

INTEGRATING SECURITY INTO SMALL MPO PLANNING ACTIVITIES
Case Study Analysis for NRMR MPOs

Mark Lofgren

Rural Transportation Safety and Security Center
Upper Great Plains Transportation Institute
North Dakota State University

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1. GOAL

The goal of this report is to provide smaller Metropolitan Planning Organizations (MPOs) with knowledge and procedures for integrating and sustaining security initiatives in their transportation planning activities.

2. BACKGROUND

MPOs are beginning to consider implications of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation that requires specific attention for security elements in transportation planning. This most recent federal transportation bill extracts and differentiates safety planning and security planning as two distinct elements in MPO planning activities. “Security planning includes activities and products developed in response to identified criminal threats to high value, vulnerable elements of the transportation system” (Federal Highway Administration 2006). Safety may be distinguished from security, but the two elements are often highly interrelated in the activity scope of smaller MPOs. The difference between the two is that security places an emphasis on being protected from manmade and naturally occurring dangers or hazards. The MPO role in security may take many forms including facilitator, participant, or leader in the security-related activities. In many instances, these security activities may be related to other planning factors such as safety, accessibility, and efficiency. It seems that the federal directive recognizes this fact and is encouraging MPOs to address security in a way that is systematically efficient and effective. Figure 2.1 provides an intuitive snapshot of high-level guidance to risk management of multimodal transportation infrastructure.

A High-Level Guide to Risk Management of Multimodal Transportation Infrastructure

- Guide *program and organizational development* (not specific countermeasures)
- Build on *earlier and on-going work and experience*
- Adjust to accommodate the *full range of events/threats* with potential for significant unacceptable consequences (with special attention to security, natural disasters, and major incidents)
- Provide *continuity in risk management* with those already internalized in design and procedure – to those not yet internalized in everyday design and procedures – and still considered rare exceptions (in a response mode).
 - Which countermeasures and how should they be internalized?
 - Where along an existing spectrum or multipurpose potential?
 - Otherwise respond *ad hoc* when threat is elevated or other conditions exist.

Source: Smith, TRB Annual Meeting 2006

Figure 2.1 Transportation Infrastructure Risk Management (Transportation Research Board 2007)

3. DEFINING SECURITY FOR SMALL MPO TRANSPORTATION PLANNING

Defining security and differentiating it from safety has provided difficulty for some of the most sophisticated MPOs due to the definitions not clearly being established in Federal guidance. An example from transportation literature offers the following security definition:

“Protection from terrorist threats or actions due to acts of extreme violence resulting in significant loss of life, injury, and/or damage or destruction of facilities and infrastructure, whether or not these acts are intended to further political or social objectives” (Dornan and Maier 2005).

The above definition takes various aspects of protection into consideration. However, the parameter of this definition makes reference to only terrorist threats and manmade acts of extreme violence. Intuitively, further guidance from the FHWA indicates the planning process consider the conjoint consideration of intentional and natural disaster events.

It is important to establish the precise definition of security within the metropolitan planning process, and it is left up to the MPO to decide the appropriate definition. MPOs often vary greatly in size and capabilities. With this in mind, it is difficult to apply a single definition that relates to a broad continuum.

4. OVERARCHING FEDERAL AND STATE GUIDANCE REGARDING SECURITY

4.1 Federal Highway Administration Guidance

Metropolitan Planning Principles of SAFETEA-LU (SAFETEA-LU Sec. 450.306) SAFETEA-LU, Title VI – Transportation Planning and Project Delivery, Section 6001 (a) included the following language to direct MPOs to specifically address security in their planning activities:

Scope of the metropolitan transportation planning process-

“(a) The metropolitan transportation planning process shall be continuous, cooperative, and comprehensive, and provide for consideration and implementation of projects, strategies, and services that will address the following factors:

- (1) Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- (2) Increase the safety of the transportation system for motorized and non-motorized users;
- (3) *Increase the security of the transportation system for motorized and non-motorized users;*
- (4) Increase accessibility and mobility of people and freight;
- (5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
- (6) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- (7) Promote efficient system management and operation; and
- (8) Emphasize the preservation of the existing transportation system” (Federal Register, 2007)

Furthermore, 23 CFR 450.322(h) provides additional language for the mandate:

The Metropolitan Transportation Plan should include “(as appropriate) emergency relief and disaster preparedness plans and strategies and policies that support homeland security (as appropriate) and safeguard the personal security of all motorized and non-motorized users.”

In comments on this section and Sec. 450.306 (scope of the metropolitan transportation planning process), many MPOs, some national and regional advocacy organizations, and a few state departments of transportation (DOTs) noted that paragraph (a)(3) embellished the statutory language for the “security” planning factor. Organizations that commented on this issue were concerned that the expanded language would require state DOTs and MPOs to go far beyond their traditional responsibilities in planning and developing transportation projects, which was not intended by the SAFETEA-LU. The FHWA and the FTA agree and have revised the language in paragraph (a)(3) to match the language in statute (Federal Register 2007).

Security planning includes activities and products developed in response to identified criminal threats to high value, vulnerable elements of the transportation system. Preparedness planning includes activities and products developed in response to the threat of environmental hazards and natural occurrences. Four state and metropolitan planning organizations were researched for this report, which found numerous activities that can be characterized as contributing to the integration of security and emergency preparedness into the transportation planning process including chartering committees and organizations; establishing liaisons or otherwise designating planning staff resources; establishing project categories and program funding; and conducting vulnerability and threat assessments (Federal Highway Administration 2006).

4.2 Initiatives in North Dakota DOT Planning Documents

TransAction 2002

TransAction 2002 states the following initiatives:

TransAction Initiative 9: “North Dakota will appropriately use Intelligent Transportation System (ITS) technologies to enhance service, performance, mobility, safety, and security.” Strategy: Use Intelligent Transportation System (ITS) applications that enhance passenger and freight mobility and improve safety and security.”

TransAction Initiative 14: “North Dakota will increase its emphasis on safety and security as integral components in planning, developing, and maintaining the transportation system.” Strategy: “Examine current transportation programs, and planning and project development processes to ensure that safety and security considerations are incorporated at all major decision points.”

TransAction II 2006

TransAction II 2006 states the following initiatives:

TransAction II Initiative 6: “Appropriately use technologies to enhance service, performance, mobility, safety, and security.”

“Strategy 1- Review current, seek out new, and deploy appropriate Intelligent Transportation System (ITS) applications that enhance passenger and freight mobility and improve safety and security,

Strategy 2- Continue and broaden partnerships between governmental entities, universities, and the private sector,

Strategy 3- Coordinate technology programs with Metropolitan Planning Organizations, tribal entities, state and federal agencies, and local governments,

Strategy 4- Publicize current technology plans and initiatives.”

TransAction II Initiative 9: “Emphasize safety and security in planning, developing, and maintaining the transportation system.”

“Strategy 1- Review and evaluate transportation plan, program, project development, and maintenance processes (multi-modal, motorized, and non-motorized) to ensure that safety and security considerations are incorporated at all major decision points,

Strategy 2- Identify, prioritize, and improve safety and security sensitive components of the transportation system,

Strategy 3- Identify safety and security-related legislation for appropriate additions, omissions, and modifications,

Strategy 4- Implement the Strategic Highway Safety Plan,

Strategy 5- Integrate state and local transportation security initiatives with the Department of Homeland Security, the North Dakota Department of Emergency Services, and the Rural Transportation Safety and Security Center.”

5. REVIEW OF LITERATURE

5.1 Planning Experiences

Public safety agencies, such as law enforcement, fire/rescue, and emergency medical services, continue to be an integral part of gathering transportation security information and sharing it with private sector owners and operators. Metropolitan Planning Organizations can play an important role in orchestrating this. The case studies in this section will examine how several MPOs have dealt with this relatively new security imperative. The documents that were studied pertain only to large metropolitan statistical areas in this section. In a later section, it is the intended purpose of this report to provide a modicum of information and a review of security integration by a statistically smaller MPO.

Since 2001, much has been happening at the federal level towards protecting the nation against man made and natural threats. During this time, the Department of Homeland Security (DHS) has made great strides in the areas of public and private prevention, protection, response, and recovery to all-hazards threats. Much of this work has been done in response to Homeland Security Presidential Directives. This paper will introduce the work that has been done and provide it in a context for MPOs to understand the relevance of this work.

5.1.1 Portland Oregon MPO Case Study

A case study developed by Dorman and Maier discusses how the Portland metropolitan area is served by two MPOs in both Oregon and Washington State (2005). Although separated by the Columbia River, counties in both Oregon and Washington states have a strong regional focus. The case study focuses on the Portland, Oregon, side of the metropolitan area and discusses how a sophisticated and successful metropolitan planning organization has been slow to formally address security issues. The case study points out that the Transportation Improvement Program (TIP) issued in 2000 by “Metro” (Portland, Oregon’s MPO), includes only one specific reference to security in the context of “crashes and personal security onboard transit vehicles, not terrorist-caused incidents.” In addition, according to the most recent iteration of the Metro TIP funding covering 2004-2007, none of the TIP funding is likely to be allocated to projects specifically designed to address security issues. Instead, most of the organization’s funding will be focused toward congestion, capacity, condition, and safety improvements to the region’s transportation infrastructure. The case study goes on to discuss the challenges and factors that contribute to the difficulty of incorporating security into the traditional transportation planning process in metropolitan areas that are not perceived to be targets of terrorist actions, particularly when there is no clear requirement or funding provision to do so.

5.1.2 Oregon Department of Transportation Case Study

In a report for the Federal Highway Administration, a case study outlines the integration of security and preparedness issues into planning for the Oregon Department of Transportation. The study was done at the state level, and focused on the Office of Maintenance in the ODOT because that office leads security measures. The ODOT Oregon wanted to update the Oregon Transportation Plan (OTP), and include security measures. The OTP, covering 2005-2025, was updated to provide policy and investment strategies that could serve as a guide for state modal plans and local transportation system plans. The OTP does not contain project listings or specific security related projects. However, according to Cambridge Systematics, Inc., the Oregon Department of Transportation (ODOT) wanted to address areas of safety and security with stakeholders and committee members from local, regional and state elements, including security and emergency preparedness (2004). Whether to treat the two areas of safety and security as separate or to link them continues to be an ongoing process. The study discussed tasks initiated in the past that provide security-related benefit. For example, the identification of “lifeline” routes in 1997 for each county in Oregon resulted from a task to identify emergency routes and prioritize bridges for seismic retrofit work. Funding issues with respect to ITS technologies were also considered in the study. Information was provided on how \$1.01 million of DHS safety and security funding was used without the perception of compromising the funding of other priorities. Some of the needs and lessons addressed during the OTP update included handling sensitive information, actively engaging public/private partnerships for shared responsibility, identifying funding, coordinating responsibilities, and measuring performance in security.

5.1.3 San Diego Case Study

According to a report developed for the FHWA (Cambridge Systematics 2004), the San Diego Association of Governments (SANDAG) focused on security long before events of September 11, 2001, for several factors:

- The international border with Mexico,
- the significant presence in the region of the U.S. military, and
- the prevalence of catastrophic events such as earthquakes and wildfires.

SANDAG is not directly involved in planning for natural disasters, as this is usually done at the state and county level. However, as a result of disastrous fires in the 1970s, California did develop what was to become known as the Incident Command System (ICS). This became the model used today for incident management.

SANDAG has determined that their role in championing security as an MPO is to collaborate and coordinate with first responders and bring them together to better manage transportation systems. Other lessons learned from this study are the following:

- The benefits of having a standing security committee,
- the value of ITS and other technological resources,
- the necessity for interoperable communications, and
- the importance of coordinating with the private sector.

In the process of updating the SANDAG Regional Transportation Plan, a white paper was developed to examine new issues that should be considered in the wake of SAFETEA-LU. Three areas of concern were identified (Kennedy 2006):

1. Planning for and reacting to natural disasters;
2. Responding to manmade events; and
3. Improved interoperability of communication systems.

As a result, for the 2007 Regional Transportation Plan, further study will be devoted to transit emergency operations, communications, and coordination improvements among all levels of government, and gaining efficiency in lane use under emergency situations.

5.1.4 Ohio, Kentucky, Indiana (OKI) Regional Council of Governments Case Study

The Ohio, Kentucky, Indiana (OKI) Regional Council of Governments Case Study is the third in the series of reports for FHWA providing case studies in security and emergency preparedness in MPOs (Cambridge Systematics 2004). The OKI Regional Council of Governments is centered about the metropolitan area of Cincinnati (portions of Ohio, Kentucky and Indiana are involved). The voluntary body of OKI has taken a serious view of emergency preparedness since September 11, 2001. Their current Regional Transportation Plan, developed in 2004, lays out two specific objectives for security as it relates to safety. The first mandates security in transit and non-motorized modes. The second mandates the protection of key infrastructure by implementing measures proposed by the Department of Homeland Security (DHS). To provide the leadership to accomplish this, OKI has created a Regional Homeland Security Coordinating Committee. Specific tasks for this committee are as follows:

- Develop a plan to coordinate local emergency responders,
- develop new ideas for homeland security, and
- be a funding clearinghouse for regional security projects.

Typically, there are not many security projects incorporated in the Transportation Improvement Plan. However, projects that propose also to contribute to security are more favorably viewed. This is clear in examining the draft Transportation Improvement Plan as the few studies that relate directly to security are in the transit area. Lessons learned in the OKI case study are as follows:

- Make certain that there is early “buy-in” among the regional jurisdictions and entities involved in transportation security, and

- Use communications improvements brought about by ITS investments can help information flow with first responders.

5.1.5 The Houston-Galveston Area Council (H-GAC) Case Study

The H-GAC is a voluntary association of 132 local governments and local elected officials included in the 13-county area of southeast coastal Texas. The following are in leadership roles for security matters:

- The Transportation Department, which serves as the MPO staff and prepares such documents as the Regional Transportation Plan and Transportation Improvement Plan,
- the Homeland Security Department, responsible for coordinating first responders, and
- the Community and Environmental Planning Department that addresses planning issues using an all-hazards approach.

Following September 11, 2001, the H-GAC established four committees:

- The First Responder Task Force that prepared the Regional Strategies for First Responder Preparedness Plan,
- the Board of Directors Study Group who reviews homeland security related issues and brings them to the attention of the Board of Directors,
- the Regional Homeland Security Coordinating Council and is comprised of emergency coordinators from each county to deal with security matters on behalf of the Board of Directors, and
- the Chief Executive Council that deals with security, emergency preparedness, and funding matters.

H-GAC has overcome many interagency challenges to make some significant strides in planning for security and emergency preparedness. Some of these are the development of the Regional Mutual Aid Agreement, the Regional Strategies for First Responders Preparedness Plan, the Emergency Preparedness Guide for Elected Officials, the Regional Hazardous Mitigation Plan and related workshops. H-GAC also helped prepare and file 83 local agencies' Emergency Management Plans (Cambridge Systematics, 2004).

While H-GAC is very safety and security conscious, they handle them separately and distinctly with the exception of some common coordination. For example, they are well versed in planning for weather emergencies, but they also have a great deal of concern for attacks on the ports, oil, and petrochemical facilities in the region. The February 2005 final version of the H-GAC 2025 Regional Transportation Plan continues the improvement of transportation safety and security as one of the four principle goals of the plan. The focus of security funding in the 2006-2008 Transportation Improvement Plan appears to be on port security and transit surveillance.

One document (PBS&J and Battelle 2003) that was prepared for H-GAC that bears further discussion is the Intelligent Transportation System (ITS) Strategic Plan. In this document, strong linkages are made between ITS and transportation security. Figure 5.1 provides insight to these linkages and demonstrates the synergy that exists between investment in ITS technology and the improvement in security.

ITS Application	Description
Pre-Event Applications (Detection & Planning)	
Planning for Evacuations and Quarantining	Traffic operations centers with their ITS detection and surveillance systems can detect or confirm disasters and address the probable resultant transportation impacts. This will provide a centralized response team with the tools necessary to implement a traffic control plan supportive of the overall disaster response plan. This could include the quarantine of city streets or portions of highway and transit systems. Traffic flow information collected through ITS technologies allows engineers to pre-plan for the implementation of optimal evacuation routes to meet a variety of potential incidents.
Traffic Surveillance and Detection; Infrastructure Deployment	Closed circuit television cameras, traffic sensors (loop detectors, wireless sensors, and mobile phones as data probes), transponders, and optical image sensors typically monitor vehicles and infrastructure to provide data for traffic congestion mitigation. In addition to assisting in disaster response, these technologies may also be used to monitor roads for suspicious vehicles or to provide tracking of high-threat or high-interest vehicles.
Emergency Communications Hardening and Redundancy	ITS communications employ fiber optic cables, either deeply buried or, in urban areas, encased in conduit or ducts, resulting in a hardened communication system. ITS systems often also provide redundant network communications links, facilitating communications with and between traffic managers, law enforcement, and emergency services. Such systems may prove to be of crucial importance if natural disasters or terrorist attacks severely damage or destroy other telecommunications facilities.
Asset-Tracking for Commercial Vehicles, Transit Systems, and Cargo	Asset tracking involves the use of electronic means to locate specific vehicle or container movements, whether static or in transit. The security goal of the tracking function is to quickly recognize deviations from planned routes or other baseline information, and to effectuate measures to interrupt the further movement of an errant asset. In the event of post event activity the tracking function may assist in determining the origin of the asset, and its operator. Correlation with the permitting function will facilitate a faster identification of the required on-scene response equipment (i.e. HAZMAT) thus reducing the potential impact of the incident.
Post-Event Applications (Response)	
Detection and Surveillance	ITS detection and surveillance technologies are also effective after the occurrence of the event. They allow traffic managers to pinpoint disaster locations, direct emergency response, verify ability of a route to accept additional traffic to support a diversion or evacuation, and manage traffic during evacuations. ITS sensors can also detect structural damage to bridges and tunnels. Archived vehicle-location data and closed circuit television camera tapes can aid law enforcement investigations post-event. The technologies described here are particularly useful in support of data and response archiving activities.

ITS Application	Description
Real-Time Traffic Control	Using ITS technologies, traffic managers can quickly redirect traffic, reverse the flow of HOV lanes, and expedite evacuations from metropolitan centers to support the overall disaster or incident response plan. State-of-the-art traffic signal systems allow traffic managers to retune signals for optimum traffic flow and to blend the traffic flow entering or exiting a freeway system being used to support the overall response plan.
Traffic Operations Centers	Traffic operations centers are the command and control centers of surface transportation. These centers both collect and, in concert with the overall response plan, disseminate traffic flow and disaster-related data to the public. Operations centers also provide a central point of communications between emergency services and traffic managers to effectuate rapid incident response. Finally, these centers can redirect and optimize traffic flows throughout a metropolitan area.
Information Dissemination to the Public	Once the overall response plan has been developed, the supporting traffic flow and disaster information collected by ITS can also be quickly disseminated to the public through ITS. Electronic message signs on highways and traveler/weather information radio stations are two outlets that currently can provide notices to the public. Direct relationships with the media and information service providers also provide transportation information to radio and television stations as well as to travelers' personal information devices: mobile phones, personal digital assistants, e-mail, or telematics (in-vehicle) devices.
Telematics and Other Consumer Automobile Applications	Telematics systems are wireless in-vehicle communications and navigation systems. In those cases where an evacuation plan has not been established, navigation systems can provide dynamic route guidance, to empower the driver to make optimal evacuation decisions. For those cases where an evacuation route has been established, interactive navigation systems can get the vehicle to the evacuation route without transiting a dangerous area – e.g. downwind plume, fires, flooding, etc. Mayday services speed emergency response to an individual car by signaling a vehicle's location information at the push of a button or through an automated crash notification system.
Data and Response Archiving	Tracking of response actions, traffic flows, errant vehicles, and condition of systems can be accomplished through system reporting and archiving functions, providing detailed information for both internal agency use as well as for media and public debriefing as appropriate.

Figure 5.1 ITS and Homeland Security Applications
(Source: PBS&J and Batelle, 2003)

5.2 Phases of Emergency Management and Description Elements for Security

Figure 5.2 presents a full spectrum of emergency management activities. Considering an all-hazard approach and the unpredictability of certain disaster events, the prevention phase is left to intuitive discretion. This leaves four key distinct phases: preparedness, mitigation, response, and recovery. The phases are valuable in providing the means to distinguish the emergency

management functions and also offer the potential to define those elements that relate to the transportation planning process.

Phase of Emergency Management	Description
Prevention	Actions taken to avoid an incident or to intervene to stop an incident from occurring, actions taken to protect lives and property, and applying intelligence and other information to a range of activities that may include countermeasures.
Preparedness	The range of deliberate, critical tasks and activities necessary to build, sustain, and improve the operational capability to prevent, protect against, respond to, and recover from domestic incidents. Preparedness is a continuous process involving efforts at all levels of government and between government and private-sector and nongovernmental organizations to identify threats, determine vulnerabilities, and identify required resources.
Response	The activities that address the short term, direct effects of an incident, including mitigation activities designed to limit the loss of life, personal injury, property damage, and unfavorable outcomes.
Recovery	The development, coordination, and execution of service and site restoration plans for impacted communities and the reconstitution of government operations and services through individual, private-sector, nongovernmental, and public assistance programs.
Mitigation	Activities that are designed to reduce or eliminate risks to persons or property, or lessen the actual or potential effects or consequences of an incident.

Figure 5.2 Phases of Emergency Management

Source: FEMA. Principles of Emergency Management, Independent Study, February 2006, Accessed Online January 15, 2007 at <http://training.fema.gov/EMIWeb/Downloads/is230.pdf>, Unit 9, p 9.3.

5.3 Involving MPOs in Security Planning Activities

The planning process carried out by Metropolitan Planning Organizations (MPOs) has become increasingly complex over the past 30 years as MPOs have been given more responsibilities, and their plans are subject to more requirements (Taft 2001). One of the most recent requirements involves differentiating security planning as a separate element in MPO planning activities. Although response to security incidents and disasters are the responsibility of security/public safety agencies, federal directives are encouraging MPOs to address a role in operational planning and coordination of processes in anticipation of unexpected or natural disasters.

In his report titled *The Role of the Metropolitan Planning Organization (MPO) in Preparing for Security Incidents and Transportation System Response*, Meyer provides major discussion points for integrating and coordinating security/disaster planning activities for MPOs (2004). The report clearly points out that because of the widely varying and complex planning process framework of MPOs in the United States, there is no particular model that can best describe the most appropriate role for MPOs in security/disaster planning. However, because of the MPO's role as a forum for cooperative decision making in a metropolitan area, and its responsibility for allocating financial resources to improving the performance of the transportation system, the report states that MPOs do have a role to play in security/disaster planning. The role of the MPO in security/disaster planning is largely dependent on its history, previous responsibilities, or influence on operations strategies. According to the report, some MPOs have histories of strongly influencing operations strategies for the regional transportation system while others have little authority beyond that of developing the transportation plan and transportation improvement program. The role of the MPO also varies by the stage of the security/disaster incident. An example from the report states "the MPO's role might be very different in developing a collaborative strategy to prevent harmful effects of events versus in the actual post event investigation activities."

Taft (2001) outlines five generic roles that MPOs can play in security/disaster planning. The five roles in order of increasing MPO responsibility include the following:

1. "Traditional MPO role with involvement in management and operations planning limited to existing role in Intelligent transportation Systems (ITS), Congestion Management Systems (CMS), etc.,
2. Convener of meetings to facilitate the planning for management and operations improvements,
3. Champion of plans to improve management and operations efficiency,
4. Developer of metropolitan-level management and operations (M&O) plans, and
5. Operator of the metropolitan system."

According to Meyer, it is unlikely the MPO would adopt the last of the five roles, although such a role has been adopted by a limited number of MPOs for specific plans. The more likely MPO roles are number one, two, or three in the list.

Figures 5.3 and 5.4 are from Meyer's report and provide examples of incident stages and actions that seem most appropriate for the MPO in the context of security/disaster planning.

Incident Phase	Possible MPO Role				
	Traditional Role	Convener	Champion	Developer	Operator
Prevention	Minor MPO Role Possible	Lead MPO Role Possible, Especially For Some Components	Lead MPO Role Possible, Especially For Some Components	Minor MPO Role Possible	No Likely MPO Role
Response/Mitigation	Minor MPO Role Possible	Lead MPO Role Possible, Especially For Some Components	Lead MPO Role Possible, Especially For Some Components	Minor MPO Role Possible	Minor MPO Role Possible
Monitoring/Information	Minor MPO Role Possible	Lead MPO Role Possible, Especially For Some Components	Lead MPO Role Possible, Especially For Some Components	Minor MPO Role Possible	No Likely MPO Role
Recovery	Minor MPO Role Possible	Lead MPO Role Possible, Especially For Some Components	Minor MPO Role Possible	No Likely MPO Role	No Likely MPO Role
Investigation	Minor MPO Role Possible	No Likely MPO Role	No Likely MPO Role	No Likely MPO Role	No Likely MPO Role
Institutional Learning	Lead MPO Role Possible, Especially For Some Components				

Figure 5.3 Potential MPO Roles in Security/Disaster Incident Phase (Meyer, 2004)

-  Lead MPO Role Possible, Especially For Some Components
-  Minor MPO Role Possible
-  No Likely MPO Role

Stage of Incident	Possible MPO Role
Prevention	<ul style="list-style-type: none"> ▪ Funding new strategies/technologies/projects that can help prevent events ▪ Conducting vulnerability analyses on regional transportation facilities and services ▪ Secure management of data and information on transportation system vulnerabilities ▪ Providing forum for security/safety agencies to coordinate surveillance and prevention strategies ▪ Fund and perhaps coordinate regional transportation surveillance system that can identify potential danger prior to its occurring ▪ Coordinate drills and exercises among transportation providers to practice emergency plans ▪ Coordinate with security officials in development of prevention strategies ▪ Hazardous route planning ▪ Disseminate (and possibly coordinate) research on structural integrity in explosion circumstance and standard designs
Mitigation	<ul style="list-style-type: none"> ▪ Analyzing 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), strategies for dealing with “choke” points such as toll booths) ▪ Analyzing transportation network for emergency route planning/strategic gaps in network ▪ Providing forum for discussions on coordinating emergency response ▪ Disseminating best practices in incident-specific engineering design and emergency response to agencies ▪ Disseminating public information on options available for possible response ▪ Funding communications systems and other technology to speed response to incident
Monitoring	<ul style="list-style-type: none"> ▪ Funding surveillance and detection systems ▪ Proposing protocols for non-security/safety agency response (e.g. local governments) ▪ Coordinating public information dissemination strategies ▪ Funding communications systems for emergency response teams and agencies

Recovery	<ul style="list-style-type: none"> ▪ Conducting transportation network analyses to determine most effective recovery investment strategies ▪ Acting as a forum for developing appropriate recovery strategies ▪ Funding recovery strategies ▪ Coordinate stockpiling of strategic road/bridge components for rapid reconstruction
Investigation	<ul style="list-style-type: none"> ▪ Providing any data collected as part of surveillance/monitoring that might be useful for the investigation
Institutional Learning	<ul style="list-style-type: none"> ▪ Acting as forum for regional assessment of organizational and transportation systems response ▪ Conducting targeted studies on identified deficiencies and recommending corrective action ▪ Coordinating changes to multi-agency actions that will improve future responses ▪ Funding new strategies/technologies/projects that will better prepare region for next event

Figure 5.4 Stage of Incident and Possible MPO Role (Meyer, 2004)¹

¹ “Definitions:	Prevention	Preventing a potential attacker from carrying out a successful attack
	Mitigation	Reducing the harmful impact of an attack as it occurs and in the immediate aftermath
	Monitoring	Recognizing that an attack is underway, characterizing it, and monitoring developments
	Recovery	Facilitating rapid reconstruction of services after an attack
	Investigation	Determining what happened in an attack, how it happened, and who was responsible
	Institutional Learning	Conducting a self assessment of organizational actions before, during, and after incident”

Meyer outlines various potential roles for MPOs in security planning and points out this will vary for each. MPOs can be a valuable asset in managing disaster and, therefore, it is important to take a proactive approach by creating and implementing a strategic plan. Meyer concludes that the MPO “... has a critical role to play” as a medium for collaboration, as a financial resource for planning, and as a resource for transportation system analysis (Meyer 2004).

5.4 Multi-Jurisdictional Planning

The Federal Emergency Management Agency (FEMA) has a set of guides for local and state governments and tribes for the purpose of assisting with hazard mitigation planning. The guides are specifically based on meeting requirements of the Disaster Mitigation Act of 2000 (DMA 2000), which promotes pre-disaster mitigation planning (FEMA 2006). The “Multi-Jurisdictional Mitigation Planning” guide is part of this compendium.

FEMA indicates for their purposes and this guide, jurisdiction means “local government” (FEMA 2006). Defining jurisdiction as such expands the usefulness of this guide to various entities involved in planning, including MPOs that often oversee multiple communities. Using a multi-jurisdictional planning process has pros and cons, which should be weighed before starting any course of action.

This FEMA report goes into detail regarding organization of a multi-jurisdictional plan and covers each step along the way. It includes planning requirements specific to FEMA’s Interim Rule that covers planning requirements of DMA 2000 (FEMA 2006). Although the steps outlined in this report are targeted at fulfilling such requirements, some are important considerations applicable to multi-jurisdictional planning within MPOs:

- Identify all participants and extend an invitation into the process
- Determine who is participating and the main contacts
 - Emergency manager, planner, and municipal engineer are examples of potential participants that can contribute to the process
- There are different plan participation models – choose the one that best fits individual planning needs (direct, authorized, and combination)
- Document the planning process
- Description of process
 - Participants
 - How the public is involved
 - Opportunities for other parties to be involved
 - Review of existing relevant plans/reports
- Description of all possible hazards
 - Examine the state hazard mitigation plan
 - Use language/terms that correspond to other state or local planning documents
 - Include historic information on all hazard types
 - Include possible effects for all hazard types
 - Include action items for each hazard type
- Create a strategy, prioritization of actions, and how they will be executed
- Monitor and evaluate the plan’s progress along the way
- Incorporate the plan into existing, related planning efforts

5.5 Defining Critical Infrastructure

The US PATRIOT Act of 2001 defines critical infrastructure as those “systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.” Based on this definition, the federal government uses a set of criteria to collect critical infrastructure data. States also have a set of criteria aimed more specifically at the state’s resources. Due to the sensitivity of this data, critical infrastructure is not published for public viewing. Critical infrastructure encompasses a large number of sectors:

- Food
- Water
- Public Health
- Emergency Services
- Government

- Defense Industrial Base
- Information and Telecommunications
- Energy
- Transportation
- Banking and Finance
- Chemical Industry
- Postal and Shipping

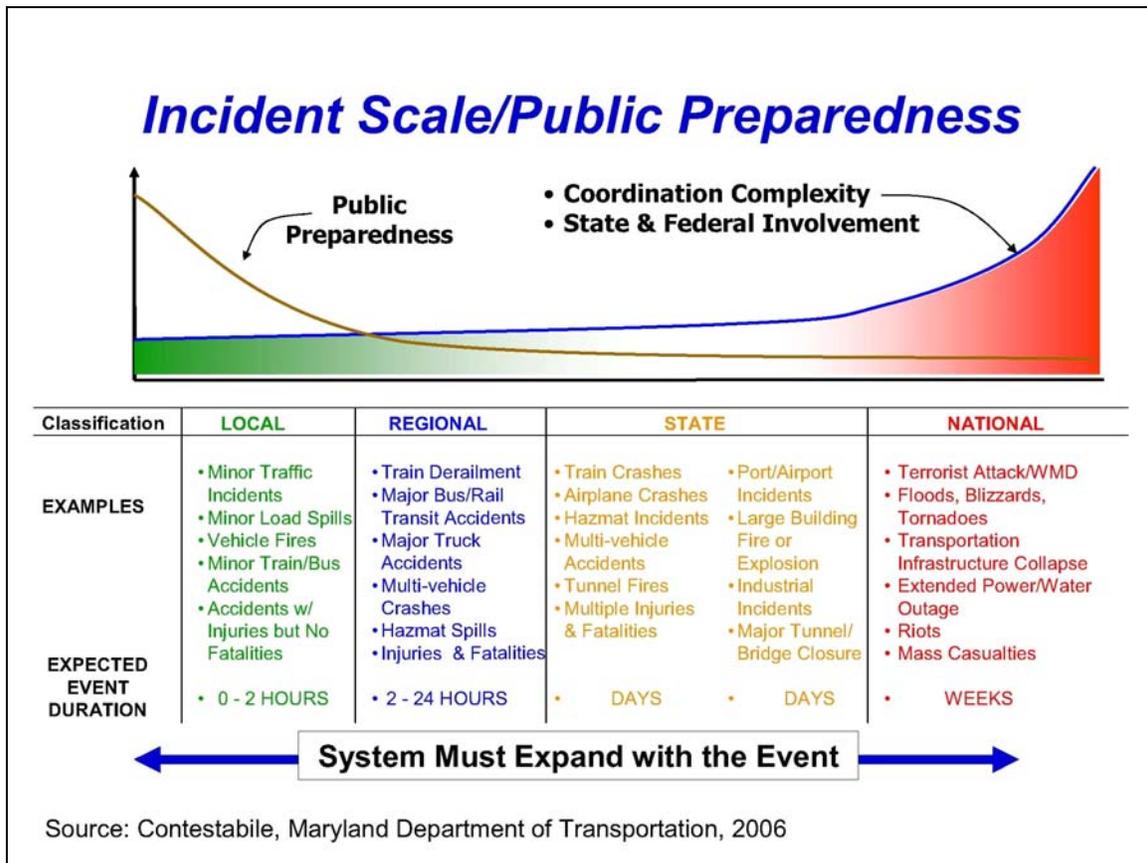


Figure 5.5 Incident Scale/Public Preparedness (Source: Transportation Research Board, 2007)

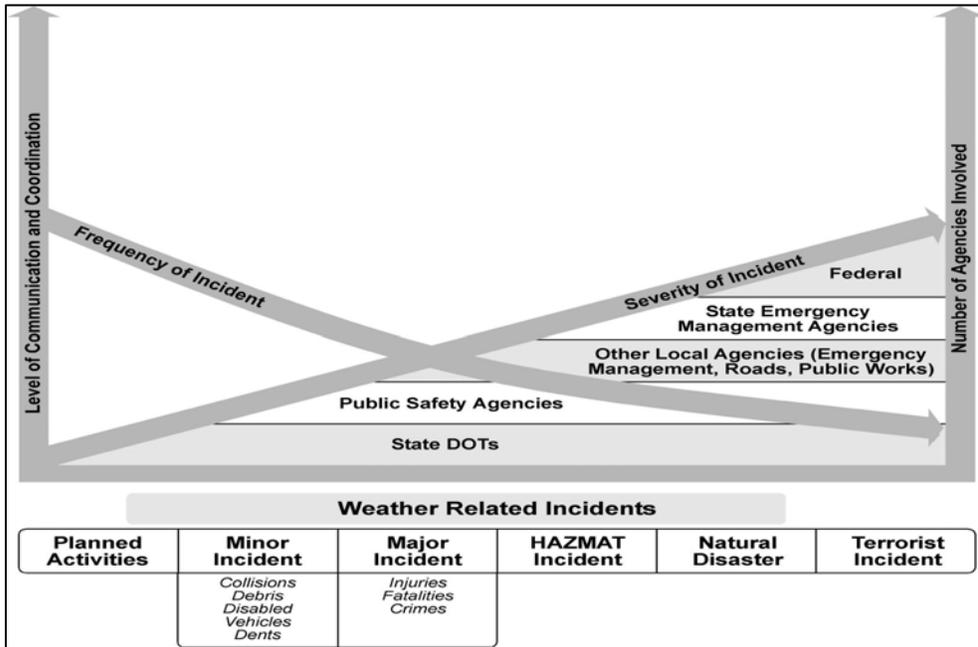


Figure 5.6 Levels of Communication and Coordination and Number of Agencies Involved
 (Source: Ekern 2005)

6. FARGO-MOORHEAD METROPOLITAN COUNCIL OF GOVERNMENT (FM METRO COG) CASE STUDY

The FM Metro COG is a bi-state MPO with an urbanized area population of 160,000. By 2020 the population of the urbanized areas is projected to grow to almost 200,000. The MPO includes the cities of Fargo and West Fargo, and Cass County, North Dakota, and the cities of Dilworth and Moorhead, and Clay County, Minnesota. Seventy-five percent of the urbanized population resides in North Dakota. There is a memorandum of understanding (MOU) between the North Dakota Department of Transportation (NDDOT) and the Minnesota Department of Transportation (MNDOT) that gives primary oversight of the MPO to NDDOT. However, MNDOT does apply a measurable degree of input and guidance to the overall planning activities of FM Metro COG. The Metro COG has a staff of seven and an annual planning (UPWP) budget over \$1,000,000. Planning dollars spent by FM Metro COG are based on the urbanized area of both Minnesota and North Dakota and are blended per the MOU listed above. FM Metro COG provides a broad range of planning and technical assistance to its member communities beyond the required Transportation Improvement Program (TIP) and Long Range Transportation Plan (LRTP). As will be discussed, FM Metro COG is in the process of establishing the security element of its LRTP.

6.1 Starting the Process

In 2007, FM Metro COG contracted with the Upper Great Plains Transportation Institute (UGPTI) to assist in meeting the new security requirement established by SAFETEA-LU. An exhaustive review of existing MPO practices reveals guidance/accepted practices for integrating security into an MPO planning program. Moving forward, FM Metro COG wanted to proactively engage a broad range of regional stakeholders in emergency management.

6.2 Developing Key Entity/Stakeholder Dialog

Information was gathered through interviews with key entity/stakeholders in the Fargo-Moorhead metropolitan area. The goal of the interviews was to establish a disaster activities profile focusing on the transportation aspects of disaster situations and to provide feedback as to what role(s) the FM Metro COG should play in disaster planning given the nature of SAFETEA-LU legislation. The responsibilities, interoperability resources, coordination, and other transportation security-related activities as well as the perceived role of the FM Metro COG in security planning activities were discussed. Entities interviewed had various levels of involvement depending on the nature and type of disaster. The key entities represented local area Emergency Management, police departments, fire departments, ambulance, public works, Metro Area Transit, city traffic engineering, sheriff's office, Highway Patrol, and Department of Transportation district office and federal organizations. These entities were identified as having a vast range of experience and present front line and executive level perspectives of security in the greater Fargo-Moorhead metropolitan area.

A review of current local security and related all-hazards activities reveals a complex organizational network. Figure 6.1 shows a simplified chain of command for typical response to all hazards events.

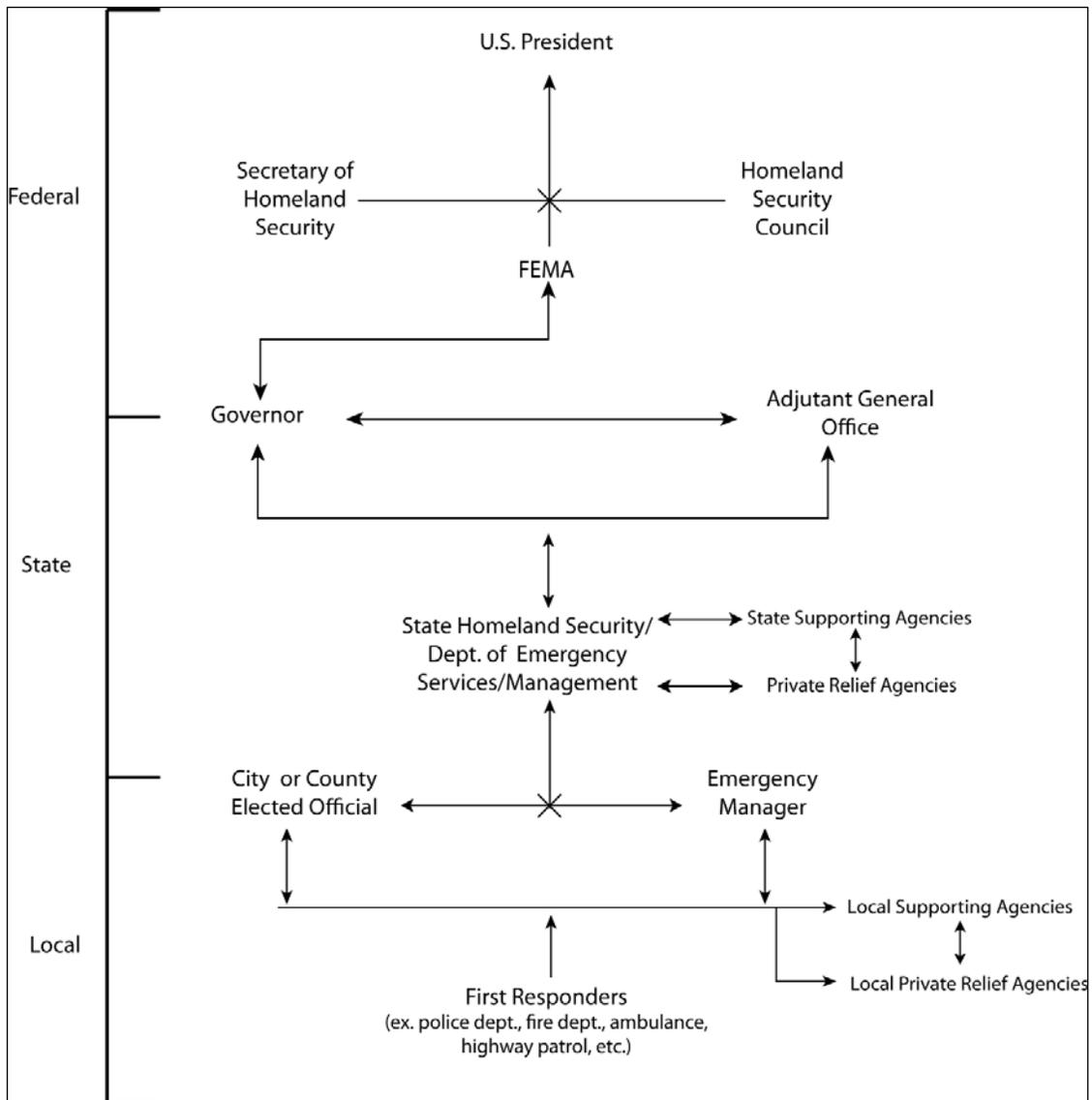


Figure 6.1 Response Schematic

Figure 6.2 provides a more detailed schematic for one of the cities. The diagram identifies potential all hazards events with their relevant activities and functions at the local level.

City of Fargo Emergency Response Organization				
TYPE OF INCIDENT	Man-Made or Natural Disasters			
	Health Related Communicable Disease	Fire/Explosion Vehicle Accidents Aircraft Accidents Hazardous Materials Structural Collapse	Bomb Threat Terrorism Active Shooter Civil Disorder	Flood Heavy Rains Blizzard Tornado High Winds (straight-line) Drought Power Failure
	Weapons of Mass Destruction			
	Bio-terrorism	Explosion Chemical Structural Collapse	Terrorist Act	
PRIMARY INCIDENT MANAGER	Public Health Director	Fire Chief	Police Chief	Director of Operations City Engineer Enterprise Director
Tactics Information Gathering Press Briefing				
PRIMARY FUNCTIONS	Health	Fire	Police	Public Works & Engineering
	Health Appraisal Sanitation Health Hazards Advice	Fire Protection Fire Suppression EMS Control Hazardous Materials Search & Rescue	Traffic Control Crowd Control Site Security Evacuation	Damage Assessment Engineering Services Utility Maintenance Barricades Temporary Solutions Contract Administration
	EMS & Medical		Warning	
	Hospital/ Support Morgue		Emergency Warning	
SECONDARY FUNCTIONS		Evacuation Traffic Control Site Security	Search & Rescue Morgue	Traffic Control Evacuation Crowd Control
STRATEGY FORMULATION	Emergency Response Task Force			
	Mayor, City Administrator, Finance Director, City Engineer, Director of Operations, Enterprise Director, Public Health Director, Planning Director, Fire Chief, Police Chief, F-M Ambulance Operations, Red River Regional Dispatch Director			
Coordination & Control	City Administration	Finance	Individuals & Family	Utilities
Public Information Interface/Liaison with non-city agencies Emergency Declaration	Interface/Liaison with city agencies	Financial Records Expense Reports	Coordinate/Liaison with Hospitals & Volunteer groups Organize support for donations management	Water & Sewer utility maintenance Clean-up/Debris removal
{ DATE \@ "M.d.yy" }				{ PAGE }

Figure 6.2 City of Fargo Emergency Response Organization
(Source: City of Fargo Emergency Operations Plan Adopted by City Commission July 9, 2003)

Understanding these local protocols, along with the state and national frameworks, provides valuable context for moving forward to heighten the attention in FM Metro COG planning activities.

6.3 Survey/Interview Results

Information gathered through individual stakeholder interviews throughout the Fargo-Moorhead metropolitan area provides valuable insight into current multi-jurisdictional planning efforts, critical factors in all hazards planning, suggested security related investments, and the role that FM Metro COG can play in security and related all-hazards planning.

Feedback/results from the survey indicate several areas in which the FM Metro COG can begin to integrate security as a separate planning element in the metropolitan planning program. Based on input from the regional stakeholder group, several themes emerge to assist in defining FM Metro COG's role in security and related all-hazards planning. The following list is a summarization of the individual survey results/feedback from the stakeholder group, which represents role(s) the FM Metro COG can play in all hazards planning activities:

- Planning and coordinating evacuation routes.
- Signage and public education and info dissemination.
- Act as forum for regional assessment.
- Database of critical transportation routes and traffic flow, infrastructure, and sheltering.
- Funding for training and/or exercises.
- Points of distribution planning and recovery strategies/policies.
- Possible support role- Define the FM Metro COG's capabilities (internal capabilities audit).
- Form a critical partners group or take part in existing groups in conjunction with Emergency Services Management. Some feel the FM Metro COG should sit in on existing as not to create more meetings.
- None.

At the conclusion of the stakeholder interview process, the FM Metro COG decided to bring the group of entities/stakeholders together to further discuss initiatives and priorities for incorporating the security element into the transportation planning process. A roundtable discussion was formed to further advance the security initiative. The goal of the roundtable discussion was to bring focus to the potential role(s) for the FM Metro COG in the community's security and emergency activities, as they relate to the metropolitan planning process and its ability to contribute to those activities. In addition, the roundtable was expected to create the needed dialogue for the FM Metro COG as they seek opportunities to participate as a partner in well-established and ongoing multi-institutional activities related to security and all-hazard events. The roundtable discussion provided an important step in collaborative dialogue on issues related to security.

Stakeholders offered feedback on critical issues related to transportation system security, how local/regional transportation assets can be enhanced as a component in multiagency/all hazards activities, knowledge most valuable for integrating security into the transportation planning process, and what priorities should be addressed by the FM Metro COG in the five-year transportation plan for the community. Whether or not to draw from the roundtable contingency to form a separate group that addresses transportation planning was also discussed. However, no consensus or conclusion was reached as to the formation of a separate group at the time of the roundtable discussion.

Based on input from the previous individual survey and the regional stakeholder group roundtable, consistent themes emerged to assist in defining the FM Metro COG's role in security planning.

6.4 Integrating Security into FM Metro Cog's Planning Program

In an effort to address the Transportation Security Planning requirement put forth in SAFETEA-LU, FM Metro COG is attempting to define how it wishes to integrate security into the metropolitan planning program. As an initial step, FM Metro COG will look at its current planning program and how it may take security into account. FM Metro COG is also pursuing activities to expand its relationship with the emergency management stakeholders to enhance assets for transportation-related response factors.

The FM Metro COG may propose the following security definition: *FM Metro COG's security planning definition includes the analysis, inventory, assessment, improvement, and system management of regional transportation infrastructure and investments vital to sustain the operational capability of the region during manmade or natural disasters.*

FM Metro COG has expertise in collecting and analyzing data regarding the region's transportation network. Based on stakeholder input, it appears FM Metro COG collects adequate types and kinds of information. The strategy is putting the data into a security context, or in juxtapose to, security. Considering that FM Metro COG is an organization that deals almost exclusively with infrastructure, the organization has inevitably approached security from a (transportation) network perspective. However, the issue is broader than that.

As such, FM Metro COG is considering initiating a dialogue with the regional emergency management and transportation stakeholders to establish a regionally significant transportation infrastructure (RSTI) for the region. This would include not only surface facilities, but also components such as the public transit system and airports. Once defined, FM Metro COG can tailor the information it collects and relate it back to the RSTI in an effort to annually assess how local, state, and federal agencies are working to address the integrity of the network.

One of the early changes FM Metro COG is considering is elevating the role of regional emergency management stakeholders into its planning program. Traditionally, FM Metro COG has engaged emergency management stakeholders passively, at a macro level. Moving forward, FM Metro COG is developing strategies to engage emergency management stakeholders on the front end of its planning efforts, from sub-area transit studies, corridor studies, and long range planning efforts. FM Metro COG is considering making itself available as a venue for broader discussion and dialogue on local, regional, state, and federal issues of emergency management to emergency management stakeholders and their ongoing planning and coordinating efforts. FM Metro COG may not prescribe itself a role; however, it will let emergency management stakeholders know FM Metro COG is available to act as a venue for increased regional coordination and collaboration.

As FM Metro COG develops the *Goals, Objectives, and Emerging Issues* of its next Metropolitan Transportation Plan (MTP), it will attempt to address the need and or desire for increased coordination and collaboration on the issue of security planning and incident response. As the effort to define the security element of the MTP continues, it is expected that the specifics of this discussion will emerge, though a few have already materialized.

6.5 Intelligent Transportation Systems (ITS) as Transportation Security

In working with regional stakeholders, it was clear that Intelligent Transportation System (ITS) deployment strategies would be critical to the region's transportation security. Moving forward, it is being discussed that the planning, design, and implementation of the regional ITS infrastructure is critical to the overall security of the region's transportation system. It is felt the ability to monitor and manage the region's transportation network is critical to its overall security. FM Metro COG needs to approach ITS from a security planning (incident management) perspective.

6.6 FM Metro COG's Security Vision

FM Metro COG will elevate the role of regional emergency management stakeholders within its ongoing metropolitan planning program. Through the development of the federally required MTP, FM Metro COG will clearly document the existing emergency response/incident management chains of command and communication channels. In doing so, FM Metro COG strives to identify areas for possible increased coordination and collaboration in the areas of

security planning and incident management. FM Metro COG also strives to enhance its metropolitan planning program to more accurately take into account transportation security issues.

In cooperation with regional stakeholders, FM Metro COG will work to define regionally significant transportation infrastructure for which data and information should be continually collected and monitored. Once data are collected and analyzed in relation to the RSTI, it will be reported back to key agencies and stakeholders. FM Metro COG recognizes that the ability to monitor and manage the region's transportation network is critical to the region's security. FM Metro COG will engage its transportation stakeholder on ITS deployment not only as an issue of transportation demand management (TDM) and transportation system management (TSM), but also as an issue of transportation security.

The section that follows presents quantifiable tasks and recommendations that the FM Metro COG may consider for incorporating security.

6.7 Recommendations for FM Metro COG

Strengthen human and institutional capacity

- FM Metro COG should survey key entities to determine whether a separate group should be formed to address transportation security planning in the region.
- FM Metro COG should abstain from further separate meetings and should join pre-established emergency management and security related groups until a majority decision for the formation of a separate group is made with the key entities/stakeholders. However, the FM Metro COG should be available and offer itself as a platform for further regional dialog.
- FM Metro COG should coordinate public transportation security information dissemination strategies with cross border emphasis.
- FM Metro COG should coordinate all hazards training exercises and activities with neighboring jurisdictions, and state and federal agencies based on recommendations and needs from these entities.

Institutionalize project security profile and assessment

- FM Metro COG should add a Security Planning Audit to its 2009 Unified Planning Work Program (UPWP) to better clarify the types of information available for inclusion in its planning program.
- FM Metro COG should define security in the metropolitan transportation planning program based on the outcome of the Security Planning Audit.
- As part of the MTP update, FM Metro COG should establish a protocol to assess security aspects of transportation projects.

Coordinate asset management and planning

- As part of the 2009 Metro Profile and then integrated into the 2009 Metropolitan Transportation Plan (MTP), FM Metro COG should expand assistance to local

emergency management departments to develop a Regionally Significant Transportation Infrastructure (RSTI) and establish a protocol for tracking changes and modifications to the RSTI.

- FM Metro COG should work with key entities to analyze the transportation network for redundancies in moving large numbers of people and offer assistance for interagency coordination of evacuation routes, the identification of collection/shelter points, etc. The FM Metro COG should determine and itemize transportation security priorities in collaboration with key entities.
- The FM Metro COG should develop and deploy ITS strategies for expansion of regional information sharing that can be utilized before, during, and after a regional emergency to ensure security of the regional transportation system.
 - Areas of significance may include the following:
 1. Advanced Traffic Management Systems (e.g. closed circuit television (CCTV) connectivity and expansion, real time traffic counts),
 2. Advanced Traveler Information Systems (e.g. dynamic message signs, flood warning systems)
 3. Emergency Response (e.g. signal preemption)
 4. Infrastructure (e.g. traffic operations center)

Establish sustainability in regional security partnerships

- FM Metro COG should evaluate its existing Public Participation Plan (PPP) to ensure adequate input is provided for entities involved in Incident Management and Emergency Management.
- FM Metro COG should identify as “interested persons” a number of regionally significant entities involved in incident management and emergency management/response as it develops all of its major modal plans, as well as smaller sub-area and corridor studies.
- FM Metro COG should dedicate an internal resource to maintain baseline working knowledge on security initiatives.

7. CONCLUSION

This study was conducted in an effort to address the Transportation Security Planning requirement put forth in the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation. The MPO role in security may take many forms including facilitator, participant, or leader in security-related activities. In many instances, these security activities may be related to other planning factors such as safety, accessibility, and efficiency. Through this research, it is clear that developing a dialog and documenting the existing emergency response/incident management chains of command and communication channels is necessary to identify areas for possible increased coordination and collaboration in the areas of security planning and incident management. Cooperation with regional stakeholders is important in defining regionally significant transportation infrastructure for which data and information should be continually collected and monitored by the metropolitan planning organization.

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APPENDIX 1. KEY ENTITY IDENTIFICATION AND ASSESSMENT

Dear Sir/Ma'am:

The Fargo Moorhead Metropolitan Council of Governments (FMCOG) is considering the implications of the 2005 SAFETEA-LU legislation that requires specific attention for security elements in transportation planning. This most recent federal transportation bill extracts and differentiates safety planning and security planning as two distinct elements in Metropolitan Planning Organization (MPO) planning activities. Section 23 CFR 450.322(h) provides the following mandate for Metropolitan Planning Organizations:

The Metropolitan Transportation Plan should include “(as appropriate) emergency relief and disaster preparedness plans and strategies and policies that support homeland security (as appropriate) and safeguard the personal security of all motorized and non-motorized users.”

In meeting the requirement of this federal mandate, the FMCOG has contracted with the Upper Great Plains Transportation Institute (UGPTI) to conduct voluntary confidential interviews with working groups and primary agents in the realm of transportation security regarding the role of the FMCOG in these activities. The federal directive recognizes the FMCOG's role in security may take many forms including facilitator, participant, or leader in the security-related activities. With your participation in this interview process, the FMCOG will have a better understanding of what their role might be and more adept to meet this federal directive for motorized and non-motorized transportation security planning. You may withdraw from participation in the personal interview process at any time; however, your participation is greatly appreciated by the FMCOG and UGPTI. The interview is estimated to take about 30 minutes to one hour. Your individual responses will be kept confidential, and only aggregate department data from the interview process will be used.

Thank you for your participation in this important matter. If you have any questions or would like more information on this study, please feel free to contact me. If you have questions about the rights of human participants in research, or to report a problem, contact the NDSU IRB Office, (701) 231-8908, or ndsuirb@ndsuh.edu.

Sincerely,

Mark Lofgren
Associate Research Fellow
Upper Great Plains Transportation Institute
430 IACC Building-PO Box 5074
Fargo, ND 58105
Tel: 701.231.6428 Email: mark.lofgren@ndsuh.edu

INTEGRATING SECURITY INTO SMALL MPO PLANNING ACTIVITIES

Case Study Analysis for NRM R MPOs

Task 3- Fargo/Moorhead Key Entity Identification and Assessment

SURVEY QUESTIONS

Disaster Activities Profile

1. What is your responsibility if a disaster situation threatens a community within your jurisdiction?
2. Has your organization conducted/participated in a formal disaster or security assessment? (Findings?)
3. How do you address transportation aspects of disaster situations? (eg. Redundancy, evacuation, HazMat)
4. Has your organization discussed a disaster management plan within the last 12 months? If yes, do you have a process in place for periodic review of the plan?
5. How much time per month do you spend on disaster management activities?
6. Current security planning activities: Does your organization...

Please answer on a scale of 1 to 5

(1=no progress in this area, 5= efforts in this area are outstanding)

- a. Have a formal emergency or disaster management plan?
- b. Hold regular meetings on disaster management? (Example: participant list, agenda?)
- c. Conduct employee training?
- d. Have experience with NIMS training?
- e. Give post-incident debriefings?
- f. Have security planning record-keeping procedures?
- g. Have data backup procedures?
- h. Have criteria for identifying incident levels? (high, medium, low)

Inter-organizational Disaster/Security Activities

7. Is your office involved with any inter-organization security-planning activities?
8. With what other entities do you coordinate for emergency management efforts?
9. What methods or specific interoperability resources are used for multi-agency communications during an incident?
10. Are the goals and responsibilities of your organization within the city/county jurisdiction during an emergency clear?
11. If you had \$1 to invest for improving disaster incident management, how would you use it?

Functionality of Disaster/Security Activities

12. What do you see as the most critical factors in disaster planning?
13. Are the individual community and multi-jurisdictional planning efforts for disaster events clearly defined and easily understood. (yes or no – describe/document)
14. Who takes the lead in security/disaster preparedness planning: cities, counties, other?
15. Do you think the FM COG should play a role in disaster planning activities? What role?
16. Do you or would you take part in a FM disaster planning ‘critical partners group’?

Disaster/Security Field Assets

17. Which information technologies do you employ in current services and activities that are relevant to transportation in the context of disasters and security? (Traffic surveillance, road and or weather condition monitoring, incident detection, highway advisory radio, variable message signs)
18. Other relevant existing or planned investments.
19. Do you have any suggested investments for disaster or security field assets related to transportation?

Institutional and Human Capital Assets

20. Sustainable efforts for continuity in disaster planning expertise through training and recordkeeping?
 - a. Personnel dedicated to disaster planning? (eg. Continuity with retirement, other)
 - b. Record-keeping requirements (eg. Meeting notes, functional diagrams, etc)
21. Sources for training, technology transfer, and ideas exchange?
 - a. NIMS training?
 - b. FEMA courses?
 - c. ND DES training exercises?
 - d. Other