COMMUNITY RESILIENCE PLANNING
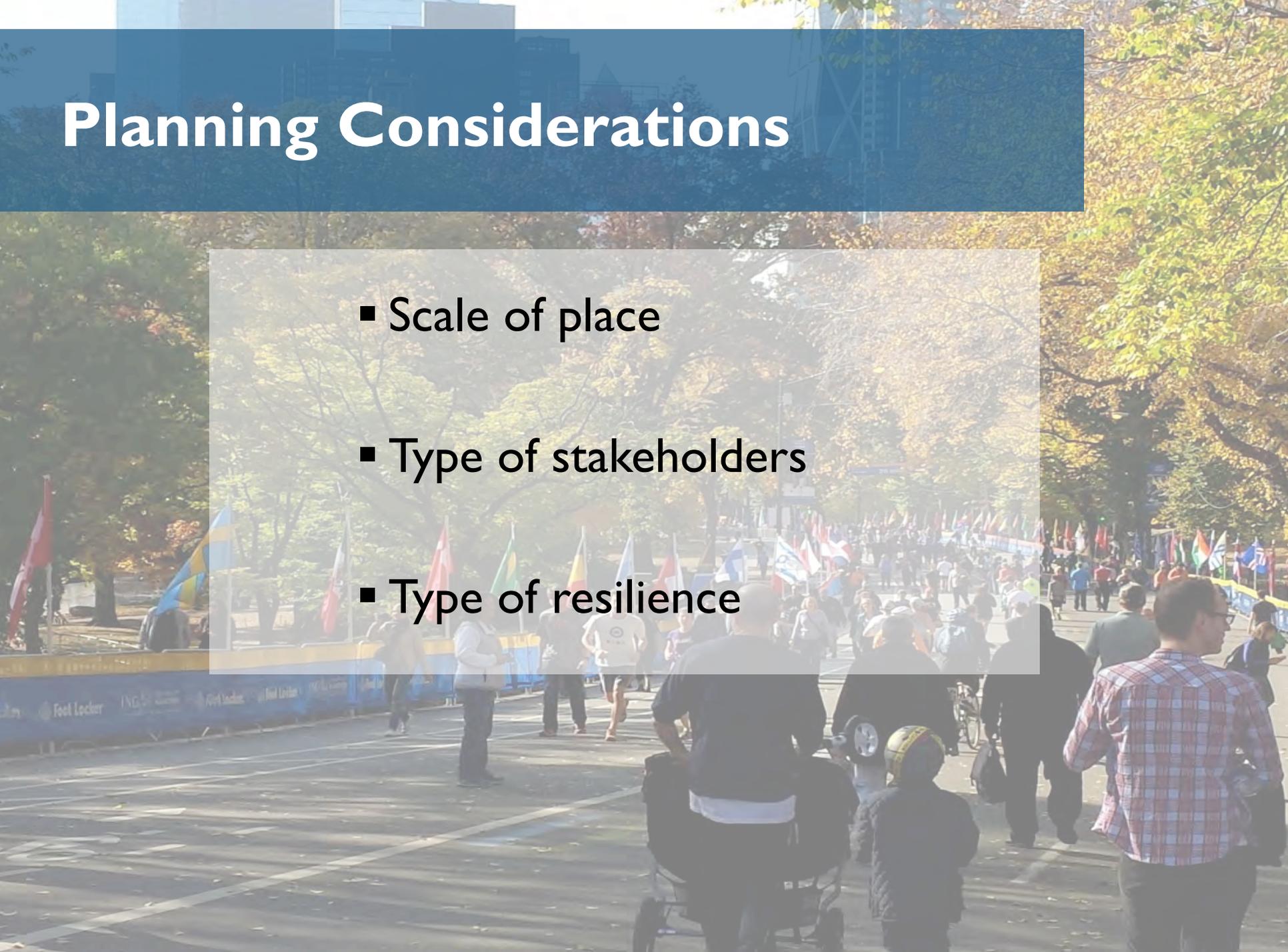
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Planning Considerations

- Scale of place

- Type of stakeholders

- Type of resilience

City of Boston: Article 80

Climate Change Preparedness & Resiliency Checklist for New Construction

VULNERABILITY ANALYSIS

- Energy Use Intensity
- Extreme Heat Event
- Extreme Rain Event
- Sea Level Rise
- Extreme Wind
- Drought

RESILIENCE STRATEGIES

- On-site Energy
- High Performance
- Functionality
- Floodproofing
- Water Storage

City of Boston: Article 80

"…to protect and enhance the public realm, to mitigate the impacts of development projects on their surroundings and on city resources…and to promote the public health, safety, convenience, and welfare."

ARTICLE 80 EXCERPT:

What measures will the project employ to accommodate rain events and more rain fall?

Select all appropriate:	On-site retention systems & ponds	Infiltration galleries & areas	vegetated water capture systems	Vegetated roofs
Describe other strategies:				

What measures will the project employ to accommodate extreme storm events and high winds?

Select all appropriate:	Hardened building structure & elements	Buried utilities & hardened infrastructure	Hazard removal & protective landscapes	Soft & permeable surfaces (water infiltration)
Describe other strategies:				

Building Resiliency Task Force

NUMBER	PROPOSAL		RESOURCES	STATUS
2.	Launch a Design Competition for Raised Homes		Progress Overview AIA's "Designing Recovery Competition" Task Force Proposal	IMPLEMENTED
3.	Relocate and Protect Building Systems		Legislation at a Glance Local Law 100/2013 Task Force Proposal	IMPLEMENTED
4.	Remove Barriers to Elevating Buildings and Building Systems		Legislation at a Glance Local Law 99/2013 Task Force Proposal	IMPLEMENTED
5.	Remove Barriers to Sidewalk Flood Protection		Legislation at a Glance Local Law 109/2013 Task Force Proposal	IMPLEMENTED
7.	Safeguard Toxic Materials Stored in Flood Zones		Legislation at a Glance Local Law 143/2013 Task Force Proposal	IMPLEMENTED
8.	Prevent Sewage Backflow		Legislation at a Glance Local Law 83/2013 Task Force Proposal	IMPLEMENTED
10.	Clarify Construction Requirements in Flood Zones		Legislation at a Glance Local Law 82/2013 Task Force Proposal	IMPLEMENTED
11.	Prevent Wind Damage to Existing Buildings		Legislation at a Glance Local Law 101/2013 Task Force Proposal	IMPLEMENTED

- Report post Superstorm Sandy
- Recommendations implemented and proposed based on key findings, including zoning regulations

http://urbangreencouncil.org

PEER Performance Excellence in Electricity Renewal

Reliability and resiliency

The intent of this category is to ensure the reliable delivery of electricity and reduce injuries, interruptions and power quality issues. The criteria in this category address power quality, supply availability, interruptions, risk mitigation, restoration, redundancy and microgrid capabilities.

Energy efficiency and environment

Environmental responsibility is increasingly becoming an expectation for both companies and consumers in all sectors. The intent of this category is to assess the environmental impact of electricity generation and transmission and encourage the adoption of clean and efficient energy. The criteria in this category address energy efficiency of power delivery, air emissions, resource use, renewable energy credits and power delivery impacts.

Operational effectiveness

Consumers expect high-quality service from their electricity provider at competitive rates. The intent of this category is to leverage value gap analysis to identify and eliminate waste. The criteria in this category address electricity costs, asset utilization, load shaping, general operation expenses, capital spending or investment, corrective maintenance and indirect costs.

Customer contribution

As automation, intelligent control and distributed resources are more readily available, customers become an increasingly valuable resource to grid operators. The intent of this category is to assess customer contribution to grid service, investment and innovation. The criteria in this category address customer grid service capabilities, meter data access, tools, choice, incentives and dynamic pricing.

PEER Prerequisites

RELIABILITY & RESILIENCY

- Emergency Response Plan

- Advanced meters for reliability and power quality

- Communications backbone

- Supervisory Control and Data Acquisition System (SCADA)

- Safety Review of Design Changes

Living Community Challenge

**For Transects 5 & 6 (using the floodplain exception):**

- Provide a place or places to allow 100% of residents to marshal and congregate in a dry, covered, secure location that is out of the flood plain.

- Require that all facilities (except single-family residences) have a working back-up generator or battery back-up for emergency power needs that is located above the flood plain.

- Ensure that all sensitive infrastructures, such as lift stations, sub-stations, sewage treatment, community centers, schools and the like, are out of the flood plain.

All Transects:

- Create, actively maintain on a yearly basis, and disseminate to all residents and tenants a disaster response plan that identifies emergency contacts and shelter locations and provides specific guidance for various types of disruption.

- Assign, train and keep current two "block captains" or building captains for every 500 residents. Captains should be highly versed in disaster response, first aid and general safety procedures. The positions may be voluntary.

- Keep an emergency contact roster for all residents in both hard-copy and electronic forms.

- Have an active neighborhood watch and community program that has a mandate to look out for resident well-being and safety.

INTERNATIONAL **LIVING FUTURE** INSTITUTE™

http://living-future.org/lcc
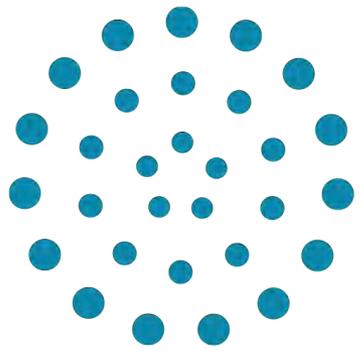
EcoDistricts

- Goals and targets are defined by the stakeholders

- Projects drive performance

- Certification is offered, not required

EcoDistricts' Imperatives

equity.

resilience.

climate.

Resilience is the capacity of cities to function so that all people may thrive — especially those most vulnerable — regardless of the stresses they encounter. We encourage project teams and practitioners to view resilience with a broad lens that considers how to prepare their community for social, technological, economic, environmental, and/or political disruption and their impact on health and wellbeing.

EcoDistricts

EcoDistricts' Priority Areas

livable | By creating engaged, vibrant and culturally rich places and spaces.

prosperous. | By lifting up opportunity for all people.

healthy. | By promoting wellness and happiness.

connected. | By promoting physical and digital accessibility.

biodiverse. | By promoting ecosystem health and function.

restorative. | By reducing polluting activities and restoring natural capital.

EcoDistricts

100 RESILIENT CITIES
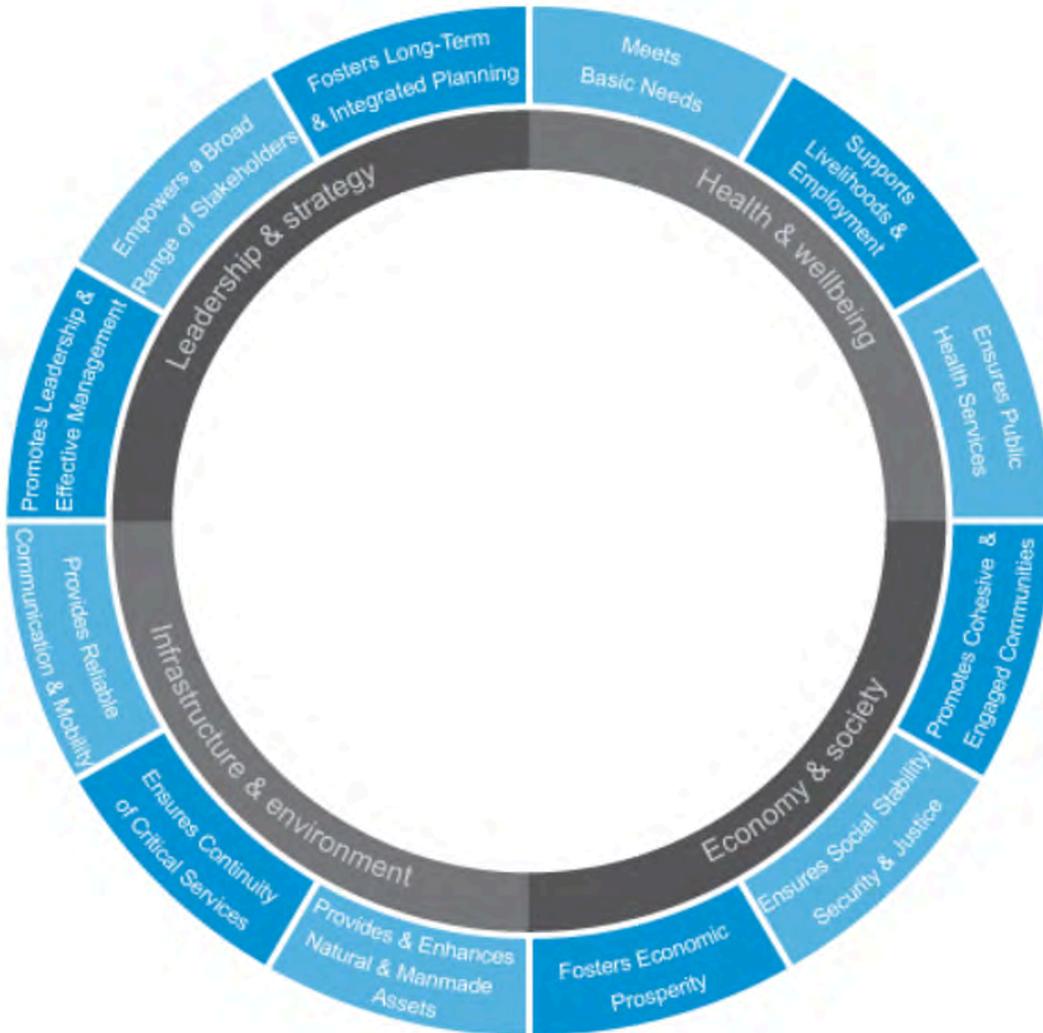
- **12 Indicators measure resilience actions, including:**
  - Ensures continuity of critical services
  - Empowers a broad range of stakeholders
  - Fosters long-term & integrated planning

- **54 Sub-indicators**

- **150 Variables**

100 RESILIENT CITIES

Health & Wellbeing: The health & wellbeing of everyone living and working in the city.

Economy & Society: The social & financial systems that enable urban populations to live peacefully, and act collectively.

Infrastructure & Environment: Effective leadership,empowered stakeholders, and integrated planning.

Leadership & Strategy: The way in which man-made & natural infrastructure provide critical services and protects urban citizens.

100 RESILIENT CITIES
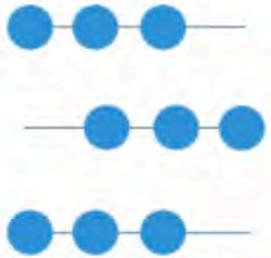
100 RESILIENT CITIES

ECONOMY & SOCIETY

The social & financial systems that enable urban populations to live peacefully, and act collectively.

Promotes Cohesive and Engaged Communities: Community engagement, social networks & integration. These reinforce collective ability to improve the community & require processes that encourage civic engagement in planning & decision-making.

Ensures Social Stability, Security and Justice: Law enforcement, crime prevention, justice, & emergency management.

Fosters Economic Prosperity: While Driver 2 is about individual livelihoods, Driver 6 is about the economy on a wider scale. Important economic factors include contingency planning, sound management of city finances, the ability to attract business investment, a diverse economic profile & wider linkages.

100 RESILIENT CITIES

Our call – **Thriving with Water**

To regenerate the vital life of our coastal communities we need to support that life - our life - with a dynamic environment and thriving people and organizations.

We propose the following:
1. Work with people and organizations to understand the opportunities of how their property, lifestyles, and social organizations can be engaged to co-create even more resilient solutions;

2. Explicitly recognize the relationships between human, natural, and social systems and seek to build the capacity of each of these systems to grow and improve over time;

3. Design for the dynamic nature of coastal areas. Design processes and places that change and grow to become more beautiful over time; and

4. Design for long-term resiliency - the development of a flexible and living community organism, with critical infrastructure and community services that improve the quality of life at each place.

THRIVING WITH WATER
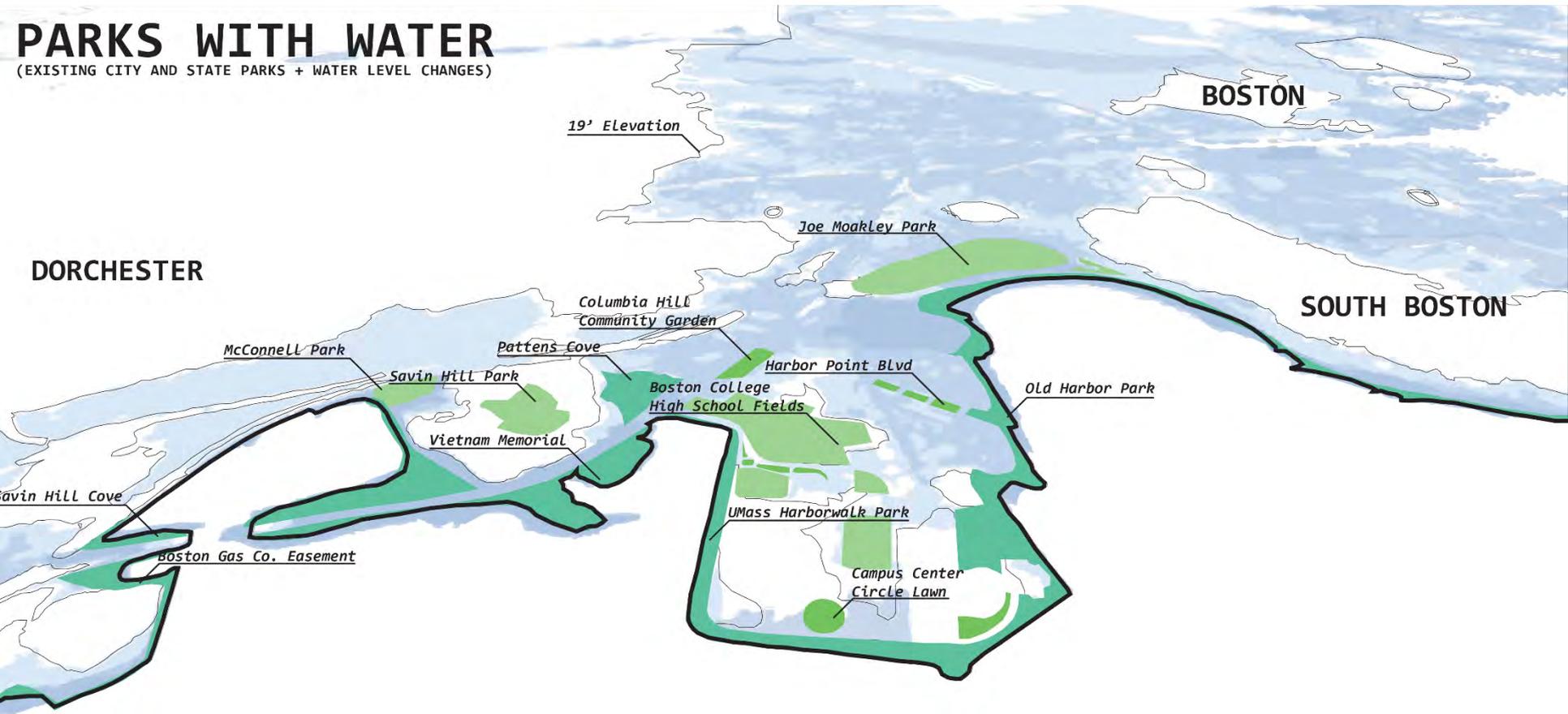
Opportunities with Water

OPPORTUNITIES WITH WATER
(FUTURE POTENTIAL + WATER LEVEL CHANGES)
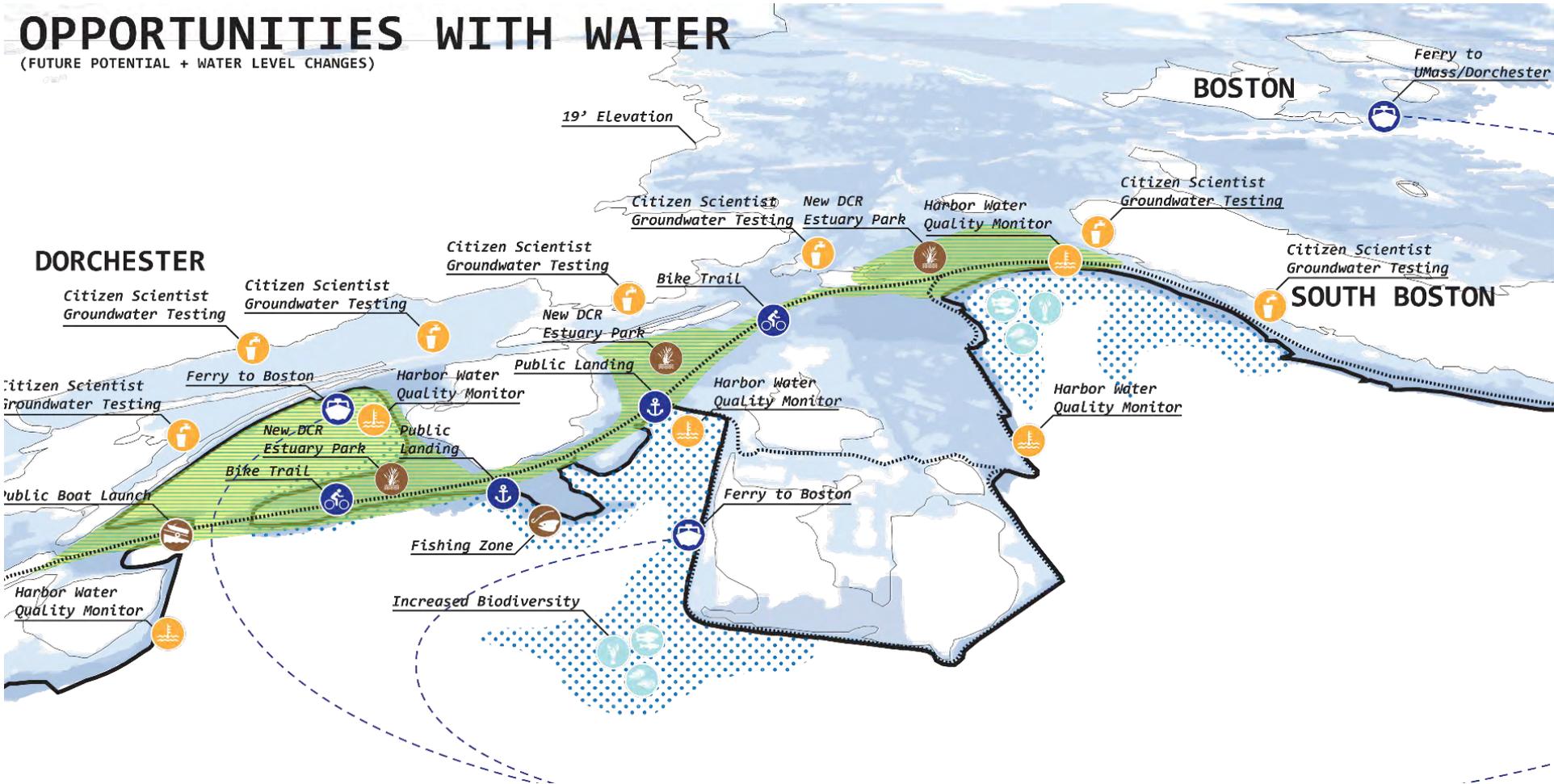
Parks with Water

PARKS WITH WATER
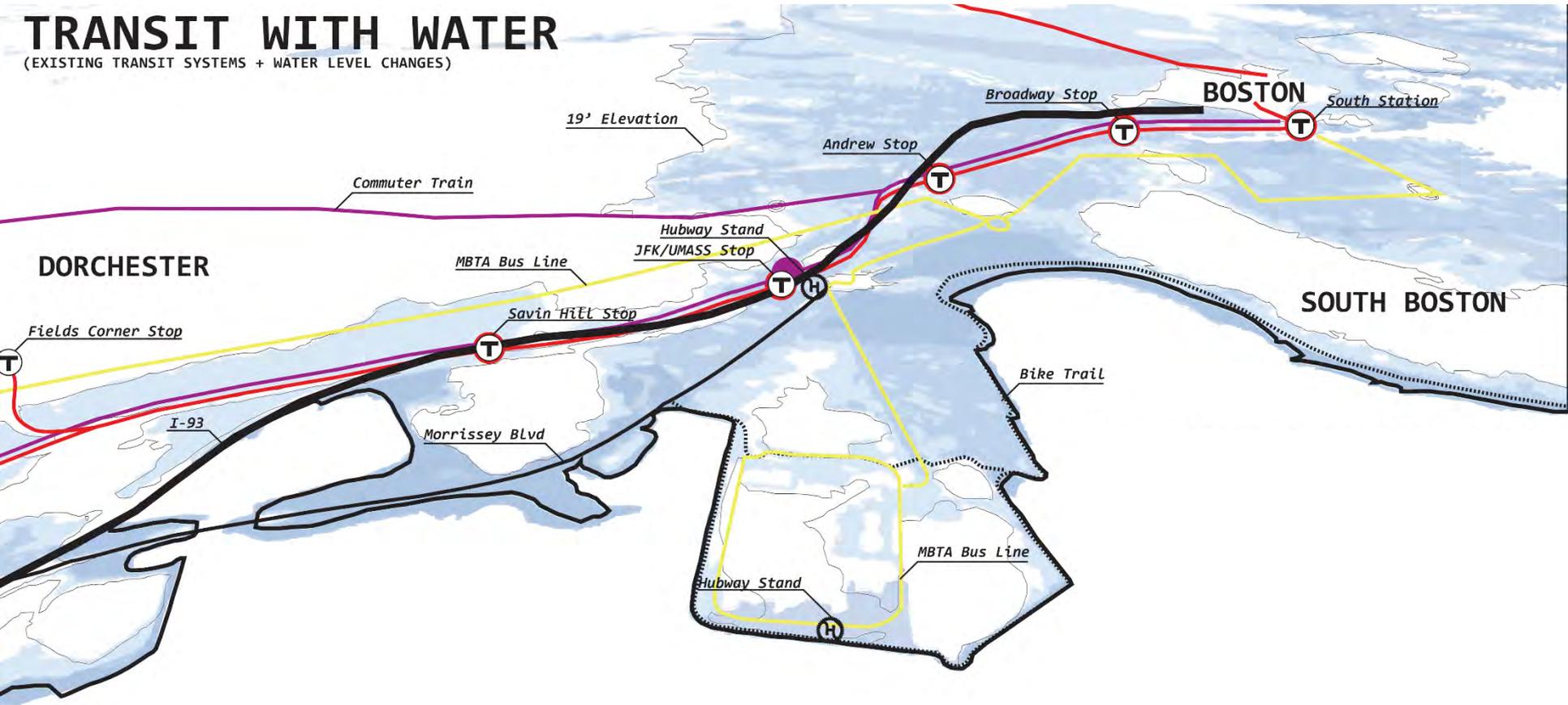(EXISTING CITY AND STATE PARKS + WATER LEVEL CHANGES)

BOSTON

19' Elevation

Joe Moakley Park

DORCHESTER

SOUTH BOSTON

Columbia Hill
Community Garden

McConnell Park

Pattens Cove

Harbor Point Blvd

Old Harbor Park

Savin Hill Park

Boston College
High School Fields

Vietnam Memorial

Savin Hill Cove

UMass Harborwalk Park

Boston Gas Co. Easement

Campus Center
Circle Lawn

Transit with Water

TRANSIT WITH WATER
(EXISTING TRANSIT SYSTEMS + WATER LEVEL CHANGES)

THRIVING WITH WATER

Key Questions

Who decides what the goals are?

How do we work together to achieve the goals?

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