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Our Fragile Infrastructure

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By Mitchell Moss

The bombing of the World Trade Center on Friday afternoon was not just an isolated event, but yet another warning of the growing vulnerability of New York and other large cities to technological disruption. In October 1989 an earthquake disrupted the economy of the San Francisco Bay area (and the World Series). Last year a flood in an underground tunnel paralyzed downtown Chicago. Over the past five years, water-main breaks in midtown Manhattan and on lower Fifth Avenue have flooded electrical power lines and brought vital business areas to a standstill.

During the Cold War we spent massive amounts of money on civil defense and the late Nelson Rockefeller gained fame, if not notoriety, for his aggressive efforts to put a bomb shelter in every backyard or basement. Today, the chief threat to our cities is not nuclear war, nor is it, in the final analysis, a terrorist incident or even a natural disaster. Rather, it's the growing interdependence of our energy, water, transportation and communications infrastructures, which means that a disruption in one system can produce even more serious breakdowns in other vital elements of our urban network. More important, there is no way fully to prevent such disasters in the future. As the boundaries blur in the urban infrastructure that runs beneath our city streets and within our high-rise buildings, even a minor mishap can produce a major catastrophe.

Nevertheless, if we cannot predict or forestall the future, we can still learn from the past, and the past record of urban disruption is too strong to ignore. Therefore we must take steps now to prepare for future accidents and breakdowns in our cities, be they caused by terrorists, accidents or malfunctions.

New York - as is so often the case - cannot rely on the federal government for help. FEMA, the Federal Emergency Management Agency, is designed to provide assistance in the event of natural rather than technological disasters. As a result, cities typically have to fend for themselves. Ironically, this may have worked to our city's advantage over the weekend, when dedicated Port Authority personnel restored service on the PATH system and reopened the trading rooms of the commodities exchanges. Can you imagine if we had had to wait for help from Washington?

Clearly, the federal government has to redirect its priorities for disaster relief. It is far more important for the nation to have New York City functioning as a business and cultural capital than it is to rebuild Dune Road on Westhampton Beach or SeaGate in Brooklyn so that a handful of property-owners can enjoy the ocean breeze.

Despite the massive damage at the World Trade Center, two key systems worked on Friday afternoon and evening: the people and the phones. Almost 50,000 people were evacuated with fewer injuries than sometimes occur at a British soccer game, and most of the telecommunications infrastructure within the World Trade Center remained in operation. This highlights the importance of maintaining separate infrastructure systems, rather than commingling phones with energy and water systems. Moreover, the ease with which many tenants in the World Trade Center have relocated to other sites is due to the capacity to reroute telephone lines and install advanced switching systems. Almost all of the 800 telephone numbers located within the World Trade Center have been relocated by AT&T without any service interruption, thus demonstrating how resilient our telephone networks are - even in a disaster.

On a typical business day in New York City there are 61.2 million outgoing telephone calls more than half the outgoing calls made from the entire state of New York. In the aftermath of the bombing, William Squadron, the city's Commissioner of Telecommunications and Energy, declared an alert and instituted

procedures to assure the continuation of all telecommunications service within the World Trade Center and the City of New York.

The federal government needs to recognize that managing disasters involves more than distributing blankets, tents and medicine. In today's global economy, it requires an understanding of telephones fiber optic cable and the role of cities as information centers. On a nation wide basis, the federal government must develop technological expertise in FEMA and formulate a strategy for restoring technological systems in the event of a disaster, natural or otherwise. It is ironic, but the nation may be able to profit from New York City's tragic experience at the World Trade Center.

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