Sustainable, Resilient, and Equitable Infrastructure

A presentation to the CFR State and Local Officials Webinar

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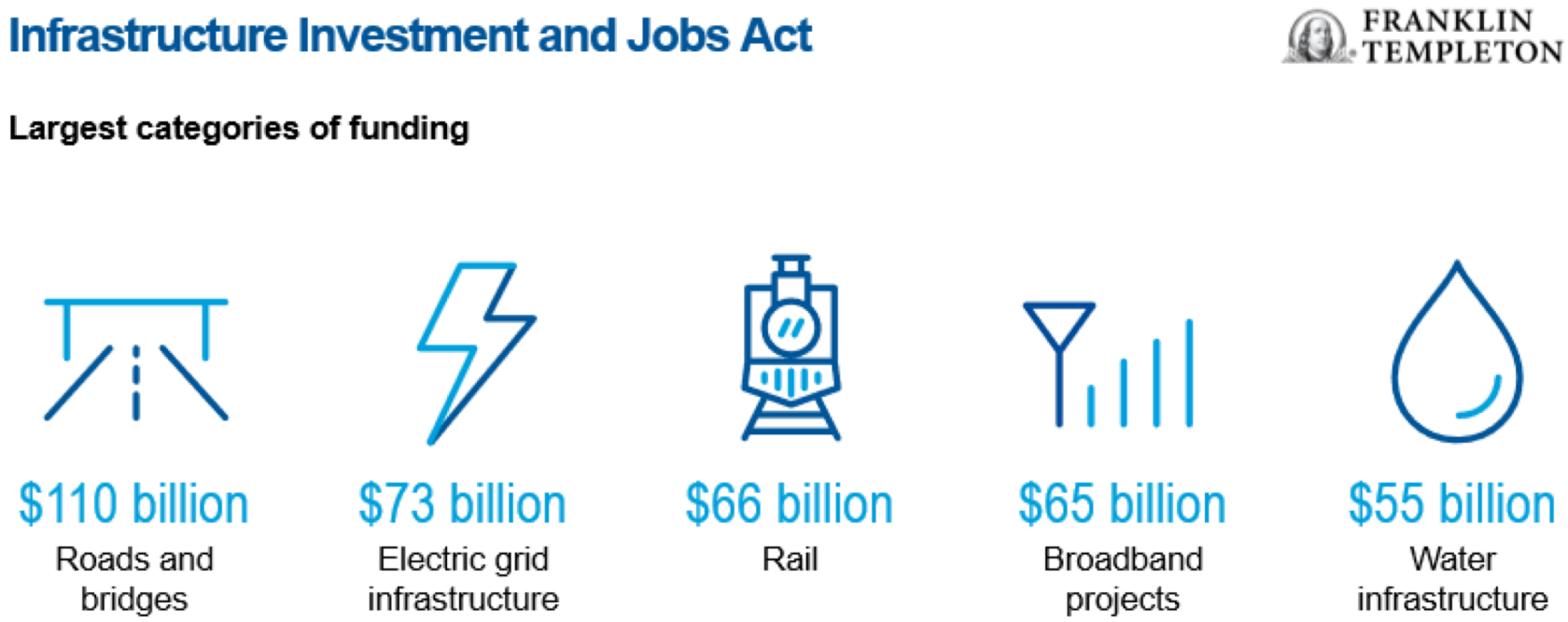
Dr. Stephen E. Flynn
Founding Director, Global Resilience Institute
Professor of Political Science
Professor of Civil and Environmental Engineering (affiliated)
s.flynn@northeastern.edu

Global Resilience Institute
at Northeastern University

$1.2 trillion 2021 Infrastructure Investment and Jobs Act



IIJA funds 380 federal programs – 132 completely new

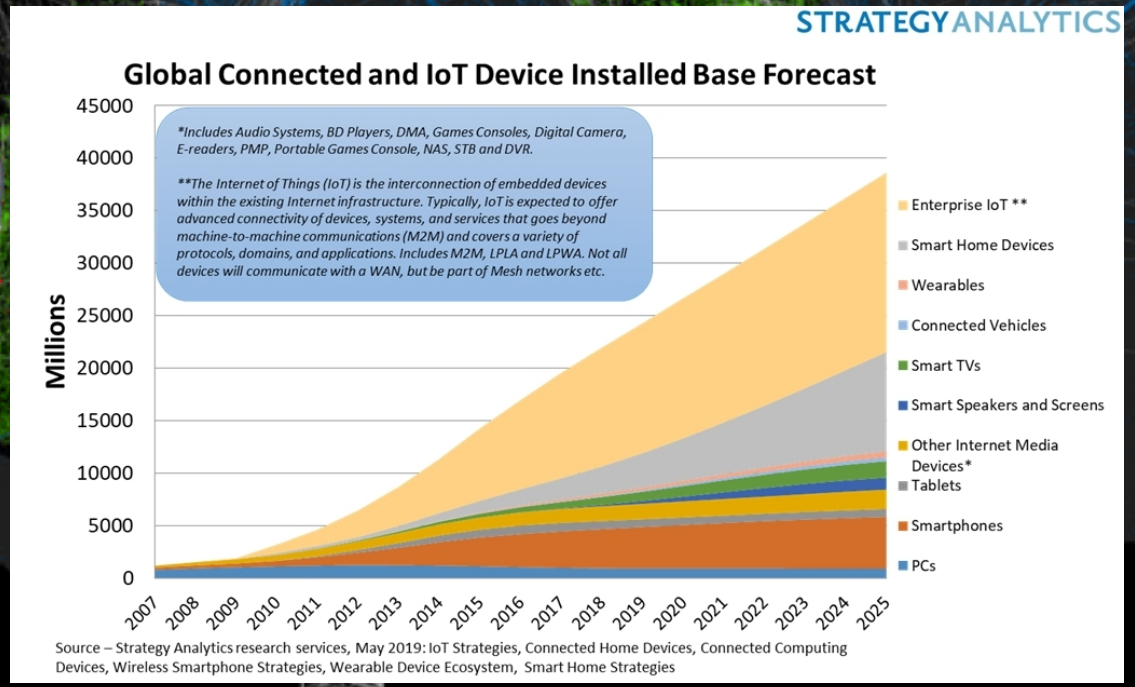
Private and Public ESG Funding

ESG assets may be up to $53 trillion by 2025

- Bloomberg Intelligence, Feb 23, 2021

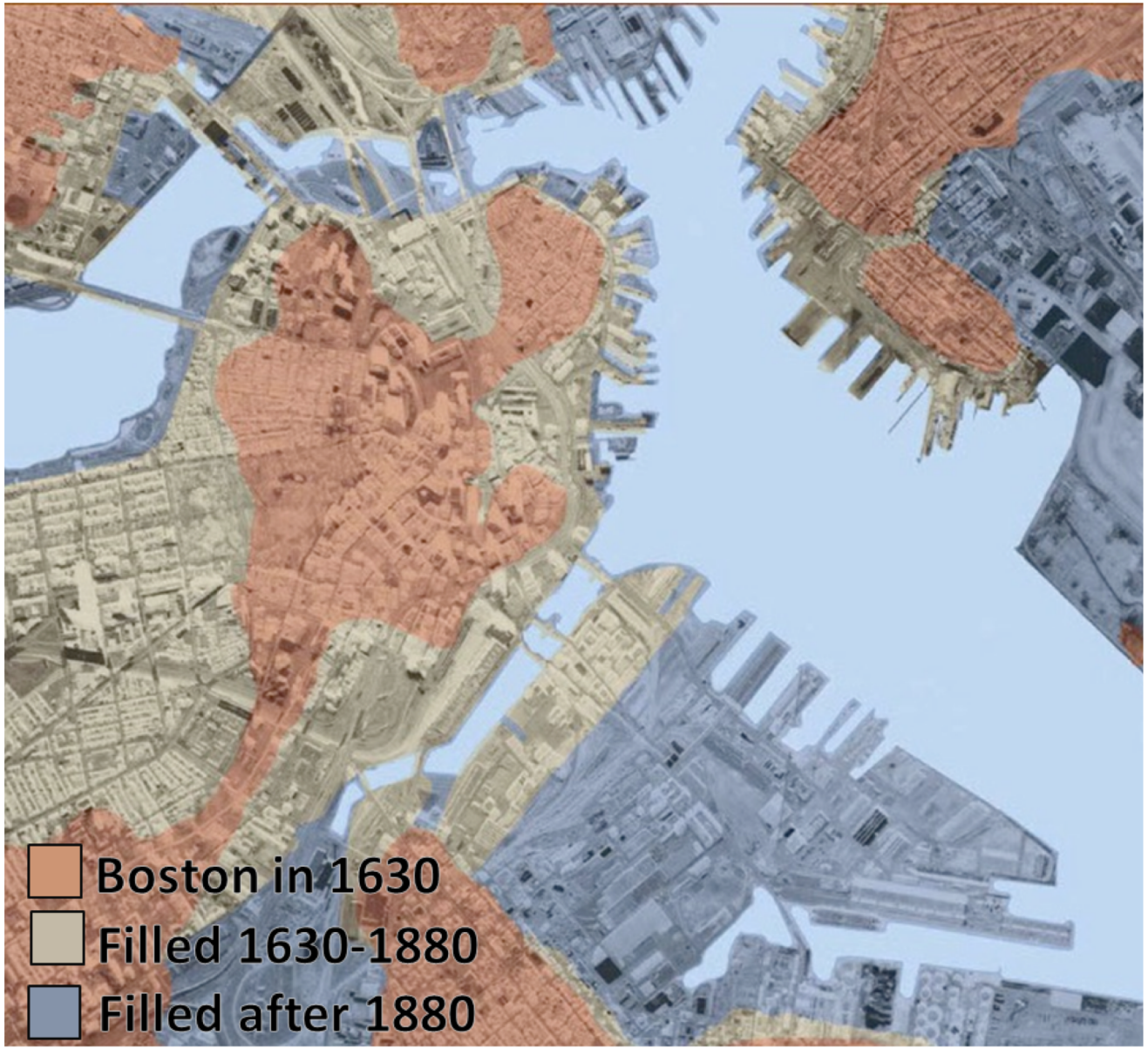
Why Resilience?

A hyper-connected world translates into a greater risk of cascading failures

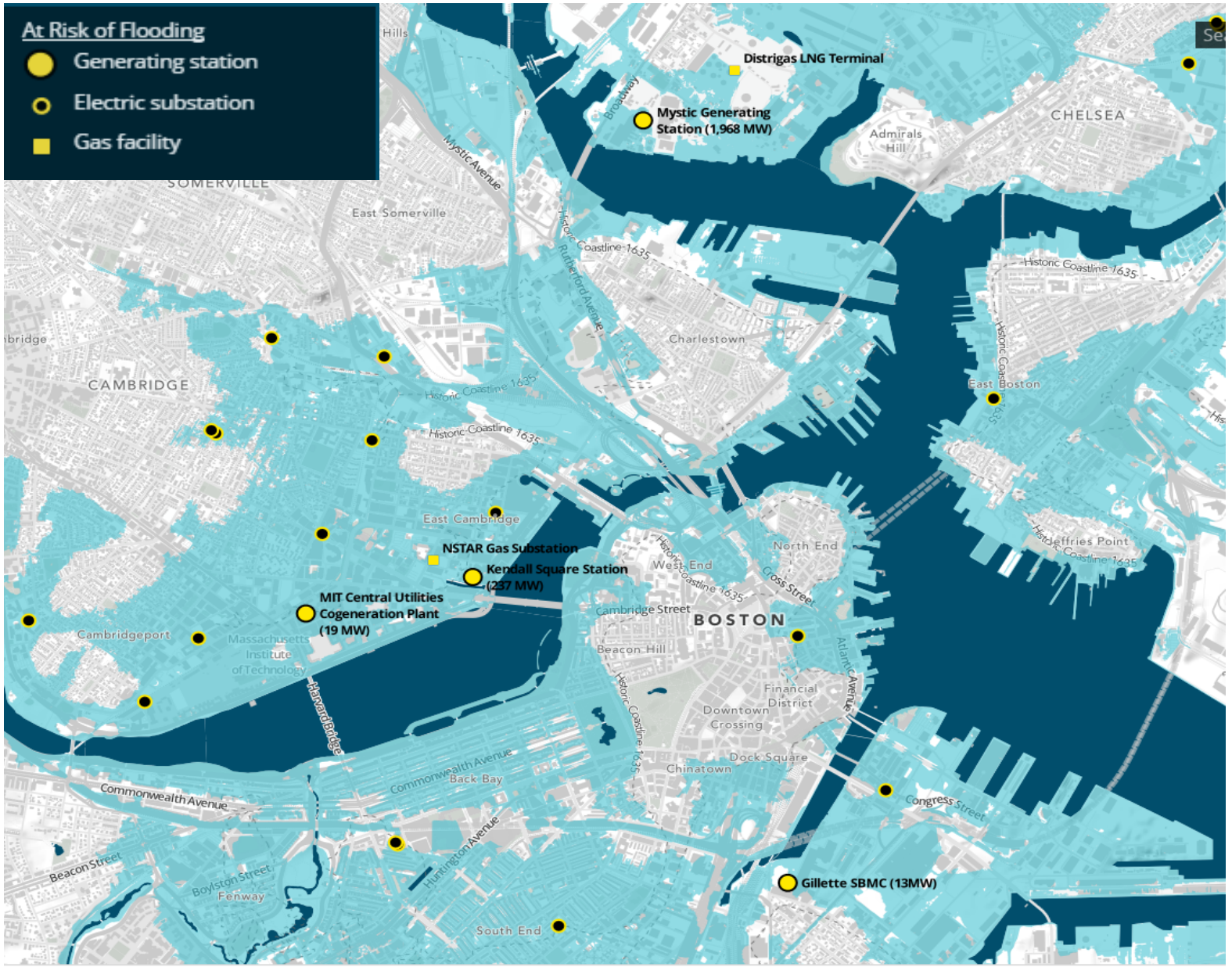


Internet of Things (IoT) 38 billion connected devices by 2025

Climate Change and the Metro Boston Flooding Risk

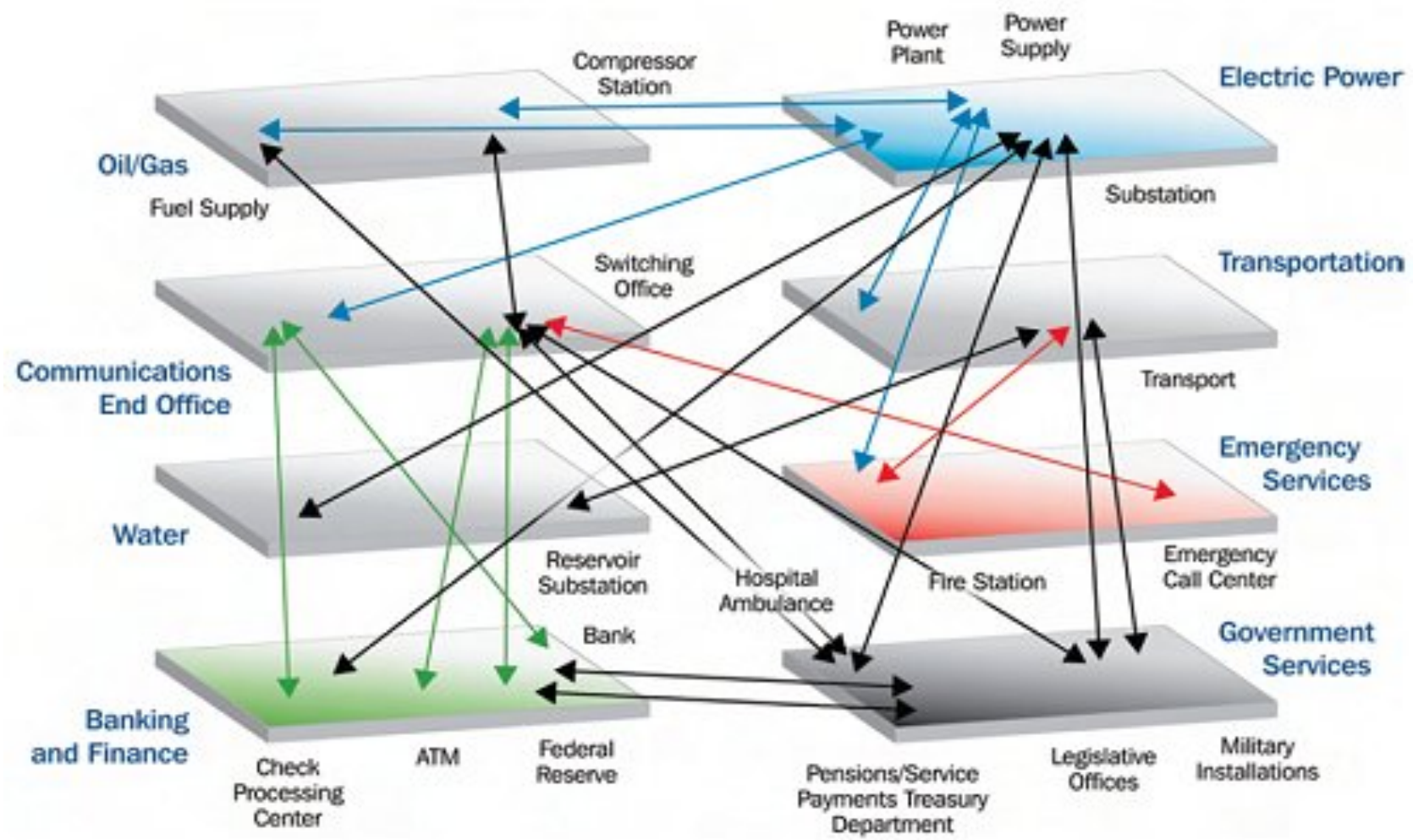


Potential Metro-Boston Flooding Disaster Scenario



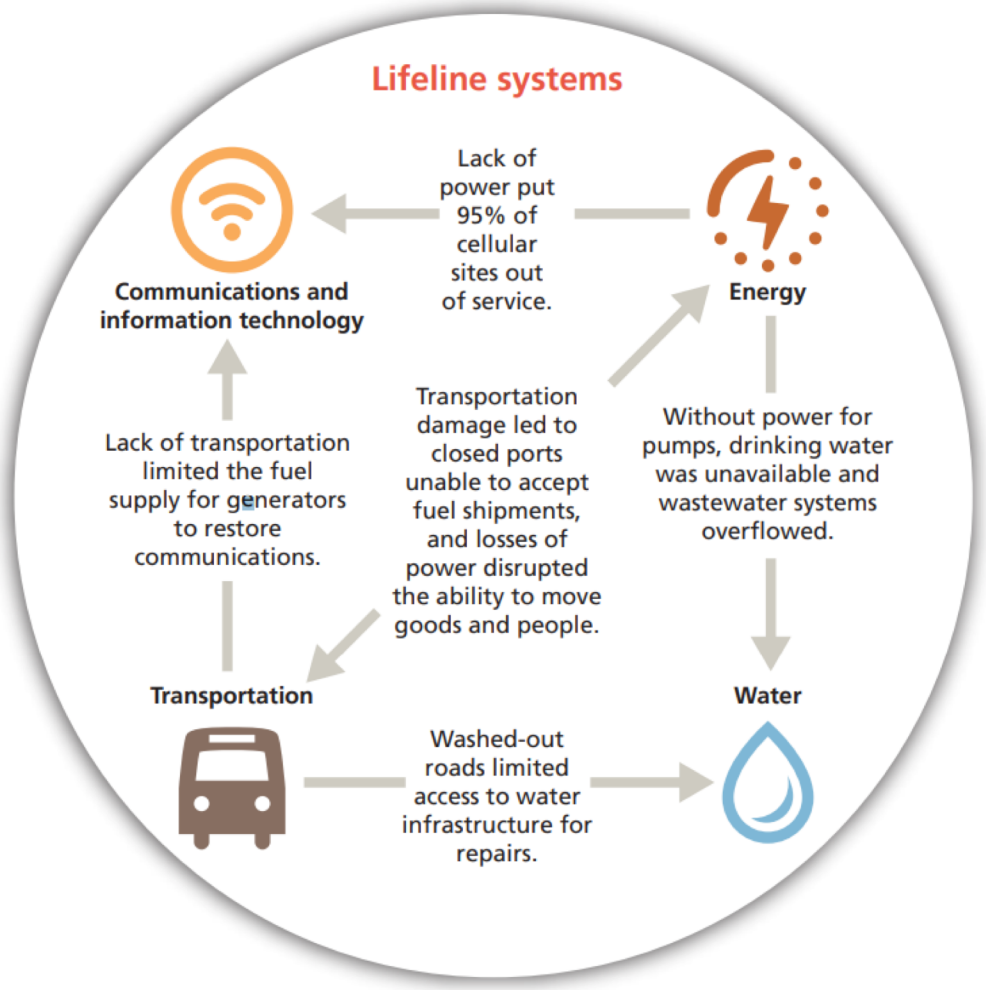
Energy assets impacted by 7-foot storm surge / sea-level rise

Understanding the Interdependency Challenge



National Aeronautics and Space Administration. NASA Science News. Severe Space Weather – Social and Economic Impacts. June 2009 at http://science.nasa.gov/science-news/science-at-nasa/2009/21jan_severespaceweather/

Puerto Rico: Post-Hurricane Maria (Sep 2017)



And without those lifeline systems:

Many health care facilities were not open, and people could not travel to those that were.

Emergency services were immobilized.

Many businesses were not open, stores could not get supplies, and people could often not get to the stores or other businesses that were operating.

Fischbach, Jordan R., et. al. "After Hurricane Maria: Predisaster Conditions, Hurricane Damage, and Recovery Needs in Puerto Rico." Homeland Security Operational Analysis Center operated by the RAND Corporation, 2020. https://www.rand.org/pubs/research_reports/RR2595.html.

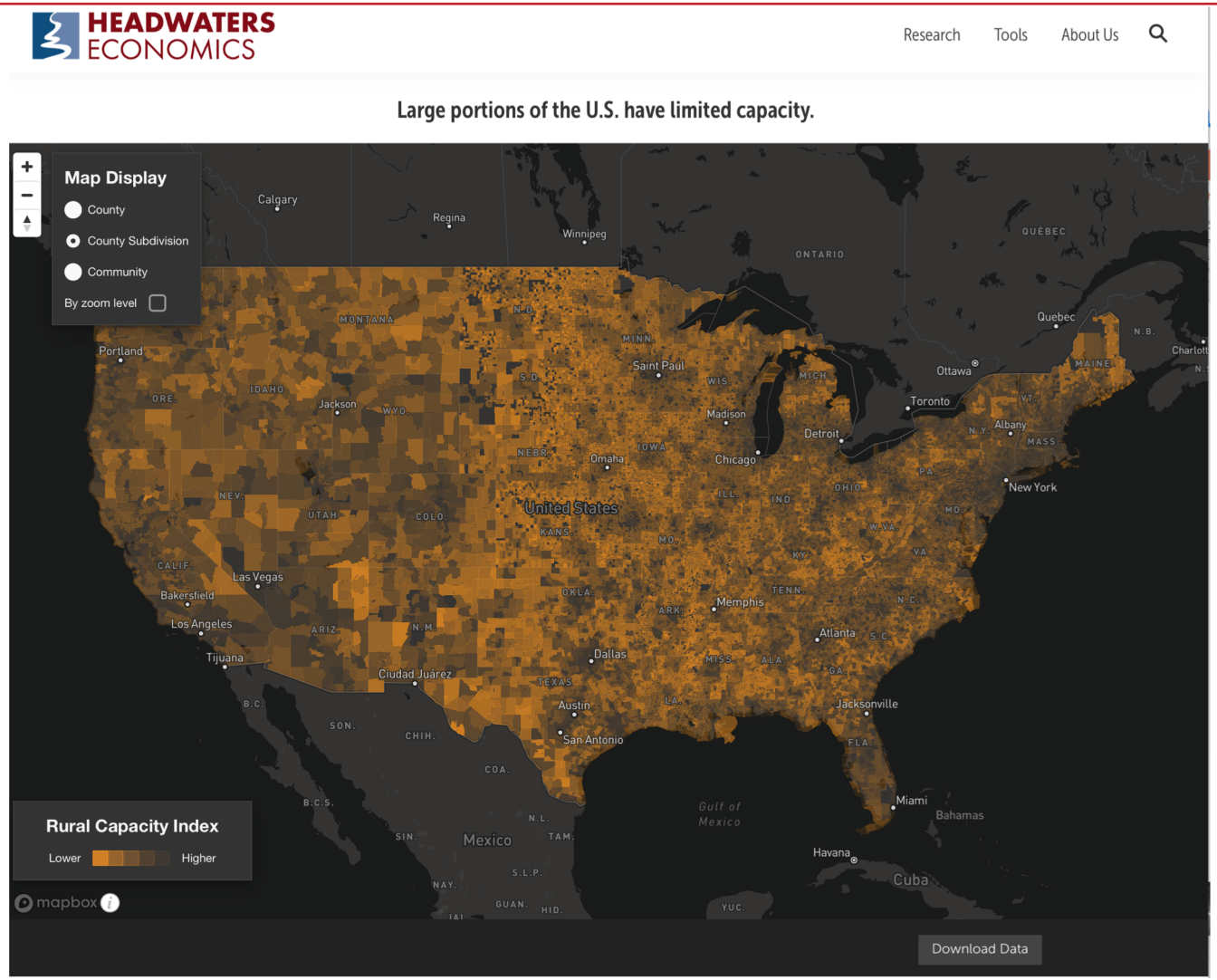
Resilience as a Competitive Advantage

The elevated house that the owners call the Sand Palace, on 36th Street in Mexico Beach, Fla., came through Hurricane Michael (Oct 2018) almost unscathed.
Credit: Johnny Milano for The New York Times

People and companies that have a choice will chose to **live and invest** in those communities and enterprises that are resilient, and avoid or leave those that are not.

. . . But, you cannot succeed if you are an island of resilience in a sea of fragility

Overcoming the Infrastructure & Climate Resilience Capacity Issue



Headwaters Economics'
Rural Capacity Map
- Identifies communities that lack the staff and expertise to support infrastructure and climate resilience projects

https://headwaterseconomics.org/equity/rural-capacity-map/

Leveraging Colleges and Universities to Develop Project Proposals

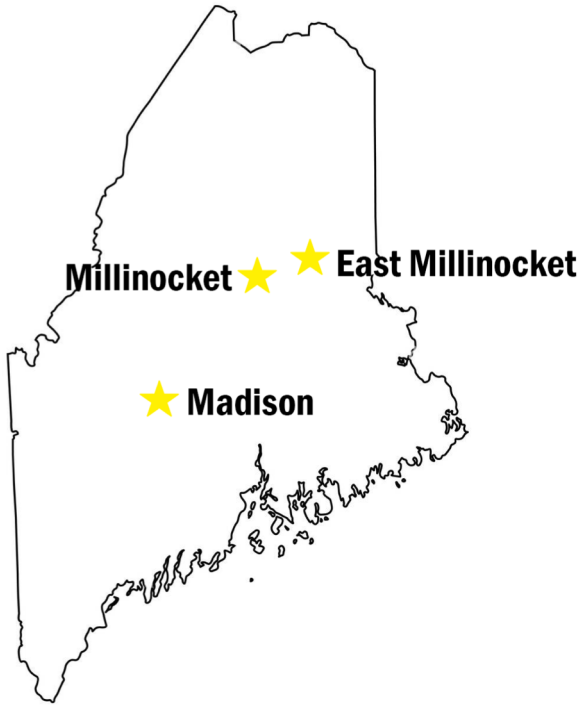
Public and Private Universities and Colleges can provide:

- Cutting edge expertise on climate change, sustainability, resilience, and equity issues
- Support Proposal Preparation
- Link project to Workforce Development needs
- Facilitate cross-jurisdictional, multi-sector, private-public partnerships

4 out of 5 of New England's successful Phase 1 Economic Development Administration *Build Back Better* awards were university-led:

- Northeastern University: Regional Biomanufacturing Cluster (MA, ME, & RI)
- University of Rhode Island: Blue Economy Tech Cluster
- University of Maine: Northern Forest Bioeconomy Cluster
- University of Connecticut: Offshore Wind Industry Cluster

An Example of a Potential Sustainable, Resilient & Equitable Infrastructure Project



Leveraging Alternative Energy to develop Green Economies in Rural Maine Communities

Millinocket Municipal Airport **Solar Panel Farm**

East Millinocket **Biomass Power Generation**

Madison **Anerobic Digester** *Dry Fermentation system*

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