

New York City security may be underfunded

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New budget allocation models developed at Northwestern University suggest that New York City appears underfunded for protection against terrorist threats. The study also shows Chicago as underfunded while Los Angeles appears overfunded.

The research team analyzed budgets for five fiscal years (2005 to 2009) for 10 major U.S. urban areas under a variety of terrorist-attack scenarios. The researchers found the funding received by New York in 2009 was around 30 percent of the total money allocated by the U.S. [Department of Homeland Security](#) to the 10 areas. According to the Northwestern models, the funding should have ranged between 33 and 49 percent.

This would translate to a net increase of anywhere between \$15 million to \$92 million above the actual level of funding New York received in 2009.

"Our new methodology, called robust-weighted sum optimization, offers a different perspective on how Homeland [Security](#) funds might be allocated," said lead researcher Sanjay Mehrotra, noting his team only used publicly available data in its study. "Ultimately, we would like to bring this method to the decision-making processes of Homeland Security and other organizations."

Mehrotra, professor of industrial engineering and management sciences at Northwestern's McCormick School of Engineering and Applied Science, worked with graduate student Jian Hu and University of Illinois

at Chicago professor Tito Homem-de-Mello on the research. The complete study is available at http://www.optimization-online.org/DB_HTML/2010/04/2605.html.

The researchers looked at the optimal allocation of the Homeland Security budget under its Urban Areas Security Initiative (UASI) program, which is designed to enhance regional preparedness in major metropolitan areas. They focused on the 10 urban areas that received the most funding.

To determine optimal budget allocations, the researchers built top-down budgeting models that considered different factor-weight scenarios and risk considerations, such as potential fatalities, property losses and disruptions of air and bridge traffic in the event of a terrorist attack.

In addition to the New York findings, the research results suggest that in 2009 Chicago should have received between \$10 million and \$17 million above its actual level of funding and Los Angeles should have received between \$27 million and \$36 million below its actual level of funding.

The other cities in the list are in the ballpark, says Mehrotra, with the funding they received coming close to what the Northwestern models suggest.

Provided by Northwestern University

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