Financing Urban Resilience: Credit Rating & Insurance

Synopsis from a Convening at the Bellagio Center | August 2 to 6, 2016

Prepared by the Institute for Sustainable Communities in partnership with Climate Resilience Consulting with grant funding provided by the Rockefeller Foundation.

Introduction

In August of 2016, the Rockefeller Foundation convened 18 thought leaders at the Foundation's Bellagio Center for a discussion about *Financing Urban Resilience: Credit Rating & Insurance.* Animated by the insights of urban resilience thinking, the convening brought together key actors in the resilience, insurance, credit rating, institutional investor, and city and federal government fields. The aim was to generate a transformational blueprint for systems change within and among these sectors that would spur investments to reduce a range of flood-related shocks and stresses experienced by cities in the United States. The convening was inspired by current gaps in public resilience project funding and the *meta*-question of how to finance resilience beyond existing federal, state and local resources (at least as currently deployed). Further, the convening sought to ensure that increased flood resilience investment addressed issues of disparate impacts across race and class, enabled equitable economic opportunities, created new community amenities and improved ambient environmental quality within American cities.

The convening was organized around two U.S. city cases, a coastal city experiencing flooding impacts associated with coastal storms, tides, sea-level rise and local subsidence, and a Midwestern city experiencing inland flooding due to extreme precipitation, significant impervious surface and combined sewer and stormwater systems. In both cases, existing efforts have already driven resilience investment (with key roles for the insurance, credit rating and government sectors) and are poised to drive much more investment once key barriers have been removed.

The convening participants produced a set of recommendations to address policies, procedures and funding streams that could instigate resilience investment in new and existing projects. These recommendations have been documented and submitted to the Rockefeller Foundation for further consideration by the appropriate program staff. As the convening was held under the Chatham House Rule to enable participants to fully express their views, this document has been crafted to preserve the anonymity of the views shared.

Convening Background

CONVENING GOAL

The purpose of the *Financing Urban Resilience: Credit Rating & Insurance* convening was to bring together key actors in the resilience, insurance, credit rating and institutional investor fields to generate a transformational resilience blueprint of systems change in the insurance and credit rating sectors, as well as with public infrastructure asset owners. It was inspired by current gaps in public resilience project funding and the meta-question of how to finance resilience beyond existing federal, state and local funding.

CONVENING OBJECTIVES

The convening's principle objective was to establish recommendations to address policies, procedures and funding streams that could instigate resilience in new and existing projects. The process for generating these recommendations was to be based on exploring real world cases that have driven resilience investment, with key roles for the insurance, credit rating and government sectors. Participants were asked to define obstacles, levers for change and potential innovation. While the exploration was focused on flooding impacts on public infrastructure within the United States, a mature risk sector, the blueprint was envisaged to possibly address other risks and opportunities.

This resulting blueprint was intended to include recommendations to influence both resilience as a typical part of every infrastructure project as well as resilience-specific projects. The deliverables and objectives were to focus on the United States and to be influenced in part by international practice. Key questions that animated the agenda design for the convening and the conversations among participants included the following:

- Which sectors are facing significant and perhaps unmanaged or underfunded disaster risk? How can it be mitigated and who do those sectors need to partner with?
- What are the traditional roles the insurance and credit rating agencies (CRA) play in building or preventing resilience?
- How should insurance and credit rating systems change so that more resilience projects can happen over time?
- What are the federal, state and local standards that induce insurance and credit rating agencies to create or prohibit resilience innovation?
- What are the insurance and CRA standards and processes that work as disincentives for public investments in resilience?
- What are the market drivers and value capture mechanisms that will engage insurance, credit rating agencies, and other potential investors?
- Within the finance industry, what roles are necessary to further insurance, credit rating, and capital markets innovation to drive more resilience projects?

- Outside of the insurance and credit rating sectors, what must change in the United States (e.g. laws, policies and regulations) to enable those sectors' transformation?
- What role do city leaders play in enabling and embracing systems change in the insurance and credit rating sectors that reduce the disaster risk of flooding and increase the number and impact of resilience projects?
- What are reasonable and stretch targets to measure the success of the transformational change envisioned by the blueprint?

PRECONVENING PARTICIPANT INTERVIEWS

To better understand the obstacles, levers and innovation potential within the credit rating and insurance sectors, prior to the convening, the facilitation team interviewed the majority of *Financing Urban Resilience: Credit Rating & Insurance* convening participants, as well as several other experts in the field. These interviews revealed three common themes, outlined below.

1. There Is a Difference in Timeframe Between Risk Transfer and Asset Life

Cities own, manage, earn revenue from and maintain infrastructure assets that are in use for many decades. The payback period for the bonds that finance these assets is also often also several decades. Although balanced budget requirements can incent deferred maintenance, and a desire to decrease debt to maintain high credit ratings may drive an underinvestment in infrastructure, resilience leaders in cities seek to modernize these assets in ways that help infrastructure withstand the shocks and stresses of future disasters for the next half century and beyond. As one City resilience leader notes: **"All debt equations are at their heart revenue equations. The consistent decline in Federal and State investment in cities over the last two decades have resulted in a situation in which cities must choose carefully how to distribute the limited amount of debt that they can service across a range of critical needs."**

Cities are all too aware that their infrastructure, which earns the United States a D+ infrastructure grade, has deteriorated due to sustained underinvestment over the past few decades. At the same time, urban leaders are in a position to turn this challenge into an opportunity for modernizing with resilience as a guiding principle.

Although as risk transfer specialists, the reinsurance industry can model the impact of 200-year storms, and although major Credit Rating Agencies (CRAs) are privy to those models, insurance companies issue one to three year policies based on approximately 18-month historical actuarial tables. In addition, CRA's generally issue municipal credit ratings for five- to seven-year time horizons and their evaluation of the municipality's ability to pay back is not directly related to future impact from stresses and shocks. Similarly, when CRAs are rating projects, they are doing so when the project is significantly planned or designed, decreasing the opportunity for CRAs to influence project resilience outcomes through credit ratings.

Insurance leaders identify private investors as a key reason that development continues in flood and storm-prone areas, since investors remain interested in funding those real estate projects. At the same time, private development and redevelopment can drive the need for public infrastructure investment as the decision to harden against flooding, accommodate periodic flooding or retreat entirely from flood prone areas will be driven by the benefit/cost of both the private and public assets at immediate risk.

Encouragingly, CRAs say that institutional investors, their primary customers, are increasingly asking for information related to climate risk, and pension funds – which hold long term liabilities may have a timeframe aligned for resilient infrastructure investments.

2. The Financial Ecosystem, Combined with Municipal Government Status Quo, Does Not Encourage Systemic Thinking

The infusion of federal dollars after an extreme event could change the tendency to build back to the status quo, but cities have an incentive to get people back in their homes and infrastructure restarted as soon as possible, with no change to zoning or built form classifications. Few communities have post-disaster redevelopment plans in place that could guide efforts to recover in a more resilient fashion than was the case pre-event. And depending upon which source of federal funds that communities are using for recovery efforts, they face varying restrictions on the extent to which they can incorporate enhanced resilience features into the recovery process.

There are examples of forward thinking asset development, such as New York City's Dryline project, funded both through Rebuild by Design and through the National Disaster Resilience Competition (and which is still seeking funding on the private market for well-capitalized areas around Battery Park) that illustrate ways to earn resilience dividends from infrastructure projects, and there may be opportunities for systems change implicit in the current obstacle of underinsurance and a current lack of risk-adjusted premiums in flood prone areas, since federal subsidy could be paired with federal guidelines or regulations that change the built forms allowed in those areas.

Indeed, President Obama's Executive Order 13690 establishing a federal flood risk management standard for the use of federal dollars in floodplains could be a significant driver for resilience as federal agencies incorporate federal guidance into their grant-in-aid programs for states and local governments.

3. Information about Risk is Not Available to Risk Holders and/or is Not Being Used Proactively

Although the insurance industry learned lessons from Hurricane Andrew in 1992 that left insurance companies bankrupt, inspiring the industry to become extremely sophisticated about how to model risk, and although reinsurers have partnered with the credit raters to model this risk, this proprietary risk modeling information is not readily available to those who currently carry the majority of risks to their assets (municipalities, homeowners) and is not being shared (at least not obviously) with investors and developers.

Similarly, translating the quantification of risk into monetary terms that are universally understood, and perhaps especially used by financiers to value projects, is lagging. City and credit rating stakeholders noted the problem of quantifying avoided risks, as well as resilience dividends, for their stakeholders, and the federal government seeks clarity on the dollar value of resilience cost effectiveness.

The Rockefeller Foundation and Arup have created a City Resilience Index that is now being piloted in the U.S. by 100RC, pioneered by the Rockefeller Foundation. Other efforts, for example in the World Council on City Data, and the Standard for Sustainable and Resilient Infrastructure SuRe, which might meet some of the needs of investors for this resilience measurement information. Additionally, insurance initiatives such as Oasis Loss Modelling Framework intend to offer catastrophe modeling to non-insurers. There is value in producing consistent climate risk disclosure for most cities as a way to avoid the unintended consequence of the market punishing the front runners who are taking a close look at their risks as part of developing a risk management strategy.

100RC Urban Resilience Definition

Resilience is about surviving and thriving, regardless of the challenge. Urban resilience is the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.

Finally, local governments fear disclosing climate risks at the very time that they are in most need for affordable capital to build resilience. While credit rating agency leaders remind cities that ratings are not intended as the “Good Housekeeping Seal of Approval,” future disclosure standards may need to balance the threat of a reduced credit rating, which is prohibitive to well-priced capital, with the need to transmit appropriate risk information.

KEY INSIGHTS CAPTURED DURING THE CONVENING

Over the course of three days, discussions confirmed that municipal credit ratings do not currently take future flood risk into account nor are the vast majority of institutional investors asking for this analysis. This could change given better documentation of how flood events negatively impact future municipal revenues that secure bond repayment. Further, the convening confirmed that the National Flood Insurance Program (NFIP) has largely precluded so far meaningful engagement by insurers and reinsurers in playing the risk reduction roles with flood peril that their sector has achieved with other perils that they underwrite. Given that the NFIP risk pool is heavily weighted toward those with the highest risk, the federal program has created what one participant described as “the nation’s second highest liability” at just over $23B as of 2016. The convening confirmed the initial hypothesis that local governments currently enjoy few incentives from capital markets, insurers and credit rating agencies to invest more heavily in urban flood management projects.

With respect to the behavior observed within local government, the discussions illuminated a key hypothesis that finance officials may in fact be incentivized to underinvest in flood protection projects

by virtue of their desire to maximize their credit ratings through minimizing outstanding debt or debt to revenue ratios. The discussions further highlighted that in some cases, such underinvestment may be rational with respect to short term public finance priorities; however, in other cases it may reflect misconceptions regarding credit rating assessments, the misalignment of credit rating parameters and good governance practices, excessive discounting of future public finance priorities, or inadequate consideration of longer-term consequences of systematic underinvestment for fiscal capacity. Further, this behavior may be bolstered by federal disaster recovery programs, which pay recovery expenses to local governments, creating a moral hazard problem for local flood investment.

Given these external and internal incentives, Chief Resilience Officers, public works directors, and others advocating for greater local investments for resilience initiatives face significant challenges in financing urban resilience. While notable innovations in alternative equity-oriented financing mechanisms are underway and should continue, the convening supported the idea that traditional debt approaches to infrastructure finance may still hold many opportunities to address the nation's infrastructure deficit. Given the nation's current D+ infrastructure grade, that financing policies employed by many local governments can be questioned and changed without affecting current credit ratings, and that the current low interest rate environment decreases the cost of borrowing, many cities could benefit significantly from additional debt finance taken within a resilience frame.

Against these insights, three overarching themes pervaded the convening: The *urgency* of financing urban resilience, the need for *transparency* about current and future risk balanced with current and future solutions, and the imperative of, and potential for, a *mindset shift* among leaders that are key to urban resilience finance.

Specifically, participants agreed that resilience leaders should:

- Highlight that cities are creating resilience solutions and making progress and that barriers to solutions need to be identified and changed.
- Establish urgency around big issues like flooding and inundation.
- Use risk models to stress-test assets in city infrastructure pipelines, investment portfolios, etc.
- Be aware of the scale of the problem; when flood hazard risks are made transparent, they may shock (including as it is propagated through the financial system) local and regional economies as well as the national economy.
- Present risk and resilience framing in every sector that participants seek to influence (e.g. financial system, local and federal government).
- Examine communities of municipalities, rather than single out one city for risk assessments.
- Identify where rapid change is possible along with longer term activities.
- Use market signals to indicate what property owners and communities can do to reduce their flood risk.
- Acknowledge that solutions are both complex and simple and incremental.

- Demonstrate, leverage, & document innovative financing mechanisms, as they emerge, in order to help normalize investments in resilient infrastructure.

FUTURE DIRECTIONS

On the final day of the convening, participants developed several recommendations for systems change based on the insights gleaned. The recommendations were organized into three principal activities: the need for a campaign for changing perceptions to subsequently change policies and processes; a technical advisory facility to produce the analysis and business cases needed to support the campaign; and the case for a concerted research agenda to better characterize national flood risk as well as current and future exposure.

Building on the insight that deep systems change is called for within and among the various sectors that influence the current urban flood resilience financing and investment environment, participants noted that a concerted campaign for changing perceptions was urgently needed. The vision this campaign promulgates should inspire a mindset change and should include both cities' significant risks as well as their significant resilience opportunities. Elements of the vision include changes to insurance penetration, credit rating agency analysis and reporting methodologies, resilience equity and debt instruments, institutional investor portfolio risk review, Federal flood policies, and City debt handling.

In parallel with the campaign, participants noted the need for a Technical Advisory Facility that could create cases of early adopting urban resilience investments, document lost municipal revenue associated with flood events and ultimately develop methods to estimate future flood risk potential for local governments. Further, the facility could serve in an advisory capacity to provide insights for local government officials seeking to structure resilience financing through debt finance or other, more innovative mechanisms like resilience bonds. Finally, the facility could serve as a hub through which other innovations coming from insurers, investors, modelers and rating agencies are coordinated, linked and resourced in order to achieve shared interests in building urban flood resilience.

The Technical Advisory Facility is envisaged to work in close concert with the campaign by providing key technical inputs, experts and well-documented case studies for use in communications and engagement by the campaign process.

Participants noted that the current system of funding and executing FEMA flood mapping is overly expensive and hampers the transparency of flood risk needed to drive smarter decisions. A research agenda for flood risk exposure was discussed.

These recommendations have been documented in detail for use by the Rockefeller Foundation's resilience team and the other convening participants in considering future initiatives and investments.