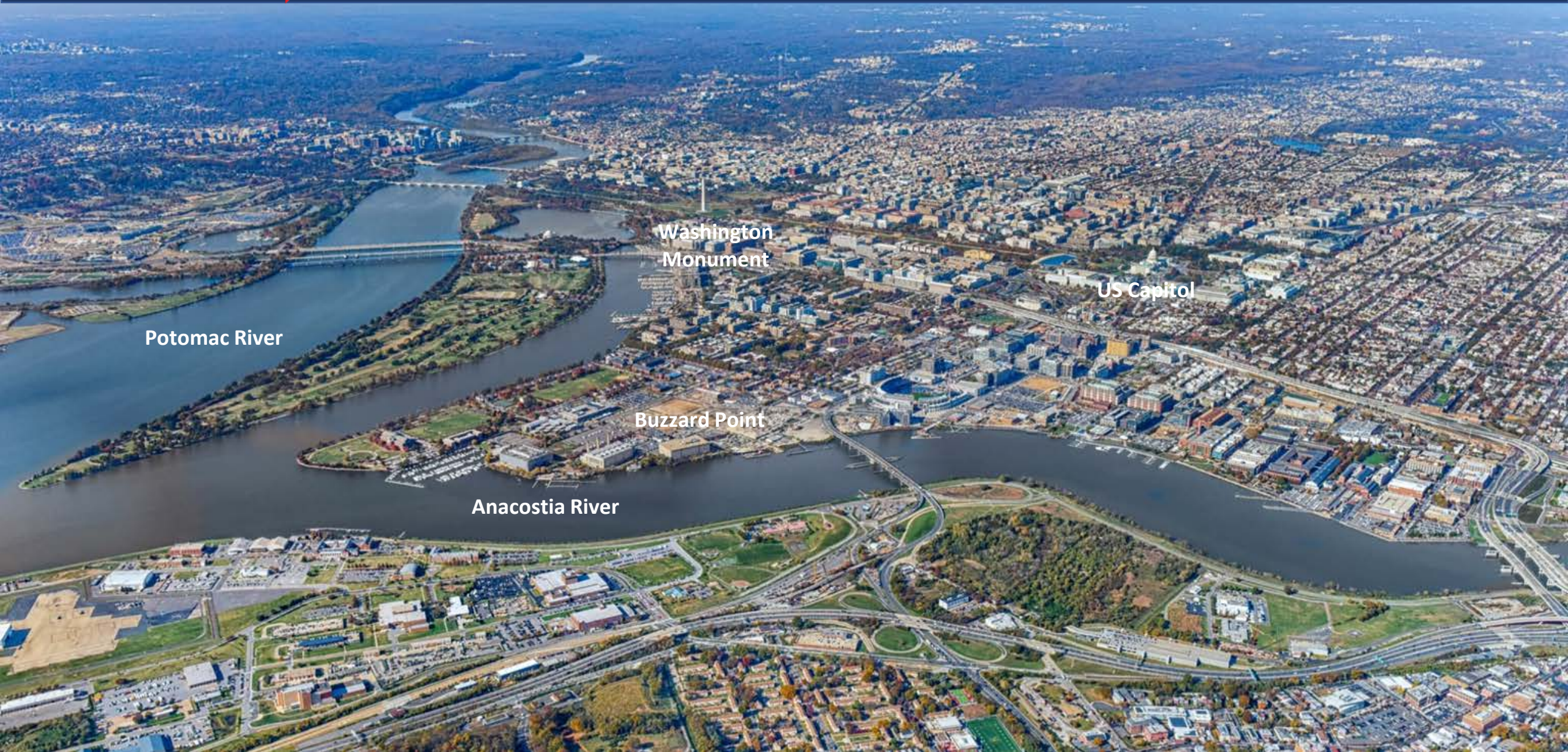




# Resilience Planning in Washington, DC

*October 26, 2018*



Potomac River

Washington  
Monument

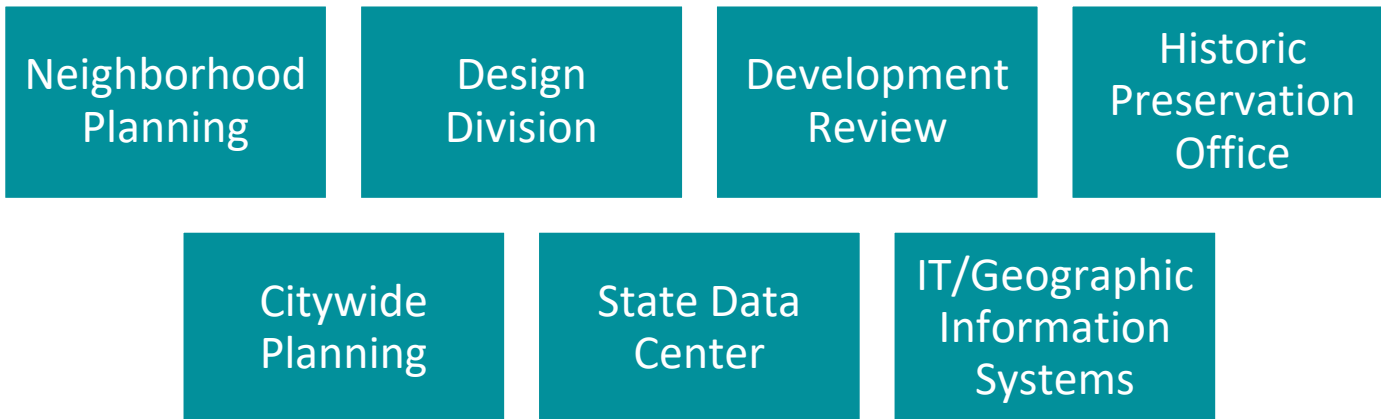
US Capitol

Buzzard Point

Anacostia River

# DC Office of Planning

**Mission:** OP guides development of the District of Columbia, including the **preservation & revitalization of our distinctive neighborhoods**, by informing decisions, advancing strategic goals, encouraging the highest quality outcomes, and engaging all communities.



# OP's Overall Planning Approach



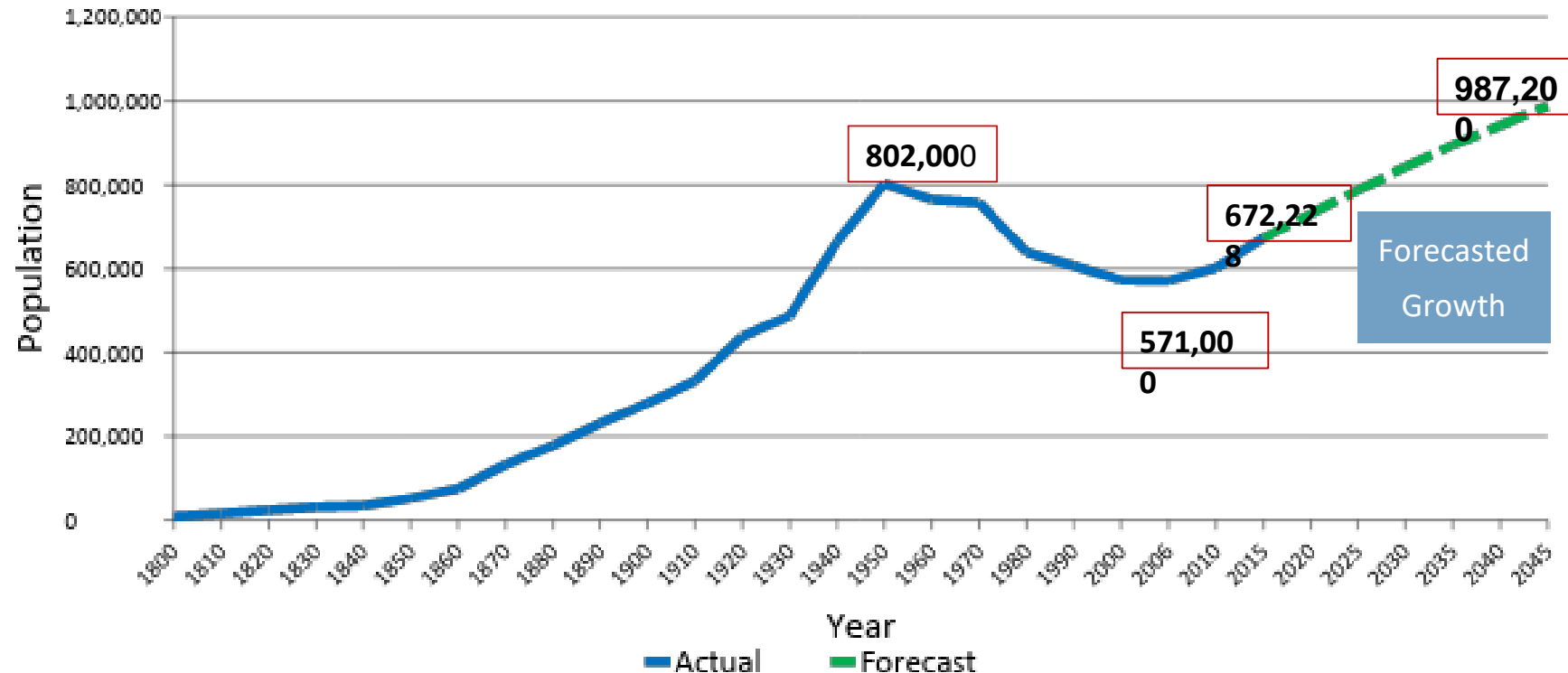
# Why Plan? DC's population is growing

2018:  
700,000+

Between 2006 & 2016 Washington, DC added **110,000** residents.

Over the next 10 years we expect to add **115,000**.

DC Population Growth: 1800 – 2015 & to 2045

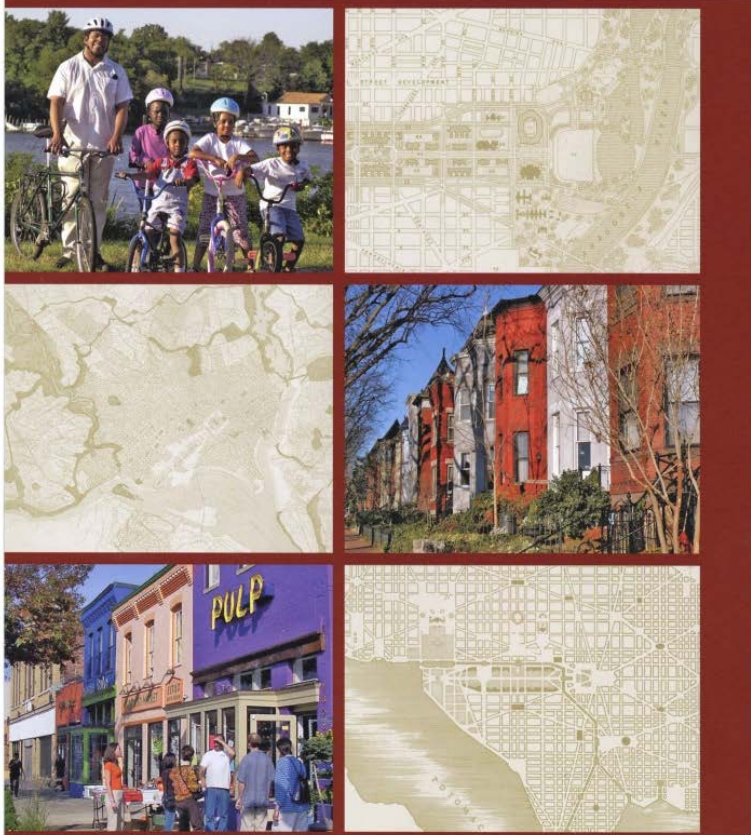


Source: U.S. Census Bureau Censuses 1800-2010 & Population Estimates 2006 and 2015; DC Office of

# [PLAN]DC

THE DC OFFICE OF PLANNING

THE COMPREHENSIVE PLAN  
FOR THE NATIONAL CAPITAL:  
DISTRICT ELEMENTS



GROWING AN INCLUSIVE CITY: FROM VISION TO REALITY  
10 DCMR · PART 1  
DC OFFICE OF DOCUMENTS AND ADMINISTRATIVE ISSUANCES  
ADRIAN M. FENTY, MAYOR · OCTOBER 2007 · LASHANDA J. HOLLOWAY, DIRECTOR

## The Comprehensive Plan: District Elements

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20-Year Vision—“Planning an Inclusive City”

Policies in **Text & 2 Maps**

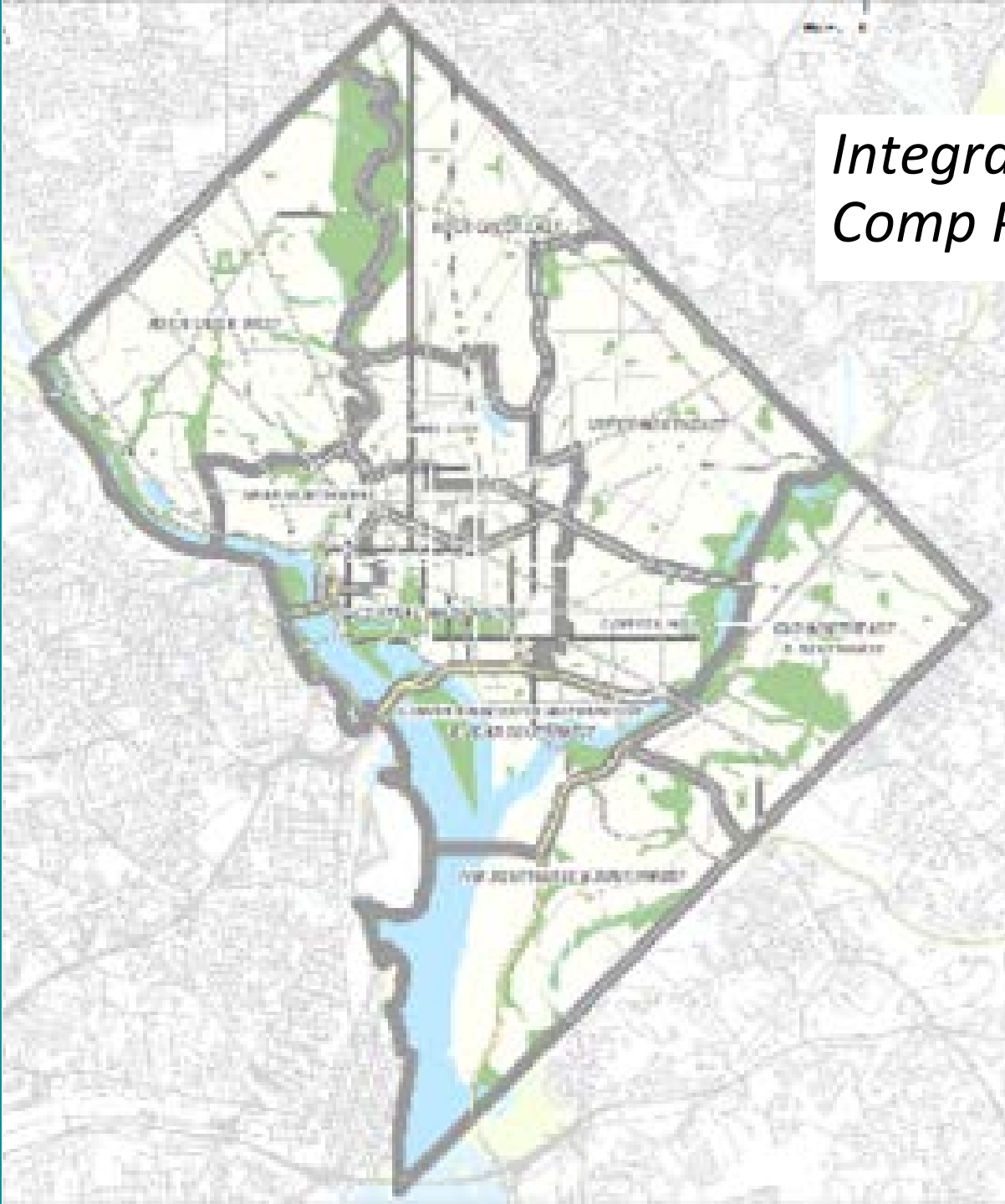
Adopted as **legislation** in **2006**

First amended in **2011**

*Second amendment cycle launched in 2016*

[PlanDC.dc.gov](http://PlanDC.dc.gov)

# *Integrating new resilience policy into multiple Comp Plan Elements*



Land Use

Economic  
Development

Housing

Environmental  
Protection

Transportation

Community  
Services &  
Facilities

Urban Design

Historic  
Preservation

Infrastructure

Parks,  
Recreation &  
Open Space

Educational  
Facilities

Arts & Culture

# Context for DC's Resilience

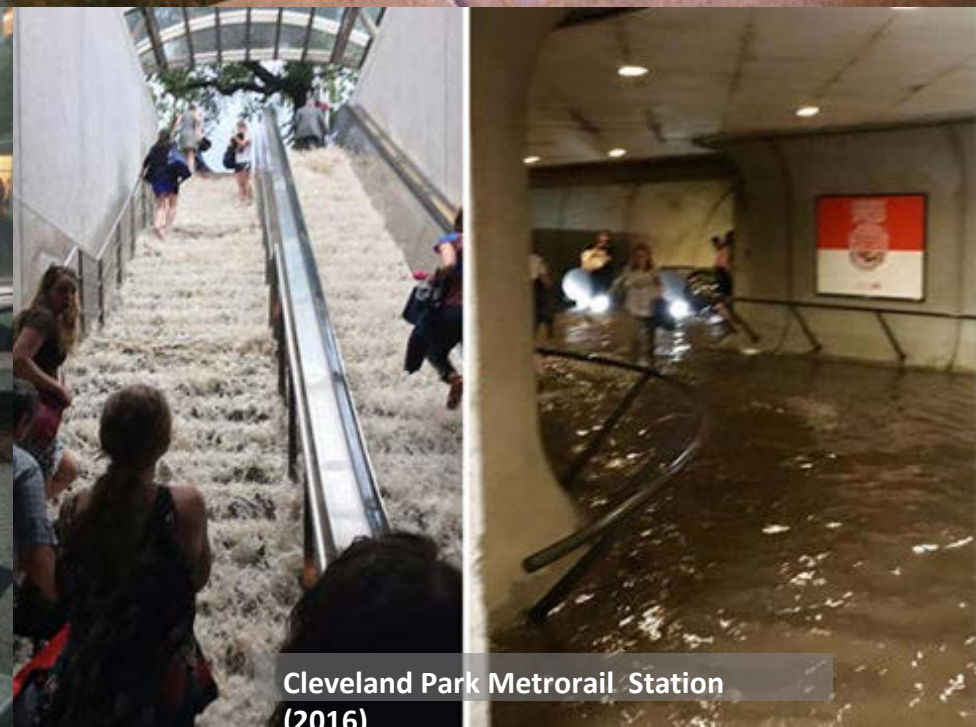


# Flooding— A major hazard in DC



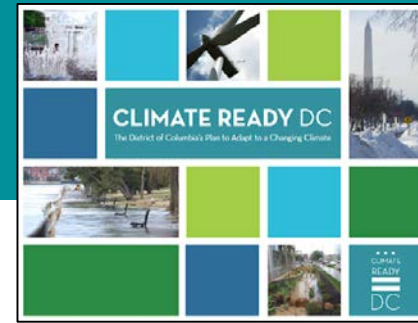
## *Types of flooding in DC:*

- Riverine
- Tidal/Coastal storm surge
- Interior





# Climate change also driving flood risks in DC

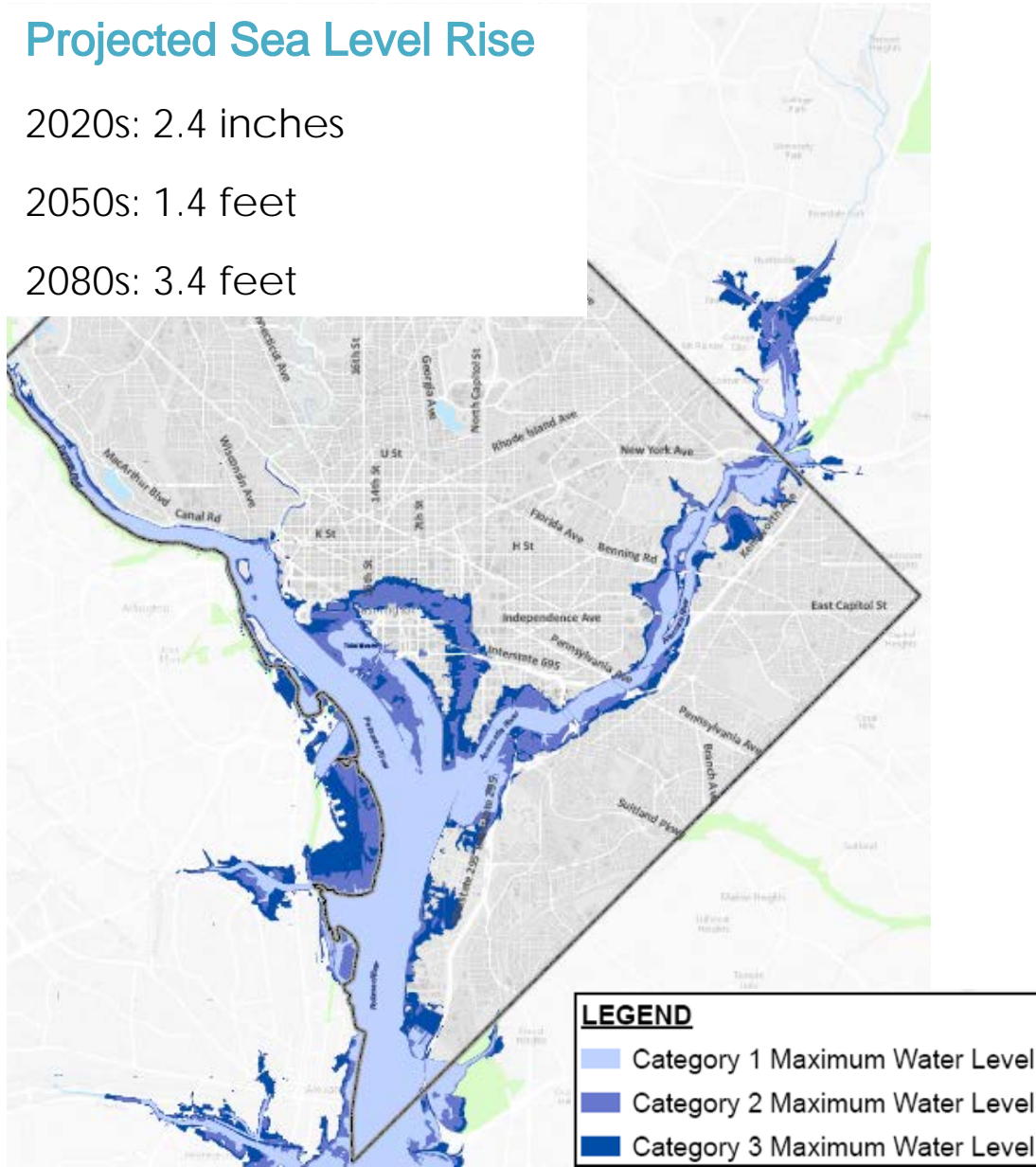


## Projected Sea Level Rise

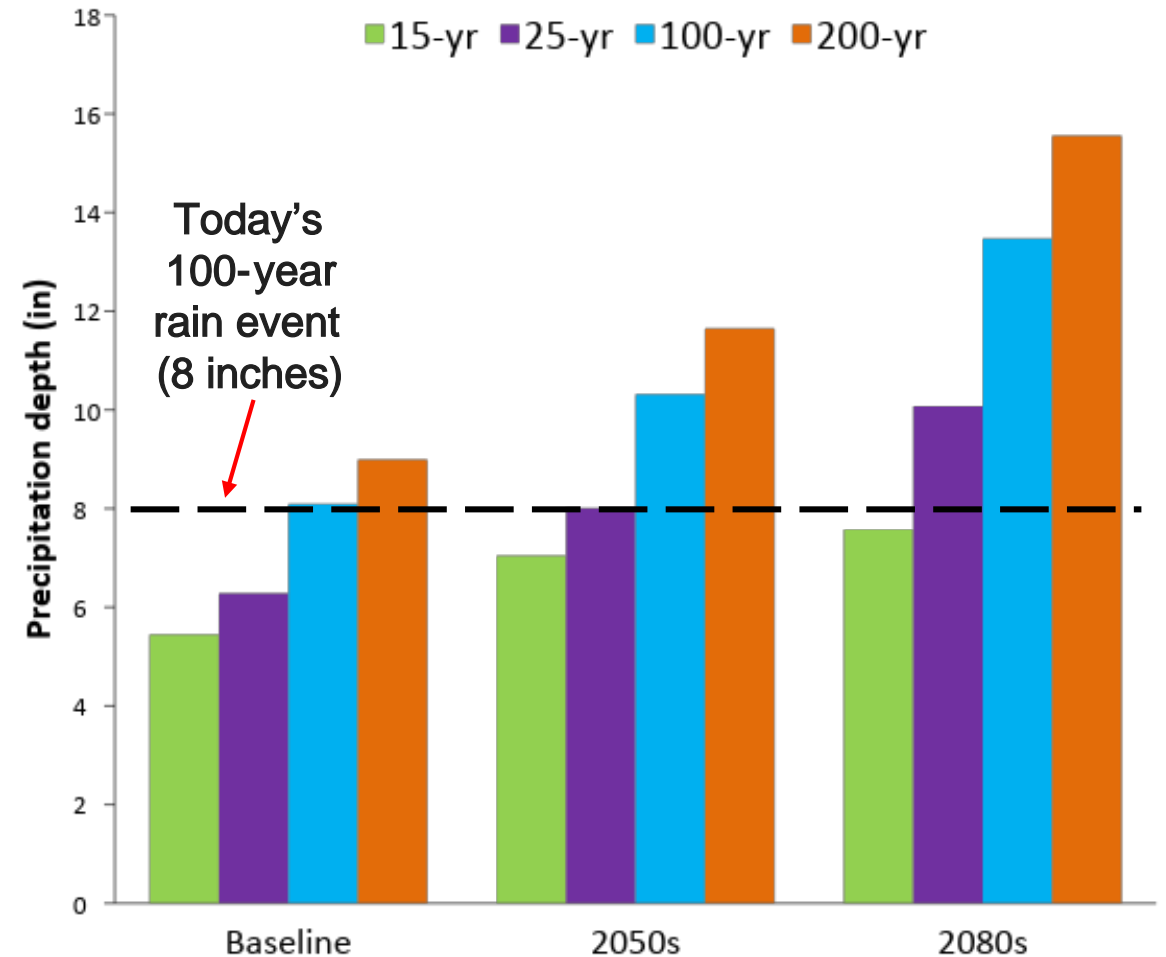
2020s: 2.4 inches

2050s: 1.4 feet

2080s: 3.4 feet

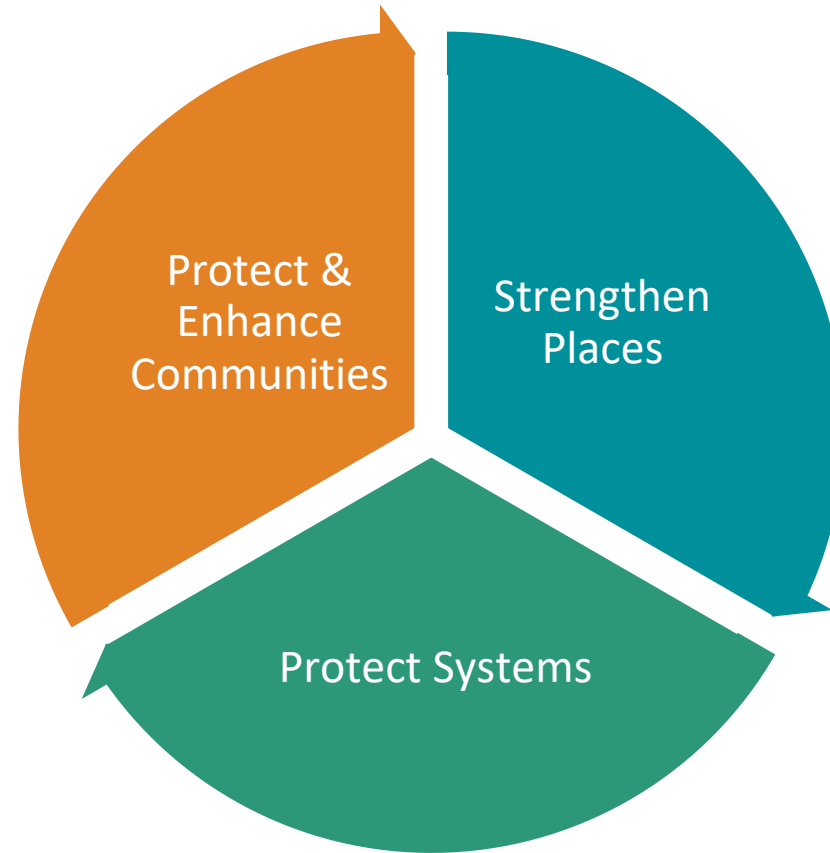


Extreme precipitation events will become **more frequent & more intense.**



# Why are we integrating Resilience into DC's Comp Plan?

- Leverage **Comp Plan's policy focus** on **multiple citywide topics & neighborhoods**
- Enhance **resilience of DC's residents**
- Promote **resilient land use planning & development**
- Leverage existing **interagency plans & collaboration** to support resilience



- Protect DC's historic **identity**, environmental **landscapes** & regional **infrastructure**
- Protect **public & private investments** in built environment for long-term community benefit
- Support **reliable systems** to support a growing city
- Recognize & maximize **co-benefits** of resilience solutions

# *Integrating Resilience & DC's Comprehensive Plan:*

## **What we accomplished:**

---

✓ Held 2 **Comp Plan Resilience Advisory Group** workshops (*June & Sept 2016*)

✓ Conducted Resilience Advisory Group **Survey & Interviews** (*June-Fall 2016*)

✓ Completed **Literature Review & Inventory** of District & other plans/studies, best practices (*summer-fall 2016*)

✓ Talked and surveyed **residents** about resilience at 7 PlanDC public meetings & other community meetings (*fall 2016-spring 2017*)

✓ **Community members proposed Comp Plan amendments** on resilience (*spring-summer 2017*)

✓ Drafted & integrated new **Comp Plan resilience policy** (*mid 2017-mid 2018*)

# *Integrating Resilience & DC's Comprehensive Plan:*

## **Lessons learned:**

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✓ Resilience is a broad topic

✓ *Engagement with the public*

✓ *Format for resilience integration  
into Comp Plan*

✓ *Long-term trajectory of some issues*

✓ *Operational vs. high-level policy*

✓ *Overall timeframe*

# What else has DC done to promote resilience?

*A few examples:*

**Buzzard Point Vision Framework + Design Review Guide**  
(DC Office of Planning)

**DC Silver Jackets** (*District & federal agency flood  
management coordination*)

**Climate Change Adaptation Plan**  
(*District Department of Transportation*)

**District Mitigation & Recovery Plans**  
(*DC Homeland Security & Emergency Management Agency*)

**Sustainable DC**  
(*Department of Energy & Environment + others*)

**Climate Ready DC** (*Department of Energy & Environment*)

**Hazard Vulnerability Assessment**  
(*DC Homeland Security & Emergency Management Agency*)

**Resilient DC** (100 Resilient Cities)

PIONEERED BY THE  
ROCKEFELLER FOUNDATION

100 RESILIENT CITIES



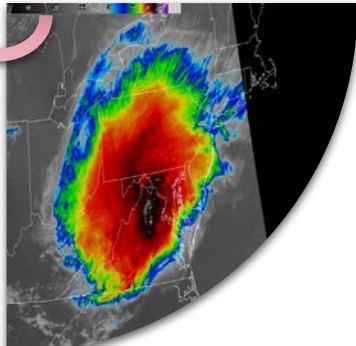
Terrorism



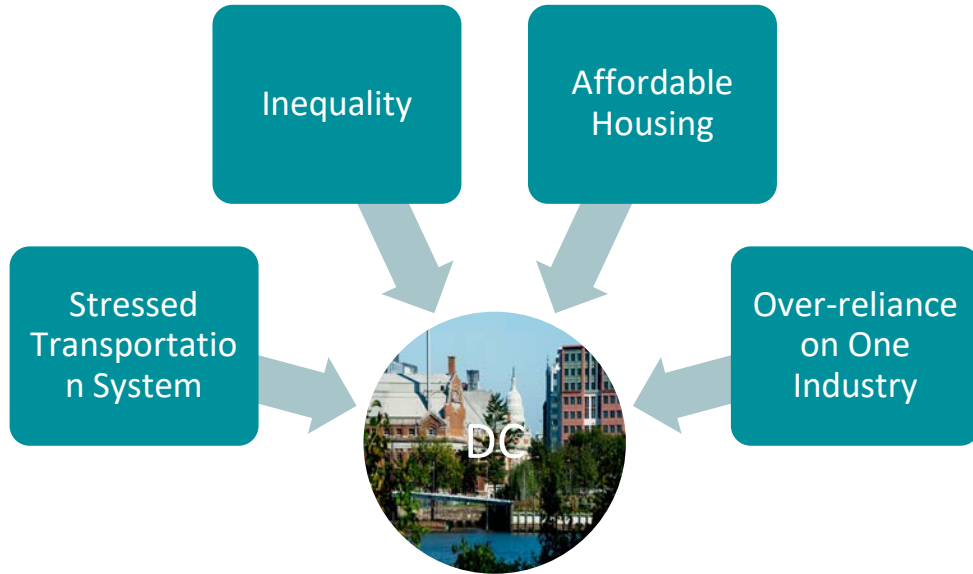
Flooding



Infrastructure Failure



Extreme Heat



# BUZZARD POINT

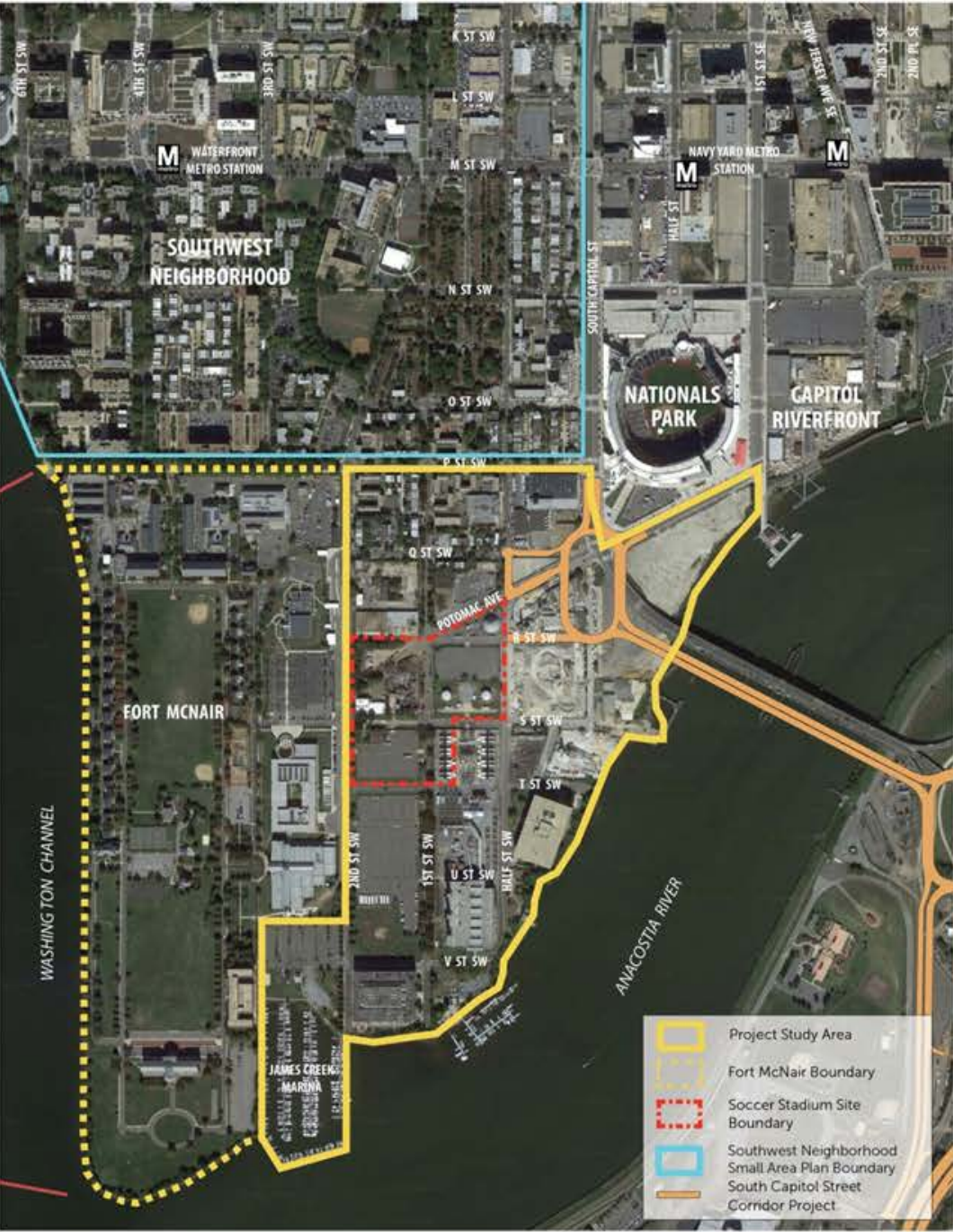
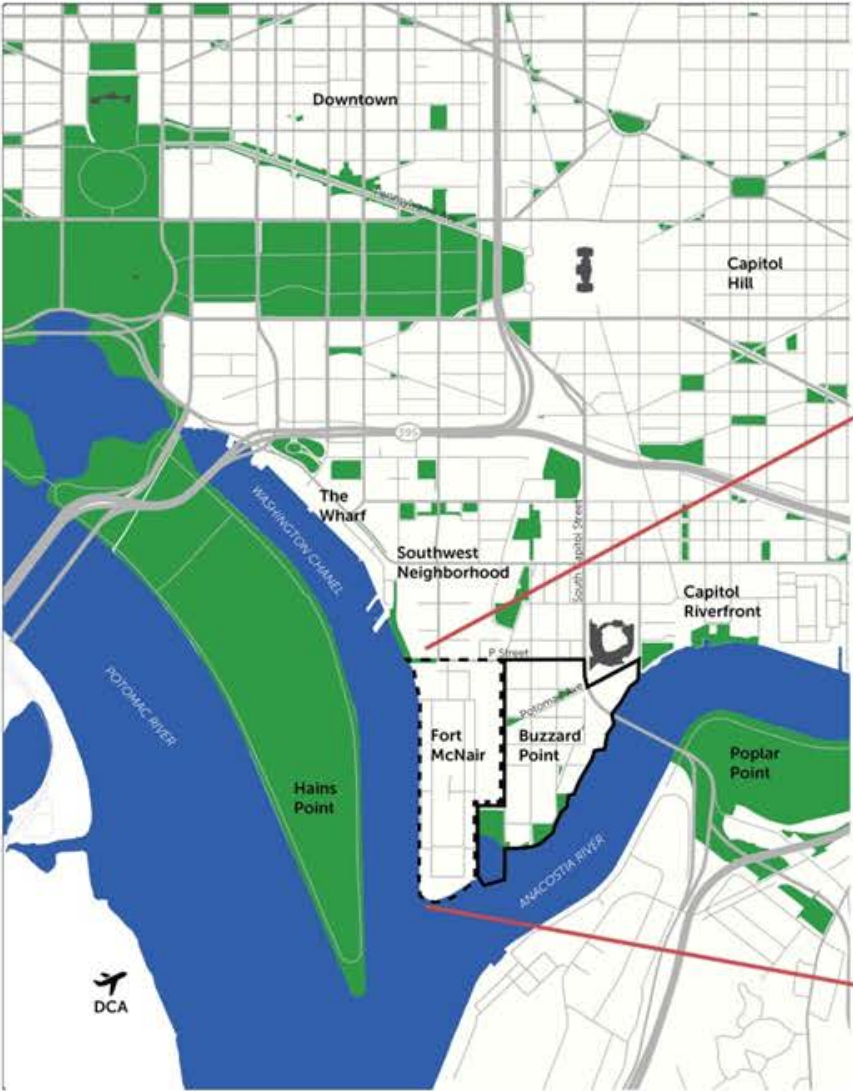
Vision Framework + Design Review Guide

NOVEMBER 2017



**Buzzard Point—Waterfront Design for Resilience**

# Buzzard Point





# Buzzard Point Vision Framework + Design Review Guide: Goals

## 1. A Well Designed Waterfront Neighborhood



## 2. Dynamic Parks, Public Spaces, and Waterfront

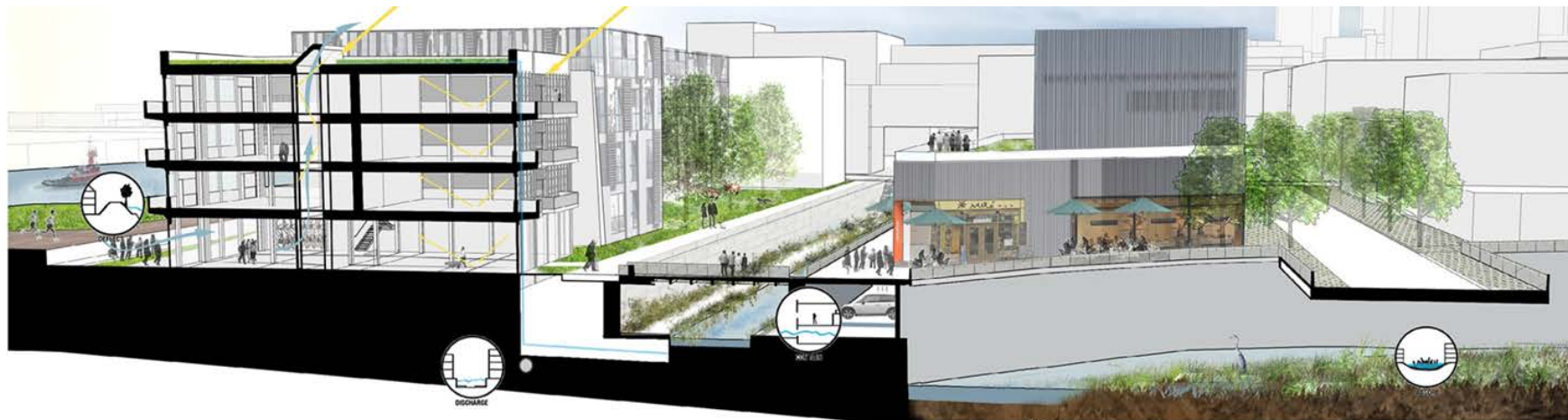


## 3. A Well-Connected Transportation Network



# Buzzard Point—Resilient Infrastructure, Buildings & Public Space

- Store rainwater & include green roofs & parks/bio swales
- Create floodable areas in new parks & retrofit existing parklands
- Ensure that bio swales & berms can be used as parks, paths, amphitheaters, etc.
- Design garages to flood/store floodwaters
- Consider breakaway walls & wind resistant windows in new construction to reduce storm damage
- Include green infrastructure techniques in public space & private development



Water is re-directed by a new levee, formed with the excavated material from canals and underground parking structures.

DEFLECT



Large volume capacity is created so the tributary and garage cisterns fill up before damage occurs on street level.

CONTAIN



Spaces in high-risk places were designed so that water could flush through them with minimal damage. Garages and open spaces occupy most lower levels. Permeable pavers, rain gardens, storm water tanks and canals flanked by vegetation all welcome the chance to drink up the flood.

ABSORB



As water is held in place while conditions return to normal, gates at the river's edge will allow the day-lit tributary to slowly drain back into the Cumberland River.

DISCHARGE

# *Buzzard Point*—Resilient Waterfront Edge

**Design a resilient & ecologically beneficial waterfront edge,  
consistent with Climate Ready DC**



Install a living shoreline rather than a continuous bulkhead

Integrate water filtration gardens into public space, where streets terminate



# For More Information

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**Comprehensive Plan Program Manager**  
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**DC Office of Planning**

202-442-7705

[www.planning.dc.gov](http://www.planning.dc.gov)

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