



# MEMORANDUM

AGENDA ITEM #12a

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DATE: NOVEMBER 3, 2008

TO: COUNCIL MEMBERS

FROM: STAFF

SUBJECT: STATEWIDE REGIONAL EVACUATION STUDY PROGRAM - UPDATE

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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 which links existing county-level evacuation routes and any additional arterials/collectors in the region

In tandem with these activities, DEM is managing a separate contract for the production of updated Light Detection and Ranging (LiDAR) elevation data. The new LiDAR data will be delivered to the National Oceanic and Atmospheric Administration's National Hurricane Center (NHC) to produce new Sea, Lake and Overland Surge from Hurricanes (SLOSH) flood modeling.

Results from the SLOSH modeling will provide the data needed for RPCs 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. Products will include printed documents and digital data, including GIS outputs.

Several of the RPCs 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.

## ACCOMPLISHMENTS

As of the end of October 2008, 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 traffic analysis zones (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. Contacted 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. Currently, staff has received the requisite estimates and projections for traffic analysis zones for Broward County, and prepared maps showing areas where future growth is projected to occur. Staff has also received preliminary household and population estimates by TAZ from Miami-Dade County. Staff continues to work with Monroe County to acquire similar data for census block groups.
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. Provided comments on the formatting, analysis and quantitative assumptions that will guide development of regional and statewide Behavioral Analysis products.
11. 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.
12. 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.
13. 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.
14. 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.
15. Initiated review of the shelter database and critical facility inventory for all three counties.
16. 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.
17. 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.

## CURRENT ACTIVITIES

*Shelter Analysis.* A template for the shelter database, with over 60 attributes, has been developed under the direction of Tampa Bay Regional Planning Council. The data to be collected for shelters includes such information as:

- Specific location, including address, latitude, longitude and elevation
- Surge zone vulnerability for each category of storm
- Physical size and capacity (general population and special needs)
- Additional facilities available (kitchen, showers, generator, medical clinic, etc.)
- Characteristics of shelters related to how they are used (i.e., phases) and whether or not they are pet-friendly

*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.

*LiDAR and SLOSH Update.* 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 NHC (removal of trees, buildings, radio towers, etc.) is currently underway. SLOSH modeling will be undertaken once final LiDAR data has been received for every segment within each SLOSH basin. 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](http://www.floridadisaster.org/gis/lidar). The status report for October 9, 2008, is attached as Exhibit 1.

*Transportation Analysis.* Council staff participated in a series of statewide coordination meetings to assist in the development of a Transportation Modeling and Analysis Request for Proposal (RFP). Three proposals were received, and Council staff participated in the technical review process which led to final selection of Wilbur Smith & Associates. A revised scope of work has been finalized, along with a timeline (see Exhibit 2). Council staff has begun to coordinate with the representatives of the consultant to develop the specific data required for the transportation analysis.

## PROJECT TIMELINE

Completion of the regional evacuation study for South Florida is contingent upon two intermediate deliverables: new SLOSH modeling and the transportation analysis. Since LiDAR data has not yet been delivered to the NHC, a schedule for completion of SLOSH modeling has not been developed. As shown in Exhibit 2, the deliverables from the transportation analysis are currently projected to be complete in July, 2009, with training in the use of the transportation model scheduled to follow. The working deadline for completion of the regional study is September 2009. 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](http://www.sfrpc.com/sresp.htm). Please contact Richard Ogburn ([rogburn@sfrpc.com](mailto:rogburn@sfrpc.com)) or Manny Cela ([celam@sfrpc.com](mailto:celam@sfrpc.com)) if you have any questions or need additional information.

## Recommendation

Information only.