

Accelerating Recovery from Landscape Scale Disasters

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Lifelines

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ACTING IN TIME

Against Landscape-Scale Disasters

ICS Rule #1 :

If they can
see your
incident
from space –

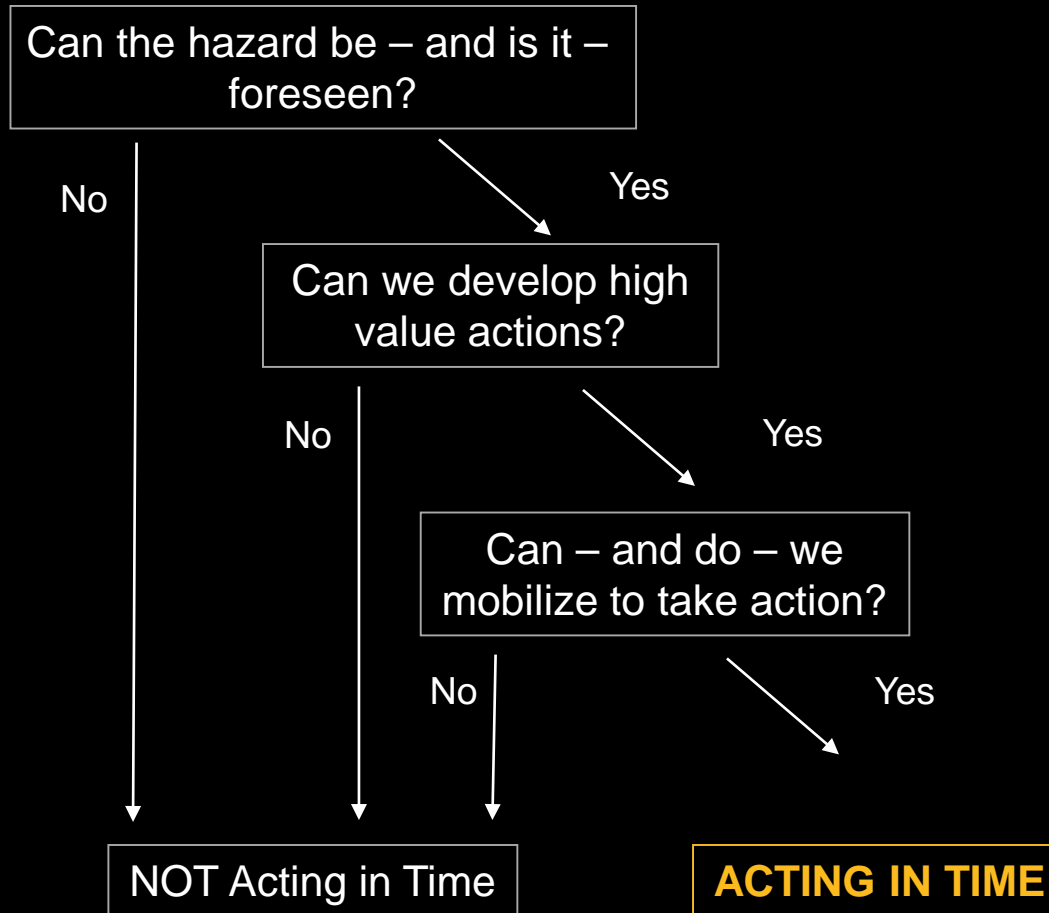
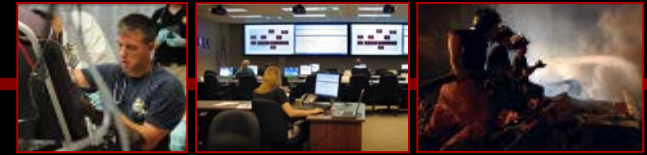
it is generally
not a good
thing.



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The Simple Analytics of Acting in Time



“Visibility”

“Actionability”

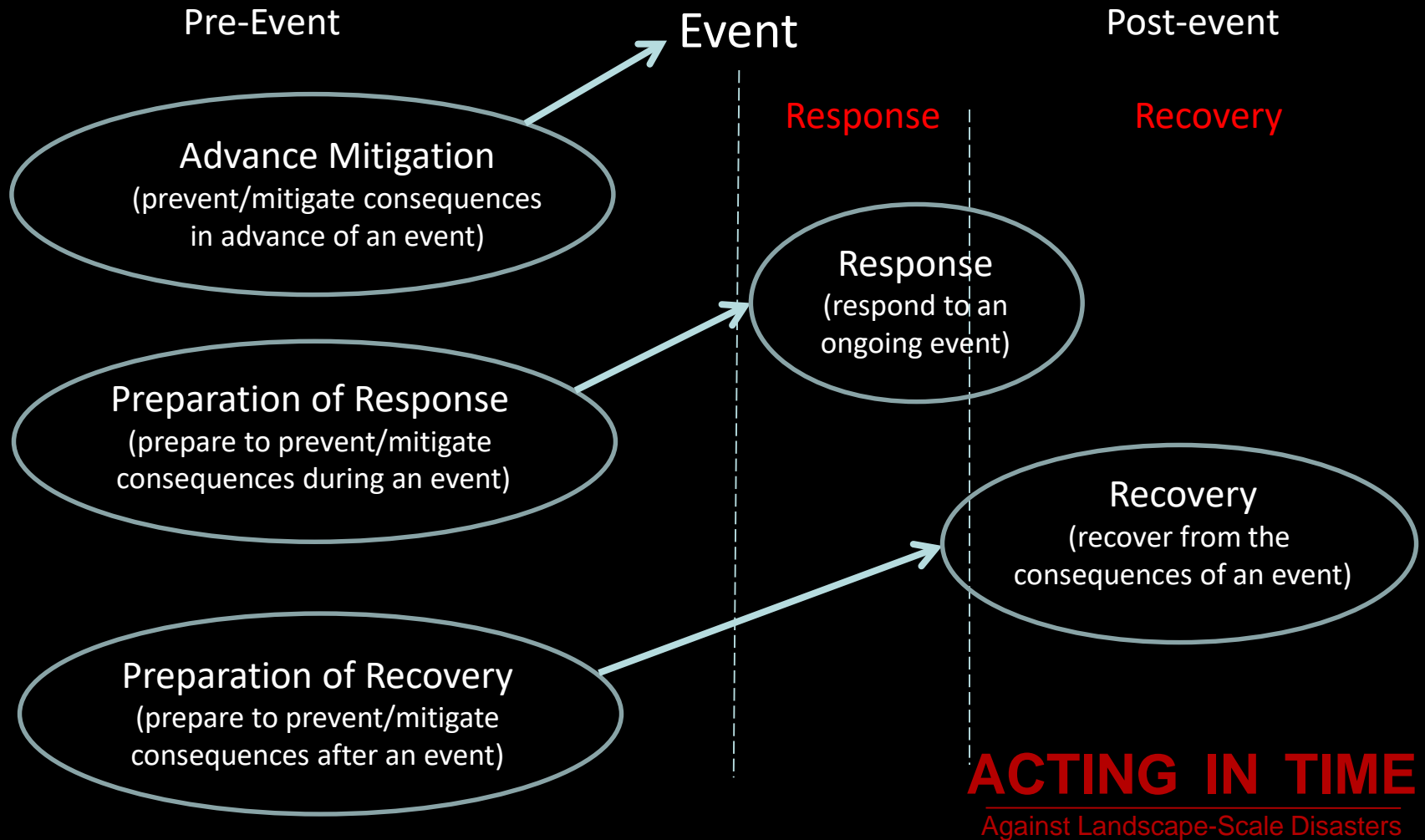
“Mobilizability”

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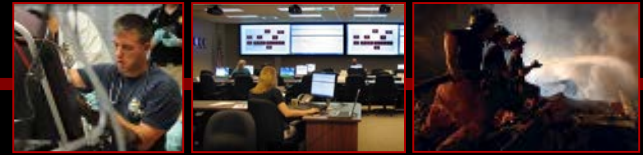
The Comprehensive Risk Management Framework:

Five Points of Action against Landscape-Scale Social Hazards



Example:

The post-earthquake world in the Bay Area



ASSUME:

- Mitigation was effective:
 - buildings do not collapse
 - basic services disrupted but restorable
 - relatively few deaths and injuries
- Response was effective
 - survivors rescued, injuries treated
 - fires contained

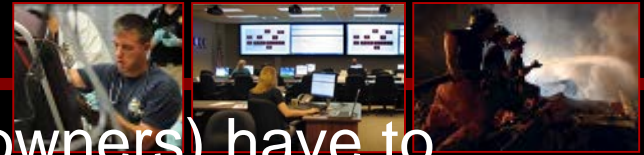
BUT THERE IS STILL:

- Massive disruption, displacement, destruction
- Many buildings unusable

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Implications



- “Tipping”: People (home and business owners) have to decide whether and when to reinvest while they
- are uncertain about how rapid and effective government (and other) recovery efforts will be
 - are uncertain about what others will do
 - have just witnessed the destruction of many of the things that they loved about their the Bay Area
 - stand in the midst of widespread system collapse
 - are suddenly not creditworthy (along with nearly all other people and organizations in the area)
 - are traumatized

*They are sudden, involuntary pioneers
in a new and scary land...and they don't have to stay.*

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Perceptions, Perceptions, Perceptions



“Tipping” will:

begin quickly

take place (at the outset) in the *absence* of much real data about the recovery

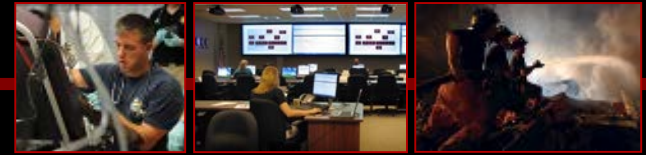
go on for a long time

→ Accelerated actions that drive positive perceptions are key to an effective recovery

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Why the **Lifelines** work is so important



Focused on rapid restoration of key services

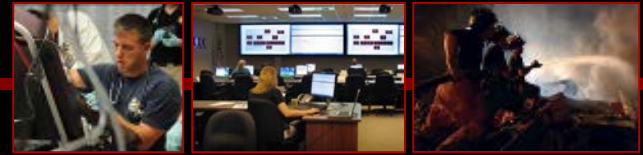
Crucial early indicator of competence/ rate of recovery

Major driver of confidence – one direction or the other

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Challenges of **Lifelines** design, planning, and response



Lifelines are **systems** – subject to the rules of system dynamics

Charles Perrow “Normal Accidents” – tightly coupled systems are subject to collapse

Your systems are

- individually tightly coupled (there are complex internal interdependencies **within** each system)
- collectively tightly coupled (there are complex interdependencies **across** your systems)
- tightly coupled to the SF social and economic ecology

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Increasing vulnerability within and between your systems



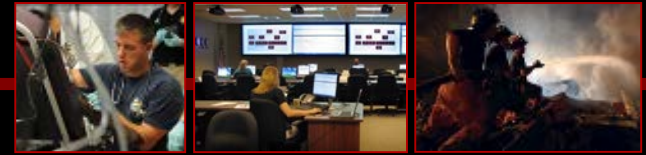
Many systems tend to become more tightly coupled and complex over time

- They **form** (rather than being intentionally designed) (they are “self-organizing”)
- Economic forces (efficiency demands) produce incentives for “just in time,” elimination of buffers, ...
- Technology improvement allows greater complexity

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Implications for **Lifelines** work



Carefully examine system vulnerabilities

Recognize that your systems are embedded within other systems

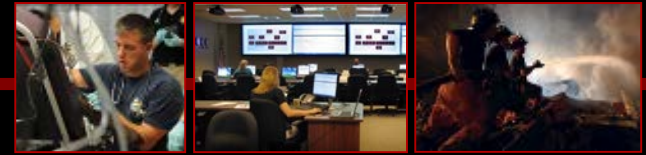
→ increases your vulnerability

→ you are contributing to the larger system's vulnerability

Recognize that in the aftermath of a major event here, **you will be trying to undertake rapid restoration in the context of a shattered system ecology** → carefully examine your assumptions about what capabilities will be available to you, and plan accordingly

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What should we do?



Build a comprehensive strategy for social risk management
(based on the Comprehensive Risk Management Framework)

Assemble a comprehensive, five-domain description of
current activities

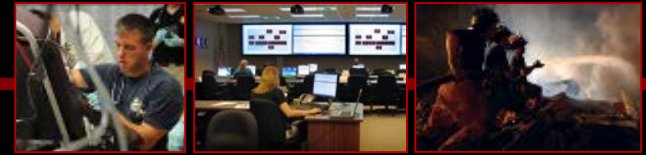
Search for additional valuable investments in each domain

Build an “advance recovery” strategy – and execute it
(which is just what you are doing!)

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The bottom line



Recovery will be long and difficult – no matter what you do.

But it will be a lot faster, less expensive, and more reliable if you build a platform for accelerated recovery in advance.

This *can* be done.

And *you can do it*.

It's best to move ***in advance*** with all deliberate speed.

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