

Security and Emergency Preparedness in the Transportation Planning Process

The Houston-Galveston Area Council

final report

prepared for

Federal Highway Administration

prepared by

Cambridge Systematics, Inc.

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date

September 30, 2004

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Executive Summary

The Houston-Galveston Area Council (H-GAC) is the regionwide voluntary association of 132 local governments and local elected officials in the 13-county Gulf Coast planning region of Texas. Their experience in regional planning for weather, hazardous materials, and overall emergency planning and preparedness have put the H-GAC in the forefront of agencies developing materials and forums for future security efforts. Three H-GAC departments specifically address homeland security and emergency preparedness-related issues; their main roles are outlined as follows.

The Transportation department at the H-GAC serves as the MPO staff within the construct of the greater H-GAC. They have incorporated homeland security and emergency preparedness language and criteria into their Regional Transportation Plan and the Transportation Improvement Program. The Transportation department also has developed a concept document that identified hazards, issues, and strategies for security and emergency preparedness. In addition, they developed an extensive GIS-based information system, a tool that can support security needs with data on roadways, bridges, crashes, and crime.

The Homeland Security department at the H-GAC coordinates regularly with first responders. They facilitated the development of a Regional Mutual Aid Agreement. This department also developed the Regional Strategies for First Responder Preparedness Plan, which addresses communications interoperability and incident response. Additionally, Homeland Security assisted each eligible jurisdiction (a total of 83) to prepare and file an Emergency Management Plan with the Texas Department of Transportation, as required by the State.

The Community and Environmental Planning department at the H-GAC addresses planning issues related to natural disasters using an all-hazards approach. They developed the Regional Hazard Mitigation Plan and related workshops with local agencies. They also developed an Emergency Preparedness Guide for Elected Officials.

As a whole, there are some important lessons learned from the H-GAC experience that may be useful to other Metropolitan Planning Organizations and Councils of Government:

1. A committee that focuses on safety, security, and emergency preparedness issues can add value to the planning agency. Such a committee would provide an opportunity to bring law enforcement to the table and to establish a dialogue among the transportation providers in the region and their security counterparts. As the MPO controls the transportation funding for the region, having a standing committee as outlined above would enable the MPO/COG to better direct long-range planning and the TIP to incorporate security and

emergency preparedness into capital projects, and to better support operations initiatives.

2. ITS investments in the region are a vital strategic asset. Existing local traffic management centers can be integrated to allow for coordinated regionwide incident response to major emergencies that affect the entire region. For instance, Houston TranStar is a successful interagency consortium that is responsible for providing Transportation Management and Emergency Management services to the Greater Houston Region.
3. Interoperable communications among transportation agencies and first responders can be a key strategic asset. The MPO/COG can sponsor and help coordinate workshops, forums, and training activities that enable all in the region to be more security conscious and prepared to respond to an emergency should it occur.
4. The MPO/COG can help to develop manuals, brochures, and other informational materials that the regional transportation players can take to their own agencies, and that other regions can use and modify to meet their unique needs.
5. As the MPO/COG already is set up for fostering regional cooperation, such agencies are ideally suited to take on new challenges, and tend to have a very flexible mandate for action. MPOs and Councils of Government provide a good forum to deal with new issues. For instance, H-GAC completely altered their mission to address air quality issues in response to the Federal mandate in 1990. However, this was accomplished with \$50 million of Federal resources. With appropriate resources, the MPO/COG could play a valuable role in homeland security and emergency preparedness.
6. The MPO/COG can promote the effort to collect data, build databases and develop models that facilitate security and safety planning. Having data enables regions to better identify and address their needs and vulnerabilities. H-GAC's GIS system is used to analyze links between different aspects of the transportation system, identify risks in the system, monitor hazardous material transportation, and examine air quality. For instance, in the event of a major tanker explosion, it is possible to use GIS to model the likely path of the hazardous plume and to estimate how large a population would be exposed.
7. The issue of how to handle secure sensitive information for transportation facility planning remains a concern for many regional and statewide transportation agencies. In the absence of Federal guidance, MPOs face the challenge of developing local approaches, or adapting guidelines promulgated for other sectors.

1.0 Introduction – Transportation Planning in a New Context: Security and Emergency Preparedness in the Post-9/11 World

1.1 PURPOSE OF STUDY

Planning agencies at all levels have become more security conscious. Practical demonstrations integrating security issues into Federal, state, and local planning organizations, procedures, and products are needed to advance institutional capabilities. In addition, information resources that support comparative analyses are needed to improve the collective understanding of the planning profession.

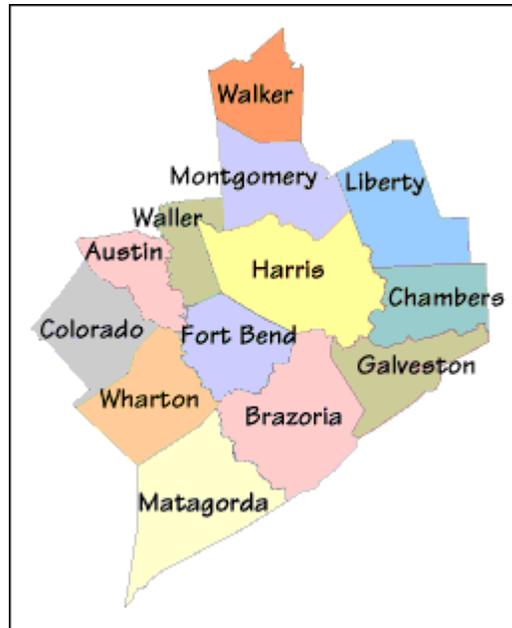
For the purposes of this report, security planning includes activities and products developed in response to identified criminal threats to high value, vulnerable elements of the transportation system. Preparedness planning includes activities and products developed in response to the threat of environmental hazards and natural occurrences. Some of the activities that can be characterized as contributing to the integration of security and emergency preparedness into the transportation planning process include chartering committees and organizations; establishing liaisons or otherwise designating planning staff resources; establishing project categories and program funding; conducting vulnerability and threat assessments; and developing and exercising plans. This report is intended to:

- Improve national awareness of how state and local agencies are integrating security and preparedness issues into their planning processes and organizations;
- Identify transportation planning agencies who are leaders in the integration of security and preparedness issues into their planning processes and organizations; and
- Facilitate technology transfer by documenting leading experiences and lessons learned.

1.2 THE H-GAC REGION

The Houston-Galveston Area Council (H-GAC) is the regionwide voluntary association of 132 local governments and local elected officials in the 13-county Gulf Coast planning region of Texas. Its service area covers 12,500 square miles

and contains over 5,000,000 people. H-GAC's mission is to serve as the instrument of local government cooperation, promoting the region's orderly development and the safety and welfare of its citizens. H-GAC is the regional Council of Governments (COG), the organization through which local governments consider issues and cooperate in solving areawide problems. Through the Council, local governments also initiate efforts in anticipating and preventing problems, saving public funds.¹ The 13-county region is depicted in Figure 1.1.



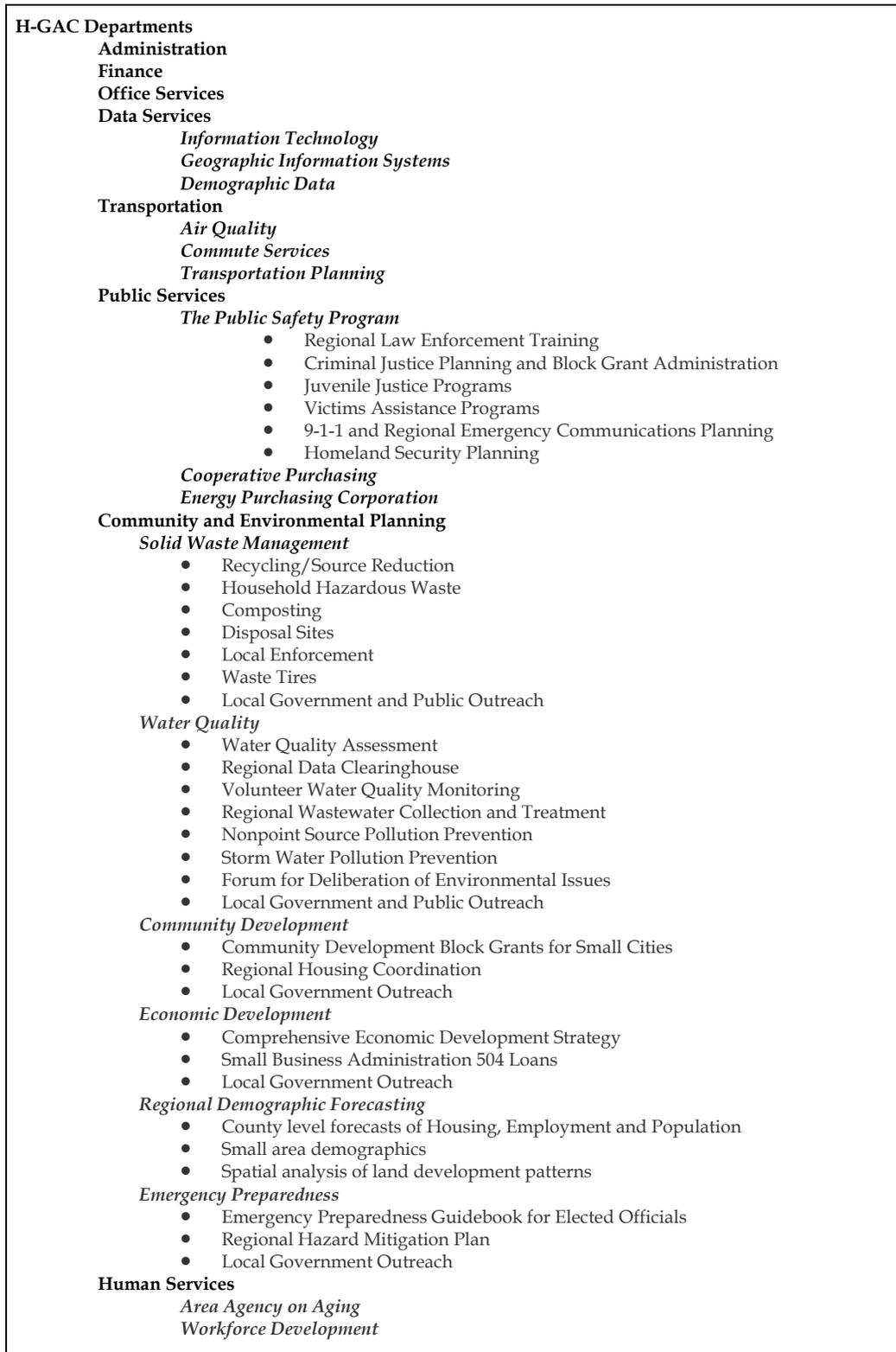
Source: H-GAC web site.

Figure 1.1 Map of H-GAC 13-County Region

H-GAC is governed by a Board of Directors composed of local elected officials, who serve on the governing bodies of member local governments. There are 35 members on the COG Board at this time.

The Council provides many tools: information, regionwide plans, and services to support the region's local governments. Key H-GAC governmental services include transportation planning, cooperative purchasing, homeland security, air and water quality planning, demographics, and mapping. The COG also serves the region through workforce development, criminal justice, 9-1-1, trauma care planning, small business finance, and other programs contributing to the region's quality of life and economic competitiveness. All of the Council's programs are carried out under the policy direction of H-GAC's local elected official Board of Directors. Figure 1.2 outlines H-GAC's departmental structure.

¹ H-GAC in 2003: Leading a Changing Region http://www.h-gac.com/HGAC/About+H-GAC/H-GAC_in_2003.htm?wbc_purpose=Basic.

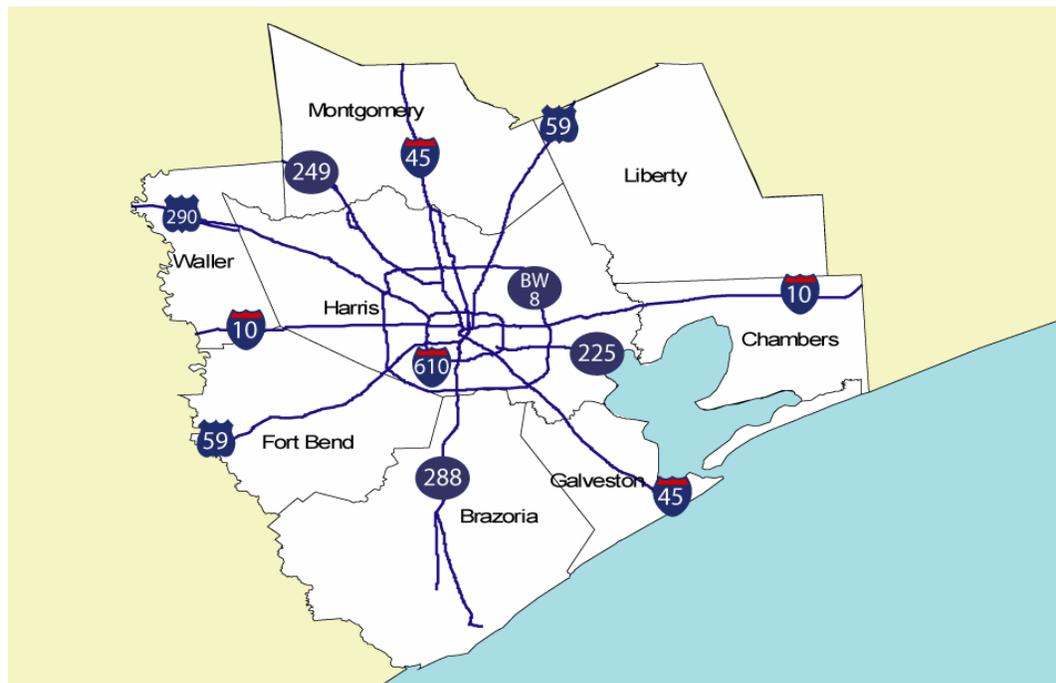


Source: H-GAC web site.

Figure 1.2 H-GAC Organizational Structure

1.3 THE METROPOLITAN PLANNING AREA OF THE H-GAC REGION

While the H-GAC region covers 13 counties, the Consolidated Metropolitan Statistical Area for transportation purposes includes a smaller region of eight counties. Given the significance of the air quality and congestion problems in the greater Houston area of those eight counties, the Metropolitan Planning Organization (MPO) develops the regionwide transportation plans and programs for all transportation modes in this area. The MPO is essentially the Transportation department within the H-GAC. The Transportation department of the Council also provides staff support to the Transportation Policy Council (TPC), the policy board for the MPO, which in turn provides policy guidance on transportation issues to the COG's Board of Directors. Figure 1.3 depicts the area under the jurisdiction of the MPO.



Source: H-GAC.

Figure 1.3 Map of MPO Eight-County Region

The Regional Transportation Plan (RTP) considers the transportation needs of the eight-county Houston-Galveston region, a geographic area of more than 7,000 square miles and about five million residents. The eight-county region continues to grow at a faster rate than both the United States and Texas. This increasing population and economic growth puts substantial pressure on the existing infrastructure. Current demographic projections indicate that the eight-county area will add another 2.5 million people by 2025. In addition, employment projections indicate a 60 percent growth rate over the same timeframe, with

nearly 1.3 million additional jobs expected. The amount of travel in this region is expected to grow beyond increases in both population and economic activity, a 75 percent increase by 2025 from 2000. For the Houston area to continue to be an attractive place to work and live, a regional transportation plan is needed that ensures adequate mobility for current and future residents.

The majority of the forecasted population growth in the area is projected to occur in areas outside of Beltway 8. Nevertheless, a large portion of the forecasted regional population, approximately 2.5 million persons, will be located within the beltway in 2025. Job growth will be strong across the region with 50 percent of all jobs remaining inside of Beltway 8 and 25 percent within Loop 610. Employment levels inside Loop 610 are expected to remain stable, with a labor force of nearly one million, while faster growth is projected outside Loop 610. Regional employment will continue to decentralize, with the strongest employment growth rates occurring in urbanizing areas between Loop 610 and Beltway 8, particularly in the northwest, west, and southwest.²

² H-GAC Draft 2025 RTP.

2.0 Security and Emergency Preparedness in the Planning Process: Roles and Responsibilities

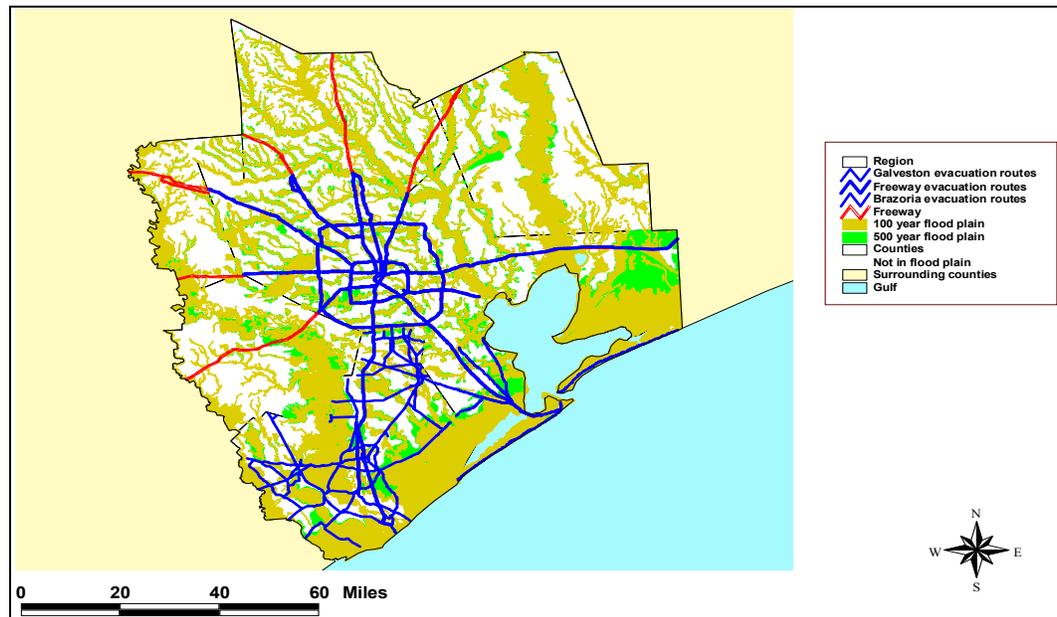
The H-GAC brings together stakeholders and encourages continual coordination. Although specific groups or committees are created to address specific topics, the resulting interagency relationships help the stakeholders work together as a group to address other topics as they come along. H-GAC staff also indicated that they rely heavily on public safety officials, who are directly responsible for the management of many of the issues being discussed in this paper. The COG's role is to provide a forum and the opportunity for the region's stakeholders to discuss these issues. The state, counties, and cities have the direct responsibility for security and emergency preparedness. It was noted during interviews with H-GAC staff that there is a great deal of intergovernmental coordination at the leadership level.

Three of the H-GAC Departments that specifically address Homeland Security and Emergency Preparedness-related issues include Transportation, Homeland Security, and Community and Environmental Planning. Their key roles and contributions are listed below.

The Transportation Department at the H-GAC plays the following roles:

- Acts as the MPO within the construct of the greater H-GAC.
- Incorporates Homeland Security and Emergency Preparedness into the RTP, UPWP, and TIP.
- Developed a concept document that identified hazards, issues and strategies for security and emergency preparedness. Its purpose was to help identify vulnerabilities and to highlight where resources could be used most effectively.³
- Developed an extensive GIS-based information system with data on roadways, bridges, crashes, crime, etc. This tool was developed to support transportation planning and infrastructure asset management; however, the tool can support security needs. A sample map from the GIS system is shown in Figure 2.1.

³ Transportation Security Issues; Draft: For Discussion Only; Ned Levine and Alan Clark (March 2002).



Source: H-GAC.

Figure 2.1 GIS Map of Emergency Evacuation Routes

- Actively participates in the Houston TranStar consortium, a partnership of four government agencies that are responsible for providing Transportation Management and Emergency Management services to the Greater Houston Region. The heart of Houston TranStar is a Transportation and Emergency Management Center that provides traveler information and emergency information. While officially, they are not one of the four Houston TranStar partners, informally they are an active participant and assist in the funding of the consortium.

The Homeland Security Department at the H-GAC plays the following roles:

- Coordinates with first responders. The homeland security and emergency preparedness roles taken on by this department were seen as the best place for “response logistics.” This department is responsible for a regional law enforcement training program. Through their already-established relationships with the law enforcement and emergency first responders’ community, Homeland Security was in the best position to immediately respond to the training issues, emergency management plan development, equipment purchases, and other immediate security actions.
- Facilitated the development of a Regional Mutual Aid Agreement. The agreement has been adopted by each of the 13 counties in the region on behalf of all the cities in their jurisdiction. The H-GAC is now working directly with each of these cities to ensure their awareness and participation. The plan covers public entities only and outlines emergency response policies

and procedures such as who has authorization, jurisdiction, liability, location of resources, etc.

- Developed the Regional Strategies for First Responder Preparedness Plan.⁴ This plan addresses communications interoperability and incident response, and outlines the mutual aid program.
- Assisted each eligible jurisdiction (a total of 83) to prepare and file an Emergency Management Plan with the Texas Department of Transportation (TxDOT), as required by the State.

The Community and Environmental Planning Department at the H-GAC plays the following roles:

- Addresses planning issues related to natural disasters using an all-hazards approach. This department views its primary role in homeland security and emergency preparedness to be in mitigation; taking actions like developing regional inventories and looking at longer-term mitigation programs.
- Developed the Regional Hazard Mitigation Plan and related workshops with local agencies. This activity was initiated prior to September 11, 2001 and was funded with a Federal Emergency Management Agency (FEMA) grant and local match.
- Developed an Emergency Preparedness Guide for Elected Officials.⁵ The original document was prepared about 15-20 years ago, under a U.S. Department of Housing and Urban Development (HUD) grant that addressed flood control issues. After 9/11, it became an even higher priority and local funding was used to update the guide.

⁴ www.h-gac.com/NR/rdonlyres/etnspq6oh6uq4jmju3dmd4esvfyznagus2n4up77rdzu4f54m3fii7grvxpxduvarzfsjd5yjveo4qhstbyhp6ewb/Resources%2FFiles%2FProgram%2FDisaster+Preparedness%2FFirst_Responders.pdf.

⁵ <http://www.h-gac.com/NR/rdonlyres/eouotf4x6kk3cjihj7sk6ttlupy73g3maobysyblgbqe5z2ux543k46s5htfu726mk67ki6wb6kgo3m3jkpat7oj4a/GuidebookforElectedOfficials--Final+Corrected+Doc+12-10-02.pdf>.

3.0 Impetus for Focus on Security and Emergency Preparedness in the Planning Program

Evacuation, flooding, and hurricanes in the region have always received a great deal of attention. The area has a rich history of tropical cyclone hits, including the infamous 1900 Galveston hurricane, the deadliest natural disaster in United States history; Tropical Storm Claudette (1979), which produced the still-standing continental U.S. record 24-hour rainfall total of 43 inches in Alvin, Texas; and Tropical Storm Allison (2001), which devastated the Houston area while becoming the costliest tropical storm in U.S. history.

The region also has experience dealing with manmade hazardous materials (HAZMAT) catastrophes, including refinery explosions and numerous tanker incidents. The private manufacturing industry has clearly been focused on improving security and emergency preparedness for some time. In fact, they initiated the Regional Mutual Aid Agreement and spurred the effort to get local government involved.

The region has an unusually long history of preparing for attacks on the ports, oil, and petrochemical facilities in the region, and is very security conscious. For example, during World War II there was extensive German submarine activity off the Texas Gulf shores in an attempt to destroy port and petrochemical facilities. Postwar efforts to improve national defense and military logistics involved the improvement of internal transportation. The Gulf Intracoastal Waterway project was started in the 19th century and was expanded throughout much of the 20th century to provide internal transportation of goods. This commercial trade link with inland consumers through the Mississippi River system, and with world commerce through the Gulf of Mexico, is of major economic significance to Texas and the United States. The canal is directly linked to 10 deep-draft ports.⁶ The canal provides shelter for shipping along the Gulf and serves as a barrier from natural disaster.

Following the events of September 11, 2001, the Federal Bureau of Investigation (FBI) identified the following nine key assets as being vulnerable to terrorism. According to the Texas Coastal Regional Advisory System (TCRAS) and the Joint Terrorism Task Force (JTTF) initiative, the area served by the H-GAC possesses all nine.

⁶ <http://www.tsha.utexas.edu/handbook/online/articles/view/GG/rrg4.html>.

- Energy (i.e., South Texas nuclear plant, power grid, pipelines);
- Oil and Gas (i.e., petrochemical complexes, tank farms);
- Water (i.e., lakes, river authorities, and ports);
- Telecommunications (i.e., intranet, computer manufacturing, fiber optics, major switching stations);
- Banking and Financial Institutions;
- Transportation (i.e., airports, rail, Houston Ship Channel, pipeline, public transit, roads, bridges and tunnels);
- Emergency Services;
- Continuity of Government (infrastructure); and
- Other (i.e., diverse religious establishments, universities and schools, tourist/entertainment/sports facilities, NASA).

The emergency preparedness planning that is historic to the region is sufficient for natural disasters because there is advance warning from the extensive weather systems in place. H-GAC recognizes that intentional manmade disasters present a somewhat different situation because there may be no up-front notice, and no time to evacuate ahead of time. Although homeland security is a newer element, the longstanding emergency preparedness activities do provide a strong foundation for responding to these concerns.

H-GAC believes that Safety and Security are intrinsically linked, however there is a clear distinction between homeland security and emergency preparedness activities. Although there is some level of coordination, they are being handled separately. Each of the three departments of H-GAC interviewed focuses on a different type or facet of emergency preparedness and planning. All three departments stressed the balance between ordinary security activities and preparation for catastrophic events. While acknowledging that 9/11 made H-GAC more conscious of being a potential target for terrorist activity, that awareness was weighted with the present needs and requirements of major congestion, air quality, and infrastructure issues.

3.1 HOW THE ORGANIZATION CHANGED

The H-GAC Board of Directors formed a series of committees in reaction to the events of September 11, 2001. COG staff is not specifically assigned to committees, as the committees primarily comprise elected officials and professional experts from the outside. In chronological order, they are as follows.

- **First Responder Task Force** – The first committee in the region created immediately following the events of 9/11 consisted of emergency responders and emergency management coordinators. They were formed on an ad hoc basis with the mission to prepare the Regional Strategies for First Responder

Preparedness Plan. The Plan was completed before receiving any homeland security-related emergency response funding. The Board of Directors recognized the need for immediate action and absorbed the cost of developing this plan. When the anticipated funding came in, they used it to implement the Plan rather than to develop it in the first place.

- **Board of Directors Study Group** - The second group was formed as a standing committee. Its members are elected officials appointed by the Director of the H-GAC Board. Their mission is to review homeland security issues and bring those issues to the Board of Directors.
- **Regional Homeland Security Coordinating Council** - The third committee also is a standing committee and is comprised of 14 members (one emergency coordinator from each of the 13 counties and one city). Members of this council were appointed by the Board of Directors to deal with homeland security matters.
- **Chief Executive Council** - The fourth committee is another standing committee. The council members were appointed by the H-GAC Board and include the 13 County Judges and the Mayor of the City of Houston. Their mission is to act on behalf of the Board of Directors on funding matters and other regional issues as they arise. The Chief Executive Council will be involved in security and emergency preparedness issues, which will likely include coordinating the development of a regional communication system for first responders.

Security at the H-GAC has been a long-time focus with regard to criminal justice and public safety. Pre 9/11, criminal justice staff in H-GAC worked with the MPO (Transportation department) on security studies. The events of 9/11 made everyone aware of new types of security concerns, including weapons of mass destruction (WMD) and terrorist attacks. H-GAC's department of Homeland Security is still responsible for 9-1-1 and criminal justice, but now they have the additional responsibility of homeland security activities. As a result, the department has a new staff person specifically assigned full-time to homeland security.

The period just after the events of 9/11 presented an opportunity to incorporate input from new stakeholders into the planning process. H-GAC's Homeland Security department aggressively and successfully pursued the following new stakeholders:

- Utilities;
- Hospitals (EMS has always been an active participant, but the hospital itself is new);
- Public works; and
- The Port Authority (and associated private sector industry).

Homeland security planning has become a significant part of H-GAC's program. Although homeland security is a significant focus for the Council, it is not the dominant programmatic focus. To date, it has received a high priority because they needed to go through a learning curve. It will need to remain an elevated priority for a period, but then it is expected to even out as part of the agency's balanced planning and ongoing activities. Security planning is expected to become part of the overall planning process under the leadership of H-GAC's Homeland Security Department. It is not expected to continue as highest priority as the COG will need to blend this effort with their other responsibilities.

3.2 HOW THE PLANNING DOCUMENTS CHANGED

The Draft 2025 RTP was published in June 2004. The vision presented in this document is organized around four goals that provide a framework for the plan. One of these four goals is to "Improve transportation safety and security." The executive summary of this document explains that H-GAC is working with TxDOT and local governments to improve security of the system through protection of facilities (e.g., airports, bridges), the safe transportation of hazardous materials, the ability to move people quickly during an emergency evacuation, and the general protection of drivers and pedestrians in all modes of transportation.

About two years ago, H-GAC wrote a conceptual document that identifies the types of hazards, issues, and strategies that affect the transportation system in the region. It was used to help identify where they need to devote resources to shore up security.

Security is mentioned several times in the Unified Planning Work Program (UPWP) as well. Specifically, there is a section on "Safety and Security in the Transportation Planning Process." The section on safety states:

"A major new program at H-GAC involves safety and security planning... These issues cut across the various other planning issues. They involve: 1) the building of a GIS-based crash information system; 2) the identification of high crash locations or areas (hot spots); 3) the conducting of preliminary engineering studies in order to understand the factors underlying the crashes; 4) the proposal of mitigation measures to reduce the number of crashes; and 5) the prioritization of the proposed mitigation measures on the basis of a benefit/cost ratio. The program focuses on all vehicles crashes, but pays particular attention to crashes involving pedestrians, bicycles, and commercial motor vehicles."

The section on transportation security outlines two indices that measure transportation security - the vehicle theft rate and the transit crime passenger index. The emphasis in this section is on the 'ordinary' risks that users of the transportation system experience.

An area of overlap between safety and security concerns the transportation of hazardous materials. Given the high concentration of petrochemical and other

chemical industrial plants in the region, there is considerable concern about hazardous materials. Routes have long been selected for the transport of such materials. Unfortunately, the lack of a comprehensive database makes it difficult to monitor these activities on a regular basis. H-GAC plans to improve the monitoring of these materials in the near future.

Security is briefly mentioned in the 2004-2006 Transportation Improvement Program (TIP) that was adopted in June 2003. This year, H-GAC added more opportunity for safety and security projects to receive recognition in the weighting scheme. But to date, there have not been project-level requests for security funding.

Project ranking in the TIP reflects the priority of capacity, but includes other dimensions including safety, transit use, freight use, economic development, and necessity for emergency evacuation routes. There is a new initiative to identify secondary routes that serve as access to primary evacuation routes.

There are no specific security projects in the TIP yet. However, security concerns have affected projects going forward. For example, one project that was in the TIP was canceled due to heightened security awareness. The project involved the addition of a special truck queue lane alongside the seaport to mitigate mainline congestion caused by commercial vehicles bound for the port. There was concern that a long queue of trucks alongside the port would create a security issue.

Security will be featured prominently in the next long-range transportation plan. H-GAC, like other MPOs, is required by Federal law to update their long-range plan at least once every three years and it must cover a planning period of at least 20 years. In 2000, H-GAC released a 2022 plan. In 2002, they issued an updated 2022 plan. This next spring, H-GAC will produce a 2025 plan, which needs to be completed by June 2005 to meet the “within three-year” requirement. The TIP accounts for the first three years of the RTP so it is subject to frequent updates, as well as occasional amendments in mid-cycle. The MPO staff often staggers the release of these documents in order to better manage the development and production process, but technically they are linked (i.e., the TIP is part of the RTP and must be updated at least once every three years).

3.3 FEEDBACK ON NEW ACTIVITIES

Because preparedness for natural disasters has been a longtime focus for the agency, those activities are well established and have received positive feedback from the community at large. The post-9/11 emphasis on homeland security and emergency preparedness is still relatively new. There is not much feedback regarding security-focused initiatives to date; however, H-GAC’s Board of Directors and the participating stakeholders in H-GAC sponsored activities continue to demonstrate a high level of interest and commitment.

H-GAC staff indicated that some feedback on homeland security following 9/11 implied that Council actions were not as efficient as would have been desirable. So much was going on at once that the Council staff had to take a step back and make sure they were pursuing the right initiatives. Current internal assessments of the situation indicate that the process for responding to homeland security issues is evolving to the point where activities are being conducted in an efficient and effective manner.

In addition, although not originally designed for responding to homeland security threats, the agency's extensive GIS system has been well-received, and can be easily adapted to emergency preparedness planning.

3.4 H-GAC'S FUTURE INVOLVEMENT

H-GAC already has the relationships in place with the key stakeholders for homeland security and emergency preparedness. H-GAC coordinates many activities with these participants and regularly facilitates meetings with these groups under their various program areas. H-GAC anticipates continuing involvement in bringing together these stakeholders, pursuing new stakeholder relationships, coordinating and facilitating multi-agency meetings, helping local agencies meet new homeland security-related mandates as they arise, and identifying funding sources.

One of the roles of the Homeland Security department at H-GAC is the regional law enforcement training program. H-GAC does not offer the training, but they have always informed the target audience and helped to coordinate efforts. To date, these tabletop exercises and drills are sponsored by the State. H-GAC is always looking to maximize available resources and fill any gaps in training as they are identified. Specifically, they expect to be much more involved in making sure all first responders in their jurisdiction are trained in responding to WMD incidents.

4.0 Leadership Commitment and Material Support for Security and Emergency Preparedness

H-GAC created the First Responder Task Force and completed the Regional Strategies for First Responder Preparedness Plan even before any homeland security-specific funding was received. This demonstrates that the H-GAC Board is able to respond quickly to issues that emerge unexpectedly and that they have flexible funding resources. For these reasons, it is typical for local governments to come to them with new problems.

The Board of Directors has demonstrated a strong, continuing, and consistent commitment to security and emergency preparedness. Related issues have received priority attention and H-GAC has blended related responsibilities into the objectives of the association. Security and emergency preparedness issues have been assigned dedicated resources within the organization at a high level of visibility and responsibility, as is evident in the establishment of new committees that focus on these topics.

Houston TranStar also deserves a great deal of credit for bringing together representatives at the leadership level from all transportation modes to address security and emergency preparedness.

At this time, funding for homeland security activities comes exclusively from the Federal government through the Texas Department of Emergency Management, which is then funneled through Texas A&M's "Texas Educational Excellence Program (TEEP)" to the H-GAC Homeland Security department.

5.0 Outcomes

5.1 ACHIEVEMENTS AND RECOGNITION

As has been outlined in the previous pages, H-GAC has overcome many challenges, especially with regard to interagency coordination. Several of their activities represent real achievements in the realm of security and emergency preparedness planning:

- Developed the Regional Mutual Aid Agreement;
- Developed the Regional Strategies for First Responders Preparedness Plan;
- Helped all 83 eligible local agencies prepare and file Emergency Management Plans;
- Developed the Emergency Preparedness Guide for Elected Officials; and
- Developed the Regional Hazardous Mitigation Plan and related workshops.

5.2 BARRIERS AND THEIR RESOLUTION

It was noted by H-GAC staff that a very limited number of outside counterterrorism experts are available to advise public agencies about homeland security. After 9/11, they were, and still are, called upon by various groups all over the nation. As a result, they are stretched very thin. H-GAC consulted with such specialists for guidance in the early stages of homeland security planning in the region. The H-GAC staff has learned to keep discussions with them focused and to a strict agenda. This keeps the specialist's time to a minimum and ensures all questions are covered.

H-GAC staff felt that the Air Quality program was successful in that sufficient funding was provided and performance measures were in place to track progress. As of now, this is not the case for security and emergency preparedness, particularly as it relates to the transportation planning process.

In addition, the concern for security and emergency preparedness has been adversely affected by diffuse responsibility. Many activities are being performed by many groups without adequate coordination and with no clear delegation of overall responsibility.

Another interesting point relates to the mention above that private industry, specifically manufacturers, drove the concept of a regional Mutual Aid Agreement. Both the Transportation and Homeland Security departments expressed that although the private sector has driven emergency preparedness activities, they are not members of the MPO. The large majority of H-GAC's work is intergov-

ernmental and the private sector is not always involved. The new involvement of the seaport and related private industries in workshops and other activities is a positive development.

6.0 Conclusions: Lessons Learned

The long-standing history of security planning and emergency preparedness in the H-GAC region provides invaluable experience and knowledge upon which new security measures can be realized. Many of the informational guides, workshops and regional planning activities for weather, hazardous materials and overall emergency planning and preparedness have helped to position H-GAC among the leading regional agencies developing materials, coordination, and forums for future security activity. While different departments under the aegis of H-GAC have handled these activities, and the MPO staff was directly involved in the development of only a few of these activities, there are still very useful lessons learned to consider.

1. A committee that focuses on safety, security, and emergency preparedness issues can add value to the planning agency. Such a committee would provide an opportunity to bring law enforcement to the table and to establish a dialogue among the transportation providers in the region and their security counterparts. As the MPO controls the transportation funding for the region, having a standing committee as outlined above would enable the MPO/COG to better direct long-range planning and the TIP to incorporate security and emergency preparedness into capital projects, and to better support operations initiatives.
2. ITS investments in the region are a vital strategic asset. Existing local traffic management centers can be integrated to allow for coordinated regionwide incident response to major emergencies that affect the entire region. For instance, Houston TranStar is a successful interagency consortium that is responsible for providing Transportation Management and Emergency Management services to the Greater Houston Region.
3. Interoperable communications among transportation agencies and first responders can be a key strategic asset. The MPO/COG can sponsor and help coordinate workshops, forums, and training activities that enable all in the region to be more security conscious and prepared to respond to an emergency should it occur.
4. The MPO/COG can help to develop manuals, brochures, and other informational materials that the regional transportation players can take to their own agencies, and that other regions can use and modify to meet their unique needs.
5. As the MPO/COG already is set up for fostering regional cooperation, such agencies are ideally suited to take on new challenges, and tend to have a very flexible mandate for action. MPOs and Councils of Government provide a useful forum to deal with new issues. For instance, H-GAC completely altered their mission to address air quality issues in response to the Federal

mandate in 1990. However, this was accomplished with \$50M of Federal resources. With appropriate resources, the MPO/COG could play a valuable role in homeland security and emergency preparedness.

6. The MPO/COG can promote the effort to collect data, build databases and develop models that facilitate security and safety planning. Having data enables regions to better identify and address their needs and vulnerabilities. H-GAC's GIS system is used to analyze links between different aspects of the transportation system, identify risks in the system, monitor hazardous material transportation, and examine air quality. For instance, in the event of a major tanker explosion, it is possible to use GIS to model the likely path of the hazardous plume and to estimate how large a population would be exposed.
7. The issue of how to handle secure sensitive information for transportation facility planning remains a concern for many regional and statewide transportation agencies. In the absence of Federal guidance, MPOs face the challenge of developing local approaches, or adapting guidelines promulgated for other sectors.

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