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## **TESTIMONY**

**Association of State Floodplain Managers**

before the  
House Transportation and Infrastructure Committee

# **Infrastructure Investment Ensuring an Effective Economic Recovery Program**

Presented by  
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The Association of State Floodplain Managers is pleased to join in supporting investment in the nation's infrastructure as a way to stimulate the economy, to create and sustain jobs, and to address a national need to repair and upgrade our infrastructure so that it becomes sustainable for future generations. For those familiar with our previous statements this may seem to be a departure from our prior position, that infrastructure investments and maintenance are primarily non-federal responsibilities. We continue to promote local and state responsibility for these investments over the long term, but we also recognize the value and the win-win impact these federal investments will have on moving our nation forward through these difficult economic times – unlike any we have experienced since the Great Depression.

The nation has significant and well-documented needs for repairing, improving, and expanding many elements of its infrastructure. Because of our current economic situation, where the outlook is bleak and unemployment is rising, an economic stimulus package that creates jobs and funds needed improvements to our infrastructure in a way that is responsible and sustainable is both appropriate and necessary. We are grateful to the Committee for its leadership in exploring the important role that infrastructure work can play in our economic recovery.

The ASFPM and its 27 State Chapters represent over 13,000 state and local officials and other professionals who are engaged at the ground level in all aspects of watershed management, including natural hazards and natural resources. Their specialties include land management, mapping, water quantity and quality management, wetlands management, engineering, planning, environmental protection, building codes and permits, community development, hydrology, forecasting, emergency response, water resources, and insurance. Our state and local officials are the federal government's partners in implementing programs and working to achieve effectiveness in meeting our shared objectives. For more information about the Association, please visit <http://www.floods.org>.

**Flooding is the nation's single most frequent and most costly hazard.**

One critical element of the nation's infrastructure is what has often been referred to as “flood control,” but now is more often referred to as flood risk management or “flood loss reduction”. This terminology recognizes that humans cannot “control” floods and that natural flooding actually has many benefits to society and to our ecosystems. Flood risk management includes the structural projects (usually engineered levees, floodwalls, dams, artificial channels, stormwater systems, and other human-built measures) and non-structural approaches (mitigation, zoning, open space acquisition, insurance, retrofitting, and others) to reducing the vulnerability of people and property to flooding. As a component of an infrastructure-based economic stimulus package, funding for both non-structural and structural flood loss reduction projects will provide jobs AND provide long-term benefits to the nation, if they are carried out wisely.

**Economic and environmental sustainability is critical to effective Federal investment in infrastructure.**

The ASFPM believes that all projects funded in the stimulus package should meet basic project selection criteria to assure economic and environmental viability. These investments must:

- Create and sustain employment;
- Provide long-term benefits to the public;
- Produce measurable improvements in public health, safety, and quality of life;
- Be sustainable and cost-effective, considering life cycle costs – meaning that the long-term maintenance and upkeep costs of all projects need to be taken into account;

- Meet the economic and environmental considerations the nation demands of all projects;
- Be part of a process that has transparency and accountability; and
- Be part of a package that does not contain earmarks.

**Federal investment in structural flood loss reduction projects has sometimes ultimately cost more.**

We urge consideration of the lessons learned from similar investments of the 1930s so that long-term problems can be avoided. One such lesson is that infrastructure investment that fails to consider threats to life and property from natural hazards undermines investment choices for our communities and fosters the dependency of citizens on Federal taxpayer dollars in the form of disaster funds. This dependency encourages people and property to remain at risk and results in mounting federal costs over the long run.

Other past mistakes in flood control projects were demonstrated vividly during the flooding from Hurricane Katrina, in the Midwest, and elsewhere. The first lesson is that the 100-year level of flood protection is inadequate for urbanized areas. Larger events can and do occur, with catastrophic consequences to those living at risk, and to the Federal taxpayers. Second, although structural flood loss reduction projects may be a logical option to reduce flood losses in some existing, already-urbanized communities, structural projects should never be used to protect undeveloped areas when subsequent new development would increase the flood risk to citizens and the taxpayers in catastrophic events.

Many existing structural flood loss reduction measures are being overwhelmed by increasingly larger storms and floods, wherein the community suffers catastrophic damage with little resiliency to recover. In some cases, watershed development has resulted in more runoff and flooding that outpaces the structures' design levels. In others, maintenance procedures have been faulty. In many places floods and storms increase in intensity, catastrophic events damage the structures, or the structure has exceeded its useful design life. These circumstances have been exacerbated by the fact that communities have allowed development while relying, perhaps inadvisedly, on modest flood loss reduction structures that were not designed to protect urbanized areas, especially areas where development has been intensified because everyone erroneously thinks any structure protects the area from any event, even large, catastrophic floods.

The single-purpose structural solutions preferred by many residents and communities in past decades have brought drawbacks that often outweigh their benefits. These drawbacks include: encouraging "protected" development that may well be protected from smaller floods, but is subject to catastrophic losses in larger floods; the lack of public awareness of the residual risk associated with these structures; the non-stop expense and vigilance required for effective maintenance; and the virtually assured legal liability for property damage that will ensue should the facility's design standards be exceeded or the facility fails. Multi-purpose or comprehensive flood loss reduction must be the consideration applied to all projects funded under this package to assure sustainability.

Lawsuits over flood damage stemming from structural flood loss reduction measures have proliferated. As technology and knowledge increase our ability to predict the cause and degree of flooding, owners of structures are less likely to escape liability by offering an "act of God" defense. Additionally, flood insurance is not yet required for development in areas protected by structural flood loss reduction measures, so those people damaged by flooding are looking for someone to cover their losses. The very existence of a levee, for example, gives residents a false sense of security, and when it overtops or fails, the flood risk is transferred to the Federal taxpayers.

## **Non-structural flood-loss reduction measures are sustainable and they create jobs.**

Most of the economic stimulus ideas mentioned thus far have been directly related to “brick-and-mortar” activities. Although these are very worthwhile, we urge Congress to also look at other projects that will save the country money and reduce human suffering over the long term.

Even though some projects are called “non-structural”, they are still bricks-and-mortar activities that can immediately employ construction and trade people. Additional support to communities for the implementation of cost-effective mitigation projects is both much needed and would stimulate and provide high-value jobs in the housing and building construction, environmental protection, and community development sectors. With climate change and likely increases in impermeable land surface, we can expect both larger and more frequent floods and droughts. Our gut reaction has been to build more and larger dams and bigger levees. As you know, in many instances there are other more labor-intensive and more appropriate (sustainable) solutions to larger dams and bigger levees. We can store more water on the land and in rechargeable aquifers through non-structural approaches that support green initiatives such as various kinds of low impact development (LID). These are labor intensive approaches – building small catchments, wet gardens, green stormwater facilities, even re-establishing habitat. It can also include creating live-in detention basins on critical floodplains, removing levee systems or setting them back from the stream, and creating storage to reduce flooding and mitigate drought.

In 2008, a relatively light disaster year, the Federal government declared 52 statewide flood-related disasters that qualified states, communities, and citizens for billions in unbudgeted Federal dollars. Flood damages average over \$6 billion per year. As a nation, we cannot afford to continually fund the cycle of build, flood, bailout, flood, and bailout over and over again. We need to turn this major funding into an opportunity to break this devastating cycle. An allocation of as little as 10-15% of the stimulus package to prevention activities will result in long-term annualized savings as a result of reduced disaster response and assistance expenditures for decades into the future.

We urge Congress to dedicate a portion of the economic stimulus package to activities that prevent future flood damage. Many studies have established the substantial benefit-to-cost savings of initiatives aimed at prevention of damage to infrastructure. These high benefit-to-cost projects could include: floodplain mapping, the production of nationwide LIDAR or digital orthophotography, and real-time flood warning systems to protect lives (which require an adequate streamgage network). These projects would meet the criteria of putting Americans back to work with good-paying jobs, thus stimulating the economy while also helping our communities become more resilient.

As a way of helping to revive the economy during the Great Depression, Federal dollars were programmed for conservation and outdoor recreation activities, with benefits that in many cases have outlived their hard-structure counterparts. Examples include soil conservation and erosion programs and controls, wind breaks, and national parks, trails, and other features. Today’s stimulus package should embrace and duplicate these past successes. It should find ways to create and restore open space that will provide multiple benefits in the form of flood protection, enhanced water quality, habitat protection, and recreational opportunities.

### **Many local non-structural flood-loss reduction measures await only funding.**

There are many non-structural flood mitigation projects across the nation that stand ready for implementation – all they lack is funding. These projects have been designed by the communities themselves, so they already have local buy-in and thus are assured of meeting an established local need. For example, FEMA’s mitigation grant programs (both pre- and post-disaster) routinely receive far more project applications than can be funded at current levels. With more funding, these projects could be implemented rapidly with results of creating good jobs, reducing human suffering, and supporting safer communities. Typical non-structural projects proposed under such grant programs include elevating homes that have been repeatedly flooded, relocating buildings out of high flood risk areas to make room for rivers and coasts, and retrofitting individual buildings to reduce flood damages.

### **Apply existing hazard-mitigation standards when rebuilding damaged infrastructure.**

FEMA should be required to implement hazard mitigation considerations when it approves federal funding for rebuilding infrastructure after a disaster (the policies and procedures are in place but are under-utilized). This will help the nation by forcing damaged infrastructure to be replaced with sustainable alternatives, rather than being repaired to its pre-disaster condition – which often re-establishes the conditions under which it failed in the first place.

### **Now is the time for action.**

A year ago, the ASFPM Foundation invited 85 nationally recognized experts on flood risk management to consider the conditions our nation will face in 2050, and the consequences of remaining on our current path. Those experts concluded that, without dramatic shifts in our approaches and actions regarding consideration of natural hazards, by 2050 flood losses are likely to be far greater, ecosystems may well collapse, and the nation’s quality of life will be diminished.

If we remain on the current path, by 2050 we will likely see:

- an additional 100-150 million people in the U.S., putting our total population at about 450 million people, all needing safe, sustainable communities to call home;
- increased urbanization, much of it in high-risk hazard areas;
- Federal discretionary money all but disappearing;
- people wanting more from government with less taxes;
- even more shirking of the personal responsibility for preparedness;
- loss of natural ecosystems – and collapse of some;
- more intensive and frequent storms throughout the nation (a byproduct of climate change);
- flood and hurricane losses that are even more horrific;
- sea level rise threatening coastal communities, businesses, and infrastructure;
- more degrading and failing infrastructure, that has been already ignored for 50 years (levees, dams, bridges, roads, water supply, and wastewater systems); and
- hope for sustainable, resilient communities could be forever lost.

**Proposed projects for federal infrastructure investments should be considered carefully.**

The draft House Recovery and Reinvestment bill identifies billions in funding for structural projects. The economic recovery package should provide funding to the U.S. Army Corps of Engineers or the Bureau of Reclamation only for projects that have a completed National Environmental Policy Act review, are in full compliance with other environmental laws, and have benefit/cost ratio that makes them a wise investment of taxpayer dollars. These factors ensure that the projects are environmentally sustainable and truly “shovel ready”.

Many Federal water resource projects in the pipeline have not been completed because of very real questions about whether they are truly needed or whether their economic or environmental benefits are real – not because of lack of funding. Congress should avoid waiving established cost-sharing, benefit-cost, or environmental requirements. Nor should Congress provide funds to commence construction of new high-cost projects that have failed to meet modern environmental and economic standards or have not taken future conditions into account. Some projects, such as beach nourishment initiatives, fail to meet a number of these considerations: in consequence, they should not be eligible because they lack long-term sustainability, create few jobs, and do little to foster the federal interest. Instead, Congress should invest in projects that enhance the local quality of life and protect natural systems – that is what will build a modern and healthy economy.

If the nation is to embark on an economic stimulus package with a major infrastructure component, the ASFPM strongly urges the following considerations in selecting projects for funding:

1. **Natural hazards mitigation must be built into each infrastructure project** so that all infrastructure investment reflects consideration of public safety and property loss reduction, both now and for future generations. It is essential to consider hazard mitigation in project site selection and design to allow the functionality of critical societal activities immediately after a disaster, and to minimize lengthy repair and replacement processes. Examples would include bridges designed to avoid debris pile-up or highways designed to manage, and not increase, stormwater runoff. Such considerations are not always part of project planning today, despite their obvious benefits in avoidance of unnecessary future damage and losses. A recent study by the National Institute of Building Sciences found that every \$1 invested in mitigation yields \$4 in future losses avoided.

2. **Critical infrastructure (hospitals, water supply, sewage treatment, bridges, key roads, schools, and key public buildings and facilities, etc.) must be protected from natural hazards so they are operable during or immediately after extreme events.** This is especially true for flood events, where protection to the minimal level of the 100-year flood elevation is increasingly being recognized as simply inadequate. At a minimum, a 500-year flood level of protection and operability should be the basic standard. All critical facilities must be built to the International Code Council (ICC) code standards, whether the local government has adopted such building codes or not. Events during the last three years have clearly illustrated the catastrophic consequences to life and property when these considerations are not included. Local, state, and national treasuries have been severely depleted, in part because infrastructure had not been mitigated against flood and coastal hazards.

3. **Sustainability should be emphasized when rebuilding our infrastructure.** If natural hazards and appropriate hazard events are not taken into account, the nation's taxpayers will be rebuilding this new infrastructure repeatedly, into the future. There may be instances where it is simply not sustainable to rebuild aging infrastructure (such as in very high risk hazard areas). In those cases, other options should be considered, such as relocation of at-risk buildings. Provisions must be made for ongoing operation and maintenance of structural infrastructure, and contingencies provided for in the event owners and operators fail to uphold their maintenance responsibilities. Improper or insufficient maintenance has led to failure, damage, and loss of life, and has resulted in many of the current repair needs. We must avoid the wasteful continuation of this problem.

4. **Federal monies should not place people or buildings at risk,** or contribute to increased flood risk. This requires consideration of not just today's risk, but also the risk from changing conditions, such as increased watershed development and sea level rise, as well as the effect on our coasts and rivers of increasingly intense storms. In addition, states and local governments are being trusted to be good stewards of this substantial federal investment, and should be required to meet this commitment.

5. **Federal dollars alone will not pay to rebuild and, especially, to operate and maintain the nation's new (and existing) infrastructure.** The basic financial commitments for cost sharing and funds for future operation and maintenance must be guaranteed for all projects. Contingencies must be provided for those situations in which states and local governments may be truly unable to meet their commitments.

6. **Allowing nature herself to mitigate flood losses is the least expensive and most sustainable approach to reducing flood damage and disaster costs.** It is essential to incorporate into these new infrastructure projects a consideration of the natural and beneficial functions of floodprone areas, including the coastal zones. The value of these areas, when they are allowed to function naturally, has been acknowledged officially and repeatedly. They prevent serious harm to people, the environment, and the public good, and therefore are worthy of substantial investment to assure their protection, restoration, and enhancement.

## CONCLUSION

Communities across the nation are struggling in these harsh economic times and Congress must act responsibly to make sure that a project with only short-term benefits does not saddle a community with a costly long-term ecologic and economic mistake.

**In conclusion,** the Association of State Floodplain Managers strongly endorses the call for increased Federal investment in the nation's infrastructure at this time to provide much needed economic stimulus in a way that both creates jobs and contributes to our national and economic security by developing, improving, and repairing our infrastructure.

We strongly support a properly framed stimulus package for infrastructure, but we stress that this investment must include hazard mitigation in the design of all critical facilities and in all basic infrastructure. It must ensure that the projects in which the nation invests endure over time and are operable during severe weather events, emergencies, and disasters. The nation will benefit most from projects that provide the multiple benefits of reducing vulnerability to hazards while enhancing naturally functioning rivers and coasts.

Everyone deserves to live in relative safety from natural hazards that can be foreseen and may be mitigated cost effectively and sustainably. And that sustainability must apply not only environmentally and economically, but socially and culturally as well, with full consideration of public safety from frequently occurring natural hazards as well as human-induced threats. Now and in the future, that must be part and parcel of any sustainable community.

The ASFPM represents the federal government's state and local partners in the continuing quest to manage our infrastructure and watersheds wisely. Today, we once again stand at a crossroads. This is an opportunity for all of us to work together to help in the economic recovery in a way that will serve the nation for decades to come. Thank you for the opportunity to provide the wisdom and expertise of our members on these important issues. We look forward to working with you as we move toward these important common goals.

For more information, please contact Larry Larson, ASFPM Executive Director (608) 274-0123 ([larry@floods.org](mailto:larry@floods.org)).