BUILDING FOR RESILIENCE: STRATEGIES TO PREPARE FOR EXTREME EVENTS

Question and Answers

August 6, 2015 Webinar

Q: ***Hi, the speakers are referring to white papers and studies they've done. Is it possible we can get a reference list of these papers/studies along with information on where we can obtain them. Thank you in advance if you can send that out.***

A: The papers are all available on http://www.uli.org/resilience/reports

Q: ***I don't understand how it's preferable to look to local funding. Cities work more efficiently working together for rebuilding, helping each other.***

A: The specific recommendation to "devolve funding to the lowest effective level" is partly about recognizing who is best positioned to act quickly and effectively. Because there is a sense of local responsibility, connectedness, and deep understand of the context, local actors seem to create the fastest response and most immediate action, especially in rural areas. In Northern Colorado, when all three communities were hit, the fastest response came from the local community, while they were still waiting for federal monies to flow a year after the event. But there was a high level of collaboration and support for adjoining communities. Regional coordination is certainly important, and ULI's whitepaper on Resilience Strategies for Communities at Risk does underscore several important measures to address gaps that exist in locally-focused decision-making.

Yet, the size of the city or locality is important to consider. A large city like New York needs to do its own planning and coordinating of all federal, state, and local resources. All of these funds come from different silos that don't talk with each other. Someone has to coordinate the funds so the used as effectively as possible. Small towns and villages also need to be able to coordinate the complex flow of funds from the federal, state, and other donors, but likely do that better by coordinating with their neighbors. Even though this is best done at the local level, support for local capacity building is needed, to ensure the local government has the training and resources to handle this role.

Q*: It was said that the most effective way to deal with resiliency is to get to the lowest effective level of governance possible, but with the most devastated areas being of low importance what can be done to spark localities to implement resilience investment in those high risk areas?*
It is true that typically the most vulnerable areas have the least wherewithal to address the risks they face. Small communities are often agile in terms of thinking about resilience, but have fewer resources to plan ahead. Therefore, creating a sense of urgency to plan ahead and think about long-term resilience planning vs. short-term disaster response can be a challenge. One approach is to help people see resilience as not an issue unto itself, but as a complement to other things. Often the same investments that would make the community more sustainable, livable, and economically prosperous can help make it more resilient as well. Great examples exist with investments in green infrastructure, for instance, that address stormwater management while improving recreation options.
Within a large region, if high-risk area is of less significance to the long term economy, culture, history, or quality of life of the region, a tough political decision needs to be made. Ideally, long term plans should be made to help move homes and businesses to safer, more easily protected parts of the region. These are tough but needed decisions to make and the changes need to be planned for over decades to give people time to adjust. Constantly rebuilding the most vulnerable areas only makes sense if the area is critical to the region as a whole.

Q: ***I'm not sure why insurers aren't driving better urban/rural land use planning. Since urban planners aren't capable of driving land use change, do the panelists have comments on the best method to move people and infrastructure out of critical areas?***

Voluntary buy-outs are one way, and have been shown to be partially successful. Federal hazard mitigation funds can be used to acquire abandoned or damaged properties and turn those into parklands and other lower-risk uses that may even provide protective benefits in future events. Mandatory buy-outs are politically more difficult and raise all the issues around eminent domain. What we saw in Biloxi post Katrina was a de-facto insurer effect. The rates in high risk areas were so exorbitant that it became economically irrational to build in former neighborhoods. So while it was not being planned as a no-build zone, it had become a no-build zone due to economics of ownership. Changes in code requirements can have this effect, too.

Adopting long-term regional plans that restrict future development in high risk areas of low regional significance, and that direct future funding to higher-priority areas, will begin the slow process of voluntary migration. Some suggest adopting plans that would go into effect following the next destructive event that would prohibit rebuilding or at least limit it.

Q: ***The speaker mentioned we need to fully price climate change. How do you put a price on climate change?***

A: ULI's Guide for Assessing Climate Change Risk provides some examples of how to assess the potential cost of climate change-related extreme events, by estimating loss of property or economic activity. Clearly, this does not address impacts on human health, life, and well-being. Some research has been done on the estimated Social Cost of Carbon, but our papers have been focused on the costs to property. Pricing these risks into real estate on the front end remains a challenge, nonetheless, often because of uncertainty around events and impacts, or a longer-term timescale for impacts that does not match timelines for real estate decision-making.

Q: ***Does Byron have suggestions for an alternative to FIRM/FEMA flooding risk maps for predicting sea level rise? It's our understanding FIRM maps reflect the current flooding levels of risk.***

A: For coastal surge flooding, future flood levels can be estimated by adding projections of sea level rise to current FIRM elevations. That is a pretty rough estimate for broad risk assessments. Estimates for specific properties would require wind and wave modelling to account for storm surge. For upland river flooding, hydrological models are required to estimate flood levels from increased storm intensity.

Q: ***When monetizing the value of non-economic assets, can this be done in a democratic way that provides participatory opportunities for non-professional stakeholders? Are there examples of this being done effectively?***

A: Community involvement is essential to all resilience planning at the regional and local level. Community meetings, the press, the Internet and social media, interactive on-line forums, public forums are all effective tools. There is no perfect answer to these questions, but it is useful to engage a wide range of viewpoints and allow all voices to be heard.

Q: ***John acknowledged the heavy expense of catastrophic insurance and mentioned that insurance companies are discussing the issue - what exactly is being discussed of alleviating the cost of catastrophic coverage?***

A: This is a complex and important question, more than can be well answered here. ULI's whitepaper on What the Real Estate Industry Needs to Know about the Insurance Industry and Climate Change,
which discusses the role the insurance industry can play, and ways to alleviate the cost of catastrophic coverage.

Q: ***How do you calculate the damage costs per category of asset (i.e., is it the value to rebuild the asset, or the net asset value)?***

A: Damages to property are typically estimated based on repair or replacement costs. Unfortunately this typically does not allow for estimating how to rebuild in a way that will prevent losses during the next event. To include the higher cost to rebuild in a more resilient way that will reduce damages during another similar event, an investment must be made by the owner (or whoever pays out to repair the asset) that has a positive cost to benefit ratio. The benefit is reduced risk exposure.

Q: ***Discuss the risk for property owners of drought.***
A: There are potential direct risks, including increased fire risk in forested areas. In cases where local regulations respond to drought by restricting irrigation, green space investments (landscaping, parks) may be lost. Many drought-stricken areas also suffer from extreme precipitation following dry periods, which can lead to mudslides, flooding, and compromised drinking water that gets clogged with dust or ash. There is also the extreme case in which drought becomes so severe that water supply to a facility is restricted to the point that the property becomes usable and it cannot be sold or lease revenue collected.
But most of the risk of drought is likely to come in macro-economic and regional terms in the form of downward pressure on demand in drought-prone areas. Some areas may lose their natural resource base (e.g., forests get infested with predatory pests because habitat is stressed due to lack of water, which reduces the value of timber and potentially undermines tourism potential). Agriculture (big and small) stands to be significantly impacted by lack of water, increased prices for water, or both. Winter sport regions and resorts could also be impacted economically by drought-related loss of winter snow.

Q: ***What is meant by building the full risk of a property into the price? Does that refer to pricing oceanfront lots, for example, higher than they already are? Who determines the premium? What factors affect the premium?***

A: Pricing in the risk usually means that a buyer should reduce the price he or she is willing to pay for a lot or an asset by the amount of the calculated risk for a climate event. The higher the risk, the lower the price that should be paid. This kind of calculation should also affect how a lender should value any assets pledged as security for a loan. For instance, if you are going to buy a high-priced waterfront lot with a house that is at risk of being destroyed by a bad storm, you should calculate the likelihood of the storm, and the cost of uninsured repairs or restoration, along with the risk of having rebuilding zoned out by the local government. You might find that the real value of the fancy shorefront home was quite low when the full risk has been taken into account.

Q: ***Perhaps relevant to Byron Stigge's presentation, what is the implication of the calculated risk figures for municipal budgets?***

A: One implication is that it gives a municipality a basis for making cost/benefit calculations for different risks in the region, which then gives the municipality the ability to set priorities. Without clear priorities based on facts and analysis, a lot of funding goes to the wrong things. No municipality has or will ever have enough funding to do everything, nor is it likely there would be enough time anyway. So where do you start, what are the most pressing and important places to begin and to use available funds? This starts with the risk calculations Byron walked us

through. It also means, as stated earlier, that municipalities will need to look at every investment – in infrastructure, public space, etc. – as a resilience investment, and ask how their funds can be spent to maximize multiple benefits.

Q: ***I greatly appreciate Byron's presentation, as it provides a strong technical foundation and quantitative analysis. I have been frustrated by vulnerability analysis that are only qualitative and extremely so, to the point that they may not be adequate for decision-making. Having said that, where is the right balance? the effort to come up with final answers with the fully quantitative method can be extremely lengthy and expensive...***

A: It is true that a complete and robust risk analysis can involve lots of data sets, time and money. That said, the framework can be used at many scales, and there are many existing inputs (scientific data, property value data, etc.) that can be relied upon to produce even rough assessments of risk in financial terms.

Q: ***Have ULI's White Papers and Data been successful, in collaboration with other agencies, to positively affect building codes?***

A: Codes are in fact changing, but it is a slow and very uneven process. Some regions have been more proactive than others in incorporating future scenarios and risks into decision-making. Others have resisted anything but backward-looking analyses. In the most vulnerable regions, codes change regularly following damaging events, but they often do not keep up with the pace of change. ULI – through its members and partners – continues to shine a light on the importance of addressing future risks and impacts, and educating the real estate industry about ways to obviate those risks by adopting strategies to improve resilience.

Q: ***Forecast for multifamily housing resilience changes?***

A: At the federal level, a lot of attention has been paid to the importance of resilience in the multifamily (especially affordable) housing sector. HUD's office of Economic Resilience has been particularly active on this front with several programs. Fannie Mae is also working on making changes to promote multifamily resilience. Other entities are developing material on this topic: the Furman Center at NYU has issued a report on the cost of developing multifamily resilience and Enterprise Community Partners is developing a resilience manual. Most of this activity is driven by the recognition that residents in affordable housing are especially vulnerable to climate impacts and that enhancing resilience of those developments can have additional economic and social benefits for residents especially in need.

Q: ***Does ULI have a Product Council focusing on Resilience?***

A: Not explicitly, but several Councils (e.g., Responsible Property Investing, Redevelopment and Reuse, Sustainable Development) have strong interest in this topic and have been engaged in various projects of our Urban Resilience Program.

Q: ***What effect to you think the new Clean Power Plan will have on resiliency?***

A: The Clean Power Plan is focused on addressing climate-changing carbon emissions from the power sector. Bringing down those emissions is essential to preventing the worst possible outcomes of climate change, and avoiding the biggest impacts on society. It is an essential element of enhancing resilience.