

# KICK-STARTING THE RESILIENT CITY

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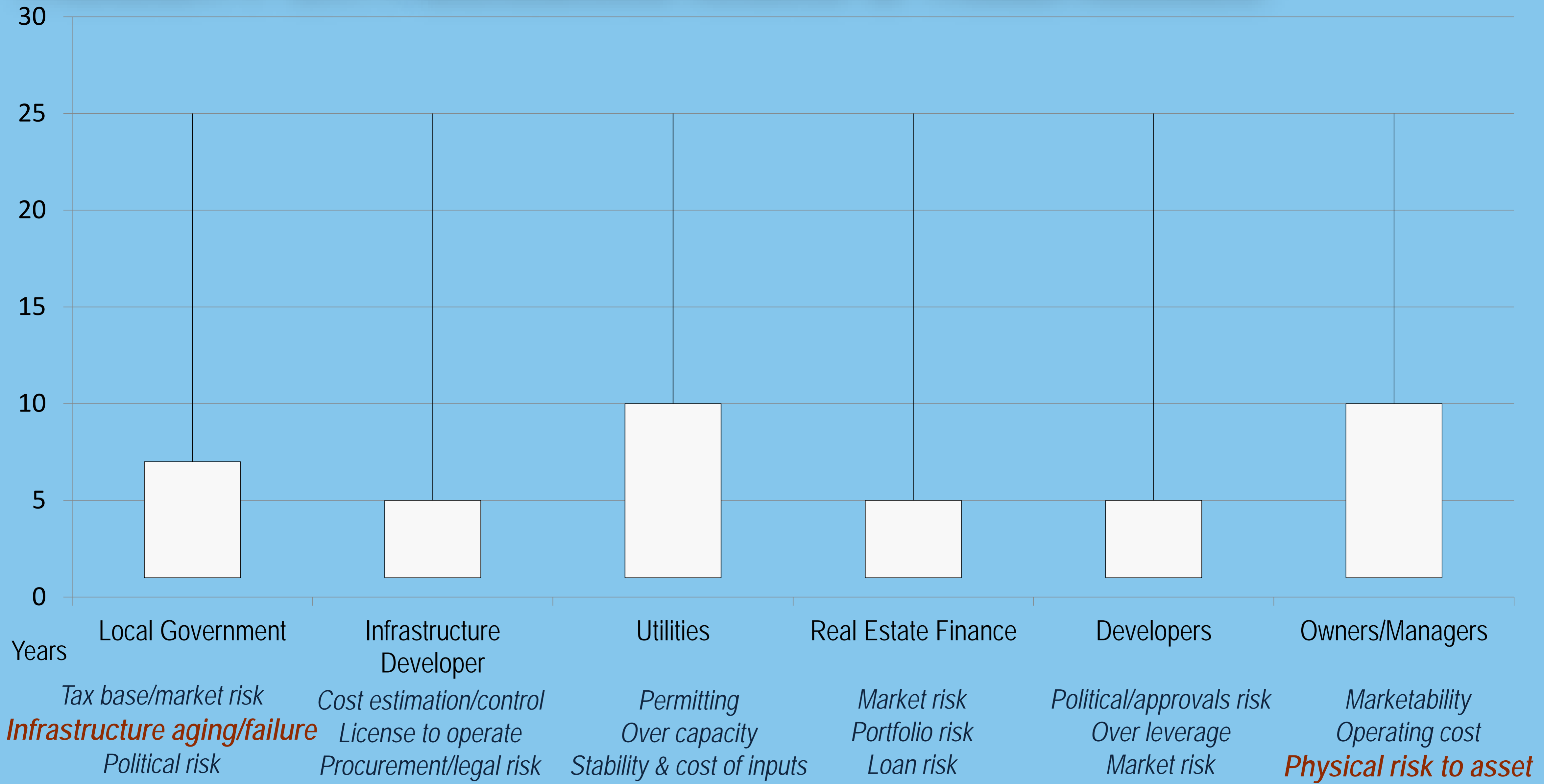




*Cooperative Research & Development between Pacific Gas & Electric Company and the U.S. Geological Survey on Earthquake Hazards in the San Francisco Bay Area*

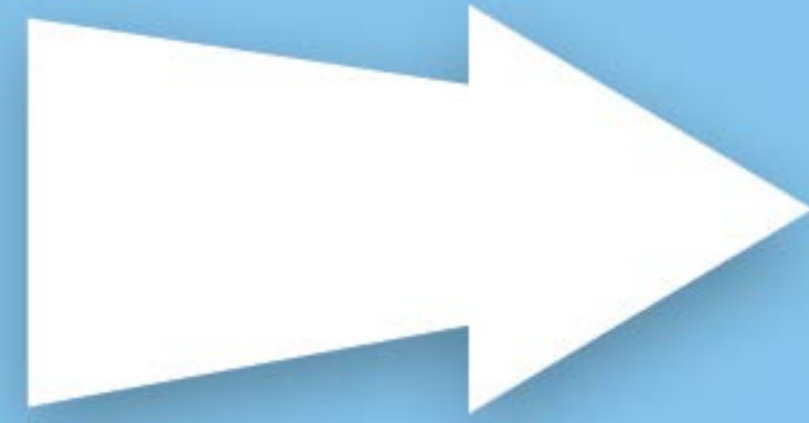


# PRIORITY CITY-BUILDING RISKS & TIMEFRAMES



Source: Ceres/The Next Practice/University of Cambridge Programme for Sustainability Leadership (2013)

**RISK**



**PERFORMANCE**

**RESILIENCE**

**Resilience is the ability of an urban area or system to provide predictable benefits to residents and users, and predictable returns to investors, under a widening range of circumstances.**

# THE RESILIENCE ZONE CONCEPT

**draws upon other North American traditions of local area management**

Through collaboration, new market dynamics have been established to address other urban risk areas: brownfields redevelopment, downtown revitalization, and community safety.

- *Business Improvement Areas*
- *Downtown Partnerships*
- *Empowerment Zones*
- *District Utilities*
- *TIF Districts*
- *Enterprise Zones*
- *Community Improvement Districts*
- **RESILIENCE ZONES**



## 3. COMMUNICATIONS STRATEGY

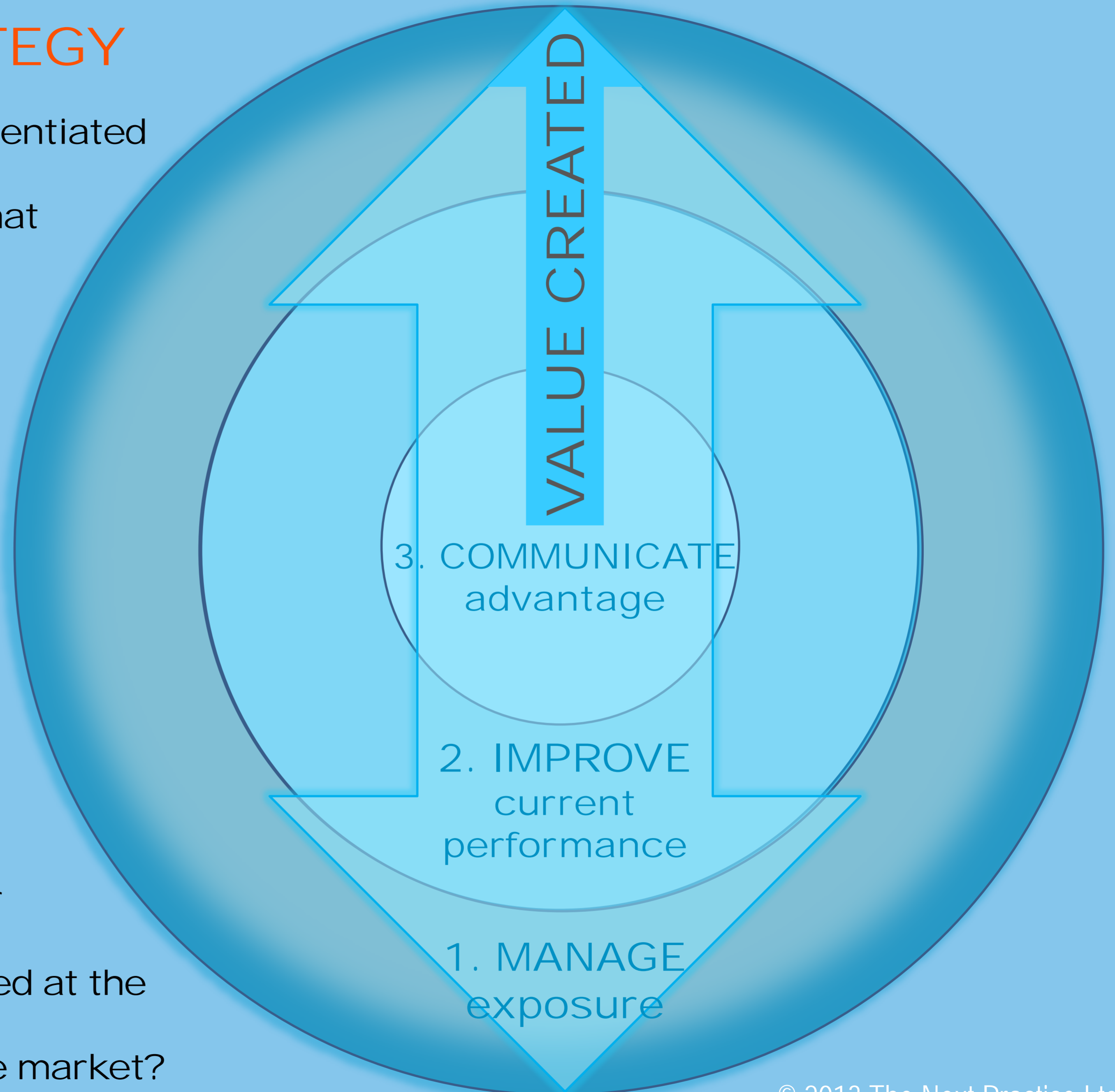
- How do we communicate the zone's differentiated performance?
- How do we get the market to recognize that performance?

## 2. IMPROVEMENT PROGRAM

- What are the critical performance needs & opportunities of this location?
- What are the potential market returns?
- How do we deliver these benefits and returns & capture value?

## 1. LOCAL AREA RISK MANAGEMENT

- What risks can be reduced through better management at the asset scale?
- What risks can be more effectively reduced at the location scale?
- What risks remain to be transferred to the market?



# 1. LOCAL AREA RISK MANAGEMENT

## Design the mechanisms and measures for local area risk management

The logic of Enterprise Risk Management can be applied to local areas. Local Area Risk Management is a collaborative effort to devise customized solutions to risks that are distinct to the Resilience Zone. This involves establishing redundancies and mechanisms for responsiveness, safe failure and rapid recovery to current and emerging risks.

- *An area risk management strategy & institution*
- *Risk data collection & analysis*
- *Insurance innovation*
- *Associated planning amendments, investments, and redevelopment*
- *Risk management coordination and support*







- communicate clear value proposition
- represent community/political interests
- manage currency & interest rate fluctuations
- manage in market downturns

MANAGE MARKET

Risk to Reinvestment

Risk to Earnings & Asset Value

- manage input/supply costs
- manage portfolio, balance sheet & credit risks
- capacity to re-finance and self-finance
- manage legal liabilities

MANAGE BUSINESS

- maintain assets & services
- integrate new technologies
- develop, attract & retain talent
- track & maintain key points of differentiation

MANAGE DESIGN & OPERATIONS

Risk to Performance

Risk to Function

- risk appropriate codes & standards
- 'hardened' systems/utilities
- system/utility redundancies
- capacity to provide early warning
- emergency preparedness
- secured & alternatives for access/egress
- local capacity for emergency response & coordination

MANAGE EMERGENCY

LOCAL AREA RISK

Risk to Adaptability

- capacity to adapt area to new economic functions
- capacity to respond to demographic change
- capacity to re-purpose built assets

MANAGE CHANGE



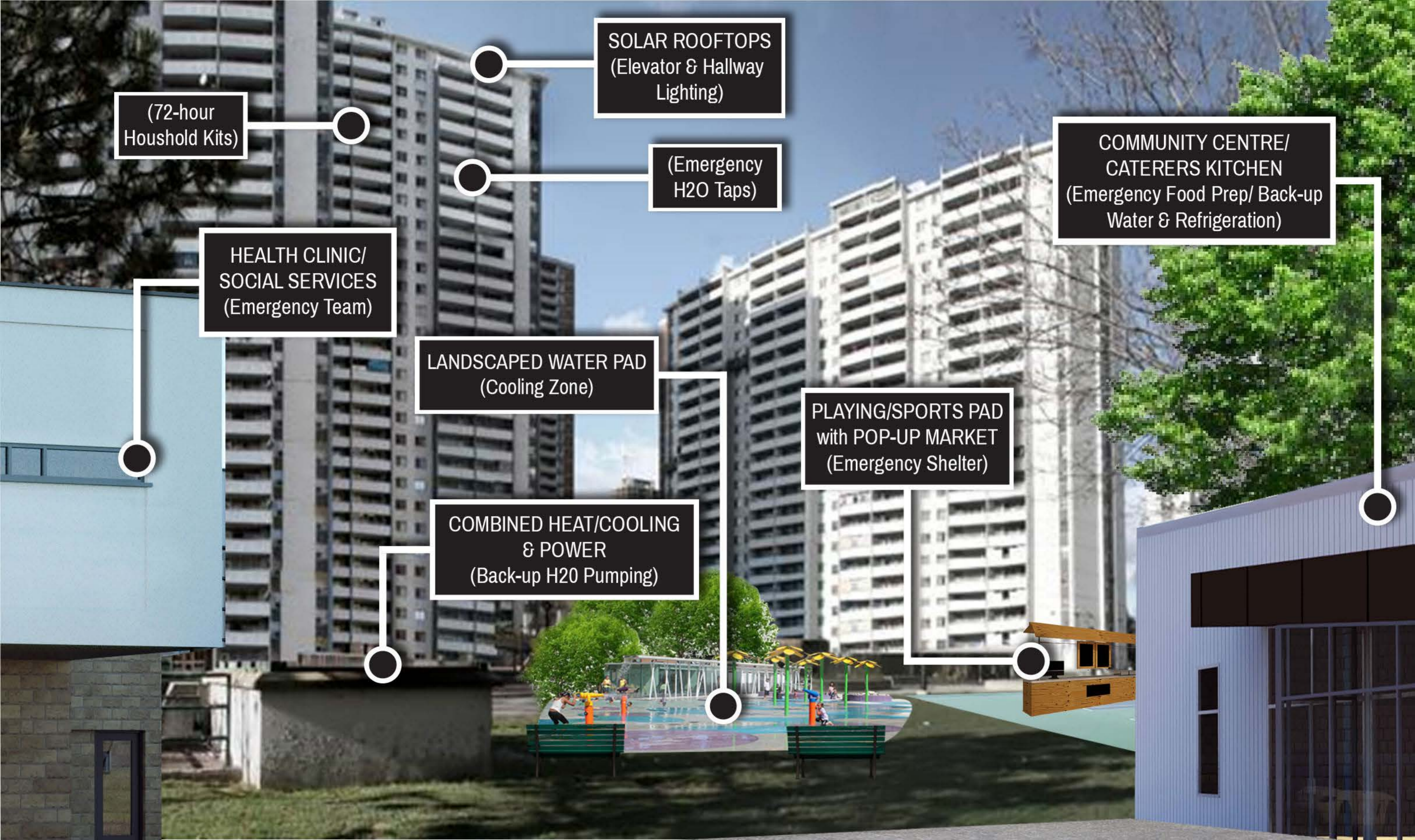
## 2. RESILIENCE UPGRADING ('2+2=5' SOLUTIONS)

### Invest in premium performance

While reducing risks, cost effective measures can also be identified to enhance the overall performance of the area for living and business:

- *Long-term operating cost predictability*
- *Enhanced health, safety & emergency services*
- *More responsive planning, improved landscape and urban design*
- *Improved facilities, increased amenities*





(72-hour Household Kits)

SOLAR ROOFTOPS  
(Elevator & Hallway Lighting)

(Emergency H2O Taps)

COMMUNITY CENTRE/  
CATERERS KITCHEN  
(Emergency Food Prep/ Back-up Water & Refrigeration)

HEALTH CLINIC/  
SOCIAL SERVICES  
(Emergency Team)

LANDSCAPED WATER PAD  
(Cooling Zone)

PLAYING/SPORTS PAD  
with POP-UP MARKET  
(Emergency Shelter)

COMBINED HEAT/COOLING  
& POWER  
(Back-up H2O Pumping)



## **3. COMMUNICATION STRATEGY**

### **Facilitate market recognition**

Enhanced resilience—reduced exposure, increased performance—must be carefully and thoroughly communicated to deliver benefits to users and to secure market recognition. Performance benchmarking and place branding are key communications elements.



# BUILDING RESILIENT CITIES

## THE RESILIENCE OPPORTUNITY

A Resilience Zone initiative establishes the market support for a new form of urban performance: resilience. Through collaboration, a mix of customized solutions can be designed to manage risks that still confront the local area after options have been exhausted at the individual property and enterprise scales. Solutions at the scale of the zone can also be purposefully designed to increase the area's function, amenities, and economic performance.

