

New York City Area Consortium Begins Year 2 Research Program



Year 1 of the FEMA-funded New York City Area Consortium for Earthquake Loss Mitigation (NYCEM) project has been completed, and work has begun on Year 2 activities. The initial stages of the project have involved fact-finding and assessment, with the development of soils maps and building inventories for use within the loss estimation methodology, HAZUS. An objective for 1999 has been to carry out an initial risk characterization for Manhattan below 59th Street. Similar efforts are being carried out in parallel for northern New Jersey and downstate New York. In subsequent years, the effort will focus on expanding the metropolitan area database to include specific regional information on lifelines and other elements of the urban infrastructure. A continual goal will be to promote the private-public cooperation spawned by the Consortium to increase regional appreciation for improved prevent preparedness and post-event response.

During Year 1, Professor Klaus Jacob of Lamont Doherty Earth Observatory has worked on the development of soil inventories and ground motion characterizations. A Princeton University team, led by Guy Nordenson, is developing building inventories for the same geo-



An initial risk characterization of Manhattan below 59th Street has been carried out, and an estimate of loss for this area is currently in progress.

graphic area. The decision to limit the study area to Manhattan below 59th Street has helped to focus data collection efforts on a smaller area. This has also allowed for collection of field data to assess the goodness-of-fit of default data within the HAZUS program when used for New York City. To assist with data collection efforts, MCEER has provided funding to the City College of New York to support two undergraduate students under the advisement of Professor George Mylonakis. The students conducted street inventories this past summer to assist the Princeton building inventory effort.

Under a separate funding stream, similar inventory development and ground motion characterization has been initiated for Newark, New Jersey and Westchester County, New York. The New York City, New York State, and New Jersey efforts are distinctly different in terms of predominant building stocks, the degree of availability of pre-existing sources of geo-referenced data, and to a lesser extent, geology, but have issues in common in terms of work with the HAZUS software and its default datasets, data acquisition, and management. Through the NYCEM Executive Committee, the separate efforts are discussed and reviewed, with a long-range objective to provide more coordinated linkages between them as the projects progress.

Second year efforts at Lamont Doherty will continue to be focused on the southern half of Manhattan. Objectives will be: to increase number of borings used per census tract; increase reliability; identify a representative boring for tracts not covered before; integrate the information on depth to bedrock from various sources;

and recompute the NEHRP site categories with bedrock shear velocities greater than 5,000 ft/sec. Additional data sources will be identified to supplement the present holdings of boring data provided by New York City Department of Design and Construction.

Second year efforts at Princeton will incorporate new building inventory data sets to be verified by a series of site visits in selected areas in Manhattan below 59th Street. Representative commercial and residential areas in Manhattan will be selected for this purpose. In addition, particular emphasis will be placed on collecting information and assessing vulnerability of critical facilities such as schools, hospitals, police stations, fire stations, etc. The overall objective for Year 2 is the estimate of loss for the southern Manhattan study area, using improved estimates of building stock and local soil conditions. Princeton and Lamont will work closely together in developing these improvements.

Additional education programs will be carried out in the coming year to expand consortium membership and involvement. Supporting these outreach activities will be a dedicated web site, administered by MCEER, and a newly-created HAZUS listserv – an internet forum for electronic dialogue of any and all matters associated with the use and application of HAZUS.

To join the HAZUS listserv, send the following command to listserv@listserv.buffalo.edu via email as the first line in the body of the mail message: sub HAZUSNET-USA-LIST [your name]. Be sure to leave the subject line blank. For additional information regarding the NYCEM project, please contact Andrea Dargush at dargush@acsu.buffalo.edu. ❖