What Does Resilience Look Like?

Solution Development and Prioritization to Close the Resilience Gap

NIST Community Resilience Workshop

Data Needs for Resilience Planning and Decision Making

October 24, 2018

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Session 3 Discussion Objective

Understand what data, information, and tools communities use to justify investments in resilience to meet their goals, plan for recovery, and close built environment performance gaps

Planning & Prioritization

to

Close the Gap

Three Core Questions for Decision Making:

1. Where are we going?
2. How far away are we?
3. What’s the best way to get there?

Foundations for Resilience Decision Making

1. Define risk profile; determine acceptable risk

2. Establish resilience targets and benchmark present conditions

3. Develop and evaluate solutions

Too Often, We Jump Straight to #3

1. ~~Define risk profile; determine acceptable risk~~
2. ~~Establish resilience targets and benchmark present conditions~~
3. Develop and evaluate solutions

#1 Profile Risk & Determine Acceptable Levels

Risk = Hazard x Exposure x Vulnerability

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Risk = Hazard x Exposure x Vulnerability

- Type
- Magnitude / Intensity
- Scale / Size
- Probability

- Contact
- Spatial Relationship

- Sensitivity
- Adaptive Capacity

#1 Profile Risk & Determine Acceptable Levels

Risk =
Consequence

#1 Profile Risk & Determine Acceptable Levels

Risk needs to be profiled and examined across:

- Built Environment
- Social Environment
- Economic Environment
- Natural Environment

Each needs its own risk profile, then combine for an aggregate risk profile

#2 Establish Measurable Resilience Targets

The challenge with defining resilience targets begins with defining resilience.

Defining Resilience

Fortified

Reflective

Flexible

Distributed

Self-Regulating

Withstand

Reliable

Diverse

Aware

Cognitive

Adaptive

Stable

Resourceful

Capacity/Fault Tolerant

Hardened

Modular

Redundant

Integrated

Absorptive

Robust

Resistant

Agile

Elastic

Connected

Durable

Defining Resilience

Withstand + Adapt

1	2	3	4	5
Integrated/Connected	Durable	Aware	Flexible	Diverse
Capacity/Fault Tolerant	Fortified	Self-Regulating	Elastic	Redundant
Stable	Resistant	Cognitive	Agile	Distributed
Reliable	Hardened	Reflective	Modular	Robust
	Absorptive	Resourceful		

Defining Resilience

Withstand + Adapt

(Integrated + Durable + Aware + Flexible + Diverse)

Resilience is the ability to withstand absorb and adapt to recover from persist in the face of disturbance.

Resilience is based on an understanding of RISK.
Resilience is an ability.

#2 Establish Measurable Resilience Targets

- Relative Measures of System Health or Performance
- Acceptable Risk Thresholds

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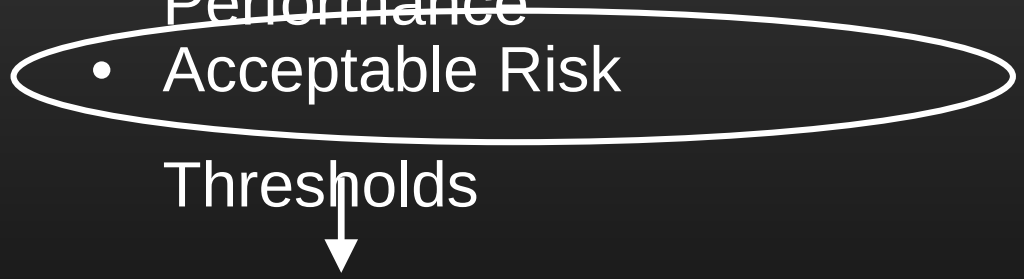

Very subjective… effectively a public policy conversation/decision

"SURPRISINGLY ENOUGH, THIS IS IN THE RANGE OF ACCEPTABLE RISK."

HONEST JON

by Jon Clark

www.honestjoncomics.blogspot.com

#3 Develop & Evaluate Solutions

Planning and project development for resilience…

1. is **Multi-Disciplinary & Collaborative**
1. takes a **Regional, Systems Approach**
1. is **Iterative & Participatory** in process
1. examines **Multiple Hazards** & produces **Co-Benefits**
1. seeks **Integrated Solutions** that are **Leveraged**

#3 Develop & Evaluate Solutions

Benefit-cost analysis (BCA) approaches that are able to incorporate benefits and costs that are not monetizable.

… and don't forget the need to PROCURE for resilience

(… unlikely to get resilience if you don't ask for it!)

Thank You

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