Accelerating the Katrina Recovery

An Interim Report By
The Blue Ribbon Commission on Mega-Catastrophes of
The Financial Services Roundtable

October 25, 2006

THE FINANCIAL SERVICES ROUNDTABLE

Impacting Policy. Impacting People.

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Message from Steve Bartlett.

A mega-catastrophe is a natural or man-made event that has *significant* adverse *national* impacts on economic activity, property or human life.

The Blue Ribbon Commission on Mega-Catastrophes was formed to develop a comprehensive report regarding the particular challenges resulting from mega-catastrophes, and specifically to ensure the devastation and human suffering they cause is mitigated to the greatest possible extent, to:

- Identify the unique challenges of mega-catastrophes and catalogue the current system of responding to such mega-catastrophes.

- Propose prevention and mitigation policies for mega-catastrophes.

- Recommend improvements to the response system to help people cope with the results of mega-catastrophes.

- Recommend policy changes in public and private sectors to pay for the consequences of mega-catastrophes.

By their very nature, mega-catastrophes affect virtually every individual on the planet – either directly or in some ancillary way. We all watched in horror as events unfolded in the wake of the tsunami disaster in Indonesia and Hurricane Katrina in the United States, and millions of individuals around the world rushed to heal the breaches these disasters uncovered.

Events such as these cannot merely be unfortunate incidents in our collective histories – we must learn lessons and understand that the key to containment and minimization of consequences when mega-catastrophes strike is straightforward: preparation, preparation, preparation. Events never unfold as we suspect they will, but having no plan is – as is well-documented – merely a plan for failure.

For the survival of ourselves and those whom we love, a plan for failure must not be allowed to stand.

This Commission coordinated with a variety of experts in the respective fields of Risk Management, Economics, Disaster Panning, Public Policy, Public Administration, and Business Policy. Because of their unfailing generosity, we have been able to compile a three-part comprehensive plan that will address issues arising as a result of mega-catastrophes.

Accelerating the Katrina Recovery is the first interim report the Commission is releasing. This report is a crucial component of the overall effort. Hurricane Katrina was the most costly natural disaster in U.S. history, both of the intensity of the natural phenomenon (the hurricane) and a *lack of appropriate planning at all levels of government*. As a result, relief came far later than it should have, recovery has proceeded in a piecemeal fashion (despite the best efforts of everyone on the local, state, and federal level). Recovery, as we have learned, is absolutely critical for any plan on how to meet the consequences of mega-catastrophes, and in the Hurricane Katrina situation we have a real-time case study from which to draw conclusions.

The second interim report to be released November 1, 2006, *Preparing for Pandemic Flu: A Call To Action*, addresses what needs to be done urgently to prepare for a pandemic; specifically, the pandemic flu. A flu becomes pandemic through the mutation of an especially lethal virus that becomes easily and rapidly transmissible between humans.

In Spring of 2007, we will re-present the Katrina and Pandemic reports along with reports that address other mega-catastrophes – hurricanes, floods, earthquakes and terrorism. Collectively, these reports will serve as one "mega-report" on policies relating to the prevention and mitigation of and compensation for loss for all types of mega-catastrophes. That report will provide the nation – and the world – with a roadmap we so desperately need to meet the coming challenges posed by these events.

We look forward to your questions and comments on these reports.

With best wishes,

Steve Bartlett
President & CEO
The Financial Services Roundtable

Acknowledgements

The Financial Services Roundtable is a unique trade association, limited to 100 of the largest financial services companies in the United States. Built on the legislative foundation created in the Gramm-Leach-Bliley Act of 1999, The Roundtable believes that a competitive marketplace is the best system for financing the American economy. Regulatory structures should ensure safety and soundness, and consumer protection, and *not* stifle the competitive market system.

The Roundtable is committed to uniform national standards, a strong economy, and actively promoting American strength in the global economy.

In the wake of recent disasters like the Indonesian tsunami and Hurricanes Katrina and Rita, a consortium of Roundtable member company CEOs undertook an enormous task: to identify gathering threats to business continuity via natural or other disasters, and then address these threats comprehensively with concrete plans on how to contain these unfortunate events when they occur, and save as many individuals as possible from pain and suffering.

The Roundtable is grateful to the following for their leadership in this unprecedented effort:

Without the dedicated leadership, persistence, and probing questions by Mr. Ed Rust, State Farm Insurance, Chairman, and Mr. Kerry Killinger, Washington Mutual, Inc., Vice Chairman, this report would not have been possible.

The 41 additional extraordinary individuals who constitute the Commission (listed on page 72 of this report) continue to spend hours on research and debate with unfailing commitment to the common good. We also commend the companies with whom these members are associated for supporting this effort by making the members available and providing the internal resources that have added the depth and knowledge required “to get it right.

We also wish to recognize Dr. J. David Cummins, Dr. Howard Kunreuther, and Dr. Erwann O.Michael-Kerjan who took the time to thoughtfully address specific issues in their areas of expertise:

The excellent professional staff at The Financial Services Roundtable, The Housing Policy Council, and BITS have provided extensive expertise and constant review to assure thoroughness and accuracy. We gratefully acknowledge the outstanding leadership provided to the Commission by Mr. William A. Longbrake, the Anthony T. Cluff Senior Policy Advisor for the Financial Services Roundtable.

We further thank the hard working professionals, too numerous to mention, at the local, state, and federal agencies who have published numerous reports regarding the Katrina disaster.

We are indebted to Dr. James A. Richardson, Alumni Professor of Economics at Louisiana State University, for his expertise and research, which made this report possible. In addition, the Roundtable thanks Robert Litan, Vice President of Research and Policy at the Kauffman Foundation and Senior Fellow in the Economic Studies Program of the Brookings Institution, for his overall coordination of this enormous task and for his expertise and guidance every step along the way.

Finally, the Roundtable thanks the Anthony T. Cluff Fund, chaired by Mr. Patrick Frost, and the member organizations of the Blue Ribbon Commission, which provided the financial support for this effort.

Executive Summary: Accelerating the Katrina Recovery

Hurricane Katrina was the most costly catastrophe in American history. The most heavily damaged areas – neighborhoods in New Orleans and a few cities along the Mississippi Gulf Coast – are recovering slowly, while areas sustaining less damage are much further along.

This report documents the extent of the recovery in different areas, the barriers to more rapid recovery, and how those barriers could be effectively and expeditiously lifted. It also provides lessons on how the private sector and all levels of government can better prepare for and recover from future mega-catastrophes. The report *underscores the need for more intergovernmental coordination.*

Though we make many specific recommendations for expediting the recovery, several crucial recommendations for each level of government to address are especially noteworthy:

- ✓ Because decisions critical to recovery in New Orleans depend on flood remapping, the *federal government* must complete the flood remapping of New Orleans as quickly as possible.

- ✓ The *federal government needs to* do more to train skilled workers to accelerate reconstruction of all affected areas, especially New Orleans.

- ✓ The *State of Louisiana* (working through the Louisiana Recovery Authority and appropriate regulatory bodies) should develop methodologies that accelerate the reconstruction of damaged infrastructure and housing.

- ✓ All *Gulf Coast states and local jurisdictions* should adopt state-of-the-art building codes.

- ✓ The *State of Louisiana* and the *City of New Orleans must* complete the planning process for reconstruction as expeditiously as possible.

- ✓ The *City of New Orleans* should undertake a multi-year fiscal analysis as a condition for gaining access to federal assistance for operating funds (with any assistance declining over time).

The foregoing recommendations share two common elements:

1. *Decisiveness is key* at all levels of government. People and businesses are waiting on the government to make decisions about levee rebuilding, city planning and housing in New Orleans; flood maps, building codes and

evacuation plans throughout most of the affected the region; and dispute resolution mechanisms, including mediation and mandatory, non-binding mediation, to resolve remaining insurance claims.

2. *Rapid recovery depends to a very significant extent on the pace of housing reconstruction*. The Commission has outlined ways to accelerate that process, recognizing that governments at all levels still need to make decisions that will give individuals certainty about their safety, if and when they return.

These lessons apply not only to the affected region, but also to future major catastrophes. *Accordingly, we urge the federal government to establish regional intergovernmental bodies to make plans before disasters that help minimize costs and disruption and expedite rapid recovery after disasters occur*.

Introduction

Most natural disasters typically run an established course. First, the capital assets of a community are destroyed. This disrupts local and sometimes national economic activity for a short period of time, while putting extra burdens on local, state, and federal governmental agencies, as well as on the private sector – often on the financial services sector in particular. Next, once the damage has occurred and the immediate threat of further damage has passed, local and state authorities, typically with federal help, initiate a recovery process that ordinarily moves the local economy back to its pre-disaster level within a relatively short period of time.

Mega-catastrophes such as Katrina are different, not only in degree but also in kind. Not only did Katrina cause unprecedented damage to the physical infrastructure of the affected areas – approximately 275,000 residences in Alabama, Louisiana, and Mississippi were severely damaged or totally destroyed, as well as wider economic losses to the local, state, and national economies – but the recovery process has been far more difficult than in any previous natural disaster. The most significant lesson from Katrina is that in the event of future mega-catastrophes, local, state and federal governments, as well as critical infrastructure provided by private industries such as financial services, telecommunications and electricity, *must be better prepared* to respond more quickly, more forcibly, and with greater coordination than is the case for smaller disasters.

The Financial Services Roundtable earlier documented the extensive damage caused by Katrina as part of a larger study, *What's Needed for Post-Katrina Recovery,* [1]focusing on the importance of rebuilding housing since returning workers need a place to live and residential communities provide a customer base for local businesses. In fact, there has been some progress in housing reconstruction since the report was published, although it has been highly uneven throughout the affected region.

Now, more than a year after Katrina, there are widely different perspectives on the pace of the recovery, especially in New Orleans. Charles Cook, a well-known political observer based in Washington, D.C. and a native of Shreveport, Louisiana, commented in May 2006 that he couldn't believe that much of New

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[1] This report was prepared by Dr. James A. Richardson, Alumni Professor of Economics at Louisiana State University, and released in March 2006. Other documentation of the damage of Katrina can be found in *Katrina Index*, The Metropolitan Policy Center of the Brookings Institution, updated bi-monthly and Loren C. Scott, *Advancing in the Aftermath: Tracking the Recovery from Katrina and Rita, a* study sponsored by Hibernia National Bank and Capital One Financial Corporation.

Orleans still looked as it did a month after the hurricane.[2] The August 28, 2006 issue of *Fortune* chronicled the agonizingly slow rebuilding of New Orleans.[3] Early registration results for public schools in New Orleans suggested a very modest school enrollment: 20,000 students registered as of mid-August, compared to a pre-Katrina enrollment of 65,000.[4]

The Mayor of New Orleans has taken a more optimistic view, recently suggesting that the City's recovery is on track and ahead of expectations based on the conventional wisdom just after the hurricane.[5]

Andy Kopplin, Executive Director of the Louisiana Recovery Authority, addressed the challenges of recovery and rebuilding in a presentation to the Bond Rating Agencies on August 1, 2006.[6] He pointed out the large number of issues to be resolved and the physical time required to rebuild any devastated area, let alone a region as badly damaged as New Orleans.

Findings

From the evidence we have reviewed, together with the collective experience of the financial institutions represented on this Commission, we believe there are still significant barriers to recovery that both the public and private sectors need to address. In a word, most of these barriers relate to the *uncertainties* continuing to impede or freeze decision-making by individuals and businesses about whether and where to return. These uncertainties include:

- ✓ *The safety of the levee system*
- ✓ Other infrastructure concerns, including water and sewer systems, electrical capacity, and transportation systems
- ✓ Final flood maps and the ability of each property owner to comply with them
- ✓ The cost of goods and services, especially for rebuilding
- ✓ How the planning process works: this uncertainty has implications for the reconstruction of houses and neighborhoods
- ✓ The availability of basic public services including public safety, education, and environmental quality

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[2] Comments made at the Annual Meeting of the Housing Policy Council on May 19, 2006 in New Orleans, Louisiana.
[3] Charles C. Mann, "The Long, Strange Resurrection of New Orleans," *Fortune* (August 28, 2006).
[4] Preliminary enrollment estimates from Louisiana Department of Education. There is still time for these enrollment numbers to rise since the Recovery School District (the schools in New Orleans are run directly by the State) do not open officially until the day after Labor Day.
[5] Press Conference with Mayor Ray Nagin as reported in New Orleans *Times Picayune*, July 26, 2006.
[6] Louisiana Recovery Authority, presentation by Mr. Andy Kopplin, August 1, 2006. (www.lra.louisiana.gov.).

- ✓ Availability of skilled labor
- ✓ The cost of living in New Orleans
- ✓ Availability of insurance

These uncertainties contribute to and are compounded by the continued lack of adequate housing, which inhibits the ability of New Orleans businesses to attract workers and makes it difficult for residents of the most damaged sectors of the City to sustain some semblance of ordinary life. Although housing assistance programs funded by the federal government should eventually ease this problem, these efforts are just getting under way. Furthermore, each person or family who has yet to return confronts uncertainty over the extent to which others in their neighborhoods will also return.

The answer to uncertainty, of course, is decisiveness. Decisions must be made quickly about all of the above factors. Delays in making decisions reinforce the uncertainty and extend the time it will take for the City to recover.

Recovery in Mississippi is proceeding, but it is still far from complete, as the Governor of Mississippi has noted.[7] There are different timetables for employment along the Mississippi Gulf Coast to match the pre-Katrina level, including questions about the restoration of permanent housing, major infrastructure issues to be resolved, and, cities and towns that are working through a myriad of fiscal issues.[8]

Regardless of one's views about the pace of recovery in either Louisiana or Mississippi, there is consensus that additional steps must be taken to speed it up. At the same time, methodologies need to be developed to assure the right things are being done in the right way. For example, everyone wants to get money into the hands of homeowners as quickly as possible so that rebuilding can occur, but simultaneously the process for distributing funds needs to make sure that the money goes to the right people and is used for its intended purpose. In some cases it has been difficult to determine the owner of a property, thus requiring title company verification, which at times has been a very slow process. While speed is essential, so too is accountability.

This *Interim Report of the Blue Ribbon Commission on Mega-Catastrophes of the Financial Services Roundtable* deals precisely with these issues: how to accelerate the recovery, while maintaining accountability. The Roundtable consists of 100 of the largest integrated financial services companies in the United States. The Commission is made up of 35 Roundtable member institutions, plus a number of

[7] "Governor Barbour Updates Lawmakers on Recovery, Rebuilding, and Renewal (June 27, 2006). See also "Mississippi's Reversal of Fortune," Washington *Post,* (March 10, 2006).
[8] Ibid.

other organizations active in the financial arena. (See the Appendix for a list of members.) The Commission will ultimately produce a comprehensive report offering suggestions to policymakers on how to reduce and pay for the damages from a wide range of future mega-catastrophes, including natural disasters, pandemics, and acts of terrorism.

We are issuing this *Interim Report* now, given the importance to all concerned of doing both what is possible and what makes sense to aid the recovery from Katrina. Many Roundtable member institutions have a major stake in this effort, and, as discussed further in this document, have already played an instrumental role in providing aid immediately after the storm. These companies are now actively involved in financing the recovery. All Roundtable member institutions, as well as other firms in the Gulf region and in other areas exposed to natural and man-made hazards, have a stake in how the post-Katrina recovery proceeds, since the lessons learned from this process are relevant to a broad range of future mega-catastrophes.

The starting point of any analysis of how to move forward, however, must recognize that much has already been done. The federal government has committed an unprecedented amount of resources to the post-Katrina recovery effort:

On September 2, 2005, the President signed H.R. 3645, the "Emergency Supplemental Appropriations Act to Meet Immediate Needs Arising From the Consequences of Hurricane Katrina, 2005," an act providing $10.5 billion in emergency funds to FEMA and the Department of Defense.

On September 8, 2005, the President signed H.R. 3673, the "Second Emergency Supplemental Appropriations Act to Meet Immediate Needs Arising From the Consequences of Hurricane Katrina, 2005," an act appropriating $51.8 billion to FEMA, the Department of Defense, and the Army Corps of Engineers.

On December 30, 2005 the President signed a third supplemental appropriations bill for $29 billion. This bill provided additional funding to federal agencies and provided $11.5 billion in community development block grants (CDBG) to Alabama, Florida, Louisiana, Mississippi, and Texas. Louisiana received $6.2 billion and Mississippi received $5.1 billion.

On June 15, 2006 the President signed into law a fourth emergency supplemental appropriations bill which provided $19.8 billion for spending with $4.2 billion going to Louisiana, $1 billion in CDBG funding to other states, $6 billion for FEMA to housing assistance, debris removal and other recovery activities, and $3.7 billion to the Army Corps of Engineers to complete levee improvement work.

These four emergency supplemental appropriations acts amounted to federal obligations totaling $111.1 billion.[9] These funds have not all been spent and there is no way at this time to accurately determine the exact amount that has been spent.[10]

Congress has also enacted significant tax incentives for private industry to invest in the Gulf Coast region. The President signed the Katrina Emergency Tax Relief Act on September 26, 2005 and the GoZone Act was signed on December 21, 2005.[11] The estimated tax relief over a number of years provided by these two acts is estimated to be $14 billion.[12]

Substantial private funds already have gone into the region as well. The Insurance Information Institute estimates private insurance payments will exceed $40 billion, 62 percent of which will pay insured losses in Louisiana,[13] with Mississippi responsible for 29 percent of the claims and about 33 percent of the insured losses.[14] These insurance payments do not include the $17 billion in payments from the National Flood Insurance Program.[15] All told, private insurance payments and national flood insurance payments have approached $58 billion for Hurricane Katrina.

The states of Louisiana and Mississippi have also made major changes in state law and have proposed state constitutional amendments to enhance the ability of the localities to recover and prosper.[16] Individuals, families, and businesses are now in the process of making their decisions about rebuilding homes and businesses in New Orleans and along the Gulf Coast or relocating to another part of the state or the nation. The ultimate test of federal, state, and local policies going forward is

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[9] Information from "Federal Allocations in Response to Katrina, Rita, and Wilma: An Update," Matt Fellowes and Amy Liu, Brookings Institution, August 21, 2006. They retrieved this information from the White House, Regular Press Briefing, October 28, 2005; OMB Watch; and, the Library of Congress.

[10] *Building A Better New Orleans: A Review and Plan for Progress One year after Hurricane Katrina*, The Brookings Institution Metropolitan Policy Program, (forthcoming fall 2006). The federal government has allocated these dollars. The actual spending will take place over a period of time.

[11] See James A. Richardson, "Katrina/Rita: The Ultimate Test for Tax Policy," *National Tax Journal* (September 2006) for a description of the Go Zone legislation and a limited analysis of what Alabama, Louisiana and Mississippi have accomplished with the tax incentives over a relatively short period of time. The estimates of the tax relief for these two acts come from the Congressional Budget Office.

[12] Ibid.

[13] Hurricane Katrina Fact File, Insurance Information Institute.

[14] Ibid.

[15] Ibid and *Katrina Index*, The Brookings Institution. Of this total $2 billion comes from premiums paid and the rest comes from an appropriation by the federal government.

[16] Louisiana has proposed a constitutional amendment that would make the levee organization more uniform and a second that would replace the seven tax assessors now in New Orleans with only one tax assessor for the entire parish. The reorganization of the levee boards is on the ballot on September 30, 2006, while the reorganization of the tax assessors in Orleans Parish is on the ballot on November 7, 2006.. Mississippi changed its state law so that casinos could be located on land and not just water. Casinos along the Gulf Coast in Mississippi may be located within 800 feet of water.

whether – and at what pace – individuals, families, and businesses return to the New Orleans area and to the Mississippi Gulf Coast region.

Yet despite the efforts of all levels of governments and the activities of businesses throughout the region, the recovery efforts in certain parts of the Gulf Coast are still lagging. In the New Orleans Metropolitan Area, employment is down 30 percent from pre-Katrina levels, while Gulfport-Biloxi's employment is down 20 percent. In certain sectors of the economy – such as educational and health care services in New Orleans, for example – more than 40 percent of workers have not returned, while about the same percentage of professional and technical workers also have not returned. New Orleans is now planning to have schools available for about half of the pre-Katrina public school population, but early registration indicated this goal was probably not achieved. In Mississippi about 45 percent of the leisure and hospitality industry workers in Gulfport-Biloxi have not returned.

In certain areas along the Gulf Coast the recovery is robust, while in other areas the recovery is proceeding slowly or is stalled. In the long run, it is important that the entire area recover. This does not mean every house and business will be replaced exactly where they once stood. Every community and neighborhood must, however, have a role to play and a contribution to make in the overall social and economic activity of the City, metropolitan area, and region.

We outline in the pages that follow the post-Katrina activities of the financial services sector to provide relief and facilitate recovery; the loss of capital assets and the disruption of the ongoing production in the Gulf Coast; a report on the status of the recovery in the New Orleans Metropolitan Area since Katrina; barriers that are impeding further progress; and recommendations for accelerating and sustaining the rebuilding and revitalization of the New Orleans Metropolitan Area, especially the parishes of Orleans and St. Bernard, and the Mississippi Gulf Coast. Those recommendations are summarized below and discussed more thoroughly in the body of the report.

Recommendations

Most of these recommendations relate to the immediate recovery of the Gulf region, but others are longer-term policy suggestions based on the Katrina recovery experience. Unless denoted as “Long-term”, however, all recommendations are aimed at expediting the current recovery process in the Gulf.

A. Immediate Financial Needs

The financial sector responded quickly to the Katrina crisis by providing cash and credit to many who were in need, insurance settlements to policyholders, and unprecedented forbearance on the collections of mortgage payments and insurance premiums on damaged properties. Financial institutions did the best they could under extremely difficult circumstances, and, in the process they learned lessons about how to tend to the immediate needs of victims through working with other public and private bodies. Those lessons, including some related to resolution of remaining insurance matters in the Gulf, follow below.

1. Emergency liquidity should be distributed through debit cards as opposed to cash and a better means of identifying recipients should be developed. *(Long-term)*

2. The private insurance industry, delivered over $38 billion in commercial and residential property and vehicle-related settlements in response to the damages caused by Hurricane Katrina. Fewer than 2 percent of all claims led to formal complaints. Given the importance of resolving insurance coverage disputes quickly (especially for individuals), Louisiana, Mississippi, and other affected Gulf states should continue to encourage the current mediation process and explore other methods for expedited claims resolution, including mandatory, non-binding mediation.

3. The increased cost and possible decrease in the availability of insurance in the private market for Gulf Coast residential and commercial customers may require a series of policy measures at both the state and federal levels. At the state level these measures include state regulatory policies that permit actuarially sound premiums. Methodologies to reduce concentration and diversify risks should to be explored. Residual market subsidies should focus on low-income residents. Possible federal measures might be to enhance the viability of the catastrophe bond market, change federal tax law to permit catastrophe reserves to be tax-deductible expenses, and to adopt some kind of federal reinsurance backstop program. These and possibly other policy options for addressing the insurance availability and pricing issues will be included in the Task Force’s *Comprehensive Report*

on all mega-catastrophes in the spring of 2007. (*Short-term ands Long-term*)

4. Regulators, lenders, Government-Sponsored Enterprises, and other secondary market participants should develop default rules and guidelines for triggering them that would allow 90 days forbearance, subject to a tiered system differentiated according to the unique aspects and the extent of damage in a given area**.** *(Long-term)*

5. Following a disaster, the Government-sponsored Enterprises in the housing arena – Fannie Mae, Freddie Mac, and Ginnie Mae – and relevant regulatory agencies must be brought into any discussions involving the functioning of secondary markets and regulatory requirements as soon as possible. *(Long-term)*

6. Financial institutions should work with consumer organizations, regulators and state and local officials to clearly communicate any forbearance plans to all affected individuals and stakeholders. *(Long-term)*

B. Intergovernmental Coordination

One of the central lessons learned from Katrina is that multiple decisions prior to a mega-catastrophe and definitely in the aftermath (as well as some even more "routine" disasters) are required by all levels of government – local, state, and federal – since many decisions require the cooperation of all, as well as a means to resolve disputes where they arise. It is vital that these decisions be made expeditiously and that disputes be resolved quickly so that individuals waiting to return and businesses ready to reopen have sufficient certainty that they can make plans. The more rapidly all of this happens, the more quickly the economic and social recovery from any disaster will occur.

7. The federal government should take immediate steps to establish more formal means of inter-governmental coordination – separately in Louisiana and Mississippi because the issues differ in each state. We recognize this recommendation comes late because so much has already occurred, but intergovernmental coordination remains necessary since there will certainly continue to be issues requiring cooperation as the recovery proceeds.

8. The federal government should create Regional Intergovernmental Councils around the country for areas that could be affected by mega-catastrophes and empower them to facilitate pre-disaster planning and to assist with recovery in the immediate aftermath of such events. The Councils should include representatives from the private sector, as well as representatives

from the federal, state and local governmental levels. Among other things, the Councils should clearly delineate who is responsible for what prior to the occurrence of major catastrophic events so that when they do occur, evacuation plans, public safety coordination and, later, emergency assistance and cleanup can proceed, even if communications and electricity are interrupted. The Councils should also explore methods by which local governments can cooperate fiscally and in other ways, if multiple localities within a region suffer damage. *(Long-term)*

C. Levees, Flood Plains, Building Codes, Evacuations

Another key lesson from Katrina is that people will not return, and therefore regions will not recover, until they are comfortable that it is safe to do so. To best ensure safety, reconstructed properties should be built according to state-of-the-art building codes to minimize damage from future disasters, while evacuations plans must be in place and widely communicated.

9. The federal government must explain fully – in plain English, not in language of engineers and statisticians – the enhanced levee system under construction and the protection that New Orleans citizens should expect to receive from this system.

10. The Army Corps of Engineers and other pertinent government agencies should partner with state governments to ensure sufficient wetlands and barrier islands are reestablished and preserved to add protection to the Gulf Coast states from hurricanes and thus reduce potential future damage costs (this program may have applications in other parts of the country).

11. The federal government should promote the development of a joint program of Mississippi River management, levee enhancement and coastal restoration to provide hurricane protection to the coast of Louisiana that would substantially reduce potential future damages and costs (this program, too, may have applications elsewhere).

12. Final flood insurance maps that map the 100 year natural flood plain should be published no later than December 31, 2006 (or earlier, if possible) and should be adopted on an expedited basis since much new construction may not be reasonably planned, financed, insured, or begun until the maps are completed.

13. Broadly-based modern building codes are needed in the Gulf Coast, given its exposure to future hurricanes. Louisiana and six Mississippi counties along the Gulf Coast have adopted such codes, but other Gulf Coast states

and localities, including many counties in Mississippi, need to do so as expeditiously as possible. FEMA should provide incentives under the Stafford Act to encourage adoption of state-of-the-art building codes (indeed, require adoption as a precondition to receiving pre-disaster mitigation funding), while HUD should facilitate the training of local code enforcement officials and states should create a code enforcement system.

14. States and localities should have evacuation plans in place and must widely communicate those plans through various channels as a condition of receiving federal disaster relief under the Stafford Act. Further, each level of government must be fully aware of its responsibilities in such emergencies, while the next higher level of government must be ready to back up the lower level, if that government is unable to carry out its responsibilities. (*Short-term and Long term)*

D. Housing

The message embodied in an earlier report issued by The Financial Services Roundtable remains true: economic recovery hinges on repairing and rebuilding housing and this must be accomplished as quickly as possible. Without housing, workers cannot rebuild, and individuals cannot return. Housing issues remain in the Gulf and there are lessons from Katrina that bear on housing policies that must be in place to respond more effectively to future disasters.

15. In regions that have suffered catastrophic damage, rather than relying exclusively on trailers, the federal government should use a variety of temporary housing solutions, including mobile homes, modular homes, housing vouchers, and the limited use of trailers. The options employed should be determined according to differing levels of devastation and the varying needs of the damaged areas. *(Long-term)*

16. Government agencies should make use of visual mapping to assess the need for temporary housing and evaluate different methods of providing temporary housing in the aftermath of a mega-catastrophe. *(Long-term)*

17. The speed and effectiveness of recovery depends upon the flow of needed capital. The different methods for distributing housing reconstruction funds in Louisiana and Mississippi should be carefully analyzed to ensure that the funds were used properly efficiently, and without fraud. In addition, that the distribution facilitated efficient restoration of damaged properties and promoted rapid recovery in the respective regions. This comparison will allow the development of a “best practices” methodology to the distribution

of housing grants that meets the objectives of speed and accountability in the event of another mega-catastrophe.

18. The Louisiana Recovery Authority (LRA) and the City of New Orleans must work together quickly and effectively to develop a coordinated citywide plan so homeowners can make reasonable and timely decisions about rebuilding or relocating.

19. Even though the funds disbursement process is already established, the LRA should consider further jump starting the recovery by providing incentives to accelerate early commitments of residents to return. Possibilities include monetary incentives for those individuals and families committing to start rebuilding their homes within the citywide plan as approved by the LRA and within 90 days of receipt of their grant, provided that other necessary enabling requirements are met. The LRA should decide the nature of the commitment triggering payment of any incentive payments (which should be made only after construction has commenced).

E. Infrastructure and Fiscal Matters

In addition to the damage they bring to residential and commercial properties, natural disasters also destroy the local infrastructure. Economies, therefore, cannot recover until this infrastructure – physical (electricity, transportation, water and sewerage) and human (available labor) – is also repaired, rebuilt, or in the case of workers, enticed to return. The New Orleans area, in particular, still faces special challenges in these regards.

20. The State of Louisiana and the federal government should take steps to assure expeditious reconstruction of infrastructure for all parts of New Orleans, including taking the initiative to bring parties of interest together. In the case of regulated utilities, particularly electricity, this can be accomplished either through grants from the LRA or by broadening the geographic rate base so that the utility has a sufficient revenue base to pay for the reconstructed facilities. The worst outcome, however, is doing nothing for that will only prolong the recovery.

21. The State of Louisiana, the federal government, and the City of New Orleans must take steps to ensure a sewerage and water system that is adequate to serve the city.

22. The City of New Orleans must proceed with a thorough short and long-term fiscal analysis of its expenditures and revenues, the servicing of its debt, and the implementation of a capital outlay plan. The State of Louisiana,

working through the LRA and other appropriate entities, can assist in developing plans that assure ongoing fiscal viability. The federal government should be willing to provide grants on a declining basis over a reasonable period of time, provided the City develops a viable long-term recovery plan.

23. Federal tax incentives to promote recovery in the Gulf should be extended for a limited period -- perhaps two years -- and should be more narrowly confined to areas most severely damaged.

24. It is critical that all steps necessary be taken to attract skilled labor back to New Orleans and other devastated areas, not only to assist with the recovery, but also to provide a workforce that will sustain the economic vitality of the City in the future. Pursuing the housing recommendations outlined previously will certainly help in this regard. The U.S. Department of Labor should help with the training of local residents (and others who could be attracted to the region) to work in reconstruction-related activities. The more formal Regional Intergovernmental Councils, suggested in recommendation #8, may also be able to provide valuable assistance.

I. Response of the Financial Sector to Katrina

Much attention has already been given in the reports and public accounts of the Katrina disaster to the efforts by various levels of government to assist people and businesses in the region. Less recognized, but we believe critically important, is the crucial role the financial sector played in this process.

Financial services have been deemed to be a part of the nation's "critical infrastructure" in regional and national emergencies for very good reasons. In the wake of a disaster, victims and those who come to help or rescue them need: immediate access to means of payment – often cash, but also various forms of electronic payment, such as credit and debit cards; the ability to liquidate certain of their financial investments, notably in securities and mutual funds, in order to fund immediate living expenses; the freedom to stretch out their payments on any loans they may have; and the need to have prompt claims payments from the insurance policies they have bought to protect them precisely against such events.

The banking, securities, and insurance industries were vital in fulfilling all these functions after Katrina, a natural disaster that put the financial system to perhaps its severest test ever. As one federal financial regulatory coordinating body has concluded, "overall, [financial] institutions prevailed in very difficult circumstances through advance planning and preparation, and by working together. As a result of these efforts, the financial industry was able to assist customers and communities in their time of greatest need."[17]

In addition, financial institutions took a variety of measures to aid the victims of the storm. For example, over 80 members of the Financial Services Roundtable and their employees and customers responded to the humanitarian crisis in the area following the hurricane by providing more than $93 million in financial assistance to disaster relief agencies. Member institutions waived fees and penalties, provided moratoriums and grace periods on loans (especially mortgages) and insurance premiums, helped customers establish alternate payment plans, and did not report delinquencies to credit bureaus.

The Katrina experience also revealed some important lessons for both the financial sector and governmental disaster agencies that should be applied before, during,

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[17] Federal Financial Institutions Examination Council, *Lessons Learned from Hurricane Katrina: Preparing Your Institution for a Catastrophic Event*. Banks also helped each other. The "Bankers-Helping-Bankers" of the American Community Bankers, for example, linked members across the country with banks in the region needing temporary facilities, expertise in disaster and data recovery, and financial assistance for employees. See Financial Services Sector Coordinating Council, *Protecting The U.S. Critical Financial Infrastructure: 2005 In Review*, p. 19(available at www.fsscc.org/reports/interagency_white_paper.pdf).

and after future national emergencies. Some highlights of this experience, and the lessons that can be learned from it, follow.

A. Liquidity

Banks throughout the region worked to provide individuals access to cash, primarily through the limited number of automatic teller machines (ATMs) that were still in service in the days and even weeks following the disaster. Many of the ATMs were in flooded locations or in areas without electric power, leaving them unable to function for some time. But in geographic areas outside the immediately affected areas, where victims fled both before and after the hurricane – in Louisiana north of North Orleans, in Texas, and in northern areas of Alabama and Mississippi – ATMs were a financial lifeline for millions of victims and the rescue workers there to help them. Working with the Federal Reserve System, banks in the region had the ATMs fully stocked and able to serve the needs of customers for funds. Many branches of area banks also stepped in to provide assistance.

Shortly after the disaster, FEMA introduced a new way of distributing emergency assistance to many of the victims evacuated to shelters through debit cards with balances of up to $2,000. This experiment appeared to work initially, but then quickly became plagued with fraud, as many individuals found ways to receive multiple cards, while others were not able to receive any.

In principle, distribution of emergency liquidity through debit cards rather than cash remains a good idea. The Government Accountability Office has found that debit cards can reduce the need for cash in an emergency by approximately 40 percent.[18] A task force of the American Bankers Association recently recommended that the Treasury Department assist in the development of a uniform debit card deployment strategy across all federal disaster financial aid agencies, and that both Treasury and FEMA harness the ability of charitable organizations to add their benefits to debit cards.[19] Such a strategy should also have a better means of identifying which individuals have received assistance so that "double dipping" (or more) does not reoccur.

In fact, in July the Department of Homeland Security announced a revision of its debit card program to apply in future emergencies. Under the new rules,

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[18] Statement of Gregory D. Kutz, Managing Director Forensic Audits and Special Investigations, Testimony before the Senate Committee on Homeland Security and Governmental Affairs, February 13, 2006.

[19] American Bankers Association, "Lessons from the Storms and Other Emergencies, Policy Recommendations of the ABA Joint Preparedness Task Force, June 2006 ["ABA Task Force"].

immediate disaster aid would not exceed $500, and would be handed out only after identities and addresses were checked.

More broadly, in the case of hurricanes for which affected parties have at least some warning, financial institutions can prepare by having additional amounts of cash on hand, since customers and employees typically need additional cash to pay for critical items when power and telecommunications outages interfere with electronic means of payment.[20]

Recommendation #1: Emergency liquidity should be distributed through debit cards as opposed to cash and a better means of identifying recipients should be developed. *(Long-term)*

B. Insurance Disputes

The insurance industry also responded quickly to the disaster. Before the storm struck, private insurers pre-positioned claims adjusters and prepared their home offices for what would prove to be a record number and dollar amount of claims. After the storm, the industry dispatched those adjusters to the region en masse. Thousands of these individuals worked to get policy payments into the hands of policyholders as rapidly as possible.

Through July 2006, the Insurance Information Institute reported that nearly 95 percent of all homeowner claims for damages caused by Katrina (and, in some cases, Rita) in Louisiana and Mississippi had been resolved, resulting in total settlements exceeding $15 billion. Total Katrina-related claims – for damage to commercial, residential and vehicles – had reached $38 billion by mid-May 2006.[21] Furthermore, fewer than two percent of policyholders have requested any form of formal dispute resolution and 80 percent of those going to mediation have been successfully resolved.

Some policyholders in Mississippi, however, have sued certain insurers for failing to pay for flood or storm surge damage, even though such damage was explicitly excluded from standard homeowner policies and was instead insured separately through the Federal Flood Insurance Program. The Mississippi Attorney General filed a still-pending lawsuit containing these and other allegations. The federal court in Mississippi has ruled in several cases that insurers are not liable for storm surge damage since those policies explicitly excluded coverage for flooding.

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[20] FFIEC, p. 12.
[21] Information supplied by the Insurance Information Institute.

The Mississippi lawsuits raise the policy issue of whether and in what manner public policy should respond to the concerns raised by the "wind vs. water" litigation. Since the judicial process can take a long time, and given the urgency of resolving these disputes for hurricane victims, our view is that resolution of these disputes needs to be completed as quickly as possible. Already, mediation has been successful in resolving many disputed claims. State judges should continue to use mediation to the maximum possible extent, and also explore other methods for expedited claims resolution, including mandatory, non-binding mediation (which may require legislative authorization).

Recommendation #2: Given the importance of resolving insurance coverage disputes quickly (especially for individuals), Louisiana, Mississippi, and other affected Gulf states should continue to encourage the current mediation process and explore other methods for expedited claims resolution, including mandatory, non-binding mediation.

C. After the Storm: Availability of Insurance

Over the longer term, it appears that some of the insurance coverage lawsuits stem from the failure of individuals to purchase flood insurance and/or from the fact that the damage they suffered exceeded the policy limits on the Federal Flood Insurance Program ($250,000 for residences, $500,000 for businesses). In this context, the litigation raises fundamental issues regarding reform of the Federal Flood Insurance Program, especially to ensure that individuals living in flood plains buy flood insurance and that lenders ensure that they do so. (Lenders generally are required to make sure that flood insurance has been purchased, but compliance has not been consistent, especially with respect to renewing coverage after the initial purchase.)

The heavy losses caused by Katrina have also impacted the prices and availability of homeowners insurance in the Gulf area. According to one report, insurers have filed for rate increases ranging between 9 and 49 percent in Louisiana and some major insurers are no longer writing policies in the southern parts of Louisiana. As a result, more residents are applying for coverage from the Louisiana residual markets insurer, the state-sponsored insurer of last resort.[22] Similar premium increases in the voluntary insurance market are also occurring in other Gulf coast areas and along coastal areas of the Atlantic.

Given the level of damage caused by Katrina and the continued exposure of the Gulf area to severe hurricanes, premium increases are hardly surprising. According to information supplied by the Insurance Information Institute,

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[22] Reported in *City Business*¸ April 22, 2006.

homeowners' losses in Louisiana from Katrina equaled *25 years* of insurance premiums collected in the state. In Mississippi, the damages equaled 17 years of premiums. And the region remains exposed to significant damage from future storms. Just prior to Katrina, for example, Louisiana ranked 7th in the nation in the value of coastal property exposed to hurricanes (over $200 billion), even though the state accounts for less than 2 percent of the U.S. insurance market.

A range of policy options is available to enhance the availability and reduce the price of insurance below what it might otherwise be, recognizing that increased rates in the wake of the disaster and the continuing exposure of the Gulf Coast reflect the dramatic increases in the cost of reinsurance and insurers' readjustments of expected future catastrophe losses. At the state level these options include the adoption of state regulatory policies that permit actuarially sound premiums (an essential precondition of insurers doing business) and focusing any residual market subsidies on low-income residents. Methodologies to reduce concentration and diversify risks should also be explored.

Recommendation #3: The increased cost and decrease in the availability of insurance in the private market for Gulf Coast residential and commercial customers may require a series of policy measures at both the state and federal levels. At the state level these measures include state regulatory policies that permit actuarially sound premiums. Methodologies to reduce concentration and diversify risks should be explored. Residual market subsidies should focus on low-income residents. Possible federal measures might be to enhance the viability of the catastrophe bond market, change federal tax law to permit catastrophe reserves to be tax-deductible expenses, and to adopt some kind of federal reinsurance backstop program. These and possibly other policy options for addressing the insurance availability and pricing issues will be included in the Commission's *Comprehensive Report* on all mega-catastrophes in the spring of 2007. *(Short-term and Long-term)*

D. Forbearance and the Role of Mortgage Servicers, Regulators and the GSEs

Confronted with the wreckage of so many homes and communities caused by Katrina, coupled with the inability of many victims to find work in new locations while deciding whether to return to the storm-ravaged areas, it immediately became evident to banks and mortgage lenders in the region that some relief had to be extended to those with mortgage obligations. There were no manuals, however, on how to go about this since Katrina was the largest and most devastating storm in U.S. history, and no financial institutions in any area had ever before had to cope with an event of this magnitude.

The mortgage industry, with a deep interest in this issue, quickly formed a Mortgage Working Group to deal with the issue. All of the key parties came to table: the Mortgage Bankers Association, the Housing Policy Council of The Financial Services Roundtable, the Consumer Mortgage Coalition, the Coalition for Fair and Affordable Lending, the National Home Equity Mortgage Association, as well as individual lenders, and the Government sponsored Enterprises (GSEs) – Fannie Mae, Freddie Mac, and Ginnie Mae. Consumer organizations were consulted as well.

As one of its highest priorities, the Mortgage Working Group realized that it would need the cooperation and active help of government regulators and the GSEs, the three main players in the secondary mortgage market owning or guaranteeing many of the mortgages. The Working Group subsequently helped persuade the GSEs to adopt uniform forbearance policies to assist mortgage servicers and homeowner/borrowers.[23] Ultimately, with the cooperation of the GSEs, most lenders allowed affected homeowners to stop making mortgage payments for seven months without incurring any late fees or having any negative information related to forbearance appear in their credit bureau files. The lenders and the GSEs also extended the forbearance program through at least the end of August 2006 for the most severely affected homeowners.

Lenders made extensive efforts to inform homeowner/borrowers of these policies through direct mail (where it was available), print and broadcast advertising, outreach to the news media, posters, dedicated customer service telephone lines, and engaged community organizations to spread word of the available relief.

The Mortgage Working Group undertook several other initiatives to provide important benefits to the victims of this catastrophe. For example, the mortgage industry raised the plight of mortgage homeowners with federal policymakers, and worked with the Congress to ensure its appropriation of over $11 billion in Community Development Block Grant (CDBG) funding for uninsured homeowners living outside of FEMA-designated Special Flood Hazard Areas.[24] The Working Group has continued to work with Congress to help reform the Federal Flood Insurance Program that through June 30, 2006 had paid out $17 billion in claims made during 2005, while collecting roughly $2 billion in premiums . (Congress made up the shortfall by lending funds to the Federal Flood Insurance Program.)

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[23] Ginnie Mae pursued its own approach, but, nonetheless, established forbearance procedures.

[24] While this effort was critical to helping individuals in distress, it also underscored the fact that many victims of Katrina (and in other natural disasters) did not have insurance against flood or wind damage. Our more *Comprehensive Report* on mega-catastrophes will explore various ways to help ensure that more individuals in catastrophe-prone areas in the future have access to and can afford this insurance, which will reduce the need for federal disaster relief in the future.

Looking ahead, the cooperation displayed by the Mortgage Working Group and its partners, as well as by federal regulators, should provide a template for forbearance that may be required in future disasters, provided that such a template is written down and codified. Although all disasters are case-specific and hard to anticipate with one-size-fits-all rules, we nonetheless recommend that the formal federal interagency financial group charged with coordinating activities in emergencies – the Finance and Banking Information Infrastructure Committee (FBIIC) chaired by the Treasury Department – develop as much guidance as possible relating to forbearance on all types of loans in the event of future large-scale disasters.[25]

Mortgage forbearance for periods shorter than 90 days are probably unrealistic in larger disasters, but longer periods, at least at the outset, may not be appropriate. If the need becomes clear, as it did after Katrina, forbearance can always be extended. In addition, forbearance for longer periods should be tiered according to the severity and unique aspects of the damage in a given area. This approach was used after Katrina and could be applied as part of any template the above-mentioned parties jointly develop. Whatever is done, the process ought to be fully transparent.

Since there are many players in the housing finance market, it is important that all involved be included in setting a default rule. This includes not just regulators, lenders, and the GSEs, but also other secondary market participants, such as the Bond Market Association and the Securities Industries Association.

Beyond establishing a default rule, special or customized mortgage relief may be necessary for particular disasters. Since the GSEs will collectively either guarantee or hold a substantial portion of the mortgages in any storm-damaged area, their cooperation in any post-event forbearance program is essential. The use of visual mapping can be useful in assessing the extent and location of damage to physical structures.

Recommendation #4: Regulators, lenders, Government-sponsored Enterprises, and other secondary market participants should develop default rules and guidelines for triggering them that would allow 90 days forbearance, subject to a tiered system differentiated according to the unique aspects and the extent of damage in a given area. *(Long-term)*

[25] FBIIC is chartered under the President's Working Group on Financial Markets. It is charged with improving coordination and communication among financial regulators and enhancing resiliency of the financial sector in event of national emergencies. The members of the FBIIC include all of the federal financial regulatory agencies, together with representatives of their state counterparts (national organizations representing regulators of the banking, insurance and securities industries).

Recommendation #5: Given the importance of the GSEs in the housing finance market, these organizations, together with the relevant regulatory agencies, should be brought into any forbearance discussions as soon as possible after a disaster. *(Long-term)*

E. Communications Plans

Individuals who are eligible to get help through a forbearance program should be informed as soon as possible, both for humanitarian and financial reasons. The greater the uncertainty about loan repayment obligations, the more financial hardship individuals and their families will suffer. In addition, uncertainty makes it difficult for individuals to decide whether and when to return to the affected areas.

Disaster Lending: Following Katrina, there were many complaints about the slow processing and excessively bureaucratic nature of the SBA disaster loan relief program. The SBA responded to these complaints by announcing on February 27, 2006 its Disaster Loan Partners Initiative, through which the SBA will ultimately be soliciting bids from local banks and other entities to assist in processing SBA loans. The American Bankers Association's Joint Preparedness Commission, however, has urged an even simpler and more efficient process that would integrate financial institutions more fully into the disaster lending process by enabling authorized institutions to directly offer disaster loans in a manner similar to the SBA's 7(a) program for business loans. We endorse this recommendation.[26]

Securities and Mutual Fund Redemptions: For those victims who needed access to the capital markets to provide liquidity after the disaster, the system worked well. Once securities brokers or mutual funds were contacted, they were able to quickly process redemption requests. The main challenge for individuals making these requests was finding access to a telephone or the Internet to contact their broker or fund. This underscored the critical interdependence between the financial sector and the electricity and telecommunications networks.

Mortgage Servicing: The mortgage servicing industry worked with insurers to coordinate disbursement of insurance proceeds, to assist victims with finding contractors to rebuild their homes, and to assist with and pay for the temporary living expenses of policyholders in the region. Mortgage servicers also helped homeowners with inspection services to ensure that repairs were completed properly.

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[26] ABA Task Force, p. 3.

Flood Insurance: The extensive flood damage has dramatically underscored the need to make fundamental changes and enhancements to the nation's Federal Flood Insurance Program. The Mortgage Working Group has continued to work with Congress to reform that program to improve its financial viability. Our Commission will address flood insurance reform in greater detail in our *Comprehensive Report,* which will recommend policy changes relating to all mega-disasters.

Ensuring Adequate Communications and Electricity Post-Crisis: Hurricane Katrina also made clearer than ever before the extent to which all sectors of the economy – including the financial sector – are dependent on the functioning of the electricity and telecommunications networks. These networks were inoperable for an extended time period which impeded recovery efforts. This experience made it abundantly clear that pre-event planning must include development of methods for affected entities to carry out essential tasks and responsibilities in the absence of fully operable electricity and communications systems.

A key lesson learned from Katrina is that the financial regulatory agencies, the financial industry (through its coordinating committees, the Financial Services Sector Coordinating Council (FSSCC) and BITS), other private sector organizations (in the utility sectors in particular), and the Department of Homeland Security need to work more closely together, and with state and local governments, to prepare for coordinated responses in the event of major emergencies. Most specifically, unique measures are required to prepare for a possible pandemic, which we address in our companion report *Preparing For Pandemic: A Call To Action*. In addition, as we suggest below, regional councils with public and private sector representatives in the future should be created to define the duties of different agencies and even individuals, so that emergency aid and cleanup can proceed, even if electricity and communication networks are interrupted (as they were during Katrina). We will address the more general coordination issues and challenges posed by other potential catastrophes or emergencies in our *Comprehensive Report* on mega-disasters to be released in 2007.

Recommendation #6: Financial institutions should work with consumer organizations, regulators and state and local officials to communicate clearly any forbearance plan to all affected individuals and stakeholders. *(Long-term)*

II. Economic Impact and Benchmarking Recovery

There are two broad types of economic losses from any disaster, including Katrina: the loss of capital assets and the disruption of the ongoing production process. Losses of both types due to Katrina, suffered by Louisiana and Mississippi, are presented in Tables 1 and 2, respectively.

A. Economic Impact: Housing

The loss of housing is a proxy for the magnitude of the loss of other types of capital assets – business establishments; public buildings, including public schools; nonprofit buildings, including universities and hospitals; public facilities; and public infrastructure. Similarly, employment serves as a proxy for the disruption of the ongoing production process. Post-Katrina, the production process was severely disrupted throughout the community and included the loss of jobs, the loss of business activities, the reduction in educational services, the loss of healthcare services, and the loss of other critical services taken for granted in most communities in this country.[27]

1. Louisiana/New Orleans

Louisiana incurred severe and major damage to almost 205,000 housing units (including both Katrina and Rita estimates), or just over 12.5 percent of the state's entire housing stock.[28] In the New Orleans Metropolitan Area,[29] almost 180,000 homes incurred major and severe damage, or almost 90 percent of all the houses damaged in Louisiana. The majority of these severely damaged homes were primarily located in three parishes, Orleans, St. Bernard, and Plaquemines.[30] A breakdown of the homes incurring major and severe damage by parish is illustrated in Figure 1. Orleans, Plaquemines, and St. Bernard parishes each had over 40 percent of all of the houses in each parish severely damaged. In Orleans and Plaquemines parishes, over 55 percent of the houses suffered major or severe damage. In St. Bernard parish, this figure was over 75 percent.

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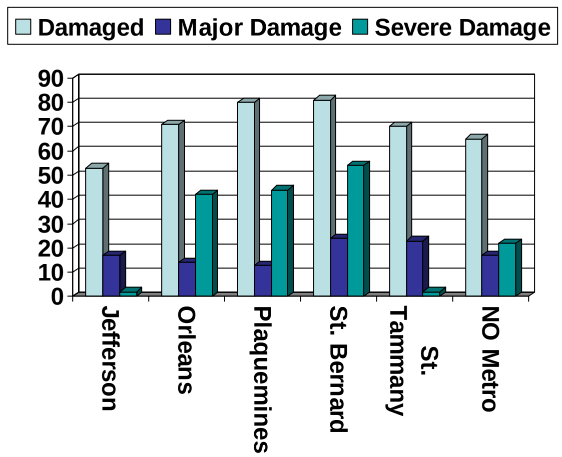
[27] *What's Needed for Post-Katrina Recover* (March 2006.) Other documentation of the damage of Katrina can be found in *Katrina Index,* The Metropolitan Policy Center of the Brookings Institution, updated bi-monthly and Loren C. Scott, *Advancing in the Aftermath: Tracking the Recovery from Katrina and Rita,* study sponsored by Hibernia National Bank and Capital One Financial Corporation.

[28] FEMA Estimates, February 12, 2006. Major damage is determined by estimates of repair of being more than $5,200 but less than $30,000; severe damage is defined by the estimates or repair being $30,000 or more. For estimates made by remote sensing, houses in areas with 1 to 2 feet of water were considered to have incurred major damage and houses in areas with water in excess of 2 feet incurred severe damage.

[29] The New Orleans Metropolitan Area includes seven parishes—Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, St. John the Baptist, and St. Tammany. Jefferson, Orleans, and St. Tammany parishes have over 80 percent of the population in the metropolitan area.

[30] FEMA estimates, February 12, 2006.

Figure 1. Housing Damage by Parish in New Orleans Metropolitan Area
(in percent)



The extent of the devastation caused by Katrina carries over to the disruption of ongoing production. Louisiana's employment has declined by just over 200,000 jobs since Katrina, with 93 percent of this loss of employment occurring in the New Orleans Metropolitan Area. Pre-Katrina, the New Orleans area had employment of 615,000, while the post-Katrina New Orleans employment is approximately 437,000.[31]

[31] Bureau of Labor Statistics, July 2006.

Table 1. Louisiana: Housing (proxy for damaged capital) and Employment (proxy for disruption of production process)

State/MSA	Louisiana	New Orleans	NO Metro as percent of state
Total Damaged Housing Units	515,249	315,288	61.2%
Severe and Major Damaged Units	204,737	178,601	87.2%
Total as Percent of Housing Stock	31.0%	63.2%	
Gain or Loss of Employment from 8/05 to 6/06	(200,700)	(185,800)	92.6%
Percentage Change in Average Employment, 2005 pre-Katrina/Rita	(10.2%)	(30.4%)	

2. Mississippi

Mississippi incurred severe and major damage to almost 61,000 housing units due to Katrina, or just over 6 percent of the state's entire housing stock. The Gulfport-Biloxi Metropolitan Area[32] had almost 37,000 homes suffering major and severe damage, representing over 54 percent of all damaged houses in the metropolitan area. Pascagoula had almost 17,000 homes incurring major and severe damage, or just about 49 percent of all damaged homes in the area. Katrina severely damaged almost 54,000 homes along the Mississippi Gulf Coast. [33]

The devastation caused by Katrina has carried over to the disruption of ongoing production. By July 2006, Mississippi's employment declined by 1,600 jobs from pre-Katrina levels.[34] This job disruption has been concentrated in Gulfport-Biloxi, where employment declined by almost 23,000, or by about 20 percent. Pascagoula suffered a job loss of 1,000 or just 2 percent decline in employment.

[32] The Gulfport-Biloxi Metropolitan Area includes three counties—Hancock, Harrison, and Stone; the Pascagoula Metropolitan Area includes two counties—Jackson and George.
[33] All housing estimates are based on FEMA estimates, February 12, 2006.
[34] Bureau of Labor Statistics, July 2006.

Table 2. Mississippi: Housing (proxy for damaged capital) and Employment (proxy for disruption of production process)

State/MSA	Mississippi	Gulfport-Biloxi	Pascagoula
Total Damaged Housing Units	220,384	67,067	34,388
Severe and Major Damaged Units	61,386	36,776	16,743
Total as Percent of Housing Stock	21.1%	71.9%	63.2%
Gain or Loss of Employment from 8/05 to 6/06	(1,600)	(22,900)	(1,000)
Percentage Change in Average Employment, 2005 pre-Katrina	(0.1%)	(19.6%)	(1.8%)

The estimates of severely damaged housing clearly indicate that the metropolitan areas of New Orleans, Gulfport-Biloxi, and Pascagoula are communities with much rebuilding yet to do. The reduction in employment (as a proxy for the disruption of the production process) and the number of severely damaged houses, pinpoint the City of New Orleans, as well as St. Bernard Parish and Gulfport-Biloxi as areas needing special attention.

Long-term recovery of the Gulf Coast is now the focus of the discussion. Empirical models for a recovery after such a devastating hurricane are not available because the nation has not previously had to deal with a disaster of such breadth and magnitude. Typically, victims can return quickly to their homes after a hurricane and begin the rebuilding process and, while there is a short-term interruption of the production of goods and services in the hurricane-struck area, the process itself is not literally stopped, but is, instead, interrupted.

In contrast, in parts of New Orleans and along the Mississippi Gulf Coast the production process simply stopped. There is, consequently, no benchmark with which to compare the recovery of the Gulf Coast after Katrina.

B. Benchmarking Recovery Success: Employment

Comparing recent employment figures to those of June 2005 is a method of measuring the extent of the recovery still needed for Louisiana and Mississippi.

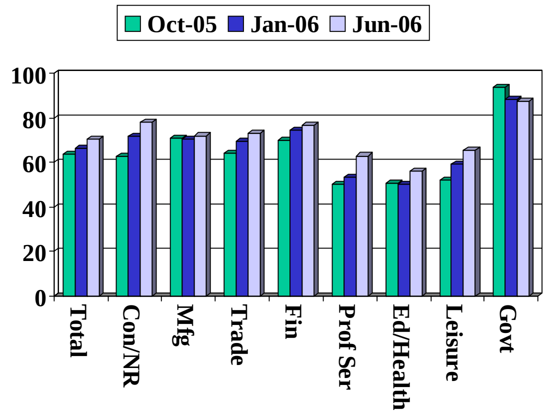
1. Louisiana/New Orleans

Figure 2 shows employment in various sectors of the New Orleans metropolitan economy for selected periods post-Katrina: October 2005, January 2006, and June 2006. Overall, employment in June 2006 represents about 70 percent from the year before, a figure that has inched up from previous quarters (64 percent in October 2005 and 66 percent in January 2006). As for specific sectors, as of June 2006:

- Construction and mining employment has risen from 63 percent of pre-Katrina employment in October 2005 to 78 percent
- Manufacturing employment has stayed at just above 70 percent of pre-Katrina employment
- Employment in trade/transportation/utilities and financial activities is above 70 percent of pre-Katrina employment, while employment in professional and business services, education and health services, and leisure and hospitality are below 70 percent of pre-Katrina employment

Employment in labor-intensive industries such as professional and business services, education and health services, and leisure and hospitality made up 40 percent of total employment. Employment in these industries, plus employment in trade/transportation/utilities and financial activities, made up over 65 percent of total employment pre-Katrina. These workers need housing for their families and provide the market for local industries. The recovery cannot proceed without them.

Figure 2
Employment Patterns, New Orleans Metropolitan Area
(employment in selected months as percent of employment in June 2005)



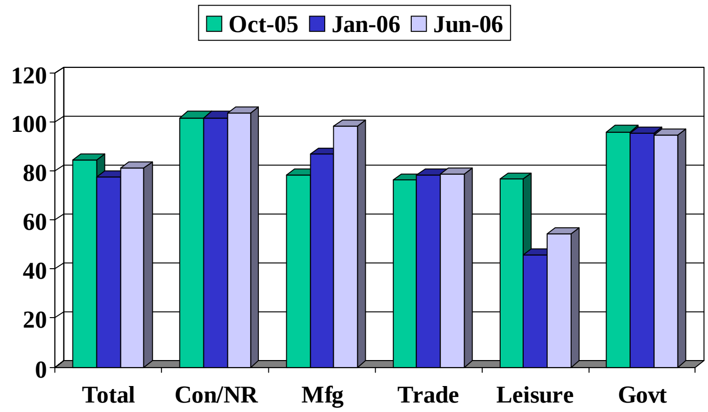
The positive side of the New Orleans recovery is that it has been continuous. Each month employment edges up in all industrial classifications, with the exception of the manufacturing sector.

2. *Mississippi*

Figure 3 shows that employment in Gulfport-Biloxi in June 2006 is just over 80 percent of the pre-Katrina level. Construction and mining employment in June 2006 exceeds employment in June 2005 and manufacturing employment as of June 2006 is just about even with employment as of June 2005. Employment in the leisure and hospitality services, however, is down sharply, with the June 2006 level being only 55 percent of the June 2005 level.

Prior to Katrina, twelve large casinos dominated the leisure and hospitality employment in Gulfport-Biloxi. These casinos maintained their employees on the payroll for several months after the storm based on industry and company policy and related to tax advantages in the Katrina Emergency Tax Relief Act (KETRA) of September 2005 providing Employee Retention Tax Credits for small businesses and the GoZone Act of December 2005 that expanded the credits to all firms.

Figure 3
Employment Patterns, Gulfport-Biloxi
(employment in selected months as percent of employment in June 2005)



The positive side of the Gulfport-Biloxi recovery is that manufacturing employment is almost back to its pre-Katrina level, construction activity is higher at this time than it was in June 2005, and the major casinos are making financial commitments to return to the Mississippi Gulf Coast, with nine of these casinos already reopened.[35] The Beau Rivage, the most luxurious casino before the storm, reopened on the hurricane's anniversary date and three other major casinos – casinos that will be more luxurious than they were prior to Katrina – are planning to reopen in the fall of 2006.[36] The Hard Rock Casino, just about ready to open just before Katrina and the 13th casino along the Mississippi Gulf Coast, will be rebuilt and will open on July 4, 2007.[37] The housing constraint, however, looms as a major issue, since the leisure and hospitality sector is labor-intensive.

It is helpful to compare New Orleans and Gulfport-Biloxi in judging the progress of the recoveries. Employment in both metropolitan areas is not close to being at 100 percent of pre-Katrina levels; Gulfport-Biloxi is about 80 percent of its pre-Katrina employment and New Orleans is at about 70 percent of its pre-Katrina employment. Gulfport-Biloxi has regained almost all of its manufacturing

[35] See "Casinos Emerge as Winners in Wake of Hurricane Katrina, *Wall Street Journal*, (August 3, 2006).
[36] *GulfGov Report On Year Later: First Look at the Recovery, Role and Capacity of States and Localities Damaged by the 2005 Katrina and Rita Hurricanes*, study being prepared by the Rockefeller Institute of Government at the University of New York at Albany and the Public Affairs Research Council of Louisiana.
[37] "Re-opening Plans for Mississippi Coast Casinos," *GulfCoasatNews.com.*

employment, while manufacturing employment has recovered by about 70 percent in New Orleans. Though the major manufacturing facilities in New Orleans have reopened, smaller manufacturing concerns have been more hesitant about returning to the area.

Mississippi has revised state law to allow casinos to be located on land – a change from the pre-Katrina law – that will facilitate the recovery of the leisure and hospitality sector along the Gulf. GoZone tax advantages apply to non-gaming and non-golfing activities associated with the casinos, such as hotels and restaurants. Still, the rebuilding of these structures will take time, although financial commitments have already been made. Certain communities, such as Waveland, Long Beach, Bay St. Louis, and Pass Christian will take longer to recover because of heavy damage. Still, over the next several years Gulfport-Biloxi will reach its pre-Katrina employment level – the question is not *if*, but *when*. Housing constraints clearly will affect the timing of the recovery, but they will not prevent it from taking place.

In New Orleans, professional and business services, education and health services, and leisure and hospitality all must come back for the recovery to be successful. There is not a single business or group of major businesses that will dominate the return to New Orleans. There are many decision makers in the New Orleans recovery process:

- Businesses deciding if they should open up shop again in New Orleans and wondering if there will be a market for their products and service
- Families deciding if jobs are available and if the community measures up to their expectations for living in the area
- Government decision-makers who must make critical choices regarding public services and neighborhood development plans

In the process, many businesses are deciding to relocate within the New Orleans Metropolitan Area, but not necessarily Orleans Parish. Jefferson Parish has netted 2,920 new businesses since Katrina, St Tammany Parish has gained 1,553, St. Charles Parish has added 272, and St. John the Baptist Parish now has 97, while in stark contrast Orleans Parish has experienced a 50 percent decline in occupational licenses.[38] Chevron moved its offices from downtown New Orleans to an industrial park in St. Tammany Parish.[39]

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[38] "Gains and Losses" New Orleans *Times-Picayune,* August 20, 2006.
[39] Ibid.

C. Benchmarking Recovery Success: Population

Hurricane Katrina, directly or indirectly through the topping/breaching of the levee system, did not damage the New Orleans Metropolitan Area uniformly and evenly. Some of the seven parishes within the metropolitan area have recovered quickly and predictably, while other areas that were essentially devastated are still waiting to commence the recovery process (and thus give rise to comments like the one made by Charles Cook).

Another way to measure the recovery process in both New Orleans and the Mississippi Gulf is to examine population trends, since these indicate how rapidly people are returning to their homes. We review here the best available population data for New Orleans and the Mississippi Gulf areas, respectively.

1. Louisiana/New Orleans

Figure 4 illustrates population estimates for January 2006 (based on Census data) and May 2006 (from the Louisiana Department of Health and Hospitals) for the New Orleans Metropolitan area.[40] Based on these estimates, the New Orleans Metropolitan Area has regained about 70 percent of its pre-Katrina population, but as Figure 4 illustrates, the variation from parish to parish is substantial. St Bernard Parish has regained the fewest people, while St. Charles, St. John the Baptist, and St. Tammany parishes have not only regained their populations, but have actually added people according to both estimates. The Catholic Church is creating a new religious parish in St. Tammany to accommodate the number of persons who have moved from Orleans and St. Bernard parishes.[41]

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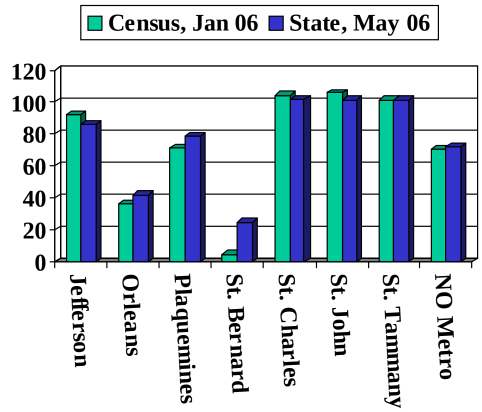
[40] The DHH population estimates are primarily based on school enrollment. DHH requires population estimates in order to consider health care alternatives in the various parishes. The U.S. Census Bureau, along with state and local agencies, is undertaking a survey of communities affected by Katrina and Rita to provide a more reliable, current population estimate.

[41] "Catholic parish is born in St. Tammany," New Orleans *Times-Picayune*, (March 15, 2006).

Figure 4
Status of Recovery in Louisiana: Population in 2006 Compared to July 2005
(percent of population returned to parishes)



More fundamentally, however, population recovery by parish, or by neighborhood, is strongly related to the severity of the damage caused by Katrina. This is illustrated in Table 3 and Figure 5, which show the results of a survey by the Emergency Operations Center of the City of New Orleans indicating the return of the population to various neighborhoods in New Orleans.[42] The table and the figure together illustrate the wide variation in return patterns. Neighborhoods along the eastern side of New Orleans – Gentility, Lakeview, and New Orleans East (this includes the Lower 9th Ward) – had the lowest population estimates as of early 2006 in comparison to the 2000 Census estimates. Bywater, just north of the Lower 9th Ward, had about 12 percent of its population back as of early 2006. In contrast, the return rate was 42 percent in Mid-City, 59 percent in Uptown/Carrollton, 81 percent in the Garden District/Commercial Business District/French Quarter area, and nearly 94 percent in Westbank, the area to the west of the Mississippi River.

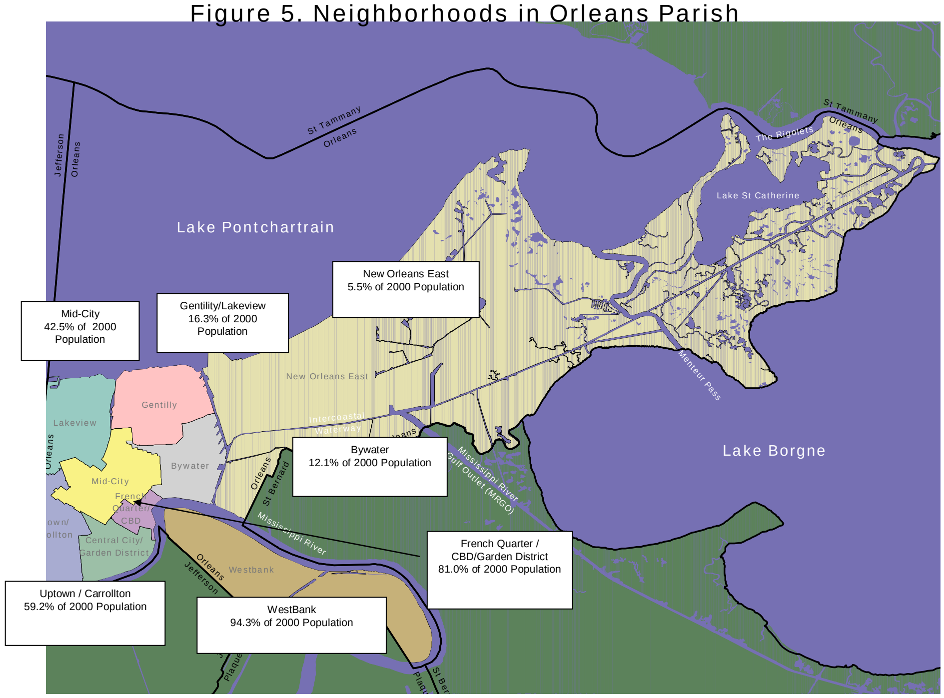
The most current population estimate for New Orleans is 230,000.[43] Still , the city is very much split into two personalities – areas that were slightly damaged but are now in a full-fledged recovery mode and areas that have not initiated much recovery because families and businesses have not made up their minds about rebuilding or relocating.

[42] Report issued by the Emergency Operations Center of the City of New Orleans in February 2006.
[43] Greg Rigamer, GCR and Associates, “New Orleans: One Year After Katrina,” (Summer 2006).

Table 3
Population Comparisons In
Neighborhoods within City of New Orleans

Neighborhood	2000 Population	Jan 2006 Population Estimate	Ratio of 2006 Pop to 2000 Pop
Gentility/ Lakeview	69,992	11,400	16.3%
New Orleans East	115,806	6,400	5.5%
Mid-City	41,189	17.500	42.5%
Bywater	79,560	9,600	12.1%
Uptown/Carrollton	67,082	39,700	59.2%
French Quarter/CBD/ Garden District	54,255	43,900	81.0%
Westbank	56,114	52,900	94.3%

Figure 5. Neighborhoods in Orleans Parish



This division is reflected in business formations. The job base of New Orleans (excluding manufacturing) related to goods and services for export is primarily in the CBD, French Quarter, the Garden District, and Uptown. Local businesses, educational and health services, and other businesses servicing the local economy are scattered throughout the City. Although 1,100 of the City's 1,800 restaurants are now opened, most of these are located in these particular neighborhoods and on the Westbank.[44]

One visitor to New Orleans today, therefore, can see only the French Quarter and come away with the perspective the City is recovering after such a devastating storm, while another visitor to a neighborhood such as Lakeview or Gentility will believe that nothing or very little has been done for the past twelve months.[45] Collectively, these areas in which little has been done provided housing to almost 55 percent of New Orleans citizens prior to Katrina, but, as of early 2006, only about 10 percent of these persons had returned to their former neighborhoods.

To put it very simply, the recovery challenge for New Orleans is to jump start renewal in the devastated neighborhoods that can be reasonably protected from future storm damage and provide public services. Residential neighborhoods must rebuild if the business district is to have the work force necessary to provide goods and services.

2. *Mississippi*

Population changes in Mississippi can be used as a benchmark for comparing the population shifts in the New Orleans area. Claritas, an independent demographic research firm, estimates that 98 percent of the pre-Katrina population is back in the six counties closest to the Gulf of Mexico.[46] Certain smaller cities, such as Waveland with pre-Katrina population of 7,100, Bay St. Louis with pre-Katrina population of 8,300, and Pass Christian with pre-Katrina population of 6,800 are still facing a major reduction in their populations and business activities.[47] The Mayor of Pass Christian estimates that only about 2,000, or less than 30 percent of its residents remain. Mississippi's distributional issues pale, however, when compared to those facing the New Orleans area.

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[44] "Perception vs. reality: Tourism still slow for unscathed French Quarter" *Sunday Advocate* (August 6, 2006).
[45] See Charles C. Mann, "The Long, Strange Resurrection of New Orleans," *Fortune* (August 28, 2006).
[46] Governor Barbour Updates Lawmakers on Recovery, Rebuilding, and Renewal, (June 22, 2006).
[47] "Mississippi's Reversal of Fortune," Washington *Post,* (March 10, 2006).

III. Barriers to Recovery in New Orleans

The Friday September 1, 2006 headline in the New Orleans *Times-Picayune* was "Mississippi's recovery effort seems to be leaving Louisiana's behind. Why?"[48] No one questions the resolve and the prospects for recovery in Mississippi. However, in New Orleans, especially certain areas of Orleans Parish and St. Bernard Parish, some question the prospects for recovery. In fact, some experts are skeptical that New Orleans will ever be as large as it was in August 2005.

For both the Mississippi Gulf Coast and the New Orleans area the first question is to define reasonable recovery expectations. The Mississippi Gulf Coast absorbed a giant hurricane – the water came and left, leaving many homes literally wiped off their foundations. New Orleans incurred a hurricane and a flood, with the water staying for a month in some houses and businesses. Even comparing the Mississippi Gulf Coast recovery to the New Orleans recovery may be like comparing apples to oranges.[49] However, the perception still exists that the recovery process in Mississippi is proceeding without many barriers except the obvious one of the time it takes time to rebuild almost 55,000 homes and all of the businesses that were destroyed in the hurricane.

In New Orleans time has become an important factor – it takes time to rebuild houses, schools, businesses, health care facilities, infrastructure, and other capital assets destroyed or severely damaged during and after Katrina. However, just the beginning of the process has been confusing and is already engendering much frustration. Professor Reed Krolook, Dean of the Tulane University's School of Architecture, resigned as Chairman of the urban planning committee for the City's Bring New Orleans Back Commission.[50] Krolook complained about the lack of leadership and the failure to create a vision for the City's future. It may be impossible to estimate exactly how long the recovery process will take, but it is possible to eliminate obstacles to initiating the recovery process.

The barriers to more rapid recovery in New Orleans ultimately can be reduced to a series of *uncertainties*. The sooner these are resolved, the more quickly by public authorities, the more quickly private decision-makers – individuals, families and businesses – can decide what it is in their own best interest to do.

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[48] New Orleans *Times-Picayune*, (September 1, 2006)
[49] Comment by Professor Wayne Parent in the New Orleans *Times-Picayune*, (September 1, 2006).
[50] New Orleans *Times-Picayune*, (September 1, 2006).

The uncertainties include those about:

- *The safety of the levee system*
- Other infrastructure concerns, including water and sewer systems, electrical capacity, and transportation systems
- Final flood maps and the ability of each property owner to comply with them
- The cost of goods and services, especially for rebuilding
- How the planning process works; this uncertainty has implications for the reconstruction of houses and neighborhoods
- The availability of basic public services including public safety, education, and environmental quality
- Availability of skilled labor
- The cost of living in New Orleans[51]
- Availability of insurance

These uncertainties contribute to and are compounded by the lack of housing and the fact that the federally supported housing assistance program only recently was launched. Further, each person or family who has yet to return confronts uncertainty over the extent to which others in their neighborhoods will return.

Uncertainties about the status of the levee system and the flood maps can be resolved fairly quickly. There is a work plan through 2010 for the enhancement of the levee system and the Army Corps of Engineers has already worked on the levee system restoring it to and, in some cases, making it better than it was pre-Katrina. The longer-term protection of the New Orleans area through levee enhancement and restoration of the coast line is still to be determined. Political decisions have to be made to proceed with a plan and then technical and engineering decisions must be made in order to provide levee enhancement and the coastal restoration. Advisory base flood elevation levels have been provided to the local governments, though the flood maps still must be finalized. Once these flood maps are prepared, families and businesses will have the information they need regarding building conditions and costs, as well as the living costs associated with rebuilding in certain areas of the parish.

The lack of housing alternatives in the City of New Orleans is a major deterrent to the rapid recovery of the City. There is simply no place to live. Even the most

[51] There are no price surveys that will document the cost of living in the New Orleans area, but there is information that suggests the cost of living is higher presently than it was pre-Katrina. For example, the St. Tammany School Board estimates that bids for school construction are coming in about 30 percent higher than before the storm. (New Orleans *Times-Picayune,* October 8, 2006.) Businesses are also indicating that insurance rates have increased by substantial amounts. (Also reported in the New Orleans *Times-Picayune,* October 8, 2006.) It is not unusual to have price spikes in an area hit by a disaster. Sound policy to stimulate the recovery is typically the only way to eliminate unusual rises in the cost of living.

optimistic population projections suggest that the City will have about 330,000 persons by 2010 or about 73 percent of its pre-Katrina population. Temporary housing, such as trailers, is evident in the City. Repair work is underway and the housing assistance program is just beginning.

An article in the New Orleans *Times-Picayune* on August 31, 2006 stated that the planning process was confusing and that no one is sure what it is supposed to accomplish.[52] Planning for the City is critical for persons who might rebuild in the City since families want to know what is planned for their neighborhood while the City must decide what it will look like. This will not be an easy task for individuals living in New Orleans or for the political leadership representing these residents. The planning process also appears to be working on the assumption there are no fiscal constraints. In this situation, the planning process may not accomplish very much.

Infrastructure issues are highly relevant to the ability of the City to rebuild and support its citizens. Presently, the City has electricity and natural gas service, though it can be less reliable than it was prior to Katrina. The sewer and water system is working, but requires major repairs. However, it is important to understand that the current electrical system and the sewer and water system could not service a City of 450,000 persons – approximately New Orleans's pre-Katrina population – which explains why providing basic infrastructure is a major barrier to the quick recovery of the City.

Fiscal issues also impede the delivery of basic services throughout New Orleans. Police and fire protection are essential if a neighborhood is to come back. Similarly, education must be available if families are to return. The City's revenue streams will grow as these neighborhoods return, but there is no guarantee that municipal revenues will cover all of the necessary expenses of maintaining public safety.

Finally, when private decisions are made in an established environment the market process works very well. But when there is no established environment in which private decisions can be made, public policy decisions form the established environment in which individuals and businesses can make logical decisions about rebuilding and relocating. Ultimately, private decisions to return to New Orleans will be the barometer by which the recovery will be judged, but private decisions to return to New Orleans cannot be made in a vacuum. Families and businesses must know about the levee system; the flood maps; the availability of basic public services; and the availability of an adequate infrastructure for sewer and water, electricity and natural gas; and transportation.

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[52] New Orleans *Times-Picayune*, (August 31, 2006).

IV. Accelerating Recovery in New Orleans

The success of any economic recovery ultimately depends on the numerous private decisions made by individuals and by businesses. Given a mega-catastrophe such as Katrina, these private decisions are made within a framework of public policy, public assistance, and public decisions. Governments can encourage private decision-making and promote recovery by clarifying public policies, establishing incentives for certain private activities, and providing public expenditures in a supportive manner. Governments can impede a recovery, however, if public policies are not quickly clarified and if public expenditures are not supportive of prompt restoration and rebuilding. Although governments cannot eliminate risk and uncertainty for private decision-makers, governments can and must minimize any uncertainty regarding public policies. In short, the private decisions on which the recovery depends will depend heavily on the content and timing of policy decisions made by local, state, and federal governments. At the same time speed needs to be balanced with accountability so that the right things happen in the right way.

In the case of a mega-catastrophe like Katrina, cooperation among all levels of government is paramount for setting the environment to facilitate rapid and efficient rebuilding of houses; for arranging alternative housing; for ensuring that public services in each local community, including police and fire protection, waste management, and education, are available; for rebuilding an adequate infrastructure to support water and sewerage systems and the delivery of electricity and natural gas; and for generally supporting the return of private industry to the affected area. In New Orleans, in particular, the rebuilding of the levee system looms as one of the most important issues affecting the decision of many to return.

A. Intergovernmental Coordination

The federal, state, and local governments each have important roles to play in preparing for, reacting to, and recovering from a mega-catastrophe. The separate roles for local, state, and federal governments are already typically spelled out for preparing for and reacting to a natural disaster and for short-term recovery. The Robert T. Stafford Disaster Relief and Emergency Assistance Act, for example, provides the statutory framework for a Presidential declaration of an emergency or a major disaster that make available a wide range of federal resources to assist state and local governments, as well as private individuals. The Stafford Act also includes specific provisions that deal with hazard mitigation; the replacement of federal, state, local, or non-profit facilities; debris removal; individual assistance; unemployment assistance; food coupons and distribution; relocation assistance; legal assistance; crisis counseling; community disaster loans; emergency communications and public transportation; and fire management assistance.[53] The Stafford Act, however, focuses on disaster management, not on long-term recovery.

1. Formal Planning

Each state and local governmental jurisdiction also has an Emergency Operations Plan (EOP) that assigns responsibility to organizations and individuals, including relevant lines of authority and organizational relationships; the process by which people will be protected in emergencies; identification of personnel, equipment, supplies, facilities, and other resources to be used in emergency; and steps to address mitigation during the response and the recovery.[54] These plans cover the evacuation during a hurricane, the process of taking care of evacuees, and short-term recovery. The EOPs do not include guidelines for long-term recovery.

Federal, state, and local governments are all essential in any long-term recovery from a catastrophe, especially one as large as Katrina. The federal government, in particular, has already committed over $111 billion in CDBG funding, direct expenditures, and relief efforts; $14 billion in tax relief; and approximately $17 billion in flood insurance payments.

The federal, state and local governments also have strong economic reasons to be concerned about the pace of recovery in the Gulf, because of that region's economic importance. In particular, there is substantial oil and gas production in Louisiana and off its coast, refining capacity in south Louisiana, substantial petrochemical industry output in the region, and a significant flow of goods through the Port of New Orleans and through other ports in south Louisiana.[55] In addition, there are shipbuilders in the New Orleans area, as well as along the Mississippi Gulf Coast; a major contributor to the space shuttle is located in New Orleans; the John C. Stennis Space Center is located in Mississippi's Hancock County; and a major military base is located along the Mississippi Gulf Coast.[56]

[53] Ibid.
[54] State and Local Guide 101: Guide for All-Hazard Emergency Operations Planning, prepared by Federal Emergency Management Administration.
[55] "Louisiana Economic Outlook: 2006 and 2007," prepared by Loren C. Scott and James A. Richardson, E. J. Ourso College of Business, Louisiana State University, November 2005.
[56] "GulfGov Report One Year Later: First Look at the Recovery, Role and Capacity of States and Localities Damaged by the 2005 Katrina and Rita Hurricanes," a joint product of the Nelson A Rockefeller Institute of Government at New York University in Albany and the Public Affairs Research Council of Louisiana (August 2006).

Recommendation #7: The federal government should take immediate steps to establish more formal means of inter-governmental coordination – separately for Louisiana and Mississippi because the issues differ so significantly in each state. We recognize that this recommendation comes late because so much has already occurred, but intergovernmental coordination remains necessary since there will certainly continue to be issues requiring cooperation as the recovery proceeds.

2. Regional Intergovernmental Councils

Cooperation among the different levels of government is a necessary condition for accelerating and sustaining the economic recovery of the affected regions. The federal government has provided CDBG funding for assisting in the rebuilding of homes damaged in the storms, with the states being responsible for the disbursement of these grants. In Louisiana the agency with the authority to award these grants is the Louisiana Recovery Authority (LRA). As discussed shortly, the LRA guidelines indicate that all homes should be rebuilt according to FEMA elevation advisories and state building codes,[57] with the preliminary FEMA guidelines advising families to build their homes to the elevation requirements in effect before Katrina, or three feet above ground level, whichever is higher.[58] Some are rebuilding their homes without any elevation, while others are building their homes with additional elevation. The New Orleans City Council approved the FEMA advisory elevation guidelines on August 25, 2006 with exceptions for properties of historic significance.[59] The City Council's approval was given as a result of the potential loss of federal mitigation grant funds and LRA Road Home funds if the Council had not accepted the FEMA elevation guidelines.

But there are very likely a host of other issues on which cooperation between different levels of government is also necessary. Accordingly, there must be a more formal mechanism, in our view, for identifying points of difference and quickly resolving them.

Among other things, coordinating bodies should:

- ✓ Identify the problems, if any, limiting the recovery of the region
- ✓ Identify the issues requiring clarification for persons who wish to move back to an area and for businesses that are considering whether to open up
- ✓ Identify the role of each level of government in making the recovery process work

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[57] "The Road Home Housing Programs: Action Plan Amendment for Disaster Recovery Funds," Louisiana Recovery Authority, presented to the US Department of Housing and Urban Development.
[58] "For Those Rebuilding in New Orleans, How High?" Washington *Post*, (July 31, 2006).
[59] "N.O. Oks FEMA Elevation Guidelines," New Orleans *Times-Picayune*, (August 26, 2006).

- ✓ Suggest the role the business community, both local and national, can play in accelerating the recovery process
- ✓ Establish definite timetables for overcoming any problems

These tasks remain essential even though more than a year has passed since the storm. It is not too late to establish a more formal process of inter-governmental coordination.

Not only is coordination among the federal, state, and local governments important for both pre-event planning and post-event recovery from major disasters, but it is also critical in assisting regional development on a broader scale. While political boundaries are needed to define the precise geographical area to be governed by a certain political subdivision, economic activities flow across political boundaries with ease. Flooding is not limited by political boundaries.

A major lesson from the Katrina recovery experience is that in the future, it would be useful both well *before* and *immediately after* catastrophes for the federal government to form and convene Regional Intergovernmental Councils that cross political jurisdictional boundaries. Of critical importance, Councils that are created in advance of disasters must be empowered and directed to specify who is to be responsible for what, so that first responders and other authorities can act decisively and effectively, even if communications and electricity are interrupted.

Such councils also could better prepare for a coming disaster when there is some prior warning, as there almost always is in the case of hurricane. Advance coordination on a regional basis would be useful even in the event of earthquakes, so that relevant parties know what to do. Further, since those events are less frequent, there is a need to regularly simulate disaster scenarios so that new personnel are acquainted with the challenges they present.

After a disaster has occurred, regional councils can coordinate a wide range of post-event decisions affecting multiple jurisdictions, such as the drainage issues that accompany flooding from hurricanes and electricity power structures.

These advisory councils could be created by an Act of Congress or by an Executive Order.

There are models for pre-event regional councils already in place. Some jurisdictions already cooperate in transportation planning and these structures could be expanded to deal with catastrophes. In addition, where possible, the private sector should be brought into these planning efforts. In the financial arena, the ChicagoFIRST regional effort has coordinated representatives from the private and public sectors, planning for a wide variety of emergencies, including pandemics. For a broader discussion of possible coordination vehicles in the financial sector, see our related Interim report: *Preparing for a Pandemic: A Call To Action*.

We also believe it would be constructive for these Councils to facilitate discussion among local governments on ways they can cooperate fiscally if a mega-catastrophe severely damages one section of a region. Presently, such a discussion is needed among local governments in Louisiana and Mississippi. The same issue will arise in the future when mega-catastrophes affect local governments and communities in different states.

The Councils can also provide a forum for resolving difficult inter-jurisdictional issues. Here, we have in mind the implications of a finding by the Interagency Performance Evaluation Task Force commissioned by Secretary of Defense Donald Rumsfeld after Katrina that concluded that the hurricane protection system shielding the New Orleans area from a hurricane was a “system” in name only.[60] Professor Ed Link of the University of Maryland, who headed the task force said: “The system was authorized in 1965 and still was not finished when Katrina hit 40 years later. It was funded in a piecemeal basis, and it was built in a piecemeal way.”[61]

There are several examples directly related to New Orleans where Councils could be useful. If New Orleans residents and businesses were part of Entergy Louisiana instead of simply Entergy New Orleans, there would not be potentially disproportionate rate increases for its citizens. If New Orleans shared sales tax revenues with Jefferson Parish since its citizens must buy in Jefferson Parish due to the closure of many retail stores in Orleans Parish, the ability of New Orleans to fund its public services would not necessarily be a major issue. Political boundaries existed before Katrina and political boundaries serve a purpose. However, economic activities are not tied to political boundaries.

Similarly, water does not know political boundaries. Developing major floodwalls as part of the levee enhancement system may entail flooding and drainage issues in Orleans and Jefferson parishes and possibly other parishes. An intergovernmental council could be the mechanism by which these parishes can work together to handle any new drainage issues caused by changes in the levee system.

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[60] “Report: Flood Policy Flawed,” New Orleans *Tines-Picayune*, (June 20, 2006).
[61] Ibid.

Recommendation #8: The federal government should create similar Regional Intergovernmental Councils around the country for areas that could be affected by mega-catastrophes and empower them to facilitate pre-disaster planning and to assist with recovery in the immediate aftermath of such events. The Councils should include representatives from the private sector, as well as representatives from the federal, state, and local governmental levels. The Councils should clearly delineate who is responsible for what prior to the occurrence of major catastrophic events so that when they do occur, evacuation plans, public safety coordination and, later, emergency assistance and cleanup can proceed, even if communications and electricity are interrupted. The Councils should also explore the methods by which local governments can cooperate fiscally and in other ways, if multiple localities within a region suffer damage. *(Long-term)*

3. *Levees, Wetlands, and Flood Maps*

The Army Corps of Engineers is working to fix engineering flaws in the levee system and this needs to remain a high priority, even if minor flooding occurs from heavy rains. A change in the levee system, such as developing major floodwalls to stop water from coming in from Lake Ponchartrain at the 17th Street Canal, may cause drainage problems in Orleans and Jefferson parishes and parish governments must deal with any subsequent drainage issues. Jefferson Parish has devised some basins to hold water that cannot be pumped back into the lake if the floodwalls are closed and has also spent $10 million on back-up plans to mitigate neighborhood flooding in that event.[62] Orleans Parish needs to develop plans to deal with any potential drainage problems due to heavy rains.

As an example of how water flows cross political boundaries, drainage from Orleans Parish can easily drain into Jefferson Parish and vice-versa, presenting another issue for local governments to handle cooperatively. The new Councils would be in an ideal position to facilitate that cooperation.

Individuals and families deciding whether to return to New Orleans must be able to make informed decisions about future risks. The U.S. Army Corps of Engineers is currently engaged in a $5.7 billion project that by 2010 will bring the New Orleans levee system to a level that will prevent flooding of property in the event of a "100 year" storm, or a storm so severe it has only a 1 percent chance of happening in any year.[63] The Corps has worked diligently to get the levee system back to its pre-Katrina level in time for the 2006 hurricane season.

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[62] "Safe Water? Only 5 feet of storm surge will be allowed before gates close" New Orleans *Times-Picayune*, (June 10, 2006).
[63] "For Those Rebuilding in New Orleans, How High," Washington *Post*, (July 31, 2006).

But no one can offer any certainty regarding how much risk one would be taking in moving back to New Orleans given the current levee structure and its dependability. According to a statement by the Corps, "It is a risk each individual must decide whether or not to live with. History has shown time and time again Mother Nature will throw something bigger at these protection systems than what was built so people should recognize that that threat always exists."[64]

Confusion about the safety afforded by the enhanced levee system appears to have slowed down the recovery process for individuals and businesses. In particular, the conundrum for individuals and families contemplating a return is that while the $5.7 billion levee enhancement project is a certainty and proposed projects are listed,[65] *the implications* for hurricane protection are not absolutely certain.

Only the Corps can explain the system and the projected protection, and it needs to do so in plain English so that everyone can understand the risks. The areas in New Orleans that did not have standing water for a long period of time recovered quickly and most people did not wait for the levees to be enhanced. People living in the areas that were more severely damaged will ask about the levee enhancement and they will be sensitive to their perception of what the Corps has done and the safety it affords them.

Recommendation # 9: The federal government must explain fully – in plain English, not in the language of engineers and statisticians – the enhanced levee system under construction and the protection that New Orleans citizens should expect to receive from this system.

4. Coastal Restoration

After Katrina many citizens of New Orleans were asking for levee protection from a Category 5 Hurricane. No one knows the cost of such protection or exactly what it would look like or if it would be functional.[66] Alternatively, others have suggested a coordinated program of enhanced levees and coastal protection. Largely because of oil and gas development, the damming of the Mississippi River, and the gradual rising of the Gulf waters, Louisiana has lost 1,900 square

[64] Ibid.
[65] See "State of Our Levees," New Orleans *Times-Picayune*, (map on page A-8, August 28, 2006).
[66] "Building a Better New Orleans: A Review and Plan for Progress One Year After Hurricane Katrina," Bookings Institution Metropolitan Policy Program, (August 2006).

miles (1.2 million acres[67]) of vegetated wetlands since 1932. Each year the state has lost an additional 10.3 square miles.[68]

The wetlands offer a natural barrier to hurricanes, protecting citizens living and working in south Louisiana against powerful storm surges. Saving America's Wetland, a proposal to save coastal Louisiana, became a major nationwide campaign before Hurricane Katrina. Major studies such as *Coast 2050: Toward a Sustainable Coastal Louisiana* laid out the problem, the need, and a plan for stabilizing coastal Louisiana well before Katrina devastated the southeastern part of the state.[69] The damage from Hurricane Katrina throughout south Louisiana suggests the importance of wetlands in acting as a buffer for a hurricane like Katrina.

The following two recommendations are in line with policies being developed and encouraged in the most recent supplemental package dealing with hurricane relief in which affected states were provided with $156 million to assist with reef and marsh restoration.[70] Mississippi's ultimate goals are to restore the barrier islands to their 1900 footprint, restore and create approximately 10,000 acres of reefs and marshes for oyster and shrimp habitat, and restore coastal forests.[71]

Since there are levees and wetlands in other parts of the country, the lessons learned from a coordinated restoration program in the Louisiana gulf may be relevant elsewhere.

Recommendation #10: The Army Corps of Engineers and other pertinent government agencies should partner with state governments to ensure sufficient wetlands and barrier islands are reestablished and preserved to add protection to the Gulf Coast states from hurricanes and thus reduce potential future damage costs.

[67] Website of America's Wetlands, a group formed in Louisiana to get national attention for the loss of wetlands along the Louisiana coast.
[68] Ibid.
[69] This 1998 study conducted by Louisiana and US agencies and consultants. The US Department of the Interior, the US Army Corps of Engineers, the US Environmental Protection Agency, and the US Department of Commerce participated in this study, along with state agencies as well.
[70] Press Release, "Governor Haley Barbour Updates Lawmakers on Recovery, Rebuilding and Renewal," June 22, 2006.
[71] Ibid.

Recommendation #11: The federal government should promote the development of a joint program of Mississippi River management, levee enhancement and coastal restoration to provide hurricane protection to the coast of Louisiana that would substantially reduce potential future damages and costs. Both this recommendation and #10 may have applications in other parts of the country.

5. Flood Insurance Maps

Local governments decide on laws and regulations governing the rebuilding of a community and providing permits for building reconstruction and repair. Federal guidelines, however, have a very definite impact on these regulations and standards.[72] Among the most important of these guidelines are FEMA's flood maps, which are essential in providing broad-based awareness of flood hazards, data essential for floodplain management programs, and to actuarially rate new construction for insurance purposes. (Although utilized for insurance rating purposes, the FEMA maps are only advisory in nature, and do not supersede the present Flood Insurance Rate Maps.)

On April 12, 2006, FEMA issued Advisory Base Flood Elevation (ABFE) standards for rebuilding in various areas of Louisiana.[73] State and local officials were relieved with the publication of the advisory guidelines that were not as harsh as they feared calling for houses in New Orleans to be raised just three feet off the ground or to meet the base flood elevation requirement, whichever one is higher.[74] The new standards apply to homes that were destroyed or substantially damaged (meaning that structure must be more than 50 percent damaged). Local governments have been very lenient in assessing damage levels[75] and have adopted the ABFEs for rebuilding and new construction. The LRA has also tied its grant program to compliance with the new standards.

The flood maps are important for other reasons. They make clear where it is required for individuals to purchase federal flood insurance if they finance a property with a mortgage from a federally chartered financial institution. Furthermore, communities wanting community-level disaster grants and mitigation funding from FEMA must accept ABFE standards for reconstruction. Communities agreeing to manage flood hazard areas by adopting minimum

[72] "Rebuilding Begins at Home," Federal Emergency Management Agency (March 17, 2006).
[73] "Flood Recovery Guidance," FEMA (April 12, 2006).
[74] This base elevation requirement varies from neighborhood to neighborhood. For example, in the 9th Ward a house might need to be raised only 1 foot based on its past structure; in Lakeview a house might have to raised by 3.5 feet; in New Orleans East a house might have to be raised by 8 feet; and in Chalmette (St. Bernard parish) a house might have to be raised by 3 feet. "Raising Rules," New Orleans *Times-Picayune*, (April 13, 2006).
[75] Ibid.

regulatory standards may participate in the National Flood Insurance Program. Parishes and localities are accepting the advisory ABFEs as guidelines for persons rebuilding their homes.[76]

Recommendation #12: Final flood insurance maps that map the 100 year natural flood plain should be published no later than December 31, 2006 (and earlier, if possible), and should be adopted on an expedited basis since new construction can not be reasonably planned, financed, insured, or begun until the maps are completed.

6**.** *Building to Code*

The federal government should ensure, in conjunction with the state and local jurisdictions in the region, that broadly-based modern building codes are adopted and enforced. Louisiana's Road Home Program states that all homes built or repaired using funds from the Homeowner Assistance Program must comply with the legal requirements under the new State Uniform Construction Code passed in November 2005. Local governments must enforce this code on all new construction in the area.

Louisiana has adopted modern codes, and so have six counties in Mississippi along the Gulf Coast. It is time now for at least the other 49 Mississippi counties identified by FEMA as having suffered damage from Katrina to adopt similar codes (indeed, all counties in the state would be advised to do so). FEMA can expedite this process by providing incentives it already has authority to grant under the Stafford Act. In addition, FEMA should require states to adopt state-of-the-art building codes as a precondition to receiving funding under its Pre-Disaster Mitigation Program (PDMG). The states should create effective code enforcement systems. Furthermore, HUD should explore ways to facilitate the training of local officials to help them enforce building codes.

Recommendation #13: Broadly-based modern building codes are needed in the Gulf Coast, given its exposure to future hurricanes. FEMA should provide incentives under the Stafford Act to encourage adoption of state-of-the-art building codes (indeed, require adoption as a precondition to receiving pre-disaster mitigation funding), while HUD should facilitate the training of local code enforcement officials and states should create a code enforcement system.

[76] "Kenner adopts elevation rules," New Orleans *Times-Picayune*, (August 19, 2006). Kenner is a town in Jefferson Parish. Jefferson Parish had accepted the guidelines about a month earlier. The New Orleans City Council is still debating the issue and is focusing on historical parts of the City.

7. Evacuation Plans

Hurricane evacuation plans are a necessary component of safety in a city such as New Orleans or a region such as the Mississippi Gulf Coast. The states and the U.S. Department of Homeland Security have been discussing their responsibilities in assisting the citizens in their evacuation. Evacuation becomes a more essential component of the process since so many families in Louisiana and Mississippi are living in temporary housing arrangements. The Secretary of the U.S. Department of Homeland Security and the Governor of Louisiana have exchanged letters regarding their responsibilities during a hurricane evacuation. However, the Mayor of Baton Rouge recently complained that he had not been included in the planning loop even though certain sites in Baton Rouge were being considered as major centers for evacuees.[77] It should be noted that over 1 million persons evacuated the New Orleans area during Katrina. Difficulties ensued, however, for those who did not respond to the warnings and those who were unable to leave by themselves.

The federal government can encourage the development and dissemination of evacuation plans with one very simple measure: require these steps as a condition for obtaining future federal disaster relief. In this regard, we want to emphasize that it is vital not only to have the plans in place, but that they be communicated widely to all people in the region – using all of the media and other means (such as mailing inserts in utility bills).

Recommendation #14: States and localities should have evacuation plans in place and must widely communicate those plans through various channels as a condition for receiving federal disaster relief under the Stafford Act. Further, each level of government must be fully aware of its responsibilities in emergencies, while the next higher level of government must be ready to back up the lower level, if that government is unable to carry out its duties. (Short-term and Long-term)

B. Housing

Every major study of the recovery of Louisiana and Mississippi concludes that housing is a binding constraint on the pace of the recovery.[78] In November 2005,

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[77] Baton Rouge *Morning Advocate* (August 22, 2006).

[78]See *What's Needed for Post-Katrina Recovery,* a study sponsored by The Financial Services Roundtable and prepared by Dr. James A. Richardson, Alumni Professor of Economics at Louisiana State University. The study was completed in March 2006. "Building a Better New Orleans: A Review and Plan for Progress One Year After Hurricane Katrina," Bookings Institution Metropolitan Policy Program, (August 2006) and Loren C. Scott, *Advancing in the Aftermath: Tracking the Recovery from Katrina and Rita,* study sponsored by Hibernia National Bank and Capital One Financial Corporation; *The Repopulation of New Orleans After Katrina,* Rand Corporation (March 2006).

Scott and Richardson in *The Louisiana Economic Outlook, 2006 and 2007* clearly stated that economic growth in the New Orleans Metropolitan Area was limited by housing.[79] In *What's Needed for Post-Katrina Recovery,* Richardson estimated a housing stock deficiency of over 100,000 if only a moderate growth of employment is experienced in Louisiana through 2008. This housing deficiency must be reduced through intense repair and rebuilding of currently damaged houses, temporary living arrangements, commuting from other parishes, and by making available housing more productive by having more persons in each house. Ultimately, the reconstruction of permanent housing is an absolute prerequisite for the area to rebuild and recover.

In Mississippi the population has returned and temporary housing is bridging the housing deficiency, however, the restoration of permanent housing is equally important for the sustained recovery of the Mississippi Gulf Coast economy.

1. *Adequate and Varied Temporary Housing Options*

In mega-catastrophes such as Katrina, there is a need both to find transitional or temporary housing and, in the longer run, to engage in the critical job of rebuilding permanent housing.

Temporary housing falls into two categories: housing for people during the evacuation and longer-term transitional housing that will be needed if the storm causes such severe damage that families cannot immediately return to their homes.

Hotels and motels provide some relief, but have limited capacity to handle the evacuation of an area the size of the New Orleans Metropolitan Area. During and after Katrina, FEMA paid out $650 million in hotel and motel charges and housed 85,000 families in hotels and motels at the peak times.[80] Evacuation Centers at schools, universities, churches, and public facilities become important short-term transitional housing, as did relatives and friends for many evacuees. Louisiana is also considering building three permanent shelters around the state in areas not likely to experience any major storms.

Katrina, however, caused major or severe damage to almost 205,000 houses in Louisiana and just over 60,000 houses along the Mississippi Gulf Coast. And, because housing simply was not available for families to move back to certain areas in the New Orleans Metropolitan Area or along the Gulf Coast, the second stage of temporary housing became important. FEMA responded with trailers; in total, 125,000 trailers were made available, with over 70,000 being operational in

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[79] Loren C. Scott and James A. Richardson, *Louisiana Economic Outlook, 2006 and 2007,* (published by E. J. Ourso College of Business, Louisiana State University, November 2005).
[80] "Emergency housing to get a new focus," New Orleans *Times-Picayune* (August 31, 2006).

Louisiana by mid-year and over 33,000 in Mississippi by mid 2006.[81] FEMA also provided mobile homes, with just over 3,200 located in Louisiana and almost 4,500 in Mississippi.[82]

FEMA also provided transitional housing assistance of up to $2,358 per household, as an initial payment for three months rental assistance, with the possible extension for qualifying applicants for up to 18 months.[83] Families were free to find shelter anyplace in the country with this transitional assistance.

Trailers, mobile and modular homes allow people to be near their damaged homes so they can work on them, to be near their jobs and in the same school district for their children, and to return to the same community as quickly as possible. In "normal" catastrophes trailers well serve the purpose of transitional housing for displaced families.

In a mega-catastrophe, however, trailers need to be supplemented by other methods of housing assistance. Trailers allow a family to be near its damaged home, but jobs may not be available, the school system may not be functioning, and health care providers may be gone. The federal government is considering making more use of housing vouchers in future catastrophes, a measure we support.[84] Vouchers are a market-oriented solution to a sudden disruption in housing accommodations and can put people into shelter in neighboring areas so that they are at least within commuting distance of returning to their previous jobs. Vouchers also allow families to move to different locations if they wish, so one city is not inundated with hurricane victims. The country can absorb 1,000,000 people in different cities around the nation without undue strain on the local infrastructure; one city cannot bear that burden alone.

Vouchers cannot be the sole solution for many families who want or need to be near their destroyed residences to oversee the rebuilding, while returning to work at the same time. For those families wanting to return to their communities, mobile and modular homes should be considered as a supplement to trailers if they are cost-effective. State and local officials in both Louisiana and Mississippi are suggesting the "Katrina Cottage" as an alternative to trailers. These cottages are more durable than trailers and can be used as permanent homes. Ranging from 554 square feet to 936 square feet, the estimated cost of a 540 square foot cottage is $80,000 or about $148 per square foot.[85] The cottages provide better living

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[81] *Katrina Index,* Brookings Institution (July 12, 2006).
[82] Ibid.
[83] FEMA, Transitional Housing Assistance Program, www.FEMA.gov.
[84] "Hurricane Katrina Lessons Learned," report issued by White House Homeland Security Adviser (February 2006).
[85] "People want something that is going to last," National Public Radio, (August 30, 2006).

conditions for families and are more able to withstand storms. Mobile homes or manufactured homes can also be converted into cottages. The Governor of Mississippi recently cut a ribbon on a Katrina Cottage Square in Ocean Springs.[86]

Recommendation #15: In regions that have suffered catastrophic damage, rather than relying exclusively on trailers, the federal government should use a variety of temporary housing solutions, including mobile homes, modular homes, and housing vouchers and the limited use of trailers. The options employed should be determined according to differing levels of devastation and the varying needs of the damaged areas. *(Long-term)*

2. Mapping to Assess Need

A valuable tool for assessing the need for temporary housing is visual mapping, a technique developed by a joint FSSCC/DOE project using modeling from several national labs to project the impact of major hurricanes on critical infrastructure. Visual mapping provides real time information of the needs that a community might have after a natural disaster. Since quick response is a necessity in major natural disasters, this technique should be used immediately before, if possible, and after a major disaster.

One of the major issues impeding recovery in the aftermath of a mega-catastrophe such as Katrina is lack of information. Ideally, a region should have a geographic information system that contains data that addresses the needs of property owners, investors and governmental housing planning and recovery management activities. Such an information system allows individuals, businesses and governmental bodies to make timely and informed decisions that speed recovery and facilitate the flow of capital into the region.

Visual mapping is a vital component in amassing critical information on a timely basis and can assist in the recovery effort by equipping individuals and businesses with information about the type and extent of damage and then, over time, about the progress of the recovery throughout the affected the region. This can facilitate the flow of capital to areas that are showing signs of coming back.

Recommendation #16: Government agencies should make use of visual mapping to assess the need for temporary housing and evaluate different methods of providing temporary housing in the aftermath of a mega-catastrophe. *(Long-term)*

[86] "Governor cuts ribbon on Katrina Cottage Square," The Mississippi *Press*, (August 30, 2006).

3. *Disburse and Assess: Distribution of Reconstruction Funds*

The restoration of permanent housing is the ultimate key to the successful long-term recovery of an area devastated by a major storm and it is the way to monitor the status of the recovery. If homes are not being repaired and rebuilt, the region is not recovering. Moreover, unless the funds that are available for restoration are used properly and efficiently, the flow of capital from financial institutions into the affected areas will be inhibited.

In Orleans Parish and St. Bernard parish, housing is limited and many homes remain in need of extensive repairs. Throughout southeast Louisiana and in certain parts of the Mississippi Gulf Coast housing is limited and, even if a family were ready to rebuild, skilled workers such as electricians, plumbers, and finishing carpenters are not readily available.[87] These limitations on skilled workers will naturally prolong the recovery period.

One anecdote will explain the problem. A family returned to Jefferson Parish in mid-October after fleeing to Tulsa, Oklahoma. Their house incurred minor damage, but the refrigerator had to be discarded. The family went to a store to buy the appliance and the store was able to locate one immediately from its national stock. However, due to the unavailability of trucks and deliverymen, the store was unable to deliver the refrigerator for six full weeks.[88]

Skilled carpenters, electricians, and plumbers can be imported from other regions of the country, and possibly even from other countries, but it cannot be assumed that other areas of the country will simply stop growing in order to free-up an available workforce. Nonetheless, the critical shortage of skilled labor has not been given the attention it deserves in both New Orleans and the Mississippi Gulf Coast.

The federal government has allocated almost $9.2 billion in CDBG funding and Hazard Mitigation Grants for Louisiana to be used in the Road Home Program.[89] Louisiana's plan for distributing the money was approved by the State Legislature during its regular session in 2006 and by the HUD in the summer of 2006. HUD, as part of the $3.4 billion allocation to assist the state's homeowners, approved the plan for Mississippi in April 2006.[90]

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[87] St. Bernard parish held a housing fair on Saturday, August 19, 2006 and used this meeting to introduce families to licensed electricians.
[88] A real story from a family in Jefferson Parish.
[89] Presentation by Mr. Andy Kopplin, Executive Director of the Louisiana Recovery Authority, August 1, 2006 to Bond Rating Agencies.
[90] News Release, HUD No. 05-036 (April 4, 2006).

The LRA has the responsibility in Louisiana to distribute funds for housing reconstruction to persons with damaged homes according to a set of guidelines. The LRA has hired a firm to operate the CDBG program for rebuilding and relocating persons who incurred major damage to their homes. Applications are now being accepted and over 100,000 pre-applications have been submitted.[91] Persons can apply for a grant to rebuild at the same location, rebuild at another location in the state, or move out of the state. A person moving out of state will get 60 percent of what he or she would have received if that person had stayed in the state. A person without insurance is penalized by a 30 percent discount. The maximum grant is $150,000, with the grant being derived from the pre-Katrina market value of the house, less any insurance payments or FEMA assistance.

All grants will be put in an escrow or disbursement fund, even if the homeowner has no mortgage on his or her house. The program will provide financial assistance and will encourage persons to rebuild, since individuals get more money for rebuilding. However, these grants do not eliminate uncertainties homeowners may have about other issues, such as the safety of the levee system, public safety, the quality of the schools, the availability of health care services, and the affordability of living in New Orleans with rising utility rates and potentially higher property assessments.

By early October the Louisiana Road Home Program's housing reconstruction program had logged 33,883 applications out of an expected 123,000 homeowners eligible for the program. At that point in time 255 homeowners had been notified of the amount of money that they would receive, on average $41,582 per homeowner. The process of getting applications and reviewing these application prudently has created some frustration among applicants. This is a unique program – providing housing grants to 123,000 potential applicants. There is no benchmark to know if the program is working as quickly as can be expected. The LRA and the public will have to work diligently together to overcome bottlenecks that are unnecessary, but yet maintain the accountability and transparency of the program.

The Mississippi housing assistance program is more limited than the Louisiana program. Phase I of the Mississippi model applies to homeowners who lived outside the flood plain and did not have flood insurance. Approximately 16,000 applications have been submitted for this program.[92] Grants are capped at $150,000, after taking into account the pre-Katrina market value of the house, less insurance payments and FEMA assistance. The disbursement process provides the grant directly to the individual with the stipulation that homeowners must make

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[91] Louisiana Recovery Authority website.
[92] Press release, "Governor Barbour Updates Lawmakers on Recovery, Rebuilding and Renewal," (June 22, 2006).

themselves current with their lenders. Phase II of the Mississippi model provides grants to low and moderate-income citizens regardless of insurance status pre-Katrina and/or whether or not their homes were located in the flood plain.[93] About 3,200 families have applied for this program. The Mississippi model provides more flexibility for homeowners in terms of what they do with the grant, while the Louisiana model is aimed more directly at the rebuilding process.

In short, Louisiana and Mississippi are using two very different methods of distributing CDBG funding for housing assistance. The Louisiana model is more structured and more incentive-based – essentially, the homeowner can stay and repair/rebuild, sell and relocate in Louisiana, or sell. The homeowner does not get a check directly from the LRA, but rather the money is put in a disbursement fund and drawn on as expenses are incurred.[94]. The homeowner is penalized if he or she did not have insurance and if he or she plans to relocate out of state. Recipients of the grant also must sign a legally binding agreement stating that the home will remain owner-occupied for at least three years and that the homeowner will maintain hazard and flood insurance.[95]

The Mississippi model is more flexible, giving the recipient the responsibility for using the grant to rebuild his or her house after becoming current on any outstanding mortgage. The contract does include certain covenants, specifically, the maintenance of flood insurance on damaged residences in perpetuity; a commitment to rebuild or repair to applicable building codes, local ordinances, and to newly recommended FEMA flood elevations; or an agreement that manufactured houses must comply with the Federal Manufacturing Housing Code.[96]

The federal government has provided resources. Both states have established programs to distribute the grants to homeowners that will start to appear in the local housing markets early in the fall. Louisiana and Mississippi are very different states with very different issues regarding reconstruction and these varying approaches provide an opportunity to observe and learn if (and how) CDBG funding should be used to assist communities in future mega-catastrophes. It is vital that both current distribution programs, however, be analyzed and monitored to ensure that the spending is efficient and that it occurs without fraud.

Both programs are in the early stages of receiving applications and making decisions about grants to be received. The Mississippi program is now undergoing

[93] Ibid.
[94] The Road Home Program. www.Road21A.org.
[95] Summary of the Proposed Action Plan Amendment (Amendment 1) for FY 2006 CDBG Disaster Recovery Funds, submitted to US Department of Housing and Urban Development.
[96] Mississippi Home Help – Hurricane Katrina Homeowners Grant, www.mshomehelp.gov

a legal challenge. Louisiana has approved only a few applications at this time with the average grant being just over $41,582. Both programs are struggling with the need to move expeditiously but, at the same time, minimizing mistakes.

Recommendation #17: The different methods for distributing housing reconstruction funds in Louisiana and Mississippi should be carefully analyzed to ensure that the funds were used properly efficiently, and without fraud. In addition, that the distribution facilitated efficient restoration of damaged properties and promoted rapid recovery in the respective regions. This comparison will allow the development of a "best practices" methodology to the distribution of housing grants that meets the objectives of speed and accountability in the event of another mega-catastrophe.

4. Decisiveness

Planning for the City's neighborhood development in New Orleans has been somewhat confusing. The Urban Land Institute submitted an early plan for rebuilding New Orleans in November 2005,[97] a plan that did not move forward since it was commissioned by a group that did not have any funding to support the implementation. Also, the Urban Land Institute suggested an orderly rebuilding of the City starting with the neighborhoods incurring the least damage, an idea that was not embraced by public leaders.

There are a number of planning processes presently in motion. One process, initiated and funded by the New Orleans City Council, focused on the 49 flooded neighborhoods in the City and is almost completed. The LRA, along with the New Orleans Community Support Foundation, has also initiated a comprehensive City planning exercise to be funded with up to $3.5 million by the Rockefeller Foundation. The LRA has stated from the beginning the need for a unified citywide plan in order to guide the Authority's investment of federal funds. This planning exercise has just begun, but is scheduled to be finished as quickly as possible. The LRA's citywide planning process will incorporate the work already done by the New Orleans City Council.

The LRA claims that its planning process is totally independent of the Road Home program, which disburses grants to homeowners to assist in rebuilding their homes.

The differences among the differing plans are slowing the recovery. The lead article in the local newspaper in New Orleans on August 31, 2006 was "N.O.

[97] "A Strategy for Rebuilding New Orleans, Louisiana November 12 – 189, 2005," Urban Land Institute. This was a draft report submitted December 10, 2005.

Planning process puts residents on edge."[98] The article chronicles the differing plans that have been generated and expresses concerns over what exactly this planning process is designed to accomplish. The relevant authorities must resolve these issues as quickly as possible, so that all parties concerned – residents, financial institutions, and businesses – can get the certainty they need to rebuild.

Recommendation #18: The Louisiana Recovery Authority (LRA) and the City of New Orleans must work together quickly and effectively to develop a coordinated citywide plan so homeowners can make reasonable and timely decisions about rebuilding or relocating.

5. *Incentives for Return*

The extent of the devastation, especially in New Orleans and St. Bernard parish, has created concern among families about what other families are planning to do. Everyone seems to be waiting on someone else. This is what economists often refer to as a "collective action" problem – no one wants to move first, unless they know that others will do so as well.

This is understandable. The collective action problem occurs when no one wants to be the only one to move back to a devastated area. One way to overcome this problem is to provide monetary incentives for individuals to act, but only if they do so promptly. The LRA could do this by factoring into its funding distribution procedure a clear, positive monetary incentive for those individuals and families making early, binding commitments to come back – for example, a commitment to rebuild within 90 days of receipt of the grant seems to us a reasonable way to jump start this process. Money should actually flow, however, only when construction has actually started. The LRA could request federal authorities to fund any incentives out of the $33 billion in uncommitted funds for the recovery effort. The LRA should explore whether incentives are even feasible given the disbursement process that has already been announced.

We are under no illusion that incentives, by themselves, can cure the collective action problem. After all, several prerequisites must first be in place for any incentives to have an effect. For example, debris must be removed and infrastructure (such as sewerage and electricity) must be restored. But in areas where these conditions are met and former neighbors are simply waiting for others to decide to move back, then incentives could be a decisive factor in influencing some former residents to return quickly and thereby induce others to return.

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[98] New Orleans *Times-Picayune, (August 31, 2006).*

Recommendation #19: Even though the funds disbursement process is already established, the LRA should consider further jump starting the recovery by providing incentives to accelerate early commitments of residents to return. Possibilities include monetary incentives for those individuals and families committing to start rebuilding their homes within the citywide plan as approved by the LRA and within 90 days of receipt of their grant, provided that other necessary enabling requirements are met. The LRA should decide the nature of the commitment triggering payment of any incentive payments (which should be made only after construction has commenced).

C. Local Infrastructure

Infrastructure problems in New Orleans are significant. The water and sewer system is in need of major repairs, with New Orleans now losing more water to seepage – some two-thirds of the 85 million gallons of water pumped every day – than it meters at homes.[99] The loss of water also leads to reduced water pressure, negatively impacting the ability of the fire department to fight fires.

1. *Coordinate Reconstruction by Central Authority*

Significant capital funding and leadership provided by a central authority will be required to speed the recovery and assure accountability.

Meanwhile, without external assistance, rates for electricity and natural gas will increase for New Orleans residents and businesses disproportionately relative to surrounding communities. Entergy New Orleans, a privately-owned utility and a subsidiary of Entergy Corporation servicing all or part of Arkansas, Louisiana, Mississippi, and Texas, serves the City of New Orleans only, so any major capital expenditures to repair the system, plus the funding of previous capital expenditures, will be shared only with the remaining New Orleans residents and businesses. Entergy New Orleans has requested a Community Development Block Grant from the LRA. To further add to the challenges, Entergy New Orleans filed for Chapter 11 bankruptcy in September 2005 and has requested a delay in presenting a plan for reorganization, initially due in August 2006. At this point no decision has been made, though the Governor of Louisiana has indicated that the LRA might be able to afford a block grant of $200 million.

The restructuring of the electrical system is vital for residential and business customers. Electricity outages can last for several hours due to the fact that the company must improvise connections in order to get electricity back up and

[99] "Fire Threat Unnerves Insurers," New Orleans *Times-Picayune,* (June 18, 2006).

running. The electrical delivery system in New Orleans is currently a patchwork – an essential compromise necessary to get the electricity back on following the storm – but it is not really a system at this point in time.

Clearly, electricity is key to economic activity anywhere and reconstruction of the damaged electrical infrastructure is critical to the recovery. This can be paid for in either of two ways: a grant from the LRA that we understand has been requested or, if these funds are not forthcoming, by recovering the capital costs through rates charged over a broad geographic rate base. One of these methods must be chosen as soon as possible or the recovery process will be delayed so long as no decision is made.

Recommendation #20: The State of Louisiana and the federal government should take steps to ensure expeditious reconstruction of the infrastructure for all parts of New Orleans, including taking the initiative to bring parties of interest together. In the case of regulated utilities, particularly electricity, this can be accomplished either through grants from the LRA or by broadening the geographic rate base so that the utility has a sufficient revenue base to pay for the reconstructed facilities. The worst outcome, however, is to do nothing, for that will only prolong the recovery.

2. *Water and Sewerage*

The sewer and water system is working, but requires major repairs. However, the current sewer and water system could not service a City of 450,000 persons – approximately New Orleans's pre-Katrina population – making the basic infrastructure a major barrier to the quick recovery of the City. The LRA estimates the cost of repairing all Katrina related sewer and water systems to be $785 million, with expected FEMA assistance of $290 million. Since insurance covered only about $20 million of these facilities, the state/local gap is $475 million, an amount that could be funded by CDBG funds.[100]

Recommendation #21: The State of Louisiana, the federal government, and the City of New Orleans must take steps to ensure a sewerage and water system that is adequate to serve the city.

[100] Presentation by Mr. Andy Kopplin, Executive Director of the Louisiana Recovery Authority, "Addressing the Challenges of Recovery & Rebuilding from Hurricanes Katrina and Rita," (August 1, 2006).

3. Basic Public Services

Delivering basic public services such as police and fire protection and waste management is a necessity for a growing community. The availability of educational services is necessary for the City to rebuild. The question of whether or not communities will have the resources to pay for local public services after Katrina is especially germane to the City of New Orleans, St. Bernard Parish, Hancock County, and Harrison County.[101] New Orleans was already struggling financially prior to Katrina and a fiscal oversight team had been brought in to oversee its school finances. The City's finances depend heavily on sales tax receipts meaning residents and tourists are essential to the City's financial projections.

Recommendation #22: The City of New Orleans must proceed with a thorough short and long-term fiscal analysis of its expenditures and revenues, the servicing of its debt, and the implementation of a capital outlay plan. The State of Louisiana, working through the LRA and other appropriate entities, can assist in developing plans that assure ongoing fiscal viability. The federal government should be willing to provide grants, on a declining basis over a reasonable period of time, provided the City can develop a viable long-term recovery plan.

4. Tax Incentives

The financial capacity of the City is still to be determined. Sales tax collections have been higher than anticipated, but the permanency of these collections is unclear. Property tax collections are still to be determined, while hotel-motel tax collections depend on the rebound of the tourist market. Preliminary projections suggest a local government budget deficit of $80 million in 2010, with the assumptions of a robust gain in population to 330,000 and a 75 percent increase in property tax collections as compared to 2004. The projected 2010 deficit is over $600 million, with more conservative estimates of population growth and increases in property tax assessments.[102]

Ultimately, the City must be able to afford the public services required within its City limits. The City of New Orleans needs short-term cash flow modeling and a 5-year forecast of expenditures taking into account different local government

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[101] See James A. Richardson, "Natural Disasters and State and Local Finance in Louisiana: A Case Study in 2005," *Municipal Finance Journal*, (Fall 2006) and *GulfGov Reports: One Year Later,* study being prepared by Rockefeller Institute of Government, University of New York at Albany, and Public Affairs Research Council of Louisiana (first draft released August 22, 2006).
[102] *GulfGov Reports: One Year Later*.

responsibilities and projections of revenues based on different assumptions of the growth of the City.

The connection between the funding of public services and the ability to pay for these public services must be made and the neighborhood plans must be related to the fiscal reality of what the City can afford. This is not a matter relating to any one-time grant money that may be available from public or private sources, but an issue involving the recurring expenses of police, fire, and environmental protection. However, though assistance is not certain, non-traditional methods of balancing the City's budget might be available over the next several years, including assistance from FEMA, bridge financing, or state support. In fact, the City has received approval for a $150 million line of credit from a consortium of banks, but is still awaiting approval of this debt instrument from the State Bond Commission.

The Mayor of New Orleans decided in early January to reduce the City's payroll by 2,400 employees, a workforce reduction that will save the City money every year. The Mayor also decided to increase the salary of policemen, while the City Council voted to raise the pay of firefighters – actions that will increase expenses for the City each and every year. The City now needs to make projections over the next one, three, and five years for both revenues to be collected and expenditures that will be necessary to accommodate the City in terms of maintaining safety, servicing its debt, and providing the amenities associated with a tourist town. The City solicited proposals for a fiscal analysis on April 28, 2006, but has not selected a proposal as of this date.

The federal government should be ready to provide the equivalent of a bridge grant – a time limited grant, gradually phased out – to the City to assist with its finances, but only if the City has a viable long-term fiscal plan.

The federal government has already provided significant tax incentives to promote economic recovery throughout the affected region. For example, the Gulf Opportunity Zone Act of 2005 includes:

- A 50 percent bonus depreciation allowance for eligible property acquired after August 27, 2005 but before January 1, 2008 or before January 1, 2009 for real property
- An increase in Section 179 expensing for small businesses by $100,000 and an increase in the level of investment in which such expensing phases out for investments from August 27, 2005 through 2007
- Partial expensing for demolition and clean-up costs from August 27, 2005 through 2007
- A doubling of expensing for qualified timber properties

- Extension of the Net Operating Loss carry back period from two years to five years for losses associated with Hurricane Katrina
- An increase in the rehabilitation credit for expenditures in the GoZone between the August 27, 2005 and January 1, 2009
- A broadening of the employee retention credit as provided in KETRA to all companies without regard to size
- A doubling of the Hope Credit and the Lifetime Learning Credit
- The creation of a New Markets Tax Credit for investments in qualified community developments
- Additional low-income housing credits

Katrina-related GO Zone tax incentives apply to businesses and individuals in 11 counties in Alabama, 31 parishes in Louisiana, and 49 counties in Mississippi.[103]

These tax incentives are designed to bring new capital into the distressed area. Because the 50 percent bonus depreciation is aimed at capital improvements, a company cannot simply buy an existing structure in the affected area and apply the bonus depreciation since it applies only to improvements on that acquired property.

Timing, however, is one important problem with the tax incentives. The 50 percent bonus depreciation is applicable to property placed in service before January 1, 2008 or for real property placed in service before January 1, 2009. The increase in expensing for small businesses applies to eligible property placed in service from August 27, 2005 through December 31, 2007. These tax deadlines encourage capital improvements to be completed more quickly and, in fact, compel the investment be made within the time period as defined by the tax code if the tax incentives are to be available.

However, as the analysis in this report makes evident, tax incentives alone will not dictate the economic recovery. A dependable customer base, available housing, and a skilled labor force are also of critical importance and these challenges are so severe that the tax incentives may terminate before investments are feasible in the more heavily damaged areas. Therefore, the tax incentives may be more effective in encouraging investment in the areas of Alabama, Louisiana, and Mississippi not severely damaged by the hurricanes, rather than in the areas incurring the most damage.

Tax advantages for investing in the New Orleans and along the Gulf Coast should, therefore, be extended for a reasonable period – we believe two years is

[103] GO Zone tax incentives also apply to businesses and individuals in 22 counties in Texas and 13 counties in Florida. Also see *The Louisiana Gulf Opportunity Zone Business Guide,* published by the Louisiana Department of Economic Development.

appropriate – in order to allow the recovery to be timely. Otherwise, the factors cited would make it impossible for the tax incentives to be used, thus severely reducing their positive impact on the recovery.

In addition, the geographical territory covered by the GoZone legislation may be too extensive. Any extension of the deadlines associated with the GoZone legislation should be coupled with redefining the counties and parishes that may be covered by the tax incentives.

Recommendation #23: Federal tax incentives to promote recovery in the Gulf should be extended for a period of, perhaps, two years, and should be more narrowly confined to areas most severely damaged.

5. *Attracting the Workforce*

Finally, our analysis should make clear that sustained recovery depends on attracting skilled labor back to the devastated areas, particularly to New Orleans. Much of this will depend on the pace of housing reconstruction, which in turn depends on the various governmental decisions we have identified that must also be made.

But houses cannot be repaired or rebuilt without trained carpenters, electricians, and other construction workers. The U.S. Department of Labor should facilitate this retraining as rapidly as possible, working with local authorities and unions. Such training could be especially useful for younger adults, especially those who are no longer in school. The Regional Intergovernmental Councils we have suggested also may be able to help in this regard.

Recommendation #24: It is critical that all steps necessary be taken to attract skilled labor back to New Orleans and other devastated areas, not only to assist with the recovery, but also to provide a workforce that will sustain the economic vitality of the City in the future. Pursuing the housing recommendations outlined above will certainly help in this regard. The U.S. Department of Labor should help with the training of local residents (and others who could be attracted to the region) to work in reconstruction-related activities. The more formal intergovernmental cooperation suggested for the region may also be able to provide valuable assistance.

V. Conclusion

More than a year has passed since Katrina devastated the Gulf Coast. Whatever one's views may be as to the pace of the recovery so far – and those views are likely to vary depending on the specific areas affected – there should be little difficulty in agreeing that if there are steps that could speed the recovery in a sensible fashion, they ought to be taken promptly.

We have prepared this report in that spirit. We believe there are steps that can and should be taken promptly to accelerate recovery in the Gulf. We have outlined them here.

In the end, however, all parties with a stake in the recovery must come together quickly with the resolve that whatever may have previously divided them should now be put aside in the interest of moving the recovery process along. It is this "can-do" spirit that animated the Gulf region before Katrina. That same spirit will be required to rebuild it as a place to live, work, and enjoy now that the storm has passed.

VII. Appendix

The Financial Services Roundtable
Blue Ribbon Commission on Mega Catastrophes

Mr. Edward B. Rust, Jr., Chairman
Chairman and Chief Executive Officer
State Farm Insurance Companies

Mr. Kerry K. Killinger, Vice Chairman
Chairman and Chief Executive Officer
Washington Mutual, Inc.

Mr. John A. Allison
Chairman and Chief Executive Officer
BB&T Corporation

Mr. Richard E. Anthony
Chief Executive Officer and President
Synovus

Mr. Gerald L. Baker
Chief Operating Officer
First Horizon National Corporation

Mr. John R. Beran
Executive Vice President and Chief Information Officer
Comerica Incorporated

Mr. J. Herbert Boydstun
President and Chief Executive Officer
Capital One, N.A

Mr. Brian W. Clymer
Senior Vice President, External Affairs
Prudential Financial Inc.

Mr. Mark Crawford
Chief Risk Officer
Guaranty Financial Services

Mr. Scott Custer
Chief Executive Officer
RBC Centura Banks, Inc.

Mr. John Degnan
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The Chubb Corporation

Mr. Ronald G. Downing
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National Farm Life Insurance Company
American Council of Life Insurers

Mr. Robert Dubrish
President and CEO, Option One Mortgage
H&R Block

Mr. D. Cameron Findlay
Executive Vice President and General Counsel
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Director of the Division of Risk Management
Montgomery County, Maryland
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American General Financial Services, Inc. (AIG)

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Senior Vice President, Risk Management
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President and CEO, BancWest - Chairman and CEO Bank of the West
BancWest Corporation

Mr. John McMurray
Senior Managing Director, Chief Risk Officer
Countrywide Financial Corporation

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Mr. Aubrey B. Patterson, Jr.
Chairman and Chief Executive Officer
BancorpSouth, Inc.

Mr. Kieran P. Quinn
Chairman and Chief Executive Officer
Column Financial, Inc.
Mortgage Bankers Association

Mr. Danny Ray
Vice President and Chief Risk Officer
Toyota Motor Credit Corporation

Mr. Bobby Rayburn
President and Chief Executive Officer
Rayburn and Associates
National Association of Homebuilders

Mr. C. Dowd Ritter
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Mr. Douglas Smith
Information Security Business Continuity Executive
Bank of America Corporation

Mr. Thomas M. Stevens
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NRT Inc.
President 2006
National Association of Realtors

Mr. John F. Stillo
Vice President and Chief Financial Officer
Toyota Financial Services

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New Century Financial Corporation

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