



MEMORANDUM

AGENDA ITEM #12a

DATE: SEPTEMBER 14, 2009

TO: COUNCIL MEMBERS

FROM: STAFF

SUBJECT: STATEWIDE REGIONAL EVACUATION STUDY PROGRAM - UPDATE

The following report provides an overview and update on activities related to the South Florida Regional Planning Council's (SFRPC) role in the Statewide Regional Evacuation Study Program (SRESP).

Background

Council staff participates along with the other ten regional planning councils (RPCs) in the Statewide Regional Evacuation Study Program, funded through the Florida Division of Emergency Management (DEM). Phase I of the evacuation study consists of the following:

- A systematic enumeration and Geographic Information System (GIS) mapping of the dwelling units, population, vehicles and socio-economic characteristics for the three counties and the region in 2000 and 2006, as well as the projected population within those areas in the years 2010 and 2015. (Demographic Analysis)
- A comprehensive analysis of the potential hazards to the South Florida region, including investigations of storm surge, tornadoes, flooding, hazardous sites, terrorism and nuclear facilities, and critical facilities inventory. (Hazards Analysis)
- A systematic investigation of the probable tendencies of potential future evacuees based on a detailed residential survey. (Behavioral Analysis)
- A regionwide inventory of existing public shelters and shelter capacity analysis, and geocoding of the data to create a statewide layer of shelter locations. (Shelter Analysis)
- Establishment of a regional evacuation transportation network that links existing county-level evacuation routes and any additional arterials/collectors in the region.

The DEM is managing a separate contract for the production of updated Light Detection and Ranging (LiDAR) elevation data. LiDAR data collection has been completed for about 28,000 square miles across the State of Florida. CH2M Hill is the contractor that collected data for South Florida. Processing of the LiDAR data (cleaning, filtering, and verification) and preparation of the data for the National Oceanic and Atmospheric Administration's National Hurricane Center (NHC), including removal of trees, buildings, radio towers, etc., has been completed. New Sea, Lake and Overland Surge from Hurricanes (SLOSH) modeling will be undertaken once final LiDAR data has been received for every segment within each SLOSH basin. Two SLOSH basins will be involved in the update for South Florida, Biscayne and Florida Bay. On May 6, 2009, the SFRPC received the new LiDAR data for Broward, Miami-Dade, and Monroe Counties. Staff provided the data to each of our counties for their review and input. The SFRPC convened a meeting with County emergency managers, planners, and Geographic Information System (GIS) Staff; DEM; and National Weather Service to present the new data for Biscayne and Florida Bays. The meeting was held on May 27, 2009.

Results from the modeling will provide the data needed for Regional Councils to complete Phase II of the study. Phase II includes a vulnerability analysis (consisting of the delineation of the storm tide limits and the evacuation zones), identification of population-at-risk and evacuation populations, storm surge analysis of critical facilities and the evacuation transportation analysis. Deliverables will include printed documents and digital data, including GIS outputs.

Several of the Councils have been designated as leads for development of the methodology for specific sections of the studies. South Florida Regional Planning Council staff is the lead for the demographic analysis. In that role, Council staff developed a set of guidelines for the collection of data for demographic profiles for each county and each region, as well as for the collection of small-area data to support the transportation analysis required in Phase II. In addition, Council staff prepared demographic data for all 67 counties in the State of Florida, organized by RPCs, from the 2000 Census (block group data) and from the 2006 American Community Survey (ACS) (county data), to support the development of demographic profiles. Council staff also provided data from the 2000 Census Transportation Planning Package for 31 counties with over ten thousand traffic analysis zones (TAZs) for use in the transportation analysis.

Accomplishments

Council staff has undertaken the following activities as part of the work on Phase I of the study for South Florida:

1. Participated in regular meetings of the statewide coordination team, hosting one meeting at SFRPC offices and another at the Governor's Hurricane Conference on May 14, 2008.
2. Prepared the methodology for collection and analysis of demographic data for the study, including small-area data based on TAZs and census block groups.
3. Prepared county demographic profiles for each of the three counties in South Florida, complete with block group maps from the 2000 Census and county summary tables from both the 2000 Census and the 2006 ACS, highlighting characteristics of the housing units and the population of each county that are important for evacuation planning.
4. Prepared a regional demographic profile that summarizes the county profiles.
5. Coordinated with each of the three counties to obtain small-area estimates of housing units, households and population in 2006, along with projections for 2010 and 2015.
6. Outlined a strategy for filling demographic data gaps for some areas of the State of Florida.
7. Acquired statewide inventories of mobile home parks, hotel/motel units.
8. Acquired updated digital future land use data for each of the three counties and prepared a regional future land use map based on summary categories agreed upon with the other RPCs.
9. Coordinated with Emergency Management Directors from the three counties to include regional and county-specific questions in the Behavioral Analysis survey for South Florida.
10. Prepared a map that shows evacuation routes obtained from County Comprehensive Plans and a draft of regional evacuation routes to be used for the current study.
11. Met with Emergency Management Directors from Monroe, Broward, Palm Beach and Martin Counties to discuss alignment of the regional evacuation transportation network across neighboring regions.
12. Participated in all phases of the Request for Proposals for the Evacuation Transportation Modeling and Analysis, leading to the selection of Wilbur Smith Associates, who will work with all eleven RPCs and the Florida Department of Transportation to complete the modeling and analysis.
13. Met with county emergency management agencies to provide SRESP updates, introduce templates for the Critical Facilities Inventory and Shelter Analysis, and coordinate data collection activities required to complete these deliverables.
14. Initiated review of the shelter database and critical facility inventory for all three counties.

15. Met with county emergency management agencies and Dr. Jay Baker to review the results of the behavioral survey and develop planning assumptions for the study.
16. Met with county emergency management agencies, consultants from Wilbur Smith Associates, and other planning and transportation officials to review the revised scope of work and timeline for the transportation analysis.
17. Met with county emergency management and planning staff and DEM to provide an opportunity to address any questions regarding the new LiDAR data prior to its being transmitted to the National Hurricane Center, which will produce new Sea, Lake and Overland Surge from Hurricanes (SLOSH) flood modeling.

Current Activities

Shelter Analysis. A template for the shelter database, with over 60 attributes, has been developed under the direction of the Tampa Bay Regional Planning Council. The data to be collected for shelters includes such information as the specific location, the physical size and capacity and the characteristics of shelters related to how they are used.

Behavioral Analysis. A total of 18,800 telephone surveys were completed statewide by the contractor, Kerr & Downs, in late 2007 and early 2008; 400 surveys each were conducted in Monroe, Miami-Dade and Broward counties. The data tables for South Florida were delivered in August, and have been sent to the county emergency management departments for review. These results will be complemented by a set of planning assumptions, to be developed by Dr. Jay Baker. These in turn will be used to establish the behavioral assumptions used in the transportation analysis.

Hazards Analysis. A template for the hazards analysis has been developed under the direction of the Tampa Bay Regional Planning Council. The analysis of past hurricanes and other hazards in the region will provide context for the evacuation study.

On August 20, 2009, staff attended the statewide coordination meeting for the Study, which was held in Stuart, Florida. Staff received updates regarding the Study. The National Hurricane Center is processing the new LiDAR and digital elevation model data, but it is not yet clear if they will have completed new SLOSH modeling for all Regions by December 2009. In the event a new SLOSH model cannot be completed for a Region by December 1, 2009, then the new LiDAR and data digital elevation model data will be used in the present SLOSH model for that Region. Additional information about the LiDAR and SLOSH project, including the deliverables status, is available on the Florida Division of Emergency Management website at www.floridadisaster.org/gis/lidar.

Transportation Analysis. Council staff continues to participate in a series of statewide coordination meetings to assist in the development and implementation of the Transportation Analysis Model. Additionally, Council staff continues to coordinate with the representatives of the consultant to develop the specific data required for the transportation analysis.

On April 1, 2009, county emergency managers, land and transportation planners, as well as FDOT and Turnpike staff met at the SFRPC (10:00 AM - Noon) to receive an update from Wilbur Smith Associates about the Transportation Model.

Project Timeline

Completion of the regional evacuation study for South Florida is contingent upon two intermediate deliverables: new SLOSH modeling and the transportation analysis. The deliverables from the transportation analysis are currently projected to be complete in early 2010, with training in the use of the transportation model scheduled to follow. Staff was advised at the August 20, 2009 coordination meeting that the revised deadline for completion of the Study is June 1, 2010. Once it is complete, county emergency management officials are expected to update county emergency plans for operational purposes.

Additional information related to the Statewide Regional Evacuation Study Program, including printable copies of intermediate products, can be found at www.sfrpc.com/sresp.htm. Please contact Bob Cambric (bcambric@sfrpc.com), Richard Ogburn (rogburn@sfrpc.com), or Manny Cela (mcela@sfrpc.com) if you have any questions or need additional information.

Recommendation

Information only.