
SAFER AND STRONGER CITIES

STRATEGIES FOR ADVOCATING FOR FEDERAL RESILIENCE POLICY



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This report offers a menu of federal recommendations organized into five chapters focusing on **infrastructure, housing, economic development and public safety**.

Each chapter includes a set of strategies, background on the issue, explanations of the role of the Federal Government, listing of potential allies in advocating for the recommendations, and relevant examples of current or previous local, state, and federal actions.

To better support city resilience, these recommendations include high level proposals for cities to coordinate with federal government for both legislative and agency actions, which cities can drive forward. Policy and program changes will increase or leverage investment from the private sector are highlighted.

The Appendices include a selected reading list of articles and reports from government and non-governmental organizations, a list of other ideas not detailed into strategies in this report, and a list of contributors to this project.

FOREWORD

100RC's international network has already provided our area's Chief Resilience Officers with invaluable opportunities to connect with, and learn from, their counterparts around the world.

Mayor Mitch Landrieu
New Orleans, LA

Cities nationwide are managing the devastating human and economic impacts of an increasing number of disasters, while working to address the everyday challenges arising from changing economic systems, systemic disinvestment in vulnerable communities and accelerating population growth.

Therefore, it comes as no surprise that local and federal officials are feeling increased pressure to better use existing resources and make communities resilient, safer and stronger. This policy platform contains a series of recommendations that, if enacted, would remove barriers and provide better access to federal resources that local governments use to foster thriving communities.

100 Resilient Cities (100RC) works with cities around the world to help them become more resilient to the social, economic, and physical challenges that are a growing part of the 21st century. Here in the U.S., more than two dozen local governments have appointed 100RC-sponsored Chief Resilience Officers (CROs) to develop and implement strategies to increase urban resilience. Their work seeks to increase the capacity of individuals, communities, institutions, businesses and systems to survive, adapt, and grow in the face of both acute shocks— sudden, sharp events that threaten a city, like earthquakes and floods— and chronic stresses that weaken the fabric of a city on a daily or cyclical basis, like poverty and housing shortages.

This policy document contains a series of recommendations to remove barriers and provide better access to federal resources that local governments use to foster thriving communities.

Working together, cities and their partners have identified many actions that cities can take to increase their resilience, but mayors and city staff cannot do this work alone. Cities rely on partnerships, in many cases with the Federal Government, to make their cities safer and more resilient. Federal grants, loans, loan guarantees, and other federally-backed sources such as mortgage insurance and flood insurance help cities

finance and protect critical investments. Federal regulations and guidance set minimum requirements and provide information to guide cities' decision-making and use of federal dollars. And federally generated data inform project planning and implementation.

The Federal Government has done an admirable job of investing in cities' projects and programs, providing data and technical expertise and regulating private and utility actors. Cities deeply benefit from and value these investments, but they often come with challenges. For instance, while cities rely on federal funds for affordable housing, infrastructure, and small businesses growth, all are authorized by different laws. Each funding source and corresponding law comes with a unique set of regulations, and this complexity can create barriers for cities aiming to use federal funding efficiently for integrated and effective solutions. In addition, while the federal data on flood plains is invaluable to cities, in many places, these data are out date, lacking a reflection of changes to the built environment and climate conditions. 100RC worked with cities and national policy experts from the private, academic, and nonprofit sectors to develop concrete federal policy recommendations aimed at solving the challenges they face in advancing urban resilience.

These federal policy recommendations provide a framework for cities and their champions to advocate for a collective federal resilience agenda. The strategies here are designed to be both ambitious and politically viable, so that in coming years, cities can better use federal resources to ensure the safety, security and stability their residents deserve. This report also identifies potential allies in other organizations advocating for federal solutions to better support communities. We hope that these recommendations will prove useful to cities eager to see federal reforms that can further resilience.

On behalf of the 100RC, we hope mayors, local leaders as well as partners in the Federal Administration will use the following recommendations to facilitate the removal of federal barriers to resilience and spark innovative ideas for collaboration and additional resources to better protect and support the people who need it most.

Sincerely,



Michael Berkowitz

President of 100 Resilient Cities



Otis Rolley

Regional Director, City and Practice Management, North America

Prepared by Enterprise Community Partners, Inc. in collaboration with Climate Resilience Consulting, Georgetown Climate Center and HR&A Advisors, with funding provided by 100 Resilient Cities - Pioneered by the Rockefeller Foundation.

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EXECUTIVE SUMMARY

Resilience is so much more than disaster preparedness; it is a value that guides everything we do in Los Angeles, because we know that today's decisions shape the lives of our children and grandchildren. Our city is proud to have a forward-looking strategy that will strengthen our infrastructure, protect our economy, make our institutions more inclusive, and create safer neighborhoods.

Mayor Eric Garcetti
Los Angeles, CA

The resilience of our cities is critical to the economic well-being of the nation. U.S. cities contribute almost 85% to the national Gross Domestic Product¹ and house over 80% of the nation's citizens.²

Cities therefore have huge responsibilities in ensuring the health, safety and well-being of the business community, industries, and large and diverse populations of residents. Yet America's cities are facing increasingly complex risks caused by increasingly severe weather, socioeconomic inequality and deteriorating infrastructure, which are affecting their ability to meet the needs of their residents and the nation. City resilience is also critical to avoiding costs to the federal government from natural disasters. The number of declared disasters each year has been steadily increasing, and the costs are undeniably expensive.

Just in fiscal years 2011 through 2013 the U.S. government spent \$138 billion in federal taxpayer dollars responding to the impacts of natural disasters.³ Recent statistics from NOAA show a 5-fold increase in the number of billion-dollar disasters from 1980 to 2012.⁴ Recent 2017 storms have had an unprecedented impact on cities like Houston, Miami and San Juan and necessitate an innovative approach to planning housing and infrastructure in flood prone communities.

The number of declared disasters each year has been steadily increasing, and the costs are undeniably expensive.

These events, which are exacerbated by more gradual effects of climate change, such as sea level rise and warming temperatures, can prove devastating to cities' infrastructure, residents, and businesses. Cities are also universally challenged by aging infrastructure, maintenance backlogs, and declining federal budgets that hinder their ability to keep pace with increasing demands for infrastructure investment from growing populations, improving technologies and impacts from changing patterns of extreme weather. In its 2017 report card, the American Society of Civil Engineers gave U.S. infrastructure a grade of D+, demonstrating the significant backlog of overdue maintenance across our infrastructure systems, and a pressing need for modernization.⁵

Systemic stressors like lack of affordable housing further challenge the ability of cities and residents to grow and thrive. For instance, in New Orleans there are only 47 affordable rental units for every 100 very low-income residents.⁶ Federal programs that promote investments in affordable housing are insufficient to meet demands. Furthermore, a sizable percentage of cities' housing stock is not resilient to the effects of extreme weather and climate change: Zillow, an online real estate and rental marketplace, calculates that 1.87 million U.S. homes at all income levels will face increasing risk of flooding from sea level rise.⁷

Because being resilient means more than having levees and wetlands to hold back water, we also focused on combating the longstanding, generational challenges around crime, education, income inequality and striking a balance between human needs and the environment that surrounds us.

Mayor Mitch Landrieu
New Orleans

Businesses are also threatened by the effects of a changing climate and increasing disaster events. While cities drive the national economy, small businesses drive the economy of cities and make up 99.7% of all US employers.⁸ Small firms can be especially challenged by disaster events: the U.S. Chamber of Commerce notes that 43% of small businesses do not recover from natural disasters.⁹ At the same time, the US workforce must keep pace with growing technology demands and emerging opportunities, including in resilience.

Still other systemic challenges affect the ability of cities and residents to thrive and recover from disasters and other shocks. Many cities lack the necessary assets to deal with the cross-cutting issues of mental health, youth needs, and criminal justice. The United States has the highest prison population in the world, with 2.2 million Americans incarcerated¹⁰ and an average cost per-inmate of \$31,286 per year.¹¹ The problems are particularly acute for both the

mentally ill and children with behavioral challenges, who do not have access to support services and may end up in the justice system for relatively minor offenses. After incarceration, many people have trouble finding housing or supporting themselves, and may return to the criminal justice system due to re-offense.

Cities need strong federal partners to manage these challenges. Dozens of federal agencies contribute to the safety, security and stability of our cities. Too often federal programs that are aimed at supporting municipal infrastructure, economies, housing and services fail to adequately ensure that cities, businesses and residents are more resilient to disaster events and other shocks they are facing. This report is intended to help city leaders advocate for common-sense changes in federal law and policy that will help cities enhance the resilience of their communities and meet the needs of their residents and businesses.

REPORT RECOMMENDATIONS

This report includes the following recommendations for politically actionable federal reforms that would better help cities and the nation thrive in the face of changing conditions:

Promote Safe and Resilient Infrastructure. Our modern, urban-centered economy demands strong linkages within and between cities, and our increasingly volatile climate requires cities to be prepared to withstand intense weather phenomena like floods, fires and storms. The Federal Government provides the major funding source for most large-scale infrastructure projects such as flood control projects, water infrastructure, highways, transit hubs and ports, electrical systems, telecommunications systems and more. The Federal Government also sets requirements that recipients of federal funding for infrastructure projects must follow to receive and deploy the money, which provides opportunities to ensure investments improve resilience. The federal government can craft policy and provide resources to attract private sector participation and should:

1. **Create** a National Infrastructure Bank that supports private-public investments in resilient infrastructure, including retrofits.
2. **Align** cost-benefit analyses across federal agencies and require agencies to consider the full life cycle costs and benefits of infrastructure over the asset's design life and in consideration of future conditions.
3. **Cultivate** partnerships between cities and the Defense Department to promote resilience of city assets that are critical to national security and military installations.
4. **Implement** a system that scores infrastructure based on its resilience to better prioritize scarce federal funds.
5. **Coordinate** Federal Government grant-making and permitting related to hazard mitigation and disaster recovery.

Increase Safe and Healthy Housing. A critical part of community health and vitality is ensuring safe housing that is affordable to all households. An expanded supply of affordable housing prevents homelessness, results in better health and educational outcomes, and increases the likelihood of stable employment. Housing also needs to be resilient in the face of extreme weather. The Federal Government plays a key role in ensuring safe, affordable housing, by underwriting housing development, funding rehabilitation programs, and setting standards that contribute to the health and resilience of the nation's housing stock. In addition, in the aftermath of certain severe weather events, the Federal Government provides funding to support city recovery and rebuilding efforts. Cities rely on the Federal Government to help provide safe, healthy and affordable housing for residents. The federal government should invest in our nation's housing stability by:

1. **Expand** the Low-Income Housing Tax Credit by at least 50 percent.
2. **Expand** HUD Community Development Block Grant (CDBG) funding for flexible community development and housing.
3. **Stabilize** and **strengthen** the Pre-Disaster Mitigation program so that cities have greater resources to safeguard housing.
4. **Increase** the allotment of units allowed in the HUD Rental Assistance Demonstration (RAD) program.

Support the Resilience of City Economies. A resilient city must have a healthy and growing economy that provides a range of employment opportunities for individuals throughout city regions and fosters the formation of new businesses and innovation. As awareness of the need for resilience measures grows, cities must not miss the opportunity to train workers to provide the skills and services that will be needed. There are a host of federal programs designed to stimulate the economy through regulatory and market controls that ensure equity, safety and fairness in business operations, and through infrastructure rules, regulation and funding. The Federal Government should:

1. **Grow** local economies through a workforce training program dedicated to promoting the nation's safety and resilience.
 2. **Direct** federal resources for small business to support business continuity, disaster preparedness and post-disaster recovery.
 3. **Engage** the private sector to develop innovative solutions for social and economic problems facing low-income communities.
-

Improve Public Safety and Justice. Our communities and cities should be resilient not only in the face of natural disaster and economic downturns but also in their ability to withstand and prevent social tensions. Criminal justice and law enforcement practices should seek to prevent crime, not only punish and penalize individuals who commit crimes or who are at elevated risk. Cities rely on the U.S. Department of Justice and other federal agencies to help reduce crime and increase access to an array of support services that increase community security. The Federal Government should help cities:

1. **Support** local law enforcement.
2. **Support** a public health approach to reduce violence.
3. **Invest in Evidence-Based Reforms** that reduce crime and incarceration.
4. **Prioritize the Successful Community-Reentry** of formerly-incarcerated persons.
5. **Support Survivors** of violent crime.

INTRODUCTION

This document creates a federal policy platform to enable mayors to advocate for sound policies relating to city resilience initiatives, while reducing federal barriers to local action. This work was developed in collaboration with, and drawing from the expertise of, U.S. cities in the 100 Resilient Cities network, which represents leading cities around the country and the world who are committed to enhancing the physical, social and economic resilience of their communities.

The challenges of globalization, our ever-changing environment, and urbanization - once the causes of many of the City's shocks and stresses, are now initiating a shift for the City; from managing population and economic decline to encouraging us to manage growth and prosperity.

Mayor William Peduto
Pittsburgh, PA

The resilience of our cities is critical to the economic well-being of the nation. U.S. cities contribute almost 85% to national Gross Domestic Product,¹² and house and provide critical services to over 80% of the nation's citizens¹³ as well as a clear majority of our corporations, from the Fortune 1000¹⁴ to small business.¹⁵ Cities are critical actors in ensuring the health, safety and well-being of their business, industries and the large and diverse populations they serve in their regions. For America to thrive, our cities and citizens must prosper and must feel like their insights and perspectives matter.

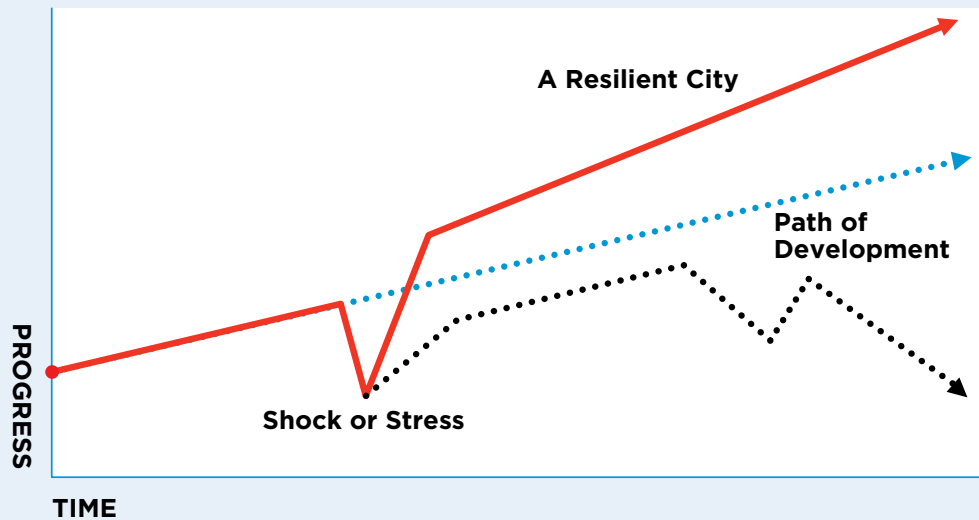
At the same time, cities face unprecedented risks from various shocks and stressors¹⁶ affecting their ability to meet their citizens' needs. City infrastructure is aging and failing to keep pace with growing populations, improving technologies, and changing patterns of extreme weather. Cities have too little affordable rental housing, which is not well-funded and much of it not resilient to the effects of extreme weather.

Cities are also seeking to improve their economic competitiveness and their commitment to improving social justice by providing workforce development opportunities, helping small businesses better manage risks, and passing needed reforms to juvenile justice system and programs affecting ex-offenders.

Urban resilience is defined as 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.

The cities in the 100RC network are committed to enhancing urban resilience, which can be a model for cities everywhere and should be supported and encouraged by the Federal Government. Urban resilience is defined as 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. Strengthening city resilience is a national investment in our economy, strength, security and stability. These recommendations strive to ensure that federal actions are promoting urban resilience initiatives that help cities address current challenges and buffer against future impacts and changes.

Resilient cities aim to improve current development challenges and buffer against shocks and stresses

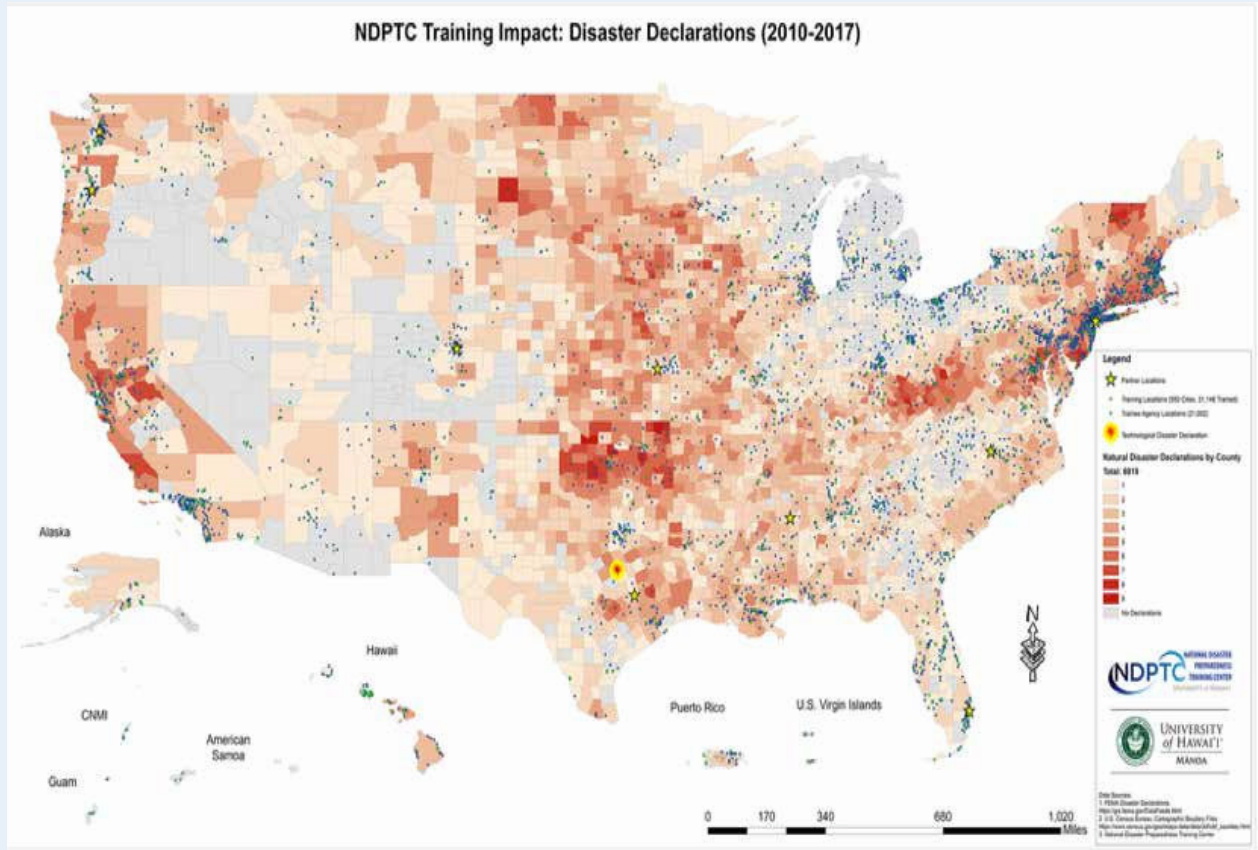


The resilience of cities is also critical to the economic health and prosperity of the nation. In recent legislation and executive actions, Congressional committees and federal agencies have recognized the national economic importance of urban resilience and have made and recommended measures to support local actions to reduce risks. This is in part because the number of disasters declared each year has been steadily increasing, and recovery costs are becoming staggeringly expensive for the federal taxpayer.¹⁷ According to the Government Accountability Office (GAO), during fiscal years 2005 through 2014, the Federal Government obligated at least \$277.6 billion across 17 federal departments and agencies for disaster assistance programs and activities. In 2017 alone, the federal government is on track to spend over \$130 billion on disaster aid and recovery.^{18,19}

Cities and the Federal Government share a desire to reduce these impacts and costs, working together to address these 21st century challenges through better infrastructure, housing, economic and public safety policies.

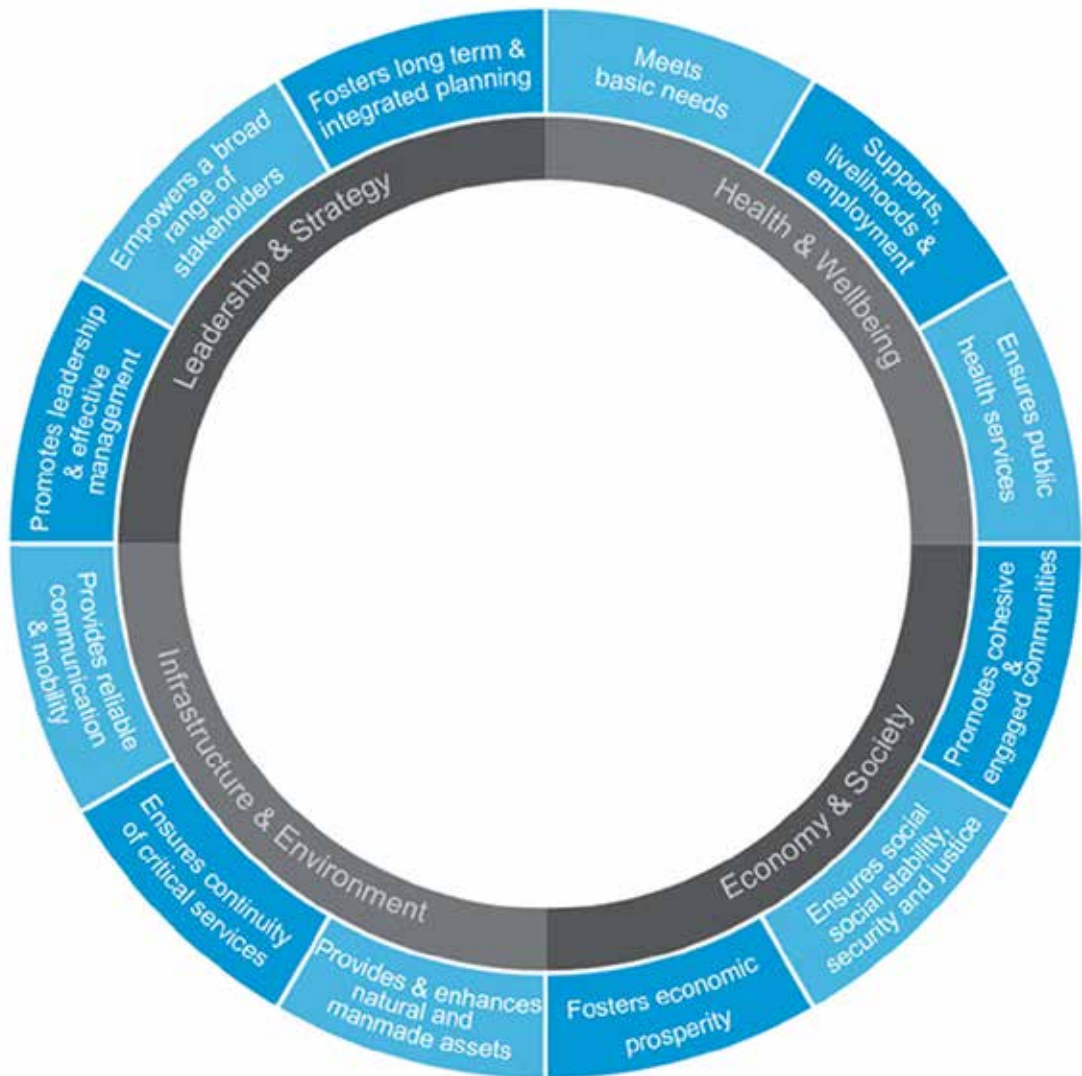
Major Disasters affect most regions in the United States

According to data from 2011 - 2013



NDPTC Training Impact: Disaster Declarations²⁰

City Resilience Framework



The City Resilience Framework has four dimensions and 12 drivers.

The City Resilience Framework (CRF), developed by the Rockefeller Foundation, provides a lens to understand the complexity of cities and the interconnected drivers that contribute to their resilience. As a tool for considering federal policy change, the CRF illustrates how four essential dimensions of urban resilience – Health & Well-being; Economy & Society; Infrastructure & Environment; Leadership & Strategy – help cities face and respond to a wide range of stresses and shocks.

GOAL AND OBJECTIVES OF THESE RECOMMENDATIONS

The goal of this policy platform is to identify politically viable, actionable opportunities for reforming and improving federal programs to ensure the Federal Government can better support city efforts to build resilience. By using these recommendations and strategies, leaders will be able to remove enduring barriers to resilience and create resources and pathways to strengthen communities. These recommendations are actionable and feasible to implement, and will help the nation achieve the following objectives:

Invest – Focus federal resources on, and ease barriers to private investment in, the resilience of cities to expand resilient projects and programs;

Operate – Streamline federal agency interaction to increase efficiency and interaction with local government;

Protect – Enhance the nation’s safety and stability by protecting cities from physical and economic harm to reduce disruptions for disasters;

Build – Incorporate resilient design, construction and operation in infrastructure systems to ensure the continuity of critical services and support job creation; and

Innovate – Encourage innovation in repairing and rebuilding infrastructure to develop a modern workforce and economic competitiveness.



Tulsa

CITY INNOVATIONS IN RESILIENCE

Across the U.S. cities are demonstrating many innovative approaches for enhancing the resilience of communities and reducing long-term risks, while providing best-practice models for other cities and the Federal Government. These cities are transforming metropolitan areas with a range of resilience projects, programs and policies, in some cases supported by federal funding or technical assistance, and in all cases providing tangible benefits to the nation.

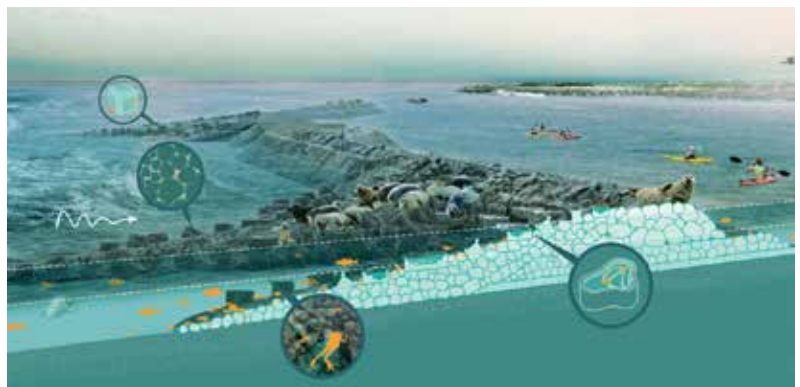
The cities of **Atlanta, Chicago, New Orleans, Norfolk, Pittsburgh, Seattle, San Francisco, Los Angeles, New York, Tulsa** and **Washington, D.C.** are utilizing innovative infrastructure strategies to manage increasing precipitation and storm water overflows.

Los Angeles' Stormwater Program is renowned for the ability to control for both flood and pollution abatement. Utilizing funding from federal, state and local grants, the program also takes advantage of voter approved Proposition O, which authorizes the City of Los Angeles to fund projects upwards of \$500 million to prevent and remove pollutants from waterways and ocean. One site that has benefited from this is the South Los Angeles Wetlands Park, an expansive and innovative project using urban runoff from storm drains, sending trash and pollutants through constructed wetlands for treatment. Several years since construction, the wetlands have matured and have become established.



Honolulu, Greater Miami, New York City and **San Francisco** are all using natural and nature-based approaches such as constructed wetlands and living shorelines to dampen the impacts of storm surges along their shorelines.

New York City's Staten Island Living Breakwaters Project created in HUD's Rebuild by Design competition leverages \$60 million in CDBG-DR funds to implement an ecologically enhanced breakwater system to address wave energy and shoreline erosion at Tottenville.



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INTRODUCTION

The cities of **Boston, Boulder, Los Angeles, Pittsburgh and New York** are installing microgrids that can keep critical community assets powered during outages.

In 2015, Boston released the Boston Community Energy Study, which explores the potential for Community Energy Solutions (local energy generation, energy storage technologies, microgrids and district energy generation) and identifies opportunities for the city to create a more resilient power system, able to better withstand large weather events. One key finding was that the city and consumers could realize over \$1 billion in savings and community benefits.²²



Chicago, New Orleans, New York City, Norfolk and Washington, D.C. are developing business incubators to spur job creating and lift workers out of poverty

Launched in 2015, Strive New Orleans provides soft skills training and coaching for people struggling to find work.



Atlanta, Boston, Dallas, Oakland, Denver, Los Angeles and **Seattle** are integrating public transit and affordable housing.

The Avondale Station Transit Oriented joint development project is a partnership between the Decatur Downtown Development Authority and the Metropolitan Atlanta Rapid Transit Authority (MARTA). This former parking lot will include 92 affordable senior housing units (20%) in line with the agency's affordable housing goal stated in the Transit Oriented Development Guidelines, as well as over 400 market rate units, retail and institutional space, and a public plaza.²³



In Washington state, the Village at Overlake Station Transit Oriented joint development project is a partnership between King County, the King County Housing Authority and a private developer, using tax exempt financing and federal housing tax credits to build 308 affordable housing units, along with 536 parking spaces and a childcare center.²⁴



New Orleans, New York City, Norfolk, Los Angeles and San Francisco are retrofitting critical infrastructure to improve resilience to impacts from earthquakes, extreme temperature and flooding.

Because of future sea-level rise predictions for the region, Seattle is reconstructing the Elliott Bay Seawall, along its downtown waterfront, to protect critical transportation routes from flooding, meet current seismic standards and improve ecosystems, including salmon migration.²⁵ This project will integrate recreational amenities to enhance community access to the waterfront, enabling the site to enhance everyday life for residents, downtown workers and visitors.



Honolulu, Los Angeles, New York, Norfolk, Seattle, San Francisco, and Washington DC have created state of the art Emergency alert systems.

Emergency alert and warning systems

Using best in class communication platforms can enable a city to stay connected during and following a crisis. Los Angeles County has implemented an emergency mass notification system that is used to contact County residents and businesses via recorded phone messages, text messages or e-mail messages in case of emergency. The system, called Alert LA County, is used by the County's Emergency Operations Center to notify residents and businesses of emergencies or critical situations and provide information regarding necessary actions, such as evacuations. The system utilizes the telephone companies' existing 911 database and is able to contact land-line telephone.



Several Cities are increasing emergency response and making long-term changes to the built environment to address the impact of extreme heat on public health.

Honolulu Community College's Fire & Environmental Emergency Response Program provides training for entry level skills and professional development opportunities.²⁶



Many cities around the nation are developing robust plans to support mid and long-term recovery after a disaster event.

Seattle's Office of Emergency management has creating an award winning model emergency management program that incorporates risk reduction for residents, communities and businesses.



FEDERAL ROLE IN CITY RESILIENCE

To undertake this important and challenging work cities need dedicated support from federal partners in both Congress and the Executive Branch.

The Federal Government plays critical roles that are essential to the success of city resilience initiatives:

- Federal agencies provide critical data, science and tools to help communities understand their social, economic and environmental risks, and plan for and mitigate these risks.
- Federal funds assist with rebuilding aging and deteriorating infrastructure and providing important social services.
- The Federal Government provides flood insurance, often the last line of defense in the event of a flood loss.
- Federal agencies enforce regulations to protect public health and the environment.
- Recommendations in this report focus on modifying federal roles and generating additional resources to empower city resilience initiatives.
- The Federal Government and Congress determine resource allocation to states, counties and cities through many different authorities. They regulate activities and provide useful tools to promote and protect communities. The following chart demonstrates whether they provide funding, whether they regulate activities that they have not funded, and whether they provide data functions.

Leading Federal Agency and Departments Impacting City Resilience

	Acronym	Funding	Regulation	Data Analysis & Production
Department of Housing and Urban Development	HUD	✓	✓	✓
Department of Homeland Security/ Federal Management Agency	DHS/ FEMA	✓	✓	✓
Environmental Protection Agency	EPA	✓	✓	✓
National Aeronautics and Space Administration	NASA			✓
National Oceanic and Atmospheric Administration	NOAA			✓
Office of Management and Budget	OMB		✓	
Small Business Administration	SBA	✓	✓	✓
U.S. Army Corps of Engineers	USACE		✓	✓
U.S. Department of Agriculture	USDA	✓	✓	✓
U.S. Geological Survey	USGS			✓
Department of Treasury	DOTR	✓	✓	
Department of Defense	DOD	✓		✓

This report highlights both legislative and agency actions that would help cities in their efforts to enhance community resilience. The powers and programs of these federal agencies are governed by legislation and appropriations determined by Congress. Federal agencies can in many cases use existing programs and authorities to enact change that will support local resilience work, however, where congressional action is needed, this report indicates statutory solutions for enactment by Congress.

Cities have identified opportunities to improve three key functions of Federal Government that will strengthen the nation against shocks and stresses:

Funding - The Federal Government is a key funder of cities' resilient infrastructure, affordable housing, economic development and criminal justice services, in addition to being a major force in disaster response and recovery. Cities lack sufficient resources for all needed resilience investments in infrastructure, housing, economic development, criminal justice and disaster risk mitigation. Cities large and small report it is too difficult to use available moneys in the ways that are needed, and the federal funds available do not encourage, and in some cases, hinder private investment in resilience. Several policy recommendations in this report address these barriers, including: shoring-up funding for Community Development Block Grants (CDBG), developing a national infrastructure bank and funding workforce development programs for resilience projects to create job opportunities.

Our ability to not only bounce back, but rather bounce forward, has been a theme and a spirit that has carried us through other challenges over the years. We stand together now to make San Francisco a city that everyone can have an opportunity to call home.

Mayor Edwin Lee
(Former Mayor)
San Francisco, CA

Regulation - Federal regulations are foundational to the health and functioning of America's cities, such as setting minimum floodplain regulatory requirements and ensuring clean and safe drinking water. These regulations can help or hinder city resilience initiatives.

Data & Technical Guidance - The Federal Government provides critical science, data and tools to help cities understand their risks and develop strategies to reduce those risks in their communities. Federal initiatives like the National Climate Assessment, Federal Emergency Management Agency flood maps, U.S. Climate Resilience Toolkit and Regional Integrated Science Assessments are key in helping cities understand and reduce risks. These initiatives should be maintained, strengthened and improved. At the same time, technical guidance, such as resilient infrastructure metrics, will help cities be safer, stronger and more resilient.

This report offers a menu of federal recommendations organized into four chapters focusing on infrastructure, housing, city economies and public safety. Each chapter includes a set of strategies, background on the issue, an explanation of the role of the Federal Government, potential allies in advocating for the recommendations, and relevant examples of current or previous federal, state, and local actions. To better support city resilience initiatives, these recommendations include elevated level proposals for both legislative and agency actions. Policy and program changes that will increase or leverage investment from the private sector are highlighted. The Appendices include a selected reading list of articles and reports from government and non-governmental organizations, and a list of contributors to this project.



Chicago

1

PROMOTE SAFE AND RESILIENT INFRASTRUCTURE

These cities have identified infrastructure improvements among their resilience challenges

Atlanta
Boston
Boulder
Chicago
Dallas
El Paso
Greater Miami & the Beaches
Honolulu
Los Angeles
Louisville
Minneapolis
Nashville
New Orleans
New York City
Norfolk
Oakland
Pittsburgh
San Francisco
San Juan
Seattle
St Louis
Tulsa
Washington DC.

VISION

Cities need help building, maintaining and restoring natural and critical infrastructure systems that provide important services, protect citizens and reduce physical vulnerability, while connecting urban assets and neighborhoods.

Infrastructure systems should be resilient, able to withstand, respond to and adapt more readily to shocks and stresses, and ensure the continuity of infrastructure networks and services over time. Resilient infrastructure systems use robust and redundant design to ensure that possible failures be predictable and safe. Resilient systems are designed to produce multiple benefits and maximize value for the citizens they protect.

WHERE WE ARE TODAY

Cities rely on a range of infrastructure projects for the health, safety and prosperity of their communities. Roads, transit, water, electric, gas and telecommunications networks are the lifelines of a community, providing critical functions and day-to-day services for businesses and households. Universally, cities in the 100RC network report that inadequate investments in infrastructure systems are threatening the resilience of their communities. Infrastructure systems across the U.S. are aging and susceptible to failure, while at the same time being relied on by ever-expanding populations of users. Changing weather patterns further complicate these challenges.

Underinvestment, strained budgets and the pressure of deferred maintenance can be especially profound in America's poorest neighborhoods, where crumbling infrastructure, and other inequities, are eroding community well-being and hindering the ability of city officials to maintain critical services and address system failures. Atlanta, Dallas and Tulsa report that a lack of transit lines between poor communities and jobs affects connectivity, equity and local economies.

The current system of infrastructure investment is inadequate and ineffective on several fronts:

As a nation, we are underinvesting in the infrastructure systems that provide the backbone of the U.S. economy. Infrastructure investment has not kept pace with a growing population, particularly in cities. This creates increased maintenance backlogs, in addition to much needed capital investment to grow service capacity. With declining budgets for infrastructure investment, cities and states often rely on disaster recovery assistance to make needed retrofits, however this money only flows after a disaster has already occurred, when impacts and economic consequences cannot be avoided.

Infrastructure systems are not being built or retrofitted at sufficient levels to withstand changing weather patterns, extreme weather events and future climate conditions. Flooding, extreme heat and changes in freeze-thaw patterns will put increasing pressure on our infrastructure systems and make them increasingly susceptible to catastrophic failures, which threaten lives and livelihoods.

Infrastructure failures

Infrastructure failures can cost cities, regions and the nation billions of dollars in lost revenue, emergency clean-up costs, and long-term disaster recovery. The consequences of infrastructure failures were starkly illustrated in the New York-New Jersey region during Hurricane Sandy, where the storm created widespread failures of wastewater treatment facilities, causing 11 billion gallons of sewage to spill into the region's waterways. Electrical grid outages caused more than 4.5 million people to lose power for as many as 10 days shutting down businesses and transit across the region.

Much existing infrastructure, built in the early 20th century, is becoming obsolete and it is not keeping pace with the rapidly changing technological needs of cities and communities. Many cities and electrical utilities are seeking to modernize the electrical grid to improve security and better integrate renewable energy. These types of "smart grid" technologies ensure reliable energy, can reduce disruptions during outages and reduce operational costs, however modernizing the grid requires a significant monetary investment.

Developing a microgrid

Through a partnership with the New Jersey Board of Public Utilities, the U.S. Department of Energy and the Federal Transit Administration, New Jersey Transit is developing a microgrid consisting of a new central natural gas power plant and distributed, renewable energy sources. The microgrid, known as NJ Transit Grid, will provide reliable power for critical portions of the NJ Transit rail system when the centralized grid is interrupted due to extreme weather events or other causes.

Infrastructure investments are made in agency silos and fail to adequately recognize interdependencies between systems or opportunities to design projects that deliver multiple community benefits and services. For example, transportation agencies design roads and highways without considering or mitigating negative effects on water quality and flooding. Where transportation and environment

agencies work together, however, roads and highways can be designed to integrate green infrastructure approaches to manage storm water and flooding and increase the cost-effectiveness of projects.

Innovative Integration of Roadway and Storm Water Infrastructure

Green infrastructure is one resilience strategy that can help cities realize multiple benefits. It is being used in Pittsburgh, where The *City-Wide Green First Plan* calls for green infrastructure for managing storm water runoff and creating multi-benefit street improvement projects³⁴. The strategy is also being deployed in Oakland, where the city aims to use green infrastructure to reduce urban heat island effect, while also creating habitat and improving air quality and community experience.³⁵

Rebuild by Design

The benefits of multi-purpose infrastructure projects are being demonstrated by the Rebuild by Design projects that are being implemented in New York, New Jersey and Connecticut. Following Hurricane Sandy, the Department of Housing and Urban Development, in partnership with The Rockefeller Foundation and others, launched the Rebuild by Design competition, which called on multidisciplinary teams of experts to foster the development of innovative resilience approaches for mitigating future flood risks in the Hurricane Sandy-affected region. These projects are demonstrating how to design disaster recovery projects that reduce flood risks, while delivering multiple other community benefits. For example, in Hoboken, NJ the city is integrating parks into flood protection structures to reduce risks during extreme storm events while also providing everyday social and recreational benefits during sunny day conditions.³⁶

Fortunately there is strong political interest in investing in infrastructure, creating opportunities for cities to make infrastructure improvements needed to meet current demands, and ensure reliability of the services they provide. President Trump has called for an infrastructure package of up to \$1 trillion and reiterated that investment in America's inner-cities will be a top priority.³⁷

Infrastructure investment will also help bolster the economy, create jobs, and ensure that our cities can continue to function as the economic engines for our nation. In 2016, the President's Economic Recovery Advisory Board noted that one dollar of infrastructure spending boosts gross domestic product by \$1.59.³⁸ Infrastructure investment makes sound fiscal sense, and will help build America's strength while increasing community stability. As federal leaders consider how and how much to invest in the nation's infrastructure, there are opportunities to make reforms that ease federal barriers and better promote resilient, multi-purpose infrastructure projects.

FEDERAL ROLES

The Federal Government provides the major funding source for most large-scale infrastructure projects such as water infrastructure, highways, transit and ports,

electrical systems, telecommunications systems, flood control projects and more. In 2014, \$416 billion was invested in infrastructure with federal investment accounting for \$96 billion while state and local governments spending \$320 billion³⁹. Federal investment in infrastructure is primarily directed through discretionary spending, made through regular appropriations from Congress. But discretionary spending has declined in recent years across the board.⁴⁰ The Federal Government is focusing increasingly on government financing, capitalizing programs that provide loans rather than grants, including State Revolving Funds, the Transportation Finance & Innovation Act (TIFIA) and the Water Finance & Innovation Act (WIFIA).

The Federal Government also sets requirements that recipients of federal funding for infrastructure projects must follow to receive and deploy the money, including planning processes, benefit-cost analyses, and certain standards related to siting and construction of infrastructure. In addition to reforming how infrastructure is funded and financed, the Federal Government should modify other processes and create new mechanisms to encourage resilient infrastructure design.

1

Strategy: **Create a National Infrastructure Bank to further private investments in resilience****CHALLENGE**

The US has historically funded infrastructure development through states and cities but while the need for infrastructure investment has been increasing, public sector funding has been declining over the last several decades. Current federal systems for funding infrastructure investment also make it difficult for cities and states to leverage private financing to modernize and ensure the longevity of infrastructure systems. Private financing is a valuable tool for cities to address the challenge of rebuilding aging, undersized and failing infrastructure systems. The Federal Government can create mechanisms, like a National Infrastructure Bank, to help ensure a robust private sector role in city infrastructure investment.

In Tulsa, we are serious about bringing all the resource at our disposal to address racial disparities in our city. If our city is to be truly resilient, we must address these honestly and strategically.

Mayor G.T. Bynum
Tulsa, OK

Currently, the delivery system for infrastructure financing is inadequate. The use of private financing for infrastructure projects in the United States is not robust, in part because financing requires a revenue stream to pay back the loan. Infrastructure service fee structures do not account for the full cost of service, repair and maintenance and thus, in too many cases, private investors do not deem these projects to be financially prudent.

Financing is also particularly challenging for cross-sector and multi-benefit projects, since there is no single structure allowing for government dollars to leverage private capital. Federal funding and financing flow from sector-specific,

programs such as the State Revolving Funds for water, or the Highway Trust Fund and TIFIA for transportation. This system limits opportunities to design and construct innovative infrastructure projects that provide multiple public benefits, such as green infrastructure projects in transportation improvements, and multi-modal transportation projects that can improve public health, increase community connectivity, and increase land values, among other benefits. When combined, these multi-benefit projects have the potential to be financed through multiple revenue streams like user fees, taxes flowing from increased land values, losses avoided, and tolls. This value, however, is often lost because projects are funded through programmatic silos, and cities struggle to piece funds together from different programs with varying spending deadlines.

To meet their infrastructure investment needs, cities need an efficient mechanism to complement public funds with private sector dollars. Such a mechanism should ensure that investments are made in a way that addresses current needs as well as future risks.

OPPORTUNITY

By creating a National Infrastructure Bank (NIB), Congress could enable private sector investment to rehabilitate and enhance the resilience of infrastructure. Infrastructure banks are often capitalized by public sector dollars, with public sector money then lent to state and local governments at below market rates to attract private loans, or loan guarantees for infrastructure projects that provide a clear public benefit. Revenues generated from the projects are then used to repay the loan and recapitalize the bank to fund other projects.

To ensure that projects receiving NIB financing are meeting the resilience needs of cities, legislation creating a NIB should be designed with the following principles in mind. The NIB should:

Provide funds to complement, not replace, existing federal programs (such as the Highway Trust Fund and State Revolving Funds) and provide financing options for a variety of infrastructure projects (e.g., energy, water, transportation, communications).

Prioritize projects that:

- Are designed to account for future conditions over the project's design life to ensure the long-term viability of the investment.
- Redevelop and rehabilitate existing "brownfields" infrastructure before financing new infrastructure in "greenfields" (or undeveloped areas).
- Meet specific criteria related to a project's return on investment and provide other economic, environmental, and social benefits such as economic growth in economically disadvantaged communities and job creation for low-income workers.⁴¹
- Provide environmental, resilience and economic benefits, such as green infrastructure, land acquisition and restoration projects.
- Allow NIB funds to be blended with funds from other funding and financing programs like SRF, TIFIA, WIFIA.
- Facilitate a comprehensive range of financing options, including financial products that encourage private investment at various project stages, loan guarantees and other forms of risk mitigation and credit enhancement.
- Allow smaller projects to be bundled and prioritize projects that are cross-sectoral or that deliver multiple benefits (such as multimodal transportation or green infrastructure projects), as these types of projects face financing barriers under current federal funding structures.
- Allow borrowers to implement projects through special agencies and authorities, such as special purpose districts, utility districts and port authorities, to reduce any potential negative impact on municipal credit ratings caused by increased borrowing.

Incorporate advice from finance industry leaders, including institutional investors, (re)insurance and credit rating agencies, to ensure market knowledge is embedded within the structure of the NIB, and to ensure the market is informed of the overall stabilization and growth created by modernizing and making resilient infrastructure.

NIB can bring a great deal of value to many cities. For example, New York City's almost partially funded \$3.7 billion coastal protection plan calls for flood-protection infrastructure and ecosystem restoration to enhance the city's flood resilience.⁴² Berkeley's 5-year, \$30 million initiative calls for street improvements and green infrastructure to address storm water management and other resilience objectives.⁴³ These investments would not only help these cities enhance their resilience, but also create job opportunities and increased economic investment into local city economies by supporting goods procurement and support for service.

ACTION STEPS

Legislative

Congress should create and capitalize a NIB to facilitate private financing for projects aimed at rehabilitating and modernizing infrastructure in cities and greater metropolitan regions.

Agency

The expertise of leading infrastructure agencies should be sought in the design of the NIB to ensure that NIB financing can be blended with other public-sector dollars and financing mechanisms. Departments with leading roles in infrastructure funding and financing include the Department of Transportation, US Department of Agriculture with investments in rural communities, Department of Defense, Department of Energy and the Environmental Protection Agency.

Infrastructure banks

Infrastructure banks have proven to be an effective financing tool at the state level. For example, the West Coast Infrastructure Bank, WCX, a 501(c)(3) not-for-profit organization that was formed by the states of Oregon, Washington and California, was designed to make it easier for private investors to work with government to finance infrastructure projects. It borrows from similar infrastructure financing models, including one from British Columbia that has created \$18 billion in public assets, public buildings and health and energy facilities in just the last 10 years. Cities such as Los Angeles are considering WCX to create financing arrangements and business opportunities for firms interested in developing broadband networks.

2

Strategy: **Improve and align benefit-cost analysis to account for full life-cycle and collateral benefits****CHALLENGE**

Many federal funding programs require applicants to demonstrate that their project is “cost-effective” by submitting a benefit-cost analysis (BCA)⁴⁴ showing how the benefits of the project outweigh the costs. It is prudent to ensure that taxpayer dollars are invested in projects that will deliver maximum results. However, traditional BCA (sometimes called a benefit-cost ratio or BCR) imposes unnecessary transaction costs and decreases government efficiency and innovation at both the federal and local levels. This problem is typical for both routine and disaster recovery projects. Current agency practice for comparing benefits to costs is flawed.

There is no harmonization between departments and agencies such as the Departments of Transportation, Homeland Security, Commerce and the U.S. Army Corps of Engineers. Each federal agency has its own processes and formulas for developing a BCA. This system creates burdens on both federal agency staff and the cities applying for federal funds, because applicants are saddled with additional transaction costs by having to prepare different BCAs for different agencies, often for the same project.

With this work, we will be prepared for the shocks and stresses ahead, and have the ability to bounce back stronger...we will meet the challenges we face today and in the future – as new Yorkers have always done – and inspire other cities around the world to do the same.

Mayor Bill de Blasio
New York City

Typical agency BCA methods do not properly account for increasing potential for loss in consideration of future risks, such as impacts of climate change.

BCA methods do not adequately allow project applicants to capture a project’s economic, social and environmental co-benefits, including ecosystem services, or adequately quantify externalities of either cost or benefit.

The discount rate is a rate set by the Office of Management and Budget (OMB) to determine the “present value” of the investment being made, using the concept of the time value of money to normalize when benefits are realized. However, it generally does not accurately account for future risk, or for projects like wetland restoration that appreciate over time.

The complexity of the BCA process for many federal grants discourages smaller communities with fewer staff and less resources from applying for competitive grants such as FEMA’s Pre-Disaster Mitigation program grants.

The problems with federal BCA requirements are particularly acute for cost assessments of innovative and multi-intentioned projects, as illustrated by the challenges of replacing traditional “gray” infrastructure with green or nature-based infrastructure.⁴⁵ These approaches use or mimic natural systems, such as wetland restoration to allow areas to flood or artificial reefs to diffuse wave energy, and such investments can appreciate over time and provide multiple environmental (e.g.,

flood mitigation, air and water quality), economic (e.g., job creation, property value increases) and social (e.g., parks, crime reduction) benefits. Without an improved BCA process, green infrastructure project assessment will not compare favorably to traditional “gray” infrastructure, and these types of projects will face difficulty receiving federal funding.

OPPORTUNITY

A best-in-class federal BCA will increase urban security, stability, safety and cost savings by requiring calculations of the long-term benefits of a project across a range of social, environmental and economic factors including job creation, value of land-based amenities and improved public health metrics such as air quality and water quality. Harmonizing BCA guidelines between federal agencies and departments will also improve coordination and cross-agency decision-making for large-scale projects, and decrease transaction costs for cities. Legislative and administrative reforms to federal BCA requirements should focus on improving BCA in the following ways:

Federal agencies should take administrative action to harmonize and align BCA processes across agencies, departments, funding programs and regulatory programs, where enabling statutes permit and to the extent feasible and permitted by law. BCA requirements for different disaster recovery programs that are often used in concert, such as HUD’s Community Development Block Grant-Disaster Recovery and FEMA’s Public Assistance and Hazard Mitigation Assistance programs, should be prioritized for alignment.

Federal agencies should account for the full life-cycle benefits of a project in consideration of future risks over the project’s design life, and costs avoided through resilient design.

The BCA process

The BCA process that was developed for evaluating applications for the Department of Housing and Urban Development’s National Disaster Resilience Competition (NDRC)⁴⁶ demonstrates how BCA methodologies can be improved to consider both financial loss and return – in terms of both future risks and future benefits – but also include consideration of other social, economic and environmental factors. NDRC applicants were asked to evaluate the full lifecycle costs of the project (including operations and maintenance costs), the resiliency value of the project (including losses avoided from impacts from natural disasters in consideration of future changes in the climate), environmental benefits (including reduced energy use and ecosystem services), social benefits (such as public health benefits), and economic revitalization benefits (such as increased land values and job creation).

Federal agencies should be encouraged to consider the collateral social, economic and environmental benefits of projects, including job creation, costs, ecological services, public health benefits like improved air quality and water, added public amenities like recreation, and increased property values, among other factors.

OMB should be encouraged to revise discount rates, where appropriate, to account for cost-savings when designing structures to withstand future risks, and projects that appreciate over time. In addition to streamlining and increasing funding, cities will benefit from the improved BCA framework.⁴⁷

ACTION STEPS

Legislative

Congress should commission a National Academies study to develop a process for harmonizing benefit-cost analyses across agencies and departments that grant funds or regulate infrastructure and other development projects. This group would be charged with evaluating current agency BCA processes and identifying options for aligning these processes in ways that account for the full life-cycle benefits of a project, future disaster risks to the project, as well as the full range of social, economic, and environmental co-benefits. The utility of this structure would last beyond election cycles.

Congress should direct the Office of Management and Budget to review and ensure the consistency of agency cost-benefit analyses and the consideration of future risks and co-benefits.

The Congressional Budget Office should ensure that project budget analysis incorporates risk mitigation's⁴⁸ impact on future savings to infrastructure and communities.

Agency

OMB should direct Federal agencies, where enabling statutes permit, to take administrative action to improve and align BCA requirements and to account for the full life-cycle benefits and co-benefits of projects, including consideration of future risks to project retirement.

OMB should revise Circular A-94, which establishes the discount rates that agencies are directed to use when developing BCAs, accounting for the economic benefits of mitigating risks from future hazards and for nature-based projects that tend to appreciate over time.

The National Academies, Department of Transportation, Economic Development Agency, and Housing and Urban Development should engage the public, including finance, insurance, engineering and construction, utility, credit rating, and institutional investor communities, in an open dialogue about best practices for conducting BCA for projects with a long design life. These discussions should address calculations of future risks and benefits, given projected climate and other changes.

3

Strategy: **Create a Department of Defense-city infrastructure resilience partnership****CHALLENGE**

The U.S. military has bases located in or adjacent to cities across the nation and, as neighbors, the security and operations of these bases are interdependent on the resilience of their home city. Military installations and city neighbors face common threats from extreme weather, sea level rise and flooding, infrastructure failure, blackouts, terrorism, drought, and extreme heat. As a result, these neighbors also share common interests in enhancing the resilience of infrastructure systems to ensure the predictability and availability of services, such as water, wastewater, electricity and transport. These services are necessary to fulfilling military operational missions and in protecting the health, safety and well-being of military personnel and their families, who often reside in the surrounding communities.

At the same time, many cities lack the resources—human, financial and technical—to modernize their infrastructure and ensure its resilience. Recognizing the interdependencies with surrounding cities, the military could be a partner to provide funding, technical support and resources to help cities enhance the resilience of infrastructure systems supporting the operational missions of both the city and the base.

OPPORTUNITY

Military bases should partner with the cities to enhance the resilience of infrastructure systems on which they both depend. The Department of Defense (DOD) should work with cities to enhance the resilience of interdependent systems, including systems that protect the health, safety and well-being of military personnel and city residents, that support military installations and the infrastructure systems that protect military installations, and provide them with critical services such as energy and water.

Partnering with the military

The Department of Defense is collaborating with a local community on Oahu, HI to construct a new power plant. The Schofield Barracks Generating Station is being built on land leased from the Army, but will be owned and operated by the local electric utility, Hawaiian Electric, and will provide power for all customers on Oahu.⁴⁹ The plant will operate using a mix of biofuels and conventional fuels, and will provide added security and reliability for Oahu's grid, allowing for improved integration of renewable energy sources. The plant will have the ability to isolate from the grid to power only Army facilities in the event of an emergency. In addition, as the only power plant on Oahu to be sited inland, it will not be vulnerable to sea-level rise, coastal storms or tsunamis.

The proposed DOD-City Infrastructure Resilience Partnership would build upon the DOD's Readiness and Environmental Protection Integration (REPI) program, which enables the military to work with governments and nonprofits to enhance military readiness by multiple means, including purchasing and placing conservation requirements on land adjacent to bases.⁵⁰ The DOD-City Infrastructure Partnership would coordinate infrastructure modernization and resilience improvement between military bases and their neighboring jurisdictions, focusing on mutually beneficial investments that enhance preparedness and reduce losses from natural disasters.

Based on local conditions, needs and mutual benefits, projects supported through the partnership could include cyber security software, energy redundancy through microgrids, transportation alternatives, water supply and quality enhancements, and public health innovations.

The partnership would promote collaboration between the DOD and city agencies on the co-development of mutually beneficial resilience projects. The partnership could include support from DOD to help cities:

- Assess local threats to infrastructure, building off existing federal and local resilience plans.
- Prioritize projects that are beyond the federal installation fence line, based upon both resilience and security value;
- Access funding for the design, construction or rehabilitation of infrastructure to enhance its resilience, including through Department of Defense programs that fund community participation and coordination efforts.

ACTION STEPS

Legislative

Congress should authorize and appropriately fund the new DOD-City Infrastructure Resilience Partnership under the National Defense Authorization Act and the appropriations committee should fully fund the critical infrastructure that both military installations and surrounding jurisdictions rely on.

Climate resilience planning

The Hampton Roads Sea Level Rise Preparedness and Resilience Intergovernmental Pilot Project,⁵² is a collective effort to address threats to national security and the economy posed by rising sea levels in the Hampton Roads Region. The project, led by Old Dominion University, coordinated local governments across the region and the Department of Defense to support climate resilience planning. Norfolk, home to the country's largest naval base and a key city in the Hampton Roads region, views the military as a "large anchor institution [that] will continue to provide a foundation for the city's economy."⁵³

Agency

The Department of Defense, including the U.S. Army Corps of Engineers, should invite resilience dialogues with neighboring communities to determine shared goals and potential collaborative projects.

The Department of Homeland Security should implement its 2015-2019 Strategic Plan "Mission 5: Strengthen National Preparedness and Resilience,"⁵¹ by providing funding and other support for DOD-City Resilient Infrastructure Partnership projects.

4

Strategy: **Develop metrics for rating the resilience of infrastructure****CHALLENGE**

While cities and the private sector have an interest in ensuring that infrastructure is resilient to future shocks and stressors, there is no common framework for determining how to design “resilient” infrastructure. Recognizing that infrastructure solutions are varied, and must be designed to address unique site-specific conditions, a ‘one-size-fits-all’ standard for resilience infrastructure is impossible. Yet, project designers and decision-makers at all levels of government and the private sector need common metrics to ensure the infrastructure systems we are investing in today will continue to provide critical functions and services over the long term. Decision makers also need metrics to help design projects that can more cost-efficiently deliver multiple community benefits, rather than projects that serve a single purpose.

OPPORTUNITY

Federal agencies should develop a framework for rating and evaluating resilient infrastructure design. The framework should serve as a best practice guide to help cities design, build and operate infrastructure to ensure its long-term viability and to deliver other environmental, economic, and social benefits, where feasible. Once a rating systems is designed, federal agencies should then condition the receipt of federal funds on projects meeting a required resilience rating.

A rating framework would help agencies ensure that federally funded projects are evaluated consistently, and that federal investments are yielding resilient infrastructure systems. This consistency could, over the long term, create more

efficiency and reduce operating and insurance costs, as well as mitigate risk.

Meeting resilience metrics

The U.S. Green Building Council has developed a metric system for assessing the sustainability of buildings called the Leadership in Energy and Environmental Design (LEED) rating system. The Federal Government has adopted LEED in making its own investments. The General Service Administration has made it a requirement that all buildings housing federal tenants must achieve a LEED rating of silver or higher. If similar metrics were developed to incorporate resilience standards for various kinds of infrastructure projects, the Federal Government could inspire catalytic change in the design and construction of infrastructure projects by requiring that all federally funded projects meet resilience metrics. This would increase awareness and adoption of resilient design principles across professional fields such as engineering and planning, as well as among state, regional and local government officials

The rating system should:

- Include metrics to help decision makers evaluate the factors of infrastructure resilience.
- Establish risk tolerance guidelines and help project designers incorporate risk mitigation.
- Address both future shocks and stresses, including sea level rise, extreme heat and changing precipitation patterns.
- Help design and develop infrastructure investments that provide multiple benefits, including projects that deliver: improvements to infrastructure and the environment (including promoting

reliable communication and mobility; ensuring continuity of critical services; providing and enhancing natural and man-made assets); health and well-being (including air quality and water quality); economy and society (including financial systems and job opportunities); leadership and strategy (including engaging and empowering community stakeholders).

- Include guidance on how cities can rehabilitate or incorporate resilience into existing infrastructure, or integrate resilience into asset management planning.
- Complement other sustainability rating systems that address specific infrastructure types (e.g. roads or ports) or can be incorporated into them (as the Water Environment Federation has done with Envision).
- Include a life-cycle benefit cost assessment (see Strategy above in this chapter).

Criteria for resilient infrastructure

Envision is a rating system that includes over 60 criteria on resilient infrastructure design in the following categories: quality of life; leadership; resource allocation; natural world; climate and risk. Envision is offered by the Institute for Sustainable Infrastructure at no cost. Cities such as Kansas City, Los Angeles and New York City, as well as other governing bodies, adopt it as a guide to their projects. The Port Authority of New York and New Jersey is using Envision in its remake of LaGuardia Airport.

- Help decision makers prioritize community needs to ensure that investments made in infrastructure systems are efficient, equitable and risk-based.
- Require compliance with local, state and federal law.

This resilience framework could help agencies align resilience goals across infrastructure-related programs, and serve as a best-practice guide to help

educate stakeholders (e.g., city officials, planners, engineers, the public) about the multiple benefits of resilient infrastructure systems.

ACTION STEPS

Legislative

Congress should direct the National Institute of Standards and Technology to work with federal agencies, the U.S. Global Change Research Program and other private sector standard-developing organizations, to develop or identify certifications for resilient infrastructure that also pinpoint to a consistent and authoritative set of climate information to be used.

Once a framework is identified, Congress should require its use in appropriation bills, such as the water resources developments acts, military appropriations and transportation reauthorization bills.

Congress should require agencies to prioritize projects that achieve higher resilience scores when awarding funds for infrastructure projects through discretionary competitive grant programs such as the Transportation Investment Generating Economic Recovery (TIGER).

5

Strategy: **Coordinate efforts of departments and agencies to increase efficiency of disaster response****CHALLENGE**

There are unnecessary fiscal and operational burdens on America's cities, towns and citizens due to a need for improved coordination among federal departments and agencies. In too many cases disaster recovery efforts remain disconnected. Federal silos result in funding that is not aligned, and city staff are frustrated

by federal grant applications and compliance requirements that demand large duplications of effort, and can be counter to one another. These include contradictory design requirements and redundant regulation and permitting, which can be time consuming and costly. Attempts to resolve such issues demonstrate how no one agency is empowered to resolve interagency inconsistencies. These issues are particularly evident in the way agencies manage disaster response and recovery, exemplifying how this lack of coordination can be both costly and risky to America's stability and security.

Rebuilding after Hurricane Katrina

When the levees protecting New Orleans failed in August 2005, approximately 80 percent of the city was flooded. The business district and main tourist centers were relatively undamaged, but vast expanses of many New Orleans neighborhoods were inundated, making Katrina the largest residential disaster in U.S. history.⁵⁴ The storm displaced more than a million people in the Gulf Coast region. After a 10-year recovery effort, which involved then a dozen federal agencies, Katrina-impacted areas are successfully rebuilding with flood- and wind-resistant design and construction in mind.⁵⁵

OPPORTUNITY

Federal and city leaders commend past federal efforts to resolve inefficiencies through interagency coordination, including the Hurricane Sandy Rebuilding Task Force efforts and Strong Cities Strong Communities initiative⁵⁶, which city officials believe increased the efficiency and effectiveness of federal programs. Cost savings, the ability to prevent harm and make swift and resilient recovery from disasters, as well as the chance to achieve other resilience policy priorities (such as protection of the most vulnerable populations) should be increased when Federal agencies coordinate. In certain cases, the required cooperation that extreme events inspire can be a catalyst for ongoing coordination, as demonstrated by the Department of Housing and Urban Development's National Disaster Resilience Competition.⁵⁷

The multibillion dollar federal investments in recovery from 2017 disasters including Hurricanes Harvey, Irma, and Maria and the fires in North California, presents ideal timing for examining opportunities to improve resilience efforts, which should include:

- Identifying conflicting or inconsistent federal requirements, barriers to disaster impact avoidance, and cost- and delay-drivers in disaster recovery.
- Streamlining permitting.
- Removing identified barriers to disaster avoidance and recovery.

- Harmonizing funding application requirements.
- Developing joint guidance to cities on the design and development of strategies for safeguarding housing and infrastructure from future shocks including:
- Utilizing common methodologies (including the benefit-cost analyses strategy recommended in this document).
- Integrating future forecast and scenario data and analysis into decision making.

Rebuilding after Superstorm Sandy

The Hurricane Sandy Rebuilding Task Force⁵⁸ was a short-term interagency body, chaired by the Secretary of Housing and Urban Development (HUD), to ensure coordination of federal resources for the affected regions rebuild. The task force was comprised of representatives from city, state and tribal governments, as well as 21 federal agencies and offices who developed a roadmap containing 69 policy recommendations, such as how federal funds could help homeowners stay in and repair their homes, how to strengthen small businesses and revitalize local economies, and how to ensure entire communities would be better able to withstand and recover from future storms. The task force was designed to:

Cut red tape and get assistance to families, businesses and communities efficiently and effectively, with maximum accountability.

Coordinate the efforts of the Federal, State and local governments, with a region-wide approach to rebuilding.

Ensure the region is rebuilt in a way that makes it more resilient – that is, able to better withstand future storms and other risks posed by a changing climate.

ACTION STEPS

Agency

The President should call for an executive-level interagency task force on increasing urban security, stability, safety and cost savings, enabling agencies to collaborate on community preparedness and resilience. Departments and agencies within the interagency task force should meet at least quarterly to determine ways to streamline funding, design and regulations.

Offices, departments and agencies in the group should include the White House Office of Management and Budget, White House Council on Environmental Quality, White House National Security Council, U.S. Army Corps of Engineers, Department of Agriculture (Forest Service, National Resource Conservation Service, Rural Development), Department of Commerce (NOAA National Marine Fisheries Service), Department of Energy (Power Marketing Associations),

Department of Homeland Security (Federal Emergency Management Agency, Infrastructure Protection, Science and Technology), Department of Housing and Urban Development, Department of Interior (Bureau of Revenue, Geological Survey), Environmental Protection Agency, and others as appropriate.

CONCLUSION AND POTENTIAL ALLIES

Cities universally cite aging and outdated infrastructure as a pressing resilience challenge. The safety and viability of our infrastructure systems are essential to the economic well-being of our cities and the nation. The Federal Government could play a critical role in helping cities rebuild and enhance infrastructure systems by creating and funding a National Infrastructure Bank, improving and aligning BCA across federal agencies, creating partnerships between military installations and their neighboring cities, and by establishing resilient infrastructure design standards.

To support these strategies, cities could ally with collaborators working in different sectors who also support resilient infrastructure, including:

City networks - C-40; the Urban Sustainability Directors Network; ICLEI; the Carbon Disclosure Project; Enterprise Community Partners; The Alliance for a Sustainable Future (a collaboration between the USCOM, the Center for Climate and Energy Solutions (C2ES) and several private sector partners).

One of the benefits of working in a community like Berkeley is the high degree of community engagement. Resilience rests on people having connections to friends, family and neighbors that can help when disaster occurs, and being engaged and thoughtful about their readiness for a range of potential shocks and stresses.

Timothy Burroughs
Berkeley, CA
Resilience Officer

Professional groups and think tanks - American Action Forum; American Enterprise Institute; America's Infrastructure Alliance; American Institute of Architects; American Public Power Association; American Society of Civil Engineers; American Society of Mechanical Engineers; American Water Works Association; Brookings Institution; Cato Institute; Institute for Sustainable Infrastructure; Enterprise Community Partners; Institute of Electrical and Electronics Engineers; Infrastructure USA; Manhattan Institute; National Institute of Building Sciences' Multi hazard Mitigation Council; National Society of Professional Engineers; RAND Corporation; Reconnecting America; Smart Growth America; US Chamber of Commerce; and the Water Environment Federation

Government-related professional associations - State Emergency Management and Insurance Commission officials; Association of State Floodplain Managers and other peril-related associations; Rural Electric Cooperatives; Energy service companies; National Association of Regulatory Utility Commissioners.

Environmental nonprofits committed to resilient infrastructure - Natural Resources Defense Council; The Nature Conservancy; U.S. Green Building Council.

Infrastructure finance organizations - Sustainable Accounting Standards Board; Task Force on Climate-Related Financial Disclosure; the financial services industry, including credit rating agencies, insurance and reinsurance companies, and institutional investors who are rating, transferring risk and investing in public and private infrastructure projects.

2

INCREASE SAFE AND HEALTHY HOUSING

These cities have identified a lack of affordable housing and intractable homelessness among their resilience challenges

Atlanta
Boston
Boulder
Greater Miami and the Beaches
Honolulu
Los Angeles
Minneapolis
Nashville
New Orleans
Oakland
Pittsburgh
San Francisco
Washington DC

VISION

A resilient community is defined by its ability to support the health and well-being of all its community members, and by the ability to adapt to changing conditions and bounce forward stronger after experiencing a shock.

To meet the basic needs of residents and foster economic prosperity, a city must address gaps left by the private market to provide safe, healthy and affordable housing for residents. Economic mobility – the ability to work one’s way up the economic ladder – begins with a decent place to live. Resilient cities upgrade or replace substandard housing and improve neighborhood conditions, removing the stresses that impact the physical and mental health of residents and their economic prosperity, allowing them instead to focus on work, education, and general well-being while eliminating harm caused by leaks, mold, lead poisoning, the consequences of eviction and neighborhood violence.

Where a person lives has major repercussions on their health and well-being. Across the country, low-income children and adults suffer disproportionately from chronic health conditions because they live in homes that are poorly constructed and maintained and located in neighborhoods that lack access to health care and healthy food. Healthy, stable, and affordable housing enables residents to focus on work, education, and general well-being while eliminating harm caused by leaks, mold, lead poisoning, the consequences of eviction and neighborhood violence.

Quality affordable housing is a keystone to lifting families up and out of poverty. With a place to call home, a family can focus on critical priorities, including making routine doctor’s visits, maintaining an active lifestyle, and eating nutritious foods. Boston Medical Center pediatrician and founder of the Children’s Health Watch Dr. Megan Sandel, M.D. says that ‘housing is a vaccine’ for the children she sees and that without it, her patients would have little hope for healthy futures.

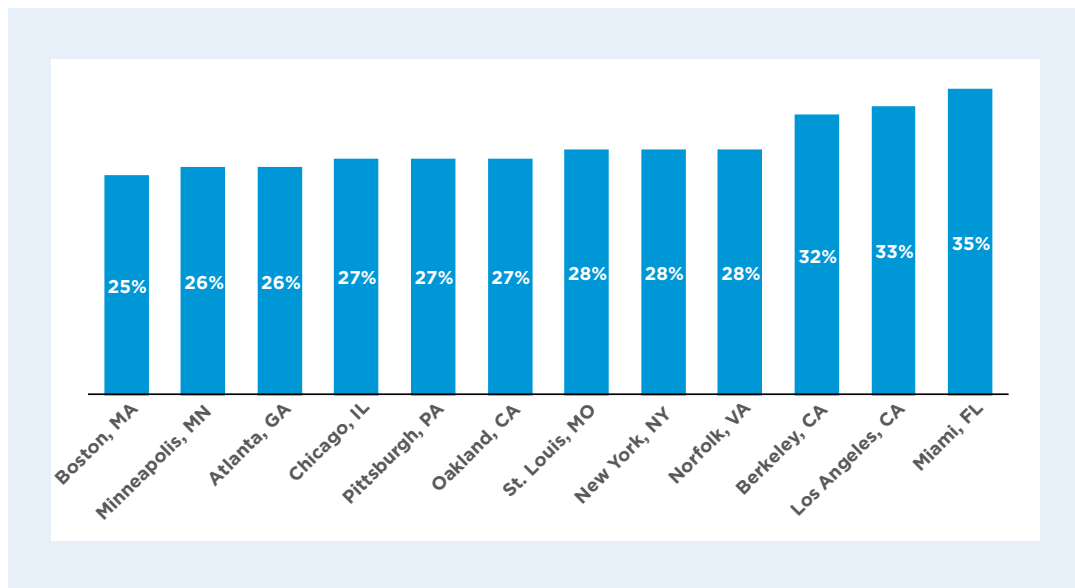
WHERE WE ARE TODAY

Today a record number of families in the U.S. are housing insecure. A shock, such as a natural disaster, job loss or medical emergency can make it hard for the elderly, low-income people, the chronically ill, and those without strong social networks to keep their homes. At the same time, many cities face growing risk from natural disasters. For example, the Baton Rouge area was impacted by severe flooding in August 2016, with more than 40 percent of homes in the region located in flooded areas.⁵⁹ Many factors are contributing to the decline in housing affordability in cities around the nation:

While the American labor market continues to improve, the wages earned by most American workers have not kept pace with the rising cost of living. After adjusting for inflation, the typical renter’s income has fallen by more than 9 percent since 2001, while the median rent has increased by 7 percent.⁶⁰

Rents are climbing nationwide, not just in the most expensive cities. More than one in four renters, about 11.2 million renter households, are severely rent burdened, spending more than half of their income on rent. Market indicators suggest that this figure will only continue to grow over the next decade.⁶¹

Percent of Renters who are Extremely Cost-Burdened (>50% of income on housing costs), 2015⁶²



Rental supply is not keeping up with rising demand, especially for low-income renters. According to the National Low-Income Housing Coalition, for every 100 extremely low-income households in the U.S. – earning less than 30 percent of the area median income (AMI) – there are only 35 affordable and available rental units. In San Francisco, which projects population growth of up to 1 million new residents by 2040,⁶⁴ the vast majority of new housing construction is for the higher end of the rental market, as developers seek to maximize returns on their investment. The median asking rent for new apartments in 2015 was nearly \$1,400/month, or about half of the median renter’s monthly income, and far out of reach for people of modest means living on low wages or disability payments.⁶⁵ In New Orleans there are only 47 affordable rental units for every 100 very low-income residents.⁶⁶ Families and individuals are not choosing to overpay for housing; they are simply doing their best to meet their basic housing needs in an affordable housing supply shortage.

Construction costs are also rising, due to inflation and the costs of complying with program and investor requirements, and state and local regulations such as environmental requirements.⁶⁷ The market has clearly demonstrated that building or rehabilitating units for low-income renters does not pencil out absent additional subsidy.

Additionally, preserving existing multifamily affordable housing in the face of natural hazards is challenging, as there are no definitive standards available on how to fully or partially adapt multifamily housing to reduce risks from climate-related shocks. Larger U.S. cities like Chicago, Los Angeles, Miami and New Orleans have a high proportion of multifamily housing, and yet leading technical guidance does not specifically address the unique and nuanced technical needs of multifamily housing, but instead focuses mainly on reducing risk to single family properties.



San Francisco

FEDERAL ROLES

The Federal Government underwrites housing development, funds rehabilitation programs to support energy efficiency and habitability, and regulates standards that contribute to the health and resilience of the nation’s housing stock. In addition, in the aftermath of certain severe weather events, the Federal Government typically provides essential funding to support city recovery and rebuilding efforts.

The following table outlines the leading federal resources available to support cities’ construction and reconstruction of affordable housing:

Agency	Type of Housing Development Resource	Direct Funds	Other Support
HUD	HOME Program ⁸⁵ - Provides annual grants to cities, counties and states for affordable housing construction, rehabilitation, rental assistance and homebuyer assistance for low-income families.	✓	
	Community Development Block Grant (CDBG) Program - Provides annual grants on a formula basis to cities, counties and states to support development of social services, housing and infrastructure, and economic opportunities, principally for low- and moderate-income households.	✓	
	Community Development Block Grant- Disaster Recovery (CDBG-DR) Program ⁸⁶ - Provides funding for state and local governments to rebuild and plan for long-term recovery of their affordable housing and community development infrastructure. Congress appropriates funding for the CDBG-DR program only after some disasters, not all.	✓	
	Section 108 Loan Guarantee Program (Section 108) - Provides communities with a guarantee for financing housing rehabilitation, economic development, public facilities and other physical development projects, including improvements to increase their resilience against natural disasters. Guaranteed loans may be repaid with annual CDBG grants.		✓
	Public Housing Capital Fund - Provides public housing authorities access to public housing capital funds that are set-aside in the annual appropriations process to repair affordable units.	✓	
	Fair Housing and Equal Opportunity Office - Provides guidance on how to comply with the Fair Housing Act, and how to avoid housing discrimination as municipalities devise an affordable housing recovery system.		✓
	Federal Housing Administration - Provides financing and guarantees. for multifamily and single-family property owners.	✓	✓
	Ginnie Mae - Assists issuers in offering forbearance to certain mortgagors.		✓
DOE	Weatherization Assistance Program - Provides funding to weatherize housing and create healthy and energy-efficient housing.	✓	
FEMA	Individual Assistance - Funds Disaster Housing Assistance for 18 months, Disaster Grants, and low-interest disaster loans.	✓	
	Public Assistance - Funds repair and rebuilding of public properties. Also provides a Preliminary Damage Assessment and ongoing evaluations of the municipality’s single and multi-family housing needs.	✓	✓

1

Strategy: Congress should expand the Low-Income Housing Tax Credit by at least 50 percent.**CHALLENGE**

The Low-Income Housing Tax Credit (also known as the Housing Credit) has financed virtually all the country's affordable housing construction since it was signed into law by President Reagan in 1986. The LIHTC program allows private investors to take a federal tax credit equal to a percentage of their contribution toward project development costs. The capital provided by the investor serves as project equity and reduces the amount of debt needed to finance the project. That, in turn, lowers overall project costs and helps keep rents low for a period. The program is an undeniable success story in public-private partnerships, but demand for the credits far outstrips the supply. The Housing Credit has not been expanded since 2000, and developers now request more than twice the amount of Housing Credits than are available each year,⁶⁸ stalling the progress of hundreds of viable development projects that would serve low-income families. Expanding the authority of the program would result in more units of housing being built or renovated by help filling an intensifying gap in the housing market.

Cities like Oakland, CA are struggling to provide affordable housing to their residents. Oakland is now the fourth most expensive rental market in the United States, according to a report released at the end of last year.⁶⁹ Renters comprise 59 percent of Oakland households, with a median income of \$34,195. However, 22.5 percent of Oakland's households are housing insecure, which means they face high housing costs in proportion to income, poor housing quality, unstable neighborhoods, overcrowding or homelessness. Competition for tax-credit-financed housing is high, and there are not enough credits allocated to meet demand.

OPPORTUNITY

The Housing Credit has enjoyed bipartisan support since it was created, in part because of its long track record of success. The program is also good for local economies: each year it creates more than 90,000 affordable homes and supports over 100,000 jobs, mostly in the construction industry. The Housing Credit is a model public-private partnership that uses a "pay for success" model—the federal government awards credits only after properties are successfully completed and occupied. For these reasons, as Congress and the White House worked on comprehensive tax reform in late 2017, Republican leadership called out the Housing Credit as good public policy and preserved the Housing credit in tax reform. It is critical now to expand and strengthen the program's ability to reach the millions of renter households struggling to afford a place to live. Congress can expand the program and make it more flexible, streamlined and better able to serve the hardest-to-reach populations and areas.

ACTION STEPS**Legislative**

In March 2017, Sens. Maria Cantwell (D-WA) and Orrin Hatch (R-UT) introduced the Affordable Housing Credit Improvement Act of 2016 (S. 548), commonly referred to as the Cantwell-Hatch bill, which would significantly expand and strengthen the Housing Credit.⁷⁰ The bill would increase the annual Housing Credit allocation by 50 percent, and make nearly two dozen modifications to strengthen the program, including permitting income averaging in Housing Credit properties and establishing a permanent minimum 4 percent Housing Credit. Companion legislation (H.R. 1661) in the House does not include the 50 percent increase in credit authority, but it does include the nearly two dozen provisions that would improve the Housing Credit. Currently 23 senators, including 10 Republicans, 12 Democrats, and one Independent, have co-sponsored S.548, while well over 100 representatives, including 61 Republicans and 62 Democrats, have co-sponsored H.R. 1661.



New Orleans

2

Strategy: **Increase HUD Community Development Block Grant (CDBG) program funding to \$3.3 billion****CHALLENGE**

Each city and town is different, and so are its housing and community development needs. HUD has allocated flexible grants to cities and states through its Community Development Block Grant (CDBG) program for over 40 years. The program is a crucial source of funding for a wide range of local projects, including filling funding gaps in the development of affordable housing, remediating lead exposure, funding infrastructure improvements and supporting code enforcement and other essential municipal services that have a real impact on the quality of a city's housing stock. However, CDBG funding has been cut by 25 percent since 2010, even as demand continues to grow. In 2017 Congress appropriated \$3 billion in CDBG funds, which is only about one-fifth of the 1975 funding level after adjusting for inflation.⁷¹ The Trump administration's budget outline for fiscal year 2018 proposed eliminating the HUD CDBG program entirely⁷², along with the elimination of the HOME Program and other significant cuts to affordable housing programs.⁷³ While Congress has soundly rejected the Administration's proposal to eliminate the CDBG program, low budget caps placed on non-Defense discretionary spending, which includes housing and community development programs, reduce the overall amount of resources available for vital programs like CDBG.

OPPORTUNITY

The CDBG program has enjoyed bipartisan support since its inception, in part because every \$1 billion in CDBG funds creates about 5,500 short term and permanent jobs.⁷⁵ In 2016 alone, CDBG investments created or retained 17,454 jobs nationwide. The program also leverages significant private investment in historically underserved communities: between 2010 and 2012 grantees reported that every \$1.00 of CDBG funds leveraged an additional \$4.07 of other funds.⁷⁶ According to a report by HUD, cities that choose to participate in the CDBG Section 108 Loan Guarantee Program were able to leverage on average \$4.62 of additional funds

(private, federal, state, and local) for every \$1.00 of federal funding.⁷⁷ The CDBG program is arguably the most flexible funding the Federal Government provides for mayors to achieve their resilience, housing, infrastructure, economic development and other community development goals. Almost every resilience action championed throughout this document could be funded at least in part by CDBG, if Congress were to appropriate the necessary resources.

Lots of Opportunity

The City of Norfolk, VA partnered with for-profit and nonprofit developers to build affordable single-family houses for first time home buyers on vacant properties throughout the city, with a goal of increasing homeownership and deconcentrating poverty. The city's program is called "Lots of Opportunity" and targets households in a range from 60 percent to 120 percent of median income.⁷⁴

Supplemental Appropriations: Congress should make CDBG-DR a permanent program.

In addition to the immediate resources available from FEMA and other agencies, Congress sometimes approves supplemental appropriations through CDBG, to provide assistance to jurisdictions affected by major disasters to recover and rebuild. After three major destructive hurricanes in 2017, it is clear how vital these supplemental appropriations are for communities when they begin their long-term recovery. These supplemental appropriations are referred to as the HUD Community Development Block Grant Disaster Recovery program (CDBG-DR). CDBG-DR funds three general activities: short-term disaster relief (often used to fill gaps in emergency funding from FEMA and other sources), infrastructure activities (such as the construction of levees and other activities intended to lessen the impact of a future disaster) and long-term recovery activities (such as assistance to property owners to help cover rebuilding costs). These funds are often used for housing recovery but because Congress must affirmatively act to appropriate funds, communities cannot count on CDBG-DR funds being available after a disaster.

Since each supplemental CDBG-DR appropriation includes different legislative language and gives the HUD Secretary discretion in how to administer the funds to jurisdiction and grantees, there can be uncertainty and confusion about who gets grant money and how long it will take to reach communities. It is important that HUD continues to have the flexibility to waive certain regulations associated with annual CDBG grants for DR grants after a disaster to get money out the door and into communities as quickly as possible. However, a rebuilding process occurs over the span of not week or months but rather years. Jurisdictions and grantees need certainty that the recovery funds will flow. A permanent CDBG-DR program could also create a more stable funding stream that helps communities that have experienced a disaster rebuild in a way that reduces their risk of devastation in the future.

ACTION STEPS**Legislative**

Members of the House and Senate Appropriations Transportation, Housing and Urban Development (THUD) subcommittees should stabilize and support the CDBG program by allocating at least \$3.3 billion in funding for CDBG in coming years. Additional years' funding should be commensurate with current community need and initial levels set forth in the program in 1974 and adjusted for inflation. Congress should also work with HUD and past CDBG-DR recipients to authorize a permanent CDBG-DR program.

Executive

HUD should provide guidance to allow cities to better leverage CDBG dollars for private investment in housing. For example, HUD should help cities establish CDBG-supported revolving loan programs that generate income and redeploy the capital over time. HUD should solicit grantee feedback on how to update its housing and economic development regulations to make it easier to use HUD CDBG to leverage private investment in properties with both residential and commercial uses, attracting renters of various income levels.

3

Strategy: **Stabilize and strengthen the FEMA Pre-Disaster Mitigation (PDM) program so that cities have financial resources to safeguard housing**

Futureproofing Developments After Disasters

In 2005, the flooding following Hurricane Katrina caused severe damage to the Lafitte public housing development. Located in the historic Treme/Lafitte neighborhood of New Orleans, this 27.5-acre development contained 900 apartments. Enterprise Community Partners, Providence Community Housing and L+M Development Partners were tasked at redeveloping the community on and around the site of the former development. While the old development consisted of large housing towers, the new development is built at street scale and integrated in with the surrounding community.

Within the community, the adjacent Sojourner Truth Neighborhood Center (STNC) is a centralized location providing supportive services for Lafitte residents, including youth development, job readiness, senior services, health & wellness, and community building. When complete, the Faubourg Lafitte development will include 900 affordable apartments and 600 for-sale or market-rate rental homes.

Every building at the Faubourg Lafitte development is set at a finished first floor elevation of at least three feet above the curb of the surrounding streets 1.5 feet above sea level, whichever is higher. The property is also graded in a way that ensures the areas around the houses drain to the surrounding stormwater system effectively. A heavy rainstorm in August 2017 overwhelmed the city's storm water system, and the city experienced widespread flooding. Since the new Faubourg Lafitte homes had been elevated three feet above Base Flood Elevation, the properties subsequently experienced no damage in the flooding. The added cost of elevating the development ultimately paid for itself.

The Faubourg Lafitte development is largely financed using Low-Income Housing Tax Credits (Housing Credit) and CDBG-DR funding. After Hurricanes Katrina and Rita, Congress authorized expanded Housing Credit authority for disaster areas designated as Gulf Opportunity Zones (GO Zones). This additional Housing Credit authority leveraged the CDBG-DR funding and allowed for more flexible financing in housing redevelopment and attracted additional private capital.

CHALLENGE

The physical vulnerability of cities to natural disasters also makes them economically vulnerable. Nearly seven million homes on the Atlantic and Gulf coasts alone are at potential risk of damage from a major hurricane, with potential reconstruction costs of more than \$1.5 trillion.⁷⁹ Across the country, communities grapple with exposure not just to flooding but also to extreme heat, tornadoes, fire and more. Federal, state and local governments could support resilience initiatives to mitigate these risks, achieving collateral benefits for citizens today while protecting them from future shocks. A study by the Multi hazard Mitigation Council found that each dollar invested in safeguarding homes and infrastructure prior to a severe weather event reduces future losses by roughly six dollars.⁸⁰ Despite proven economic and safety benefits of proactive risk mitigation, federal support for these efforts is lacking, and local demand for federal risk mitigation resources overwhelms available supply.⁸¹ President Trump's budget outline for FY2018 explicitly called out the FEMA Pre-Disaster Mitigation program on the list of programs that should be reduced or eliminated.⁸²

FEMA's Pre-Disaster Mitigation (PDM) program is the only source of federal support specifically, for pre-disaster mitigation. The program supports city, state and tribal efforts to mitigate a variety of natural hazards, such as floods, earthquakes and wildfires. The Congressional Budget Office recently found that PDM-supported projects could meaningfully reduce future need for post-disaster assistance from the

Federal Government, saving taxpayer dollars in the long run.⁸⁴ The program has enjoyed solid bipartisan support in Congress, in part because it has proven to be cost-effective, generate long-term savings and reduce loss of life and property.

Earthquake Shock

As part of the Resilience by Design⁸³ initiative, sponsored by 100 Resilient Cities, the City of Los Angeles is addressing one of its greatest vulnerabilities, earthquake shock. With funding in part from the FEMA Pre-Disaster Mitigation program, the city is moving on an ambitious initiative to retrofit 13,500 residential structures; improve the capacity of the City to respond to earthquakes; prepare the City to recover quickly from earthquakes; and protect the economy of the city and all of Southern California.

ACTION STEPS

Legislative

The House and Senate Appropriations Homeland Security Subcommittees and the House and Senate Homeland Security Committees should authorize and appropriate robust funding for the FEMA Pre-Disaster Mitigation program. This effort should build on the precedent set by the bipartisan Pre-disaster Hazard Mitigation Act of 2010, which authorized the appropriation of \$250 million annually for 2010-2012.

Funds could specifically:

- Target communities with significant flood risk (including history of repeated loss) that lack the means to invest in mitigation to reduce long-term risk exposure.
- Prioritize green infrastructure to build protection from flooding and increase community resilience.



Boston

4

Strategy: **Permanently extend the Rental Assistance Demonstration (RAD) Program and eliminate the cap on RAD conversion authority**

CHALLENGE

After decades of underinvestment, many of the country's 1.1 million units of public housing need significant capital investment. According to HUD, the aging public housing stock has a backlog of at least \$26 billion in unmet capital needs,⁸⁵ and an estimated 10,000 public housing units are lost entirely each year to obsolescence and decay. Meanwhile, millions of low-income families across the country are on waiting lists to get into public housing units, including over 420,000 families in New York City alone. After a series of federal budget cuts many public housing authorities are struggling to stay solvent. At the same time, some public housing is sited in geographic areas particularly vulnerable to flooding. Congress is unlikely to appropriate sufficient grant funding to bring all existing public housing units up to a state of good repair. Preserving public housing in cities at risk from a variety of stressors and shocks like natural hazards, and shifting to a model that better catalyzes improvement and revitalization of these units, needs to be a focus of federal housing policy.

OPPORTUNITY

The private market has proven it can be a willing partner in renovating public housing. HUD's Rental Assistance Demonstration (RAD) is an innovative program that allows public housing authorities to convert dilapidated projects into privately financed, government-subsidized properties, using the Section 8 program to

preserve long-term affordability. By altering the source of the rental subsidy, participating authorities can attract outside sources of financing, such as the Low-Income Housing Tax Credit, to make crucial repairs. A recent evaluation of the program found that for every public dollar that goes into RAD properties, public housing authorities can leverage \$9 of outside financing. Last year Congress raised the cap on the number of public housing units that local housing authorities can convert under RAD from 185,000 to 225,000 units. This cap increase is helpful, but it does not come close to meeting the number of applications received by HUD to date.⁸⁶ In its fiscal year 2018 budget request, the Administration proposed eliminating the RAD cap and providing permanent authorization. Eliminating the cap will allow work, that would otherwise take decades to accomplish, to proceed quickly.

Storm-vulnerable properties

New York City Housing Authority (NYCHA) through the Rental Assistance Demonstration program is financing critical building repairs of 1,400 units of public housing, achieving ten-year operating revenue of \$66 million and reducing capital needs by \$87 million. This is sorely needed. NYCHA houses over 600,000 households, and is the largest landlord in North America, housing more residents than the population of Atlanta or Miami.⁸⁷ NYCHA has experienced continued disinvestment over the years, and has a backlog of repairs. After Hurricane Sandy, thousands of units lost power and residents sheltered in place without lighting or access to water for many days.⁸⁸ The financial and social impact on NYCHA was enormous, as already scarce dollars were spent repairing and replacing equipment, while tenants went without critical systems for weeks. To support the resilience of their most storm vulnerable properties, NYCHA ultimately received \$3 billion in funding from FEMA to support their infrastructure hardening and storm protection.

ACTION STEPS

Legislative

Senate Banking and House Financial Services Committees should remove the cap on units converted through the Rental Assistance Demonstration program, and the related appropriations committees should appropriate the federal resources necessary to preserve all viable public housing units.

Executive

HUD should support city efforts to use RAD to preserve and build affordable housing, and should provide technical capacity to local public housing authorities that seek assistance using RAD authority to modernize their units.



New Orleans

CONCLUSION AND POTENTIAL ALLIES

For cities to thrive, low-income residents must be able to live free from the harms caused by unsafe and unhealthy homes. Congress should more robustly support cities' and states' proven ability to leverage private investments in affordable housing.

Potential allies for cities seeking to protect and expand their affordable housing stock could include:

Affordable housing advocacy groups – Stewards of Affordable Housing (SAHF); National Low-Income Housing Coalition; Neighborworks USA; National Low-Income Housing Coalition; Energy Efficiency for All Coalition; Local Initiatives Support Coalition; Enterprise Community Partners.

Advocacy organizations, nonprofits and think tanks – Smart Growth America; the Urban Land Institute; National Housing Conference; Furman Center for Real Estate and Urban Policy; Pew Charitable Trust; National Housing Trust; Enterprise High-Cost Cities Housing Forum; Lincoln Institute of Land Policy.

City networks – National League of Cities; Metropolitan Planning Organizations.

Professional associations – Mortgage Bankers Association; American Planning Association; State Emergency Management; National Association of Insurance Commissioners; Association of State Floodplain Managers.

Professional groups and think tanks – American Enterprise Institute; Heritage Foundation; American Enterprise Institute; Cato Institute; American Action Forum; Bipartisan Policy Center; Natural Resources Defense Council.



Denver

3

SUPPORT THE RESILIENCE OF CITY ECONOMIES

These cities have identified issues with economic development among their resilience challenges

Atlanta
Dallas
Honolulu
Louisville
Nashville
New Orleans
Norfolk
Minneapolis
Pittsburgh
Philadelphia
San Juan
Seattle
Washington DC

VISION

Resilient cities must have a healthy and growing economy that provides a range of employment opportunities at living wages for their residents, fosters the formation of new businesses, and promotes innovation and strength of existing corporations.

When a city provides these opportunities it can grow inclusively, and generate economic prosperity to support cohesive and engaged communities that can ensure social stability, security and justice, and rebound more quickly from business disruptions.

WHERE WE ARE TODAY

American cities drive the national economy. In 2016, twenty of the nation's largest cities generated 52% of the nation's GDP.⁸⁹ Risks from natural hazards, cyber-attacks, loss of power and connectivity, political and local market volatility, crime and inequality undermine supply of and demand for goods, resident mobility, asset valuation and business service continuity. These impacts can undermine a city's tax and financial base.

While cities drive the national economy, small businesses drive the economy of cities and make up 99.7% of all U.S. employers.⁹⁰ Small firms are especially at risk from disaster events: according to the U.S. Chamber of Commerce, "one in four small businesses will experience a disruptive natural disaster in any given year, and of those, 43% won't recover."⁹¹ Supporting small businesses must be a key component of a city's economic resilience strategy. Cities recognize these challenges. Of the twelve 100RC strategies completed so far by U.S. cities, all prioritize strategies to strengthen local economies, and identify a robust local economy as interdependent with their resilience.

FEDERAL ROLES

The Federal Government supports city economies through funding, data and technical advice, and regulation to ensure growth, equity, safety and fairness in business operations. There are a host of federal programs designed to stimulate the economy.⁹²

Leading federal agencies directly involved in strengthening city economies include:

Federal Agency	Agency Roles(s) or Mission
Small Business Administration	Promotes the interests of the nation's businesses.
Housing and Urban Development	Oversees federal programs designed to help Americans with their housing needs.
U.S. Treasury	Promotes economic growth through policies to support job creation, investment and economic stability.
U.S. Department of Commerce	Creates jobs, promotes economic growth, encourages sustainable development.
FEMA	Supports city recovery and mitigation through funding and analysis.
U.S. Department of Education	Supports workforce education through funding, regulatory oversight and research.
U.S. Department of Labor	Prepares workforce for new and better jobs, and ensures the adequacy of America's workplaces.

The following strategies support the resilience of city economies by promoting workforce training in the growing resilience economy and business continuity for small business.

1

Strategy: Initiate a workforce training program dedicated to promoting the nation's safety and resilience

CHALLENGE

Challenges in the composition of the workforce require a shift in workforce training. A study by Pew research suggests that there is a “tectonic” shift happening as the American economy moves into a “knowledge focused age”.⁹³ Opportunities are rising faster in jobs that require more training and skills, and the American workforce needs to keep pace with these changes to survive. The need to bolster and strengthen the built infrastructure, safeguard vulnerable housing, bolster tech industries and develop innovative ways of growing city economies presents a market opportunity for U.S. cities. The resilience economy presents an opportunity to expand the pool of jobs and foster American entrepreneurship, innovation and business expansion, while providing more Americans with training in resilience-related skills and industries.

We're doing our part here at home to answer our moral obligation and build the clean energy economy that is necessary to cool our planet.

Mayor Kasim Reed
Atlanta

The New Orleans Network for Economic Opportunity (the Network) focuses on connecting disadvantaged job seekers and businesses to opportunities. Since launching in 2014, the Network's key initiatives have included, among other things, sector specific job training, case management and supportive services, and creating opportunity centers.

OPPORTUNITY

Cities across the nation are hubs of innovation and development in technology, design, construction and services. Resilience opens many new areas of growth for the economy, from preventing cyber-attacks to increasing public health measures for vector-borne disease prevention, to retrofitting, building, and maintaining more resilient infrastructure.

The nation has an opportunity to create more American jobs in the resilience economy by increasing workforce training. Public-private partnerships between industry and the Federal Government will elucidate demand for specific skills and sectors, and help ensure that agency efforts to modernize workforce training result in workers being paired with jobs. Cities are making this a priority. The city of Norfolk's Resilience strategy includes a goal to “create economic opportunity by advancing efforts to grow existing industries and new sectors.”

ACTION STEPS

Executive

The White House and the Department of Labor should convene experts to solicit training needs for jobs left unfilled, or being filled disproportionately by foreign workers, and then offer guidance on training and growing the nation's workforce to support the resilience economy. A training curriculum would foster idea-exchange across U.S. geographies, and incorporate strong private sector partnerships.

Agency

Department of Labor should support local integration within the Workforce Investment Board structure at the community level.

HUD should strengthen its commitment to ensuring that low and moderate-income residents get the benefit of all federal contracts through Section 3 hiring, including work within national unions, to further support training and apprentice programs related to the resilience economy.

Department of Education should collaborate with industry to determine workforce needs for the future, translating those needs into community college and technical education curriculums.



Boston

2

Strategy: **Establish a Great America Accelerator for Small Business Growth and Continuity****CHALLENGE**

The changing market perpetually requires a great deal of innovation to drive businesses forward and bolster city economies. Funds for research and development, technical assistance and loans for demonstration projects can be in short supply, especially for small businesses. At the same time, resources for business continuity planning (to prepare for continued operation in case of shocks) are often non-existent. Nationwide Insurance found that 68% of small businesses did not have a disaster plan in place.⁹⁵

While the Federal Government's and philanthropy's continued emphasis on resilience will enable businesses to better prepare for the worst, even the combination of available resources from the Federal Government and philanthropic organizations is insufficient to reach all businesses in a timely manner. As the Department of Housing and Urban Development and The Rockefeller Foundation demonstrated with the National Disaster Resilience Competition, when the span of the Federal Government combines with the flexibility of philanthropy, communities can realize a far greater benefit than when the two act separately.

OPPORTUNITY

Increasing resilience by creating a diversified city economy and generating new industries can drive economic development, strengthen existing service base and create growth and opportunities for cities.

It's in all of our best interests to be more resilient. It's in the best interests of the city, the insurance companies, the businesses, private property owners.

Brian Strong

San Francisco, CA
Chief Resilience Officer

A Great America Accelerator economic development program, led by the White House National Economic Council in partnership with philanthropic organizations, could increase economic growth within cities by leveraging and coordinating an array of services to support business continuity and disaster preparedness, and post-disaster recovery for businesses. This joint effort would result in a set of best practices that the Federal Government could promote through its existing programs. The Great America Accelerator would be an interagency coordinator of the many small business-related agency programs led by the Federal Government in tandem with philanthropically-funded competitive grant program for small businesses. Benefits to philanthropic organizations would include targeted access to businesses identified by the government as physically and economically vulnerable, in addition to creating opportunities for philanthropic work to be amplified nationally by the Federal Government and inspire local or regional investments in second-generation projects. Philanthropic organizations and the Federal Government should come together to:

Disaster preparedness

In the six-county region surrounding Sacramento, California, regional partners developed the “Capital Region Business Resiliency Initiative.”¹² The initiative aims to support small businesses - key drivers of the Sacramento region’s economy - by promoting disaster preparedness that better enables business continuity amid natural or other disaster events. As part of this initiative, led by the local nonprofit Valley Vision, a disaster preparedness toolkit was developed to provide guidance on creating a resiliency plan for small businesses.

- Fund a range of eligible activities with private dollars, including market research, small/disadvantaged business technical assistance support, and specific projects designed to improve business resilience and economic development. Projects that are aligned with the Economic Development Agency’s Comprehensive Economic Development Strategy (CEDS) roadmap should be prioritized, as well as those that have been created through public and private sector collaboration and that have defined ways to strengthen and diversify regional economies.

- Prioritize economic development efforts in blighted city commercial corridors and vacant areas that will help bolster vulnerable city communities.
- Create a revolving loan fund for sector specific economic development for resilience.
- Include guidance, tools and support for improving and streamlining small business disaster recovery, such as new mobile internet connectivity hubs after a community-wide disaster.

ACTION STEPS

Executive

The White House should task agencies with identifying businesses and locations vulnerable to business loss, and convene a roundtable with state and local elected officials, businesses and philanthropic organizations to examine opportunities to test and highlight innovative resilience initiatives.

Economic Development Administration should include resilience as a key theme in Comprehensive Economic Development Strategy (CEDS) roadmaps.

3

Strategy: Engage the Private Sector to Develop Innovative Solutions for Social and Economic Problems Facing Low-Income Communities

CHALLENGE

People will not want to settle in cities that do not prioritize basic services. From safe drinking water to good public schools, cities must be able to provide basic necessities if they want to see significant economic development growth. In fact, spending on basic public services is the second most impactful factor in major urban economic development.⁹⁶

Unfortunately, when natural disasters occur, it is these same basic services that often take a hard hit, particularly if they were under-funded before the event. Extreme weather events can result in the disruption of public services that fuel the economy, including power and telecommunication outages, long-term school, business, and road closings. Future-proofing these integral parts of a community, as well as getting them up and running again quickly in the wake of a disaster, must be a top priority for cities.

OPPORTUNITY

The private and philanthropic sectors, along with the federal, state and local government, can play a critical role in ensuring our cities are providing residents with basic public services. In recent years, there has been increased public and private interest in Social Impact Bonds (SIBs), an innovative financial tool that harnesses private capital to support critical but underfunded public services. SIBs are a promising way to create new public-private partnerships to tackle some of the most pressing social and economic problems facing low-income communities, all while ensuring that any taxpayer investment yields measurable results.

Under a typical SIB contract, private investors provide upfront capital to fund a particular program (e.g., services for families at risk of becoming homeless). Those investors are paid back by the government with a financial return, only if predefined social outcomes are achieved (e.g. a reduction in families entering homeless shelters). Often the financial return to investors comes from the money saved through a reduction in government spending. If the program falls short, the investors would not recoup their upfront investment and incur losses.

The contract is overseen by at least one intermediary, which is responsible for negotiating the terms of the deal, identifying service providers, raising capital from private investors and disbursing payments. In addition, all parties agree to have an independent evaluator track the program's outcomes through a rigorous analysis.

A total of 11 SIB initiatives have been launched to date in the U.S., including projects aimed at reducing prison recidivism, improving workforce readiness and providing early childhood education. There are currently dozens more contracts under development across the country covering a wide range of social issues, from preventing and curing asthma to reducing teenage pregnancy rates.

Legislative

To date, all closed SIB contracts have been devised and negotiated at the state or local level, with little financial support from the federal government. However, many of these initiatives have the potential to yield meaningful long-term federal savings. Congress should prioritize legislation to help mitigate some issues SIBs face as a result of a lack of federal involvement, and to clarify the federal government's role in future SIB initiatives.

A number of bills have been introduced with this goal in mind. Reps. Pat Tiberi (R-Ohio) and John Delaney (D-Md.) have introduced the Social Impact Partnerships to Pay for Results Act, and a similar bipartisan bill was introduced in the Senate by Sens. Todd Young (R-Ind.) and Michael Bennet (D-Colo.). These bills would establish a new interagency council to identify, support and monitor state and local SIB initiatives that have the potential to yield long-term savings to the federal government. The legislation would also create a 10-year, \$300 million fund to support eligible SIBs in three ways:

Paying for successful outcomes: The federal government would be authorized to enter into contracts with state and local governments and pay for certain successful outcomes. This would give the federal government a seat at the negotiating table, allowing state and local practitioners to quantify and capture federal savings as part of a SIB's financial model.

Supporting feasibility studies: Before a SIB can get off the ground, the first step is to test whether the basic financial model is feasible. The legislation would make available up to \$10 million to support these studies.

Supporting rigorous evaluations: A key part of any SIB is a rigorous, third-party evaluator to track the program's efficacy and impact. The bills would provide financing to support these evaluations, as under SIB's current financial model they are often difficult to fully fund.

Executive

The Administration should include policy priorities to enhance the Federal Government's role in SIBs, like the legislative language mentioned above, in its annual Budget Request to Congress.

CONCLUSION AND POTENTIAL ALLIES

The need for business and social service disruption planning is both a challenge and an opportunity for local economies. The Federal Government should gather data and information needed to identify the most critical risks to businesses and social services that workers rely on, and combine forces with private and philanthropic organizations to pilot and potentially replicate successes in addressing resilience needs.

Professional groups and think tanks – Heritage Foundation; American Enterprise Institute; Cato Institute; American Action Forum; CenterCenter for American Progress; Heartland Institute; Bipartisan Policy Center; Policy Link; Third Way.

Cities will find numerous allies committed to furthering America’s economic growth from organizations such as: U.S. Chamber of Commerce; National Association of Regional Councils; National Association of Counties; National Business Incubation Association; National League of Cities; American Entrepreneurs for Economic Growth; American Planning Association; Institute for Innovation, Creativity and Capital; National Community Development Association; Public Technology, Inc.



Norfolk

4

IMPROVE PUBLIC SAFETY AND JUSTICE

These cities have identified issues with public safety among their resilience challenges

Boulder
Chicago
Minneapolis
New Orleans
Oakland
Pittsburgh
St. Louis

VISION

Resilient cities advance public safety and strengthen communities by simultaneously reducing crime and incarceration rates, while supporting victims of crime, building social cohesion, and providing second chances.

To meet the diverse needs of its residents, a city must ensure a comprehensive and inclusive approach to law enforcement and justice that promotes fair policing and prosecution practices, strengthens the relationship between law enforcement and community members, reduces reliance on incarceration, and provides legitimate opportunities for justice-involved individuals to pursue education and attain employment and housing. In sum, resilient cities promote long-term health, safety, and stability by working in partnership with their community members to reduce crime and increase fairness.

WHERE WE ARE TODAY

The United States is home to less than five percent of the world's population but nearly 25 percent of the world's incarcerated population, with almost 2.2 million people in jail and prison and another 4.5 million people under community corrections supervision.^{97,98} More than 90 percent of those incarcerated are in local jails or state prisons.⁹⁹ The country's incarceration rate remains among the highest in the world, despite violent crime rates that have steadily fallen over the past two decades and are near historic lows.¹⁰⁰

Studies suggest that over-incarceration provides diminishing public safety benefits while destabilizing and negatively impacting the well-being of neighborhoods that have high incarceration rates.¹⁰¹ In addition, exposure to violence and high-exposure to the criminal justice system can contribute to long-lasting individual and community trauma that may impair a city's ability to respond to new crises.¹⁰²

The costs associated with a flawed criminal justice system are staggering and rising. In 2015, the average cost to keep someone incarcerated in state prison was more than \$33,000 per year, with some states spending more than \$50,000 per year, per person.¹⁰³ California alone spent more than \$8.5 billion on prisons in 2015.¹⁰⁴ In addition to the direct costs, taxpayers are also burdened by reduced taxes from unemployment and under-employment associated with incarceration, and billions in economic losses to the victims of crime.¹⁰⁵

A city's ability to promote sustained safety and stability is an integral part of its resilience strategy. While a fairer and more effective justice system is clearly needed, it will require changes to a highly complex set of interconnected processes and agencies regulated by federal, state, and local governments. To fully realize safe and healthy housing and a healthy and growing economy – two previously identified goals – cities must work with community members to effectively reduce crime without over-relying on incarceration.

There is a broad array of challenges related to the criminal justice system facing both the Federal Government and cities including:

- The lack of trust between communities of color and the justice system, particularly police and other law enforcement officers
- The ongoing and disproportionate impact of gun violence experienced by certain communities
- Corrections systems that are marred by abusive conditions, high recidivism rates, racial disparities, and rising costs
- People cycling in and out of the justice system, including those with mental health and substance use issues, whose underlying issues often remain unaddressed
- Collateral consequences that can – legally and illegally – prevent a person from future educational attainment, employment and housing

FEDERAL ROLES

The United States Congress appropriates funding for federal grants, research, and technical assistance that support the administration of state and local criminal justice systems. Congress also has the authority to pass laws that impact federal criminal codes and sentencing, which can influence and/or inform state and local efforts. Congress is also responsible for passing federal gun laws and regulations.

The United States Department of Justice (DOJ) supports the administration of justice at the local level by providing approximately \$4 billion annually in grants, training, and technical assistance to local and state governments, academic institutions, and nonprofit organizations. In addition, the criminal justice field receives support from the United States Departments of Education, Health and Human Services, Housing and Urban Development, and Labor.

DOJ is the federal agency that supports criminal justice-related legislative activity, prosecutes federal crimes, and runs the Federal Bureau of Prisons). In addition, DOJ pursues civil rights investigations into local and state law enforcement and corrections agencies that are alleged to have violated people's civil rights.

The federal judiciary adjudicates federal trials, and probation supervision for those convicted of federal charges.

The following strategies focus on enhancing effective federal engagement in criminal justice.

1

Strategy: **Support Local Law Enforcement****CHALLENGE**

Local law enforcement officers are on the frontline of both public safety and community relations. America's law enforcement officers put on their uniforms every day to help make our communities safer, at great personal risk. And, every day, police officers interact with community members young and old in myriad ways, the vast majority of which do not end in arrest. For many city residents, their most frequent contact with local government is via police officers. As such, police officers represent more than themselves or even their departments; for some, they represent the entire city government.

Oaklanders wanted a leader ... who would deliver on fair and just policing, prevent violence and increase accountability, and of course, most importantly, build community trust.

Mayor Libby Schaaf

Oakland, CA, announcing new Police Chief, Anne Kirkpatrick¹⁰⁶

It is, therefore, critical that law enforcement officers are safe while doing their jobs. This requires sufficient funding for appropriate staffing levels and training, and it requires a healthy and trusting relationship with the communities they serve. Over the past several years, tensions have flared between communities of color and law enforcement officers, as high-profile officer-involved deaths have gripped the nation's attention. For the safety of officers and community members, it is imperative that local law enforcement agencies receive the training and resources they need to build trust with the communities they serve.

OPPORTUNITY

The Federal Government is uniquely situated to support the needs of local law enforcement agencies, as it provides significant funding via the Byrne Justice Assistance Grants (JAG) the largest source of federal justice-related funding to states, and more than \$100 million for hiring of police officers via the DOJ Office of Community Oriented Policing Services (COPS). The COPS Office awards grants to state, local, territorial, and tribal law enforcement agencies to hire community policing professionals, develop and test innovative policing strategies, and provide training and technical assistance to community members, local government leaders, and law enforcement. Since its inception in 1994, the COPS Office has invested more than \$14 billion to help advance community policing.¹⁰⁷

In addition, DOJ's National Initiative for Building Community Trust and Justice provides training and technical assistance to six pilot cities around the country to enhance procedural justice, reduce the impact of implicit bias, facilitate police-community reconciliation to address historical and present-day race-related tensions, and implement group violence intervention strategies. The Urban Institute is conducting an evaluation of the National Initiative, but cities are already seeing promising results. Birmingham Police Chief A.C. Roper reports that among those most likely to be victims or perpetrators of gun violence, homicides were down 33 percent and non-fatal shootings were down 60 percent during the first half of 2017.¹⁰⁸ In Pittsburgh's Zone 5, the toughest police precinct in the city, complaints

against officers have dropped from 24 in 2014 to just 15 in 2016 and crime has declined in most categories. Zone 5’s Commander reports that there is now a “freer flow of information between officers and citizens.”¹⁰⁹

The early results in Birmingham and Pittsburgh are consistent with research that suggests that strengthening the relationship between police and communities enables law enforcement to more effectively lower crime and contribute to safer communities.^{111,112} Police legitimacy encourages compliance with the law, and encourages neighbors to cooperate with police to combat crime. Police need information to prevent and respond to crimes, and that information comes through relationships whether those people are other law enforcement officers, confidential informants, or everyday citizens. For example, the vast majority of police investigations require the assistance of witnesses, including crime victims, who often live in the same communities as those who committed the crime and may fear retribution. Thus, trust is a critical component in encouraging community members to work with police and help solve – and prevent – crimes.

National Initiative for Building Community Trust and Justice

Pittsburgh, PA and Minneapolis, MN are two of six pilot sites of the National Initiative for Building Community Trust and Justice – a project to improve relationships and increase trust between communities and the criminal justice system by enhancing procedural justice, reducing the impact of implicit bias, and fostering racial reconciliation. In a 2016 interview about the National Initiative, Pittsburgh Bureau of Police Commander Cristyn Zett said, “We’re hoping that ... we can have a real impact on the officers’ daily lives and their interactions with the community, so that we’re able to build our legitimacy as a department and as guardians of the community.”¹¹⁰

ACTION STEPS

Legislative

Congress should create a separate line item and baseline funding for the National Initiative for Building Community Trust and Justice to address and repair tensions between police and communities of color.

Congress should appropriate funding, consistent with past years, for grant programs that directly support state and local law enforcement efforts, including the Byrne Justice Assistance Grants (JAG), the Byrne Criminal Justice Innovation Program (BCJI), and the COPS Hiring Program (CHP).

Executive

DOJ should expand the National Initiative for Building Community Trust and Justice beyond the initial six pilot cities, make procedural justice training available to any law enforcement agency that requests it, and expand funding for research into what works in building trust between police and community.

DOJ should reinstate the COPS Office’s Collaborative Reform, a voluntary program that has helped local police departments implement evidence-based community policing programs to improve trust between officers and the communities they serve.

2

Strategy: **Support a Public Health Approach to Reduce Violence****CHALLENGE**

According to the Federal Bureau of Investigation Uniform Crime Reporting statistics, and a recent report by the Brennan Center, violent crime rates, nationally, have

dropped significantly since 1990. The 2015 violent crime rate was about the same as it was in 1970-71, early tallies of 2017 were historically low.¹¹⁶ Yet, despite significant declines nationally, violent crime continues to impact and be concentrated in persistently high-crime neighborhoods in a number of major cities, and homicide continues to be the leading cause of death for Black boys and young men ages 15 to 34.¹¹⁷ Moreover, data suggests that strictly relying on incarceration to reduce violence may not be the most effective approach for achieving results, as crime rates dropped nearly twice as much in the 10 states with the largest imprisonment declines between 2005 and 2015, compared to the 10 states with the largest growth in imprisonment.¹¹⁸

Background Checks for Gun Purchases

The United States continues to grapple with high incidences of mass shootings, which can occur anywhere. Between June 12, 2016, when a shooter killed 49 people at an Orlando nightclub, and October 1, 2017, when a shooter killed 59 people and injured 527 at a Las Vegas music festival, there were 521 mass shootings that left nearly 600 people dead.¹¹³ From a public health perspective, it is critical to not only change behavior, but also to change the environment within which people make decisions. According to the Harvard Injury Control Research Center, 22 percent of gun owners obtained their most recent gun without a background check, and at least 84 percent of American adult's support requiring background checks for gun purchases.^{114,115}

OPPORTUNITY

A public health approach to violence prevention seeks to identify and address the root causes of crime in a long-term and sustainable way, rather than solely treating the symptoms of those causes (e.g., the violence) with punishment and temporary incapacitation.¹²⁰ The World Health Organization and the United States Center for Disease Control and Prevention have both advocated for a public health approach to violence prevention.^{121,122}

A public health approach can take multiple forms and often requires coordination between traditional justice system agencies and less traditional partners like health and social services providers. In multiple cities, police are working with researchers and service providers to conduct a social networking analysis that identifies those most likely to become victims or perpetrators of gun violence, and then provides those individuals with social services and employment opportunities to move away from violence.¹²³ Research suggests that a public health approach to violence reduction can advance the sustained safety and stability of the communities most-impacted by violence.

For example, Ceasefire is a proven, evidence-based violence-reduction strategy that brings law enforcement, social services, and affected communities together to reduce gun violence. Ceasefire has been evaluated numerous times and received the highest ranking in evidence-based practice from DOJ's Office of Justice Programs.

ACTION STEPS

Legislative

Congress should allocate funding at the FY2017 level for proven public health interventions, including DOJ's Defending Childhood Initiative – a trauma-informed approach to reducing violence – and DOJ's Community-Based Violence Prevention Initiative which funds programs like Ceasefire (Group Violence Intervention) and Cure Violence.

Public Health Approach to Violence Prevention

In 2012, a group of community leaders and City leadership, alarmed by the growing number of young men of color being killed on the streets of Oakland, CA agreed to implement the Ceasefire strategy. The central goals of Oakland's Ceasefire effort are to reduce shootings and homicides while also reducing the use of incarceration and building police-community trust.

A careful analysis of violence by the California Partnership for Safe Communities indicated that the majority of shootings and homicides involved a very small number of young people at highest risk of violence who were older than commonly believed, heavily involved in the justice system, and associated with local groups or gangs. These young people are the focus of the Ceasefire strategy.

From 2012 through 2016, Oakland experienced a cumulative 40% reduction in fatal and non-fatal shootings.¹¹⁹

Congress should pass legislation requiring background checks for all gun purchases.

Congress should pass legislation to eliminate the limitations on firearm research imposed by the 1997 Dickey Amendment so that the Centers for Disease Control and Prevention (CDC) can appropriately study the issue of gun violence as a public health threat.

Executive

The National Institute of Justice (NIJ), the research arm of the Department of Justice, should further evaluate the effectiveness of public health approaches to reducing violence and amplify their findings to inform federal funding priorities and local violence prevention strategies.

3

Strategy: Invest in evidence-based reforms that reduce crime and incarceration

CHALLENGE

The number of people incarcerated in the United States increased nearly five-fold between 1972 and 2010, fueled in part by federal policies and legislation including the “War on Drugs” and the 1994 Violent Crime Control and Law Enforcement Act.¹²⁵ In recent years, there has been bipartisan recognition that this dramatic increase

resulted in an overuse of incarceration as a response to crime. Significant research over the past twenty years suggests that incarceration has limited long-term effect on crime rates, and that the public safety impact of incarceration diminishes as the rate of incarceration increases.^{126,127} In addition, many conservative organizations and lawmakers have criticized the exorbitant costs of incarceration and the government’s overreach to criminalize behavior that could be otherwise addressed without justice involvement.¹²⁸

... our nation’s incarceration population remains the largest in the world. But New York City has a different story to tell – we are making every effort to ensure that people who do not need be behind bars are not, all while keeping crime at historic lows. In the last three years ... the total jail population has dropped 18% and the population just at Rikers Island has sunk 23% – that’s significant progress.

Mayor Bill de Blasio
New York City

People suffering from homelessness, mental health issues, and substance use issues have been particularly impacted by over-incarceration policies.^{129,130} Connections between the justice system and other social services, such as mental health treatment, drug and alcohol addiction treatment, and education need to be strengthened. Many cities, however, lack the necessary training to identify and deal with the cross-cutting issues of social services and criminal justice. Consequently, people who should not be incarcerated, end up in jail or prison. According to recent estimates, 37 percent of people in state prison and 44 percent of people in local jails have had mental health problems, and more than half

of people in state prison and local jail have drug abuse issues.^{131,132} Jails have, therefore, become our cities’ largest homeless shelters, mental health hospitals, and drug treatment facilities.

The impact of incarceration is not only felt by the person who is in jail or prison. More than 2.7 million minor children (under age 18) have a parent who is incarcerated, and more than half of incarcerated parents were the primary income earners for their children prior to incarceration.¹³⁴ Having an incarcerated parent is correlated with negative life outcomes, including behavioral health issues and poor academic achievement, thus contributing to generational trauma

Mental Health Services in Jail

In Cook County (Chicago, IL) the largest single pre-detention facility in the world intersects with an array of services and agencies. The County Jail has become one of the largest de facto mental health care providers in the country, with an estimated 35 percent of its 9,000 inmates requiring mental health services. The cost of housing and treating inmates is expensive, and the lack of coordination between services that might keep people from reentering jail is also costly and inefficient. Jails across the country, from Los Angeles to New York City, face similar challenges as the percentage of incarcerated people with mental health issues continues to rise.¹²⁴

and prolonged community instability.¹³⁵ In addition, research suggests that the overall well-being of communities with high exposure to the criminal justice system is negatively impacted, leading to elevated levels of depression and anxiety even for community members who have no personal contact with the justice system.¹³⁶ Collectively, overreliance on incarceration weakens the social and economic fabric of communities, and limits their ability to effectively respond to new shocks and stresses.

Law Enforcement Assisted Diversion

Law Enforcement Assisted Diversion (LEAD) is a new innovative pilot program that was developed with the community to address low-level drug and prostitution crimes in the Belltown neighborhood in Seattle and the Skyway area of unincorporated King County. LEAD diverts persons suspected of low-level drug and prostitution offenses into community-based treatment and support services – including housing, healthcare, job training, treatment and mental health support – instead of processing them through traditional criminal justice system avenues. A unique coalition of law enforcement agencies, public officials, and community groups collaborated to create the program.¹⁴⁰

Veterans Treatment Courts

Veterans Treatment Courts divert veterans with mental health issues and homelessness from the traditional justice system and provide treatment and tools for rehabilitation and readjustment. Started in 2008, there are now more than 200 Veterans Courts across the country, including in St. Louis, MO. Hundreds of veterans have gone through the Veterans Treatment Court in the St. Louis area, including some who graduated from the Veterans Court Technology Clinic, which provide participants with mentorships and job skills through computer training.¹⁴¹

The adverse effects of incarceration policies have been disproportionately experienced by communities of color, particularly the black community. Nationally, African Americans are more than 5 times as likely and Latinos/Hispanics 1.5 times as likely to be incarcerated as whites.¹³⁷ The racial disparities remain, even when controlling for other factors such as drug use. For example, drug-related arrest rates are three to four times higher for blacks than whites, even though blacks and whites use drugs at about the same rate. It is more difficult to discern arrest rates among Latinos/Hispanics due to inconsistent data collection methods across states and localities.

OPPORTUNITY

The challenge of over-incarceration can be daunting, but there is a better way. Research suggests that community-based responses to crime may produce better public safety benefits and reduce the detrimental impacts of justice-involvement. Such an approach can be significantly less expensive for taxpayers and addresses the underlying causes of crime rather than simply prosecuting the symptoms of those causes (i.e., the criminal act) thereby

contributing to long-term safety and security. The Reverse Mass Incarceration Act of 2017 would incentivize this type of approach by providing grant funding to states to implement evidence-based reforms designed to reduce crime rates and incarceration. A state becomes eligible for these grants if incarceration at the local and state level was reduced by no less than seven percent, and the crime rate did not increase by more than three percent over the preceding three years.

People suffering from mental health and drug use issues require treatment, not incarceration. Cities and states have implemented innovative and evidence-based approaches ranging from treatment courts to diversion programs, such as Law Enforcement Assisted Diversion (LEAD) and the Police Assisted Addiction and Recovery Initiative (PARRI) to more effectively address these issues.

Building resilience is a process. Its requires recognition of our challenges, and the ability to heal physical and mental wounds, to create adaptive policies, and to restructure investment decisions.

Mayor William Peduto
Pittsburgh, PA

These programs give police the tools they need to divert people arrested for low-level offenses, including those with substance use issues, to drug treatment and other community-based services in lieu of prosecution and incarceration. Early research into LEAD is promising; LEAD is associated with nearly 60 percent lower odds of arrest following referral. And, DOJ's COPS Office identified PAARI as a strategy that successfully addresses opioid use.

While overincarceration remains a significant issue, incarceration has already been reduced by 13 percent from its peak in 2007 – 2008. The Justice Reinvestment Initiative (JRI), led by the Department of Justice in collaboration with the Pew Charitable Trusts and Council of State Governments Justice Center, has contributed to this reduction. JRI teams work with elected officials law enforcement agencies, and other stakeholders to identify the forces – such as crime, sentencing decisions, and probation/parole policies – that contribute to incarceration growth in a given state, and develop tailored reforms to address those forces. Due to its success, JRI has enjoyed overwhelming bipartisan support. Funding for JRI should be increased by \$2.5 million to support parallel reforms at the juvenile justice-level, and DOJ's commitment to working with states and localities via JRI should be reaffirmed.

Legislative

Congress should continue to support, and increase funding levels for the Justice Reinvestment Act.

Congress should pass the Reverse Mass Incarceration Act of 2017 which would provide federal incentive grants to reduce states' prison population.

Executive

DOJ should publicly reaffirm its support for the Justice Reinvestment Initiative, and call on Congress to increase funding levels.

DOJ should continue to provide local communities with training and technical assistance to improve the use of diversion programs, and provide targeted grant funding to help scale the programs to other jurisdictions.

DOJ should rescind recent directives to federal prosecutors instructing them to charge all defendants with the most serious charges possible, and instead, allow for prosecutorial discretion particularly for lower-level drug offenses.

NIJ should assist communities by studying local diversion and alternative to incarceration programs, and identifying national best practices.

The Substance Abuse and Mental Health Services Administration (SAMHSA) should continue its work with local communities to build resilient and trauma-informed cities where children and adult community members receive appropriate treatment and support to overcome traumatic and stressful situations, including those related to violence and incarceration.

The Administration should rescind Executive Order 13768, a ban on providing federal funding to Sanctuary Cities, as the grants referenced above should benefit all tax-paying members of the community, notwithstanding tensions between local and federal authorities related to immigration enforcement.



Oakland

4

Strategy: Prioritize the Successful Community-Reentry of Formerly-Incarcerated People**CHALLENGE**

Nationally, more than 95 percent of all people who are incarcerated in local jail or state prison will eventually return home; however, half of those released from state prison are sent back within three years because of a new criminal conviction or a parole violation.^{144,145} This constant churn of residents entering and exiting communities has a debilitating effect on cities, as family connections are broken and potential income earners are removed from their communities even if they pose little or no direct threat to public safety.

The life-impact of an arrest or conviction does not end once a person completes their sentence. Nationally, the American Bar Association found more than 40,000 “collateral consequences,” civil and statutory barriers that can prevent people from enrolling in school, finding stable housing or employment, or obtaining a professional license (e.g., a beautician’s license or admission to the state bar).¹⁴⁶ Having a criminal record makes it less likely that a person will find employment, and even when employed, formerly-incarcerated people earn significantly lower wages than similar workers without an incarceration history.¹⁴⁷ In communities with high rates of incarceration, employment and labor force participation of young black men is reduced, contributing to income inequality across demographics.^{148,149}

OPPORTUNITY

The Second Chance Act (SCA) is a federal effort that has received significant bipartisan support and produced results. Using SCA funds, DOJ provides grants to state and local governments, and nonprofit organizations, to reduce recidivism by addressing the myriad of collateral consequences that can derail a justice-involved person’s successful reintegration into his or her community. Research suggests that stable housing and sustained engagement with education or employment reduces the likelihood that a person will recidivate.¹⁵⁰ And, yet, justice-involved individuals face significant barriers to these very things. The Second Chance Act helps local communities address these issues and provide legitimate second chances for success so that people can exit the justice system and lead law-abiding lives. The Second Chance Reauthorization Act of 2017 would expand the number of grants available, promote increased accountability of grantees, and better equip grantees to measure and track outcomes.

In addition to allocating funding for states and localities, the Federal Government should take steps to promote fair hiring policies and eliminate collateral consequences at the federal level.

ACTION STEPS

Legislative

Congress should increase funding levels for SCA from \$68 million to \$100 million, and pass the Second Chance Reauthorization Act of 2017,

Congress should pass the bipartisan Fair Chance Act of 2017, which would prohibit federal employers and contractors from asking a job applicant about his or her criminal history until the final stages of the interview process. The legislation would cement recent hiring changes implemented via rule by the Federal Government in January, and extend similar policies to federal contractors.

Executive

DOJ should publicly reaffirm its support for the Second Chance Act, and call on Congress to increase funding levels.

DOJ, in collaboration with the Departments of Education, Housing and Urban Development, and Labor, should continue to provide guidance to the field to increase opportunities for education, stable housing, and employment for formerly incarcerated individuals and other justice-involved people.



Pittsburgh

5

Strategy: **Support Survivors of Violent Crime****CHALLENGE**

In order to improve public safety and reform our criminal justice system we must change how we perceive and treat victims of crime. Historically, our society has failed to recognize victimization and the harmful effects of trauma. These misconceptions about victimization have helped to perpetuate the cycle of the violence. Victims are often left to suffer in isolation without any assistance on how to navigate the criminal justice system or access services.

Supporting Male Survivors of Violence

Boston Medical Center's (BMC) Violence Intervention Advocacy Program (VIAP) is a hospital-based violence intervention program serving more than 450 clients each year, who are treated for stab or gunshot wounds. VIAP and its community-based collaborators offer comprehensive care that provides medical, behavioral health, and support services to male survivors of violence, their family members and significant others for two years or more. VIAP was awarded a grant from DOJ's Office of Victims of Crime to identify gaps and barriers to care and support. BMC is a founding member of the National Network of Hospital-based Violence Intervention Programs (NNHVIP).¹⁵¹

Research shows us that trauma either through witnessing or directly experiencing violence, when left unaddressed, can have devastating long-lasting effects on individuals. For example, children exposed to violence, crime, and abuse are more likely to abuse drugs and alcohol; suffer from depression, anxiety, and posttraumatic stress disorder; fail or have difficulties in school; and become delinquent and engage in criminal behavior.¹⁵²

Victim-centered, trauma-informed services are critical to helping victims survive, heal and thrive. Depending on

the type and severity of a crime, different services may be warranted. These can include medical, counseling, safety planning, emergency shelter, criminal justice advocacy and legal services. But unfortunately, often victims do not seek or cannot access services. In 2015, the percentage of violent crime victimizations in which assistance was received from a victim service agency was 9.1 percent.¹⁵³

The Department of Justice's Office for Victims of Crime studied the state of the victim services field and released Vision 21: Transforming Victim Services Final Report, which found that services are often inaccessible or unavailable especially for certain marginalized populations including boys and young men of color, American Indian and Alaska Native victims, victims with disabilities, older victims, victims in detention settings, youth and women who are victims of human trafficking, undocumented immigrants, people with limited English proficiency, and individuals who identify as lesbian, gay, bisexual, transgender, or queer or questioning.

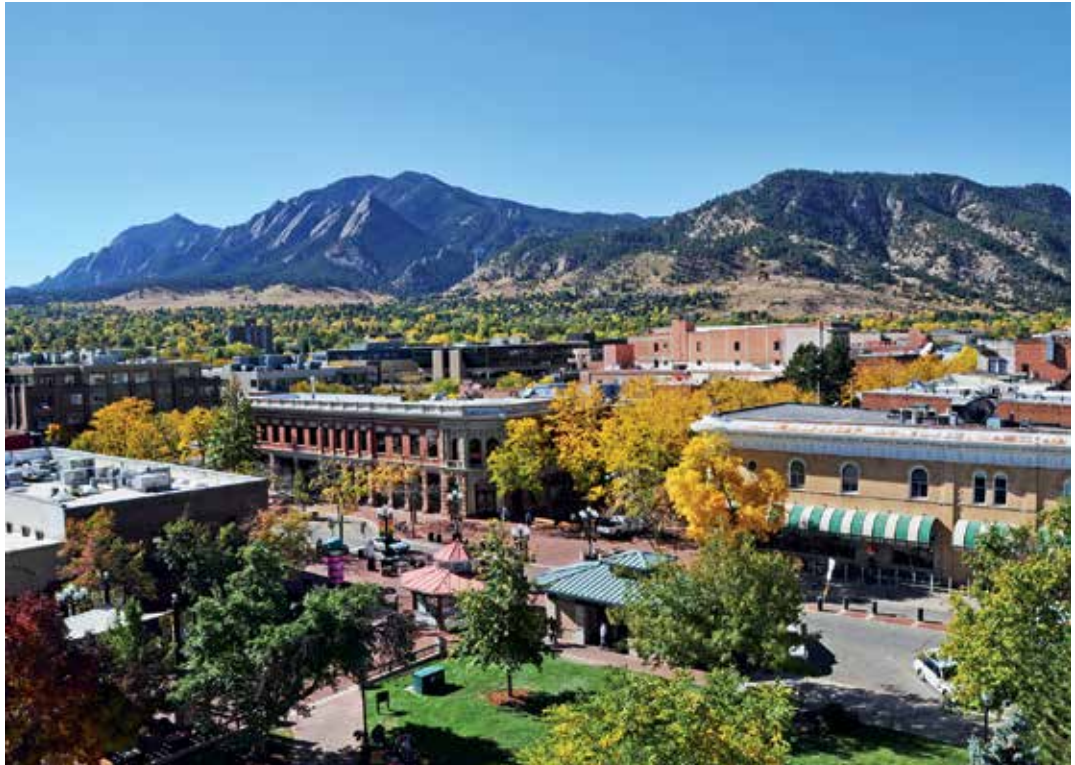
OPPORTUNITY

The Victims of Crime Act (VOCA) of 1984 created the Crime Victims Fund (CVF), a repository of federal criminal penalties and fines-- not taxpayer dollars. Every year funds are distributed from the CVF for a number of discretionary programs, set-asides and formula grants to states, the District of Columbia and U.S. territories for victim assistance and compensation. These funds provide critical lifelines to victim assistance and compensation programs across the country.

In Fiscal Year 2015, Congress tripled the spending cap on the Crime Victims Fund from \$745 million to \$2.36 billion. This unprecedented increase meant that states could fund many more victim assistance organizations than ever before. It also provided a unique opportunity to communities to reach more victims in new and innovative ways, helping to break some of the barriers that exist for victims attempting to access services.

In addition, the Office for Victims of Crime in partnership with the Office of Juvenile Justice and Delinquency Prevention and the National Institute of Justice is seeking out new ways to support the largely underserved population of boys and men of color through their special demonstration initiative, Supporting Male Survivors of Crime. Twelve sites across the country are focused on following a multidisciplinary approach to identify male survivors of violence, remove the stigma of receiving services, and break the cycle of violence.

In addition to allocating funding for states and localities, the Federal Government should take steps to promote fair hiring policies and eliminate collateral consequences at the federal level.



Boulder

ACTION STEPS

Legislative

Congress has maintained an elevated cap on the CVF for the past three fiscal years (FY2015-2017). Congress should maintain current levels of CVF funding to provide expanded outreach and services to victims of crime.

Executive

DOJ's Office for Victims of Crime (OVC) should promote and support efforts to reach underserved communities by encouraging state and territory recipients of formula funds to utilize an inclusive process for strategic planning and decision-making regarding the distribution of victim assistance funds. Funding priorities should reflect the needs of the jurisdiction's population. It is critically important that traditionally marginalized communities be at the table to share information about how their needs can be addressed fully.

OVC should continue to advance Vision 21 efforts aimed at modernizing and expanding the victims services field. Numerous initiatives show great promise for transforming the field including:

- Supporting Male Survivors- exploring effective ways to reach an overlooked group
- The development with the Bureau of Justice Statistics of the first ever national census and survey of victim service providers
- National Institute of Justice research related to crime victim issues, including restorative justice, understanding the overlap between victim and those who victimize, learning more about the victimization experiences of at-risk groups



Minneapolis

CONCLUSION AND POTENTIAL ALLIES

Safety and stability are critical components of a healthy community. And, healthy cities are best positioned to exercise resiliency in the face of adversity. In resilient cities, children grow-up free from threats of family and community violence, and residents who witness or survive violent crime receive the services and support they need. The criminal justice continuum – from police through post-incarceration supervision – is viewed as a legitimate and positive force in the communities it serves, preventing and responding to criminal activity while treating all community members with respect and understanding. Incarceration is used sparingly, and community-based responses to crime and mental and behavioral health issues (including drug use) are presumptive.

Resilient cities advance public safety by partnering with their community members rather than incarcerating them. Cities will find numerous allies across the political spectrum working to meaningfully reform the criminal justice system and advance public safety, including:

- The Council of State Governments Justice Center
- Right on Crime
- Pew Charitable Trusts
- Center for American Progress
- Brennan Center
- Prison Fellowship
- Vera Institute of Justice
- Center for Court Innovation
- National Institute of Criminal Justice Reform
- California Partnership for Safe Communities
- Common Justice
- Texas Criminal Justice Coalition
- National Network for Safe Communities
- Californians for Safety and Justice



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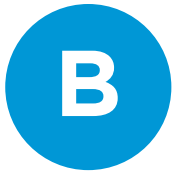
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