

Case Study 7.2 Public Enabling of Private Real Estate in New York

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Population (Metropolitan Region)	20,153,634 (U.S. Census Bureau, 2016)
Area (Metropolitan Region)	17,319 km ² (U.S. Census Bureau, 2010)
Income per capita	US\$56,180 (World Bank, 2017)
Climate zone	Dfa – Cold, without dry season, hot summer (Peel et al., 2007)

John Jacob Astor, the first millionaire in America, earned his wealth almost entirely through the speculation of real estate in New York (NYC). As in Hong Kong and London, the real estate sector in NYC today is a significant component of the economy of the city. The real estate industry in NYC accounts for US\$106 billion in annual economic output, which equals approximately 13% of the Gross City Product (GCP) (AKRF, 2014). At just over 519,000 jobs, the real estate industry makes up an estimated 11% of the city’s employment and contributes US\$15.4 billion in annual taxes to the city or 38% of total municipal tax revenues (AKRF, 2014). The initial land use of the 18th and 19th centuries relating to the commerce of the sea dictated the continuous expansion of a working waterfront, one often created through tenuous infill development through the leveling of the city’s topography. As industrial uses now give way to the waterfront as an amenity for residential populations, there is a resurgence in the city’s relationship with the waterfront. Yet this re-engagement of the waterfront through increased real estate and infrastructure development is not without risk (see generally, Metropolitan Waterfront Alliance, 2015).

In the past decade alone, the city has been subject to several tropical storms that led to floods of varying intensity, including the devastation wrought by Hurricane Sandy in September 2012. The New York City Panel on Climate Change (NPCC) estimates that not only it is more likely than not that there will be an increase in the number and strength of such intense storms, but also that more frequent precipitation downpour events and inundation from sea level rise are likely to pose unprecedented risks to the city over the next several generations (2015). Based on recently revised flood insurance rate maps (FIRMS), the city comptroller estimates that US\$129 billion dollars of real estate is at risk within the 100-year floodplain (City of New York, 2014). Such flood events, and other similar events such as power outages from heat waves, pose significant risks to the commercial operations of the city even for those properties that are not directly affected by on-premises casualty losses because business continuity insurance is less than accessible in terms of cost and geographic availability (RAND, 2013).

TECHNICAL ENABLING OF DESIGN AND CONSTRUCTION PRACTICES

Following Hurricane Sandy, Mayor Bloomberg impaneled the NYC Building Resiliency Task Force (BRT) composed of public-sector regulators and private-sector actors in real estate, insurance, engineering, design, and various construction trades. With adaptation being defined not only by specific interventions, but also by a capacity to implement those decisions (Adger et al., 2005), the BRT was designed with a capacity to provide a continuous dialogue by and between the public and private sectors so as to advance building codes that enable technologies, designs, and materials that serve to reduce known environmental risks – and, hence, promote the resiliency of buildings (New York BRT, 2013). The primary impetus of the BRT was to incorporate elements of the International Building Code, as well as best practices from high-risk states such as Florida, into the NYC building code. Each proposed element was subject to peer review evaluated by a cost-benefit analysis benchmarked against anticipated risk reduction, as well as by qualitative political, legal, and market considerations for practical implementation.

The technical recommendations include everything from allowing properties to capture excess flash flood water to requiring backflow valves to prevent sewage backflow in buildings located in special flood hazard areas. Beyond water-related elements, additional recommendations included breaking down barriers found in existing regulations to allow buildings to accommodate power outages with co-generation, solar, and natural gas autonomous power generation facilities. Beyond autonomous systems, passive building systems for potable water and lighting were also advanced. Aside from the technical recommendations, consideration was given to advancing preapproved emergency inspectors and recovery agreements, as well as accommodations in reducing liability for supporting the reconstruction work of Good Samaritans following disasters. Of the thirty-two recommendations, fifteen were officially implemented as a matter of local law.

STRATEGIC ENABLING OF REAL ESTATE OWNERS AND INVESTORS

The banking, private equity, insurance, and many other service-based sectors have advanced adaptive capacities through corporate disclosures and a broader effort of bringing transparency to markets where vulnerabilities to climate change may be overlooked or underappreciated. Unlike most markets, real estate is highly localized, and, as such, ongoing risk assessment and reduction are timely and potentially costly endeavors. However, the Department of City Planning, through the Vision 2020 Comprehensive Waterfront Plan (2011), and the New York Economic Development Corporation, through the Waterfront Vision and Enhancement Strategy (WAVES) (2014), have taken significant steps in comprehensively evaluating risks and promoting experiments and pilot projects that reduce those risks while setting new standards for performance.

Experiments have included sponsoring multiple competitions for marine construction, resilient technologies, and ecologically sensitive landscape designs, which are integrated with stormwater management programs. The implications of these efforts, specifically the pilot projects, have been to set a benchmark for the private sector with regard to (1) estimating more accurate construction costs, (2) setting risk performance thresholds, and (3) providing a roadmap for

environmental regulation, which has historically resulted in unpredictable outcomes.

Interviews with stakeholders and regulators have suggested that this final component of environmental regulation is perhaps the single greatest barrier in implementing innovative techniques and technologies that are flexible in adapting to changing and evolving risks. This friction highlights the multiple layers of regulation

that are often beyond the control of the City. However, it is anticipated that, by building a coalition of public- and private-sector actors, there will be greater political leverage in advancing experimentation. By bringing measures of certainty and predictability to the development of infrastructure and real estate, the private real estate sector's adaptive capacity is arguably more robust by virtue of these collective public-sector actions and strategies.

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