

The background of the slide is a grayscale photograph of a business meeting. Several people are seated around a large conference table, looking at documents and talking. The room has large windows in the background, and the overall atmosphere is professional and collaborative.

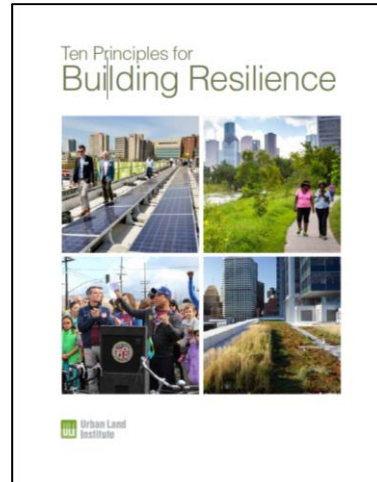
# Financing resilience

## Strategies for cities and the private sector

**Billy Grayson, The Urban Land Institute**  
**CREWS Convening, October 2019**

# ULI's Urban Resilience Program

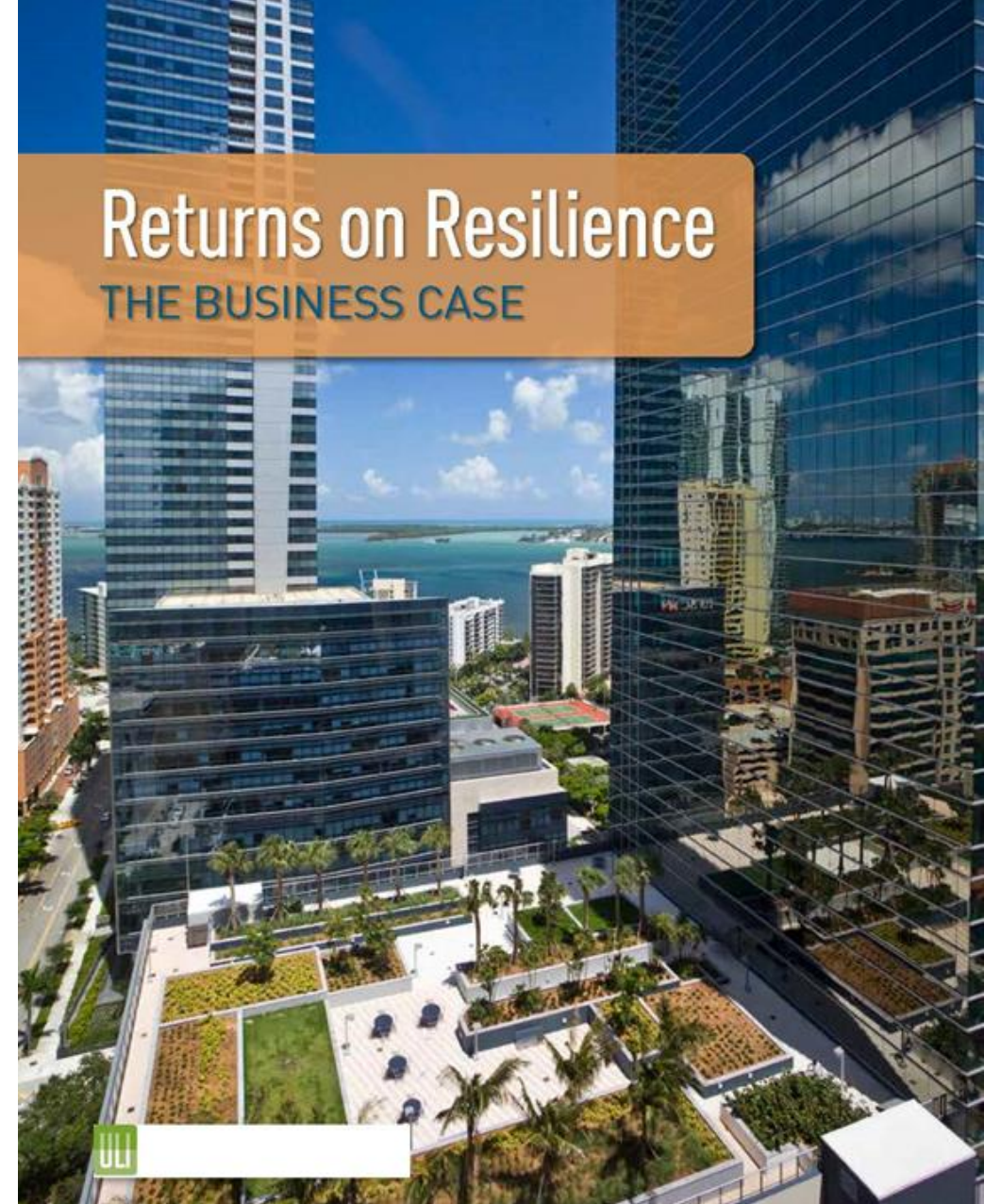
- ULI is a global membership organization with 46,000 members. The Urban Resilience Program has worked in 15+ communities and collaborated with 30+ District Councils.
- Why ULI?
  - Land use, development strategy and building design are critical resilience tools
  - Need for private sector leadership and finance/implementation strategies
  - Increased urgency - \$350 billion of damage in US from 2017 hurricane/wildfire season





# Opportunities to generate value

- Avoided losses/decreased vulnerability
- Incentives/opportunities for increased density, FAR
- Increased market value
- Fast lease-up
- Increased likelihood of/speed for permitting
- Decreased insurance premiums
- Enhanced user experience
- Enhanced aesthetics and placemaking
- Energy and water usage reductions and savings
- Marketing/brand value
- Extended building life
- Better chance of business continuity





# Understanding Vulnerabilities

The first step toward building resilience is understanding the ways in which climate change and other shocks and stresses are increasing risks to your community and region.



An anti-flooding water pump roars at full capacity at Maurice Gibb Park in the 1800 block of Purdy Ave. in Miami Beach due to the beginning of King Tide last October. C.M. GUERRERO - cmguerrero@elnuevoherald.com

MIAMI BEACH

Miami Beach's future is 'uncertain,' experts say, but sea rise pumps are a good start



# Financing resilience

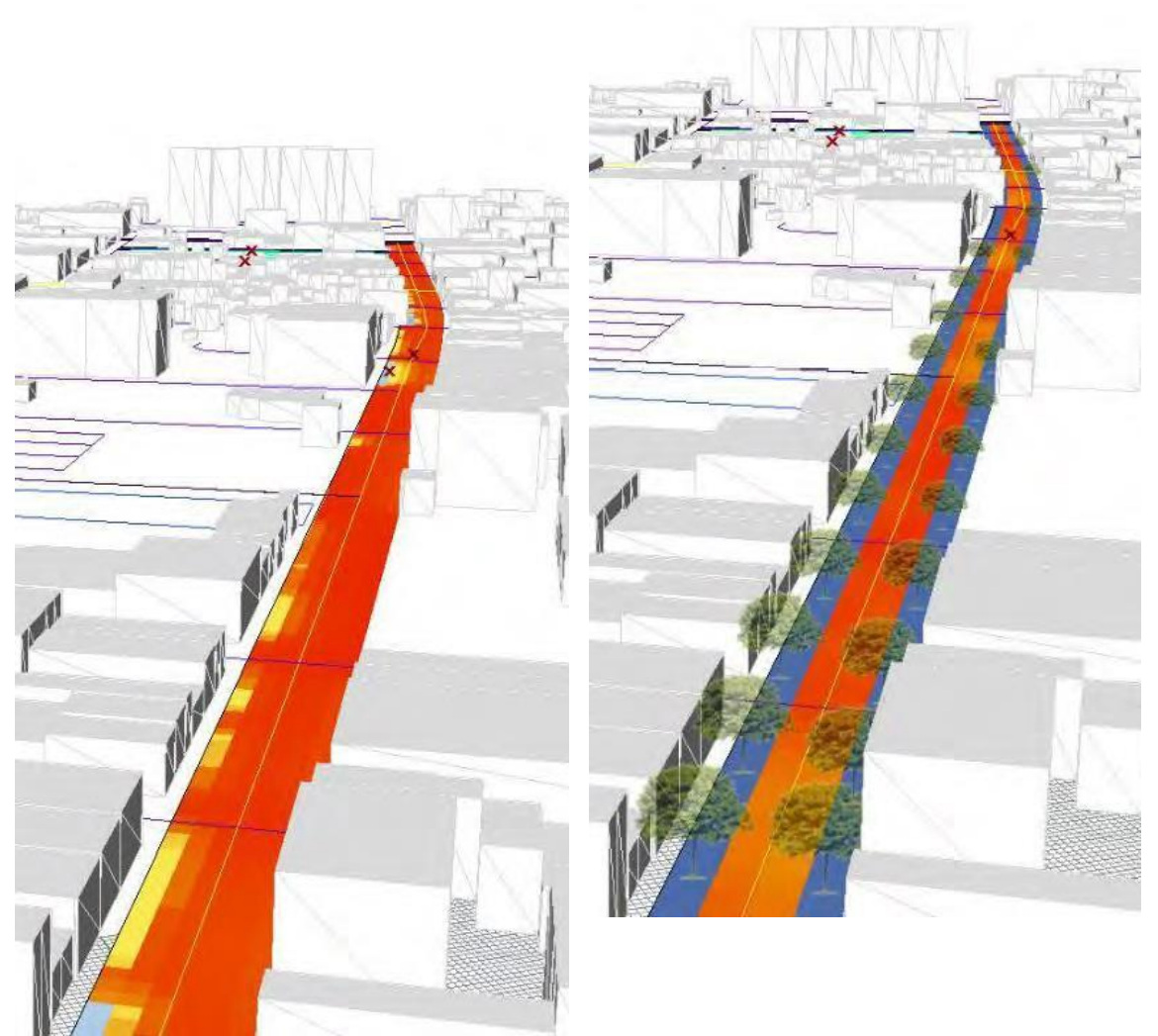
Toa Baja Puerto Rico, Miami, and Miami Beach

- New resilience-focused bonds
- Repurposing capital improvement bonds
- Taxes – property, sales, income, transaction, permit
- State funds
- Federal funds
- New building codes
- New zoning overlays



## Building Equity into finance strategies

Equity entails recognizing and purposefully addressing racial, social, and economic injustices to build stronger communities, dismantle barriers, and create a more just society.



# Thank you

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[developingresilience.org](http://developingresilience.org)

Additional content – for follow up conversations



# Developing Urban Resilience

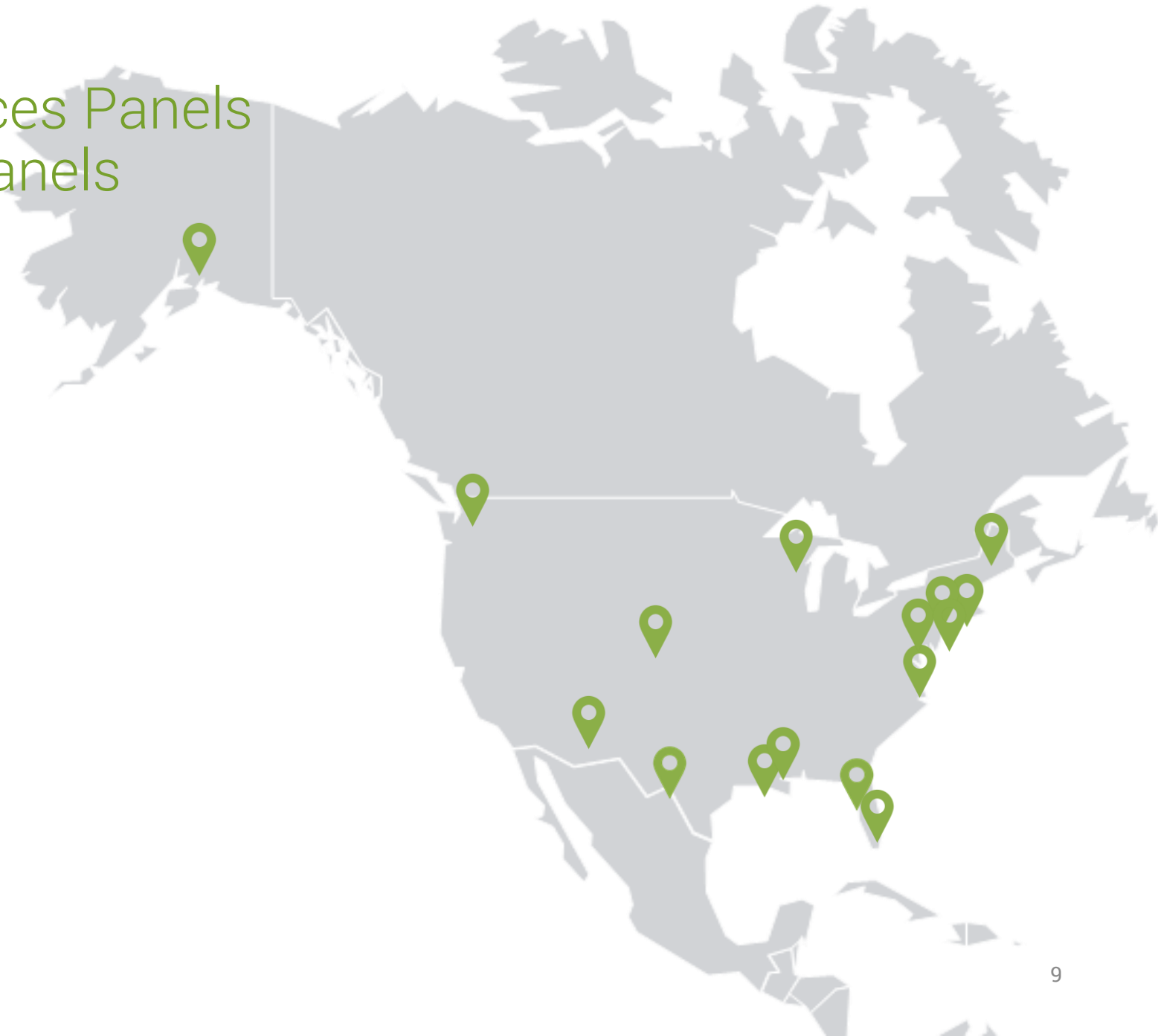
Learn about real estate development projects showcasing best practices in resilient design.

Featured projects and policies address climate shocks and stresses at the site scale, proactively considering environmental vulnerabilities like sea-level rise, storms, heat, drought, and earthquakes.



# Resilience Advisory Services Panels & Technical Assistance Panels

- Anchorage, Alaska
- Boston, Massachusetts
- Duluth, Minnesota
- El Paso, Texas
- Gowanus, Brooklyn, New York
- Jersey Shore, New Jersey
- Lafayette, Louisiana
- Miami-Dade County, Florida
- Miami Beach, Florida
- New York, New York
- Norfolk, Virginia
- Northern Colorado, Colorado
- Portland, Maine
- Seattle, Washington
- St. Petersburg, Florida
- St. Tammany Parish, Louisiana





# What might resilience look like at the city or district scale?

- Resilient land use
  - Development concentrated or encouraged in parts of a city which are by location or circumstance the least vulnerable
  - Land use patterns responding to existing natural systems
  - Potential Tools: Zoning, Comprehensive Planning, Incentives
- Resilient infrastructure
  - Combinations of grey and green infrastructure designed to both mitigate peak events and provide other benefits
  - Potential Tools: Bonds, dedicated resilience funds, PPPs, expenditures via Capital Improvement Plans
- Well-connected transportation facilities and infrastructure, including transit options and clear evacuation strategies
- Regional cooperation
- Economic resilience – diversified economy
- Social resilience – strong social networks, particularly for communication before, during and after peak events
- Equity – Low-income communities are hardest hit by disasters



Buffalo Bayou Park after Harvey  
Photo courtesy Houston Chronicle



# What might resilience look like at the building scale?

- Adherence to a stringent building code or beyond; Miami-Dade as gold standard; FORTIFIED offers another example of preparedness for storms/wind
- Elevation and access above 500-year floodplain
- Connectivity to resilient infrastructure
- Elevated mechanicals
- Incorporation of green infrastructure/landscape barriers
- Site planning incorporating existing natural systems, e.g. mangroves
- Ability to “island” - i.e. on-site co-generation, on-site water recycling/purification systems etc.
- Back-up systems such as chillers, HVAC
- Super-insulated windows, operable windows
- Well-developed emergency, business continuity and evacuation plans

