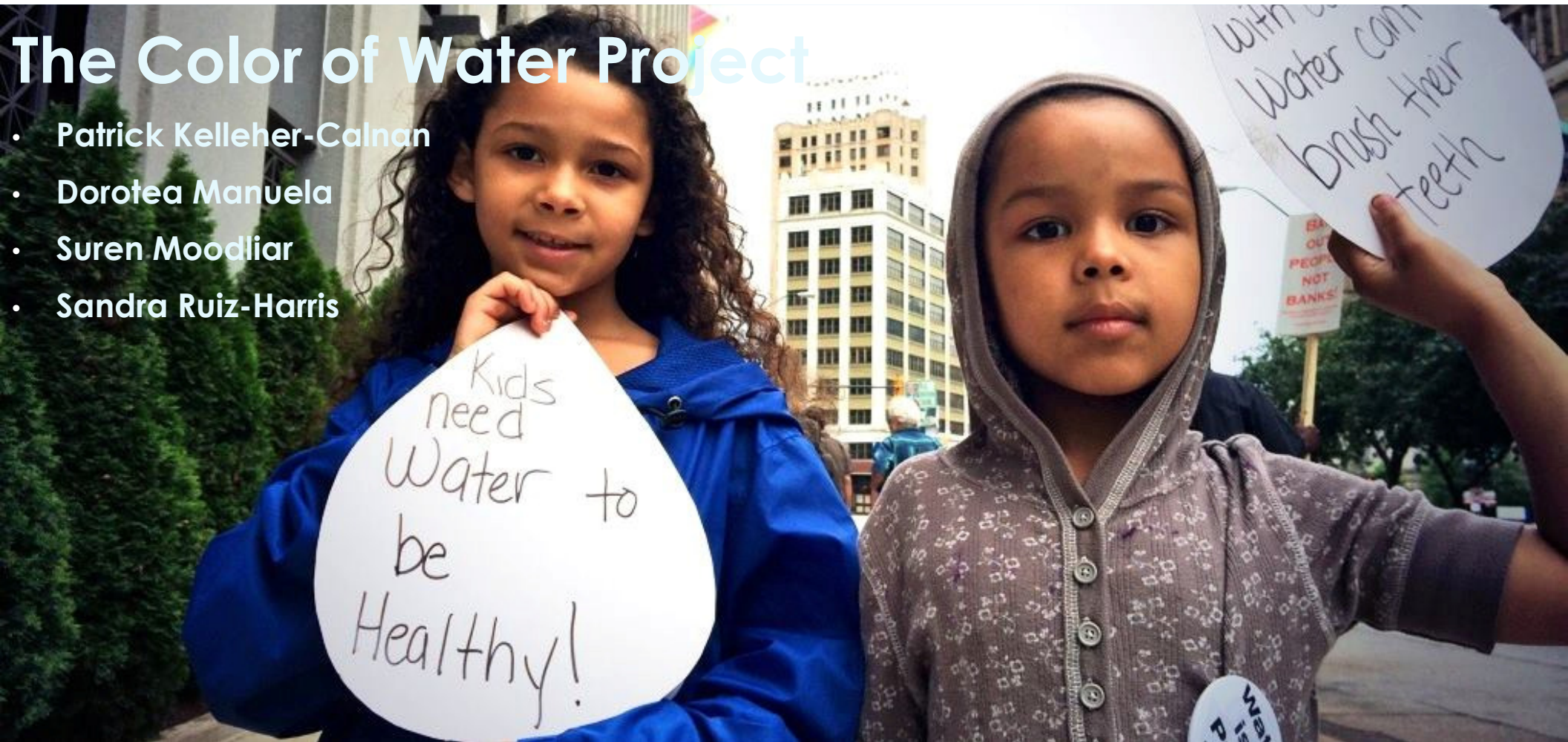


# The Color of Water Project

- Patrick Kelleher-Calnan
- Dorotea Manuela
- Suren Moodliar
- Sandra Ruiz-Harris



WATER & HUMAN RIGHTS

- ▶ To develop a **shared understanding** of some of the key water-related human rights challenges facing in the United States
- ▶ To **introduce the Color of Water Project** as a response to challenges facing Massachusetts and particularly Boston residents
- ▶ Identify ways in which **workshop participants can contribute** to the campaign to achieve the human right to water.

## OUR OBJECTIVES

1. Human Rights - Background & Definition
2. Water in Boston & Massachusetts
3. Inequality & Water Justice Communities in Boston
4. The National Picture (Baltimore, Detroit, California)
5. The Global Picture
6. Catastrophic Climate Change and “Adaptation”
7. What We Will Do

## WORKSHOP OUTLINE

Human rights are rights inherent to all human beings, whatever our nationality, place of residence, sex, national or ethnic origin, colour, religion, language, or any other status. We are all equally entitled to our human rights without discrimination. These rights are all interrelated, interdependent and indivisible.

- UN Office for the High Commission of Human Rights

WHAT ARE “HUMAN RIGHTS”?

The Human Right to Water is the right of everyone to sufficient, safe, acceptable and physically accessible and affordable water for personal and domestic uses.

WHAT IS THE “HUMAN RIGHT TO WATER” AS  
DEFINED BY THE UNITED NATIONS?

- ▶ There is an international reporting mechanism via different treaties that the United States has signed and ratified.
- ▶ Depending on the country and state, there may be a positive legal framework for litigation
- ▶ The United Nations has a Special Rapportuer

WHAT IS THE “HUMAN RIGHT TO WATER”  
*IN PRACTICE?*

- ▶ Two main agencies:
  - ▶ Boston Water & Sewer Commission (**BWSC**)
  - ▶ Mass. Water Resources Authority (**MWRA**)
- ▶ 90,000 “accounts” served in Boston
- ▶ Eastern Mass. cities and towns served mostly by the MWRA
- ▶ Modernized in the mid-1980s
- ▶ Long running problems – leaky pipes, pollution of the harbor, combined sewer overflows = major investment, bonds

## WATER IN BOSTON (1)



- ▶ Debt & Interest on Debt – 60% of MWRA budget
- ▶ BWSC – pays MWRA, services its own debt, new infrastructure
- ▶ Enabling Act of 1977 – costs uniform for all residential accounts
- ▶ End CSOs

## WATER IN BOSTON (2)





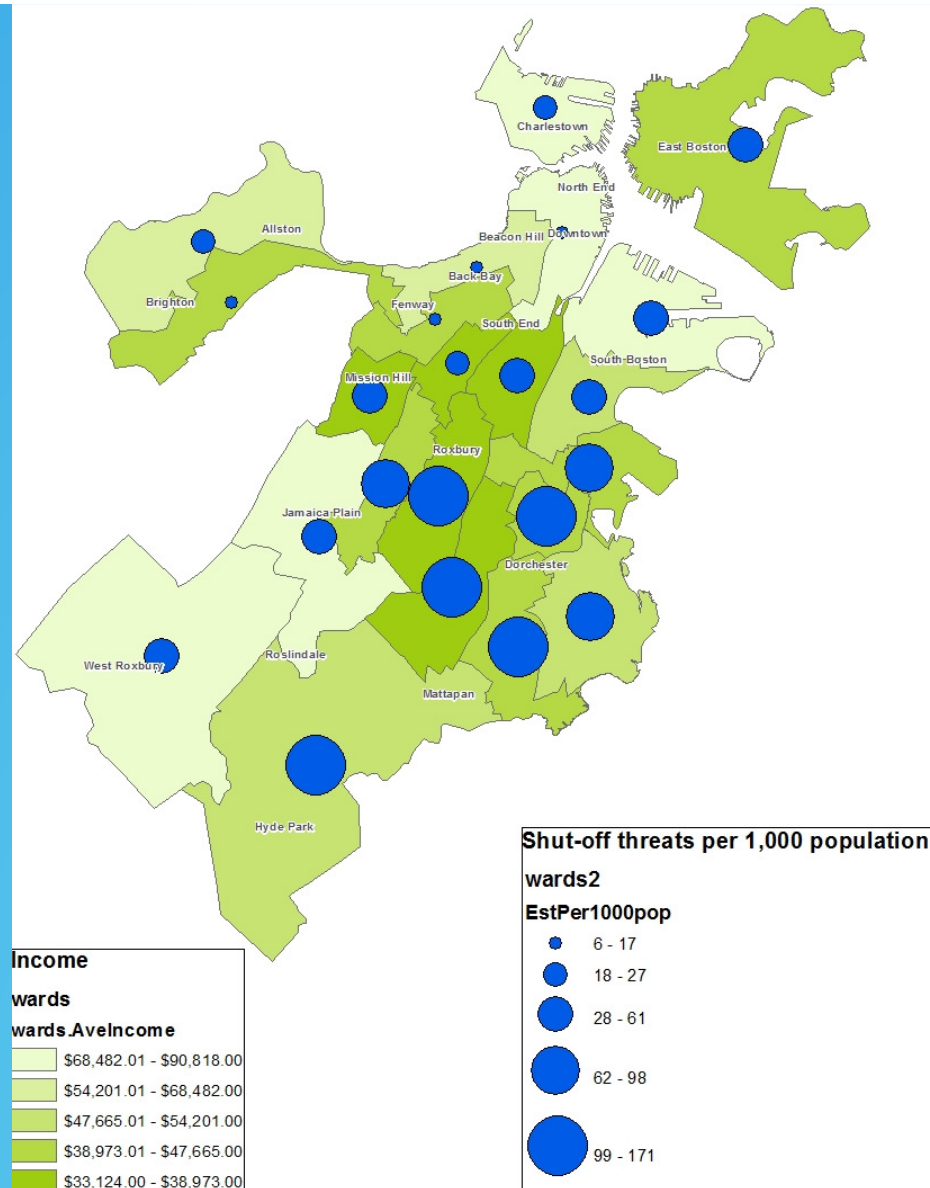
- ▶ **Serious illness**
- ▶ **Senior citizen**
- ▶ **Maybe income**
- ▶ **Deal directly with BWSC**

WHO IS PROTECTED & HOW?

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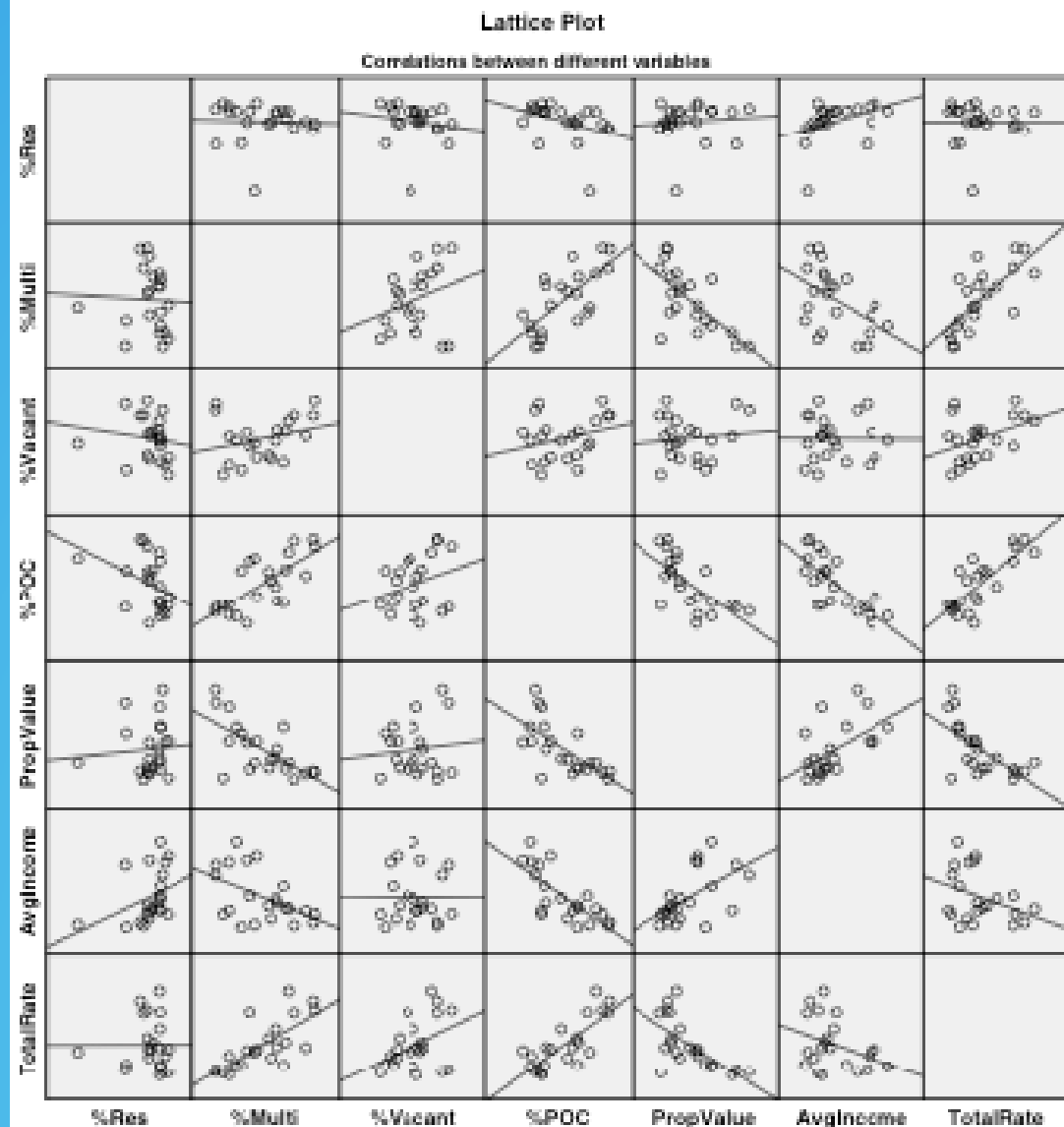
- No data is publically available to allow us to monitor this situation
- Shut off notices provided by BWSC, demographics from the Census
- Boston's wards are very diverse for all variables

# INEQUALITY IN BOSTON: OUR DATA



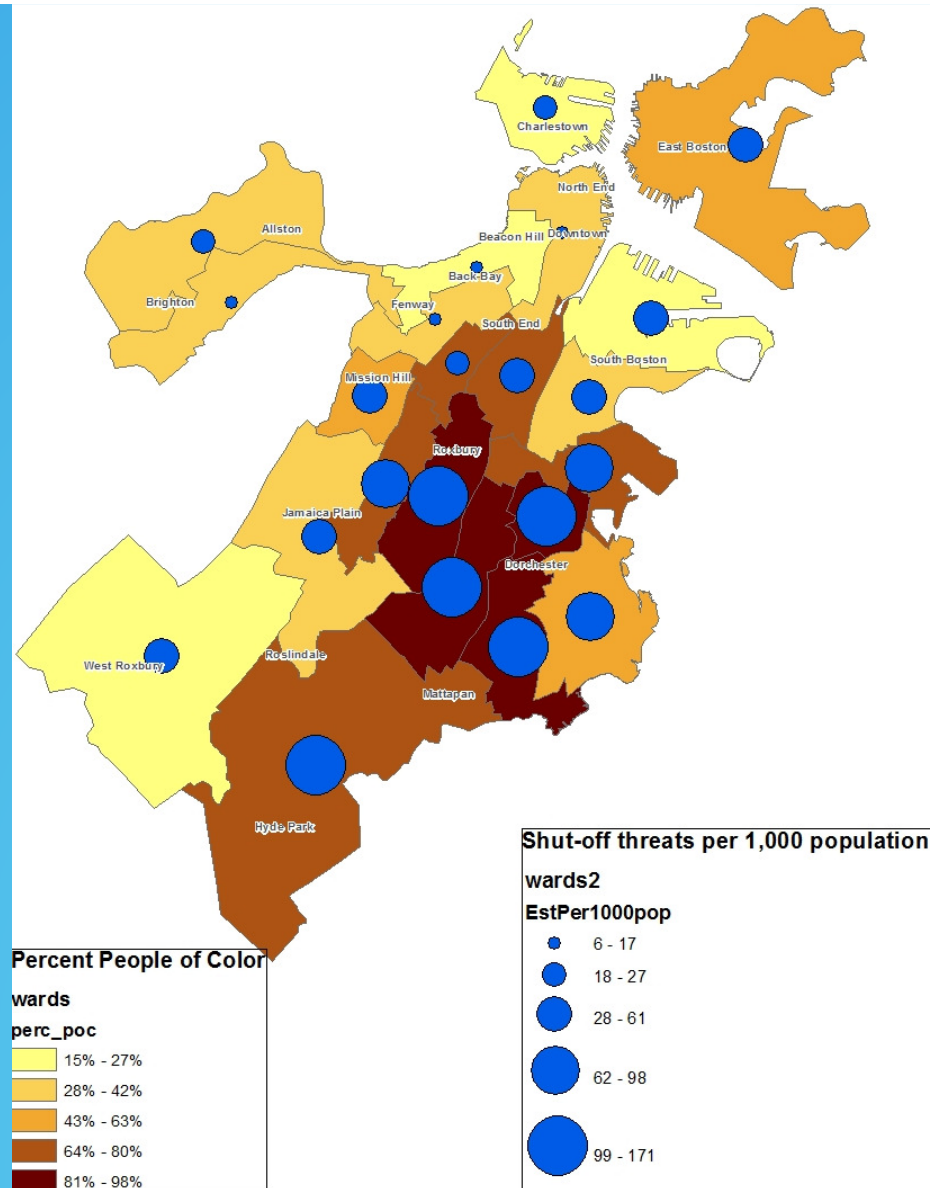
- We ran multiple tests to look for statistically significant relationships between variables.
- Variables include:
  - Percent people of color
  - Average income
  - Shut-off notices per 1,000 residents
  - Shut-off notices per 100 residential parcels
  - Vacancy rate
  - Percent multi-family housing
  - Property value

## DATA ANALYSIS



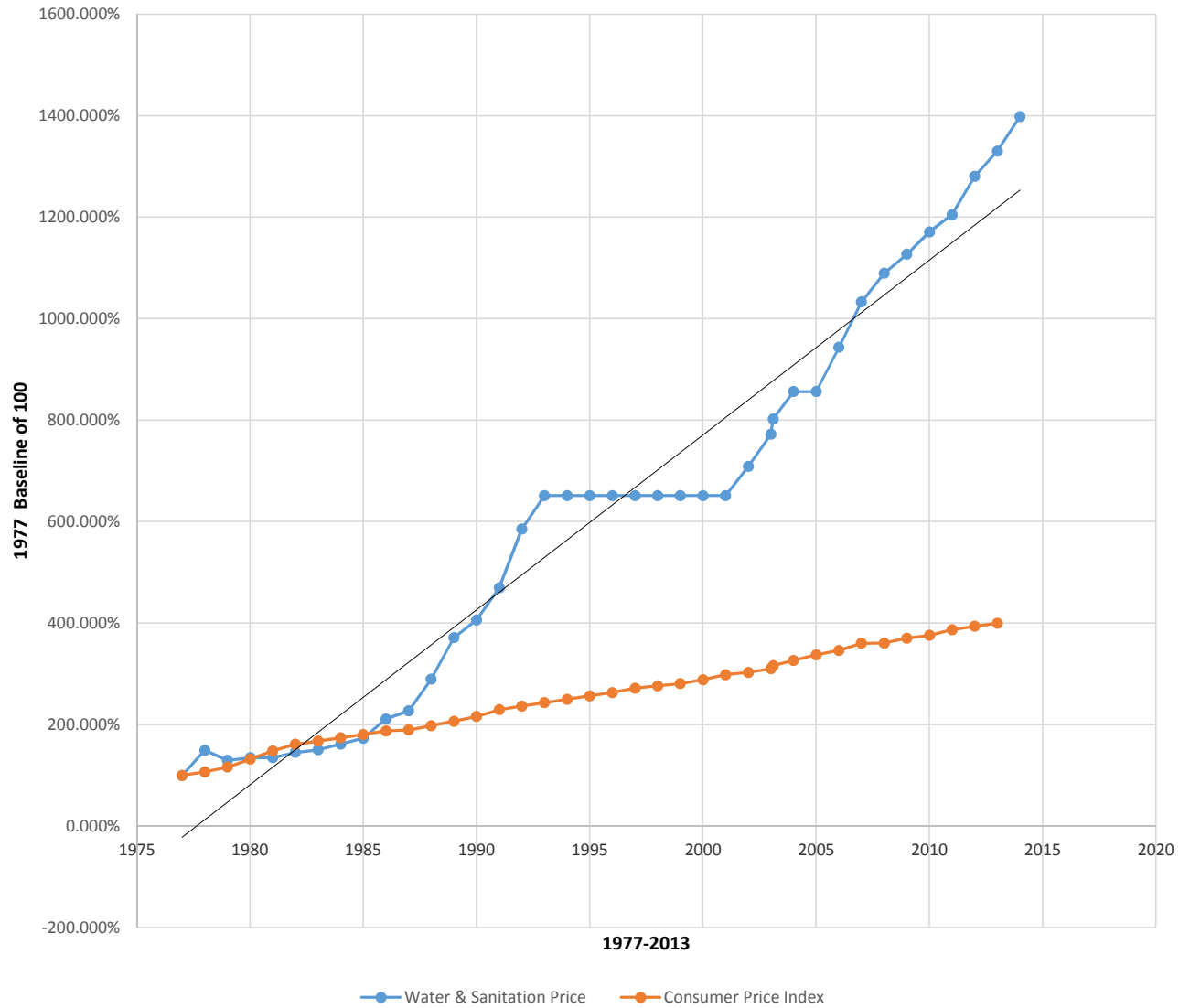
- Residents of Roxbury, Mattapan and Dorchester are 10 times more likely to receive a water shutoff notice than folks living in Back Bay
- Strong, persistent relationship between race and water access
- For every percent increase in people of color in a city ward, there is a 3 to 4% increase in water shutoff notices

## WHO IS MOST IMPACTED?



RATE INCREASES  
OUTSTRIP  
COST OF LIVING  
INCREASES

Annual Water & Sanitation Price Increases versus CPI



- ▶ Over 8,000 households slated for water shutoffs
- ▶ More than 26,000 households are behind on bills
- ▶ Michigan Welfare Rights Organization and People's Water Board are calling for a realistic "Water Affordability Plan" based on actual incomes
- ▶ Organizing a national and international conference at the end of May to build a new campaign around this national problem

WHAT IS GOING ON IN DETROIT?



- ▶ Baltimore is issuing 25,000 water shutoff notices
- ▶ These could impact 75,000 individuals
- ▶ Businesses owe ~40% of the past due water bills but are only 1.5% of the shutoff notices.

WHAT IS GOING ON IN BALTIMORE?

- ▶ Long-term picture
- ▶ Changing trade winds
- ▶ 80% of water used by agriculture
- ▶ Corporate raiding of water

WHY CALIFORNIA MATTERS?

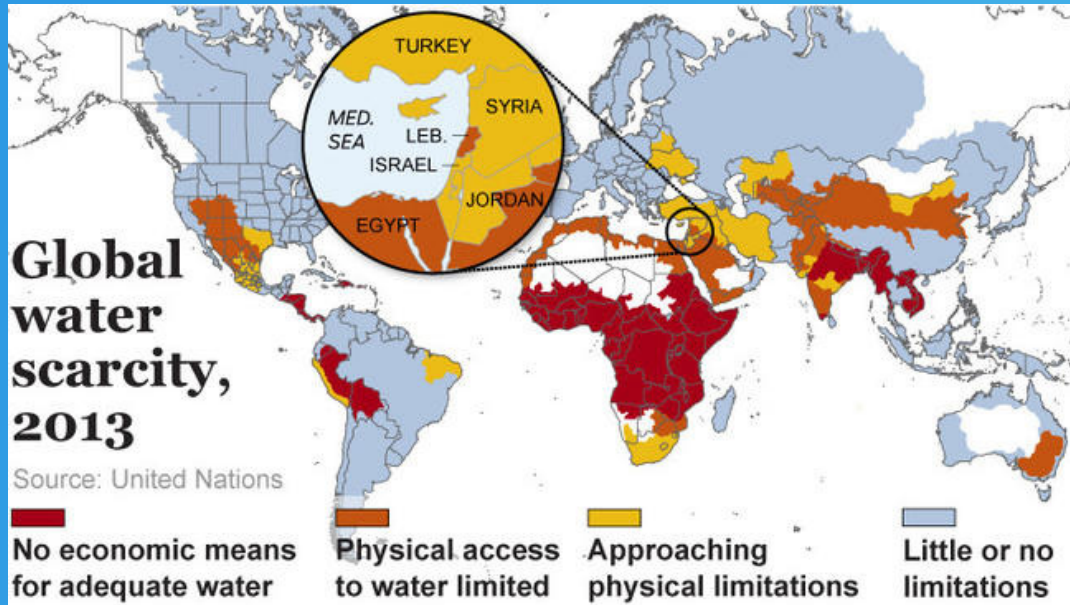


- ▶ Access to water in rural areas
- ▶ Access to safe, potable water in indigenous communities
- ▶ Pollution of water sources due to industry, fracking, agricultural, and mining activities

## OTHER IMPORTANT NATIONAL CHALLENGES

- ▶ Historically discriminated-against communities are not part of the Human Right to Water conversation
- ▶ Corporations and private interests have disproportionate say over water policy
- ▶ The provision of water is seen as a technical challenge and does not involve communities in the deliberations over water policy
- ▶ Catastrophic climate change is impacting and will aggravate the situation for all communities

## OVERALL NATIONAL OBSTACLES TO REALIZING THE HUMAN RIGHT TO WATER



- ▶ Many crisis areas and conflicts in which water is an underlying issue
  - ▶ Darfur and the Sudan
  - ▶ Occupied Palestine
  - ▶ Yemen
- ▶ 760 million people lack access to clean drinking water
- ▶ Powerful interests shape the debate – e.g. World Water Council
- ▶ Climate change threatens water supplies and rapine systems globally

## WATER AS A GLOBAL CHALLENGE

- ▶ Global Networks of community-based organizations
- ▶ Focal point in challenging the World Water Council and other *transnational* actors
- ▶ Defend public water, hold it accountable, challenge privatization
- ▶ Detroit conference

SOLIDARITY FROM BELOW

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## According to the EPA,

- ▶ Northern areas are projected to **become wetter**, especially in the winter and spring...
- ▶ **Heavy precipitation events will likely be more frequent...**
- ▶ More precipitation is expected to **fall as rain rather than snow**, particularly in some northern areas...
- ▶ The **intensity of Atlantic hurricanes** is likely to increase as the ocean warms...
- ▶ Cold-season storm tracks are expected to continue to shift **northward**



# CATASTROPHIC CLIMATE CHANGE

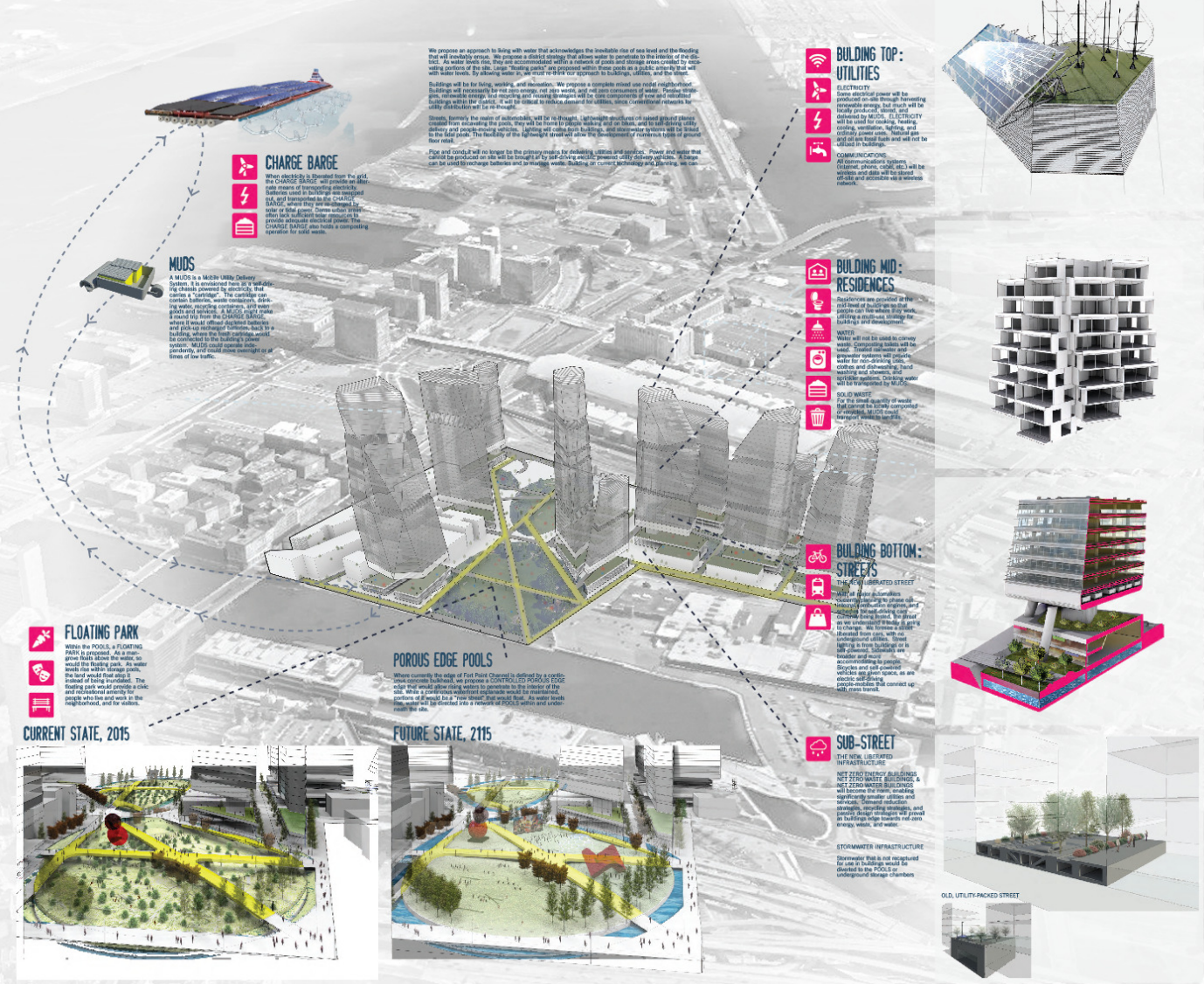
- ▶ Boston has begun a conversation about “living with water”
- ▶ Groups like the Boston Society of Architects, Boston Redevelopment Authority, Boston Harbor Association



CITY OF BOSTON  
Martin J. Walsh, Mayor

“ADAPTATION”

# LIVING WITH WATER STRATEGY FOR A RESILIENT FORT POINT NEIGHBORHOOD



We propose an approach to living with water that acknowledges the inevitable rise of sea level and the flooding that will inevitably ensue. We propose a distinct strategy that allows water to permeate to the interior of the district. An water level rise, and sea level rise, is not a threat to the future of the neighborhood. It is a challenge that we must embrace. Our approach to building, utilities, and the street. Buildings will be for living, working, and recreation. We propose a complete mixed use neighborhood. Buildings will be for living, working, and recreation. We propose a complete mixed use neighborhood. Buildings will be for living, working, and recreation. We propose a complete mixed use neighborhood.

**CHARGE BARGE**  
When electricity is disrupted from the grid, the CHARGE BARGE will provide an alternative means of transporting electricity. It will be a mobile energy storage unit, and will be used to power buildings, street lighting, and other critical infrastructure. It will be a mobile energy storage unit, and will be used to power buildings, street lighting, and other critical infrastructure.

**MUDS**  
A MUDS is a mobile energy delivery system. It is a mobile energy delivery system. It is a mobile energy delivery system. It is a mobile energy delivery system. It is a mobile energy delivery system.

**BUILDING TOP: UTILITIES**  
**ELECTRICITY**  
Some electrical power will be produced on-site through harvesting renewable energy. The grid will be locally produced. ELECTRICITY will be locally produced. ELECTRICITY will be locally produced. ELECTRICITY will be locally produced.

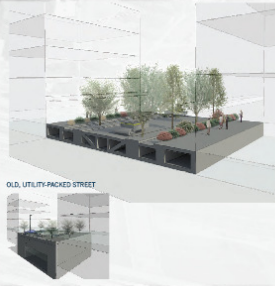
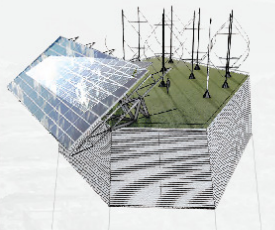
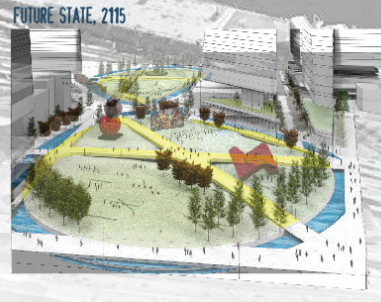
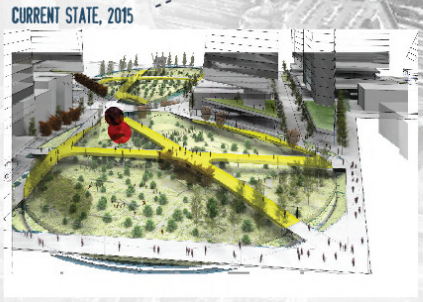
**BUILDING MID: RESIDENCES**  
Residences are provided in the building. They are provided in the building. They are provided in the building. They are provided in the building. They are provided in the building.

**BUILDING BOTTOM: STREETS**  
The street is a public space. It is a public space. It is a public space. It is a public space. It is a public space. It is a public space.

**SUB-STREET**  
**THE NEW LIBRARED INFRASTRUCTURE**  
NET ZERO ENERGY BUILDINGS. NET ZERO ENERGY BUILDINGS. NET ZERO ENERGY BUILDINGS. NET ZERO ENERGY BUILDINGS. NET ZERO ENERGY BUILDINGS.

**POROUS EDGE POOLS**  
Where currently the edge of Fort Point Channel is defined by a concrete curb, we propose a POROUS EDGE POOL. It is a porous edge pool. It is a porous edge pool. It is a porous edge pool. It is a porous edge pool.

**FLOATING PARK**  
When the POOLS are floating, a floating park is provided. It is a floating park. It is a floating park. It is a floating park. It is a floating park. It is a floating park.





# THE HYDROKINETIC CANAL

## INTRODUCTION

The proposal for transforming the waterfront between Downtown Crossing and North Point has been in the air for over 100 years. It has been a dream of many generations of Bostonians, from the city's first mayor, Samuel Adams, to the current mayor, Martin Walsh. The city's waterfront is a unique and valuable asset, and it is time to reimagine it for the 21st century. This project is a bold vision for the future of Boston's waterfront, and it is a chance to create a new urban landscape that is sustainable, vibrant, and resilient.

**Project Location & Context**  
The project is located in the heart of Boston's downtown, between Downtown Crossing and North Point. It is a prime location for a new urban landscape, and it is a chance to create a new urban landscape that is sustainable, vibrant, and resilient. The project is a bold vision for the future of Boston's waterfront, and it is a chance to create a new urban landscape that is sustainable, vibrant, and resilient.



## A NEW CANAL, MODERN CANAL, THE NEW URBAN AMBITURE

Our vision for the canal is a new urban ambiture, a new urban landscape that is sustainable, vibrant, and resilient. It is a chance to create a new urban landscape that is sustainable, vibrant, and resilient. The project is a bold vision for the future of Boston's waterfront, and it is a chance to create a new urban landscape that is sustainable, vibrant, and resilient.

**Urban Design & Planning**  
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**Community & Social Impact**  
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**The New Harbor - Linked to the Global Market**  
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**Midway Hill - A Gateway to the Harbor**  
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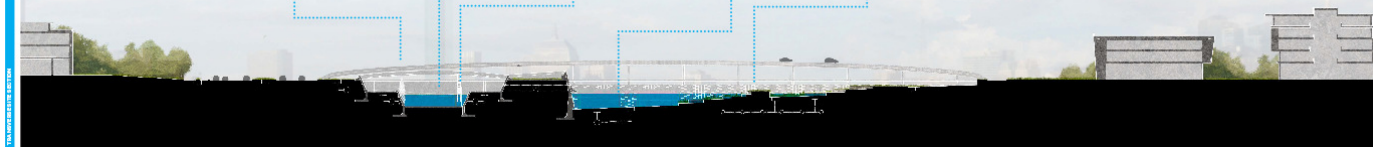
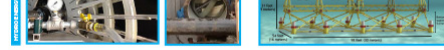
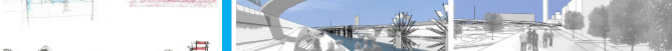
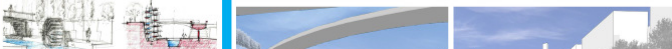
**Not a Bridge, Not a Canal - Connecting Urban to the Harbor**  
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**Building on the Land - Making the Harbor a Part of the City**  
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**Reimagining the Harbor - A New Urban Landscape**  
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## Model Urban Waterfront District for the 21st and 22nd Centuries

### Elevated, Transit Oriented, Mixed Use Development

These 100 acres along the Fort Point Channel will be regularly inundated with water by 2100, owing to predictions of more frequent, severe storm surge together with a 2' sea level rise in Boston Harbor. Fortunately, a visionary master plan implemented early in the 21st century through public-private partnerships, raised the entire base and infrastructure of this acreage by approximately 12' - matching the raised elevation of historic Summer Street - creating a model development area to serve as a model urban waterfront district for the 21st and 22nd centuries.

The new canal-side Water District offers exceptional real quality of life and real estate values. Its surge protected infrastructure and buildings, together with its renewable district energy plant, are unparalleled in the Boston area and in high demand by both businesses and residents. New real estate prototypes advanced by this district include micro housing units, community greenhouse gardens, and live work condominiums. Other structures include shared community of new Fort Point Channel boatyards and pavilions, a new Fort Point Channel waterfront promenade from the former U.S. Postal Annex, and flexible community programming for the Boston Convention and Exposition Center Expansion during periods when no events are scheduled.

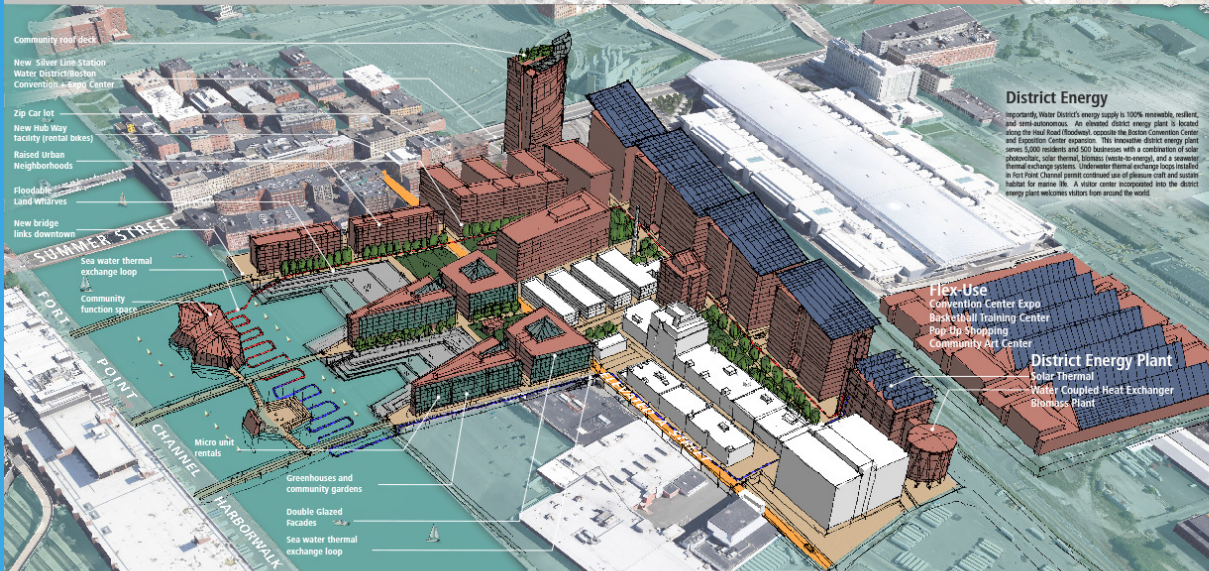
The district is served by a new Silver Line station. Located on Summer Street and serving Water City and the Boston Convention and Exposition Center, this new station offers convenient, accessible, mass transit for the benefit of residents, workers and visitors alike. A new bicycle and e-scooter rental facility, located on new elevated A Street and incorporating public bathrooms, interactive digital displays and a hydration station, promotes the use of safe bike lanes which have proliferated and grown immensely popular throughout the Boston area.

### Elevated Base & Infrastructure

The potential to create a model Water District depends on implementing a bold vision - restoring these 100 acres and investing in the construction of an elevated base and infrastructure capable of withstanding storm surge for 100 years. Fortunately, the raised grade of historic Summer Street is ideally matched for the strategic design of this new waterfront development district. Hafen City in Hamburg, Germany, is an exciting, elevated, transit oriented, mixed use development on the Elbe River, where flooding from 800 waters increasingly threatens damage, similar to Boston Harbor. This precedent is a compelling example of how significant investment in an elevated base and infrastructure creates value and opens exciting development potential for living with water.

### Floodable Wharves

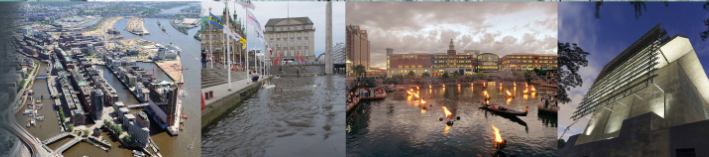
Water City is designed with floodable wharves. These are stepped slips which are engineered to accommodate rising flood waters without damage to neighboring buildings or infrastructure, and to drain quickly and completely when the surge subsides. These wharves double as waterfront seating and public open space. Water City features two floodable wharves facing the Fort Point Channel, extending water views and the sense of open space deep into the development.



## WATER DISTRICT Site 2 - 100 Acres

### Living with Water Precedents

1. HafenCity, Hamburg
2. Floodable Wharves at HafenCity
3. Providence Waterfire
4. HafenCity District Energy Bunker



SITE 1

SITE 2  
Water City

SITE 3

Boston  
10 miles

- We are engaging the community and building community leadership
- Reaching out to youth organizations in Boston's communities and especially the most impacted
- Building the Color of Water network locally and statewide
  - Organize as a network
  - Utilize working groups
  - Identify areas of cooperation
- Engaging BWSC, MWRA, DEP
- Networking nationally, globally
  - Sharing information
  - Developing a "Gold Standard"
  - Using international treaty commitments

WHAT WE ARE DOING



- ▶ They are now discussing how to find low-income subsidies from the state
- ▶ The planning process has changed – previously they gave an effective 2-weeks notice, now the public consultation will begin in June
- ▶ Right to service – point raised earlier
- ▶ Indicated that there is a willingness to negotiate late fees and penalties

## WHAT WE HAVE ACHIEVED