

**Local
Government
Advisory
Committee**



APR 25 2011

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The Honorable Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

Dear Administrator McCarthy:

On Behalf of EPA'S Local Government Advisory Committee (LGAC), we would like to thank you for participating in our spring meeting on March 28, 2014. We are writing to report back to you on the inaugural meeting of the LGAC's new Climate Change Resiliency and Sustainability Workgroup, during which we developed our initial recommendations on how EPA can best help communities adapt to climate change. We strongly encourage you to share our enclosed recommendations with the President's State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience.

As you know, communities across the United States are facing the impacts of climate change and extreme weather events—from unprecedented storms in the East, to devastating wildfires in the West and historic drought in the Southwest. Many states, cities, and tribes are taking important steps to increase the resiliency of their communities. However, further collaboration and coordination are needed across all levels of government, in a streamlined fashion that expedites support and resources, to ensure communities have the information, tools, and resources necessary to remain healthy and prosperous.

The LGAC is uniquely positioned to advise EPA on the challenges and needs communities must address as they adapt to climate change. The LGAC is comprised of 28 state, local, and tribal, elected and appointed officials, who represent a diverse range of communities and a balance of perspectives. These officials are on the frontlines of climate change, and they are intimately involved in the processes of preparing their communities for adverse events and responding when disaster strikes. The collective knowledge and experience of the LGAC's members are valuable resources, and

the new Climate Change Resiliency and Sustainability Workgroup will provide focus on climate change partnerships for EPA.

EPA has an essential role to play in helping the nation prepare for and ameliorate the impacts of climate change. Communities across the country can benefit from efforts to promote best practices and share lessons learned, rather than additional nationwide rules and regulations. As a first step in what we hope will be an ongoing dialogue with you and your Agency staff on enhancing community resilience and sustainability, we are providing the attached set of recommendations regarding the challenges, opportunities, and benefits associated with built infrastructure. Highlights of our enclosed recommendations are summarized below.

Many of our recommendations touch on high level aspects of program/agency administration and design, such as:

- Develop a national standard for cooperative agreements to facilitate and expedite inter-jurisdictional assistance during disasters, including mutual aid, health and medical care, and remediation. This cooperation is crucial for all communities, but it is especially important for small rural, poor urban, and environmental justice (EJ) communities.
- Consider the potentially disproportionate financial burden of disaster preparedness and recovery efforts on small, rural and EJ communities, which may face higher per capita costs. Strategies to build community resiliency to climate change should be evaluated for their affordability in both the near- and long-term.
- Support risk assessment and resiliency planning at the local level. Many communities lack sufficient technical, financial, and informational resources to fully evaluate their vulnerability to the potential impacts of climate change.


Other recommendations focus on specific opportunities to redirect or leverage resources, such as:

- Consider a public education effort which will enlist the help of all Americans and make citizens feel they are all part of a national solution.
- Consider opportunities for strategic engagement of the private sector in addressing climate change.
- Develop a toolbox for water utilities to use in response to changing resiliency conditions that identifies best performance used "cradle to grave" systems to address multiple issues communities are addressing, such as: air emissions/GHG reductions, energy generation (solar, biosolids), water (stormwater reuse, wastewater recycling), land management, and green infrastructure.
- Support "Transition Agriculturalists" in each state and a virtual clearinghouse/website to give landowners, particularly farmers and ranchers, the unique opportunity to access key information about localized drought conditions, changing precipitation patterns, shifting consumer preferences and best adaptation practices primarily related to soil health, water supply and availability issues.

Our recommendations were specifically crafted to address questions posed by the President's State and local Task Force on Climate Preparedness and Resilience. As part of the President's Climate Action Plan, this task force is in the process of developing recommendations for the President on how the federal government can better support local, state and tribal governments in achieving resilience. It is our hope that you will forward the enclosed recommendations to the Task Force.

We commend EPA's ongoing efforts to address climate change, and we look forward to providing assistance as you continue to partner with states, locals, and tribes to build community resilience. Our members have considerable experience on what strategies are appropriate for their communities. Please do not hesitate to call upon us.

Sincerely,



Mayor Bob Dixon
Chair



Mayor Bill Finch
Chair
Climate Change Resiliency and
Sustainability Workgroup

Enclosure(s)

Request for Input

Consider a challenge you have encountered or an opportunity you have identified relating to climate preparedness planning and efforts to build resilience within the *built* environment.

1. Please describe the challenge or opportunity as it pertains to the needs of local, state, and tribal governments. (Please limit response to 1,200 characters.)

Recently, it has become evident that climate change (generating violent super storms, dangerous weather fluctuations and steadily rising sea levels) is negatively impacting *built* systems in urban areas such as Connecticut's largest city- Bridgeport.

Example 1 - In the wake of the devastation caused in October, 2012 by Hurricane Sandy, various *built* systems were rendered inoperable or severely compromised as a consequence of the combination of major rainfall, tidal surge, coastal flooding and erosion. Severe impacts were experienced by the City's storm and sanitary sewer collection and treatment system, local utilities and electrical grid. Other municipal facilities and local coastal infrastructure located within the coastal flood plain were seriously compromised as well. Lesser service disruptions and operational impacts were experienced by the transit services (GBT bus and Metro-North rail) that service Bridgeport. Significant negative impact was experienced by certain fragile coastal region ecosystems.

Example 2 - In February, 2013 Bridgeport was overwhelmed by blizzard conditions with an unprecedented snowfall approaching 3 feet in depth, with nearly 20 inches falling in less than a 5 hour span which brought the City to a virtual standstill for the better part of a week. In particular, roadways were clogged with mountains of snow, abandoned motor vehicles and illegally parked cars, compromising emergency service responses. The situation was exacerbated by the freezing temperatures that followed the storm, and the widespread loss of electric power and in many instances heat and hot water (due to electric power failures and oil delivery delays) which threatened to create a health crisis.

Example 3 - In June, 2010 Bridgeport's urban core was struck by what sounded and felt like a freight train, but which was in actuality a violent tornado, likely spawned by climate change. The impact was relatively confined, but the devastation to the trees lining the streets was massive, severely altering the downtown's ecosystem over the short-term and the associated damage to the above-ground network of utility lines was overwhelming.

From these and other recent climate change induced catastrophic events, local government has learned valuable lessons and has instituted infrastructure hardening and operational improvements in emergency preparedness, citizen alerts, and disaster response. However, the critical challenges that remain concern matters that are largely beyond local jurisdiction and control. Specifically, Bridgeport like many other coastal urban communities have critical public and private sector facilities and public service delivery systems that are not hardened against nature's violence, especially the high winds and waters unique to waterfront locals. These exposures are compounded by the fragile nature of the fragile ecosystems and aging infrastructure prevalent in the core urban centers of the Northeast.

As a general matter, it is clear that the challenges posed by climate change and need for greater resiliency and sustainability are more difficult for those local governments with comparatively limited resources, smaller financial margins, and reduced operational flexibility. In particular, urban centers with aging infrastructure and financially burdensome employee pension obligations (think Detroit MI) will require targeted assistance from broader constituencies (i.e. regional, State and federal governance). Unless America's urban cores via proper outside assistance can be sustained, revitalized and rendered fiscally self-sufficient the threat of local governmental bankruptcy filings and financial bailout requests will become more prevalent.

2. What specific actions can be taken at the federal level through Executive Order or existing federal agency authority to encourage and support local, state, and tribal governments in these efforts? (Please limit response to 1,200 characters.)

The federal government could provide invaluable assistance either through issuance of Executive Orders or the exercise of existing federal agency authority to outright mandate or encourage through leveraged federal funding opportunities such initiatives as:

- (1) adopting requirements for burying all future utility (aka electrical) transmission lines located within a flood zone or within a designated proximity to the coastal mean high water line with the associated cost allocation to be across the entire rate base rather than restricted only to the impacted host communities;
- (2) mandating the retrofitting to underground status of all existing utility transmission line in these same high risk zones by a reasonable fixed date (e.g. completion on or before 2020), again with funding from the entire rate base;
- (3) providing additional direct federal grant funding assistance to coastal municipalities to maximize resilience against flood induced sewage treatment overload by: (a) retrofitting local sewage treatment facilities to be resistant to extreme tidal events, (b) separating sanitary and stormwater sewer collection networks and relining the pipelines to eliminate or reduce inflow & infiltration of stormwater into sanitary sewer treatment plants and (c) offering direct federal tax credits/incentives to fund private property owner initiatives to divert runoff from urban sanitary sewer treatment plants;

Enclosure 1-3

(4) imposing an effective date (e.g. December 31, 2015) for a regional disaster response plan and operations system to be adopted as an eligibility requirement to qualify for federal financial disaster assistance;

(5) requiring regional solutions for: (a) constructing barrier islands, dikes, seawalls, breakwaters and other devices to preserve fragile exposed coastal properties, (b) re-engineering to protect critical at-risk public sector infrastructure against the ravages of climate change by elevating/relocating facilities to withstand tidal storm surge and flooding, (c) enhancing and coordinating emergency communications networks, (d) widening & otherwise upgrading primary evacuation roadways and routes to hospitals and other emergency facilities, (e) hardening of public transit rail beds and lines (f) creating critical public service systems redundancy and resilience, (g) drafting regional disaster response plans complete with resource sharing and joint competitive bidding for private-sector supplemental emergency response services and (h) redeploy U.S. Army Corps of Engineers assets from overseas duty to domestic priority coastal management and preservation projects to design and implement strategies for storm surge protection, erosion control and ecosystem protection and for further development of the City's nature preserve at Bridgeport's Pleasure Beach;

(6) mandate that a minimum fixed percentage of energy produced by public utilities be generated from *green* renewable sources (e.g. solar, wind, geo-thermal, photovoltaic (PN) fuel cell, anaerobic digester), similar to the mandate that gasoline contain a fixed minimum percentage of ethanol;

(7) task the U.S. Dept. of Transportation to prioritize planning and operational and financial support for mass transit solutions to reduce pollution, congestion and resource depletion and making our modern urban centers resilient, sustainable and *green*;

(8) direct the U.S. Dept. of Education to adopt regulations and standards for all future public school facilities to be constructed utilizing state-of-the art *green* solutions (e.g. LEEDS Gold standard);

(9) direct appropriate federal departments and agencies to grant priority to urban center applicants for federal grants and other assistance targeted to remediating brownfields and with respect to such other programs that redress environmentally contaminated and/or blighted properties in order to maximize the developable and taxable property available to sustain our cities and to keep them self sufficient, sustainable and resilient;

(10) direct appropriate federal departments and agencies to grant priority for federal project re-development and transit funding to applicants whose proposals prioritize investment in, and utilization of, public transit solutions to the challenges of climate change, sustainability and resiliency;

(11) mandate through regulations or executive order that all appropriate federal agencies (e.g. HUD, Veterans Affairs, FAA, DOD) add an eligibility requirement for all new construction or redevelopment of more than a minimum scope project (i.e. 20,000 sq. ft.) requiring that retrofitting of heating, cooling, and electrical systems and services be studied, assessed and implemented if viable, with emphasis on renewable and sustainable alternative energy sources (e.g. solar, wind, bio-mass, geo-thermal and fuel cell technology); and

(12) mandate through regulations or executive order that all local governments submit a greenhouse gas reduction proposal in any applications for federal grant assistance or other redevelopment project applications in order to grant priority to responsible applicants committed to mitigating the negative effects of climate change and man-made environmental damage.

(13) establish a direct federal version of Bridgeport, CT's local Conservation Corps. (or subsidize and provide administrative and operational support to similar State and local Conservation Corps. organizations) for the purposes of providing urban youth with environmental training through summer jobs programs; as well as to mold general public awareness and behavioral modification concerning energy and resource conservation (e.g. LED lighting, weatherproofing, rain barrels & energy star appliances), recycling and other environmental priorities within the private sector to advance *green* programs, sustainability and resiliency and to maximize outputs from private sector environmental initiatives - recognizing the direct benefits of copying public sector best practices.

3. What specific benefits can be gained by implementing this action, such as improved public health and safety, jobs and economic opportunities, reduces risk and economic losses, cost-savings? (Please limit response to 1,200 characters.)

The benefits of federal Executive Level intervention to enhance *built* systems resilience promise to be both immediate and substantial.

Appropriately re-locating utility delivery systems to climate resistant underground conduits will provide significant long-term cost savings, reliability, longevity, and risk-reduction transforming this infrastructure into resilient and sustainable builds.

The value added from mandated regional governance structures will: (1) generate economies of scale and efficiencies as a direct result of collaborative planning/implementation of sustainable solutions and (2) improve sustainability of public sector *built* systems by fairly allocating costs amongst all stakeholders who benefit from regional public services (e.g. hospitals, universities & transit hubs).

The collective value added from implementing these series of actions will better position major urban centers (particularly coastal cities) to thrive as a result of infrastructure upgrade and risk reduction of *climate caused damage* to life, property and local tax bases, particularly from storm surge and climate change induced soil erosion and ecosystem degradation.

Federal seeding of regional cooperation and solutions can only enhance the resilience of America's aging urban infrastructure.

Encouraging investment in cutting-edge *green* energy solutions will fuel America's innovation and entrepreneurship and act as a general boost to a lagging economy.

Fostering regional governance solutions for climate change *builds* may serve as a catalyst for broader based regional collaboration, including legislative action to redress Connecticut's historic over-reliance on regressive local property taxes to fund public education and operational budget expenses.

Exposing impressionable students to *green* technology in class will create awareness and motivate future generations to achieve resilience within *built* systems and to live *green* in a sustainable world.

The types of projects typically envisioned for achieving resilience in America's *built* systems are shovel-ready and as such can be relied upon to generate good jobs paying good wages for a diverse population and to be catalysts for America's long-awaited full economic recovery.

Federal direct financial assistance and support services to fiscally and environmentally challenged urban centers will enable America's declining cities to become development ready and position them to implement public transit oriented urban redevelopment. Unless the federal agencies are directed to assess applications based on geography (urban preferences), and remain fixated upon awarding to projects based upon development readiness then America's cities will continue to decline and will not withstand the additional challenges posed by climate change. In comparison with suburban locations which are advantaged by more favorable tax, insurance and certain quality of life advantages, urban centers are unlikely to be the site of choice for private sector investment. It is incumbent upon our federal authorities (as the only parties positioned with sufficient leverage) to level the playing field to ensure that areas of diversity (aka urban cores) can compete with fiscally advantaged suburban municipalities. This is particularly important since it has become widely accepted that the goal of comprehensive long-term sustainability and resilience requires as a key component of any strategic planning, that appropriate recognition must be given to the concept that equity and equality of opportunity (if not outcomes) is mandated.

Taken as a whole, the proposals for regulatory and/or executive order action respectfully submitted in Section 2 of this response will assist urban centers in competing with their more advantaged suburban counterparts in becoming development ready. Urban centers burdened with environmental contamination in addition to emerging climate change based obstacles to development will benefit from a federal development assistance decision-making process that values proposals with measurable deliverables for climate change remediation. Examples include preferences or mandates for transit oriented development, greenhouse gas reduction and retrofitting for production and consumption of alternative and renewable energy sources.

4. Please share examples where this action has been successfully implemented which could serve as a model for broader implementation. (Please limit response to 1,200 characters.)

Example 1- The City of Bridgeport, CT in recent years has had limited, but increasing, success in initiating regional solutions to challenges and opportunities of mutual concern to itself and neighboring municipalities. For example, Bridgeport recently completed its second high-tech LEEDS Gold inter-district magnet school, combining resilience in construction techniques with sustainable diverse student populations. Moreover, integration of urban youth with their suburban peers in a school setting has served as a catalyst to promote regionalization at the governmental level.

Example 2- Presently, Bridgeport is a charter member of the New York-Connecticut Sustainable Communities Consortium, a regional body comprised of planning organizations, MPOs, and municipalities (from New Haven, CT through NYC to Suffolk County, LI) formed to address the region's transportation, housing, economic and other investment decisions in an environmentally sensitive manner and with an overriding goal of meeting our sustainable community obligations to all regional stakeholders with equity and inclusion to ensure resilience and endurance. A successful enterprise that the Consortium has experienced is the launch of the East Bridgeport Development Corridor Project which will establish a safe, affordable, racially mixed, *green* and sustainable community in a previously distressed urban core, complete with a new train station (potentially the future site of the latest CT high speed Amtrak stop).

Example 3 - Bridgeport has established itself as a *green* energy trendsetter. The City has dedicated a *green* Energy Park at the City's closed solid waste landfill to support a major solar panel array in conjunction with a local utility, The United Illuminating Company (UI). In addition, the City recently sited the world's second largest fuel cell, a 15-megawatt system that along with the solar project has put Bridgeport on the *green* map as a resilience/sustainability groundbreaker. Finally, Bridgeport is in the process of hosting two major anaerobic digester projects that also evidence a commitment to a sustainable resilient society. Bridgeport has created a Green Energy Trend Center that is serving as an incubator for environmentally conscious students, citizens and business professionals and as a catalyst for renewable energy private sector enterprises and investment which should consolidate into a critical mass of environmentally sensitive technical expertise and advanced scientific thinking.

Example 4- Further evidence of Bridgeport's success in initiating regional solutions is its leadership role in creating consortiums of local municipalities combining their purchasing power to negotiate: (1) competitive tip fees for disposal of their solid waste at the Bridgeport Wheelabrator trash-to-energy burn plant via the Greater Bridgeport Regional Solid Waste Advisory Board (SWAB) and successor organizations comprised of more than a dozen regional municipalities, (2) procurement of electricity commodities at favorable rates via a regional bid pool, (3) disposal and marketing of recyclables at favorable market rates via the Southwest Connecticut Regional Recycling Operating Committee (SWEROC) and (4) flood control mitigation on the Pequannock River via a multi-municipality regional Flood Alliance.

Example 5 - Bridgeport is currently engaged in a major ecosystem protection project at Pleasure Beach where it is investing in creating an urban nature preserve and open-space passive recreation venue accessible by water-taxi. This enterprise will create a unique environment where urban residents, particularly youth, can enjoy nature and learn first-hand the benefits of living in a *green*, resilient and sustainable society.

Example 6 - Bridgeport has successfully delivered a quantitatively measurable 5% reduction in its greenhouse gas emissions, primarily due to its investment in a 15 mW fuel cell, dramatically improved recycling rates (through transition to single-stream recycling) and through aggressive promotion of public transit solutions.

Enclosure 1-7

5. Select the topic to which this issue most directly relates (check box):

Water Infrastructure

Transportation Infrastructure

Energy Infrastructure

Facilities Infrastructure

Coastal Infrastructure

Enclosure 2-1

Presidential Task Force on Climate Resilience and Preparedness Built Systems Subgroup Request for Input

Background

The President's Climate Preparedness and Resilience Task Force (Task Force) was convened to develop recommendations on how the federal government can better support local, state and tribal governments in achieving resilience through disaster preparedness, built systems, natural systems and agriculture, and community development and health.

The Task Force is charged with providing actionable strategies that can be implemented by Executive Order or through existing agency authorities which:

1. Remove barriers and create incentives and otherwise encourage investments in resilience.
2. Provide useful tools and information, including through intergovernmental coordination.
3. Otherwise support state, local, and tribal preparedness for resilience to climate change.

The Built Systems Subgroup is soliciting input in developing recommendations specific to: *water, transportation, energy, facilities, and coastal infrastructure* in addition to *program and agency administration*. Please consider contributing to this process with a brief response to the questions presented below with particular consideration to those actions that can be advanced in the short term and which will have the most impact.

Request for Input

Consider a challenge you have encountered or an opportunity you have identified relating to climate preparedness planning and efforts to build resilience within the built environment.

1. Please describe the challenge or opportunity as it pertains to the needs of local, state, and tribal governments. {Please limit response to 1,200 characters.}

We have a basic need for a complete inventory of public facilities at risk from potential sea level rise. We are a Puget Sound coastal community with many essential public facilities we believe are at risk including waste treatment facilities, port improvements, storm water facilities, roads, bridges, and other improvements, pumping and diking facilities, parks, trails, breakwaters, and many other improvements.

We also have many private facilities and uses such as farming and farmland, residential and commercial structures and uses, private roads, etc...

We are not able, given current funding and staff resources to even complete a basic inventory and risk assessment for sea level rise.

Enclosure 2-2

2. What specific actions can be taken at the federal level through Executive Order or existing federal agency authority to encourage and support local, state, and tribal governments in these efforts? (Please limit response to 1,200 characters.)

Federal resources and agency support is needed for local governments to do risk assessment and mitigation planning.

3. What specific benefits can be gained by implementing this action, such as improved public health and safety, jobs and economic opportunities, reduces risk and economic losses, cost-savings? (Please limit response to 1,200 characters.)

We cannot respond to a threat if we cannot clearly identify its components and develop a strategic plan for addressing that threat.

We have potentially billions of dollars of public improvements within the possible impact zone of sea level rise that support our economy and social well being in Snohomish County. We would benefit greatly by clearly identifying resources at risk and prioritizing mitigation measures.

4. Please share examples where this action has been successfully implemented which could serve as a model for broader implementation. (Please limit response to 1,200 characters.)

5. **Select the topic to which this issue most directly relates (check box):**

- Water Infrastructure
- Transportation Infrastructure
- Energy
- Infrastructure
- Facilities
- Coastal Infrastructure
- Program/Agency Administration

Enclosure 3-1

Presidential Task Force on Climate Resilience and Preparedness Built Systems Subgroup Request for Input

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The Task Force is charged with providing actionable strategies that can be implemented by Executive Order or through existing agency authorities which:

1. Remove barriers and create incentives and otherwise encourage investments in resilience.
2. Provide useful tools and information, including through intergovernmental coordination.
3. Otherwise support state, local, and tribal preparedness for resilience to climate change.

The **Built Systems Subgroup** is soliciting input in developing recommendations specific to: *water, transportation, energy, facilities, and coastal infrastructure* in addition to *program and agency administration*. Please consider contributing to this process with a brief response to the questions presented below with particular consideration to those actions that can be advanced in the short term and which will have the most impact.

Request for Input

Consider a challenge you have encountered or an opportunity you have identified relating to climate preparedness planning and efforts to build resilience within the built environment.

1. Please describe the challenge or opportunity as it pertains to the needs of local, state, and tribal governments. (Please limit response to 1,200 characters.)

Missouri River degradation (river bed lowering) due to scouring & dredging is a major challenge. This is a concern that affects long term sustainability of our raw water intake from the river. Our Water Utility will be spending \$40 M to drill collector wells to be better prepared for this threat.

With changing weather patterns (i.e. more intense rainfall), flood protection must be elevated & receive additional funding on a local, state, and national basis.

What "Resiliency" means is in the eyes of our customer. We need to develop a communication/education plan to help our customers understand what our Utility is doing in its long-term planning activities.

Dealing with affordability challenges in the context of changing resiliency conditions at the same time, we struggle to pay for ever-increasing regulatory requirements & the consequences of demographic shifts. We must address not only weather-related events, but also changes to poverty areas, population shifts, etc. due to different conditions that are concurrent with more intense weather events.

The IRS is beginning to tax green infrastructure grants that are received by private property owners & businesses.

Enclosure 3-2

2. What specific actions can be taken at the federal level through Executive Order or existing federal agency authority to encourage and support local, state, and tribal governments in these efforts? (Please limit response to 1,200 characters.)

Develop a toolbox for Water/Wastewater/Stormwater Utilities to use in response to changing resiliency conditions. This should identify best performance based "cradle to grave" systems to address multiple issues we are striving to solve: air emissions/GHG reductions, energy generation (solar, biosolids), water (stormwater reuse, wastewater recycling), land management/Planning/development, green infrastructure, etc.

Ensure federal & state landowners/developers demonstrate resilient behavior when creating/improving transportation systems, office buildings, etc.

Develop a Resiliency Planning Framework- Municipal utilities would submit a plan for federal or state approval. If Utilities don't submit a plan, they wouldn't qualify for emergency funding or other proposed "resiliency" funding.

Currently, there are 23 federal agencies that touch on water policy issues without a holistically coordinated focus. A Task Force could develop a National Water Policy in the context of changing resiliency conditions municipal utilities face (see list above). This may lead to a federal "Water Department" for all issues related to water, instead of 23 agencies with different priorities/agendas.

3. What specific benefits can be gained by implementing this action, such as improved public health and safety, jobs and economic opportunities, reduces risk and economic losses, cost-savings? (Please limit response to 1,200 characters.)

Reduced risk of disruptions to Municipal Utility operations from extreme weather events (such as flooding) & a greater ability to resume normal operations quickly in the event of catastrophic weather events.

Reduced economic losses to the municipality, its businesses, & its citizens from extreme weather events.

Improved public awareness of the consequences of extreme weather events & a greater understanding by the public of the ways that their local Water/Wastewater/Stormwater Utility is preparing for such events.

Cost savings from a more holistically integrated approach to how Municipal Utilities need to do business in the context of on-going, changing resiliency conditions.

Greater certainty by local governments & greater inter-governmental cooperation if Federal and State agencies and Municipal Utilities have clear, common, mutual understanding of operational challenges within the context of on-going, changing resiliency conditions.

4. Please share examples where this action has been successfully implemented which could serve as a model for broader implementation. (Please limit response to 1,200 characters.)

5. Select the topic to which this issue most directly relates (check box):

- Water Infrastructure
- Transportation Infrastructure
- Energy Infrastructure
- Facilities Infrastructure
- Coastal Infrastructure
- Program/Agency Administration

Presidential Task Force on Climate Resilience and Preparedness
Built Systems Subgroup
Request for Input

Background

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The Task Force is charged with providing actionable strategies that can be implemented by Executive Order or through existing agency authorities which:

1. Remove barriers and create incentives and otherwise encourage investments in resilience.
2. Provide useful tools and information, including through intergovernmental coordination.
3. Otherwise support state, local, and tribal preparedness for resilience to climate change.

The Built Systems Subgroup is soliciting input in developing recommendations specific to: *water, transportation, energy, facilities, and coastal infrastructure* in addition to *program and agency administration*. Please consider contributing to this process with a brief response to the questions presented below with particular consideration to those actions that can be advanced in the short term and which will have the most impact.

Request for Input

Consider a challenge you have encountered or an opportunity you have identified relating to climate preparedness planning and efforts to build resilience within the built environment.

1. Please describe the challenge or opportunity as it pertains to the needs of local, state, and tribal governments. (Please limit response to 1,200 characters.)

- Climate change is affecting all, and rural, small, EJ (large disparities) communities are the most vulnerable.
- Federal/State partners should assess/delineate local preparedness resources and conduct inventory of such (manpower & equipment) to share with FEMA, but don't reduce funding.
- National Standard for inter-local agreements between cities and states need to be established for quicker response (safe drinking water, food, shelter, transportation, health care).
- To improve preparedness training consider mobile and international populations (US/Mexico Border) and use incentives to further promote training for providers, engineers and volunteers.
- Local university, utilities, public transit, public and medical health capacity including laboratories and communication systems should be inventoried, linked and shared.
- Identify interpreters for disaster preparedness, and response within the local community.
- Streamline the FEMA response process to local disasters.
- Develop FEMA caches of emergency supplies at strategic areas accessible to small, medium, and large cities.
- Recovery plans and actions must be done in coordination with local communities.

2. What specific actions can be taken at the federal level through Executive Order or existing federal agency authority to encourage and support local, state, and tribal governments in these efforts? (Please limit response to 1,200 characters.)

-Develop a national standard of humanitarian, professional, technical and volunteer response that is accepted by all in disaster response.
-Establish peer networks of local, state and federal resources for developing and implementing response and restoration strategies (regional approaches with local government coordination).
-Establish better federal agency coordination with and through FEMA to enhance resources, technical assistance and response to state and local entities (streamline procedures, guidelines and protocols using same standards, requests, forms etc.).
-All response must include public health, healthcare, food and shelter response.
-Recovery should be coordinated with locals (consider using CDBG, health and health services block grants and revolving loan funds as systems for best support; look to existing institutions, systems and pathways to assist with response).
-Preparedness training/education (i.e. volunteers for credentialing, health professionals, academic institutions, utility companies, community groups, and local government) should be provided for a more efficient, timely & sustained response (understood and trusted by the local affected community).

3. What specific benefits can be gained by implementing this action, such as improved public health and safety, jobs and economic opportunities, reduces risk and economic losses, cost-savings? (Please limit response to 1,200 characters.)

More efficient and rapid response to infrastructure support, improved public health and health care response, improved communication with those affected at the local level, regional assistance especially for small, rural and poor communities (with large health and economic disparities).

Through an established national standard for cooperation and response that cuts across jurisdictions, first responders and emergency personnel can better respond and manage disasters otherwise neighboring entities cannot assist each other.

Evaluation of areas with risks and past impact zones to learn best practices as well should be aware and evaluate new impacts and risk due to new industries, local infrastructure and its preparedness response.

Increased accessibility to mass communication systems for local municipalities with redundancy will aid in reaching mass populations.

Enclosure 4-3

4. Please share examples where this action has been successfully implemented which could serve as a model for broader implementation. {Please limit response to 1,200 characters.}

Laredo, TX serves as a hub to 11 other surrounding smaller rural communities with separate government bodies and several different council of governments. Because of this relationship Laredo, TX provides technical assistance for training and assessments, in emergency response, public health emergency response, health care disaster response.

Laredo's 800 MHz radio systems can be used in these areas using a bridge link system for emergencies.

During local Flooding of the Rio Grande in 2009 municipal government responded to provide relief with beds, fans, emergency food, emergency shelter using a combination of City, CDBG and private resources. FEMA was contacted, as well.

Better vector control response for mosquitoes, better solid waste management and improved response by assessing and seeking needed supplies and equipment (cots, fans, refrigerators, generators, radios).

5. Select the topic to which this issue most directly relates (check box):

Water Infrastructure

Transportation Infrastructure

Energy Infrastructure

Facilities Infrastructure

Coastal Infrastructure

Program/Agency Administration

Presidential Task Force on Climate Resilience **and** Preparedness
Built Systems Subgroup
Request for Input

Background

The President's Climate Preparedness and Resilience Task Force (Task Force) was convened to develop recommendations on how the federal government can better support local, state and tribal governments in achieving resilience through disaster preparedness, built systems, natural systems and agriculture, and community development and health.

The Task Force is charged with providing actionable strategies that can be implemented by Executive Order or through existing agency authorities which:

1. Remove barriers and create incentives and otherwise encourage investments in resilience.
2. Provide useful tools and information, including through intergovernmental coordination.
3. Otherwise support state, local, and tribal preparedness for resilience to climate change.

The Built Systems Subgroup is soliciting input in developing recommendations specific to: *water, transportation, energy, facilities, and coastal infrastructure* in addition to *program and agency administration*. Please consider contributing to this process with a brief response to the questions presented below with particular consideration to those actions that can be advanced in the short term and which will have the most impact.

Request for Input

Consider a challenge you have encountered or an opportunity you have identified relating to climate preparedness planning and efforts to build resilience within the built environment.

1. Please describe the challenge or opportunity as it pertains to the needs of local, state, and tribal governments. (Please limit response to 1,200 characters.)

Every community creates and updates their versions of hazard mitigation plans. A great deal of research goes into the planning, the data, and surveying participants. Yet often when the hazard actually occurs, there is a level of unpreparedness despite scenario driven practice sessions. Granted, any hazard requires seat of the pants thinking and reaction, and sometimes mistakes are made. Writing from an upstate New York perspective, the focus is on water events such as flooding, ice jams, and ice storms. For instance in reacting quickly to the upstate devastation of tropical Storm Irene, streams and rivers were literally "plowed" into riverbeds that looked like highways.

Enclosure 5-2

2. What specific actions can be taken at the federal level through Executive Order or existing federal agency authority to encourage and support local, state, and tribal governments in these efforts? (Please limit response to 1,200 characters.)

The federal government could help with systematic training guidelines/scenarios in particularly hazard prone areas of the country. EPA regional offices know which climate impacts are likely for their region. For example, Region 2 in conjunction with the NYSDEC should provide analysis of weather impacts and how to respond. Additionally, since upstate has already experienced severe flooding and ice jams, best practices information should be readily available. Coordination between state and various federal agencies needs to be a priority. Green solutions should be part of the protections for surviving flood and stormwater events. Some recent repairs pit the concepts of natural stream banks versus channelization with manmade materials in conflict. Clarity is needed in this area.

3. What specific benefits can be gained by implementing this action, such as improved public health and safety, jobs and economic opportunities, reduces risk and economic losses, cost-savings? (Please limit response to 1,200 characters.)

Specific benefits gained through upfront identification of hazards and best practice responses would be cost savings (since work that was done had to be undone), more immediate appropriate aid for people and animals, and correct restoration/management of a waterway.

4. Please share examples where this action has been successfully implemented which could serve as a model for broader implementation. (Please limit response to 1,200 characters.)

A good document model is http://www.dec.ny.gov/docs/administration_pdf/streammnl.pdf Post Flood Emergency Stream Intervention Training Manual originally prepared by Delaware County Soil and water Conservation District Delaware County (NY) Planning Department and in cooperation with NY City Department of Environmental Protection edited and expanded for statewide application by NYSDEC, updated March 2014.

5. Select the topic to which this issue most directly relates (check box):

Water Infrastructure

Transportation Infrastructure

Energy Infrastructure

Facilities Infrastructure

Coastal Infrastructure

Program/Agency Administration

Enclosure 6-1

Presidential Task Force on Climate Resilience and Preparedness Built Systems Subgroup Request for Input

Background

The President's Climate Preparedness and Resilience Task Force (Task Force) was convened to develop recommendations on how the federal government can better support local, state and tribal governments in achieving resilience through disaster preparedness, built systems, natural systems and agriculture, and community development and health.

The Task Force is charged with providing actionable strategies that can be implemented by Executive Order or through existing agency authorities which:

1. Remove barriers and create incentives and otherwise encourage investments in resilience.
2. Provide useful tools and information, including through intergovernmental coordination.
3. Otherwise support state, local, and tribal preparedness for resilience to climate change.

The Built Systems Subgroup is soliciting input in developing recommendations specific to: *water, transportation, energy, facilities, and coastal infrastructure* in addition to *program and agency administration*. Please consider contributing to this process with a brief response to the questions presented below with particular consideration to those actions that can be advanced in the short term and which will have the most impact.

Request for Input

Consider a challenge you have encountered or an opportunity you have identified relating to climate preparedness planning and efforts to build resilience within the built environment.

1. Please describe the challenge or opportunity as it pertains to the needs of local, state, and tribal governments. (Please limit response to 1,200 characters.)

Give higher priority when issuing Clean Water State Revolving Fund loans to projects that have climate resiliency as an integral component.

Enclosure 6-2

2. What specific actions can be taken at the federal level through Executive Order or existing federal agency authority to encourage and support local, *state*, and tribal governments in these efforts? (Please limit response to 1,200 characters.)

Establish a prioritization matrix with measures identified for increased points for climate resiliency. This must be established at the federal level and passed on the the States for implementation.

3. What specific benefits can be gained by implementing this action, such as improved public health and safety, jobs and economic opportunities, reduces risk and economic losses, cost-savings? (Please limit response to 1,200 characters.)

Targeting of existing Federal funds to projects that will have the most impact on climate change.

4. Please share examples where this action has been successfully implemented which could serve as a model for broader implementation. (Please limit response to 1,200 characters.)

5. Select the topic to which this issue most directly relates (check box):

Water Infrastructure

Transportation Infrastructure

Energy Infrastructure

Facilities Infrastructure Coastal

Infrastructure Program/Agency

Administration

Enclosure 7-1

Presidential Task Force on Climate Resilience and Preparedness Built Systems Subgroup Request for Input

Background

The President's Climate Preparedness and Resilience Task Force (Task Force) was convened to develop recommendations on how the federal government can better support local, state and tribal governments in achieving resilience through disaster preparedness, built systems, natural systems and agriculture, and community development and health.

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1. Remove barriers and create incentives and otherwise encourage investments in resilience.
2. Provide useful tools and information, including through intergovernmental coordination.
3. Otherwise support state, local, and tribal preparedness for resilience to climate change.

The Built Systems Subgroup is soliciting input in developing recommendations specific to: *water, transportation, energy, facilities, and coastal infrastructure* in addition to *program and agency administration*. Please consider contributing to this process with a brief response to the questions presented below with particular consideration to those actions that can be advanced in the short term and which will have the most impact.

Request for Input

Consider a challenge you have encountered or an opportunity you have identified relating to climate preparedness planning and efforts to build resilience within the built environment.

1. Please describe the challenge or opportunity as it pertains to the needs of local, state, and tribal governments. (Please limit response to 1,200 characters.)

Prioritize DOE funding for efforts to move wastewater utilities towards increased energy efficiency, and conversions to renewable sources (i.e. biosolids)

Enclosure 7-2

2. What specific actions can be taken at the federal level through Executive Order or existing federal agency authority to encourage and support local, state, and tribal governments in these efforts? (Please limit response to 1,200 characters.)

Establish a prioritization matrix with measures identified for increased points for climate resiliency. This must be established at the federal level and passed on the the States for implementation.

3. What specific benefits can be gained by implementing this action, such as improved public health and safety, jobs and economic opportunities, reduces risk and economic losses, cost-savings? (Please limit response to 1,200 characters.)

Targeting of existing Federal funds to projects that will have the most impact on climate change.

4. Please share examples where this action has been successfully implemented which could serve as a model for broader implementation. (Please limit response to 1,200 characters.)

5. Select the topic to which this issue most directly relates (check box):

Water
Infrastructure

Transportation Infrastructure

Energy
Infrastructure

Facilities Infrastructure Coastal

Infrastructure Program/Agency

Administration

Enclosure 8-1

Presidential Task Force on Climate Resilience and Preparedness Built Systems Subgroup Request for Input

Background

The **President's Climate Preparedness and Resilience Task Force** (Task Force) was convened to develop recommendations on how the federal government can better support local, state and tribal governments in achieving resilience through disaster preparedness, built systems, natural systems and agriculture, and community development and health.

The Task Force is charged with providing actionable strategies that can be implemented by Executive Order or through existing agency authorities which:

1. Remove barriers and create incentives and otherwise encourage investments in resilience.
2. Provide useful tools and information, including through intergovernmental coordination.
3. Otherwise support state, local, and tribal preparedness for resilience to climate change.

The **Built Systems Subgroup** is soliciting input in developing recommendations specific to: *water, transportation, energy, facilities, and coastal infrastructure* in addition to *program and agency administration*. Please consider contributing to this process with a brief response to the questions presented below with particular consideration to those actions that can be advanced in the short term and which will have the most impact.

Request for Input

Consider a challenge you have encountered or an opportunity you have identified relating to climate preparedness planning and efforts to build resilience within the built environment.

1. Please describe the challenge or opportunity as it pertains to the needs of local, state, and tribal governments. (Please limit response to 1,200 characters.)

Green infrastructure will will make cities more resilient. Unfortunately, there is not sufficient funding to implement green infrastructure to optimum levels.

Enclosure 8-2

2. What specific actions can be taken at the federal level through Executive Order or existing federal agency authority to encourage and support local, state, and tribal governments in these efforts? {Please limit response to 1,200 characters.}

Within the Clean Water State Revolving Funds (CWSRF) there is a 20% set-aside for green infrastructure projects. This set-aside should be increased to 30% and make it eligible for green infrastructure, energy projects, water reuse/reclamation, and climate/resiliency planning and projects.

3. What specific benefits can be gained by implementing this action, such as improved public health and safety, jobs and economic opportunities, reduces risk and economic losses, cost-savings? {Please limit response to 1,200 characters.}

Increased green infrastructure will help to reduce GHG emissions, can create jobs, reduce non-point pollution and will improve our nations health.

Enclosure 8-3

4. Please share examples where this action has been successfully implemented which could serve as a model for broader implementation. (Please limit response to 1,200 characters.)

Green infrastructure is successfully being implemented in many cities around the United States. Milwaukee has been a leader in this field since 2002. These links describe this effort:

<http://www.mmsd.com/gi/green-infrastructure>

<http://www.h2ocapture.com/>

5. Select the topic to which this issue most directly relates (check box):

Water Infrastructure

Transportation Infrastructure

Energy Infrastructure

Facilities Infrastructure

Coastal Infrastructure

Program/Agency Administration

Enclosure 9-1

Presidential Task Force on Climate Resilience and Preparedness Built Systems Subgroup Request for Input

Consider a challenge you have encountered or an opportunity you have identified relating to climate preparedness planning and efforts to build resilience within the built environment.

1. Please describe the challenge or opportunity as it pertains to the needs of local, state, and tribal governments. (Please limit response to 1,200 characters.)

Reduction in funding and availability and even removal of stream flow gauges, critically needed for flood/climate change predictions and protection of life and property is a dangerous and risky plan.

2. What specific actions can be taken at the federal level through Executive Order or existing federal agency authority to encourage and support local, state, and tribal governments in these efforts? (Please limit response to 1,200 characters.)

Restoration and increase of funding and increase in stream gauge placement sites is desperately needed in identified flood hazard areas.

3. What specific benefits can be gained by implementing this action, such as improved public health and safety, jobs and economic opportunities, reduces risk and economic losses, cost savings?

Nearly all of the above are affected: improved public safety, prevention of economic loss, prevention of loss of life and property.

4. Please share examples where this action has been successfully implemented which could serve as a model for broader implementation. (Please limit response to 1,200 characters.)

Where stream gauges are in place, such as Owego Creek in southern tier of New York State, early warnings of rising creek levels can prevent some losses.

5. **Select the topic to which this issue most directly relates (check box):**

- Water Infrastructure
- Transportation Infrastructure
- Energy Infrastructure
- Facilities Infrastructure
- Coastal Infrastructure
- Program/Agency Administration

Enclosure 9-2

Enclosure 10-1

Presidential Task Force on Climate Resilience and Preparedness Built Systems Subgroup Request for Input

Consider a challenge you have encountered or an opportunity you have identified relating to climate preparedness planning and efforts to build resilience within the built environment.

1. Please describe the challenge or opportunity as it pertains to the needs of local, state, and tribal governments. (Please limit response to 1,200 characters.)

Renewable energy from anaerobic digestion to generate renewable energy using anaerobic digestion. Instead of leaving food waste, sewage, and manure to decay in open heaps that inject greenhouse gases to the atmosphere, these wastes can be contained and using microorganisms to digest them, producing biogas that can be collected to generate a green, carbon-negative, renewable source of energy. Furthermore, the residue can be used as fertilizer.

2. What specific actions can be taken at the federal level through Executive Order or existing federal agency authority to encourage and support local, state, and tribal governments in these efforts? (Please limit response to 1,200 characters.)

The first request, for EPA, is to grant a higher priority for funding criteria to renewable energy production using anaerobic digestion. The second request is not only to ask for greater funds allocation to this type of project, but also for greater efficiency on distributing the resources already allocated for this purpose.

3. What specific benefits can be gained by implementing this action, such as improved public health and safety, jobs and economic opportunities, reduces risk and economic losses, cost savings?

It is a brilliant solution, in principle, as long as it is kept under control by defining the inputs that are ethically adequate for anaerobic digestion for power generation. It is so promising that food grains have been used to feed the anaerobic digestion reactors. This could create the same problems as observed with corn-ethanol. Grains and other foodstuff should not be permitted, at least on federally funded projects. The benefits can be a synergistic way to help farmers, businesses that generate food waste, and the need for clean green energy.

Enclosure 10-2

4. Please share examples where this action has been successfully implemented which could serve as a model for broader implementation. (Please limit response to 1,200 characters.)

Many wastewater systems are doing this, but only partially, such as the multi municipal wastewater plant in Ithaca. Systems such as Ithaca need additional support to carry through completely with this proactive method of reducing greenhouse gases.

5. **Select the topic to which this issue most directly relates (check box):**

- Water Infrastructure
- Transportation Infrastructure
- Energy Infrastructure
- Facilities Infrastructure
- Coastal Infrastructure
- Program/Agency Administration

Enclosure 11-1

Presidential Task Force on Climate Resilience and Preparedness Built Systems Subgroup Request for Input

Background

The **President's Climate Preparedness and Resilience Task Force** (Task Force) was convened to develop recommendations on how the federal government can better support local, state and tribal governments in achieving resilience through disaster preparedness, built systems, natural systems and agriculture, and community development and health.

The Task Force is charged with providing actionable strategies that can be implemented by Executive Order or through existing agency authorities which:

1. Remove barriers and create incentives and otherwise encourage investments in resilience.
2. Provide useful tools and information, including through intergovernmental coordination.
3. Otherwise support state, local, and tribal preparedness for resilience to climate change.

The **Built Systems Subgroup** is soliciting input in developing recommendations specific to: *water, transportation, energy, facilities, and coastal infrastructure* in addition to *program and agency administration*. Please consider contributing to this process with a brief response to the questions presented below with particular consideration to those actions that can be advanced in the short term and which will have the most impact.

Request for Input

Consider a challenge you have encountered or an opportunity you have identified relating to climate preparedness planning and efforts to build resilience within the built environment.

1. Please describe the challenge or opportunity as it pertains to the needs of local, state, and tribal governments. (Please limit response to 1,200 characters.)

Introductions of Aquatic Invasive Species (AIS) have caused the decline and extinction of many plant and animal species, and are cited as a cause of endangerment for 48% of the species listed under the Endangered Species Act. In 2005, aquatic invasive species cost the U.S. economy over \$120 billion. Their occurrence and distribution are increasing rapidly, and adverse impacts associated with AIS continue to rise. For all of these reasons, the development of local, regional, and national strategies for the prevention and management of AIS species is critically needed.

AIS can be plants, such as Eurasian watermilfoil, animals, such as zebra mussels, and microorganisms, such as the parasite that causes whirling disease. Once introduced into new habitats, these organisms disturb native species through competition, predation, displacement, hybridization, spread of disease and parasites, and can ultimately cause extinction of many valued organisms. AIS can also *affect* humans by causing adverse impacts to commercial, agricultural, aquacultural, and recreational activities that depend on water resources.

Enclosure 11-2

2. What specific actions can be taken at the federal level through Executive Order or existing federal agency authority to encourage and support local, state, and tribal governments in these efforts? (Please limit response to 1,200 characters.)

Specific actions to combat and prevent AIS might include:

- Passage of the Water Resources Development Act of 2013, including Section 5007 of the Act, which provides funding for enhanced AIS protection in the Columbia River Basin States;
- Revision of the Lacey Act to include quagga mussels on the list of prohibited species;
- Regulations associated with interstate commerce to more tightly regulate commercial haulers of watercraft nationwide;
- Regulations under USDA to instruct Customs Agents at border crossings to inspect all watercraft and water borne equipment for AIS;
- Increased funding for research to develop (1) improved decontamination processes for watercraft equipment fouled with zebra/quagga mussels; and (2) treatment for water bodies testing positive for mussels; and
- Support local AIS prevention efforts, including the America's Great Outdoors Crown of the Continent Demonstration Landscape Proposal (Interagency Action Items FY 2013-18).

3. What specific benefits can be gained by implementing this action, such as improved public health and safety, jobs and economic opportunities, reduces risk and economic losses, cost-savings? (Please limit response to 1,200 characters.)

Specific benefits gained by enhanced AIS prevention and control:

- Public health - many communities draw their drinking water supplies from surface water, which are subject to toxic algal blooms as mussel populations in water bodies increase.
- Economic impacts- Mussels invasions have significant economic costs. Unfortunately, most assessments are incomplete. For instance, the \$94 million loss projected annually for the State of Idaho does not include economic impacts to irrigation and agriculture. Typically, assessments are based on costs incurred by industries operating dams, diversions, power and water treatment plants and associated losses to the local economy and tax base. Estimated total annual economic impact for zebra mussels include: (a) \$1 billion to the U.S.; (b) \$100s of millions to the Columbia Basin; and (c) \$22.4 million to the Lake Tahoe region.
- Environmental resilience and integrity in the face of climate change - AIS can severely hamper the ability of aquatic species to exist and adapt in scenarios where warmer waters are already adversely impacting threatened and endangered species, such as the bull trout and cutthroat trout.

4. Please share examples where this action has been successfully implemented which could serve as a model for broader implementation. (Please limit response to 1,200 characters.)

Coordinated, multi-jurisdictional (U.S./Canadian federal; state/provincial; tribal/First Nations; and local governments) AIS prevention programs take place on a variety of scales, and are nested within the northwest landscape, including:

--Flathead Basin (smallest scale): Program is well established. The AIS Strategic Plan for the Basin is tiered to the federally approved State Aquatic Nuisance Species Management Plan. The program includes but is not limited to: Highway inspection stations funded with local partner dollars; volunteer inspection program at boat launches; AIS monitoring program; AIS mitigation program for Eurasian watermilfoil and Curlyleaf pondweed; funding of eDNA research to enhance mussel detection; pilot program using AIS detection dogs, etc.

-- Crown Managers Partnership (intermediate scale): The program for the Crown is in its initial stages. Alberta is launching its second year of its AIS prevention program based on the Flathead Basin and Idaho models. Efforts underway to partner more proactively with B.C..

--Great Northern Landscape Conservation Cooperative (largest scale)- fledging efforts to scale up based on the work noted above.

- S. Select the topic to which this issue most directly relates (check box):

Water Infrastructure

Transportation Infrastructure Energy

Infrastructure Facilities Infrastructure

Coastal Infrastructure

Program/Agency Administration

Enclosure 12-1

Presidential Task Force on Climate Resilience and Preparedness Built Systems Subgroup Request for Input

Consider a challenge you have encountered or an opportunity you have identified relating to climate preparedness planning and efforts to build resilience within the built environment.

1. Please describe the challenge or opportunity as it pertains to the needs of local, state, and tribal governments. (Please limit response to 1,200 characters.)

Private individuals own most of the land in the USA. The tens of thousands of decisions made daily by these landowners will lead us to the future of the environment. Natural resources are in transition, agriculture is in transition, and climate is in transition. Stewards of the land and water play key roles. They need tools to ensure a resilient future. Many of the tools already exist; we lack coordination, comprehension, and collaboration. A Transition Agriculturalist could play a key role to address this. The TA, managed jointly by each state's watershed council and conservation district association, assures local people are involved. Where does the landowner go for information? The Extension Agent, the USDA, state agencies, local conservation districts, local watershed groups, and local NGOs have established well worn pathways to and from ranches and farms. Trust is there because local people are committed to the communities where they live. For example, in Montana the conservation district and watershed organizations are comprised of 58 districts and 60+ watershed groups, including over 1,000 local board members. They are locally governed and well aware of community needs directly related to the major transitions all are facing. The Transitional Agriculturalist will be the catalyst, networker, leader and facilitator to help these local groups and their members in working toward this end.

2. What specific actions can be taken at the federal level through Executive Order or existing federal agency authority to encourage and support local, state, and tribal governments in these efforts? (Please limit response to 1,200 characters.)

1) Ask federal partners that currently have relationships with the national associations for the conservation districts and the watershed groups to seek their buy in to this program. 2) Seek three years of funding for all states and territories, $\frac{1}{2}$ federal and $\frac{1}{2}$ state dollars. 3) Seek public comment to fine tune the deliverables and outcomes seen below. 4) Establish through Executive Order a program (one for each state) that establishes a FTE called a Transition Agriculturalist and a virtual clearinghouse/website to begin to address coordination, comprehension, and collaboration. The person and the website would give landowners, particularly farmers and ranchers, the unique opportunity to access key transitioning information about localized drought conditions, changing precipitation patterns, shifting consumer preferences and best adaptation practices primarily related to soil health, water supply and availability issues. Information is

Enclosure 12-2

plentiful almost too plentiful and an individual is needed to gather, compile, connect and digest into a useable form and make important partnerships and linkages. The seeking out, gathering and compiling this information in a useable form in order that it can be shared with on the ground stewards of our soil and water resources is a critical and essential feature of this groundbreaking program.

3. What specific benefits can be gained by implementing this action, such as improved public health and safety, jobs and economic opportunities, reduces risk and economic losses, cost savings?

By using local people and local connections, we can engage more landowners in the transition. Focusing on soil health and the use of cover crops means less fertilizers, pesticides, and herbicides, resulting in less nonpoint source pollution and cleaner waters. Attracting landowners to participate in carbon sequestration, nutrient trading, tree plantings, and better water management benefits the air, water, and soil across the entire country. Having a program that allows Americans easy access towards coordination, comprehension, and collaboration takes advantage of the numerous resources that the three levels of government and NGOs already have in place. Here are samples of questions from around the country that the TA could help with: "We are getting more rain these days. Should I look at growing a different crop?" "We are getting less rain these days and we have warmer nights. My neighbor is growing lentils and maybe I should do so." "If I use cover crops I might not need as much fertilizer and pesticides. But I'm not sure how to transition to cover crops." "How does that nutrient trading program work? Can I restore that dried up wetland on my property and earn some dollars?" "Will I be able to earn revenue if I participate in carbon sequestration? How does that work?" "Should I plant those three acres with habitat for local pollinators? How much will that increase my crop yield?"

4. Please share examples where this action has been successfully implemented which could serve as a model for broader implementation. (Please limit response to 1,200 characters.)

NOT YET TRIED. DELIVERABLES - Clearinghouse: a person to answer questions; info with digestible abstracts + contact info for resources/specialists; a website integrated with other sites + social media, including practical info; best practices testimonials + lessons learned; + a forum for ongoing dialogue. Resource Synthesis to make ag markets, water mgmt, nutrient trading, climate variability, carbon sequestration, etc. applicable to on the ground users. Improve Soil Health using tiered resource levels + soil focus groups. Tracking Mechanisms ref TA impacts. Form 20 Partnerships resulting in on-the-ground adaptation. An Annual Rpt with est of impact due to change in best mgmt practices. OUTCOMES- More dialogue, feedback+ application of adaptation techniques from rural Americans to scientists + agencies. Better drought mgmt through more variability in crops + mgmt practices. Retain more spring runoff resulting in an attenuated hydrograph assisting with flood control. Improve: fisheries due to more groundwater;

Enclosure 12-3

water quality as a function of decreased concentration; ecosystem services; ability to meet appropriation in water limited basins. Better reporting of irrigation practices = greater efficiency, better correlation with resulting yields, better reporting systems, understanding of crop needs and feasibility. New crops+ markets= income for producers and tax revenues.

5. Select the topic to which this issue most directly relates (check box):

- Water Infrastructure
- Transportation Infrastructure
- Energy Infrastructure
- Facilities Infrastructure
- Coastal Infrastructure
- Program/Agency Administration