• Enhancing Community Resilience Through Comprehensive Planning

• Overview of Washington DC’s Comprehensive Plan and Resilience Planning
• NPC198049
• Josh Ghaffari – DC Office of Planning
• Tanya Stern – Montgomery County Planning Department
• Darrin Punchard – Punchard Consulting
DC Overview & Comp Plan 101
Washington, DC – The Nation’s Capital & A Local Home

▪ Not just a government town
▪ A world class city with a strong business environment, resilient economy & diverse population
▪ Functions as a city, county & state
▪ A sustainability leader among cities

68.5 square miles
8 wards
DC’s Population is Growing

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

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

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.
The Comprehensive Plan: District Elements

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
Setting the Stage for Planning

The “Family” of Plans
“Growing inclusively means that individuals and families are not confined to particular economic and geographic boundaries but are able to make important choices – choices about where they live, how and where they earn a living, how they get around the city, and where their children go to school. Growing inclusively also means that every resident can make these choices – regardless of whether they have lived here for generations or moved here last week, and regardless of their race, income, or age.”

- A Vision for Growing an Inclusive City, 2004

How DC’s Comp Plan Shapes Development

Shapes character & design of neighborhoods

Shapes **policy framework** for multiple issues (e.g., housing)

Guides **urban design character** of the District

Provides the **framework for zoning**

Dictates use & density of sites through **land use designations**

Promotes **infrastructure** improvements
Area Elements

- Capitol Hill
- Central Washington
- Far Northeast & Southeast
- Far Southeast/Southwest
- Lower Anacostia
- Waterfront/Near Southwest
- Mid-City
- Near Northwest
- Rock Creek East
- Rock Creek West
- Upper Northeast

Citywide Elements

- Framework Element
- Land Use
- Economic Development
- Housing
- Environmental Protection
- Transportation
- Community Services & Facilities
- Urban Design
- Historic Preservation
- Infrastructure
- Parks, Recreation & Open Space
- Educational Facilities
- Arts & Culture
Comprehensive Plan Maps

Future Land Use Map

Generalized Policy Map
Comprehensive Plan Amendment Goals

- Ensure open & transparent process
- Conduct broad & innovative engagement
- Amend land use-related policy to reflect new & emerging issues
- Strengthen & affirm our collective vision for “Planning an Inclusive City”
Meeting Flyer

Metrorail Platform Ad

Project Brochure

[PLAN] DC
THE DC OFFICE OF PLANNING

LIVE
WORK
PLAY
MOVE
MAKE

AMENDING THE DC
COMPREHENSIVE PLAN

[PLAN] DC
THE DC OFFICE OF PLANNING

LIVE
WORK
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AMENDING THE DC
COMPREHENSIVE PLAN

[PLAN] DC
THE DC OFFICE OF PLANNING

GET INVOLVED
ATTEND A MEETING

OCT 19
OCT 22
OCT 25
OCT 27
NOV 1
NOV 3
NOV 14

[PLAN] DC
THE DC OFFICE OF PLANNING

SHARE [YOUR IDEAS] ABOUT THE FUTURE OF THE DISTRICT!

The DC Office of Planning (OP) is amending the District’s Comprehensive Plan, a 30-year framework that guides future growth and development in the city and shapes the places we live, work, shop, and play. OP launched the second amendment cycle to the Comprehensive Plan this year to ensure that the Plan remains responsive to the needs of the community.

Your ideas are essential to a successful amendment process. Between October 19 and November 14, OP is hosting a series of 7 community meetings. The meetings are organized geographically, so please refer to the map for the location nearest to you. Come learn about the amendment process, share your ideas and help shape the future of the DISTRICT!

PLANDC.DC.GOV

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Integrating Recent Plans & Emerging Issues
Resilience Overview
Growing Population
Social & Economic Inequities
Flooding
Extreme Heat
Severe Storms
Sea Level Rise
Utility Disruption
Aging Infrastructure
Terrorism
Cyber Incidents

Resilience: A New Comprehensive Plan Framework

Examples of DC's Shocks & Stresses
Context for DC’s Resilience

DC’s Resilience

- Nation’s Capital
- Historic City
- Regional Economic Center
- Home to 700K+ Residents
- Growing City
- Confluence of 2 Rivers
- Regional Infrastructure
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.

Today’s 100-year rain event (8 inches)
Why We Integrated 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
What Else Has DC Done to Promote Resilience?

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

National Disaster Resilience Competition *(DC Homeland Security & Emergency Management Agency + others)*

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)*
Our 4 “Shocks”
- Terrorism
- Flooding
- Infrastructure Failure
- Extreme Heat

Our 4 “Stresses”
- Inequality
- Affordable Housing
- Stressed Transportation System
- Over-reliance on One Industry

DC’s Resilience Strategy will be released later this month.
Buzzard Point—Waterfront Design for Resilience
Buzzard Point is Vulnerable to Current & Future Flooding

Risk of future flooding from **projected sea level rise** due to climate change
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
Coming Soon: Montgomery County (MD) General Plan Update

Plan Framework

Drivers

Equilibrium

Actions

ECONOMIC HEALTH

COMMUNITY EQUITY

ENVIRONMENTAL RESILIENCE
Resilience Process & Policy Development
Process

Three Key Elements:

1. Literature review
2. Stakeholder engagement
   - Resilience Advisory Group
   - Stakeholder interviews
   - Public meetings
3. Content development
   - Resilience framework
   - Resilience policies and actions
Literature Review

Local Documents

Guidance & Best Practices

Example Plans & Strategies
<table>
<thead>
<tr>
<th>DOCUMENT TITLE</th>
<th>SOURCE / AUTHOR</th>
<th>DESCRIPTION</th>
<th>NOTES</th>
<th>KEY FINDINGS / TAKEAWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copenhagen Cloudburst Management Plan</td>
<td>City of Copenhagen, Denmark</td>
<td>Plan to help prepare the city for extreme rainfall and associated flooding. Contains ~300 site-specific projects. Adaptation measures include developing structures that allow rainwater to be led out to sea such as roads, canals, and tunnels; developing storage for surface runoff such as emergency flood channels; and building of blue-green infrastructure throughout the city.</td>
<td>Recommended by DOI</td>
<td>Plan discussed the need to define an acceptable water level during floods resulting from an extreme rainfall event since Copenhagen government officials recognize that it is too costly to protect the city from extreme flood events. Contains ~300 site-specific projects. Adaptation measures include developing structures that allow rainwater to be led out to sea such as roads, canals, and tunnels; developing storage for surface runoff such as emergency flood channels; and building of blue-green infrastructure throughout the city.</td>
</tr>
<tr>
<td>Colorado Resiliency Framework</td>
<td>State of Colorado</td>
<td>Plan developed to represent Colorado’s long-term investment and commitment to a more resilient future following the natural disasters that have impacted the state. The Framework was created through the engagement of thousands of Coloradans, identification and analysis of risks and vulnerabilities from hazards and changing conditions, and the identification of action items for state implementation.</td>
<td></td>
<td>Defines Resiliency as “The ability of communities to rebound, positively adapt to, or thrive amidst changing conditions or challenges – including disasters and climate change – and maintain quality of life, healthy growth, defensible values, and conservation of resources for present and future generations.” Five Framework Resiliency Goals: - Risk: Reduce risk to Colorado communities. - Planning: Enhance resilience planning capacity in Colorado communities. - Policy: Develop, align, and streamline policies to empower resiliency. - Culture: Create a culture that fosters resiliency, instilling an inherent sense of responsibility among all. - Investment: Ingram resiliency into investments in Colorado. Six Core Resiliency Sectors: Community, Economic, Health and Social, Housing, Infrastructure, and Waterlines and Natural Resources. “See opening sentence for each sector description to learn what it means for each to be ‘resilient.’” *Resiliency Prioritization Criteria on page 3-5 is also worth considering in terms of a model for decision-making support.</td>
</tr>
<tr>
<td>Baltimore Combined All Hazards Mitigation and Climate Adaptation Plan</td>
<td>City of Baltimore</td>
<td>Updated HMP designed to better help the city plan for existing hazards while also preparing for future climate change impacts. It considers climate impacts across four sectors (infrastructure, buildings, natural systems, and public services), outlines 50 strategies, and recommends 231 actions to protect and prepare the city for changes that are underway.</td>
<td></td>
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<tr>
<td>Chapter 5 of the Baltimore Disaster Preparedness and Planning Project addresses hazard mitigation and climate adaptation strategies and actions. It is a very thorough, comprehensive report that can be extremely valuable resource in providing ideas regarding resilience in each element of the DC Comprehensive Plan. In addition, due to the two cities close proximity, strategies and actions in Baltimore are very relevant to DC.</td>
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Resilience Advisory Group

• Intergovernmental Representation
  ▪ District/federal/regional agencies

• Advance Survey
  ▪ Helped ID key resilience issues/topics and other relevant/ongoing activities

• Group & Individual Agency Meetings
  ▪ Provided critical expertise, knowledge, and input throughout process
  ▪ Helped define Resilience for DC
Resilience Issues/Topics

- Extreme Heat
- Critical Infrastructure
- Flooding
- Extreme Weather
- Sea Level Rise
- Air Quality
- Cultural Icons
- Emergency Response 
- Stormwater Management 
- Trees 
- Land Use 
- Metro Disruptions 
- Planning 
- Climate Change Impact On Natural Areas 
- Community Development 
- Deteriorating Infrastructure 
- Demographic Change 
- Terrorism 
- Psychological Trauma Following Disasters 
- Climate Risks 
- Sea Level Rise 
- Strong Social Networks 
- Neighborhood Services 
- Distribution Of Resources 
- Finite Resources 
- Water Quality 
- Metro Disruptions 
- Demographic Change 
- Vulnerable Populations

- Cultural Icons 
- Air Quality 
- Distribution Of Resources 
- Strong Social Networks 
- Vulnerable Populations
Resilience Issues/Topics

Key Themes

- Population growth, social equity, development pressure in natural areas, impacts to air and water quality
- Extreme weather events (e.g., heat, heavy snow, precipitation), nuisance flooding, sea level rise
- Aging/deteriorating infrastructure, service disruptions (utilities, transportation, social services, etc.)
- Emergency response/recovery, protection of historic/cultural assets
- Behavioral concerns – psychological trauma following disaster event, neighbor to neighbor connections & strong social networks
### Resilience Issues/Topics

<table>
<thead>
<tr>
<th>Chronic Stresses</th>
<th>Acute Shocks</th>
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<tbody>
<tr>
<td>Aging Infrastructure</td>
<td>Coastal Storm</td>
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<td>Crime and Violence</td>
<td>Cyber Incident</td>
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<tr>
<td>Economic Inequality</td>
<td>Earthquake</td>
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<tr>
<td>Economic Shifts</td>
<td>Extreme Temperatures</td>
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<td>Environmental Degradation</td>
<td>Flood</td>
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<td>Financial Capacity</td>
<td>Government Shutdown</td>
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<td>Homelessness</td>
<td>Hazardous Material Release</td>
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<td>Insufficient Access to Healthy Foods</td>
<td>Infrastructure Collapse/Failure</td>
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<tr>
<td>Insufficient Access to Affordable Healthcare</td>
<td>IT System Failure</td>
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<tr>
<td>Insufficient Access to Parks and Open Space</td>
<td>Severe Weather</td>
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<tr>
<td>Insufficient Access to Quality Education</td>
<td>Terrorism</td>
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<td>Lack of Affordable Housing</td>
<td>Transportation Incident</td>
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<tr>
<td>Lack of Strong Social Networks / Cohesion</td>
<td>Urban Fire</td>
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<td>Unreliable Transportation System</td>
<td>Utility Failure</td>
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<tr>
<td>Sea Level Rise</td>
<td>Winter Storm</td>
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<tr>
<td>Social Inequity</td>
<td></td>
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<tr>
<td>Unemployment</td>
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</tbody>
</table>
Defining **Resilience** for the District

• **Examples/Models for Urban Resilience**
  ▪ 100 Resilient Cities (100RC)
  ▪ Case studies from other US cities

• **Existing Definitions**
  ▪ Helped identify key components / themes
Stakeholder Interviews

• Deep Dive with Key Agencies
  ▪ Connect with existing resilience initiatives for the District
  ▪ Identify specific ways the Comprehensive Plan can help

• Learn From the Experts
  ▪ Local thought leaders
  ▪ Resilience champions from other cities
Public Meetings

[Image]

[What is Resilience?]

**Draft Definition**
Resilience for the District of Columbia is the capacity of individuals, neighborhoods, institutions, businesses, and systems to thrive in an inclusive manner amidst challenging conditions and to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events.

**Why now?**
- District is vulnerable to natural & man-made hazards, including flooding, extreme heat, sea level rise, and terrorism.
- Hazards pose threats to residents’ safety, health, and quality of life and to the District’s economy, government, and infrastructure.
- Multiple recent District government efforts to address these issues (such as DC become more resilient)
- Washington, DC is now part of 100 Resilient Cities global initiative

**What will we produce?**
New Resilience Element and a framework to integrate resilience into existing Citywide and Area Elements.

[Diagram]

- Draft Guiding Principles
  1. Address the severity of stresses & shocks
  2. Recognize & maximize the co-benefits of resilience solutions
  3. Be flexible and opportunistic
  4. Address social & economic equity
  5. Empower the community to be resilient
  6. Address current and potential future impacts
  7. Protect cultural and historic structure and landscape
  8. Address social and economic infrastructure
  9. Create redundant and reliable systems
  10. Promote effective governance and leadership

- Context for Resilience
- Draft Guiding Principles
- Examples of Stresses & Shocks facing the District that Affect the City’s Resilience
Guiding Principles for Policy Development

1. Address the diversity of stresses and shocks.
2. Recognize and maximize the co-benefits of resilience policies and actions.
3. Be flexible and opportunistic.
4. Address and promote equity.
5. Empower the community to be resilient to identified hazard threats.
6. Address current and potential future impacts from a changing climate.
7. Protect cultural and historic assets and landscapes.
8. Address social and economic infrastructure.
9. Create redundant and reliable systems.
10. Expand partnerships to address complex problems and resolve interconnected issues.
Content Development

• Resilience introduced as key theme in *Framework Element*

• 81 resilience policies and actions drafted for integration *throughout* existing Citywide Elements

• 20 policies and actions drafted for integration *throughout* existing Area Elements

• No stand-alone Resilience Element
Resilience in Framework Element

• Resilience in the District is defined as the capacity to thrive amidst challenging conditions by preparing and planning to absorb, recover and more successfully adapt to adverse events.

• The District will leverage policies and target specific actions to reduce the immediate impact of shocks and stresses and facilitate long-term recovery in the establishment of resilience for all residents across the city.

• Community resilience is directly related to the ability of a community to use its assets to improve the physical, behavioral and social conditions to withstand, adapt to, and recover from adversity.

• Resilience in the District is dependent upon an active and collaborative group of stakeholders beyond government.
Resilience Policies & Actions

• Built & Natural Environment
  ▪ Housing
  ▪ Infrastructure
  ▪ Transportation
  ▪ Natural environment
  ▪ Historic and cultural resources

• Community Resilience
  ▪ Health and equity
  ▪ Community engagement
  ▪ Economy

• Leadership & Strategy
  ▪ Governance
  ▪ Stakeholder collaboration and public-private partnerships
What We Learned

• The overall concept of resilience for the District must be kept **broad** and **inclusive**

• Need to create a clear **framework** that helps guide new resilience content for the Comprehensive Plan

• Need to be specific on the **key topics** for resilience (identify “what’s in and what’s out”)

• Need to develop a **clear** approach for resilience integration (throughout existing chapters vs. separate new chapter)

• Leverage existing resilience initiatives and promote **consistency** and **collaboration** across agencies

• Resilience is not just about what government can do. It takes a **whole community** to become a resilient city
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