucking Security Program](#)
- [Transit Security Grant Program; Freight Rail Security Grant Program; Intercity Passenger Rail Program](#)
- [Port Security Grant Program](#)
- [Intercity Bus Security Grant Program](#)

Policies

The [Aviation and Transportation Security Act of 2001](#) created the Transportation Security Administration (TSA) and established the Transportation Security Oversight Board. Provisions include deployment of federal air marshals and improved airport perimeter access security. TSA also has a Port Security Training Exercise Program (PortSTEP) to help port facilities train employees for best practices during emergency situations.

The [National Maritime Transportation Security Act of 2002](#) was passed to implement measures that would protect ports and waterways from terrorist attack. It requires area maritime security committees and security plans for facilities and vessels that may be involved in a transportation security incident. It required the TSA to create a National Maritime Security Plan as well as Security Incident Response Plans.

Appendix 2: Security and Emergency Planning Regional Long Range Transportation Plans

As part of this research effort, the Regional Long Range Transportation Plans (LRTPs) of several MPOs were reviewed for their treatment of security and emergency planning. The following is a brief overview of the results. [We provide Web links to the plans' sections and chapters in Appendix 4.]

Capital District Planning Committee (Albany, NY)

The 2030 RTP includes a 5-page security chapter. Chapter components include:

- What does security need to address?
- How is Critical Infrastructure defined?
- CDTC's Role in Transportation Security Planning
 - Following NY State and CDTA's Lead
 - Interagency Communication and Cooperation
 - Funding
 - Modeling
- Conclusion

Boston MPO

The 2030 RTP includes a 14-page security chapter. It highlights three policies that guide decision-making:

- Support designs and fund projects and programs that address security problems and enhance secure travel for all system users. This includes designs and projects that encourage motorists, public transportation riders, bicyclists, and pedestrians to share the transportation network securely.
- Support, through planning and programming, the installation, operation, upgrading, and timely maintenance of system infrastructure, including intelligent transportation systems (ITS), to provide for security.
- Participate in regional planning for security initiatives, such as evacuation and contingency measures, and homeland security.

Other chapter components include:

- Introduction
- Agencies Involved in Security Planning in the Region
 - Homeland Security
 - Massachusetts Emergency Management Agency
 - Massachusetts Statewide Anti-Terrorism Unified Response Network
 - Massachusetts Homeland Security Planning Regions and Advisory Councils
 - Commonwealth Fusion Center
- Highway System Security for the Boston Region
 - Massachusetts State Police

- Massachusetts Interagency Video Information System
- Mass Highway's Traffic Operations Center
- The Mass Turnpike's Operations Control Center
- The City of Boston's Traffic Management Center
- Transit Security
 - Background
 - MBTA Transit Police Department
 - MBTA Transit Police Department's Special Operations Team
 - Secure Stations Initiative
 - MBTA Security Cameras
 - MBTA Station Security Program
 - MBTA Parking Facilities
 - Interoperability
 - MBTA Operations Control Center
 - Cape Ann Transportation Authority Security Measures
 - Regional Transit Security Working Group
 - Amtrak Police
 - Operation Lifesaver
- Freight System Security
 - Truck Security
 - Port Security
 - Rail Security
 - Airport Security
- Evacuation Planning
 - The City of Boston's Evacuation Plan: Operation Exodus
 - Other Evacuation Planning
 - MAPC Natural Hazard Mitigation Planning: Evacuation Routes

Houston-Galveston Area Council

The 2035 RTP discusses security and evacuation in the "Demand Management" strategy section.

H-GAC focuses on four major topics: command and control, traffic management, special needs, and public outreach; and four minor topics: credentialing, wind refuges, radio communications, and school coordination. H-GAC will develop an evacuation plan and is currently modeling a hurricane evacuation event to determine the best available routes, times, and impacts of changes to known bottlenecks. The following additional elements have been confirmed to be in place should another catastrophic event occur in the region:

- Pre-positioned tow trucks,
- Designated fuel stops,
- State directed fuel resources,

Action Strategy Paper for CMAP: Security and Emergency Management, page 23

- Buses at pre-designated locations such as the Reliant Park and George R. Brown Center and,
- Pre-arranged destinations and lodging.

The section also lists the number of lanes and contra-flow lanes and capacity that could be used to evacuate the approximately one million residents living or working in the storm surge zones for a Category 3 or higher storm event – estimate that it would take approximately thirty-six hours under perfect conditions.

Metropolitan Transportation Commission (San Francisco, CA)

The 2035 Plan update is in process and drafts are not currently available online. Email contact with MTC planners indicates that MTC is planning to develop an Emergency & Security Planning Report as a companion document in conjunction with the next Regional Transportation Plan Update, referred to as "T2035."

The Emergency & Security Report will include references to many other plans (Trans Response Plan, Regional Emergency Coordination Plan and its Transportation Annex, Regional Transit Security Strategy, etc.) that have been developed with transportation partners and other stakeholders (State Office of Emergency Services, County Op Areas, transit operators, Caltrans, SUASI work groups, etc.).

Metropolitan Washington Council of Governments (MWCOCG)

The long range plan update is in process. The draft plan text is not available online, but there is a page on the LRTP site devoted to Emergency Preparedness and Transportation Security. It discusses MWCOCG's involvement with regional efforts, particularly the Regional Emergency Coordination Plan.

<http://www.mwcog.org/clrp/elements/security.asp>

North Central Texas Council of Governments

2030 RTP includes a 4-page chapter on Transportation System Security. Chapter components include:

- Regional Response Plans/Evacuation Plans/Point of Distribution Plans
- Emergency Responders Uniform Communication System
- Summary
- Description of projects, programs, and policies
 - Implement transportation system security improvements, expansions, and management and operations projects.
 - Develop, implement, or enhance the Emergency Responders Uniform Communication System (ERUCS).
 - Develop and enhance local/regional preparedness capacity as it relates to transportation management tools.
 - Initiate transportation security education and training courses.

- Support local, state, and federal initiatives that address transportation system security and emergency preparedness planning.
- Assist in the development of regional response plans, evacuation plans, and emergency service distribution plans.

The primary goal of the Transportation System Security Program is to improve the security of our transportation system throughout the region by supporting ongoing local, state and federal initiatives that address transportation system security and emergency preparedness planning in the North Central Texas region. The policies, programs, and project recommendations discussed in this section are intended to improve the security of the transportation system within the communities in the North Central Texas region. Environmental justice is taken into account in the planning and implementation of Transportation System Security projects and programs.

North Jersey Transportation Planning Authority

The 2035 plan update is in progress. The 2030 RTP includes a short section on Safety and Security. It states that over the life of this plan, safety and security measures should, whenever possible, be included in the planning, design and implementation of all projects.

The need to improve transportation security will also be addressed. Following up on the 2003 Critical Transportation Infrastructure Assessment study that examined post-9/11 issues, the NJTPA will continue to coordinate with state law enforcement and transportation agencies to see that the transportation system can meet emergency demands arising from a terrorist attack, a major natural disaster or infrastructure failure. In particular, achieving multimodal redundancy on the transportation network will be considered in investment decisions. Among the investments that will promote this redundancy will be capital funding for a new trans-Hudson Rail crossing, new ferry terminals, expanded bus park-and-rides and bridge rehabilitations on key highway routes, among others. Critical transportation projects identified through the Assessment study will be considered for priority attention for future project planning and development initiatives. In addition, the region should, if possible, focus resources on preventing terrorist attacks. This can be accomplished through a variety of means, ranging from “low tech” solutions such as passenger education and additional security personnel to advanced surveillance and communications technology.

Discussion of security in other RTP sections:

- Planning Goals and Factors: Increase the safety and security of the transportation system for motorized and non-motorized users.
- Investment Principles: Improving safety and security should be explicitly incorporated in the planning, design and implementation of all investments.
- Investment Guidelines: Consider national security and disaster response issues in facility designs.

- Highlights on specific projects:
 - New Trans-Hudson Rail Tunnel Needed – Add flexibility to the rail system to respond to security concerns.
 - Improve Bus Access to the George Washington Bridge (GWB) – Recent truck security policies on the Fort Lee side of the GWB have increased the already high levels of congestion faced by buses there. An analysis of traffic circulation within the area should be performed to identify potential roadway reconfigurations, operational or bus treatments that would improve bus movement.

New York Metropolitan Transportation Council (NYMTC)

The 2030 RTP includes two sections that focus on security:

Safety and Security section:

- Transit Safety and Security – the safety and security of transit riders, employees and the system itself are important components of the Plan and fundamental concerns for the region’s transit providers. Individual transit operators determine the security measures appropriate for their services and establish specific policies and programs to ensure the safety of their users and employees.
- Emergency Response – the aftermath of the September 11, 2001, terrorist attacks on the World Trade Center in Lower Manhattan emphasized the responsibilities of the region as a whole to keep communities and the transportation system safe and moving during emergencies. One of the critical elements in doing this is emergency response planning. Although NYMTC has no specific responsibility for emergency planning, the Council adopted a resolution in March 2003 which recognizes the importance of security and emergency response measures to the region’s transportation network and the importance of the transportation network, to the successful implementation of security and emergency response measures of its members.

In the NYMTC region, emergency response planning and coordination is occurring at all levels of government – city, county, state and federal. There is continuing parallel development of emergency planning efforts by NYMTC members, with many of them actively pursuing cooperation and coordination of activities with other NYMTC sub-regions. The specifics of security/emergency response plans are not coordinated through NYMTC, as there are other forums where this coordination takes place.

Redundancy and Security section:

- Issues of transportation safety and security, prompted by existing threats to transportation services and infrastructure, will result in the development of security plans that will likely include coordination and enhancement of emergency procedures for system operation and redundancy of components of the transportation system. This will require a significant investment.

Sacramento Area Council of Governments (SACOG)

The 2035 RTP includes a 13-page appendix chapter - Safety and Security. The chapter components include:

- Context of required planning factors in SAFETEA-LU;
- Description of important transportation infrastructure and agency with planning responsibility;
- Description of relevant emergency evacuation concerns and SACOG role; and
- Description of SACOG active and planned efforts related to safety and security.

Southern California Association of Governments (SCAG)

The 2008 RTP includes a 22-page Transportation Security Report. Contents include:

- Threats in the Region
 - Consequences of Disasters
- Overview of Existing Systems
 - Regional System Description
 - Critical Infrastructure
- Threat/Hazard Descriptions
 - Asset Categories and Descriptions
 - Applicability of threats to assets
- Security and Emergency Preparedness
 - California Office of Emergency Services (OES)
 - Multi-Hazard Mitigation Plans
 - County Offices of Emergency Services
 - National Incident Management System / Standardized Emergency Management System
 - Mutual Aid Agreements (MAA)
- Intelligent Transportation Systems Related to Security
- Deficiency Analysis
- Federal Requirements
- SCAG's Role in Security
 - Facilitator Role
 - Regional Security Planning
 - Regional Preparedness
 - Promoter of Regional ITS Solution
 - Regional Provider of Data and Information
- Transportation Security Strategic Plan
 - Vision
 - Goals and Objectives
 - Outcomes
 - Policies and Recommendations

Appendix 3: Potential MPO Activities Related to Security and Emergency Management

- 1) Provide a policy forum to help develop regional consensus and education on security policies and emergency response.
- 2) Assist in planning and programming transportation infrastructure repairs
- 3) Leverage projects and planning functions (including ITS) that can enhance or provide benefit to transportation security efforts and those responsible for planning and responding to emergencies.
- 4) Integrate security into the regional ITS architecture
- 5) Provide a central repository for regional GIS data for planning, training, response, and relief efforts.
- 6) Conduct vulnerability analyses on regional transportation facilities and services
- 7) Analyze transportation network for redundancies in moving large numbers of people (e.g., modeling person and vehicle flows with major links removed or reversed, accommodating street closures, adaptive signal control strategies, impact of traveler information systems).
- 8) Fund new strategies/technologies/projects that can help prevent events and speed response to incidents
- 9) Fund recovery strategies
- 10) Provide a forum for security/safety agencies to coordinate surveillance and prevention strategies
- 11) Coordinate drills and exercises among transportation providers to practice emergency plans
- 12) Coordinate with security officials in development of prevention strategies
- 13) Coordinate public information dissemination strategies
- 14) Coordinate the stockpiling of strategic road/bridge components for rapid reconstruction

Appendix 4: Information Sources

1. Internet

Capital District Transportation Committee (CDTC) - <http://www.cdcmpo.org/>
Security Planning in the Capital Region
<http://www.cdcmpo.org/rtp2030/materials/s-doc.pdf>
2021 Plan Performance Measures <http://www.cdcmpo.org/rtp2021/measures.htm>

Central Transportation Planning Staff (CTPS) -
<http://www.ctps.org/bostonmpo/index.html>
2030 Plan – chapter 8 for Security
<http://www.ctps.org/bostonmpo/resources/plan/2030plan-3-9.pdf>

Chicago Office of Emergency Management and Communications

Houston/Galveston Area Council (HGAC) -
<http://www.hgac.com/home/default.aspx>
Houston-Galveston Area Evacuation and Response Recommendations Report
http://www.h-gac.com/taq/hurricane/documents/Hurricane_Task_Force.pdf

Illinois Emergency Management Agency - <http://www.iema.illinois.gov/>

Illinois Terrorism Task Force - <http://www.ready.illinois.gov/itff/>
2007 Annual Report -
<http://www.ready.illinois.gov/itff/publications/2007ITTFAnnualReport.pdf>
2007 Annual Report – Transportation Committee -
http://www.ready.illinois.gov/itff/Publications/2007ITTFAnnualReport_TransportationCommittee.pdf

Metropolitan Transportation Commission (MTC) - <http://www.mtc.ca.gov/>
Improving transportation security and response following a disaster
http://findarticles.com/p/articles/mi_qa3734/is_200308/ai_n9297380
Regional Emergency Management Program Memo February 2006
http://apps.mtc.ca.gov/meeting_packet_documents/agenda_605/Emergency_Management_Program.doc

Metropolitan Washington Council of Governments (MWCOG) -
<http://www.mwcog.org/>
Emergency Preparedness and Transportation Security Element in the Constrained Long Range Plan <http://www.mwcog.org/clrp/elements/security.asp>
Metropolitan Area Transportation Operations Coordination Program
<http://www.mwcog.org/clrp/elements/moits/coordination.asp>

Regional Emergency Coordination Plan

<http://www.mwcog.org/security/security/plan.asp>

Transportation Chapter

http://www.mwcog.org/security/security/download/RECP_1_902.pdf

Regional Emergency Evacuation Transportation Coordination Annex

http://www.mwcog.org/security/security/download/REETC%20Annex_2004003-04.pdf

New York Metropolitan Transportation Council (NYMTC) -

<http://www.nymtc.org/>

North Jersey Transportation Planning Authority (NJTPA) -

<http://www.njtpa.org/default.aspx>

2030 Access and Mobility Plan <http://www.njtpa.org/Plan/LRP/Default.aspx>

Sacramento Area Council of Governments (SACOG) - <http://www.sacog.org/>

Draft 2035 Regional Transportation Plan Appendix C6 – Safety and Security

<http://sacog.org/mtp/2035/final->

[mtp/Appendices/Appendix%20C6%20Safety%20and%20Security.pdf](http://sacog.org/mtp/2035/final-mtp/Appendices/Appendix%20C6%20Safety%20and%20Security.pdf)

Southern California Association of Governments (SCAG) - <http://www.scag.ca.gov/>

Transportation Security Report

<http://www.scag.ca.gov/rtp2008/pdfs/finalrtp/reports/fSecurity.pdf>

Draft Security and Emergency Preparedness chapter for Regional Comprehensive Plan

http://www.scag.ca.gov/rcp/pdf/draftrcp/09_Draft08RCP_Security.pdf

SCAG Emergency Information Network (SEIN)

<http://www.scag.ca.gov/sein/index.htm>

Transportation Research Board (TRB) - <http://www.trb.org/>

Conference Proceedings 39: *The Metropolitan Planning Organization, Present and Future.*

Security and Emergency Response Breakout Session (pp. 54-58 of 76)

<http://onlinepubs.trb.org/onlinepubs/conf/CP39.pdf>

National Cooperative Highway Research Program (NCHRP) 525 Volume 3:

Incorporating Security into the Transportation Planning Process

http://www.trb.org/news/blurbs_detail.asp?id=5028

TRB study: *The Role of Transit in Emergency Evacuation*, July 2008.

<http://onlinepubs.trb.org/Onlinepubs/sr/sr294.pdf>

TRB's Transportation Research Record: *Journal of the Transportation Research Board*, No.

2022: [Transportation Security, Emergency Response and Recovery.](#)

U.S. Department of Transportation, Federal Highway Administration (FHWA) -

<http://www.fhwa.dot.gov/>

Meyer, Michael D. *The Role of the Metropolitan Planning Organization (MPO) In Preparing for Security Incidents and Transportation System Response*

<http://www.planning.dot.gov/Documents/Securitypaper.htm>

Public Roads Magazine: *Regional Collaboration to Improve Safety, Reliability, and Security*

<http://www.tfhrc.gov/pubrds/04nov/02.htm>

Regional Transportation Operations Collaboration and Coordination

http://www.itsdocs.fhwa.dot.gov/IPODOCS/REPTS_TE/13686.html

The Transportation Planning Process: A Briefing Book for Transportation Decision-makers, Officials, and Staff

<http://www.planning.dot.gov/documents/briefingbook/bbook.htm>

U.S. Department of Transportation, Federal Transit Administration (FTA) -

<http://www.fta.dot.gov/>

Renne, John L.; Thomas W. Sanchez, and Todd Litman, October 2008. *National Study on Carless and Special Needs Evacuation Planning: A Literature Review.*

<http://planning.uno.edu/docs/CarlessEvacuationPlanning.pdf>

Transportation Equity in Emergencies: A Review of the Practices of State Departments of Transportation, Metropolitan Planning Organizations, and Transit Agencies in 20 Metropolitan Areas. May, 2007.

http://www.fta.dot.gov/civilrights/civil_rights_6343.html

2. Phone Interviews

Bettger, Natalie, and Eric Quintana, North Central Texas Council of Governments, August 12, 2008 (interview).

Concannon, Joe, Ed Coviello, and Mark Hieman, Sacramento Area Council of Governments, July 14, 2008 (interview).