Harrison Newton MPH, CPH
Director, 100RC Launch
Office of the City Administrator
harrison.newton@dc.gov
URBAN RESILIENCE

Is the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.

Source: 100 Resilient Cities
Understanding the economic benefits of resilience

- **Lower losses**
  - Reduced direct loss
  - Reduced indirect loss in lost revenues and taxes

- **Higher productivity**
  - Better economic performance
  - Capacity to invest long term even during periods of stress

- **Faster recovery**
  - Lower damage and better preparation drives faster return to normal

Chronic stress

Acute event

City economic performance
The 100 RC Approach

1. DC must establish a high-profile, high-ranking **Chief Resilience Officer** with direct Mayoral access to lead the creation and deployment of a Resilience Plan or Strategy.

2. DC must convene a “best in class” group of public-private stakeholders to set a transformative resilience agenda. The outcomes of this effort should be paradigm-shifting.

3. The Mayor must be conversant and aware of the major shocks and stresses listed in the application and how these issues inter-relate.

4. DC must be ready to be an active and engaged participant in the global fraternity of cities.
Our Proposal: DC’s Selected Acute Shocks and Chronic Stresses

Our 4 “Shocks”
1. Terrorism
2. Flooding
3. Infrastructure Failure
4. Heatwave

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

DC
Floodplain Governance and Administrative Strategies

- Unify floodplain governance and mitigation. By developing a memorandum to outline responsibilities and internal procedures, the District can better ensure compliance with the National Flood Insurance Program.

- Adopt Appendix G of the International Building Code. This would unify permit review for interior and exterior work in flood-hazard areas within a single agency.

- Conduct routine meetings among relevant stakeholders. By establishing regular floodplain management meeting similar to those for the District’s MS4 program, the District can promote coordination among District agencies.

- Amend DOEE organic legislation to specifically authorize direct flood-resilience grants to property owners.
Planning Strategies

• Update Comprehensive Plan to include an element addressing adaptation to climate change. By including climate change, the city can set the stage for zoning regulations that will help guide land-use decisions in years to come.

• Consider climate change in the District’s All-Hazard Mitigation Plan and related emergency response plans. New guidelines require states (and the District) to account for future climate impacts in the HMP, required to qualify for certain federal funding. Including climate impacts will help direct federal disaster recovery dollars to promote long-term resilience.

• Consider climate change when making public investments. Considering climate change will protect taxpayer investments and make it easier for the District to comply with new floodplain requirements for certain federally funded projects.
Land Use Strategies

- Require or extend setbacks and buffers in waterfront areas, with allowances for variances where appropriate.

- Waterfront setbacks and buffers that account for climate-impacts will ensure that future development is sited, to the extent feasible, out of areas that will be vulnerable to flooding.

- Extend Flood Hazard Rules to the 500-Year floodplain. Climate projections suggest that the 500-year (0.2 percent annual chance) floodplain closely mirrors anticipated relative sea-level rise and storm surge, making it a readily understandable demarcation line for areas in need of future protection.

- Attempt to site new critical facilities outside the 500-Year floodplain and develop plans to flood proof existing critical facilities or new critical facilities that cannot be located outside the 500-Year floodplain.

- Consider requiring an adaptation checklist for large-scale new development and redevelopment. Requiring completion of a climate-change checklist will help developers and officials identify potential vulnerabilities early in design and permitting, allowing for mitigation.
Financial and Market-Based Incentive Strategies

- Offer rebates, grants, or low-interest loans to help private landowners and businesses pay for flood-resilience measures. Subsidizing resilience measures may lead to broader voluntary adoption and could help ensure that lower and middle-income homeowners can also reduce flood risks to their homes and businesses.

- Provide tax credits or deductions for conservation of floodplains and buffers. Tax incentives can be used to help promote the conservation or restoration of natural flood protection.

- Offer buyouts of high-risk properties or develop a plan to offer buy-outs in the event of a flood disaster. Moving properties and people out of harm’s way permanently reduces the risk of flood-related damage and injury.
Our Proposal: Positioning our Chief Resilience Officer

Benefits
- Close Access to performance goals for all agencies.
- Influence over daily agency activity.
- Influence in budget process.
- Daily access to City Administrator, frequent access to Mayor.
- Convbing power.
Emerging Vision for a DC Chief Resilience Officer

Implementation: Oversight and support

Process: Creating structure for consensus

Tactical Scale-Ups: Supporting Mayoral priorities

Forging meaningful partnerships: Balancing interests

Adaptation and Accountability: Ensuring the District breaks the cycle.
CRO in DC: Addressing Implementation Challenges

• Many city plans task a lead agency with implementation, but directives affect multiple agencies
CRO in DC: Addressing Implementation Challenges

- Many District “after-action” reports provide complex directives that call for cultural or systemic change within other different agencies/orgs.

- A preliminary review of the Navy Yard After Action report found 60% of recommendations focused on functional improvements.

- Nearly 50 percent of the recommendations had inter-agency elements.
Emerging Ideas About Resilience Leadership

Promote innovative, transformative thinking among agency leaders

Catalyzing executive leadership: Promote agency lead involvement in cross-cutting issues.

Develop vision informed by the leader most aware of all political, financial, and stakeholder dynamics on his/her turf.

Barrier Breaker: Swiftly able to alter agency course.

The relationship between the Cabinet and CRO must be one that creates consensus on the strategic priorities.
Emerging Ideas about Resilience Stakeholder Involvement

Many approaches needed to "move the needle" on our most intractable problems.

Opportunities to augment government initiatives with private support.

Gap identification by stakeholders produces entirely different information.

Solution sets by private sector, NGOs can bring value to government, without direct government involvement.

The Resilience Dividend: A positive agenda should create opportunity for investment and shared savings.
Integration of existing efforts, ensuring implementation

FLOOD RISK MANAGEMENT IN THE DISTRICT OF COLUMBIA

Resilience Amendment to the Comprehensive Plan

District Preparedness Framework

Age-Friendly DC

Resilient DC

SUSTAINABLE DC

$  

Home

Health

Energy

Waste
A focus on context: Emergency Planning and DC’s Chronic Stresses
Inequality as a “lens”: Washington, DC is segregated along both income and racial lines

<table>
<thead>
<tr>
<th>Rank</th>
<th>Metro areas</th>
<th>Segregation index¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chicago</td>
<td>-18.6</td>
</tr>
<tr>
<td>2</td>
<td>Atlanta</td>
<td>-14.5</td>
</tr>
<tr>
<td>6</td>
<td>Washington, DC</td>
<td>-11.1</td>
</tr>
<tr>
<td>10</td>
<td>New Orleans</td>
<td>-10.2</td>
</tr>
<tr>
<td>13</td>
<td>New York</td>
<td>-8.7</td>
</tr>
<tr>
<td>25</td>
<td>Los Angeles</td>
<td>-4.5</td>
</tr>
<tr>
<td>30</td>
<td>Boston</td>
<td>-2.9</td>
</tr>
<tr>
<td>35</td>
<td>Norfolk, VA</td>
<td>-1.4</td>
</tr>
<tr>
<td>78</td>
<td>Oakland, CA</td>
<td>3.6</td>
</tr>
<tr>
<td>100</td>
<td>Irvine, CA</td>
<td>11.0</td>
</tr>
</tbody>
</table>

¹ Degree to which cities are both racially diverse and racially integrated

SOURCE: Census data, Five Thirty-Eight, ESRI
Affordable housing challenges:

- Among Washington, DC’s lowest income residents, 64% devote half or more of their income to housing.
- 63% of all Section 8 voucher households are located in Wards 7 and 8 and only 7% live in Wards 1, 2, or 3.

Housing costs have increased faster than incomes:

<table>
<thead>
<tr>
<th>Changes in income and rent for District renters</th>
<th>Percent change, 2002-2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom</td>
<td>0%</td>
</tr>
<tr>
<td>20-40%</td>
<td>0%</td>
</tr>
<tr>
<td>40-60%</td>
<td>9%</td>
</tr>
<tr>
<td>60-80%</td>
<td>22%</td>
</tr>
<tr>
<td>Top</td>
<td>9%</td>
</tr>
</tbody>
</table>

- Income: 0%, 0%, 9%, 22%, 9%
- Rent: 14%, 35%, 44%, 48%, 32%

1 For a unit to be considered adequate, affordable and available, it must: not be substandard; cost, along with utilities, no more than 30% of renters’ household income; and be available to rent.

SOURCE: Urban Institute Assisted Housing Initiative, DC Fiscal Policy Institute, US Census Board
**Stressed transportation system: Washington, DC faces challenges in funding critical transportation infrastructure and faces high congestion**

**Washington, DC will require significant investments to maintain its critical infrastructure**

<table>
<thead>
<tr>
<th>Washington metro area infrastructure funding gap¹</th>
<th>$ Billions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public transportation</td>
<td>16.0</td>
</tr>
<tr>
<td>Roads</td>
<td>7.5</td>
</tr>
<tr>
<td>Bridges</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>24.5</td>
</tr>
</tbody>
</table>

**Washington, DC metro area suffers from high peak hour congestion**

<table>
<thead>
<tr>
<th>Metro area</th>
<th>Annual delay per auto commuter due to congestion², Hours</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington, DC</td>
<td>82</td>
<td>1</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>80</td>
<td>2</td>
</tr>
<tr>
<td>San Francisco</td>
<td>78</td>
<td>3</td>
</tr>
<tr>
<td>New York</td>
<td>74</td>
<td>4</td>
</tr>
<tr>
<td>Boston</td>
<td>64</td>
<td>6</td>
</tr>
<tr>
<td>Seattle</td>
<td>63</td>
<td>7</td>
</tr>
<tr>
<td>Houston</td>
<td>61</td>
<td>8</td>
</tr>
<tr>
<td>Chicago</td>
<td>61</td>
<td>8</td>
</tr>
<tr>
<td>Dallas</td>
<td>53</td>
<td>11</td>
</tr>
<tr>
<td>Atlanta</td>
<td>52</td>
<td>12</td>
</tr>
<tr>
<td>Detroit</td>
<td>52</td>
<td>12</td>
</tr>
<tr>
<td>Miami</td>
<td>52</td>
<td>12</td>
</tr>
<tr>
<td>Phoenix</td>
<td>51</td>
<td>17</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>48</td>
<td>22</td>
</tr>
<tr>
<td>San Diego</td>
<td>42</td>
<td>42</td>
</tr>
</tbody>
</table>

¹ Amount of investment need to maintain and expand critical transportation infrastructure vs. funds that have been earmarked for these investments

² The average annual excess delay commuters experience when traveling during peak hours (“rush hour”)

SOURCE: Metropolitan Washington Council of Governments, American Community Survey
Overreliance on one industry: Washington, DC is more dependent on its top two industries than other large US cities

Washington, DC has one of the greatest concentrations of top industries in the United States

Industry share by metro area

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Largest Industry</th>
<th>Second Largest Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC</td>
<td>Government: 25%</td>
<td>Professional services: 18%</td>
</tr>
<tr>
<td>Houston</td>
<td>Oil and gas: 19%</td>
<td>Manufacturing: 17%</td>
</tr>
<tr>
<td>NYC</td>
<td>Real estate: 17%</td>
<td>Finance: 16%</td>
</tr>
<tr>
<td>SF</td>
<td>Real estate: 15%</td>
<td>Technology: 13%</td>
</tr>
<tr>
<td>Chicago</td>
<td>Real estate: 15%</td>
<td>Manufacturing: 13%</td>
</tr>
</tbody>
</table>

Washington, DC has experienced recent government shutdowns due to various causes

<table>
<thead>
<tr>
<th>Date</th>
<th>Length</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov. 1995</td>
<td>5 days</td>
<td>Budget dispute between the President and Congress</td>
</tr>
<tr>
<td>Jan. 1996</td>
<td>22 days</td>
<td>Budget dispute between the President and Congress</td>
</tr>
<tr>
<td>Feb. 2010</td>
<td>5 days</td>
<td>“Snowmaggedon” blizzard of 18-32 inches of snowfall</td>
</tr>
<tr>
<td>Oct. 2013</td>
<td>16 days</td>
<td>Budget dispute between the President and Congress</td>
</tr>
</tbody>
</table>

Estimated cost of $140M from Oct. 2013 shutdown due to reduction in local economic activity

The 100RC Framework

- **Asset Mapping**
- **Identifying “connective tissue” between shocks and stresses**

**Our Selected Shocks**
- Terrorism
- Flooding
- Infrastructure Failure
- Heatwave

**Our Selected Stresses**
- Affordable Housing
- Stressed Transportation
- Inequality
- Over-reliance on One Industry
Emerging Frame for Resilience

- Planers and program operators must adapt and learn together.
- Shock and stress personnel must be better integrated and expand their thinking.
- We must improve at integrating lessons learned.
- We must provide the laboratory for the innovations we need.
- We must rethink how leadership approaches resilience.
Harrison Newton MPH, CPH
Director, 100 RC Launch

Office of the City Administrator
harrison.newton@dc.gov

http://oca.dc.gov/page/resilient-dc