

# Hurricane Katrina: A Study of the Awareness, Participation and Satisfaction of Federally Funded Programs

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## Executive Summary

Hurricane Katrina inundated the United States Gulf coast on August 29, 2005, causing over \$200 billion in total economic damage, and \$22 billion in the State of Louisiana, making it the costliest natural disaster in the history of the United States. Over 650,000 residents were displaced, and over 200,000 homes were destroyed. These losses had concomitant impacts on the business industry and surrounding economy. As a result of the storm, 20,000 businesses were destroyed, and the local unemployment rate increased by 300,000 persons.

As of April 2007, more than a year and a half has passed since Hurricane Katrina, and New Orleans' businesses and citizens have yet to recover to their pre-storm conditions. As homeowners and business owners navigate the different resources available to them, questions arise as to how they will repair their homes and businesses and pay for the accumulated expenses.

Several federal programs are being utilized to help promote the recovery of homeowners and business owners in New Orleans including the Individual Assistance and Other Needs Assistance Programs administered by the Federal Emergency Management Agency, the Small Business Administration Disaster Loan Program, the Go Zone tax credits established by the Gulf Opportunity Zone Act of 2005 (Go Zone Act), and Road Home housing assistance provided through Federal Community Development Block Grant funding.

Using a review of available scholarly literature on disaster recovery, this report reveals that individual business and household recovery greatly influence the overall community recovery of New Orleans. The literature demonstrates the complex nature of recovery and how disasters have disruptive consequences on both businesses and households and how these effects are often intertwined. This report also provides case studies of previous disasters that provide support for utilization of existing network structures in conjunction with extensive long-term policy planning by government officials.

Drawing from interviews of those involved in the recovery process, it is evident that a high level of frustration exists for local officials, business owners and community leaders concerning the overall recovery process. These frustrations arise from the arduous and inconsistent application process of federal programs, the frequency of turnover in agency staffing, the deficient information flow to residents by agency officials, and the apparent lack of interagency cooperation among the primary federal relief agencies.

The survey analysis of homeowners and business owners revealed several relationships between the respondents and awareness of the programs, participation in the programs, and satisfaction with the programs. For awareness, media was a primary source of information for business owners and homeowners across all programs; sources of information for homeowners varied slightly by ethnicity. Several circumstances contributed to a business owner's level of awareness of the federal programs. The longer a business had been open, the more employees, and higher the level of education the business owner possessed all contributed to increased knowledge of what programs were available.

Analysis of participation in the programs reveals that nearly 26 percent of homeowners surveyed did not apply to any program, while 32 percent applied to one program, and approximately 25 percent applied to three programs. Fifty percent of the business owners surveyed did not apply to any programs available to them, while the majority of the remaining owners surveyed applied to one program. The analysis of the academic literature suggests that many citizens and businesses do not apply to assistance programs because of the low expectation of the program's capacity to help, confusion about what the process entails, and difficulty getting to the assistance centers where the application process begins. The survey data suggests that, in addition to these impediments, many of the participants were deemed ineligible or did not need assistance, were concerned about a particular program's reputation, or simply unaware of the program.

In addition to awareness and participation, analysis of program satisfaction also revealed important results. The receipt of assistance and amount of assistance awarded influenced the satisfaction of homeowners that participated in the programs. Satisfaction with FEMA was higher than any other program, specifically with the timing of assistance. This may be partially a result of FEMA's Expedited Assistance to individuals immediately after the storm. Of the business owners who took part in the programs, 40 percent were somewhat unsatisfied with the Go Zone program, and 30 percent were somewhat unsatisfied with the SBA Disaster Loan Program, specifically citing issues with customer service with SBA.

The survey results, in conjunction with in person interviews and a review of scholarly works and previous disasters, suggest several key themes and recommendations for changes to the current recovery structure. There is a need for an increased use of and stronger partnership with the media to disseminate information for all programs, as well as an increased use of non-governmental and local organizations in program implementation. Improving consistency by streamlining the application process to encompass all federally funded programs in one application, as well as improving the training of program personnel and reducing the turnover of agency staff will enhance the recovery process. Other recommendations include increasing program flexibility during a disaster, reducing the wait time for funds to be disbursed to recipients and allowing those disbursements to be made with fewer installments, and improving communication between federal agencies, as well as with state and local entities.

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## Background

On August 29, 2005, Hurricane Katrina inundated the United States Gulf Coast as a Category 3 storm, hitting coastal Louisiana and Mississippi after forming over the Bahamas and passing over Florida. Katrina created a wide path of destruction and inflicted major damage to New Orleans – an unparalleled disaster in the modern history of the United States. In Louisiana alone, over 200,000 homes were damaged – ten times the number of homes damaged by any other major hurricane to hit the United States. Additionally, more than 650,000 residents were displaced.<sup>1</sup> These losses had concomitant impacts on the business industry and the economy because over 20,000 businesses were destroyed. In addition, it raised the local unemployment rate by 300,000 persons.<sup>2</sup> Figure 1 and Tables 1 and 2 give detailed information on the unemployment rates in New Orleans, Orleans parish and the United States, the change in the number of businesses in southeast Louisiana parishes and the number of open businesses in 2005 and 2006, respectively. As demonstrated in table 1, more than 7,000 businesses closed as a result of Hurricane Katrina.

Katrina's destruction is estimated to have caused over \$200 billion in economic damage,<sup>3</sup> and at least \$22 billion dollars in the state of Louisiana, making it the costliest natural disaster in the history of the United States.<sup>4</sup> In response to this magnitude of damage, the United States Congress appropriated special emergency and disaster supplements. These supplements were intended to increase the level of funding to disaster relief programs already in place, as well as to provide for the creation of new programs that would provide additional assistance. In the two weeks following Hurricanes Rita and Katrina, two legislative bills, P.L. 109-61, and P.L. 109-62, allocated \$62.3 billion dollars to the areas affected by Katrina to assist in efforts that included emergency response, and disaster recovery.<sup>5</sup> From this allocation, the state of Louisiana received an initial federal payout of \$6.2 billion supplemented by a later appropriation in June 2006 of \$4.2 billion for the remainder of the housing program request, and assorted funds to support recovery projects such as levee reconstruction, education, and coastal restoration, for a total of \$10.4 billion dollars.<sup>6</sup>

The region has also received substantial assistance from non-federal sources. According to a statement by Louisiana Governor Kathleen Blanco in the Louisiana Recovery Authority's February 2007 Quarterly Report, the state of Louisiana has contributed \$2 billion dollars to the recovery effort since August 2005, with expedited disbursement of further funds in the coming months.<sup>7</sup> The region has also received assistance from individuals, non-profits, and non-governmental organizations (NGOs), amounting to \$3.5 billion dollars in charitable giving.<sup>8</sup>

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<sup>1</sup> Executive Director's Report. Louisiana Recovery Authority, 2005

<sup>2</sup> LA Geographic Information Center, Hurricane Impact Atlas, 2005

<sup>3</sup> Burby, Raymond J. 2006. "Hurricane Katrina and the Paradoxes of Government Disaster Policy: Bringing About Wise Governmental Decisions for Hazardous Areas". *Annals* 604(1): 171-191.

<sup>4</sup> Special Edition of the Katrina Index: A One Year Review of Key Indicators of Recovery in Post-Storm New Orleans, Brookings Institution. 2005

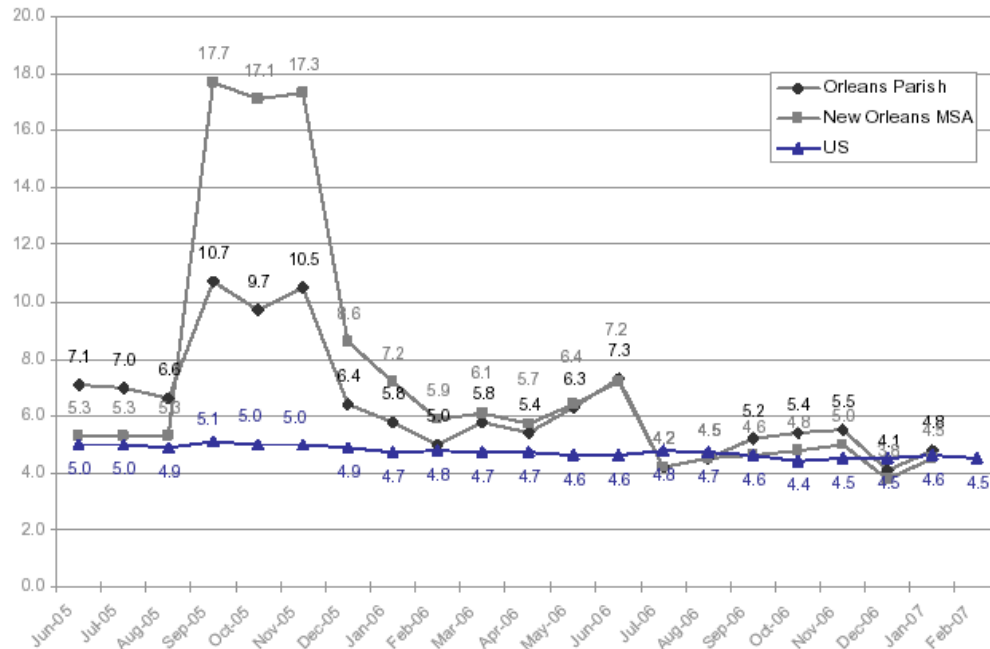
<sup>5</sup> Congressional Research Service, Emergency Supplemental Appropriation for Hurricane Katrina Relief 2006

<sup>6</sup> CRS, Emergency Supplemental Appropriations for Hurricane Katrina Relief 2006

<sup>7</sup> LRA, LRA Quarterly Report, February 2007.

<sup>8</sup> Brookings Institute and GNODC, The Katrina Index: Tracking Recovery of New Orleans and the Metro Area, March 2007.

**Figure 1: Unemployment Rates in Orleans Parish, New Orleans MSA, and US**



Source: Louisiana Department of Labor, Bureau of Labor Statistics<sup>9</sup>

**Table 1: Net Change in Southeast Louisiana Parishes Employers By Quarter**

Quarter	Closed After Storm	Moved Out	Moved In	New Firms	Closed in 2005Q2, but Reopened	Net Change
As of 2005Q3	5,443	0	19	617	638	-4,169
As of 2005Q4	7,392	162	151	1,471	1,366	-4,566
As of 2006Q1	7,652	624	546	2,208	681	-4,841
As of 2006Q2	7,354	646	565	2,916	802	-3,717

Source: Terrell, Dek and Ryan Bilbo. 2006. "A Report on the Impact of Hurricanes Katrina and Rita on Louisiana Businesses: 2005Q2 – 2006Q2".

<sup>9</sup> Brookings Institute and GNODC. 2007. "The Katrina Index: Tracking Recovery of New Orleans and the Metro Area." 14 March <<http://www.gnocdc.org>>.



**Table 2: Total Firms Verified as Open, 2005Q2 – 2006Q2**

<b>Parish</b>	<b>RLMA</b>	<b>2005Q2</b>	<b>2005Q3</b>	<b>2005Q4</b>	<b>2006Q1</b>	<b>2006Q2</b>
<b>Jefferson</b>	1	11,416	10,149	10,213	10,342	10,790
<b>Orleans</b>	1	9,592	7,545	7,011	6,641	7,028
<b>Plaquemines</b>	1	718	608	619	614	626
<b>St. Bernard</b>	2	1,051	618	451	429	485

**Source:** Terrell, Dek and Ryan Bilbo. 2006. "A Report on the Impact of Hurricanes Katrina and Rita on Louisiana Businesses: 2005Q2 – 2006Q2".

Through a review of the available literature on disaster recovery, case studies of previous disasters, interviews of those involved in the recovery process, and surveys of homeowners and business owners directly affected by Hurricane Katrina, this report identifies the available sources of federal assistance, measures public awareness and effectiveness of these programs, identifies obstacles that are hindering the recovery process, and recommends practices to help with future programs.

## Recovery Legislation

Several federal programs were utilized to help promote the recovery of homeowners and business owners in New Orleans including the Individual Assistance and Other Needs Assistance Programs administered by the Federal Emergency Management Agency, the Small Business Administration Disaster Loan Program, the Go Zone tax credits established by the Gulf Opportunity Zone Act of 2005 (Go Zone Act), and Road Home housing assistance provided through Federal Community Development Block Grant (CDBG) funding. Although each of these programs help communities recover following a disaster, they each use different mechanisms and fill a specific purpose in the overall recovery efforts.

### Road Home

The Road Home Housing Assistance program is designed and administered by the State of Louisiana using CDBG funds largely appropriated by Congress on June 15, 2006.<sup>10,11</sup> The program provides grants and low-interest loans up to pre-storm value of the home or \$150,000 for Louisiana residents to either repair the existing home, rebuild on the existing property, or sell their homes to state entities and relocate to another home within the state.<sup>12</sup> If the homeowner wants to move outside the state, they also have the option of selling their home and property to the state for 60 percent of the pre-storm value of the home or the estimated repair costs of the property, whichever is less. In each case, the owner will be penalized 30 percent if they failed to carry flood insurance and will have SBA loans deducted from the final amount, as to avoid duplication of benefits. To qualify for the program, the home must have been the owner's main residence prior to August 29, 2005, be a single or double unit structure, and qualify through FEMA as destroyed or suffered major damage.<sup>13</sup> As of the close of business on March 22, 2007 the Road Home program approved awards for 58,658 applicants totaling \$4.45 billion and dispersed funds to the banking institutions of 3,542 applicants totaling \$256.04 million.<sup>14</sup> At that time, 34.48 percent<sup>15</sup> of the applications had received an award offer.<sup>16</sup>

The Road Home program was established explicitly to assist residents of Louisiana recover from the Hurricanes of 2005 and is still adjusting to most effectively achieve its purpose. The most recent modification to the program was an April 2, 2007 change which permits

<sup>10</sup> Fellowes, Matt and Amy Liu. 2006. "Federal Allocations in Response to Katrina, Rita, and Wilma: An Update." 21 Aug. *Brookings Institution: Metropolitan Policy Program*.

<sup>11</sup> The final \$4.2 billion was appropriated on June 15, 2006 to fully fund the Road Home Program. Earlier appropriations were put toward the program, but it could not proceed without the final distribution of funds which came to the state in October 2006.

<sup>12</sup> LRA and ICF International. 2007. "The Road Home: Building a Safer, Stronger, and Smarter Louisiana". *Louisiana Recovery Authority*.

<sup>13</sup> LRA and ICF International, 2006. "The Road Home: A Housing Plan for Louisiana Neighborhoods and Parishes".

<sup>14</sup> LRA. 2007. *The Road Home Week 38 Situation and Pipeline Report*. 27 March. *The Road Home*: Baton Rouge, LA.

<sup>15</sup> Number derived from information given in LRA 2007. *The Road Home Week 38 Situation and Pipeline Report*. 27 March. *The Road Home*: Baton Rouge, LA. using the formula % of extended offers = number of benefits options letters sent / number of applications recorded or 40,786/118,274 = 34.48%

<sup>16</sup> This number should not be directly compared with the FEMA Individual Assistance or SBA loan approval rates as these programs have processed 99% of their applications and the Road Home has processed far fewer.

homeowners who did not have a mortgage connected to their home pre-Katrina to receive their grant disbursements through a lump-sum payment instead of smaller installments.<sup>17</sup>

*Road Home Contractor:* The Road Home program is administered through a contract awarded to ICF International on June 30, 2006 for \$756 million.<sup>18</sup> After federal funds became available in October 2006, ICF began implementing the Road Home program by opening eleven housing assistance centers throughout the state of Louisiana and selected areas of Texas, as well as employing 2,000 employees, 84 percent of which are from Louisiana.<sup>19</sup> The ICF contract established a completion date of January 2008, a time span of 30 months.<sup>20</sup>

**Table 3: Road Home Applicant Processing Snapshot** <sup>21</sup>

Road Home	As of COB 3/22/2007
Number of Applications Recorded	118,274
Number of Appointment Letters Mailed	108,780
Number of 1 <sup>st</sup> Appointments Scheduled	82,863
Number of 1 <sup>st</sup> Appointments Held	90,278
Number of 1 <sup>st</sup> Appointments Completed	88,491
Number of Home Evaluations Completed	84,120
Number of Benefits Calculated	58,658
Amount of Benefits Calculated	\$4.45 billion
Average Amount of Benefits Calculated	\$76,905
Number of Benefits Options Letters Sent	40,786
<i>Benefit Options Selected<sup>22</sup>:</i>	
Number of Option One	21,211
Number of Option Two	3,112
Number of Option Three	724
Total Benefits Options Selected	25,047
Files Transferred for Closing	17,255
Closings Scheduled to Occur	2,150
Closings Held	3,542
Amount of Benefits Disbursed	\$256.04 million
Average Amount of Benefits Disbursed	\$72,287

<sup>17</sup> LRA and ICF International. 2007. "The Road Home: Building a Safer, Stronger, and Smarter Louisiana". *Louisiana Recovery Authority*.

<sup>18</sup> ICF. 2007. "The Road Home Program: An Overview of ICF's Housing Management Services Contract with the State of Louisiana." *ICF, International*.

<sup>19</sup> LRA and ICF International. 2007. "Frequently Asked Questions about the Road Home Program." *Louisiana Recovery Authority*.

<sup>20</sup> ICF. 2007. "The Road Home Program: An Overview of ICF's Housing Management Services Contract with the State of Louisiana." *ICF, International*.

<sup>21</sup> LRA. 2007. *The Road Home Week 38 Situation and Pipeline Report*. 27 March. *The Road Home*: Baton Rouge, LA.

<sup>22</sup> Option 1 = Stay and repair/rebuild home, Option 2 = Sell and stay in Louisiana, Option 3 = Sell and move out of Louisiana

## FEMA Individual Assistance

The FEMA Individual Assistance and Other Needs Assistance programs were originally created to assist individuals recover following a disaster and are primarily comprised of housing assistance and other needs assistance as well as programs like expedited assistance.<sup>23</sup> The housing assistance program currently provides grants for temporary housing including trailers and hotel payments, funds for repairs not covered by personal insurance, funds for replacement of homes, and permanent housing construction for those who live within the Presidential Disaster Areas, while the other needs assistance programs help uninsured and underinsured residents in these areas pay for medical and dental care, funeral costs, and transportation expenses.<sup>24</sup> Applicants are required to apply for SBA loans before they are eligible for FEMA Individual Assistance grants. For Katrina, applicants were able to register for Individual Assistance consideration from September 3, 2005<sup>25</sup> until April 10, 2006, with an extension of two months for those with extenuating circumstances.<sup>26</sup> The first Disaster Recovery Centers opened in Louisiana on September 6, 2005, providing residents an opportunity to obtain information about assistance programs on the state and federal level, as well as services provided by volunteer organizations<sup>27</sup> through face-to-face meetings with disaster representatives. As of March 27, 2007, FEMA has distributed \$4,162,744,018 in grants to the three parishes which are targeted by this study<sup>28</sup> and \$4,988,153,217 to Katrina-affected areas around the state.<sup>29</sup> \$2.3 billion of these funds were distributed through expedited assistance.<sup>30</sup>

Since the time of Hurricane Katrina's landfall and the recovery efforts that followed, there have been several significant changes to the Stafford Act which extend FEMA's programmatic flexibility. The enactment of the Post-Katrina Emergency Management Reform Act of 2006 (Post-Katrina Act) on October 4, 2006, eased statute limitations in the Stafford Act for each individual or household to eliminate the previous ceilings on housing repair and replacement funds, though overall Section 408 caps of \$25,000 with cost of living adjustments still remain.<sup>31</sup> The Post-Katrina Act also grants FEMA authorization to construct semi-permanent or permanent housing and pay all utilities other than telephone service under the Fair Market Rent amount.<sup>32</sup> Though not directly applicable to our discussion of programs affecting homeowners, the Post-Katrina Act also established a pilot program which allows federal funds to be given to repair and improve multi-family rental properties in disaster areas. This will

<sup>23</sup> Expedited assistance primarily consists of the \$2,000 debit cards, electronic funds transfers, and checks given in the immediate days and weeks following Katrina (GAO 2006).

<sup>24</sup> Information available on [www.fema.gov](http://www.fema.gov) and from an interview conducted 3/28/07.

<sup>25</sup> FEMA. 2005. "First Call for Assistance: The FEMA Teleregistration Line." 3 September. *Federal Emergency Management Agency*.

<sup>26</sup> Information available in the Parish Quick Facts Report: FEMA 1603 & 1607-DR-LA as of COB 3/27/07.

<sup>27</sup> FEMA. 2005. "Disaster Recovery Centers to Open." 6 Sept. *Federal Emergency Management Agency*

<sup>28</sup> Number derived from the Parish Quick Facts Report: FEMA 1603 & 1607-DR-LA as of COB 3/27/07. The targeted parishes for the study are Orleans, Jefferson, and St. Bernard.

<sup>29</sup> Number derived from the Parish Quick Facts Report: FEMA 1603 & 1607-DR-LA as of COB 3/27/07. The cumulative IA amount for Katrina and Rita affected areas of Louisiana is \$5,506,093,038.

<sup>30</sup> GAO. 2006. "Expedited Assistance for Victims of Hurricanes Katrina and Rita: FEMA's Control Weaknesses Exposed the Government to Significant Fraud and Abuse." 13 February. Report GAO-06-403T.

<sup>31</sup> Bea, Keith et al. 2007. *Federal Emergency Management Policy Changes After Hurricane Katrina: A Summary of Statutory Provisions*. Washington, D.C.: Congressional Research Service, p. 42

<sup>32</sup> Ibid

encourage the development of rental properties, a measure that will help keep workers and residents in the area.<sup>33</sup>

**Table 4: FEMA Individual Assistance Processing Snapshot for Research Area<sup>34</sup>**

(HA = Housing Assistance, ONA = Other Needs Assistance, and IHP = Individuals and Households Program)

<b>FEMA Individual Assistance by Parish (for Katrina in LA as of 3/27/2007)</b>	<b>Jefferson</b>	<b>Orleans</b>	<b>St. Bernard</b>	<b>Research Area Total</b>
Number of HA Referrals	253,712	343,082	40,456	637,250
Number of HA Approved Referrals	205,948	276,330	34,030	516,308
Number of HA Ineligible/Withdrawn	47,764	66,748	6,426	120,938
Amount of HA Funds Approved	\$934,066,791	\$1,722,381,736	\$224,177,144	\$2,880,625,671
Number of ONA Referrals	126,219	216,429	24,189	366,837
Number of ONA Approved Referrals	42,835	111,454	13,507	167,796
Number of ONA Ineligible/Withdrawn	83,146	103,815	10,559	197,520
Amount of ONA Funds Approved	\$178,919,599	\$976,959,379	\$126,239,369	\$1,282,118,347
Total Registrations Received	276,018	366,938	42,252	685,208
IHP Referrals Approved	248,783	387,784	47,537	684,104
IHP Ineligible/Withdrawn	130,910	170,563	16,985	318,458
IHP Funds Approved (HA+ONA)	\$1,112,986,390	\$2,699,341,115	\$350,416,513	\$4,162,744,018

**Table 5: FEMA Individual Assistance Processing Snapshot for Louisiana<sup>35</sup>**

<b>FEMA Individual Assistance (for Katrina in LA)</b>	<b>As of COB 3/27/2007</b>
Housing Assistance Funds Approved	\$3,514,797,901
Other Needs Assistance Funds Approved	\$1,473,355,316
IHP Funds Approved (HA+ONA Approved)	\$4,988,153,217

## SBA Disaster Loans

The Small Business Administration Disaster Loan Program provides long-term, low interest loans such as Physical Disaster and Economic Injury Loans to businesses, as well as Personal Property, Real Property Loans, and Mitigation Loans to homeowners in areas declared a Presidential Disaster Area.<sup>36</sup> Businesses can obtain Physical Disaster and Economic Injury

<sup>33</sup> Bea, Keith et al. 2007. *Federal Emergency Management Policy Changes After Hurricane Katrina: A Summary of Statutory Provisions*. Washington, D.C.: Congressional Research Service.

<sup>34</sup> Number derived from the Parish Quick Facts Report: FEMA 1603 & 1607-DR-LA as of COB 3/27/07.

<sup>35</sup> Ibid

<sup>36</sup> Information about the SBA Disaster Loans is drawn from [www.sba.gov](http://www.sba.gov).

Disaster Loans up to \$1.5 million with interest rates of 4 percent for those without credit and 6.557 percent for those who can obtain credit elsewhere. Physical Disaster Loans can be used to cover repairs or replacement to the business structures, supplies, and machinery, while Economic Injury Loans provide assistance for bill payments and rent. Homeowners and renters are eligible for Personal Property Loans up to \$40,000 to cover lost contents to their home including cars, clothing, and appliances and \$200,000 Real Property Loans for home repair. These loans are provided at a rate of 2.687 percent unless applicants are able to obtain credit elsewhere. In this case, the rate increases to 5.375 percent. While the Real Property Loans do not cover upgrades or additions, whether for aesthetic or safety reasons, homeowners can apply for mitigation loans up to 20 percent of the original approved loan amount to protect the property against future damage. SBA loan applicants were able to register for consideration for the program from September 3, 2005<sup>37</sup> until April 10, 2006, with an extension of two months for those with extenuating circumstances.<sup>38</sup> SBA loan officers had a presence at the Disaster Response Centers which began to be set up on September 6, 2005.<sup>39</sup> As of March 27, 2007, the SBA has distributed \$5,167,376,898 in loans to the three parishes that are targeted by this study<sup>40</sup> and approved 95,333 loans totaling \$6,834,652,000 throughout Louisiana.<sup>41</sup> The rate of application approval to date is 38.96 percent.<sup>42</sup>

**Table 6: SBA Loan Processing Snapshot for Louisiana<sup>43</sup>**

<b>SBA Loans (for Katrina in LA)</b>	<b>As of COB 3/30/2007</b>
Number of Applications Received	224,068
Number of Applications Withdrawn	33,780
Number of Applications Declined	102,944
Number of Applications in Process	55
Number of Applications Approved	87,289
Amount Approved	\$6,306,276,100
<i>Number of Loans Disbursed:</i>	63,441
Number Disbursed Partially	9,828
Number Disbursed Fully	53,613
<i>Amount Disbursed Total:</i>	\$3,184,899,600
Amount Disbursed Partially	\$352,676,700
Amount Disbursed Fully	\$2,832,222,900

<sup>37</sup> FEMA. 2005. "First Call for Assistance: The FEMA Teleregistration Line." 3 September *Federal Emergency Management Agency*.

<sup>38</sup> Information available in the Parish Quick Facts Report: FEMA 1603 & 1607-DR-LA as of COB 3/27/07.

<sup>39</sup> FEMA. 2005. "Disaster Recovery Centers to Open." 6 Sept. *Federal Emergency Management Agency*

<sup>40</sup> Number derived from the Parish Quick Facts Report: FEMA 1603 & 1607-DR-LA as of COB 3/27/07. Targeted parishes are Orleans, Jefferson, and St. Bernard.

<sup>41</sup> Number of loans and approval amount drawn from the LA Quick Facts Report: FEMA 1603 & 1607-DR-LA as of COB 03/27/07.

<sup>42</sup> Number derived from SBA. 2007. "Disaster Update for Presidential Disaster Declarations." 30 March. *Small Business Administration*. using the formula approval rate = number of applications approved/number of applications received;  $87,289/224,068=38.96\%$ .

<sup>43</sup> Table derived from SBA. 2007. "Disaster Update for Presidential Disaster Declarations." 30 March. *Small Business Administration*.

**Table 7: SBA Loan Processing Snapshot for Research Area<sup>44</sup>**

SBA Loans (for Katrina in LA as of 3/27/2007)	Jefferson	Orleans	St. Bernard	Research Area Total
Approved Funds	\$1,002,274,700	\$2,867,468,298	\$1,297,633,900	\$5,167,376,898

### Gulf Opportunity Zone Act of 2005

The Go Zone Act differs from the previous programs in that it attempts to promote economic recovery by encouraging businesses to locate in disaster affected regions. The Go Zone legislation was passed by Congress on December 16, 2005 and signed by President George W. Bush on December 21, 2005<sup>45</sup> with the backing of \$14 billion<sup>46</sup> (\$7.8 billion of which is available to Louisiana<sup>47</sup>). The Go Zone Act extends the earlier provisions of Katrina Emergency Tax Relief Act of 2005<sup>48</sup> and establishes tax incentives and bond provisions to attract businesses to southern Louisiana<sup>49</sup> and other areas adversely affected by Katrina and Rita. Specifically, the Go Zone Act offers tax-exempt bonds, low income housing tax credits, IRS depreciation provisions, and new markets credits among many other provisions. The tax-exempt bonds allow business owners and corporations to borrow capital at favorable tax-exempt rates. These funds can be used to “acquire, construct, reconstruct or renovate non-residential real property, qualified residential rental projects, and public utility property in the GO Zone”.<sup>50</sup> Some assert the bond issue must be at least \$3 million<sup>51</sup> to be economically feasible, chiefly favoring large companies. Under the new depreciation system, taxpayers can deduct an extra 50 percent of the depreciable basis of property within the GO Zone (detailed below) for the first year the property is in operation in addition to the normal modified accelerated cost recovery system allowed under the Internal Revenue Code Section 179.<sup>52</sup> The New Markets Tax Credits are geared specifically to encourage businesses to invest in Community Development Entities in low-income communities.<sup>53</sup> This program is largely administered through the Internal Revenue Service and Louisiana Department of Economic Development<sup>54</sup> and has awarded 25 bond requests totaling \$678 million to businesses relocating to Louisiana as of November 17, 2006.<sup>55</sup>

<sup>44</sup> Number derived from the Parish Quick Facts Report: FEMA 1603 & 1607-DR-LA as of COB 3/27/07

<sup>45</sup> Go Zone Business Guide. 2006. “Feature Stories.” *Go Zone Business Guide*.

<sup>46</sup> DHS. 2007. “The 18-Month Anniversary of Hurricane Katrina – Progress Made and Lessons Learned.” 6 March. *Department of Homeland Security*.

<sup>47</sup> Bowden, Bill. 2006. “GO Zone, slow zone?: \$165 million in Go Zone bonds issued so far.” 21 November *Greater Baton Rouge Business Report*.

<sup>48</sup> IRS. 2006. “Tax Law Changes Related to Hurricane Katrina, Rita, and Wilma.” 12 January. *Internal Revenue Service*.

<sup>49</sup> Although FEMA designated a large “Core Disaster Area” based on their levels of damage, the State of Louisiana has identified 13 of the most highly affected areas to receive 50 percent of the funds on account of their major infrastructure problems. (Interview with high ranking LED official).

<sup>50</sup> Go Zone Business Guide. 2006. “Feature Stories.” *Go Zone Business Guide*

<sup>51</sup> Bowden, Bill. 2006. “GO Zone, slow zone?: \$165 million in Go Zone bonds issued so far.” 21 November *Greater Baton Rouge Business Report*.

<sup>52</sup> Go Zone Business Guide. 2006. “Feature Stories.” *Go Zone Business Guide*

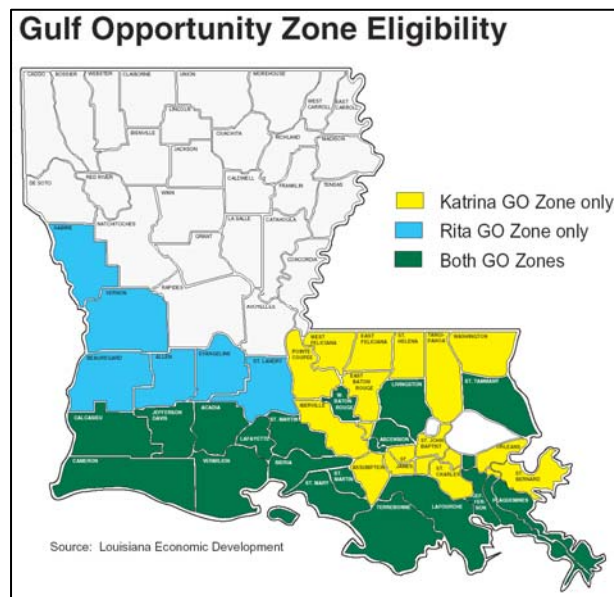
<sup>53</sup> Ibid

<sup>54</sup> Bowden, Bill. 2006. “GO Zone, slow zone?: \$165 million in Go Zone bonds issued so far.” 21 November *Greater Baton Rouge Business Report*.

<sup>55</sup> Ibid

The Go Zone Act was amended with the passage of H.R. 6111 Tax Relief and Health Care Act of 2006 on December 20, 2006.<sup>56</sup> Section 120 of the new legislation extends the additional 50 percent bonus first-year depreciation by two years (until Dec. 31, 2010) and personal property depreciation by three years and three months for certain parishes in southern Louisiana.<sup>57</sup> Some believe that though helpful, the new legislation “falls far short of what is needed to provide the additional incentives to investors for building, rebuilding, rehabilitating, constructing, manufacturing, producing, and operating in the GO Zone”.<sup>58</sup>

**Figure 2: Go Zone Eligibility**



The Go Zone consists of parishes in southern Louisiana that were severely affected by Hurricanes Katrina and Rita. In addition to the three parishes we focused on for our study, Orleans, Jefferson, and St. Bernard, the Hurricane Katrina designated Go Zone parishes include Acadia, Ascension, Assumption, Calcasieu, Cameron, East Baton Rouge, East Feliciana, Iberia, Iberville, Jefferson Davis, Lafayette, Lafourche, Livingston, Plaquemines, Pointe Coupee, St. Charles, St. Helena, St. James, St. John the Baptist, St. Martin, St. Mary, St. Tammany, Tangipahoa, Terrebonne, Vermilion, Washington, West Baton Rouge, and West Feliciana.<sup>59</sup>

<sup>56</sup> Nazum, Robert. 2007. “Congress Fails to Deliver its Christmas to Go Zone Residents, Businesses.” 26 Jan. *Bureau of National Affairs*.

<sup>57</sup> Ibid

<sup>58</sup> Ibid

<sup>59</sup> Go Zone Business Guide. 2006. “What is the Go Zone?” *Go Zone Business Guide*.



## Summary of Recovery Efforts

Traditionally, after a major disaster, citizens and businesses look to all levels of government – local, state and national – to aid in the recovery process. The magnitude and scope of Hurricane Katrina exhausted the resources of all of these jurisdictions, and residents and business owners are seeking help to return to some level of normality and self-sufficiency.

One of the overarching goals for post-Katrina New Orleans is a return to regional viability, or resiliency through individual and community actions assisted by government programs to encourage and facilitate disaster recovery.<sup>60</sup> For New Orleans, that resiliency is multi-faceted, and includes an overall recovery of the city, as well as personal and business recovery.

However, as of May 2007, over a year and a half has passed since Hurricane Katrina, and New Orleans' government, businesses and citizens have yet to achieve pre-storm conditions. As homeowners and business owners navigate the different sources of assistance available to them, such as federal programs, personal insurance, local and NGO programs, many are confused about what resources they will use to repair their homes and businesses and pay for the accumulated expenses. For many citizens, home life and business life are interrelated. Many homeowners in the New Orleans area also operate businesses that serve as their primary means of income, and, for a large number of these residents, at least one or both of these structures were severely damaged or destroyed because of Katrina.

In an effort to streamline the process of rebuilding for residents and quicken the recovery phase, various boards and commissions were formed to address the specific problems that New Orleans faces as it rebuilds. Efforts such as the Bring New Orleans Back Commission (BNOB), created by New Orleans Mayor Ray Nagin shortly after Katrina hit New Orleans,<sup>61</sup> serve to engage stakeholders and communities in the process of planning and rebuilding of the New Orleans area. Commissions such as these are active in the rebuilding process, addressing concerns and policy issues that affect New Orleans. These issues include restructuring and revamping the school system to meet state educational standards, advocacy of the problems with the city's levee system by promoting increased federal funding, accountability within city government through a transparent process, and comprehensive planning to ensure sustainability of new neighborhoods and business space.<sup>62</sup>

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<sup>60</sup> Chang and Shinozuku, "Measuring and Improving the Disaster Resilience of Communities", 2004.

<sup>61</sup> Bring New Orleans Back Commission, 2006.

<sup>62</sup> Ibid

## Literature Review

Although some assert that the recovery for the communities in the path of Katrina pose particular difficulties due to the magnitude of the destruction, knowledge gained from the study of previous disasters can still assist recovery workers today. This literature review examines existing scholarly works to identify the factors that influence the recovery of New Orleans and the relationship of individual businesses and homeowners in this process.

### Community Recovery

Although recovery is the least studied of all the phases of emergency management<sup>63</sup>, there are several areas of academic scholarship that may be useful for framing the recovery issues following natural disasters. One such work is the 1977 foundational study by Haas et al that identified the different phases of recovery<sup>64</sup> and provided several observations about recovery that have been confirmed in other studies: damaged cities generally rebuild on the same site to a level a little safer than before the disaster, preexisting urban trends accelerate following a disaster, comprehensive re-planning of cities is rarely carried out due to time constraints, and recovery rates favor those who can pay for rebuilding on their own. Their study also listed several factors that positively affect the speed of reconstruction including the “availability of large external resources, innovative national leadership, existence of prior plans, community consensus, and wide dissemination of information”.<sup>65</sup> These attributes give a varied outlook for post-Katrina New Orleans. While the area has received an enormous influx of resources from external forces,<sup>66</sup> the preexisting urban trends make it more difficult for the area to recover. According to the Rockefeller Foundation, “for decades leading up to the hurricane, the city’s manufacturing base had atrophied, leaving a weak employment environment, diminished tax revenues, and widespread poverty, along with a legacy of failing education and healthcare.”<sup>67</sup> Over the years, other scholars have added to the work of Haas et al by focusing on the importance of the intergovernmental aspects as well as how the availability of affordable housing and employment impacts the overall recovery of communities.

To begin, the intergovernmental aspects of disaster recovery are extremely important for communities, especially those who suffered catastrophic damages. These intergovernmental aspects include relationships of local communities vertically with state and federal agencies and governing bodies as well as horizontally with neighboring jurisdictions and within the local

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<sup>63</sup> Berke, Philip R., Jack Kartez, and Dennis Wenger. 1993. “Recovery after Disaster: Achieving Sustainable Development, Mitigation, and Equity.” *Disasters* 17 (2): 93-109.

<sup>64</sup> Emergency period, restoration period, replacement period, and commemorative, betterment, and developmental reconstruction period

<sup>65</sup> Olshansky, Robert B. 2005. “How do Communities Recover from Disaster? A Review of Current Knowledge and an Agenda for Future Research.” 27 October. Presented at the 46<sup>th</sup> Annual Conference of the Association of Collegiate Schools of Planning. Kansas City, MO.

<sup>66</sup> CRS, Emergency Supplemental Appropriations for Hurricane Katrina Relief 2006; LRA Quarterly Report, February 2007

<sup>67</sup> Rockefeller Foundation. 2006. “New Orleans: Planning for a Better Future”. September. *The Rockefeller Foundation*. New York, NY.

community.<sup>68</sup> When the needs of communities exceed their capacity, local officials seek assistance from their state and federal governments. The aptitude of local officials to obtain and maintain these relationships is often critical for the efficient recovery of the community,<sup>69</sup> since agencies and personnel at the state and federal levels generally have more experience with disaster response and recovery than the local officials. Some of our interviews with local officials in New Orleans indicate that relations with liaisons from federal recovery program offices have been very strained, especially in regard to the FEMA Public Assistance program. Although some of this frustration is in regard to the expected difficulties of dealing with a large and complicated problem, much of it stemmed from changes in programmatic deadlines and large turnover of personnel.<sup>70</sup>

In addition to these vertical linkages between communities, state and federal entities, communities are also affected by the horizontal integration of their social units and subsystems. Strong horizontal integration in a community allows greater problem-solving capacity through the encouragement of public participation and communication.<sup>71</sup> Aptitude in navigating these relationships can also be helpful for facilitating community recovery. New Orleans has benefited from the efforts of local participation activities. For example, 23,000 Louisiana residents participated in the regional planning activities initiated through the Louisiana Recovery Authority.<sup>72</sup> The data gathered from these efforts will be utilized in the long-term recovery of the area in the coming decades.<sup>73</sup>

As well as effective horizontal and vertical intergovernmental relationships, the overall recovery of any community largely depends on the availability of housing and employment.<sup>74</sup> Unfortunately the problems of housing and employment are interrelated and a failure in one can lead to a loss of the other. In the words of Peacock, Dash and Zhang,<sup>75</sup>

Communities without businesses providing economic opportunities, jobs, goods, and services will in short order lose their populations. Yet, if the population lacks housing would they stay or return in the first place? Without housing, the individuals necessary to populate the economy, fill the jobs, and restart and reopen businesses as well as consume the services and purchase the goods will be absent.

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<sup>68</sup> Berke, Philip R., Jack Kartez, and Dennis Wenger. 1993. "Recovery after Disaster: Achieving Sustainable Development, Mitigation, and Equity." *Disasters* 17 (2): 93-109.

<sup>69</sup> Rubin, Claire and Daniel Barbee. 1985. "Disaster Recovery and Hazard Mitigation: Bridging the Intergovernmental Gap." *Public Administration Review* 45:57-63.

<sup>70</sup> Interview, New Orleans City Council

<sup>71</sup> Olshansky, Robert B. 2005. "How do Communities Recover from Disaster? A Review of Current Knowledge and an Agenda for Future Research." 27 October. Presented at the 46<sup>th</sup> Annual Conference of the Association of Collegiate Schools of Planning. Kansas City, MO.

<sup>72</sup> Fannie May Foundation. 2007. "Louisiana Speaks: A Long-Term Community Planning Initiative of the LRA." Accessed: 28 April 2007 < <http://www.louisianaspeaks.org/>>.

<sup>73</sup> Ibid

<sup>74</sup> Comerio, Mary C. 2005. "Key Elements in a Comprehensive Theory of Disaster Recovery." 1st International Conference on Urban Disaster Reduction, Institute for Social Safety Science and Earthquake Engineering Research Institute (EERI), Kobe, Japan, 2005.

<sup>75</sup> Peacock, Walter, Nicole Dash, and Yang Zhang. 2006. "Sheltering and Housing Recovery Following Disaster". In Havidan Rodriguez, Enrico Quarantelli, and Russell Dynes (eds), *Handbook of Disaster Research*. New York: Springer

This conundrum creates an opportunity for community, non-profit, and governmental intervention on behalf of households or businesses (or both) to try to break the cycle. Each of these components will be addressed in the following sections, with special attention given to federal programs currently in place to attend to these needs.

## Household Recovery

Understanding the household effects of disasters is a critical component of understanding community decisions and recovery.<sup>76</sup> Following a disaster, households are often adversely affected by the loss of homes and jobs, reduced quality of life, and adverse psychosocial impacts.<sup>77,78</sup> Households who suffer substantial damage to their homes may go through many stages of sheltering before regaining a more permanent situation including staying with friends and family, in hotels or temporary shelters, and in temporary housing like Federal Emergency Management Agency (FEMA) trailers.<sup>79</sup> Although many of those affected receive assistance from families, acquaintances and non-governmental organizations (NGOs), the expenses accumulate long before the arrival of federal assistance. While some people affected can absorb the expenses of temporary shelter and the costs associated with rebuilding their homes through personal insurance and savings, others sustain great financial hardships.

One important factor affecting household recovery is sufficient coverage through personal insurance. Insurance is the most common source of private funding for repairing and rebuilding homes.<sup>80</sup> While coverage for some natural disasters like earthquake, fire, or wind can be purchased in a general homeowner's policy, flood insurance is only available through the National Flood Insurance Program. Where insurance is insufficient, public assistance through low-interest Small Business Administration (SBA) loans and FEMA Minimum Housing Assistance can be a safety-net.<sup>81</sup> The importance of flood insurance in the rebuilding process for New Orleans homeowners was revealed in our survey. Our survey, which will be discussed in further detail in the coming sections, reveals that 93 percent of those who were currently rebuilding their homes had private insurance coverage. This coverage provided them with funds regardless of whether or not they were able to take part in federal recovery programs.

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<sup>76</sup> Olshansky, Robert B. 2005. "How do Communities Recover from Disaster? A Review of Current Knowledge and an Agenda for Future Research." 27 October. Presented at the 46<sup>th</sup> Annual Conference of the Association of Collegiate Schools of Planning. Kansas City, MO.

<sup>77</sup> Robert Bolin discusses the prevalence of psychosocial health problems following disasters in a 1985 article for the *Policy Studies Review*. These psychosocial health problems include strained family relationships, separation anxiety, sleep disturbances, and anxiety. These problems are associated with extended exposure to stress, a proportion of which attributed to the amount of time spent in shelters and reestablishing permanent housing (Bolin 1985).

<sup>78</sup> Bolin, Robert. 1985. "Disasters and Long-Term Recovery Policy: A Focus on Housing and Families." *Policy Studies Review* 4 (4): 709-715.

<sup>79</sup> Peacock, Walter, Nicole Dash, and Yang Zhang. 2006. "Sheltering and Housing Recovery Following Disaster". In Havidan Rodriguez, Enrico Quarantelli, and Russell Dynes (eds), *Handbook of Disaster Research*. New York: Springer

<sup>80</sup> Ibid

<sup>81</sup> Ibid

Another important issue when discussing household recovery is the unequal effects of disasters on different subpopulations within a community. While losing a home is unfortunate for all affected, several studies have revealed a large disparity in the impact of disasters based on factors such as race, class, gender, and age.<sup>82</sup> The vulnerability of subpopulations largely results from the lack of access to resources including employment, healthcare, social support, financial credit, legal rights, and education.<sup>83</sup> Marginalized groups tend to incur the least favorable disaster outcomes, sustain higher losses, and pay more to recover.<sup>84,85</sup> Additionally, they face greater obstacles to participating in decision making, articulating their needs, and gaining access to external resources.<sup>86</sup> In order to counter these issues, local officials should pursue modes of community outreach that address these problems including printing assistance materials in multiple languages and providing convenient disaster assistance centers within walking distance of low-income populations when possible.<sup>87</sup>

These differential impacts could have an enormous impact for New Orleans since New Orleans had a large African American community with 68 percent of the inhabitants falling within this category<sup>88</sup> and also had a large percentage of their population below the poverty line at 27.9 percent.<sup>89</sup> Low-income African Americans were hardest hit due to their vulnerability as residents in some of the most exposed areas of the city.<sup>90</sup> Of those who lived in the most damaged areas of New Orleans, 75 percent were African-American and 29 percent were poor.<sup>91</sup> Of those who were evacuated to other cities in Louisiana or other states entirely, many have not returned. According to an article in the Times-Picayune, the pre-Katrina population of New Orleans was 67 percent African American and 28 percent Anglo while the current estimates put the city at 47 percent African American and 43 percent Anglo.<sup>92</sup>

Furthermore, 27 percent of the adult population of New Orleans did not own a vehicle<sup>93</sup> and not only had more difficulty leaving the area during the evacuation stage, but also face more

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<sup>82</sup> Passerini 2000; Peacock, Walter, Nicole Dash, and Yang Zhang. 2006. "Sheltering and Housing Recovery Following Disaster". In Havidan Rodriguez, Enrico Quarantelli, and Russell Dynes (eds), *Handbook of Disaster Research*. New York: Springer

<sup>83</sup> Bolin, Robert and Lois Stanford. 1998. "The Northridge Earthquake: Community-based Approaches to Unmet Recovery Needs." *Disasters* 22 (1): 21-38.

<sup>84</sup> Low-income and minority households are less likely to have insurance and more likely to report receiving insufficient insurance payouts. Additionally, these groups are more likely to fail to qualify for an SBA loan than their higher income or Anglo counterparts (Peacock et al. 2006).

<sup>85</sup> Kamel, Nabil M. O. and Anastasia Loukaitou-Sideris. 2004. "Residential Assistance and Recovery Following the Northridge Earthquake." *Urban Studies* 41 (3): 533-562.

<sup>86</sup> Ibid

<sup>87</sup> Lindell, Michael, Carla Prater, and Ronald Perry. 2007. *Introduction to Emergency Management*. Wiley: Hoboken, N.J.

<sup>88</sup> Kates et al. 2006. "Reconstruction of New Orleans after Hurricane Katrina: A research perspective." 3 October. *Proceedings of the National Academy of Sciences of the United States of America*. 103 (40):14653-14660.

<sup>89</sup> Census. 2000. "State & Country QuickFacts: New Orleans, LA." U.S. Census Bureau. <<http://quickfacts.census.gov/qfd/states/22/2255000.html>>.

<sup>90</sup> Rockefeller Foundation. 2006. "New Orleans: Planning for a Better Future". September. *The Rockefeller Foundation*. New York, NY.

<sup>91</sup> Kates et al. 2006. "Reconstruction of New Orleans after Hurricane Katrina: A research perspective." 3 October. *Proceedings of the National Academy of Sciences of the United States of America*. 103 (40):14653-14660.

<sup>92</sup> Gordon, Meghan. 2006. "N.O. population hits 200,000, new data shows". 29 November. Times-Picayune.

<sup>93</sup> Cutter, Susan and Christopher Emrich. 2006. "Moral Hazard, Social Catastrophe: The

difficulties as they try to recover. Since mass transit was greatly reduced following Katrina<sup>94</sup>, households without a vehicle face more difficulties as they try to take care of many of their day to day activities such as going to work and the grocery store as well as disaster recovery centers.

Additional problems concerning household recovery are those prevalent with rental and multifamily units. In the aftermath of a disaster, renters are more likely to be displaced from their homes and less likely to have insurance than homeowners.<sup>95</sup> They also face an increased price of rental units resulting from decreased supply and greater demand, while qualifying for fewer federal programs than homeowners to help cover the costs.<sup>96</sup> Further complicating matters is the low likelihood of improvement for many months following the disaster due to the increased timeframe for repairing and rebuilding multifamily units.<sup>97</sup> Since 53.5 percent of New Orleans residents rented their homes and only 41.9 percent lived in a one unit, unattached building before Katrina,<sup>98</sup> many residents of this area have encountered these problems and at one year following the disaster, rent prices for the region increased by 39 percent and two-bedroom apartments ran an average of \$940 a month.<sup>99</sup>

In all, while studies have demonstrated that federal programs can greatly assist households to rebuild their lives through housing assistance,<sup>100</sup> several scholars question the equity and effectiveness of federal housing assistance programs. One issue is the FEMA trailer program,<sup>101</sup> which is accused of magnifying the psychosocial effects of the disaster by making households feel “socially isolated, overcrowded and extremely vulnerable” to future natural hazard events.<sup>102</sup> Another scholar argues that the current recovery structure favors those who are most likely to have the resources to recover in the first place. Single-family homeowners are assisted, while renters and marginalized groups have few options.<sup>103</sup> Another finding is that although many homeowners are eligible for federal assistance programs like SBA loans or

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Changing Face of Vulnerability along the Hurricane Coasts.” *The ANNALS of the American Academy of Political and Social Science* 604 (1): 102-112.

<sup>94</sup> Liu, Amy, Mia Mabanta, and Matt Fellowes. 2006. “Katrina Index: Tracking Variables of Post-Katrina Recovery.” 16 November. *The Brookings Institution Metropolitan Policy Program*: Washington, DC.

<sup>95</sup> Peacock, Walter, Nicole Dash, and Yang Zhang. 2006. “Sheltering and Housing Recovery Following Disaster”. In Havidan Rodriguez, Enrico Quarantelli, and Russell Dynes (eds), *Handbook of Disaster Research*. New York: Springer

<sup>96</sup> Ibid

<sup>97</sup> Ibid

<sup>98</sup> Census. 2000. “State & Country QuickFacts: New Orleans, LA.” U.S. Census Bureau. <<http://quickfacts.census.gov/qfd/states/22/2255000.html>>.

<sup>99</sup> Liu, Amy, Matt Fellowes, and Mia Mabanta. 2006. “Special Edition of the Katrina Index: A One-Year Review of Key Indicators of Recovery in Post-Storm New Orleans.” August. *The Brookings Institution, Metropolitan Policy Program*. Washington, DC.

<sup>100</sup> Webb, Gary, Kathleen Tierney, and James Dahlhamer. 2000. “Business and Disasters: Empirical Patterns and Unanswered Questions.” *Natural Hazards Review* 1(2): 83-90.

<sup>101</sup> At its height in July 2006, FEMA provided 73,214 travel trailers and 3,543 mobile homes for families around the state of Louisiana. Brookings Institute and GNODC. 2007. “The Katrina Index: Tracking Recovery of New Orleans and the Metro Area.” 14 March <<http://www.gnocdc.org>> p. 63.

<sup>102</sup> Bolin, Robert. 1985. “Disasters and Long-Term Recovery Policy: A Focus on Housing and Families.” *Policy Studies Review* 4 (4): 709-715.

<sup>103</sup> Peacock, Walter, Nicole Dash, and Yang Zhang. 2006. “Sheltering and Housing Recovery Following Disaster”. In Havidan Rodriguez, Enrico Quarantelli, and Russell Dynes (eds), *Handbook of Disaster Research*. New York: Springer

FEMA Individual Assistance, many will not apply due to low expectations in their capacity to help, confusion about the process, and difficulties making the necessary trips to disaster assistance centers.<sup>104</sup>

## Business Recovery

In addition to households, the recovery of businesses is a major component of the overall recovery of communities. If businesses cannot provide goods and services to a community as a result of disasters that cause disruptions in productivity, then customers will shop elsewhere and may not return once the business becomes productive.<sup>105</sup> There are multiple sources of business disruption resulting from natural disasters including physical damage to businesses and their suppliers, loss of non-structural property such as inventory, and failure of physical infrastructure (electricity, telephone service, water, sewer treatment, and natural gas). Further disruption to businesses occurs on account of the loss of transportation infrastructure resulting in lower customer traffic, difficulty for employees to get to work, and lower frequency of supply shipments for production materials and outputs.<sup>106</sup> These negative impacts can be borne by businesses that were located within the disaster area and by those that did not receive any physical damage, but rely on entities within the disaster areas.<sup>107</sup> In a study of the business impacts of the Northridge Earthquake, businesses reported that they had difficulty recovering because of: employees' inability to get to work; sustained damage to the owner's residence and/or other business property; a greatly reduced customer base; inability to deliver products or services; inability to obtain needed materials or supplies; and inability to pay employees.<sup>108</sup>

Although there are multiple sources of disruption present following a disaster, like homeowners, businesses are not uniformly vulnerable to these disruptions and vary in their rates of recovery and level of disturbance based on several characteristics. A 2002 study by Webb, Tierney, and Dahlhamer demonstrated that the level and rate of economic recovery for businesses were affected by several characteristics of the individual businesses including their economic sector,<sup>109</sup> pre-disaster financial condition, age (older businesses are less likely to have recovered than their younger competitors), scope of their primary market (businesses solely providing goods to local markets are less likely to recover than those who serve regional, national, or international clients), amount of time the businesses were forced to close (the longer they were closed, the less likely they would recover), and amount of operational problems the companies faced (the more problems, the less likely the company would recover). Other

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<sup>104</sup> Dash, Nicole, Walter G. Peacock, and Betty H. Morrow. 1997. "And the Poor Get Poorer: A neglected Black Community." In *Hurricane Andrew: Ethnicity, Gender, and the Sociology of Disasters*. London: Routledge.

<sup>105</sup> Tierney, Kathleen J. 1997. "Business Impacts of the Northridge Earthquake." *Journal of Contingencies and Crisis Management* 5 (2): 87-98.

<sup>106</sup> Ibid

<sup>107</sup> Ibid

<sup>108</sup> Ibid

<sup>109</sup> As the fifth-busiest convention location in the United States and a city known to be a popular tourist destination, New Orleans has been devastated by disturbances to their tourism industry. Before Katrina, conventions and tourism brought \$10 billion into the local economy each year and provided about 126,000 jobs to the area; Rowley, Karen, et al. 2006. "GulfGov Reports: One Year Later; First Look at the Recovery, Role, and Capacity of States and Localities Damaged by the 2005 Katrina and Rita Hurricanes." 22 August. Rockefeller Institute. <[www.rocinst.gov/gulfgov](http://www.rocinst.gov/gulfgov)>.

important predictors include the competitiveness of their business sectors before the disaster (damage and disruption of businesses will make them less competitive in the short-run) and gender of the owner<sup>110</sup> (female-owned businesses have higher failure rates than those owned by their male counterparts).

Although there is much concern for the poor outcomes of more vulnerable businesses, a few studies have shown that there are few long-term affects of disasters on all businesses. A survey conducted by Webb, Tierney, and Dahlhamer of businesses affected by the 1989 Loma Prieta and 1994 Northridge earthquakes, 1992 Hurricane Andrew, and the 1993 Midwest floods reveals that a majority of businesses recover following a disaster.<sup>111 112</sup> It should be noted, though, that while a majority of businesses conveyed favorable accounts of their ability to recover, a significant percentage did not fare as well. One example is found in the aftermath of Hurricane Andrew where 34.2 percent of businesses in affected areas reported being worse off six years following the disaster than before.<sup>113</sup> There is also widespread uncertainty about the long-run effects of disasters that will require further study before consensus can be reached.<sup>114</sup>

While studies show that post-disaster aid to households has a positive effect on helping families rebuild their homes, current research has not been able to obtain the same findings for businesses.<sup>115</sup> While this may be a result of only the most damaged businesses seeking or receiving aid, others argue that the structure of aid through loans instead of grants has a big effect on the likelihood of survival. Since many businesses use their personal savings for repairs due to lack of insurance or sufficient insurance, recovery assistance loans bring further debt that reduces savings.<sup>116</sup>

## Conclusion

The recovery of a community following a disaster is very complex. As a result, there is a lot of uncertainty that remains among scholars of the exact relationships of the variables involved in home and business post-disaster recovery. There is consensus, however that disasters can have very disruptive consequences for individual businesses and households in the short-run and that an effect on one, either the home or the business, can have detrimental consequences for the other. These issues have a profound affect on the overall economic recovery of communities following a disaster including New Orleans, as evident in the following sections of this report.

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<sup>110</sup> As of 1997, 26.6 percent of the businesses in New Orleans had a female owner; Census. 2000. "State & Country QuickFacts: New Orleans, LA." U.S. Census Bureau. <<http://quickfacts.census.gov/qfd/states/22/2255000.html>>.

<sup>111</sup> In their study, Webb et al considered a business "recovered" if it self-identified as being better off or about the same in the years following a disaster as just before.

<sup>112</sup> Webb, Gary, Kathleen Tierney, and James Dahlhamer. 2000. "Business and Disasters: Empirical Patterns and Unanswered Questions." *Natural Hazards Review* 1(2): 83-90.

<sup>113</sup> Ibid

<sup>114</sup> Webb, Gary, Kathleen Tierney, and James Dahlhamer. 2002. "Predicting long-term business recovery from disaster: a comparison of the Loma Prieta earthquake and Hurricane Andrew." *Environmental Hazards* 4: 45-58.; Alesch, Daniel, James Holly, Elliott Mittler, and Robert Nagy. 2001. *Organizations at Risk: What Happens When Small Businesses and Not-for-Profits Encounter Natural Disasters*. Fairfax, VA: Public Entity Risk Institute.

<sup>115</sup> Webb, Gary, Kathleen Tierney, and James Dahlhamer. 2000. "Business and Disasters: Empirical Patterns and Unanswered Questions." *Natural Hazards Review* 1(2): 83-90.

<sup>116</sup> Ibid



## Methodology

Using the statement of the problem and the literature review, the team outlined and worked through a data gathering methodology that included both qualitative and quantitative data gathering techniques. These consisted of using in-depth field visit interviews with stakeholders in the New Orleans, Louisiana area and a survey of home and business owners who were directly affected by Hurricane Katrina.

**Interviews.** The in-depth interview respondents consisted of scholars from the University of New Orleans, Tulane University, Loyola University and the University of Pennsylvania; civil servants from the Louisiana Recovery Authority, Small Business Administration, Road Home, Federal Emergency Management Agency, Governor's Office, Louisiana Homeland Security and Emergency Preparedness, Louisiana Economic Development, and the Louisiana Housing Finance Agency; non-profit and non governmental organizations, including Idea Village, GNO Inc. and Second Wind New Orleans; small business owners; and a legislative aid. This qualitative data outlined federal program successes and failures after Hurricane Katrina as well as programmatic recommendations (see Appendix E: Discussion Guide for Interviews). These respondents also provided information on program procedures and protocols and summaries of through put on various programs. Roughly 28 interviews were conducted during two trips to Baton Rouge and New Orleans, Louisiana in October and December 2006. An additional six phone interviews were administered in December 2006 and January 2007. The interviewees were selected based on research that was conducted prior to the field visits. The team composed a list of individuals based on their experience in the post-Katrina recovery efforts at varying agencies and organizations and contacted each of them via phone and email to arrange the meetings. The team met individuals from different organizations including state, local and federal government, private business and non-governmental organization. In addition, the team met with many individuals who were referred by the initial contacts. The interviews were conducted in teams of two to three, with one person acting as primary lead investigator and a second acting a primary recorder. The interviews were recorded for further review and to ensure the details were correct. The interviews lasted approximately one hour each. The questions were directed towards investigating the person's individual involvement in the recovery, the organization's involvement in the recovery, his or her experience with the federal programs and whether he or she had any recommendations to improve the federal programs with which they had been involved. Respondents were assured anonymity to encourage them to speak without fear of recourse from supervisors.

**Surveys.** Using information garnered from the literature review and in-person and telephone interviews, the team constructed two detailed surveys for home and business owners that asked questions about all of the federal programs being examined (i.e. Road Home, SBA, Go Zone, and FEMA) (See Appendix F: Homeowners Survey and Appendix G: Business Owner Survey). The surveys included a battery of background and demographic information to enable detailed analysis of the respondents' orientations and utilization of the various programs. Specifically, these surveys studied the relationship between New Orleans home and business owners' awareness, participation and level of satisfaction in federal programs after Hurricane Katrina (dependent variables) and their demographic information (zip code, sex, age, ethnicity,

level of education completed, number of dependents), personal ties to New Orleans, financial need, previous experience with federal programs, amount of assistance received, the time it took to receive assistance, if it was enough assistance to rebuild and future participation in federal programs (independent variables). The dependent variables used were specified by the client, the Congressional Research Service while the independent variables were those suggested by the literature in this field and by the in-depth interviews of the program experts. The Public Policy Research Institute (PPRI)<sup>117</sup> at Texas A&M University administered the surveys. Lastly, cooperation rates are used in this study because response rates under estimate the people available. Due to the large number of displaced home and business owners, the response rates would have been skewed due to high number of people that would have not answered the land lines.

**Sampling.**<sup>118</sup> Table 8, located on page 28, outlines all Home and Business owner survey sampling information including the dates the surveys were conducted, sample criteria and size, and sample methodology.

The business survey sample was divided into two groups. One group had 10 employees or less (small businesses) and the other group had more than 10 employees (large businesses). This is a fixed sized sample and not a true sample of New Orleans businesses. Most businesses in New Orleans are small yet large businesses have a greater impact in the recovery process due to their high dollar value. Conducting a simple random selection of businesses would have resulted in over sampling small businesses with little payroll and few employees. To avoid this over sampling, the researchers decided to attempt to equally sample the large and small businesses as to study those businesses most likely to affect the recovery. Approximately 150 businesses were to be interviewed in each group. The actual number of business surveys completed was 120 (with 10 employees or less) and 181 (with more than 10 employees).

**Challenges.** The research team encountered several obstacles such as federal privacy laws, time and resource limitations, and the rise of cell phone use while attempting to locate home and business owners. Due to these difficulties, the home and business owner populations reflected in this study only include people currently living and working in New Orleans. The population is not representative of the pre-Katrina population or of all those who may still be living outside the city.

The existence of federal privacy laws was the first obstacle. Each federal agency keeps records of all program recipients and the federal privacy laws are designed to protect program their confidentiality by not disseminating personal contact information. Due to these laws, researchers were unable to gain access to displaced home and business owners' phone numbers. These laws in combination with the second challenge, limited time and resources, would have made locating displaced home and business owners an arduous and expensive process. The total time to survey and analyze data was roughly 10 weeks. The surveys were conducted between January and March 2007 and the data interpreted in March and April 2007. Thus, there was not sufficient

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<sup>117</sup> PPRI website <http://ppri.tamu.edu>.

<sup>118</sup> Information in Chart A was provided by PPRI in two reports: (1) Hurricane Katrina Homeowners Survey Methodology Report and (2) Hurricane Katrina Business Owners Survey Methodology Report.

time for the researcher to track down displaced home and business owners, conduct surveys and analyze the data.

The third obstacle was the rise of cell phone use and decreased use of land lines. A professional research firm, Public Policy Research Institute, was hired to gather phone numbers and conduct the surveys. (See Appendix H: Homeowner Survey Methodology (PPRI) and Appendix I: Business Owner Survey Methodology (PPRI)). The surveys were conducted via landlines. For the homeowner survey, land line numbers were gathered through random digit dialing from a list of numbers provided by Survey Sampling International. The land line phone numbers for the Business Owners survey was provided by Dunn and Bradstreet. Due to lack of access to cellular phone banks and the fact that displaced people did not have access to landlines in New Orleans; researchers were unable to reach displaced people via land lines. Due to these three limitations, researchers decided a sample of home and business owners currently residing in New Orleans would sufficiently represent those participating in the recovery and rebuilding process (even though the sample was not a true pre-Katrina representation).

**Table 8: Survey Sampling Methodology**

Type of survey	Homeowner Survey	Business Owner Survey
Date of Survey	Started on January 26, 2007 and completed on February 25, 2007	Started on February 1, 2007 and completed on March 7, 2007
Sample	<p>NOLA homeowners who owned a house (or were paying off a home loan) that sustained damage as a result Hurricane Katrina.<sup>119</sup></p> <ul style="list-style-type: none"> <li>• 347 completed surveys.</li> <li>• 26.2 percent Cooperation rate.<sup>120</sup></li> </ul>	<p>NOLA business owners with businesses that suffered structural damage as a result of Hurricane Katrina.<sup>121</sup></p> <ul style="list-style-type: none"> <li>• 301 completed surveys</li> <li>• 36.6 percent Cooperation rate.<sup>122</sup></li> </ul>
Sampling Methodology	<ul style="list-style-type: none"> <li>• Random digit sample of all telephone households in Jefferson, Orleans, and St. Bernard parishes.</li> <li>• A random sample was selected from among all numbers in the operating bank of phone numbers, whether listed or not.</li> <li>• The sample was provided by Survey Sampling International.</li> </ul>	<ul style="list-style-type: none"> <li>• Random sample of businesses operating in Jefferson, Orleans, and St. Bernard parishes.</li> <li>• The sample was into two groups based on the number of employees at the location of the business. (One group had less than 10 employees and the other 10 or more. Approximately 150 were to be interviewed in each group.)</li> <li>• The sample for the Business Owners survey was provided by Survey Sampling International and was from list of all businesses reported by Dunn and Bradstreet.</li> </ul>

Source: Compiled by report authors to identify the methodology of the home and business owner surveys, including: (a) type of survey, (b) dates survey conducted, (c) sample criteria, (d) sample methodology, and (e) sample size.

<sup>119</sup> This study includes the following participants: (a) people with a land line, (b) people home between 8:00a.m. and 9:30p.m. during the week, Saturday from 10:00a.m. to 6:00p.m., and 1:00p.m. to 9:30p.m. on Sunday, (c) people residing in their homes 17 months after Katrina. This study does not include renters, people without landlines and those not available during business hours.

<sup>120</sup> Cooperation rate formula per American Association for Public Opinion Research methodology (Complete Interviews + Partial Interviews)/(( Complete Interviews + Partial Interviews)+ Refusal and break off)).

<sup>121</sup> This study includes the following participants: (a) people with a land line, (b) people home between 8:00a.m. and 9:30p.m. during the week, Saturday from 10:00a.m. to 6:00p.m., and 1:00p.m. to 9:30p.m. on Sunday, (c) people residing in their homes 17 months after Katrina. This study does not include renters, people without landlines and those not available during business hours.

<sup>122</sup> Cooperation rate formula per American Association for Public Opinion Research methodology (Complete Interviews + Partial Interviews)/(( Complete Interviews + Partial Interviews)+ Refusal and break off)).

## Analysis of the Qualitative Data

The barriers to economic recovery in New Orleans are significant and many remain unresolved.<sup>123</sup> In depth interviews in the area revealed that some programs aimed at New Orleans economic recovery are slow, inconsistent and helping few residents.<sup>124</sup> There are few successes in the federal government-led efforts to rebuild the city. Our research examined the following federal government programs: the Small Business Administration (SBA), the Federal Emergency Management Agency, The Road Home Program funded through Community Development Block Grants, the Stafford Act and the Gulf Opportunity Zone Act (Go Zone). A detailed description of these programs is available in the Recovery Legislation section of this report.

A primary source of frustration for Louisianans was the arduous and inconsistent application process of federal programs. Applying for relief assistance required copious paperwork, interactions with many different agencies, and a timeline that was too long for many Louisiana families. Applicants, many of whom lost their homes and livelihoods in Hurricane Katrina, filed lengthy applications that were sometimes lost and rarely produced substantive relief. Applying for relief became a barrier to relief itself.<sup>125</sup>

Another problem was lack of consistent agency staffing. Applicants were not assigned to a specific case worker, and they repetitively explained their situation to somebody different every time they called for help. This was frustrating and time consuming for residents. Furthermore, some agency personnel were on temporary rotations to the Gulf Coast. This was problematic for residents because it usually took several months for staff to become knowledgeable about programs and procedures. Once the staff fully understood the programs, their rotations expired and were replaced by inexperienced personnel.<sup>126</sup>

Another barrier to relief was a lack of information to residents. Many were confused about which programs to utilize and what each program could deliver. Many in New Orleans expressed the need for a one-stop shop, streamlined application process and faster benefit delivery. Residents expressed the need for a centralized relief process.<sup>127</sup> In January 2007, FEMA set up a centralized relief center which included representatives from FEMA, the SBA, City of New Orleans, Louisiana Department of Social Services, and other local and nonprofit organizations.<sup>128</sup>

Furthermore, qualitative research indicates a lack of interagency cooperation among the primary federal relief agencies. For example, there was no centralized computer system allowing federal agencies to track applications or share information.<sup>129</sup> This became a problem when

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<sup>123</sup> Analyst conclusion

<sup>124</sup> LRA 2007. *The Road Home Week 38 Situation and Pipeline Report*. 27 March. The Road Home: Baton Rouge, LA.

<sup>125</sup> Interview, Louisiana Housing Finance Agency

<sup>126</sup> Interview, Office of the Federal Coordinator for Gulf Coast Rebuilding

<sup>127</sup> Interview, Local Business Owner

<sup>128</sup> Interview, Office of the Federal Coordinator for Gulf Coast Rebuilding

<sup>129</sup> Interview, Louisiana Recovery Foundation

residents applied for more than one relief program. Since eligibility for one program depended on aid received from another, applicants waited while agencies determined aid awards.<sup>130</sup>

The following bullets highlight the challenges of the primary federal relief programs in the path to economic recovery. They are based on qualitative data, including meetings with New Orleans' leaders in government and business.

## Road Home

- Awards are based on pre-Katrina home values. Post-Katrina cost of living increases in labor and materials render these values a bad indicator of cost to rebuild.<sup>131</sup>
- Very few residents have received money. As of 03/22/07, there were 118,274 applicants and 3,524 awards distributed.<sup>132</sup>
- Even individuals without flood insurance are eligible to receive an award.
- Accepting Road Home money reduces an individual's eligibility for SBA loans/grants.
- Agency databases are outdated, slowing down the process for application review.

## Federal Emergency Management Agency

- Much of FEMA's work in New Orleans was completed by out of town contractors with no oversight.<sup>133</sup>
- FEMA personnel have short rotations to the area. There is a lack of consistency in staffing.<sup>134</sup>

## Stafford Act

- Stafford Act funds can only pay for planning up to pre-storm levels. This is problematic if local leaders want to build structures differently than pre-storm.<sup>135</sup>
- Stafford Act funds cannot be used for normal city operations. City leaders would like to use this money on more police and city planners, but the Stafford Act prohibits such use.
- Administrators see a lot of ambiguity in the Act.
- At the time of Katrina, the Stafford Act had rigid restrictions against paying for permanent or semi-permanent housing. While this was lessened with the enactment of the Post Katrina Emergency Management Reform Act of 2006, the federal government spent over \$100,000 for each trailer home used for temporary housing. These funds could have been put toward more permanent, storm-resistant structures.
- The Stafford Act requires a 10 percent local government match. This requirement was waived for New York City after their 2001 terrorist attacks.<sup>136</sup>

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<sup>130</sup> Interview, Local business owner

<sup>131</sup> Interview, Louisiana Recovery Foundation

<sup>132</sup> LRA 2007. *The Road Home Week 38 Situation and Pipeline Report*. 27 March. The Road Home: Baton Rouge, LA.

<sup>133</sup> Interview, FEMA contractor

<sup>134</sup> Interview, Office of Senator Vitter

<sup>135</sup> Interview, Louisiana Housing Finance Agency

<sup>136</sup> Interview, New Orleans City Council

## Small Business Administration

- The application process is lengthy and arduous. Those approved for SBA loans report a piece meal delivery system.<sup>137</sup> They are given small increments of money and must justify the need for more. Additionally, the time from application to approval to relief is unfeasible for business operations.<sup>138</sup>
- The SBA was overwhelmed by the number of applications.<sup>139</sup>
- The agency experienced high turnover of staff.<sup>140</sup>
- In some cases, physical inspections are needed to disperse loan monies. An inadequate number of parish personnel to inspect damaged properties and high quantity of homes created a back log and long waiting period for applicants.<sup>141</sup>
- Applicants must repay loans based on the amount they qualified for, not the amount they actually borrowed. As such, payments are disproportionate to the debt.<sup>142</sup>

## Go Zone Legislation

- Initial Go Zone deadlines were unfeasible, only giving tax credits to buildings constructed by December 31, 2007. The city lacked planning personnel to approve construction permits. These deadlines were recently extended to 2010<sup>143</sup>.
- New Orleans is a city of small businesses. Aid packages to large developers do not benefit small business owners.<sup>144</sup>

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<sup>137</sup> Interview, Louisiana Housing Finance Agency

<sup>138</sup> Interview, Idea Village

<sup>139</sup> Interview, Office of the Federal Coordinator for Gulf Coast Rebuilding

<sup>140</sup> Interview, Office of the Federal Coordinator for Gulf Coast Rebuilding

<sup>141</sup> Interview, FEMA contractor

<sup>142</sup> Interview, Local business owner

<sup>143</sup> Interview, New Orleans City Council

<sup>144</sup> Interview, Office of the Federal Coordinator for Gulf Coast Rebuilding

## Homeowner Data Analysis

This section contains (1) an overview of the homeowners surveyed and (2) an analysis of awareness, participation and satisfaction of each of the homeowner programs – Road Home, FEMA Individual Assistance and Other Needs, and SBA House and Personal Property Loan – and a comparative analysis across the programs.

**Respondents.** The general demographics of the 346 homeowner survey respondents<sup>145</sup> that completed the survey are as follows:<sup>146</sup> 67 percent female and 33 percent male;<sup>147</sup> mean age of 53 years with a minimum of 22 and a maximum of 89; 68 percent White, non-Latino and 26 percent Black, African-American; and 72 percent with at least some college education. Importantly, 32 percent of the respondents reported an employment change, and 50 percent of respondents reported a change in income as a result of Hurricane Katrina.<sup>148</sup>

Many of the respondents reported having strong ties to the region. For example, 280 respondents (81 percent) had family in New Orleans at the time of Hurricane Katrina, and 96 respondents had more than 20 family members living in New Orleans at the time of Hurricane Katrina. A large majority (84 percent) had lived in New Orleans for more than 20 years at the time of Hurricane Katrina, and nearly 40 percent had lived in the same home for more than 20 years before Hurricane Katrina.

With regard to the home, 93 percent had private homeowner insurance and 79 percent had federal flood insurance prior to Hurricane Katrina. Nearly all (94 percent) of the respondents still own the same home they owned at the time of Hurricane Katrina, with 84 percent still living in that home. With regard to inspection and rebuilding, 80 percent of respondents reported their home had not yet been inspected by the City of New Orleans at the time of the survey; 68 percent reported using insurance payments as the main source to restore their home; and 16 percent of respondents used personal finances as the main source of funds to restore their home.

**Awareness.** Studying awareness of the federal programs will highlight which, if any sub-populations, were most likely to know about the programs and which were least likely to know about the programs—possibly indicating a gap in information dissemination. Awareness also shows which forms of information dissemination are the most effective. Our 346 homeowner respondents were aware of the three assistance programs at extremely high rates. Nearly all of the respondents (319) reported being aware of the Road Home Program; a majority of respondents (214) were aware of one or both of the FEMA Individual Assistance or Other

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<sup>145</sup> Cooperation rate formula per American Association for Public Opinion Research methodology (Complete Interviews + Partial Interviews)/(( Complete Interviews + Partial Interviews)+ Refusal and break off)).

<sup>146</sup> See Appendix H: Homeowner Survey Methodology (PPRI)

<sup>147</sup> The 2000 pre-Hurricane Katrina statistic cited by the United States Census Bureau found that 53% of New Orleans residents were female and 47% were male (population 484,674) (United States Census Bureau 2000).

<sup>148</sup> Fisher's Exact tests examine the mutual dependence of variables in cross tabulations. The p-value of the test is generated by summing the probabilities of all possible tables sharing the original table's marginal totals. The probability of a particular table is obtained through the Hypergeometric distribution. Columns containing zero count cells were removed for the calculation.



Needs Assistance programs; most respondents (291) were aware of the SBA House and Personal Property Loans. But from where do these homeowners get their information?

In the case of a disaster like Hurricane Katrina, it is important for these aid and relief programs to get the word out about the type of assistance available to those in need. Important avenues for distributing this information include media sources; word of mouth through family, friends, and neighbors; community leaders; and government agencies to name a few. Of those homeowners who reported being aware, media was the number one source of information about each program (See Table 9). For the Road Home program, 90 percent of those who were aware learned about the program through a media source, followed by 8 percent who learned about the program from family, friends or neighbors. Of those who were aware of the FEMA programs, 71 percent learned about the programs from a media source, followed by word-of-mouth from family, friends, and neighbors at 15 percent. SBA was no exception with 58 percent of those who were aware learning about the program through a media source. Additionally, SBA had the highest percentage of homeowners who learned about their program through a government agency - 23 percent learned from a government agency, and 16 percent learned from family, friends, or neighbors. More people may have learned of SBA Loans from a government agency as a result of SBA not utilizing media sources as much as the other programs.

**Table 9: Sources of Program Awareness**

	Road Home	FEMA	SBA
Media	90 %	70%	58%
Friends, Family, Neighbor	8 %	15%	16%
Government Agency	1 %	11%	23%

In the literature we find that marginalized groups tend to be affected by disasters more adversely than others. With this in mind, we set a model to find if there were differences in awareness among different ethnic groups.<sup>149</sup> Fisher's exact tests were performed to reveal that statistical differences exist in the awareness levels of ethnic groups for the Road Home program and the SBA program.<sup>150</sup> White respondents were slightly more likely to be aware of both programs than black respondents (See Table 10). Ethnicity was also a strong indicator of learning about the programs through word-of-mouth. Forty-three percent of Latinos learned about Road Home through word-of-mouth whereas only 13 percent of black respondents and 6 percent of white respondents learned about this particular program from word-of-mouth.

<sup>149</sup> Passerini, Eve. 2000. "Disasters as Agents of Social Change in Recovery and Reconstruction." *Natural Hazards Review* 1 (2): 67-72; Peacock, Walter, Nicole Dash, and Yang Zhang. 2006. "Sheltering and Housing Recovery Following Disaster." In Havidan Rodriguez, Enrico Quarantelli, and Russell Dynes (eds), *Handbook of Disaster Research*. New York: Springer.

<sup>150</sup> Fisher's Exact tests examine the significance of variables in cross tabulations. The p-value of the test is generated by summing the probabilities of all possible tables sharing the original table's marginal totals. The probability of a particular table is obtained through the Hypergeometric distribution. Columns containing zero count cells were removed for the calculation.

**Table 10: Program Awareness by Ethnicity**

	White	Latino	Black	Asian	Other	Total
Road Home	216 94%	7 88%	78 90%	4 80%	8 80%	313 92%
SBA	199 87%	7 88%	65 75%	5 100%	10 100%	286 84%

Learning who was aware of the programs is also useful for explaining which respondents were most likely to apply and ultimately to receive assistance. The importance of awareness as a first step towards assistance can be stratified into awareness of subpopulations based on race, education, gender, and age – the vulnerability of these subpopulations has been cited in the literature review section as an obstacle for recovering from disasters. Logistic regression analysis was used to determine whether marginalized groups suffer in disaster situations because of a lack of awareness of potential resources (Table 11).<sup>151</sup> Each column represents a separate regression for the awareness of one of the assistance programs. Our model is valid with a statistically significant test of model fit for awareness of the Road Home program and the SBA program. This model does not fit the data well for awareness of the FEMA programs.

**Table 11: Logistic Model of Awareness**

	<i>Awareness of Road Home</i>	<i>Awareness of FEMA</i>	<i>Awareness of SBA</i>
<b>Demographic Characteristics</b>			
<i>Education</i>	0.347 (0.161)**	0.027 (0.071)	0.215 (0.106)**
<i>Age</i>	-1.082 (0.413)***	-0.056 (0.195)	-1.016 (0.286)***
<i>White</i>	1.499 (0.759)**	0.803 (0.466)*	-0.954 (1.074)
<i>Black</i>	1.738 (0.883)**	0.422 (0.505)	-1.183 (1.103)
<i>Male</i>	1.445 (0.673)**	0.154 (0.256)	0.210 (0.374)
<b>Available Funding</b>			
<i>Private Insurance</i>	2.083 (0.752)***	-0.021 (0.524)	0.395 (0.395)
<i>Flood Insurance</i>	0.306 (-0.602)	-0.149 (0.332)	1.102 (0.391)***
Constant	0.087 (-1.185)	0.000 (0.768)	2.936 (1.302)
Model Fit	N = 328 LR chi2(6) = 36.28*** Pseudo R2 = 0.2052	N = 317 LR chi2(6) = 5.24 Pseudo R2 = 0.0126	N = 326 LR chi2(6) = 43.93*** Pseudo R2 = 0.1553
Note: Cell entries are unstandardized coefficients with standard errors in parentheses. *p<.1 **p<.05 ***p<.01			

<sup>151</sup> Binary Logistic Regression is used in this case because the dependent variable (*awareness*) is a binary 0,1 variable. It is 1 (successful) with probability p, and 0 (a failure) with probability 1 – p. A linear combination of the independent variables are equal to  $\log(p/(1-p))$ , the logit or log of the odds ratio. Using this relationship inference on the response variable can be performed.

Because the literature tells us that marginalized groups tend to be most affected by disasters,<sup>152</sup> we can use awareness indicators to help us find which of these groups should be targeted in the future for information dissemination of federal programs. While we would expect awareness to increase with education, the less educated population is of great concern following a natural disaster – for, as found in the literature, they are most likely to be negatively affected. The positive and significant coefficient on African–American respondents is encouraging, however, since it is minority groups that also tend to suffer.<sup>153</sup> Our age coefficient is also significant but negative; younger people might be more aware of these programs because they are more likely to use media outlets as a way to gather information. In addition, we also found that male respondents tend to be more aware of the Road Home program than females, and those respondents with private home insurance were more likely to be aware of the Road Home Program while those with flood insurance were more likely to be aware of the SBA program than those without.

In order to determine which respondents were aware of more than one program, the number of respondents aware of each program was summed to produce total awareness. Table 12 illustrates the number of respondents aware of 0 programs, the number aware of just one program, the number aware of two programs, and the number aware of all three programs. The table shows that over 50 percent of respondents were aware of all three programs.

**Table 12: Awareness of Multiple Programs**

	Frequency	Percent	Cumulative
Aware of 0 Programs	5	1.49%	1.49%
Aware of 1 Program	29	8.63%	10.12%
Aware of 2 Programs	127	37.80%	47.92%
Aware of 3 Programs	175	52.08%	100%

Similar to awareness in individual programs, a multivariate regression shows that increasing awareness of multiple programs decreases with age and increases with education; white respondents are aware of a higher number of programs; those with homeowners insurance are aware of a higher number of programs. In addition, many indicators are found not to be useful in determining increasing awareness of programs. For example, we included some variables – change in income following Katrina, length of residence in New Orleans and in a particular home pre-Katrina, flood insurance, and previous participation in federal program – to try and find if information dissemination efforts were targeting certain groups; however, we found these variables to not be statistically significant in increasing awareness of multiple programs.

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<sup>152</sup>Passerini, Eve. 2000. “Disasters as Agents of Social Change in Recovery and Reconstruction.” *Natural Hazards Review* 1 (2): 67-72; Peacock, Walter, Nicole Dash, and Yang Zhang. 2006. “Sheltering and Housing Recovery Following Disaster.” In Havidan Rodriguez, Enrico Quarantelli, and Russell Dynes (eds), *Handbook of Disaster Research*. New York: Springer.

<sup>153</sup> Ibid

**Table 13: OLS Model of Multiple Program Awareness**

	<i>Number of Programs</i>
<b>Demographic Characteristics</b>	
<i>Age</i>	-0.182 (0.069)***
<i>Education</i>	0.054 (0.024)**
<i>White</i>	0.213 (0.084)**
<i>Change In Income</i>	-0.001 (0.060)
<i>Length of Residency NOLA</i>	0.023 (0.046)
<i>Years in Home</i>	-0.008 (0.028)
<b>Available Funding</b>	
<i>Home Insurance</i>	0.284 (0.167)*
<i>Flood Insurance</i>	0.139 (0.108)
<b>Federal Programs</b>	
<i>Previous Participnt</i>	-0.102 (0.149)
<i>Constant</i>	1.994 (0.287)***
Model Fit	N = 311 F( 9, 301) = 4.32*** Adj. R2 = 0.0880
Note: Cell entries are unstandardized coefficients with standard errors in parentheses. *p<.1 **p<.05 ***p<.01	

**Participation.** Many eligible homeowners do not apply to the programs due to low expectations in their capacity to help, confusion about the process, and difficulties making the necessary trips to disaster assistance centers.<sup>154</sup> In studying which respondents participated in the programs, we can determine which, if any, groups encountered these difficulties in the federal programs. Of the 319 respondents who were aware of the Road Home program, 36 percent (115 respondents) applied. A majority of respondents (63 percent) who reported being aware of the FEMA programs applied. Of those who were aware of the program, 35 percent (102 respondents) applied for the SBA loan.

Table 14 explains who applied with a logistic model of application for each of the programs; each column represents a separate regression for application to one of the programs.<sup>155</sup> The following indicators were used to determine which respondents applied: gender, age, education, ethnicity, change in income, length of residence in New Orleans pre-Katrina, personal finances, status of private insurance and/or flood insurance, and home value. As mentioned earlier, the participation of different groups based on ethnicity and socioeconomic status as well as the distribution of funds to these groups is important to investigate due to the differential impacts of disasters on certain subpopulations. For this reason we have included these

<sup>154</sup> Dash, Nicole, Walter G. Peacock, and Betty H. Morrow. 1997. "And the Poor Get Poorer: A neglected Black Community." In *Hurricane Andrew: Ethnicity, Gender, and the Sociology of Disasters*. London: Routledge.

<sup>155</sup> Binary Logistic Regression is used in this case because the dependent variable (*application*) is a binary 0,1 variable.

demographic variables as predictors in our model of participation. As found in the literature, since the marginalized groups tend to incur the least favorable disaster outcomes, sustain higher losses, and pay more to recover, these groups thus have the most to gain from participation in federal recovery programs.<sup>156</sup> We also inquired about the length of residency – an indicator of economic and home recovery. We found that 40 percent had lived in their home for more than 20 years. Pre-Katrina home values were also included in our model of application because people with different home values may have different needs in terms of aid.

**Table 14: Logistic Model of Application to Assistance Programs**

	<i>Application to Road Home</i>	<i>Application to FEMA</i>	<i>Application to SBA</i>
<b>Demographic Characteristics</b>			
<i>Age</i>	0.736 (0.177)*	0.531 (0.177)*	0.666 (0.190)
<i>Education</i>	0.923 (0.127)	1.103 (0.127)	1.064 (0.098)
<i>Black</i>	4.929 (0.753)	1.444 (0.753)	5.100 (2.062)***
<i>Length of Residency</i>	1.124 (0.177)	0.841 (0.177)	1.005 (0.168)
<i>Years in Home</i>	1.108 (0.131)	0.933 (0.131)	0.929 (0.110)
<b>Funds Used to Restore Home</b>			
<i>Flood Insurance</i>	1.100 (0.938)	1.891 (0.938)	0.846 (0.368)
<i>Personal Finance</i>	0.481 (0.184)*	0.253 (0.184)*	0.250 (0.146)**
<i>Private Insurance</i>	0.326 (0.137)**	0.217 (0.137)**	0.307 (0.136)***
<b>Value of Home Prior to Katrina</b>			
<i>\$100,001 to 200,000</i>	0.531 (0.254)	0.408 (0.254)	2.006 (0.980)
<i>\$200,001 to 300,000</i>	0.816 (0.174)*	0.236 (0.174)*	2.468 (1.403)
<i>\$300,001 to 400,000</i>	0.839 (0.104)**	0.128 (0.104)**	0.466 (0.367)
<i>More than \$400,000</i>	0.449 (0.053)***	0.045 (0.053)***	3.295 (2.372)*
<b>Model Fit</b>	N = 247	N = 162	N = 234
	LR chi2(11) = 46.11***	LR chi2(11) = 30.10***	LR chi2(11) = 46.44***
	Pseudo R2 = 0.1428	Pseudo R2 = 0.1390	Pseudo R2 = 0.1514
<b>Note:</b> Cell entries are unstandardized coefficients with standard errors in parentheses. *p<.1 **p<.05 ***p<.01			

These models have an excellent fit and explain a large portion of the variance. Older respondents were more likely to apply to Road Home and to FEMA. Interestingly, we found that younger people are more aware but older people are more likely to apply for federal programs. One reason for this may be that as people age they buy homes and start businesses. Young participants would not have a need to apply for programs designed for home and business owners if they were renters or employees. Black respondents were more likely to apply to SBA. Those who used personal finance and private insurance to pay for damages to their homes were more likely to apply to each of the three programs. Individuals who had homes valued in the \$200,001-\$400,000 range were more likely to apply to Road Home and FEMA programs than the omitted variable—homes valued in the \$0-\$100,000 range. Those with homes valued

<sup>156</sup> Passerini, Eve. 2000. “Disasters as Agents of Social Change in Recovery and Reconstruction.” *Natural Hazards Review* 1 (2): 67-72; Peacock, Walter, Nicole Dash, and Yang Zhang. 2006. “Sheltering and Housing Recovery Following Disaster.” In Havidan Rodriguez, Enrico Quarantelli, and Russell Dynes (eds), *Handbook of Disaster Research*. New York: Springer.

\$300,001-\$400,000 are most likely to apply to Road Home; those with homes valued \$200,001-\$300,000 are most likely to apply to FEMA; those with homes valued over \$400,000 are most likely to apply to SBA.

Table 15 shows the frequency and percent of respondents who did not apply to any programs, applied to only one program, applied to two programs, and applied to all three programs. In addition, we have used the foundation of our previous model of application to determine which respondents were most likely to apply to multiple programs (Table 16).

**Table 15: Applying to Multiple Programs**

	Frequency	Percent	Cumulative
Applied to 0 Programs	45	25.71%	25.71%
Applied to 1 Program	55	31.43%	57.14%
Applied to 2 Programs	32	18.29%	75.43%
Applied to 3 Programs	43	24.57%	100%

**Table 16: OLS Model of Participation in Multiple Programs**

	<i># Programs Applied to</i>
<b>Demographic Characteristics</b>	
<i>Age</i>	-0.318 (0.168)*
<i>Education</i>	0.066 (0.055)
<i>Black</i>	0.623 (0.238)**
<i>Length of Residency</i>	0.031 (0.102)
<i>Years in Home</i>	-0.053 (0.070)
<b>Funds Used to Restore Home</b>	
<i>Flood Insurance</i>	0.051 (0.247)
<i>Personal Finance</i>	-0.560 (0.335)*
<i>Private Insurance</i>	-0.823 (0.264)***
<b>Value of Home Prior to Katrina</b>	
<i>\$100,001 to 200,000</i>	-0.067 (0.283)
<i>\$200,001 to 300,000</i>	-0.184 (0.339)
<i>\$300,001 to 400,000</i>	-0.432 (0.395)
<i>More than \$400,000</i>	-0.613 (0.511)
<i>Constant</i>	2.402 (0.691)***
Model Fit	N = 140 F( 12, 127) = 18.63*** Adj. R2 = 0.1505
Note: Cell entries are unstandardized coefficients with standard errors in parentheses. *p<.1 **p<.05 ***p<.01	

Younger homeowners apply to a greater number of programs and black homeowners apply to more programs. Those who used personal finances and private insurance to pay for

their damages applied to a smaller number of programs. This is interesting because Table 14 illustrates that those who used private insurance and personal finance to pay for their damages were more likely to apply to each of the programs individually. It is likely that those individuals isolated a single program that best fit their needs and only applied to one program. Additionally age was also an interesting variable. Older respondents isolated a program of interest while younger respondents were more likely to apply for multiple programs. This may be contributed to opportunity cost of their time or older respondents maybe had more resources than younger respondents.

At the time of the survey, 45 of the 115 respondents who applied to the Road Home program had been approved, and 96 respondents did not know their approval status. Of those that were approved, 93 percent had not yet received their assistance at the time of the survey. Of those who applied, 107 respondents were approved for at least one of the FEMA programs, with all but four having received their assistance at the time of the survey. At the time of the survey, 58 respondents had been approved for a SBA loan, 7 respondents had not yet been approved, and the remainder did not know or did not answer. Forty-two respondents had received their assistance at the time of the survey.

Again, based on the literature, race and ethnicity could be important indicators of which groups were most likely to benefit from the federal programs.<sup>157</sup> Based on Fisher's Exact tests, we find significant differences in the distribution of race by those who applied for the Road Home program and for those who applied to and those who were approved for the SBA program. There was not a significant difference in application to or approval for the FEMA programs by race. Latino respondents were much more likely to apply to the Road Home program than other ethnic groups whereas they were least likely to apply for a SBA loan. Whites were most likely to apply and be approved to the SBA program. Table 17 illustrates these findings.

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<sup>157</sup> Passerini, Eve. 2000. "Disasters as Agents of Social Change in Recovery and Reconstruction." *Natural Hazards Review* 1 (2): 67-72; Peacock, Walter, Nicole Dash, and Yang Zhang. 2006. "Sheltering and Housing Recovery Following Disaster." In Havidan Rodriguez, Enrico Quarantelli, and Russell Dynes (eds), *Handbook of Disaster Research*. New York: Springer.

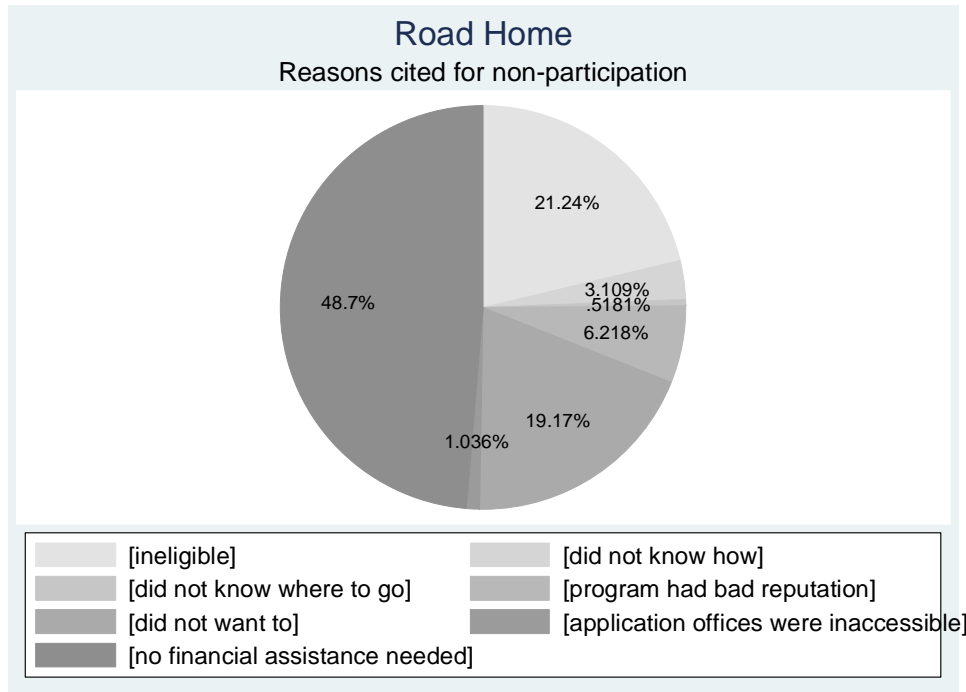
**Table 17: Application and Approval by Ethnicity**

		White	Latino	Black	Asian	Other	Total
<b>Road Home Application</b>	Applied	57	1	49	1	3	111
	(row %)	51%	90%	44%	1%	3%	100%
	(column %)	26%	14%	64%	25%	38%	36%
	No	159	6	28	3	5	201
		79%	3%	14%	1%	2%	100%
		74%	86%	36%	75%	63%	64%
<b>SBA Application</b>	Applied	53	1	41	1	5	101
	(row %)	52%	1%	41%	1%	5%	100%
	(column %)	27%	14%	64%	20%	50%	35%
	No	146	6	23	4	5	184
		79%	3%	13%	2%	3%	100%
		73%	86%	36%	80%	50%	65%
<b>SBA Acceptance</b>	Approved	41	0	14	0	2	57
	(row %)	72%	0%	25%	0%	4%	100%
	(column %)	77%	0%	34%	0%	40%	56%
	No	12	1	22	1	3	39
		31%	3%	56%	3%	8%	100%
		23%	100%	54%	100%	60%	39%
	Not Yet	0	0	5	0	0	5
		0%	0%	100%	0%	0%	100%
		0%	0%	12%	0%	0%	5%

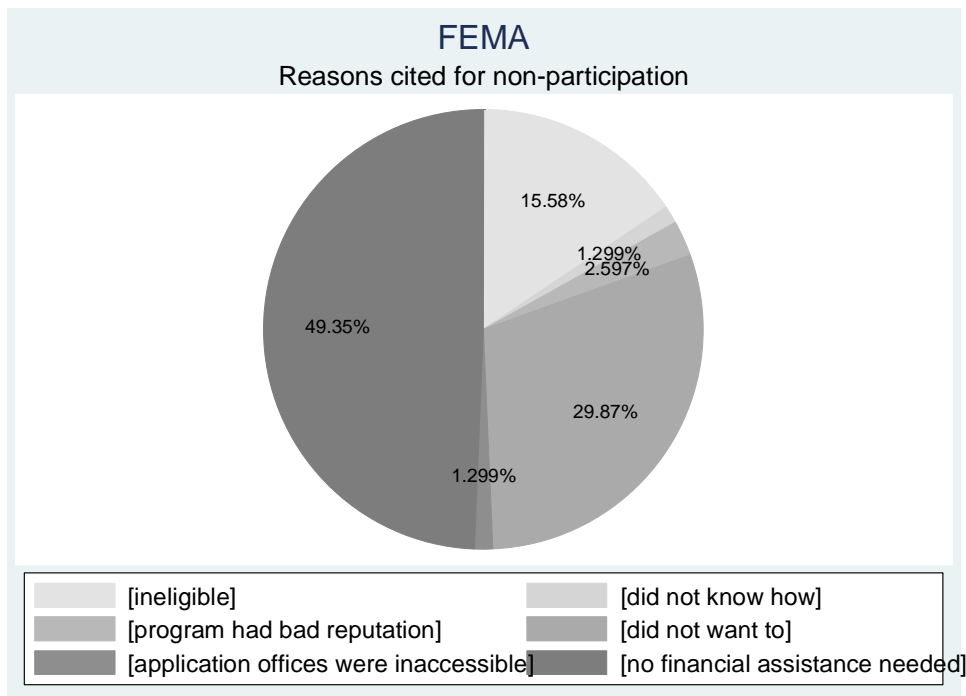
For the Road Home Program, 21 percent of the 203 respondents who did not apply were ineligible; 19 percent did not want to; and 49 percent did not need financial assistance. For FEMA, of those who did not apply to the programs, 16 percent did not because of ineligibility, 30 percent did not want to, and 49 percent did not need financial assistance. For SBA, of the 188 respondents who did not apply, 17 percent cited ineligibility, 21 percent did not want to apply, and 57 percent did not need to apply. The following pie charts show reasons for *non-participation* in each of the federal programs. As illustrated, the most commonly cited reason for non-participation across the board is lack of financial need, particularly with the SBA Loans. Other common reasons for non-participation were ineligibility and lack of desire.



**Figure 7: Reasons cited for nonparticipation in the Road Home**



**Figure 8: Reasons cited for nonparticipation in FEMA programs**



**Figure 9: Reasons cited for nonparticipation in SBA programs**



Lack of financial need was the most commonly cited reason for non-participation in each of the programs. Using our same logistic model of participation, we look at which respondents chose not to participate in the Road Home program because they did not need financial assistance. Table 18 shows that those respondents who did not need financial assistance following Hurricane Katrina were mostly White, used their own finances, had a positive change in income following the hurricane, and had homes valued between \$300,001 and \$400,000. The logistic regression had 149 observations and explained nearly 20 percent of the variance in lack of financial need. In addition, all respondents who reported no homeowner's insurance pre-Katrina had financial need. For this reason, *personal insurance* was dropped from this regression. It is important to look at those who do not have financial need as well as those who do to better focus program publicity on specific populations.

**Table 18: Logistic Model of Non-participation**

<i>Funds Not Needed</i>	
<b>Demographic Characteristics</b>	
<i>Age</i>	0.907 (0.274)
<i>Education</i>	1.120 (0.131)
<i>White</i>	3.698 (2.048)**
<i>Change In Income</i>	3.618 (1.199)***
<b>Available Funding</b>	
<i>Flood Insurance</i>	0.583 (0.342)
<i>Personal Finance</i>	0.3426586 (0.185)**
<b>Value of Home Prior to Katrina</b>	
<i>\$100,001 to 200,000</i>	1.251 (0.889)
<i>\$200,001 to 300,000</i>	0.706 (0.562)
<i>\$300,001 to 400,000</i>	8.718 (8.550)**
<i>More than \$400,000</i>	1.455 (1.336)
<b>Model Fit</b>	N = 149
	LR chi2(10) = 35.89***
	Pseudo R2 = 0.1739
Note: Cell entries are unstandardized coefficients with standard errors in parentheses. *p<.1 **p<.05 ***p<.01	

**Satisfaction** Table 19 shows the frequency areas of satisfactions across programs. We can see from this table, for example, that most respondents were much more satisfied with timing of assistance in FEMA than in the other programs. We can deduce that this is a result of FEMA's \$2,000 expedited assistance grants which began to be distributed days after the hurricane.

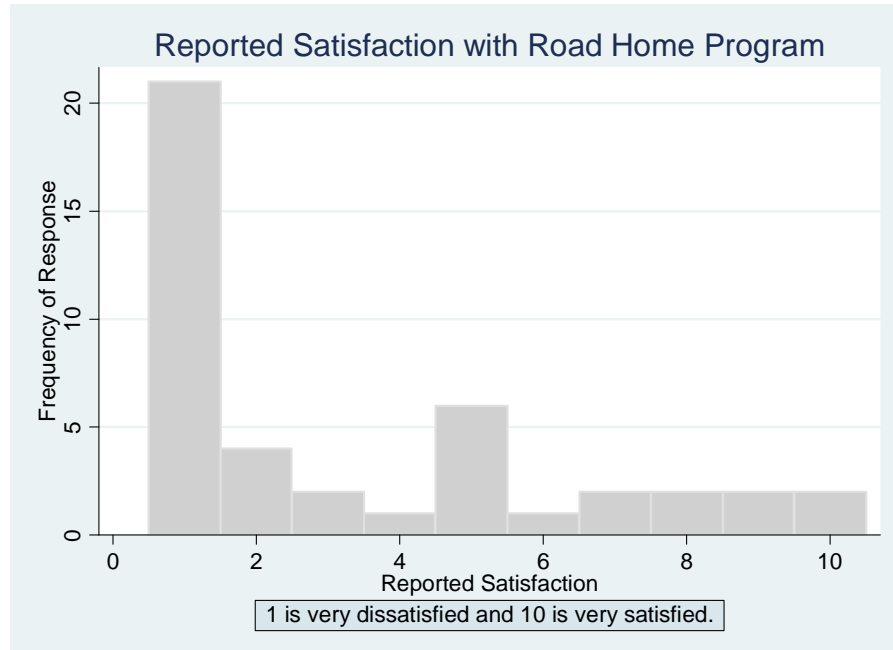
**Table 19: Cross Program Areas of Satisfaction**

Areas of Satisfaction	Road Home		FEMA		SBA	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Customer Service	11	24.44%	12	11.21%	11	17.46%
Timing of Assistance	3	6.67%	32	29.91%	3	4.76%
Amount of Assistance	1	2.22%	14	13.08%	4	6.35%
Application Process	13	28.89%	11	10.28%	9	14.29%
Nothing	10	22.22%	12	11.21%	15	23.81%
Everything	1	2.22%	7	6.54%	6	9.52%
Other	6	13.33%	19	17.76%	15	23.81%

Respondents were also asked to rank their overall satisfaction with the programs, with 1 being very unsatisfied and 10 being very satisfied. The following graphs display the frequency of satisfaction ratings of respondents who participated in each program. Nearly half of the participants in the Road Home Program were very unsatisfied with the program overall. All of the respondents who reported being very unsatisfied had not yet received assistance at the time

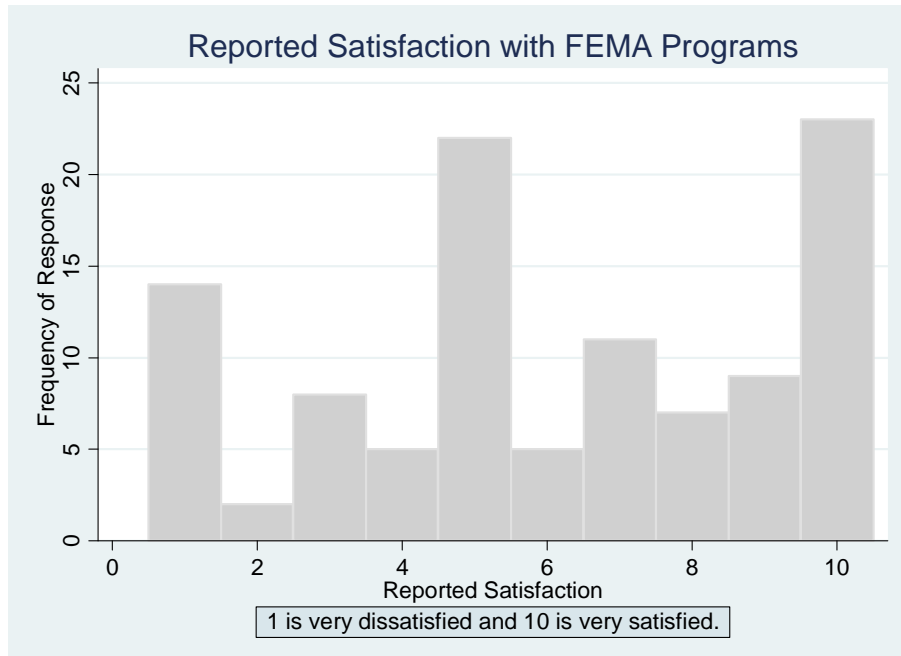
of the survey. When asked what part of the program they were most satisfied with, 29 percent reported the application process; 24 percent reported customer service; and 22 percent reported they were satisfied with nothing.

**Figure 10: Reported Satisfaction with Road Home program**



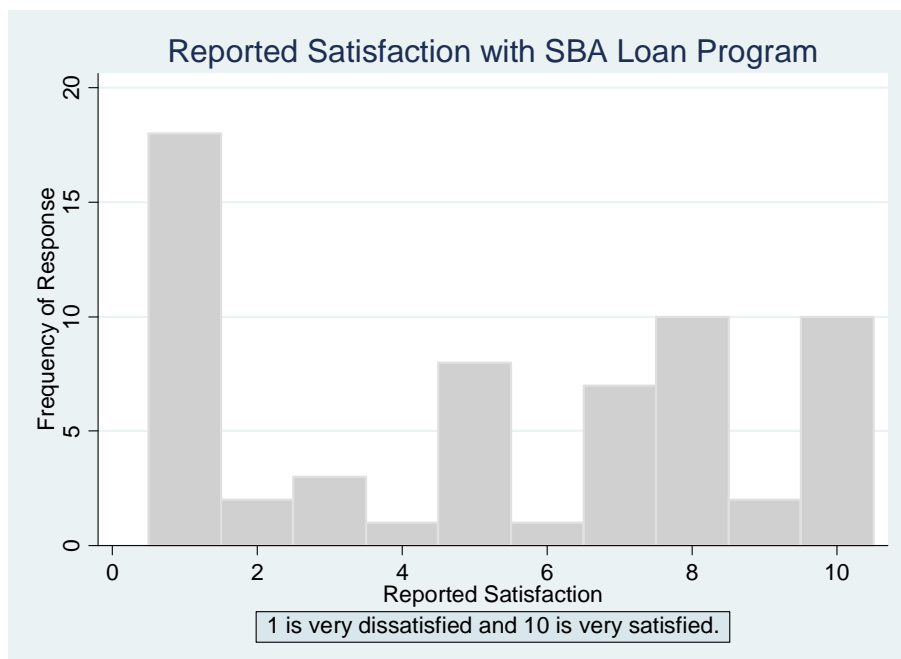
The following graph shows the frequency of overall satisfaction responses of the 107 respondents who were approved for at least one FEMA program. The satisfaction ratings were more evenly dispersed here than with both the Road Home Program and the SBA Loan Program. Respondents were most satisfied with timing of assistance in the FEMA program than any other area.

**Figure 11: Reported Satisfaction with FEMA Programs**



The following graph depicts the overall satisfaction with the SBA Program. Many respondents were very unsatisfied with the program. Of those respondents who were approved for the loan, 56 percent did not feel the loan was enough to help them rebuild their home.

**Figure 12: Reported Satisfaction with SBA Loan Program**



An OLS regression was used to determine significant indicators of satisfaction in each program (See Table 20). Program attributes such as difficulty of application, receipt of assistance, and amount of assistance were used as predictors for this model in addition to the age demographic. Age is included here because it has been a significant predictor of awareness and participation. Using this model, we find (1) receipt of assistance was positively and highly correlated with satisfaction; (2) amount of assistance was found to be a statistically significant indicator of satisfaction in Road Home; and (3) younger respondents are more likely to be satisfied with Road Home and SBA, while age has no effect on the satisfaction level with FEMA. The varying effects of age on program awareness, participation, and satisfaction may be an area of interest in further research.

**Table 20: OLS Model of Program Satisfaction**

	<i>Satisfied w/Road Home</i>	<i>Satisfied w/FEMA</i>	<i>Satisfied w/SBA</i>
<b>Demographic Characteristics</b>			
<i>Age</i>	-1.480 (0.523)**	0.256 (0.545)	-2.656 (0.822)***
<b>Program Specific Characteristics</b>			
<i>Difficulty of Application</i>	0.169 (0.121)	-0.380 (0.113)***	-0.188 (0.134)
<i>Receipt of Assistance</i>	5.979 (0.813)***	-- --	2.934 (1.411)**
<i>Amount of Assistance</i>	0.000 (0.000)*	0.000 (0.545)	0.000 (0.000)
<i>Constant</i>	2.773 (1.378)*	6.488 (1.265)***	9.305 (2.171)***
Model Fit	N = 14 F( 4, 9) = 18.63*** Adj. R2 = 0.8443	N = 81 F( 3, 77) = 3.92** Adj. R2 = 0.0986	N = 43 F( 4, 38) = 4.79*** Adj. R2 = 0.2654
Note: Cell entries are unstandardized coefficients with standard errors in parentheses. *p<.1 **p<.05 ***p<.01			

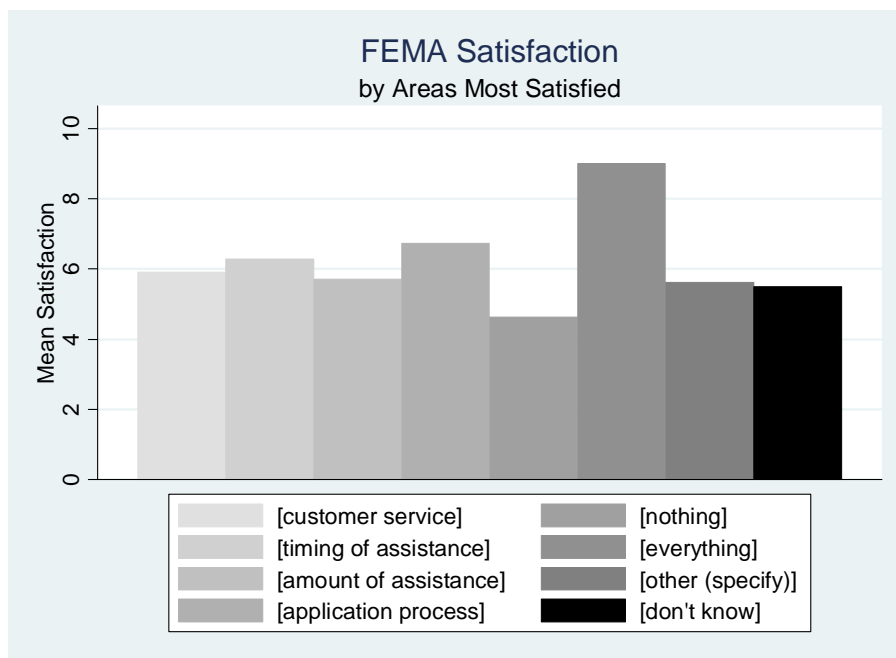
The following graphs illustrate areas of satisfaction by satisfaction rankings for each program. For example, Figure 13 shows that those people who listed amount of assistance as an area of satisfaction in the Road Home Program also had a much higher satisfaction score than the other respondents. Satisfaction scores were based on a 10-scale, with 1 being very unsatisfied with program and 10 being very satisfied.

**Figure 13: Areas most satisfied in the Road Home program**



The satisfaction of the Road Home program is most affected by the amount of assistance, followed by the timing of that assistance.

**Figure 14: Areas most satisfied in the FEMA programs**



The satisfaction of the FEMA programs is not dependent on any particular area. The satisfaction levels were even across different areas.

**Figure 15: Areas most satisfied in the SBA program**



**Areas for Improvement.** Table 21 shows areas for improvement for each program. In all three programs, many respondents chose to recommend an alternative area than those listed in the survey. Of those that chose “Other,” some of the areas for improvement suggested in all three programs were quicker assistance, more knowledgeable and trained staff, and more information about the specific programs.

**Table 21: Cross Program Areas for Improvement**

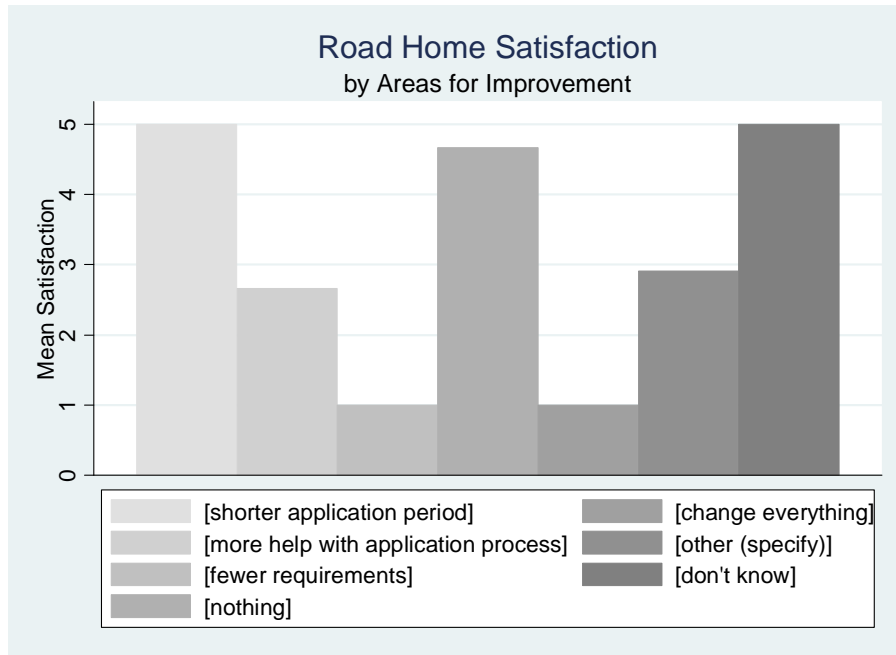
Areas for Improvement	Road Home		FEMA		SBA	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
More Money	...	...	9	8.49%	2	3.17%
Shorter Application Period	9	20%	5	4.72%	6	9.52%
More Help with Application	3	6.67%	7	6.60%	2	3.17%
Fewer Requirement	2	4.44%	2	1.89%	1	1.59%
Nothing	3	6.67%	29	27.36%	11	17.46%
Everything	2	4.44%	4	3.77%	3	4.76%
Other	23	51.11%	41	38.68%	31	49.21%
Don't Know	3	6.67%	9	8.49%	7	11.11%

Figure 16, Figure 17 and Figure 18 show suggested areas for improvement by the satisfaction score. For example, respondents who cited “fewer requirements” as an area for

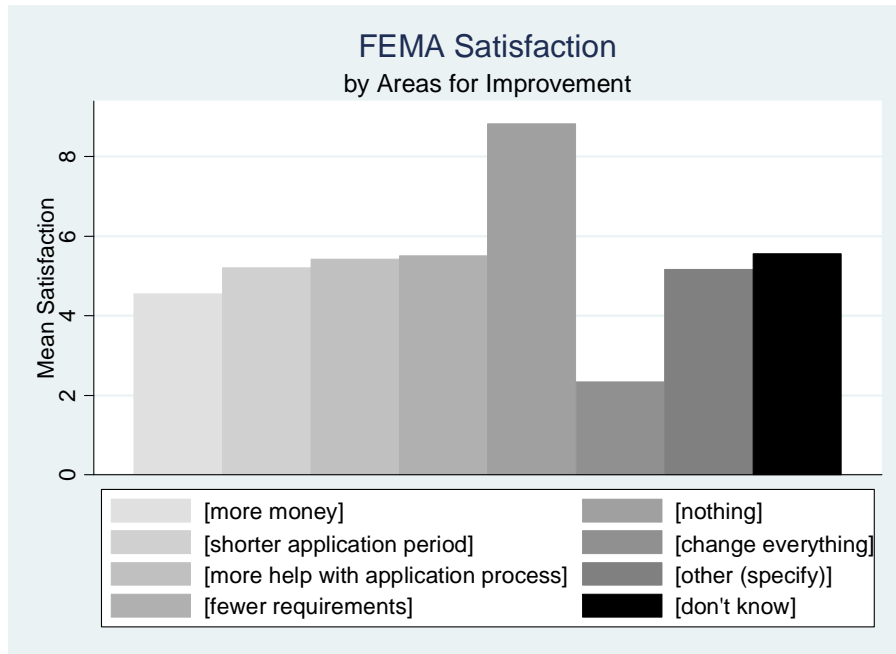


improvement were least satisfied with the Road Home and FEMA program. Complaints about whether people within the SBA program were in need of more money leads to lower satisfaction.

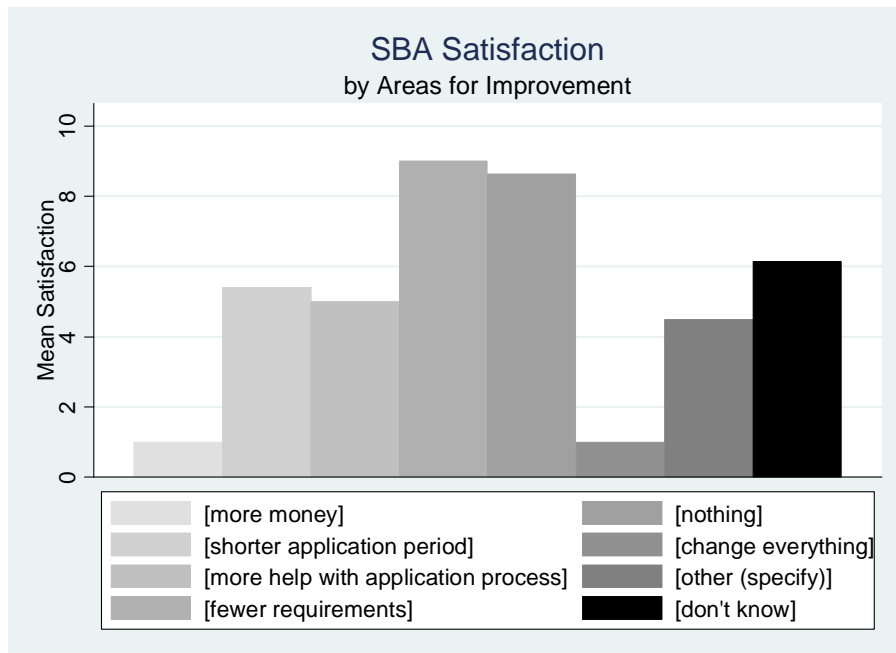
**Figure 16: Areas for Improvement in the Road Home program**



**Figure 17: Areas for improvement in the FEMA programs**



**Figure 18: Areas for improvement in the SBA program**



**Participate Again.** 86 percent reported they would participate in the Road Home program again if needed. Nearly all (91 percent) respondents who were approved would participate in

one of the FEMA programs again. Of those who participated, 72 percent reported they would participate in the SBA program again.

In determining whether a participant in the programs would participate again, we used program specific attributes that best describe satisfaction with the actual program as indicators in our logistic model: difficulty of the application process, amount of assistance they received, whether they thought the assistance they received was enough to help rebuild their homes and their overall satisfaction. Each column in Table 22 represents a separate regression for future participation in an assistance program. This model is a good fit for the FEMA and the SBA programs but not for the Road Home program. We find that program satisfaction leads to a higher probability of future participation, and strangely, those who received sufficient assistance from the FEMA program are less likely to participate in that program again. The other indicators including the amount of assistance and difficulty of the application were found to not be statistically significant in determining future participation.

**Table 22: Logistic Model of Future Participation**

	<i>Road Home</i> <i>Participate Again</i>		<i>FEMA</i> <i>Participate Again</i>		<i>SBA</i> <i>Participate Again</i>	
<b>Program Specific Characteristics</b>						
<i>Difficulty of Application</i>	-0.137	(0.269)	0.118	(0.145)	-0.191	(0.163)
<i>Amount of Assistance</i>	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
<i>Assistance Sufficient</i>	--	--	-1.916	(1.101)*	1.828	(1.366)
<i>Program Satisfaction</i>	0.754	(0.973)	0.479	(0.186)**	0.465	(0.210)**
<i>Constant</i>	-0.357	(2.810)	-1.026	(1.428)	-1.013	(1.339)
Model Fit	N = 9		N = 82		N = 39	
	LR chi2(3) = 2.18		LR chi2(3) = 11.06**		LR chi2(3) = 17.06***	
	Pseudo R2 = 0.1907		Pseudo R2 = 0.2109		Pseudo R2 = 0.4311	
Note: Cell entries are unstandardized coefficients with standard errors in parentheses. *p<.1 **p<.05 ***p<.01						

## Business Owner Data Analysis

This section contains (1) an overview of the businesses surveyed and (2) an analysis of awareness, participation, and satisfaction of each of the business owner federal programs – the Gulf Opportunity Zone Act (Go Zone) and the Small Business Administration Disaster Loan program – including a comparative analysis across the programs.

**Respondents.** Of the 301 completed surveys,<sup>158</sup> the business categories included 50 percent service and tourism;<sup>159</sup> 21 percent retail; 13 percent manufacturing and construction; and 16 percent sales, real estate, and medical. A number of the businesses had been open for many years prior to Hurricane Katrina: 45 percent more than 20 years; 21 percent between 11 and 20 years; 27 percent 3 to 10 years; and 8 percent less than 3 years.

Indicative of the substantial number of service and tourism businesses surveyed, many of the businesses (45 percent) employed less than 10 people prior to Hurricane Katrina, followed by 23 percent with 11 to 20 employees and 16 percent with 21 to 40 employees. Nearly 60 percent of the businesses surveyed reported a reduction in the number of employees after Hurricane Katrina; 30 percent reported no change in the number of employees; and 12 percent reported an increase in employees following Hurricane Katrina. Of the 117 business that reported net profits in the year prior to Hurricane Katrina, the median net profit was \$200,000.<sup>160</sup> Of 286 respondents, 62 percent reported a decrease in net profits following Hurricane Katrina, 28 percent reported an increase, and 13 percent reported no change.

With regard to insurance, a large majority (83 percent of 292 respondents) had private insurance prior to Hurricane Katrina. In contrast, only 43 percent had federal flood insurance. Following Hurricane Katrina, 38 percent of the businesses used normal revenue as the main source of funds to maintain their business, followed by 35 percent who used personal finances. Only 2 percent reported government funds as the main source used to maintain their business.

Most of the owners and managers surveyed had at least some college education: 19 percent with a graduate-level degree, 49 percent with a bachelor's degree, and 18 percent with at least some college.

**Awareness.** It is important to understand how business owners learn about federal programs because in finding out, the federal government will be able to target future audiences and increase the awareness rate. If a business owner is unaware, then he or she will be unable to take advantage of the programs. As a result, the goal of the program(s) is not accomplished and therefore not a success. About half of the respondents (52 percent) were aware of the Go Zone Program. Of those, 70 percent learned about the program from a media source, followed by 11 percent who learned about the program from family, friends or neighbors (see Table 23). Most

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<sup>158</sup> Cooperation rate formula per American Association for Public Opinion Research methodology (Complete Interviews + Partial Interviews)/(( Complete Interviews + Partial Interviews)+ Refusal and break off)).

<sup>159</sup> See Appendix I: Business Owner Survey Methodology (PPRI)

<sup>160</sup> The mean was not used because of major outliers: The minimum net profit reported was \$1 and the maximum net profit reported was \$3,000,000,000.

of the respondents (90 percent) were aware of the SBA Disaster Loan Program. Similar to the Go Zone program, 64 percent learned about this program through the media, followed by 20 percent from a government agency.

**Table 23: Sources of Program Awareness**

	Go Zone	SBA
Media	70%	64%
Friends, Family, Neighbor	11%	8%
Government Agency	4%	20%
Community Leader	3%	1%
Civic Leader	1%	0%

In explaining why some businesses were more aware of a program than others, the literature review explains that the level of economic recovery of businesses in a disaster affected region is highly correlated with several characteristics of the individual businesses including the industry, pre-disaster financial condition, and age of business (older businesses are less likely to have recovered than their younger competitors).<sup>161</sup> Respondents were asked to provide information regarding the type of industry, financial status before Hurricane Katrina and age of the business. In addition, indicators including education level of owner/manager, awareness of rebuilding plans, number of employees, profits, private insurance, federal flood insurance, and resources used to rebuild were found as important indicators in the literature.<sup>162</sup>

From this model we were able to establish a good fit for the Go Zone program but not for the SBA program (See Table 24). Results are as follows: (1) the length of time a business was open increased the probability of awareness of the Go Zone program, (consistent with the literature review), (2) a business with a greater number of employees was much more likely to be aware; those businesses who saw an increased number of employees following Katrina were more likely to be aware, (3) those businesses that used normal revenue, private loans, or insurance to finance their repairs were more likely to be aware of the program than those who used other funds, (consistent with the literature review), (4) those business owners with a higher level of education were more likely to be aware of the Go Zone program, and (5) different categories of businesses were not aware of this program at varying rates.

<sup>161</sup> Webb, Gary, Kathleen Tierney, and James Dahlhamer. 2002. "Predicting long-term business recovery from disaster: a comparison of the Loma Prieta earthquake and Hurricane Andrew." *Environmental Hazards* 4: 45-58.

<sup>162</sup> Ibid

**Table 24: Logistic Model of Awareness of Go Zone**

<i>Go Zone Awareness</i>	
<b>Business Characteristics</b>	
<i>Business Age</i>	1.252 (0.170)*
<i>Number of Employees</i>	1.395 (0.165)***
<i>Change in # Employees</i>	2.760 (0.765)***
<i>Tourism Business</i>	0.586 (0.604)
<i>Mnf &amp; Construction</i>	0.896 (0.480)
<i>Service Business</i>	1.206 (0.498)
<b>Business Owner Characteristic</b>	
<i>Education Level</i>	1.358 (0.183)**
<b>Available Funding</b>	
<i>Private Insurance</i>	1.388 (0.652)
<i>Flood Insurance</i>	1.298 (0.470)
<b>Funds Used to Maintain Business Post Katrina</b>	
<i>Normal Revenue</i>	8.087 (8.080)**
<i>Personal Finances</i>	4.741 (4.719)
<i>Private Loans</i>	11.604 (14.510)*
<i>Insurance Payments</i>	6.192 (6.707)*
Model Fit	N = 194 LR chi2(10) = 50.94*** Pseudo R2 = 0.1904
Note: Cell entries are unstandardized coefficients with standard errors in parentheses. *p<.1 **p<.05 ***p<.01	

In order to determine which respondents were aware of more than one program, the number of respondents aware of each program was summed to produce total awareness. Table 25 illustrates the number of respondents aware of 0 programs, the number aware of just one program, the number aware of two programs, and the number aware of all three programs. A multivariate regression showed that businesses owned or managed by people with higher education were more likely to be aware of the programs as were businesses that did not reduce their number of employees after Hurricane Katrina. Additionally business that purchased federal flood insurance, sustained business operations through normal revenue and older businesses (open more than twenty years) were more aware of the federal programs.

**Table 25: Awareness of Multiple Programs**

	Frequency	Percent	Cumulative
Aware of 0 Programs	23	7.99	7.99
Aware of 1 Program	122	42.36	50.35
Aware of 2 Programs	143	49.65	100.00

**Table 26: OLS Model of Multi-program Awareness**

<i>Multiple Program Awareness</i>	
<b>Business Characteristics</b>	
<i>Business Age</i>	0.058 (0.035)*
<i>Number of Employees</i>	0.063 (0.027)**
<i>Change in # Employees</i>	0.227 (0.063)***
<i>Tourism Business</i>	-0.156 (0.268)
<i>Mnf &amp; Construction</i>	-0.144 (0.134)
<i>Service Business</i>	-0.015 (0.106)
<b>Business Owner Characteristic</b>	
<i>Education Level</i>	0.062 (0.034)*
<b>Available Funding</b>	
<i>Private Insurance</i>	0.043 (0.125)
<i>Flood Insurance</i>	0.155 (0.093)*
<b>Funds Used to Maintain Business Post Katrina</b>	
<i>Normal Revenue</i>	0.399 (0.237)*
<i>Personal Finances</i>	0.265 (0.237)
<i>Private Loans</i>	0.289 (0.285)
<i>Insurance Payments</i>	0.316 (0.263)
<b>Constant</b>	0.070 (0.316)
<b>Model Fit</b>	N = 193 F( 13, 179) = 3.40*** Adj R-squared = 0.1398
Note: Cell entries are unstandardized coefficients with standard errors in parentheses. *p<.1 **p<.05 ***p<.01	

**Participation.** The literature review argues that participation in aid programs may not help businesses to recover because it may only be those businesses that are beyond recovery who apply for aid.<sup>163</sup> Of the 124 respondents who were aware of the Go Zone program, 68 percent filed in 2005. Of the respondents who were aware of the SBA program, 36 percent applied.

<sup>163</sup> Webb, Gary, Kathleen Tierney, and James Dahlhamer. 2000. "Business and Disasters: Empirical Patterns and Unanswered Questions." *Natural Hazards Review* 1(2): 83-90.

**Table 27: Application by Business Category**

		Retail	Tourism	Mfr. & Const.	Service	Total
Go Zone	Applied	7	1	7	19	34
	(row %)	21%	3%	21%	56%	100%
	(column %)	29%	50%	41%	33%	34%
	No	17	1	10	38	66
		26%	2%	15%	58%	100%
		71%	50%	59%	67%	66%
SBA	Applied	21	4	12	38	75
	(row %)	28%	5%	16%	51%	100%
	(column %)	38%	67%	36%	32%	35%
	No	34	2	21	80	137
		25%	1%	15%	58%	100%
		62%	33%	64%	68%	65%

The majority of businesses who applied to the SBA and Go Zone programs were businesses in the service industry. However, when comparing the industry rates of application to each program, businesses in the service industry were among those **least** likely to apply to the SBA and Go Zone programs along with businesses in the retail industry. It is those few businesses in the tourism industry that have the highest rates of application to each program with 50% applying to Go Zone and 67% applying to SBA.

**Table 28: Applying to Multiple Programs**

	Frequency	Percent	Cumulative
Applied to 0 Programs	60	50.42	50.42
Applied to 1 Program	48	40.34	90.76
Applied to 2 Programs	11	9.24	100

There were very few businesses who applied to both programs. Less than ten percent of the survey respondents applied to both the SBA and Go Zone programs. More than half of the respondents did not apply to either of the programs.

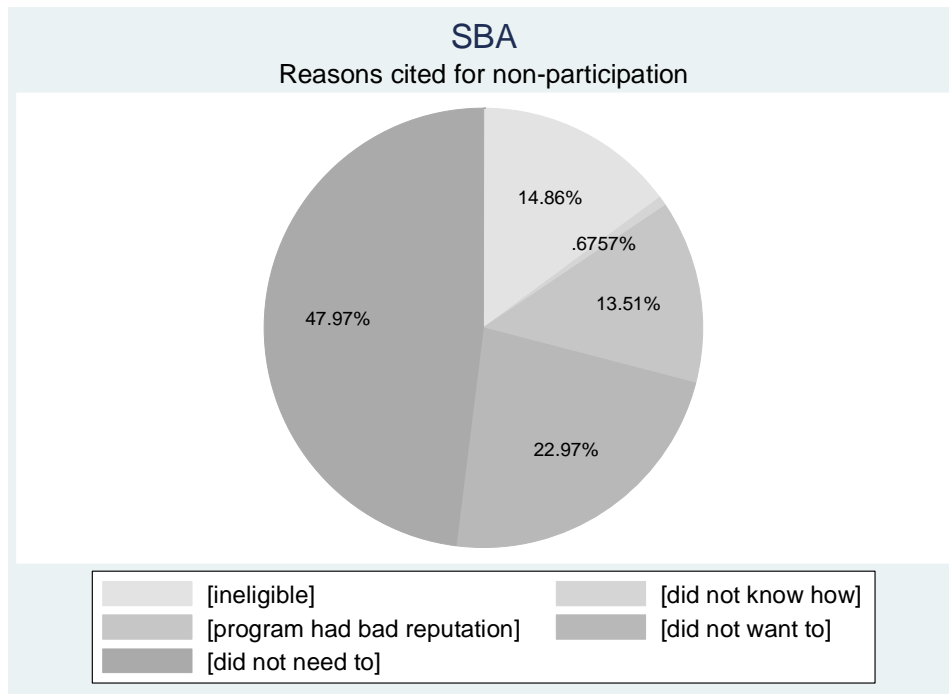
The most commonly cited reason for Go Zone non-participation in 2005 was ineligibility, followed by lack of financial need and not wanting to file (see Figure 19). Of the 160 respondents who did not apply to the SBA program, 45 percent claimed they did not need the assistance, 21 percent did not want to apply, 14 percent were ineligible, and 12 percent reported the program had a bad reputation.



**Figure 19: Reasons Cited for non-participation in the Go Zone program**

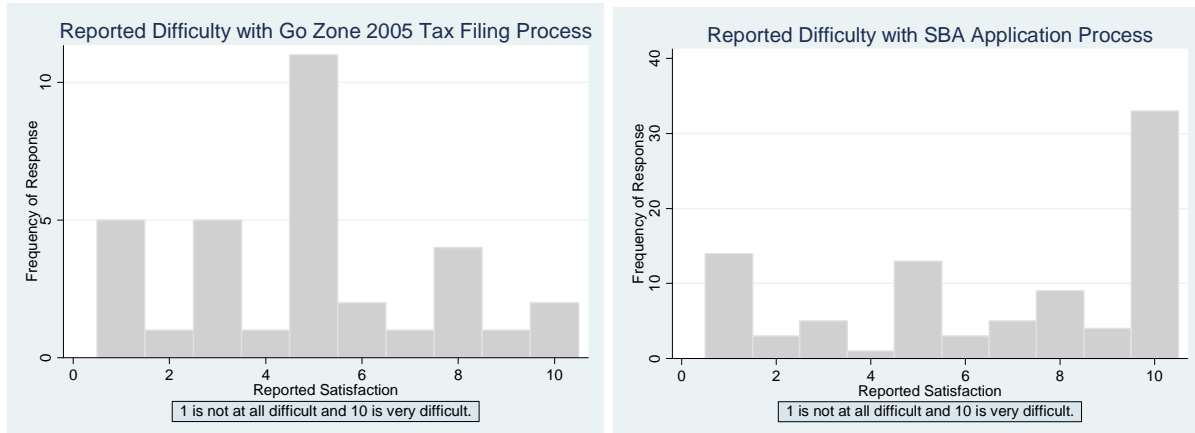


**Figure 20: Reasons Cited for non-participation in SBA program**



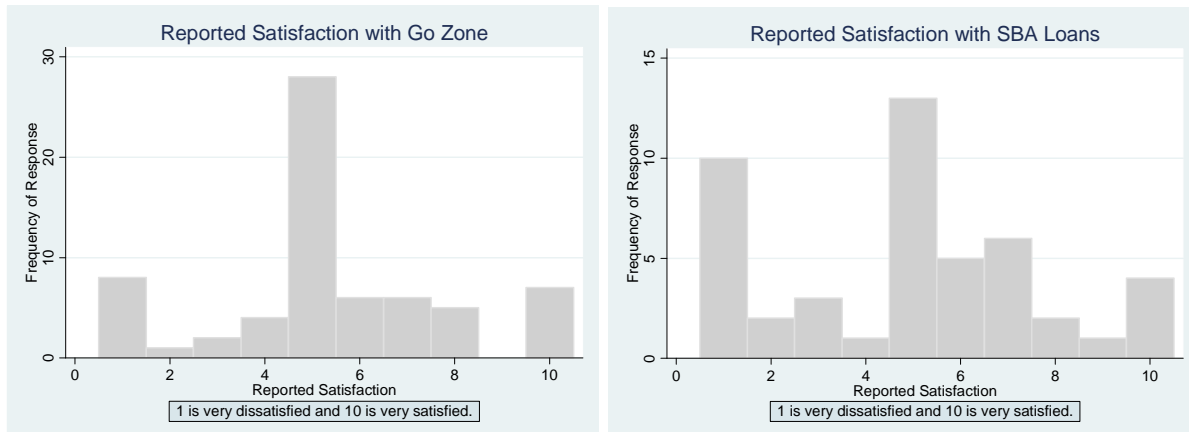
The following graphs illustrate the overall frequencies of difficulty reported for the 2005 filing process. The level of difficulty for the Go Zone program appears to be a normal graph, with the majority of difficulty rating centered around five. In contrast, the reported difficulty of the SBA program is much more, with the level of difficulty reported the most at a level ten, the most difficult.

**Figure 21: Difficulty levels in the Go Zone and SBA programs**



**Satisfaction.** The following section compares satisfaction levels of the Go Zone and SBA programs. Figure 22 displays the distribution of overall satisfaction ratings (1-10) of respondents who participated in each program. Table 29 shows over 40 percent of the participants in the Go Zone Program were somewhat unsatisfied with the program overall. When asked what part of the program they were most satisfied with, 41 percent reported the amount of assistance and 33 percent reported they were satisfied with nothing. Nearly 30 percent of the participants in the SBA Program were somewhat unsatisfied and nearly 20 percent were very unsatisfied with the program overall. When asked what part of the program they were most satisfied with, 26 percent reported nothing and 22 percent reported customer service.

**Figure 22: Reported Satisfaction Levels in the Go Zone and SBA programs**



**Table 29: Cross Program Areas of Satisfaction**

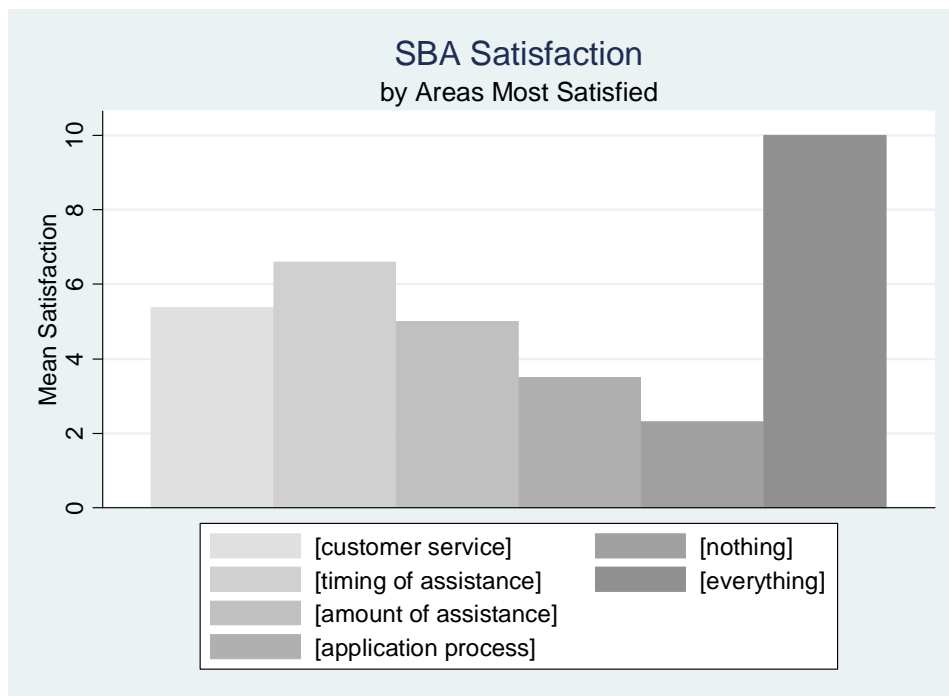
Areas of Satisfaction	Go Zone		SBA	
	Frequency	Percent	Frequency	Percent
Customer Service	4	14.81	8	22.22
Timing of Assistance	1	3.7	5	13.89
Amount of Assistance	11	40.74	5	13.89
Application Process	2	7.41	4	11.11
Nothing	9	33.33	13	36.11
Everything	...	...	1	2.78

The bar graphs in Figure 23 and Figure 24, illustrate the overall mean satisfaction rate of the program for those respondents who were most pleased with customer assistance, timing, amount of assistance, the application process, and nothing. For the Go Zone program, those respondents who listed customer service as an area for improvement tended to be the most satisfied with program. In addition, respondents who were pleased with the timing of assistance have the highest rates of satisfaction in the SBA program, but the lowest rates in the Go Zone program.

**Figure 23: Areas of satisfaction for the Go Zone Program**



**Figure 24: Areas of satisfaction for SBA programs**

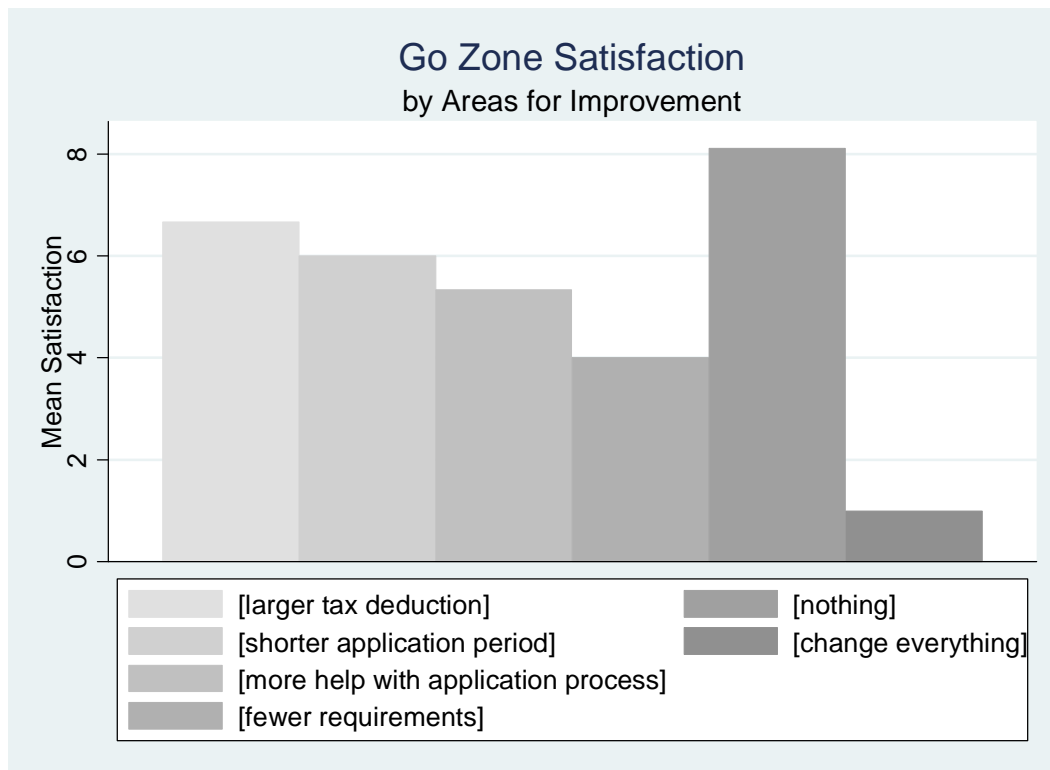


Suggested areas for improvement (illustrated in Table 30, Figure 25, and Figure 26) in the Go Zone and SBA Programs from those respondents who participated in the programs included fewer requirements, more assistance, shorter application process, more help with application, and nothing. In Figure 25, we see that the criticisms of the Go Zone program include low tax deductions and multiple requirements. Larger deductions and fewer requirements would increase the satisfaction of the program. Figure 26 shows us that for the SBA program, except for those who said nothing, the mean satisfaction rate was even across criticisms.

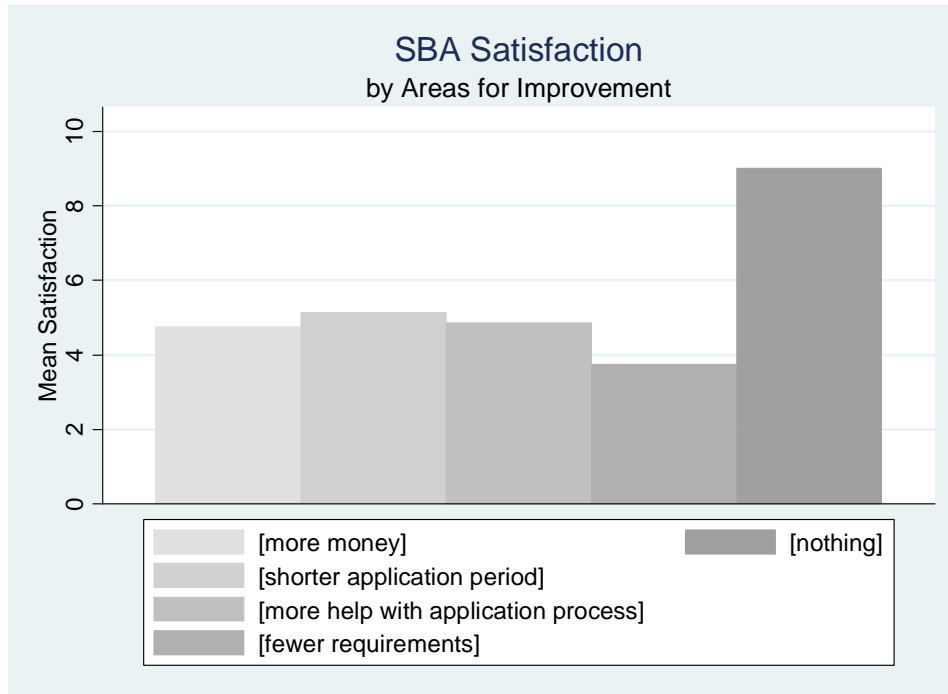
**Table 30: Cross Program Areas for Improvement**

Areas for Improvement	Go Zone		SBA	
	Frequency	Percent	Frequency	Percent
More Money	...	...	4	14.29
Shorter Application Period	2	7.69	7	25
More Help with Application	6	23.08	7	25
Fewer Requirement	5	19.23	8	28.57
Nothing	9	34.62	2	7.14
Everything	1	3.85	...	...
Larger tax deduction	3	11.54	...	...

**Figure 25: Areas for Improvement for the Go Zone Program**



**Figure 26: Areas for improvement in SBA Programs**



**Participate Again.** Ninety-three percent of respondents reported that they would participate in Go Zone again. Seventy-six percent reported that they would participate in SBA.

**Summary.** In sum, the literature review and data tells us that federal programs need to target marginalized groups, including young homeowners and business owners, new businesses, potential participants with less education and those who do not have private insurance or finances available. Areas for improvement include fewer requirements and an increase in funding. Responding to these findings includes creating incentives through legislation to encourage or facilitate targeting these groups and enabling private insurance market coverage.

## Recommendations

Using the qualitative and quantitative data gained from the in-depth interviews and the homeowner and business owner survey data, several recommendations are evident. Congress should consider these recommendations for future legislation and funding decisions for programs. General recommendations are listed first, followed by program-specific recommendations, beginning with the homeowner programs and concluding with the business owner programs. The areas of concentration within the recommendations are the themes identified by the Congressional Research Service as the primary research variables of interest: awareness of, participation in, and satisfaction of the Road Home program, FEMA individual assistance and other needs assistance, Go Zone tax provisions, and SBA disaster loans. For more information about the specifics of the programs, please refer to the section on the descriptions of the programs.

### General Recommendations

Survey data indicates that the primary source of information about the aforementioned disaster recovery programs was the media. Therefore, officials should pursue increased partnerships with the media to disseminate information in order to increase overall awareness of the programs. Additionally, interview data suggests an increased use of non-governmental organizations and local organizations would increase participation on account of their knowledge of their communities and legitimacy in those areas. In general, the programs need to be more flexible, allowing for program personnel to make accommodations in extenuating circumstances. This could include giving the staff of the programs the ability to make decisions about applicants and nominating one person to serve as the decision maker for all federal programs, rather than having the written legislation of the programs dictate specific program details. Doing this will allow people who lost homes and businesses to gain from the programs offered and account for those who are not approved for extenuating circumstances.

Interview and survey data indicate that one of the most important aspects that would increase participation and satisfaction is a streamlined application process for all of the programs. This could include one application for all federal programs and an improved record-keeping database system, incorporating newer technology. In addition there needs to be greater sharing of information between agencies and an overall improvement of interagency communication.

In addition, it is important for the federal government to reduce uncertainty. This includes addressing the difficulties with obtaining and paying for flood insurance. Many residents of New Orleans have been unable to obtain insurance from private insurers and are therefore unable to obtain a loan. New Orleans leaders expressed a desire for federal assistance in reforming the insurance market to allow for affordable and accessible home and flood insurance. Similarly, the data indicated that those individuals with insurance were less likely to depend on federal programs for recovery. It is important to address this insurance issue, possibly through requiring insurance, providing tax breaks on insurance, creating additional insurance programs and/or providing incentives for private insurance.

Respondents to the survey were most satisfied with FEMA at a 30 percent rate compared to SBA at 5 percent and Road Home with 7 percent. The indicator that explains the majority of this discrepancy is the time in the dispersal of funds. FEMA expedited assistance funds were allocated almost immediately, whereas Road Home funds and SBA funds were delayed. The timeline in appendix A outlines program specific payments. All but four respondents who applied to one or more FEMA program and were approved had not received their assistance. At the time survey data was collected, 93 percent of the respondents had not received any assistance from the Road Home program. As of March 22, 2007, 34.48 percent<sup>164</sup> of applicants were sent an award offer. The Road Home and SBA programs need to allocate funding faster.

Another theme present in the interviews and data analysis is the need to improve consistency of personnel. The program delivery would benefit from less turnover in personnel, assignment of caseworkers to individual applicants, and greater consistency of information relayed by disaster relief personnel about the application process and things that would and would not be covered by grant awards. Currently, many public officials complain that the turnover of staff at disaster recovery centers make it more difficult for applicants to complete their application process. Often, applicants receive different answers from different staffers and quick turnover of personnel make it difficult to keep an informed cadre of personnel on site. Assigning a caseworker to every applicant would free homeowners and business owner from needing to explain their situation every time they call. This will also help provide more personal service and accountability for the delivery of the programs.

Furthermore, programs should be sensitive to increases in labor and material costs following a major disaster. The prices of labor and building supplies are higher post Katrina than pre-Katrina. As such, awards should consider these increases.

## **Small Business Administration Programs for Individuals**

As mentioned previously, increased coordination with media outlets could improve awareness of the SBA program and help disseminate agency originated information. In addition, improved interagency communication and coordination would do the same.

Interview data indicates that small businesses should be offered triage grants, much like the FEMA \$2,000 expedited assistance grants that were distributed immediately after the storm. This would allow many businesses to provide services following the storm. In addition, there needs to be an improved loan system for small businesses. Many business owners currently believe that the programs in place do not adequately help businesses survive in the first few months following a disaster. Although the SBA loans may eventually provide some businesses with the funds necessary for restarting their business, some businesses can not make it through the “short-term” recovery long enough to make it to the “long-term”.

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<sup>164</sup> Number derived from information given in LRA (2007). *The Road Home Week 38 Situation and Pipeline Report*. 27 March. The Road Home: Baton Rouge, LA. using the formula % of extended offers = number of benefits options letters sent / number of applications recorded or  $40,786/118,274 = 34.48\%$



## **Road Home**

Survey data suggests that the Road Home program needs to target outreach efforts toward older individuals, females and less educated individuals, because they are least likely to be aware of the Road Home program. As with every program, an increased use of the media would improve awareness.

The data shows that more knowledgeable and trained staff, improved communication overall, and a simplified process overall would increase satisfaction of the Road Home program. For example, in our interviews we found that much of the build-up in the application process occurred at the verification phase. A re-organization of the application process could alleviate this problem. In addition, improved communication could be implemented through the use of an updated database system; At least one interviewee expressed frustration with the current antiquated system.

## **FEMA**

The data shows that FEMA needs to target individuals with federal flood insurance, because they are more likely to apply to the program. Our interviews show that an increased access to information would increase participation in the program. For example, there were several Disaster Recovery Centers, locations for information about SBA and FEMA, were open within days of the disaster. However, the FEMA Welcome Home Center, which had all the aforementioned program information as well as the Road Home was not opened until Jan 2007. In addition, FEMA should encourage use the media as a tool to provide information on where to go and access information.

Interview data strongly suggested that clear, straightforward guidelines of FEMA-mandated programs should be provided to all involved jurisdictions following a major disaster. There needs to be a consistent organizational structure within all FEMA outposts. Additionally, provisions for Federal Grants and Loans should be expanded to allow homeowners and business owners to use portions of their awards toward installing mitigation measures to reduce the damages of future storms without requiring them to apply for additional mitigation loans. Currently, most federal funds can not be used toward making improvements to damaged structures above their pre-storm value. Although taxpayers do not wish to subsidize repairs past the original value of the home or business, many mitigation measures such as installing hurricane straps to help anchor roofs and/or elevating homes to Base Flood Elevations will reduce the need for repeated payments in the future if the area is hit by another hurricane. The reason for allowing for mitigation expenses is so that the structures will be less vulnerable to adverse weather events, homeowners and business owners will be more secure in their structures and taxpayers may reduce overall payments in the case of a repeat disaster.

Congress should expand programs like the Katrina Cottage program to provide a safer, more permanent living situation for residents in Presidential Declared Disaster Districts. Given the safety threats posed by temporary housing such as high fire hazard and vulnerability to adverse weather events and the comparable price of constructing more permanent housing

structures,<sup>165</sup> Congress should consider allowing temporary housing funds to be used towards the construction of small living structures on the property of homeowners who have obtained considerable damage to their homes.

## **Small Business Administration for Business**

The SBA disaster loan program for businesses needs to target young businesses because the data shows that businesses open less than a year were less likely to be aware of the SBA program. In addition, survey data demonstrates that the SBA for business program should allocate more money to individual businesses, streamline requirements, shorten the application period, and provide assistance with the application process. Addressing these issues would increase the overall satisfaction of the program.

## **Gulf Zone of Opportunity Tax Credit Program**

The business owner survey data analysis finds that fewer requirements would increase satisfaction of the Go Zone program. One of the major areas of dissatisfaction in our interviews was the short deadlines for Go Zone. During the writing of this report, the deadlines for the Go Zone tax credits were extended.

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<sup>165</sup> Smith, Gavin. 2006. "Subcommittee on Housing and Community Opportunity: Housing Options in the Aftermath of Hurricanes Katrina and Rita". 14 January *Governors Office of Recovery and Renewal* <[www.governorbarbour.com/recovery/news/2006/jan/smith.html](http://www.governorbarbour.com/recovery/news/2006/jan/smith.html)>.

## Conclusion

Findings in the literature review and case studies were reinforced when conducting the in-depth interviews and analyzing the survey data. In the literature review we found that disasters can have very disruptive consequences for individual businesses and households in the short-run and that an effect on one, either the home or the business, can have detrimental consequences for the other. This was a recurring theme in our in-depth interviews and as a result, we included a recommendation addressing the flexibility needed when a person's home and business are affected by a major event. We also found that successful recovery efforts include community planning, utilization of existing network structures, and that long-term projects require years of policy planning by officials. Again, this was found in our in-depth interviews, with individuals suggesting that the federal government use the local non-governmental organizations to implement programs, a suggestion that is highlighted in our recommendations, and that planning was central to the entire process. In our case studies of Hurricane Andrew, the San Francisco earthquake of 1906, the Northridge Earthquake and the 1985 Mexico City Earthquake, successful efforts required on-site planning, engaged community leaders and citizen involvement – recurring themes in both the in-depth interviews and data.

From the in-depth interviews, we found that a primary source of frustration for Louisianans is the arduous and inconsistent application process, an inconsistency in agency staffing and lack of information to residents.

Highlights from the homeowner data include that for the Road Home program (1) as education increases, awareness increases; (2) awareness of the program decreases with age; (3) both major ethnicities (Black, African-American and White, non-Hispanic) were aware of the program; (4) males were more aware of the program than females; and (5) those respondents with private home insurance were more likely to be aware of the program than those without. Of those who applied to the SBA program: (1) people were more likely to participate in the SBA program as age increased; (2) Black respondents were more than 4 times as likely to participate in the program; and (3) the respondents with personal finance resources and private flood insurance were very slightly more likely to participate than those without.

From the business owner data, we found for the Go Zone program: (1) the length of time a business was open did not affect its awareness of the Go Zone program, (2) a business that used private loans was slightly less likely to be aware of Go Zone program than if it used other funds to finance, and (3) many variables were significant and explained the model but did not deviate within the specific categories. In addition: (1) if a business was open more than 20 years the business was slightly more likely to get information about Go Zone and (2) the business was slightly unlikely to be aware of the Go Zone program through the media if a business's number of employees decreases; (1) businesses in the tourism and service industry were more likely to be eligible for Go Zone and (2) business owners with some degree of college or more are more likely to be eligible for Go Zone.

In addition, young businesses, business owners with a Masters degree and businesses without federal flood insurance were less likely to be aware of the SBA programs; (1) business owners with some college or a BA and businesses with decreased profits after Hurricane Katrina

were more likely to participate again in the program, and (2) businesses open less than one year and business owners with higher education were less likely to participate again. Businesses in the manufacturing and construction industry, companies with no change in the number of employees after Hurricane Katrina and businesses with decreased profits were less likely to need financial assistance. Businesses owned or managed by people with higher education were more likely to be aware of the programs as were businesses that did not reduce their number of employees after Hurricane Katrina.

Interview and survey data indicate that one of the most important aspects that would increase participation and satisfaction is a streamlined application process for all of the programs. In addition, an improvement in the training of personnel and a reduction in the turnover of staff would increase overall satisfaction in all of the programs. Addressing the issues that are outlined in this report will improve the federally funding programs by increasing the awareness of the programs within the targeted applicants, the participation of those who are in need of the programs and the satisfaction of those who participate in the programs.

## Appendix A: New Orleans Economic Recovery Chronology of Events

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### August 2005:

27 – President George W. Bush issues an emergency declaration for portions of Louisiana in advance of Hurricane Katrina, opening the opportunity for federal assistance in affected parishes.

29 – Katrina makes landfall in southeast Louisiana

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### September 2005:

2 – President Bush signs H.R. 3645, the “Emergency Supplemental Appropriations Act to Meet Immediate Needs Arising from the Consequences of Hurricane Katrina, 2005” into law. (\$10.5 billion)

3 – Registration begins for FEMA Individual Assistance and SBA Disaster Loan programs

6 – Disaster Recovery Centers open in Shreveport and Monroe, LA

8 – President Bush signs H.R. 3673, the “Second Supplemental Appropriations Act to Meet Immediate Needs Arising from the Consequences of Hurricane Katrina, 2005” into law. (\$51.8 billion)

10 – FEMA reports that nearly \$390 million in federal aid has been distributed to more than 330,000 households through FEMA \$2,000 expedited assistance grants.

15 – Eight Disaster Recovery Centers are now open in Louisiana.

24 – Hurricane Rita makes landfall on Texas/Louisiana border.

30 – 24 Disaster Recovery Centers are now open in Louisiana.

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### October 2005:

6 – “Back to Business” Workshop held to educate New Orleans businesses about resources available to them to help restart their businesses including SBA disaster loans.

15 – Deadline to register for FEMA Individual Assistance and SBA Disaster Loans

extended to January 11, 2006.

19 – Twenty-six Disaster Recovery Centers are now open in Louisiana.

25 – Forty-two Disaster Recovery Centers are now open in Louisiana.

31 – FEMA begins free regional bus service between Baton Rouge and New Orleans, allowing residents greater access to employment.

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#### November 2005:

1 – President Bush creates the position of Coordinator of Federal Support for the Recovery and Rebuilding of the Gulf Coast Region within DHS and names Don Powell as chairman.

5 – FEMA extends consideration for disaster assistance to homeowners in portions of the most heavily damaged regions in Louisiana and Mississippi without requiring a physical home inspection.

7 – Disaster Recovery Center in Monroe, LA closes, but fifty remain open and operational.

18 – New Orleans receives first \$20 million installment of their \$120 million FEMA Community Disaster Loan. CDLs can be used for any essential services, including fire and police functions.

21 – FEMA extends funding for short-term lodging program by two weeks, allowing evacuees in Louisiana hotels until December 15, 2005 to find alternative housing.

28 – Forty-seven Disaster Recovery Centers are now open, with two in New Orleans.

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#### December 2005:

7 – Residents who intend to occupy their homes within a month and have sustained only minimal damage to their homes are eligible for the FEMA “Blue Roof” or temporary roof program tasked to the Army Corps of Engineers.

9 – FEMA extends temporary hotel and motel housing for Hurricane Katrina evacuees in Louisiana from December 15, 2006 until January 7, 2007.

13 – First LRA Louisiana Speaks storefront opens in Vermilion parish, giving citizens and businesses a resource for participating in recovery efforts.

16 – FEMA extends registration deadline for Louisiana residents to apply for disaster assistance to March 1, 2006.

21 – President Bush signs H.R. 4440, the “Gulf Opportunity Zone Act of 2005” into law, providing \$8 billion in tax incentives to Katrina, Rita, and Wilma affected areas.

29 – FEMA extends registration deadline for Louisiana residents to apply for disaster assistance to March 11, 2006.

30 – President Bush signs the third Hurricane Katrina supplemental legislation included in H.R. 2863, the “Department of Defense, Emergency Supplemental Appropriations to Address Hurricanes in the Gulf of Mexico, and Pandemic Influenza Act, 2006”. This legislation provides \$11.5 billion in HUD Community Development Block Grants, \$6.21 billion of which are allocated to Louisiana.

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#### January 2006:

9 – FEMA extends temporary hotel and motel housing for Hurricane Katrina evacuees in Louisiana to February 7, 2007 with further extensions available on a case by case basis.

25 – Thirty Disaster Recovery Centers are currently open in Louisiana, three in New Orleans.

27 – FEMA announces \$37.1 million in Public Assistance grants for affected communities in Louisiana.

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#### February 2006:

8 – Twenty-five Disaster Recovery Centers are open in Louisiana.

8 – FEMA has provided more than \$4.5 billion to date through the Individuals and Households Program.

14 – FEMA expands free regional bus service between Baton Rouge and New Orleans, adding more departure times and stops and providing greater access to employment.

28 – SBA has approved 8,800 businesses for disaster assistance loans totaling \$761.7 million to date.

28 – Nineteen Disaster Response Centers are operating in Louisiana.

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**March 2006:**

1 – Contract with Carnival Cruise Lines expires. Cruise ships Ecstasy and Sensation undergo refurbishing.

10 – Final deadline for applying for SBA and FEMA disaster assistance is extended again from March 11, 2006 until April 10, 2006.

20 – FEMA merges the nineteen Long Term Community Recovery “storefronts” into its Joint Field Office operations in Baton Rouge, LA.

24 – Thirteen Disaster Recovery Centers remain open. 9,611 businesses have been awarded with SBA disaster loans totaling \$879.9 million. FEMA has distributed \$1.2 billion in other needs assistance through the Individuals and Households program to 51,661 applicants from Louisiana.

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**April 2006:**

10 – Termination of the application period for the FEMA Individual Assistance and SBA Disaster Loan programs.

20 – Eleven Disaster Recovery Centers are open. The SBA has approved 10,872 disaster assistance loans for business owners totaling \$1.04 billion and 60,885 loans to renters and homeowners for \$4.7 billion. FEMA has distributed more than \$1.3 billion to 304,055 applicants from Louisiana.

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**May 2006:**

11 – There are currently nine Disaster Recovery Centers open in Louisiana. The SBA has approved more than 11,000 disaster assistance loans for business owners totaling \$1.05 billion. FEMA has granted \$3.5 billion to Louisiana residents through 1,628,923 housing assistance checks and \$1.4 billion in Other Needs Assistance to 316,129 Louisiana applicants.

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**June 2006:**

12 – FEMA provides 28.5 million to utilities to restore electrical power to residents throughout Louisiana.

15 – President Bush signs the fourth Hurricane Katrina supplemental legislation which provides \$19.8 billion for the region. \$6 billion of these funds are given to FEMA to support housing assistance and other recovery activities, \$5.2 billion for additional CDBG funds (\$4.2 of which specifically for Louisiana), and \$550 million



for the Small Business Administration's disaster loan program

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July 2006:

12 – The Road Home program begins a pilot test of application and approval process, which will allow a subset of applicants to move through the entire process, including funding of any applicable awards.

18 – Six Disaster Recovery Centers remain in St. Tammany, Orleans, St. Bernard, Jefferson, Plaquemines, and Cameron Parishes. FEMA has issued 1.6 million housing assistance checks totaling more than \$3.6 billion and \$1.5 billion to 307,000 Louisianans in the form of Other Needs Assistance. The SBA has approved more than 13,000 disaster assistance loans totaling \$1.3 billion for businesses and 78,237 loans for renters and homeowners totaling more than \$5 billion.

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August 2006:

17 – FEMA announces Louisiana will receive \$34.7 million in crisis counseling for victims of Hurricane Katrina. This is in addition to a previous grant of \$17.7 million available through the Immediate Services program.

22 – The Road Home program opens ten Housing Assistance Centers across Louisiana.

25 – The Road Home announces the first disbursements of awards of almost \$1.5 million to 42 applicants who participated in their pilot program.

29 – One year anniversary of Hurricane Katrina's landfall.

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October 2006:

3 – The Road Home program begins accepting inbound calls from applicants who had received letters for scheduling appoints at Housing Assistance Centers.

4 – President Bush signs the Post-Katrina Emergency Management Reform Act into law.

5 – Three Disaster Recovery Centers remain in the New Orleans area, one in Orleans Parish and two in Jefferson Parish.

12 – Governor Blanco announces that senior citizens participating in the Road Home program will be exempt from penalties if they chose to rent or move outside of the state, a change from prior policy.

18 – Chairman Powell announces a new streamlined process for applying for federal Public Assistance disaster funding, expediting the process of what once took an average of six months to now as little as 15 days.

18-20 – CRS student research team conducts in-depth interviews in New Orleans.

19 – The Road Home program announces a new provision which increases available mitigation grants from \$30,000 to \$37,000 to all homeowners who apply.

21-23 – The Road Home program offers information sessions concerning program housing recovery options.

30 – Road Home administration contract awarded to ICF International for \$756 million.

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#### November 2006:

8 – More than \$5.2 billion have been awarded to the Individuals and Household Program, with \$3.7 billion going to Housing Assistance and \$1.5 billion to Other Needs Assistance. \$6.7 billion has been approved through the SBA disaster loan program, \$5.2 billion for homeowners and renters and \$1.5 billion for businesses.

8 – The Road Home program opens telephone application process.

19 – The Road Home program opens Housing Assistance Center in Houston.

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#### December 2006:

10-13 – CRS student research team conducts in-depth interviews in Baton Rouge and New Orleans.

20 – Go Zone Act is amended with the passage of H.R. 6111 Tax Relief and Health Care Act of 2006, extending the additional fifty percent bonus first-year depreciation until December 2010 and the personal property depreciation provisions until 2011.

22 – Metairie Disaster Recovery Center closes. Two remain open.

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#### January 2007:

1 – New, more stringent building codes take effect. These building practices are based off of the International Building Code.

3 – Louisiana Welcome Home Center opens in downtown New Orleans and includes one of the remaining FEMA DRCs, SBA representatives, City of New Orleans' Welcome Home Staff, Louisiana Department of Social Services, Church of the Brethren Disaster Child Care, Louisiana Spirit and Tzu Chi Foundation counseling services, and other local and national nonprofit organizations. The Welcome Home Center serves as a one-stop information center.

26 – More than \$30 billion has been obligated to Louisiana, with \$5.7 billion distributed to Individual Assistance, \$4.5 billion in Public Assistance, \$13.2 billion for the National Flood Insurance Program, and \$6.8 billion in SBA disaster loans to residents and businesses.

26 – The Public Policy Research Institute at Texas A&M University begins to deliver the research survey of New Orleans homeowners to obtain information about utilization and satisfaction of federal recovery programs. Delivery of the survey continues until February 25, 2007.

28-29 – CRS student research team conducted in-depth phone interviews.

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#### February 2007:

1 – The Public Policy Research Institute at Texas A&M University begins to deliver the research survey of New Orleans business owners to obtain information about utilization and satisfaction of federal recovery programs. Delivery of the survey continues until March 7, 2007.

22 – The Road Home program has calculated benefits of \$3.49 billion for 43,568 households in Louisiana and disbursed \$49.24 million of those funds to 738 applicants.

25 – The Public Policy Research Institute at Texas A&M University concludes survey of New Orleans homeowners.

26 – The Road Home program opens Mobile Housing Assistance Center in Grand Prairie, TX (Dallas/Ft. Worth area), Vermilion Parish, and Terrebonne Parish to expedite appointments with applicants in those areas. The Mobile Housing Assistance Centers will be open for ten days.

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#### March 2007:

1 – The Road Home program has calculated benefits of \$3.73 billion for 46,403 households in Louisiana and disbursed \$74.06 million of those funds to 1,073 applicants.

7 – The Public Policy Research Institute at Texas A&M University concludes the survey of New Orleans business owners.

8 – FEMA provides \$10.5 million through the Hazard Mitigation Grant Program to help implement new building codes throughout the state.

12 - The Road Home program opens Mobile Housing Assistance Center in Grand Prairie, TX (Dallas/Ft. Worth area) to expedite appointments with applicants in the area. The Mobile Housing Assistance Center will be open for ten days.

19 - The Road Home program opens Mobile Housing Assistance Center in Atlanta, GA to expedite appointments with applicants in the area. The Mobile Housing Assistance Center is open for ten days.

22 – The Road Home program has calculated benefits of \$4.5 billion for 58,658 households in Louisiana and disbursed \$256.04 million of those funds to 3,542 applicants.

27 – FEMA has distributed \$3.5 billion in Housing Assistance and \$1.5 billion in Other Needs Assistance throughout Louisiana.

30 – The SBA has approved \$6.3 billion in disaster loans for Louisiana residents.

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April 2007:

2 – The Road Home program begins to enact new policy of disbursing lump-sum awards directly to homeowners without mortgages.

9 – The Road Home program begins to offer Advisory Services to provide assistance to homeowners who need application assistance, information on the recovery process, or help deciding whether to rebuild in the area or relocate.

## Appendix B: Case Studies

In the past century, government response to disaster situations has been as unique as the disasters themselves. Yet one clear theme emerges as a requisite for successful recovery efforts: centralized planning and utilization of existing network structures. Meanwhile, long-term projects require years of policy planning by officials. The following case studies outline government and nonprofit response to disaster events and include relevant lessons learned from each case.

From Hurricane Andrew to the 1985 Mexico City Earthquake, successful efforts required on-site planning, engaged community leaders and citizen involvement. For example, a successful recovery in Grand Forks, ND is credited to a proactive, onsite FEMA presence and cost-sharing agreements that allowed community buy in. Additionally, after Hurricane Andrew, economic development was successful because on-site planners centralized recovery decision making with local leaders.

Each case study approaches its situation from a different perspective. One may focus on housing, while another highlights the importance of nongovernmental organizations (NGOs). Each study strives to summarize the most relevant information to recovery, economic development and homeownership.

### The San Francisco Earthquake of 1906

<b>Disaster:</b> Earthquake	<b>Date:</b> April 18, 1906
<b>Location:</b> San Francisco, California	<b>Population:</b> 410,000 (est.)
<b>Area of Damage:</b> More than 500 city blocks (80 percent of city)	<b>Damage:</b> \$500 million (est.)

*On April 18, 1906, a major earthquake occurred two miles off the coast of San Francisco (USGS Earthquake Hazards Program), leaving more than 500 blocks from downtown San Francisco to the San Francisco Bay destroyed by structural damage and gas fires.<sup>166</sup> Nearly 300,000 residents became homeless, setting up “refugee camps” in nearby cities that remained open for more than two years following the earthquake.<sup>167</sup>*

### Response and Recovery Process

At the time, federal-level disaster relief efforts were not explicitly defined, resulting in the majority of the responsibility being initially assigned to the Red Cross.<sup>168</sup> Believing that the Red Cross, in conjunction with the Army could effectively provide disaster relief, President Theodore Roosevelt declined foreign aid, and worked with Congress to appropriate \$2.5 million

<sup>166</sup> Niderost, Eric. 2006. “The Great 1906 San Francisco Earthquake and Fire”. *American History Magazine*. April 2006. Accessed 14 December 2006.

[http://www.historynet.com/magazines/american\\_history/3038306.html?page=1&c=y](http://www.historynet.com/magazines/american_history/3038306.html?page=1&c=y).

<sup>167</sup> Ibid

<sup>168</sup> United States Department of the Interior, National Park Service. 2003. *Relief Efforts of the 1906 Earthquake – Presidio of San Francisco*. Accessed 29 December 2006. < [www.nps.gov/archive/prsf/history/1906eq/relief.htm](http://www.nps.gov/archive/prsf/history/1906eq/relief.htm) > .

for the efforts.<sup>169</sup> The Army's experience and handling of the disaster set a guide for future national emergencies and started the process of defining formal policies that outlined responsibility among the Army and the Red Cross.<sup>170</sup> The need for these policies became evident as lines between civilian and military responsibilities became indistinct.<sup>171</sup>

The assistance of the U.S. Army was initially requested by the City of San Francisco to aid in the fire fighting efforts.<sup>172</sup> After arriving and assessing the magnitude of damage, Army officials requested additional military trains to supply food and additional equipment. The Army then began setting up housing for homeless residents, which turned out to be one of the largest initiatives by the Army to assist in the relief effort. The Army constructed 5,610 temporary housing units for 20,000 residents. The residents were charged a rent of \$2 dollars per month, contributing to the \$50 total purchase price of the cottage. While most residents had moved out by late 1907, the camps continued to operate into 1908.<sup>173</sup>

Because civilian organizations such as the Red Cross were not as immediately available as the military presence, the Army was authorized to take over the role of dispersing food and clothing. They serviced more than 30,000 residents with immediate food and shelter and over 15,000 with tents and other supplies in the following weeks.<sup>174</sup> In addition, while they did not assume the duties of maintaining order, the army assisted the civil authorities as necessary.

## Lessons Learned

The emergent lesson was the need for a more formalized process detailing the cooperative efforts of civilian groups, city officials, and federal response. In fact, the Army raised concerns about their extensive involvement with civilian relief, as their initial role was to provide assistance for setting up a new relief distribution system that the Red Cross would be able to manage.<sup>175</sup>

There are no accounts of public satisfaction or individual outcomes of the disaster, but a comparison of this disaster to more recent disasters raises the question whether the federal government is capable of handling large-scale urban disasters. While the city of San Francisco dealt with major fires following the 1906 earthquake, Congress rushed to provide money to the affected area, appropriating funds four days after the disaster.

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<sup>169</sup> United States Department of the Interior, National Park Service. 2003. *Relief Efforts of the 1906 Earthquake – Presidio of San Francisco*.

<sup>170</sup> Ibid

<sup>171</sup> Ibid

<sup>172</sup> Ibid

<sup>173</sup> Department of the Interior, US Government. 2007. "Refugee Cottages."

<sup>174</sup> Ibid

<sup>175</sup> Ibid

## Mexico City Earthquake

**Disaster:** Earthquake  
**Location:** Mexico City, Mexico  
**Physical Damage:** 100,000 buildings

**Date:** December 19, 1985  
**Population affected:** 20 million  
**Estimated Damage:** \$24 billion

*The Mexico City Earthquake affected over 20 million people and caused more than \$24 billion in damages due to economic loss and property damage.<sup>176,177</sup> Ten thousand people died and 100,000 building units were damaged or destroyed..<sup>178,179</sup> In response, the Mexican government focused their efforts on immediate recovery rather than long term aid. In fact, no long term recovery efforts were implemented Foreign aid and international volunteers helped in the recovery process.*

### Response and Recovery Process

The Mexican federal government responded to the disaster by centralizing recovery operations with the municipal government of Mexico City.<sup>180</sup> This allowed for a more efficient recovery process. This central office could more efficiently disperse aid funds and plan the recovery. The government chose an already existing local government agency as the conduit for aid money.

After the immediate recovery, the federal government repaired or replaced 88,000 of the damaged or destroyed housing units, an unprecedented task for the government. The government restructured its international debt with the International Monetary Fund and the World Bank to finance the effort.<sup>181</sup>

Additionally, the government enacted stricter building codes to prevent against catastrophic damage in future earthquakes.<sup>182</sup> However, some officials feel that the hastily enacted codes are inadequate because they were not given due consideration before going into effect.<sup>183</sup>

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<sup>176</sup> Quarantelli, E.L. 1996. "Basic Themes Derived from Survey Findings on Human Behavior in Mexico City Earthquake." December. *International Sociology* 11(4): 481.

<sup>177</sup> Comerio, Mary C. 1997. "Housing Issues After Disasters." *Journal of Contingencies and Crisis Management* 5(3).

<sup>178</sup> Siembieda, William J. 2002. "Choosing a Paradigm for Disaster Recovery in Central America." *Center for Disaster Management and Humanitarian Assistance, College of Public Health, University of South Florida*. Final Project Report.

<sup>179</sup> Quarantelli, E.L. 1996. "Basic Themes Derived from Survey Findings on Human Behavior in Mexico City Earthquake." December. *International Sociology* 11(4): 481.

<sup>180</sup> Comerio, Mary C. 1997. "Housing Issues After Disasters." *Journal of Contingencies and Crisis Management* 5(3).

<sup>181</sup> Ibid

<sup>182</sup> Peterson, Ivars. 1986. "Mexico City's Earthquakes: Lessons in the Ruins." 18 January. *Science News* 129(3):

36.

<sup>183</sup> Ibid

Nongovernmental organizations also played a role in the response process. Many provided food and shelter to the disaster victims where government assistance was unavailable.

UNICEF and FAO showed smart planning in their aid relief. These two groups centralized their aid relief and partnered with local grassroots organizations to aid citizens. They provided both social and development support.<sup>184</sup> In addition, a successful private effort, called FORMICO, targeted small business recovery.<sup>185</sup>

Meanwhile, the United States responded by offering volunteers. The sudden flow of American volunteers, however, overwhelmed the US Embassy in Mexico City. No individual was in charge of registering and assigning tasks, making the effort somewhat ineffectual. The U.S. also offered Mexico nearly \$4 million in relief.<sup>186</sup>

## **Lessons Learned**

Both government and private sector agencies learned that consolidation helps. By centralizing efforts, groups found that they could more efficiently plan and disperse resources. Furthermore, they also found it helpful to use already-existing agencies to help.

Likewise, the earthquake response shows the inefficiency of not centralizing volunteer efforts. American volunteers may have been more effective with a system for tracking and assigning projects.

Also learned was the value of preparing citizens for disaster. The government did not prepare its citizens for a possible catastrophic earthquake. Nor did the government disseminate information on what to do after a quake.

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<sup>184</sup> Lopezllera, L. 1993. "Massive Relief Stifles local initiative: a critical appraisal of relief schemes for Mexican earthquake victims." *GATE* 3: 25-28.

<sup>185</sup> *Ibid*

<sup>186</sup> Alvey, Nancy. 2006. Interview by Elizabeth Mallas. Tape recording. Mexico City, Mexico, 13 November.



## Hurricane Andrew

<b>Disaster:</b> Hurricane Andrew	<b>Date:</b> August 24, 1992
<b>Location:</b> Miami, Florida/Dade County	<b>Population:</b> 2,011,000
<b>Area of Damage:</b> Southern Florida	<b>Estimated Damage:</b> \$26.5 billion

*Before Hurricane Katrina, Hurricane Andrew was the most destructive hurricane in U.S. history. The storm hit Dade County, Florida, affecting the area's 2,011,000 residents. More than 25,000 homes were destroyed and another 101,241 were damaged, leaving 250,000 people homeless.<sup>187</sup> In the storm's aftermath, religious and other nonprofit groups served as primary agents in recovery, housing and feeding the victims and in starting the rebuilding process. As a result of the hurricane, South Florida still battles expensive housing costs and a lack of affordable and available home insurance*

### Response and Recovery Process

Religious groups and other nonprofits immediately responded to the hurricane by sheltering and feeding many of the victims. These groups also served as clearinghouses for volunteers, building supplies and information.<sup>188</sup>

Congress responded by enacting the Dire Emergency Relief Act, appropriating \$1 billion to recovery. \$80 million went to the Department of Commerce's (DOC) Economic Development Administration (EDA) for long-term economic planning. EDA officials worked on-site, collaborating with local governments on economic recovery projects. Ultimately, EDA funded 27 projects valuing \$50 million.<sup>189</sup>

The Internal Revenue Service (IRS) gave tax breaks to the area. For one, nonprofit groups helping the recovery process were given tax exemption. Furthermore, the IRS extended payment deadlines to December 1992, and ceased collection efforts for 30 days.<sup>190</sup>

Other federal programs include Community Development Block Grants for low income housing and Small Business Administration (SBA) loans.<sup>191</sup>

Meanwhile, state government officials responded by strengthening local building codes. Although Miami had the nation's toughest building codes at the time of the storm, local

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<sup>187</sup> National Oceanographic and Atmospheric Administration. 1992. Preliminary Report, Hurricane Andrew. Washington, 1992.

<sup>188</sup> Davis, James. 2002 "Religious Groups Joined Forces to help Hurricane Andrew Victims." South Florida Sun-Sentinel, 24 Aug.

<sup>189</sup> Department of Commerce. 1998. Hurricane Andrew Disaster Assistance: EDA Made Fast, Sound Project Selections But Could Have Better Managed Problem Projects. Washington, 1998.

<sup>190</sup> Uncle Fed's Tax Board. 1992. IRS Gives Tax Relief to Hurricane Victims. Accessed: 22 January 2007 <http://www.unclefed.com/Tax-News/1992/Nr92-88.html>.

<sup>191</sup> Dash, Peacock and Morrow. 1997. "And the Poor Get Poorer; A Neglected Black Community." Hurricane Andrew 11:206-225.

government officials made efforts for more enforcement. The new codes can add up to \$20,000 to the cost of a home.<sup>192</sup>

Damage to insured property, estimated at \$16 billion, caused some insurance companies to go bankrupt and many others to leave the state. The affordability and availability of property insurance became a problem for many south Floridians. As such, state leaders founded the Florida Hurricane Catastrophe Fund, a re-insurance program for primary insurers. Secondly, the state began to offer property insurance through a state-owned firm. This firm serves as an insurance of last resort for citizens in high-risk areas or in areas where no private firms operate.<sup>193</sup>

## Lessons Learned

A 1998 report from the DOC's Inspector General noted that the EDA recovery efforts succeeded in south Florida because of agency on-site participation. They noted the importance of federal officials working with local governments to plan recovery. They further praised Congress for letting the EDA waive normal requirements, like a state match to federal dollars. Also, Congress did not hold EDA to strict criteria for making those grants.<sup>194</sup>

Another lesson involves SBA loans. While SBA approved many individuals for low cost recovery loans, only a small percentage of applicants received their money.<sup>195</sup> This is a recurring theme in our New Orleans research.

State recovery efforts indicate that government may need to provide incentives for developing the private market, like Insurance agencies.

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<sup>192</sup> Bendick, Robin. 2002 "Hurricane Andrew Left Legacy of Higher Housing Costs." South Florida Sun-Sentinel, 20 August.

<sup>193</sup> Sains, Adrian. 2002 "Ten Years After Hurricane Andrew, Effects are Still Felk." South Florida Sun-Sentinel, 24 August.

<sup>194</sup> Department of Commerce. 1998. Hurricane Andrew Disaster Assistance: EDA Made Fast, Sound Project Selections But Could Have Better Managed Problem Projects. Washington, 1998.

<sup>195</sup> Dash, Peacock and Morrow. 1997. "And the Poor Get Poorer; A Neglected Black Community." Hurricane Andrew 11:206-225.

## Northridge Earthquake

**Disaster:** Earthquake

**Location:** Los Angeles, California

**Area of Damage:** San Fernando Valley

**Date:** January 17, 1994

**Population:** 10 million (57 Casualties)

**Est. Damage:** \$40 billion

*At the time, the Northridge Earthquake was the costliest disaster in United States history, with final costs estimated to be at least \$40 billion.<sup>196</sup> Nearly 50,000 housing units were destroyed<sup>197</sup> and there was significant economic damage.<sup>198</sup> While government assistance came from all levels, the magnitude of the disaster made it nearly impossible for government assistance to reach all those affected, with community-based organizations (CBOs) and other non-governmental organizations (NGOs) filling the gaps.*

### Response and Recovery Process

Both state and federal government played vital roles in the recovery process, with the federal government allocating \$11 billion to the recovery effort.<sup>199</sup> Together, state- and federal-level agencies received 681,710 applications for assistance by the end of 1995<sup>200</sup>, including over half a million for Federal Emergency Management Programs (FEMA) programs; about 200,000 for Small Business Administration (SBA) disaster loans for households; and nearly 40,000 for SBA disaster loans for businesses.<sup>201</sup>

Despite the availability of these programs, some needs were unmet following the earthquake. According to one study, these unmet needs occurred as a result of pre-existing social inequalities as well as inadequacy of government response programs.<sup>202</sup> With this in mind, many of the unmet needs following the earthquake were in the form of housing for low-income groups. Specifically, “support for low-cost housing [after the Northridge Earthquake] has come mainly from various CBOs and NGOs seeking to assist low-income households, older retirees on fixed incomes and Latino farm workers with their housing needs”.<sup>203</sup> The same study shows how the international NGO Habitat for Humanity “offered assistance to low- and middle-income

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<sup>196</sup> Tierney, Kathleen J. 1997. “Business Impacts of the Northridge Earthquake.” *Journal of Contingencies and Crisis Management*, 5 (2): 87-98.

<sup>197</sup> Bolin, Robert, and Lois Stanford. 1998. “The Northridge Earthquake: Community-based Approaches to Unmet Recovery Needs.” *Disasters*, 1998, 22 (1): 21-38.

<sup>198</sup> Tierney, Kathleen J. 1997. “Business Impacts of the Northridge Earthquake.” *Journal of Contingencies and Crisis Management*, 5 (2): 87-98.

<sup>199</sup> Bolin, Robert, and Lois Stanford. 1998. “The Northridge Earthquake: Community-based Approaches to Unmet Recovery Needs.” *Disasters*, 1998, 22 (1): 21-38.

<sup>200</sup> Tierney, Kathleen J. 1997. “Business Impacts of the Northridge Earthquake.” *Journal of Contingencies and Crisis Management*, 5 (2): 87-98.

<sup>201</sup> Ibid

<sup>202</sup> Bolin, Robert, and Lois Stanford. 1998. “The Northridge Earthquake: Community-based Approaches to Unmet Recovery Needs.” *Disasters*, 1998, 22 (1): 21-38.

<sup>203</sup> Ibid

homeowners needing to repair their houses in cases where FEMA and SBA money did not provide them with sufficient funds” following the earthquake.<sup>204</sup>

Community-based organizations are in a better place to meet those needs that are not addressed by federal programs for multiple reasons. For example, local nonprofits tend to be better acquainted with community needs and capabilities and, at the time, offer flexibility in their programs that government programs are often unable to provide.<sup>205</sup>

## Lessons Learned

In some disaster situations, government aid does not reach all victims. That is where, in many cases, community-based organizations and other nonprofits step in to fill in the gaps. Looking at these trends from previous disasters, such as Northridge, highlights where government assistance failed and shows where there is room for improvement in response and recovery efforts. One example of this, as seen in this case study, is the reoccurring dilemma of unmet housing needs, particularly for low-income demographic groups, following large-scale natural disasters.<sup>206</sup>

Secondly, by looking at where and how community-based organizations stepped in, the question of *why* they were better able to meet the needs of certain populations can be answered. From New Orleans field work, for example, it has come to light that many of the federal responders to Hurricane Katrina were not aware of the capabilities of certain parishes to recover. An example of a possible solution to this, based on this case study and preliminary Katrina observations, is to hire federal-level employees that are more familiar with community needs, capabilities, and infrastructure in the disaster area.

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<sup>204</sup> Bolin, Robert, and Lois Stanford. 1998. “The Northridge Earthquake: Community-based Approaches to Unmet Recovery Needs.” *Disasters*, 1998, 22 (1): 21-38.

<sup>205</sup> Tierney, Kathleen J. 1997. “Business Impacts of the Northridge Earthquake.” *Journal of Contingencies and Crisis Management*, 5 (2): 87-98.

<sup>206</sup> Bolin, Robert, and Lois Stanford. 1998. “The Northridge Earthquake: Community-based Approaches to Unmet Recovery Needs.” *Disasters*, 1998, 22 (1): 21-38.

## Grand Forks Flood

**Disaster:** Widespread flooding

**Location:** Grand Forks, ND

**Area of Damage:** 80 percent of Grand Forks

**Date:** April 4 – 18, 1997

**Population:** 49,000

**Estimated Damage:** \$2 billion

*The Grand Forks Flood was caused by a series of unusual weather events coalescing to cause extensive overflow of the Red River of the North in East Grand Forks, Minnesota and Grand Forks, North Dakota. Flood damage was estimated at \$2 billion and flood waters covered 80 percent of Grand Forks.<sup>207</sup> Residents were warned of the impending flood and were urged to purchase National Flood Insurance by local government and FEMA weeks before the event, but many did not. However, effective recovery efforts lead this disaster recovery to be known as, “a textbook example of success,” according to FEMA.<sup>208</sup>*

### Response and Recovery Process

Unlike many other natural disasters, government officials and citizens had ample warning of the Grand Forks Flood. Melting snow and unusually heavy rainfall indicated that flood conditions were likely weeks before the flood. As such, government officials began preparing for the flood and the subsequent recovery weeks before the event.<sup>209</sup> Citizens created sandbag barriers to protect the town from flooding, but a higher than anticipated water flow broke the barriers and flooded the city.

In response, President Clinton approved \$285 million in disaster recovery.<sup>210</sup> The money was spent on many types of relief, such as grants to rebuild critical infrastructure, personal assistance to victims and hazard mitigation.

Much of the recovery was financed through cost sharing agreements.<sup>211</sup> The federal government partnered with state and local governments to rebuild local infrastructure. Also, cost sharing agreements helped to finance hazard mitigation and acquiring damaged private property.

Citizens with “substantial damage” to their homes were allowed to sell their property to the state for the pre-flood appraised value. FEMA paid 75 percent, the state 10 percent and local governments 15 percent.<sup>212</sup>

The federal government also responded by building a stronger flood protection system for the two cities. Again, this was accomplished through cost sharing agreements.

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<sup>207</sup> Rosenzweig, Cynthia et al. 2002. “Increased crop damage in the U.S. from excess precipitation under climate change.” October. *Global Environmental Change* 12 (3): 197-202.

<sup>208</sup> FEMA. 2000. “Five Years After The Flood: Grand Forks Rebuilds As A Safer, Better Place To Live”. 18April. *Federal Emergency Management Agency*.

<sup>209</sup> Russell, Gordon. 2005. “Rising from the Tide”. *The Times-Picayune*. 11 December.

<sup>210</sup> FEMA. 1997. “Relief Totals More Than \$285 Million for North Dakota Storms”. 4 August. *Recovery Times*.

Issue 4.

<sup>211</sup> Ibid

<sup>212</sup> Ibid

## Lessons Learned

Officials agree that one success of the flood recovery effort was the partnership between different levels of government. Federal, state and local officials worked together to finance and plan the recovery.<sup>213</sup>

Another success was the quick and efficient response to the event. FEMA and the SBA were on scene coordinating flood mitigation, evacuation and reconstruction efforts with state and local officials even before the flood occurred. Furthermore, aid dollars were approved just days after the flood. The Army Corps of Engineers quickly began plans for a stronger flood protection system.

In this case, using government dollars to subsidize housing repair provided an incentive for citizens to stay.<sup>214</sup> The population only fell 10 percent directly after the flood but regained its pre-flood population by 2002.

Another lesson learned is that some citizens will not prepare for disaster. Despite warnings to buy National Flood Insurance, many did not. This raised questions of equity during the buy out process. Those that bought insurance felt penalized because those without the protection got the same buy out.<sup>215</sup>

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<sup>213</sup> FEMA. 1997. "Relief Totals More Than \$285 Million for North Dakota Storms". 4 August. *Recovery Times*. Issue 4.

<sup>214</sup> Russell, Gordon. 2005. "Rising from the Tide". *The Times-Picayune*. 11 December.

<sup>215</sup> Ibid

## World Trade Center Terrorist Attack

<b>Disaster:</b> Terrorist Attack	<b>Date:</b> September 11, 2001
<b>Location:</b> New York, New York (Lower Manhattan)	<b>Casualties:</b> 2,973
<b>Area of Damage:</b> 30 million square feet of office space	<b>Est. Damage:</b> \$33 to \$36 billion

*The September 11, 2001 terrorist attacks presented a disaster situation that would be extraordinarily difficult for any government to face. With most of the destruction in New York at the World Trade Center, there were nearly 3,000 casualties and more than 30 million square feet of office space were completely destroyed.<sup>216</sup> The economic and physical damage a year after the attacks was estimated at between \$33 and \$36 billion, including more than \$7 billion in earnings losses and nearly \$22 billion in physical damage.<sup>217</sup> This case study will focus on federal efforts to aid in the economic recovery of small businesses.*

### Government Response and Recovery Process

With the complete destruction of the World Trade Center towers and extensive damage to nearby buildings, the economic impact of 9/11 was significant. Specifically, it has been estimated that nearly 18,000 businesses (563,000 employees) in New York City were adversely affected and/or forced to relocate following the attacks.<sup>218</sup> To help with the economic recovery, Congress appropriated \$3.5 billion in Community Development Block Grant (CDBG) funds to help rebuild the area, including more than \$500 million to aid small businesses and nonprofits.<sup>219</sup> According to a 2002 GAO report, this was more “than the total CDBG funds provided nationwide for all major disasters in the last 10 years”.<sup>220</sup>

By order of the governor, the funds were handled by Empire State—a New York state corporate governmental agency with a focus on economic development.<sup>221</sup> The assistance programs created for small businesses through the CDBG funds included Business Recovery Grant, Small Firm Attraction and Retention Grant, Business Recovery Loan Fund, Technical Assistance, and Bridge Loan. The Business Recovery Grant was by far the largest program, as it was allocated \$331 million and had disbursed \$254 million to nearly 9,000 businesses by November 2002. Second, in regard to number of businesses aided, the Small Firm Attraction and Retention Grant allocated \$105 million and disbursed \$12 million to nearly 250 businesses by November 2002.<sup>222</sup>

In addition to CDBG funds, small businesses also received aid from Small Business Administration (SBA), local and state government, and nonprofit organizations. SBA was one of the first responders to small businesses, as it “began making loans within days after the terrorist

<sup>216</sup> Bram, Jason, James Orr, and Carol Rapaport. 2002. “Measuring the Effects of the September 11 Attack on New York City.” *FRNBY Economic Policy Review*. September 2002.

<sup>217</sup> Ibid

<sup>218</sup> GAO. 2002. “September 11: Small Business Assistance Provided in Lower Manhattan in Response to the Terrorist Attacks.” Report GAO-03-88. November 2002.

<sup>219</sup> Ibid

<sup>220</sup> Ibid

<sup>221</sup> Ibid

<sup>222</sup> Ibid

attacks and has since made thousands of loans to businesses throughout the region”.<sup>223</sup> In fact, one of the SBA programs now in place for those businesses and individuals affected by Hurricane Katrina was first created as a program to aid small businesses affected by the New York terrorist attacks: the SBA physical disaster loans and economic recovery disaster loans (EIDL).<sup>224</sup>

Businesses also received assistance with the passage of the Job Creation and Worker Assistance Act of 2002 which granted businesses in the area an extended deadline for filing tax returns<sup>225</sup> and gave them an option to file an amended 2000 tax return on 9/11 property losses to expedite the refund.<sup>226</sup> It also created a special economic development zone called the New York Liberty Zone similar to the Go Zone in the Gulf Coast to give special tax incentives to businesses in affected areas.<sup>227</sup> Businesses in this zone were granted a 30% additional depreciation deduction on affected property, and small businesses received a Work Opportunity Tax Credit for employees hired following the attacks.

Together, all of these programs aided in the economic recovery of thousands of New York City businesses. From technical assistance to relocation expenses to rebuilding expenses, small businesses which were adversely affected by the 2001 terrorist attacks benefited directly from federal funds allocated to them through agencies such as Empire State.

## Lessons Learned

According to a 2002 *FRBNY Economic Policy Review* report, the economic recovery of New York was nearly complete in less than a year.<sup>228</sup> This case study shows that, with an adequate amount of funding provided and well-managed programs in place, small businesses can survive a considerable, large-scale and unforeseen economic disaster, such as the terrorist attacks.

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<sup>223</sup> GAO. 2002. “September 11: Small Business Assistance Provided in Lower Manhattan in Response to the Terrorist Attacks.” Report GAO-03-88. November 2002.

<sup>224</sup> Ibid

<sup>225</sup> IRS. 2002. “Tax Relief for Victims of Terrorist Attack.” February. Accessed: 27 April 2007. <<http://www.irs.gov/pub/irs-pdf/p3920.pdf>>.

<sup>226</sup> IRS. 2001. “Disaster Area Taxpayers May Get Quick Refunds By Claiming Casualty Losses on Amended Returns.” 26 September. Accessed: 27 April 2007. <<http://www.irs.gov/pub/irs-news/ir-01-87.pdf>>.

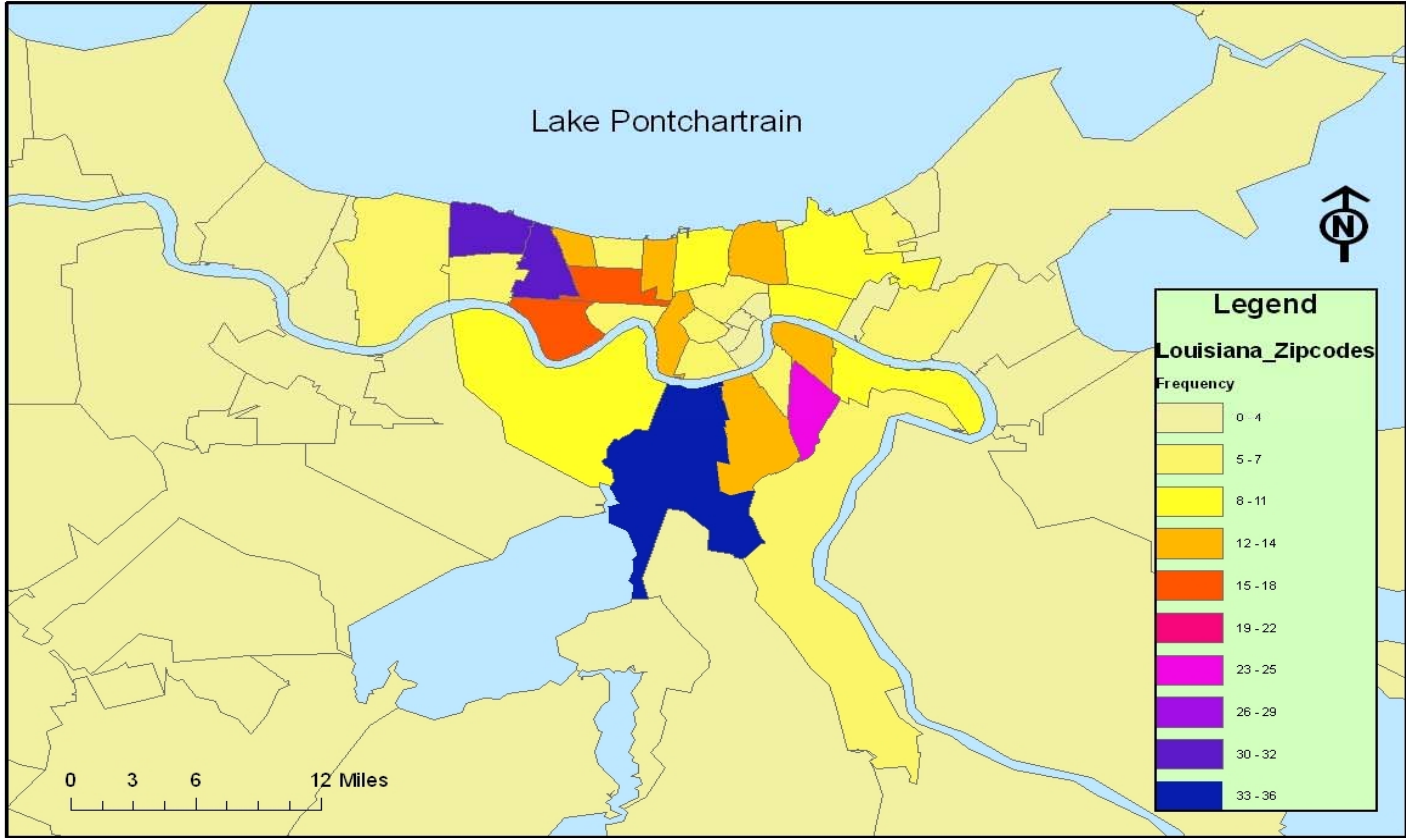
<sup>227</sup> IRS. “New York Liberty Zone Tax Incentives”. Accessed: 27 April 2007 <<http://www.irs.gov/newsroom/article/0,,id=101475,00.html>>.

<sup>228</sup> Bram, Jason, James Orr, and Carol Rapaport. 2002. “Measuring the Effects of the September 11 Attack on New York City.” *FRNBY Economic Policy Review*. September 2002

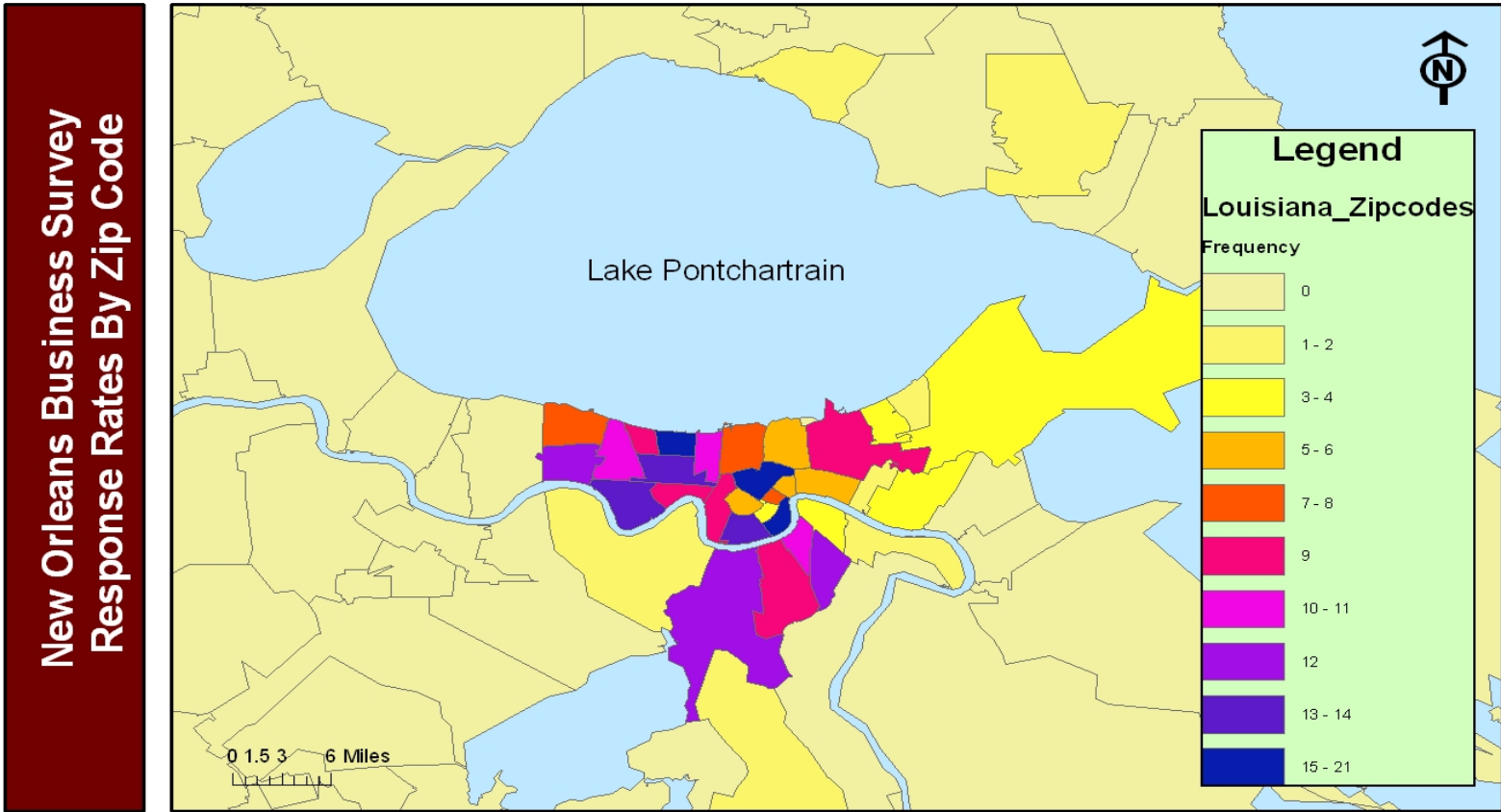


# Appendix C: Homeowner Survey Response Rates by Zip Code

New Orleans Homeowner Survey  
Response Rates By Zip Code



# Appendix D: Business Owner Survey Response Rates by Zip Code



## Appendix E: Discussion Guide during Interviews

Respondent background information

Length of time at job

2. Provide information on federal programs
  1. With which federal programs have you worked.
3. Experience with federal programs
  1. Which program been most effective?
    - i. Best/Worst aspect of program
  2. Which program been second most effective?
    - i. Best/Worst aspect of program.
  3. Which program been least effective?
    - i. Best/Worst aspect of program.
4. If you had written the legislation, how would he/she have done it differently?
  1. What would he/she include?
5. Have any internal studies been done on the federal programs you work with? What have been the results?
6. Request written documents (i.e. annual reports, budgets, program evaluations)
7. Is there something you would like to tell us that we have not asked?
8. Is there anyone you can recommend to us that with whom we should talk?

## Appendix F: Homeowner Survey

*Introduction read by PPRI staff member. Phrases in parenthesis such as (DO NOT READ LIST) were notes for PPRI staff.*

Hi, my name is \_\_\_\_\_ and I am calling from Public Policy Research Institute at Texas A&M University. We are conducting a short survey of New Orleans residents to find out if federal programs for the rebuilding process after Hurricane Katrina are effective. The information you provide will be kept strictly confidential and no personal information will be revealed. The responses we collect will be used to inform the U.S. Congress about the recovery process in New Orleans. Because of this, your participation is valuable and important. Can I please speak to the person who makes household decisions?

First I am going to ask you some questions about your home and background and then I will ask you about your experience with federal government programs.

**Q1.** Did you own a house or were paying off a home loan in New Orleans at the time of Hurricane Katrina?

1. Yes
2. No [END SURVEY]

**Q2\_1.** Was your home damaged as a result of Hurricane Katrina?

1. Yes
2. No [END SURVEY]

**Q3.** In what zip code was your home located?

\_\_\_\_\_ (Interviewer, please fill in the blank)

**Q4.** Sex: Male or Female? [DO NOT READ LIST]

1. Male
2. Female

**Q5.** How old are you?

\_\_\_\_\_ (Interviewer, please fill in the blank)

**Q6.** What is your ethnicity?

1. White, non-Latino
2. White, Latino (or Hispanic)
3. Black, African-American
4. Asian
5. Other

**Q7.** What is the highest level of education you have completed? [DO NOT READ LIST]

- |  |                                      |
|--|--------------------------------------|
| 1. <i>Less than High School</i>              | 5. <i>Bachelor's Degree</i>          |
| 2. <i>High School Graduate or equivalent</i> | 6. <i>Master's Degree</i>            |
| 3. <i>Some college but no degree</i>         | 7. <i>Professional School Degree</i> |
| 4. <i>Associate degree/Trade school</i>      | 8. <i>Doctorate</i>                  |

**Q8.** How many dependents do you have? [DO NOT READ LIST]

- |      |           |
|------|-----------|
| 0. 0 | 3. 3      |
| 1. 1 | 4. 4      |
| 2. 2 | 5. 5+     |
|      | 6. Unsure |

**Q9.** Did you have family members living in New Orleans at the time of Hurricane Katrina- not including those living in your home?

1. Yes
2. No [SKIP TO Q10]

**Q10.** Can you tell me about how many family members lived in New Orleans at the time of Hurricane Katrina? [DO NOT READ LIST]

- |                |                 |
|----------------|-----------------|
| 1. Less than 5 | 3. 11 to 20     |
| 2. 5 to 10     | 4. More than 20 |

**Q11.** How long had you lived in New Orleans before Hurricane Katrina? [DO NOT READ LIST]

- |                   |                       |
|-------------------|-----------------------|
| 1. 0 to 5 years   | 4. 16 to 20 Years     |
| 2. 6 to 10 years  | 5. More than 20 Years |
| 3. 11 to 15 years |                       |

**Q12.** How long had you lived in your home at the time of Hurricane Katrina? [DO NOT READ LIST]

- |                 |                   |
|-----------------|-------------------|
| 1. 0 to 5 Years | 4. 16 to 20 Years |
|-----------------|-------------------|

2. 6 to 10 Years                      5. More than 20 Years
3. 11 to 15 Years
- 

I am going to ask you some questions about some changes you experienced following Hurricane Katrina. Will you please tell me which of these happened to you?

**Q13\_1.** As a direct result of Hurricane Katrina, has your employment status or type of employment changed?

1. Yes                      2. No [SKIP TO Q13\_3]

**Q 13\_2.** If yes, what type of change?

\_\_\_\_\_ (Interviewer, please fill in the blank)

**Q13\_3.** Did you have a change in income?

1. Yes                      2. No [SKIP TO Q13\_5]

**Q13\_4.** If yes, did your income increase or decrease?

1. Increase              2. Decrease
- 

Now I'm going to ask you some questions about your home. (Interviewer, if they volunteer that they own more than one home, please base on their main pre-Katrina residence).

**Q14\_1.** What was the value of your home before Hurricane Katrina? [DO NOT READ LIST]

- |                       |                       |
|-----------------------|-----------------------|
| 1. \$0 to 100,000     | 4. 300,001 to 400,000 |
| 2. 100,001 to 200,000 | 5. More than 400,000  |
| 3. 200,001 to 300,000 |                       |

**Q14\_2.** Did you have private homeowners insurance?

1. Yes                      2. No                      3. Unsure

**Q14\_3.** Did you have additional federal flood insurance?

1. Yes                      2. No                      3. Unsure

**Q14\_5.** Do you still own this home? [DO NOT READ LIST]

1. Yes      2. No [SKIP TO Q15]      3. Unsure

**Q14\_6.** Do you currently live in this home?

1. Yes      2. No

**Q14\_7.** Has your home been inspected by City of New Orleans officials?

1. Yes      2. No [SKIP TO Q14\_9]

**Q14\_8.** What was the level of damage assigned by the city based on their color rating system?

1. Green   2. Yellow   3. Red      4. Don't know

**Q14\_9.** Can you tell me the main source of funds you have used to restore your home since Hurricane Katrina? [DO NOT READ LIST]

1. Personal Finances      5. Private loans  
 2. Government Funds      6. Insurance Payments  
 3. Local Organizations      7. Other \_\_\_\_\_  
 (Nonprofits, Churches)      (Interviewer, please fill in the blank)  
 4. Borrowed from friends, family

**Q15.** Do you know if the area your home is located has special rebuilding plans?

1. Yes      2. No/Unsure

**Q16.** Has the status of the rebuilding plans affected your decision to rebuild your home?

1. Yes      2. No      3. Do not know

Now I'm going to ask you some questions about federal government program you may have participated in before Hurricane Katrina.

**Q17\_1.** Did you participate in any type of federal government program before Hurricane Katrina? [DO NOT READ LIST]

1. Yes      2. No [SKIP TO Q18\_1]      3. Unsure [SKIP TO Q18\_1]

**Q17\_2.** What type of government program did you receive? [DO NOT READ LIST]

1. Basic Needs / Social Assistance (i.e. TANF, Housing, WIC, CHIP, Medicaid)

- 2. Educational Assistance (i.e. Pell and Stafford)
- 4. Social Security
- 5. Medicare
- 6. Unsure
- 7. Other

**Q17\_3.** On a scale of 1 to 10, where 1 is very dissatisfied and 10 is very satisfied, what was your level of satisfaction with your government programs before Hurricane Katrina?

- |                         |                      |
|-------------------------|----------------------|
| 1. 1 [VERY UNSATISFIED] | 7. 7                 |
| 2. 2                    | 8. 8                 |
| 3. 3                    | 9. 9                 |
| 4. 4                    | 10. [VERY SATISFIED] |
| 5. 5                    | 98. [DO NOT KNOW]    |
| 6. 6                    | 99. [REFUSED]        |
- 

Now I'm going to ask you some questions about your experiences with federal programs following Hurricane Katrina.

**Q18\_1.** Are you aware of the Road Home program that provides funds to eligible homeowners to rebuild their homes?

- 1. Yes
- 2. No [SKIP TO Q19\_1]

**Q18\_2.** How did you learn the Road Home program? [DO NOT READ LIST]

- |                               |   |
|-------------------------------|---|
| 1. Family, friends, neighbors | 5. Media (Internet, radio, tv, newspaper) |
| 2. Community leader           | 6. Government agency                      |
| 3. Religious leader / church  | 7. Unsure / Do not know                   |
| 4. Civic Leader               |   |

**Q18\_3.** Did you apply to the Road Home program?

- 1. Yes [SKIP TO Q18\_5]
- 2. No



**Q18\_4.** Why not? [DO NOT READ LIST]

- |                               |  |
|-------------------------------|--|
| 1. Ineligible                 | 5. Did not want to                       |
| 2. Did not know how           | 6. Application offices were inaccessible |
| 3. Did not know where to go   | 7. No financial assistance needed        |
| 4. Program had bad reputation | 8. Unsure                                |

**Q18\_5.** On a scale of 1 to 10, with 1 being not difficult at all and 10 being very difficult, how difficult was the application process?

- |                             |                      |
|-----------------------------|----------------------|
| 1. 1 [NOT AT ALL DIFFICULT] | 7. 7                 |
| 2. 2                        | 8. 8                 |
| 3. 3                        | 9. 9                 |
| 4. 4                        | 10. [VERY DIFFICULT] |
| 5. 5                        | 98. [DO NOT KNOW]    |
| 6. 6                        | 99. [REFUSED]        |

**Q18\_6.** Were you approved for the Road Home Program?

- |                       |                            |
|-----------------------|----------------------------|
| 1. Yes                | 3. Not yet [SKIP TO Q19_1] |
| 2. No [SKIP TO Q19_1] | 4. Unsure [SKIP TO Q19_1]  |

**Q18\_7.** Have you received your assistance?

- |        |                       |
|--------|-----------------------|
| 1. Yes | 2. No [SKIP TO Q18_9] |
|--------|-----------------------|

**Q18\_8.** About how many months did it take you to receive your assistance from the time you applied for the program? [DO NOT READ LIST]

- |                        |                        |                       |
|------------------------|------------------------|-----------------------|
| 1. Less than one month | 4. 6 to 8 months       | 7. Do not know/Unsure |
| 2. 1 to 2 Months       | 5. 9 to 12 months      |                       |
| 3. 3 to 5 Months       | 6. More than 12 months |                       |

**Q18\_9.** How much financial assistance did you receive?

\_\_\_\_\_ (Interviewer, please fill in the amount in dollars)

**Q18\_10.** Do you feel the amount of money you received from this program was enough to help you rebuild your house?

1. Yes          2. No          3. Unsure

**Q18\_11.** On a 10 point scale with 1 being very dissatisfied and 10 being very satisfied, how satisfied are you with this program overall?

- |                         |                      |
|-------------------------|----------------------|
| 1. 1 [VERY UNSATISFIED] | 7. 7                 |
| 2. 2                    | 8. 8                 |
| 3. 3                    | 9. 9                 |
| 4. 4                    | 10. [VERY SATISFIED] |
| 5. 5                    | 98. [DO NOT KNOW]    |
| 6. 6                    | 99. [REFUSED]        |

**Q18\_12.** In your experience working with this program, which part were you the most satisfied with? [DO NOT READ LIST]

- |                         |   |
|-------------------------|---|
| 1. Customer Service     | 5. Nothing  |
| 2. Timing of Assistance | 6. Everything   |
| 3. Amount of Assistance | 8. Unsure / Do not know                                   |
| 4. Application Process  | 9. Other _____<br>(Interviewer, please fill in the blank) |

**Q18\_13.** What would you change about the program to make it better? [DO NOT READ LIST]

1. More Money
2. Shorter Application Period
3. More help with Application Process
4. Fewer Requirements
5. Nothing
6. Change Everything



4. 4 10. [VERY DIFFICULT]

5. 5 98. [DO NOT KNOW]

6. 6 99. [REFUSED]

**Q19\_6.** Were you approved for at least one of these FEMA Programs?

1. Yes 3. Not yet [SKIP TO Q20\_1]

2. No [SKIP TO Q20\_1] 4. Unsure [SKIP TO Q20\_1]

**Q19\_7.** Have you received your assistance?

1. Yes 2. No [SKIP TO Q19\_9]

**Q19\_8.** About how many or months did it take you to receive your assistance from the time you applied for the program? [DO NOT READ LIST]

1. Less than 2 weeks 5. 6 to 8 months

2. 2-4 weeks 6. Do not know/Unsure

3. 1 to 2 Months 7. 9 to 12 months

4. 3 to 5 Months 8. More than 12 months

**Q19\_9.** How much assistance did you receive?

\_\_\_\_\_ (Interviewer, please fill in the amount in dollars)

**Q19\_10.** Do you feel the amount of assistance you received from this program was enough to help you rebuild your house?

1. Yes 2. No 3. Unsure

**Q19\_11.** On a 10 point scale with 1 being very dissatisfied and 10 being very satisfied, how satisfied are you with this program overall?

1. 1 [VERY DISSATISFIED] 7. 7

2. 2 8. 8

3. 3 9. 9

4. 4 10. [VERY SATISFIED]

5. 5 98. [DO NOT KNOW]

6. 6

99. [REFUSED]

**Q19\_12.** In your experience working with this program, which part were you the most satisfied with? [DO NOT READ LIST]

- 1. Customer Service
- 2. Timing of Assistance
- 3. Amount of Assistance
- 4. Application Process
- 5. Nothing
- 6. Everything
- 8. Unsure / Do not know
- 9. Other \_\_\_\_\_  
(Interviewer, please fill in the blank)

**Q19\_13.** What would you change about the program to make it better? [DO NOT READ LIST]

- 1. More Money
- 2. Shorter Application Period
- 3. More help with Application Process
- 4. Fewer Requirements
- 5. Nothing
- 6. Change Everything
- 7. Other \_\_\_\_\_  
(Interviewer, please fill in the blank)

**Q19\_14.** Would you participate in this program again?

- 1. Yes
- 2. No

Now I'm going to ask you some questions about your experiences with one more federal government program following Hurricane Katrina.

**Q20\_1.** Are you aware of the House and Personal Property Loans from the SBA which provide low-interest loans for eligible homeowners to rebuild their homes and replace property?

- 1. Yes
- 2. No [SKIP TO Q21\_1]

**Q20\_2.** How did you learn the House and Personal Property Loan? [DO NOT READ LIST]

1. Family, friends, neighbors
2. Community leader
3. Religious leader / church
4. Civic Leader
5. Media (Internet, radio, tv, newspaper)
6. Government agency
7. Unsure / Do not know
8. Other

**Q20\_3.** Did you apply to the House and Personal Property Loan?

1. Yes [SKIP TO Q20\_5]
2. No

**Q20\_4.** Why not? [DO NOT READ LIST]

1. Ineligible
2. Did not know how
3. Did not know where to go
4. Program had bad reputation
5. Did not want to
6. Did not need to
7. Application offices were inaccessible
8. Unsure

**Q20\_5.** On a scale of 1 to 10, with 1 being not difficult at all and 10 being very difficult, how difficult was the application process?

1. 1 [NOT AT ALL DIFFICULT]
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. [VERY DIFFICULT]
98. [DO NOT KNOW]
99. [REFUSED]

**Q20\_6.** Were you approved for the House and Personal Property Loan?

1. Yes
2. No [SKIP TO Q21\_1]
3. Not yet
4. Unsure [SKIP TO Q21\_1]

**Q20\_7.** Have you received your assistance?

1. Yes
2. No [SKIP TO Q20\_9]

**Q20\_8.** About how many months did it take you to receive your assistance from the time you applied for the program? [DO NOT READ LIST]

- |                        |                        |
|------------------------|------------------------|
| 1. Less than one month | 5. 9 to 12 months      |
| 2. 1 to 2 months       | 6. More than 12 months |
| 3. 3 to 5 months       | 7. Do not know/Unsure  |
| 4. 6 to 8 months       |                        |

**Q20\_9.** How much assistance did you receive?

\_\_\_\_\_ (Interviewer, please fill in the amount in dollars)

**Q20\_10.** Do you feel the amount of assistance you received from this program was enough to help you rebuild your house?

1. Yes      2. No      3. Unsure

**Q20\_11.** On a 10 point scale with 1 being very unsatisfied and 10 being very satisfied, how satisfied are you with this program overall?

- |                         |                      |
|-------------------------|----------------------|
| 1. 1 [VERY UNSATISFIED] | 7. 7                 |
| 2. 2                    | 8. 8                 |
| 3. 3                    | 9. 9                 |
| 4. 4                    | 10. [VERY SATISFIED] |
| 5. 5                    | 98. [DO NOT KNOW]    |
| 6. 6                    | 99. [REFUSED]        |

**Q20\_12.** In your experience working with this program, which part were you the most satisfied with? [DO NOT READ LIST]

- |                         |                         |
|-------------------------|-------------------------|
| 1. Customer Service     | 5. Nothing              |
| 2. Timing of Assistance | 6. Everything           |
| 3. Amount of Assistance | 8. Unsure / Do not know |
| 4. Application Process  | 9. Other _____          |

(Interviewer, please fill in the blank)

**Q20\_13.** What would you change about the program to make it better? [DO NOT READ LIST]

1. More Money
2. Shorter Application Period
3. More help with Application Process
4. Fewer Requirements
5. Nothing
6. Change Everything
7. Other \_\_\_\_\_  
(Interviewer, please fill in the blank)

**Q20\_14.** Would you participate in this program again?

1. Yes
2. No

Now I'm going to ask you some questions about other places and people you might have received housing assistance from.

**Q21\_1.** Did you receive any housing assistance from individuals or organizations other than the government?

1. Yes
2. No [END SURVEY]
3. Unsure [END SURVEY]

**Q21\_2.** From whom did you receive the assistance? [DO NOT READ LIST, CHECK ALL THAT APPLY]

1. Friends and family
2. Church or other religious organization
3. Other community organizations
4. National Service Organizations (Red Cross, Salvation Army, etc.)
5. Other \_\_\_\_\_  
(Interviewer, please fill in the blank)

**Q21\_3.** How long did you receive assistance?



- |                        |                        |
|------------------------|------------------------|
| 1. Less than one month | 5. 9 to 12 months      |
| 2. 1 to 2 months       | 6. More than 12 months |
| 3. 3 to 5 months       | 7. Do not know/Unsure  |
| 4. 6 to 8 months       |                        |

This concludes the survey. Thank you very much for your participation.

## Appendix G: Business Owner Survey

*Introduction read by PPRI staff member. Phrases in parenthesis such as (DO NOT READ LIST) were notes for PPRI staff.*

Hi, my name is \_\_\_\_\_ and I am calling from Public Policy Research Institute at Texas A&M University. We are conducting a short survey of New Orleans business owners to find out if federal programs for the rebuilding process following Hurricane Katrina are effective. The information you provide will be kept strictly confidential and no personal information will be revealed. The responses we collect will be used to inform the U.S. Congress about the recovery process in New Orleans. Because of this, your participation is valuable and important. May I please speak with the owner or manager?

*\*\*Note to interviewer: If person owns more than one business, ask them to answer questions based on their longest-running business.\*\**

First I am going to ask you some background questions and a few questions about your experiences following Hurricane Katrina.

**Q1.** Did you own or manage a business in New Orleans at the time of Hurricane Katrina?

1. Yes    2. No [END SURVEY]

**Q2.** Did your business receive structural damage as a result of Hurricane Katrina?

1. Yes    2. No [END SURVEY]

**Q3.** What category best describes your business: retail, tourism, manufacturing and construction, service, or another?

- |                                   |   |
|-----------------------------------|---|
| 1. Retail                         | 4. Service  |
| 2. Tourism                        | 5. Other _____<br>(Interviewer, please fill in the blank) |
| 3. Manufacturing and Construction |   |

**Q4.** In what zip code was your business located?

\_\_\_\_\_ (Interviewer, please fill in the blank)

**Q5.** At the time of Hurricane Katrina, how long had your business been open? [DO NOT READ LIST]

4. Less than 3 years    4. 11 to 20 years

5. 3 to 5 years                      5. More than 20 years

6. 6 to 10 years

**Q6.** How many people you did you employ before Hurricane Katrina? [DO NOT READ LIST]

1. 1 to 10                      4. 41 to 60                      7. 101 to 500

2. 11 to 20                      5. 61 to 80                      8. More than 500

3. 21 to 40                      6. 81 to 100

**Q7.** Has that number increased, decreased, or remained the same after Hurricane Katrina? [DO NOT READ LIST]

1. Increased                      3. Remained the same

2. Decreased                      4. Do not Know / Unsure

**Q8.** Can you please tell me the approximate net profits of your business for the year before Hurricane Katrina?

\_\_\_\_\_ (Interviewer, please fill in the amount)

**Q9.** Following Hurricane Katrina, did your business's annual net profits increase, decrease, or remain the same? [DO NOT READ LIST]

1. Increased                      2. Decreased                      3. No Change                      4. Do not know / Unsure

**Q10.** Was your business privately insured before Hurricane Katrina? [DO NOT READ LIST]

1. Yes                      2. No                      3. Unsure

**Q11.** Did your business have additional federal flood insurance before Hurricane Katrina? [DO NOT READ LIST]

1. Yes                      2. No                      3. Unsure

**Q12.** Can you tell me the main source of funds you have used to maintain your business since Hurricane Katrina? [DO NOT READ LIST]

1. Normal Revenue                      5. Borrowed from friends, family

2. Personal Finances                      6. Private Loans

3. Government Funds                      7. Insurance payments

4. Local Organizations: (Nonprofits, Churches)      8. Other \_\_\_\_\_  
(Interviewer, please fill in the blank)

**Q13\_1.** First, has your business been inspected by City of New Orleans officials?

1. Yes      2. No [SKIP TO Q14]

**Q13\_2.** What was the level of damage based on the color rating system?

1. Green      2. Yellow      3. Red      4. Do not know

**Q14.** Do you know if the area your business is located has special rebuilding plans? [DO NOT READ LIST]

1. Yes      2. No/Unsure

**Q15.** Has the status of the rebuilding plans affected your decision to rebuild your business? [DO NOT READ LIST]

1. Yes      2. No      3. Do not know

**Q16.** What is the highest level of education you have completed? [DO NOT READ LIST]

- |  |                                      |
|--|--------------------------------------|
| 4. <i>Less than High School</i>              | 5. <i>Bachelor's Degree</i>          |
| 5. <i>High School Graduate or equivalent</i> | 6. <i>Master's Degree</i>            |
| 6. <i>Some college but no degree</i>         | 7. <i>Professional School Degree</i> |
| 7. <i>Associate degree/technical degree</i>  | 8. <i>Doctorate</i>                  |

Now I'm going to ask you a couple of questions about federal programs you may have participated in before Hurricane Katrina.

**Q17\_1.** Did you receive any type of federal government assistance before Hurricane Katrina? [DO NOT READ LIST]

1. Yes      2. No [SKIP TO Q18\_1]      3. Unsure [SKIP TO Q18\_1]

**Q17\_2.** What type of federal assistance did you receive?

1. Business Loans (SBA)  
2. Basic Needs / Social Assistance (i.e. TANF, Housing, WIC, CHIP, Medicaid)

3. Educational Assistance (i.e. Pell and Stafford)
4. Social Security
5. Medicare
6. Other
7. Unsure

**Q17\_3.** On a scale of 1 to 10, where 1 is very dissatisfied and 10 is very satisfied, what was your level of satisfaction, as a participant, with federal government programs before Hurricane Katrina?

- |                          |                      |
|--------------------------|----------------------|
| 1. 1 [VERY DISSATISFIED] | 7. 7                 |
| 2. 2                     | 8. 8                 |
| 3. 3                     | 9. 9                 |
| 4. 4                     | 10. [VERY SATISFIED] |
| 5. 5                     | 98. [DO NOT KNOW]    |
| 6. 6                     | 99. [REFUSED]        |
- 

Thank you for answering my questions regarding pre-Katrina use of federal programs. I am now going to ask you some questions about your experiences with federal programs following Hurricane Katrina.

I want to first ask about tax incentive programs enacted after Hurricane Katrina.

**Q18\_1.** Are you aware of the Gulf Opportunity Zone Act (also called GO Zone) that was passed in December 2005 provides tax benefits for areas affected by Hurricanes Katrina, Wilma, and Rita?

1. Yes
2. No/unsure [SKIP TO Q19\_1]

**Q18\_2.** How did you learn about the Go Zone Program? [DO NOT READ LIST]

1. Family, friends, neighbors
5. Media (Internet, radio, tv, newspaper)
2. Community leader
6. Government agency

- 3. Religious leader / church
- 4. Civic Leader
- 7. Unsure / Do not know
- 8. Other \_\_\_\_\_  
(Interviewer, please fill in the blank)

**Q18\_3.** The GO Zone Act included several tax provisions, such as accelerated depreciation, special business expensing for capital equipment, and wage credits. Did you claim any of these provisions for 2005?

- 1. Yes [SKIP TO Q17\_5]
- 2. No

**Q18\_4.** Why not? [DO NOT READ LIST] [Skip to Q18\_7]

- 1. Ineligible
- 2. Did not know how
- 3. Did not know where to go
- 4. Program has bad reputation
- 5. No Financial assistance needed
- 6. Did not want to
- 7. Did not know about the program
- 8. Did not file taxes
- 9. Other \_\_\_\_\_  
(Interviewer, please fill in the blank)

**Q18\_5.** On a scale of 1 to 10 with 1 being not difficult and 10 being very difficult, how difficult was the tax filing process for 2005?

- 1. 1 [NOT AT ALL DIFFICULT]
- 2. 2
- 3. 3
- 4. 4
- 5. 5
- 6. 6
- 7. 7
- 8. 8
- 9. 9
- 10. [VERY DIFFICULT]
- 98. [DO NOT KNOW]
- 99. [REFUSED]

**Q18\_6.** What is the value of the Go Zone tax incentives you claimed?

\_\_\_\_\_ (Interviewer, please fill in the blank)

**Q18\_7.** Do you plan to claim any for 2006?

- 1. Yes [SKIP TO Q17\_9]
- 2. No
- 3. Unsure/Do not know

**Q18\_8.** Why not? [DO NOT READ LIST, SKIP TO Q19\_1]

- |                                      |   |
|--------------------------------------|---|
| 1. Ineligible                        | 6. Do not want to   |
| 2. Do not know how                   | 7. Do not know about the program                          |
| 3. Do not know where to go           | 8. Will not file taxes                                    |
| 4. Program has bad reputation        | 9. Other _____<br>(Interviewer, please fill in the blank) |
| 5. No Financial assistance is needed |   |

**Q18\_9.** Do you feel that the tax incentives will be / were of value in reopening your business?

1. Yes      2. No      3. Unsure

**Q18\_10.** On a 10 point scale with 1 being very dissatisfied and 10 being very satisfied, how satisfied are you with this program overall?

- |                          |                      |
|--------------------------|----------------------|
| 1. 1 [VERY DISSATISFIED] | 7. 7                 |
| 2. 2                     | 8. 8                 |
| 3. 3                     | 9. 9                 |
| 4. 4                     | 10. [VERY SATISFIED] |
| 5. 5                     | 98. [DO NOT KNOW]    |
| 6. 6                     | 99. [REFUSED]        |

**Q18\_11.** In your experience working with this program, which part were you the most satisfied with? [DO NOT READ LIST]

- |                         |   |
|-------------------------|---|
| 1. Customer Service     | 5. Nothing  |
| 2. Timing of Assistance | 6. Everything   |
| 3. Amount of Assistance | 8. Unsure / Do not know                                   |
| 4. Application Process  | 9. Other _____<br>(Interviewer, please fill in the blank) |

**Q18\_12.** What would you change about the program to make it better? [DO NOT READ LIST]

1. Larger tax deduction
2. Shorter Application Period
3. More help with Application Process
4. Fewer Requirements
5. Nothing
6. Change Everything
7. Other \_\_\_\_\_  
(Interviewer, please fill in the blank)

**Q18\_13.** Would you participate in this program again?

1. Yes
2. No

Thank you for answering my questions about the GO Zone federal tax incentives. Now I'm going to ask you about another federal program you may have participated in following Hurricane Katrina.

**Q19\_1.** Are you aware of the Small Business Administration Disaster Loan programs which provide low interest loans to eligible businesses in Presidentially Declared Disaster Areas?

1. Yes
2. No/unsure [SKIP TO Q20\_1]

**Q19\_2.** How did you learn about the Small Business Administration Disaster Loans? [DO NOT READ LIST]

1. Family, friends, neighbors
2. Community leader
3. Religious leader / church
4. Civic Leader
5. Media (Internet, radio, tv, newspaper)
6. Government agency
7. Unsure / Do not know
8. Other \_\_\_\_\_  
(Interviewer, please fill in the blank)

**Q19\_3.** Did you apply for Small Business Administration Disaster Loans?

1. Yes [SKIP TO Q19\_5]
2. No



**Q19\_4.** Why not? [DO NOT READ LIST, SKIP TO Q20\_1]

- |                               |  |
|-------------------------------|--|
| 1. Ineligible                 | 5. Did not want to                       |
| 2. Did not know how           | 6. Did not need to                       |
| 3. Did not know where to go   | 7. Application offices were inaccessible |
| 4. Program had bad reputation | 8. Unsure                                |

**Q19\_5.** On a scale of 1 to 10, with 1 being not difficult at all and 10 being very difficult, how difficult was the application process?

- |                             |                      |
|-----------------------------|----------------------|
| 1. 1 [NOT AT ALL DIFFICULT] | 7. 7                 |
| 2. 2                        | 8. 8                 |
| 3. 3                        | 9. 9                 |
| 4. 4                        | 10. [VERY DIFFICULT] |
| 5. 5                        | 98. [DO NOT KNOW]    |
| 6. 6                        | 99. [REFUSED]        |

**Q19\_6.** Were you approved for the Small Business Administration Disaster Loan?

- |                       |                            |
|-----------------------|----------------------------|
| 1. Yes                | 3. Not yet [SKIP TO Q20_1] |
| 2. No [SKIP TO Q20_1] | 4. Unsure [SKIP TO Q20_1]  |

**Q19\_7.** Have you received your assistance?

- |        |                        |
|--------|------------------------|
| 1. Yes | 2. No [SKIP TO Q19_11] |
|--------|------------------------|

**Q19\_8.** About how many months did it take you to receive your assistance from the time you turned in your application for the SBA disaster loan program? [DO NOT READ LIST]

- |                        |                        |                       |
|------------------------|------------------------|-----------------------|
| 1. Less than one month | 4. 6 to 8 months       | 7. Do not know/Unsure |
| 2. 1 to 2 Months       | 5. 9 to 12 months      |                       |
| 3. 3 to 5 Months       | 6. More than 12 months |                       |

**Q19\_9.** How much were you approved for? \_\_\_\_\_ (Interviewer, fill in the blank)

**Q19\_10.** Do you feel the amount of your loan was sufficient to help you reopen your business?

1. Yes      2. No      3. Unsure

**Q19\_11.** On a 10 point scale with 1 being very dissatisfied and 10 being very satisfied, how satisfied are you with the SBA Disaster Loan program overall?

- |                          |                      |
|--------------------------|----------------------|
| 1. 1 [VERY DISSATISFIED] | 7. 7                 |
| 2. 2                     | 8. 8                 |
| 3. 3                     | 9. 9                 |
| 4. 4                     | 10. [VERY SATISFIED] |
| 5. 5                     | 98. [DO NOT KNOW]    |
| 6. 6                     | 99. [REFUSED]        |

**Q19\_12.** In your experience working with this program, which part were you the most satisfied with? [DO NOT READ LIST]

- |                         |   |
|-------------------------|---|
| 1. Customer Service     | 5. Nothing  |
| 2. Timing of Assistance | 6. Everything   |
| 3. Amount of Assistance | 8. Unsure / Do not know                                   |
| 4. Application Process  | 9. Other _____<br>(Interviewer, please fill in the blank) |

**Q19\_13.** What would you change about the program to make it better? [DO NOT READ LIST]

1. More Money
2. Shorter Application Period
3. More help with Application Process
4. Fewer Requirements
5. Nothing
6. Change Everything

7. Other \_\_\_\_\_  
 (Interviewer, please fill in the blank)

**Q19\_14.** Would you participate in this program again?

1. Yes      2. No
- 

Now I'm going to ask you a few questions about other places and people you received business assistance from other than federal programs.

**Q20\_1.** Did you receive any business assistance from individuals or organizations other than the federal government?

1. Yes      2. No [END SURVEY]      3. Unsure [END SURVEY]

**Q20\_2.** From whom did you receive the assistance? [DO NOT READ LIST, CHECK ALL THAT APPLY]

1. Friends and family
2. Church or other religious organization
3. Other community organizations
4. National Service Organizations (Red Cross, Salvation Army, etc.)
5. Other

**Q20\_3.** For how long did you receive assistance?

- |                        |                        |
|------------------------|------------------------|
| 1. Less than one month | 5. 9 to 12 months      |
| 2. 1 to 2 months       | 6. More than 12 months |
| 3. 3 to 5 months       | 7. Do not know/Unsure  |
| 4. 6 to 8 months       |                        |

This concludes the survey. Thank you very much for your participation.

## Appendix H: Homeowner Survey Methodology (PPRI)

The Public Policy Research Institute, PPRI, conducted a telephone survey on the topic of Hurricane Katrina Rebuilding Issues for Greater New Orleans' Homeowners for the Bush School of Public Policy at Texas A&M University. The data collection for the Homeowners survey started on January 26, 2007 and ended on February 25, 2007 and included a total of 347 completes. The Hurricane Katrina Homeowners survey was conducted according to PPRI's standard data collection procedures. These protocols cover the entire interviewing process from recruiting interviewers to data delivery. The lab's standard survey process is outlined below in detail and any specific changes to standard protocol are explained.

### Sampling Methodology

Sample was a random digit sample of all telephone households in the parishes of Jefferson, Orleans, and St. Bernard. Using listed telephone numbers, operating banks of telephone numbers were identified. A random sample was selected from among all numbers in the bank of numbers, whether listed or not. The sample was provided by Survey Sampling International.

### Recruiting

New survey lab interviewers were recruited and selected utilizing our standard operating procedures. This process began with the announcement of new interviewer positions in local newspaper advertisements and student employment offices. A multi-step screening process required potential interviewers to telephone our Survey Lab supervisor. Prospects were initially screened through this first contact telephone conversation. Those who failed to present themselves well on the phone were eliminated from further consideration. Those who passed the initial screening were asked to visit the Lab and complete an application form. Prospects whose applications were positively evaluated were interviewed face-to-face by the Survey Lab supervisor. In addition to providing standard employee information, the prospect was required to conduct a brief telephone interview with the supervisor using the project questionnaire.

The criteria for evaluation include:

- . Evidence of reliability as an employee;
- . Bilingual capability;
- . Demonstrated articulation;
- . Positive telephone "personality"; and
- . Accuracy and attention to detail in reading the survey questionnaire; following instructions, and marking the responses.

Finally, new interviewers were carefully monitored during a trial period to identify and remedy problems immediately. This "on the job training" continued until the basic skills were mastered. At least five experienced shift supervisors were assigned to the project and trained along with the interviewers.

### Training

Existing training manuals covering the standard operating procedures at PPRI as well as training

material designed specifically for this project were used. In addition to the printed manuals, training materials included overhead slide presentations, worksheets, and example questionnaires.

The training session for the Hurricane Katrina Homeowners survey began on January 26, 2007. This training covered the standard topics included in the training manual and were designed to encourage active participation of trainees and to familiarize them with the different types of respondents who would be interviewed. A large portion of the training session, like the training manual, was devoted to a question-by-question review of the survey instrument. Much of the training session involved didactic classroom sessions and practice interviewing.

Each trainee was observed and evaluated during the training session. Any trainees who did not perform satisfactorily were given additional individualized training or replaced, as necessary. The training session was designed to maximize the effectiveness of the interviewers. Topics covered in the training included:

Background of the Hurricane Katrina Homeowners survey including information on PPRI and random public opinion polls; Organization of the interviewing staff including responsibilities of supervisors, interviewers, and other staff; Standard management procedures including scheduling, logging in and out, payroll, sickness, absences, tardiness, etc.; Information on sampling: How it works in general; how the Hurricane Katrina Homeowners sample was derived; what the interviewer must do; why the procedures must be followed exactly; General instructions on interviewing including interviewer preparation, how to establish contact, how to maximize response rates, how to deal with problems; Asking questions including maintaining neutrality, encouraging responses, probing, etc.; Specifics of the Hurricane Katrina Homeowners survey including pronunciation, skips, allowable clarifications, etc.; Dealing with specific problems (such as concern about privacy); and Procedures for insuring confidentiality.

Supervisors worked on an individual basis or in small groups with the trainees. Although some of the material was presented in a lecture format, much of it was presented by example, or through participation in exercises designed to replicate actual interviewing experiences. Finally, interviewers practiced interviewing each other using the actual iCATI equipment.

The training was conducted in a two-hour session, followed by a two-hour follow-up session. The first session covered general issues and instructors conducted specific training for this project. The two-hour follow-up was devoted to practicing the interview with the iCATI system.

At the end of the training session the prospective interviewers were tested for basic knowledge of the material and evaluated in a practical interviewing exercise. Trainees not meeting adequate standards were required to remedy their deficiencies before conducting project interviews.

#### Internet Computer-Assisted Telephone Interviewing System (iCATI)

The internet computer-assisted telephone interviewing system in place in the Survey Laboratory represents the cutting edge of survey technology. With iCATI on-line, a computer manages the survey sample, displays prompt questions for the interviewer, and electronically records responses. The system also produces productivity reports, progress reports, interviewer time sheets, and telephone billing reports.

The iCATI prevents most mistakes from occurring by guiding the interviewer through the questionnaire and automatically skipping questions as appropriate, based on the respondent's answers. It also eliminates data entry errors that can occur as information is transferred from printed questionnaires into electronic format. The iCATI system allows the Survey Laboratory supervisor to monitor all interviewers from a central computer. Because the system is web-based, iCATI allows a survey to be conducted from anywhere where web access is available. A copy can also be installed on a laptop which allows surveys to be conducted in remote locations with the data being uploaded at a later point.

The iCATI hardware used in PPRI's Survey Laboratory consists of a network of 40 desktop computers. The iCATI system is installed a Windows Server machine running Apache. The webpages were written in PHP with a MySQL database backend.

Each of the 40 available phone lines in the interview operation is linked to a central monitoring phone. A bank of call status lights indicates whether or not a phone is in use. Supervisors monitor a specific number of calls each shift using both the telephone monitoring and the interviewing computer monitoring capability.

Phones are connected to the computers and the iCATI system provides automatic dialing of telephone numbers. This reduces the potential for error in dialing and speeds calling. It should be noted that PPRI does not use "presumptive" dialing, a commonly used method of using computers to dial numbers in anticipation that an interviewer will be available when a connection is made. Among other problems, this method results in the person answering the phone to experience at least a short delay before the interviewer begins, which reduces the probability of cooperation.

#### Survey Lab Capacity and Capabilities

The telephone survey facility consists of a monitoring and supervising office connected to a large room containing 40 interview stations. The stations are custom built, sound insulated cubicles that provide an effective interviewing environment.

The telephone interview facility keeps a very extensive schedule, operating a total of 84.5 hours per week. Interviews can be done anytime between 8:00a.m. and 9:30p.m. during the week, Saturday from 10:00a.m. to 6:00p.m., and 1:00p.m. to 9:30p.m. on Sunday. Interviewers can be very flexible in arranging attempts to call a respondent back or in receiving incoming calls. The interview facility is closed only on major holidays. The survey operation is open on all other days including other state and university holidays. A telephone answering machine is used to take messages during hours when the facility is closed.

#### Telephone Data Collection

The following describes the activities involved in the actual collection of the telephone data.

**Interviewer Scheduling.** Prior to each week of scheduled interviews, the supervisory staff determined the requisite number of interviewers to assign to each shift. Typically, for a project of this nature, 15 to 20 interviewers were assigned to this survey during evening (6:30-9:30) and

weekend shifts (10-2:00 and 2:30-6:30 on Saturday and 1:30-5:30 on Sunday). Morning and afternoon shifts were scheduled with three or four interviewers due to the lower number of household contacts during these hours.

Daily Survey Activity. The survey program supervisory staff oversaw the preparation for interviewing each day. The following tasks were routinely part of that activity:

Use the iCATI to produce sample status reports which could identify potential problems and establish priorities for interviewing during the shift;

Use the iCATI to produce interviewer productivity reports which could identify problems; and  
Determine the appropriate response to refusals, (e.g., scheduling another attempt) and other special situations.

Prior to each shift the shift supervisor:

Allocated interview stations on the iCATI to interviewers;

Assigned interviewers to special tasks, such as refusal conversion; and

Determined which interviewers would be monitored (priority was given to new interviewers, interviewers with recognized problems, and interviewers who had not been monitored during their last four shifts).

During an interviewing session, shift supervisors had the responsibility for:

Answering questions that arose and dealing with difficult situations with respondents;

Monitoring interviews--at least 20% of the interviewers in a shift were monitored;

Maintaining shift productivity; and

Monitoring the iCATI system to make sure that appropriate allocations of the sample were made.

PPRI assigned a shift supervisor, an assistant supervisor, and an edit checker to the evening and weekend shifts. During morning and afternoon shifts, when fewer interviewers were working, a single shift supervisor was present.

#### Procedures for Contacting Respondents

Our standard procedure for attempting to contact a household was to place a call during each of five different shifts throughout the week. Four of these calls occurred during the evening or weekend hours when respondents were most likely to be at home. Numbers that were apparently disconnected were tried twice. Busy numbers were tried twice during the same shift, with repeated attempts during five different shifts. When a household had been reached, but the correct respondent was not available, as many as five more tries were made to reach the correct respondent.

PPRI attempted to convert virtually all refusals. The only refusals where conversions were not attempted were those where the respondent was extremely adamant that they did not want to be called again. Interviewers completed a special form when a refusal occurred that provided as much information as possible on the circumstances of the refusal. The respondent was then re-contacted by interviewers specially trained to convert refusals.

### Monitoring Interviews and Verification

Telephone interviewers were carefully supervised. One supervisor was on duty for every 10 interviewers. Interviews were regularly monitored from a central phone by supervisors who were required to monitor at least twenty percent of the interviews during a shift.

PPRI verified five percent of the interviews conducted by using the iCATI system to monitor all screen and keyboard activity at a workstation from a central terminal. A random procedure was specified for selecting interviews. Selection occurred throughout the entire shift.

### Confidentiality

Several procedures insured confidentiality during the interviewing process. PPRI is required to maintain confidentiality of records on a variety of projects, including ones in which records are maintained on identified individuals. The approaches include maintaining security, following specified procedures, and employee training and supervision.

The iCATI system enables control to be maintained over all files and records. Because all sample management and data collection were handled by computer, there were few printed materials that could compromise confidentiality. The computer system was secure. All areas where confidential material was stored were password protected and available only to a small group of staff who required access. Additionally, the premises and physical data were secured.

The most important procedural consideration in maintaining security was to make sure that the anonymity of the telephone interviews was not compromised. In the iCATI system, specific information (i.e. telephone number, first name of someone to be called back) was in a file separate from the collected data. These files could be linked, but they are not maintained in a linked form. As soon as the results were processed so there was no further need for access to telephone numbers and other identifying information, this data was destroyed.

All staff at PPRI are aware of the need for confidentiality. Highlighting its importance is part of all new employee training as well as the monitoring and supervision processes.

As for all research projects PPRI obtained permission to conduct research from the Texas A&M University Internal Review Board. This committee reviews all human subject research done on campus to ensure that the rights of respondents are protected.

### Sample Disposition

On the next page is the sample disposition for the Hurricane Katrina Homeowners survey along with computed response, cooperation, refusal, and contact rates. PPRI uses the standard American Association for Public Opinion Research (AAPOR) definitions for classifying the types of calls and respondent contacts.



DESCRIPTION	Final Disposition Codes	Business Survey Data
<b>Interview (Category 1)</b>		
Complete	1.0/1.10	301
Partial	1.200	23
<b>Eligible, non-interview (Category 2)</b>	2.000	
Refusal and breakoff	2.100	
Refusal	2.110	
Household-level refusal	2.111	373
Known-respondent refusal	2.112	189
Break off	2.120	
Non-contact	2.200	
Respondent never available	2.210	588
Telephone answering device (confirming HH)	2.220	
Answering machine household-no message left	2.221	124
Answering machine household-message left	2.222	129
Other, non-refusals	2.300	
Deceased respondent	2.310	
Physically or mentally unable/incompetent	2.320	
Language problem	2.330	
Household-level language problem	2.331	3
Respondent language problem	2.332	3
No interviewer available for needed language	2.333	
Miscellaneous	2.350	
<b>Unknown eligibility, non-interview (Category 3)</b>	3.000	
Unknown if housing unit	3.100	
Not attempted or worked	3.110	
Always busy	3.120	52
No answer	3.130	594
Answering machine-don't know if household	3.140	191
Call blocking	3.150	1
Technical phone problems	3.160	
Housing unit, unknown if eligible respondent	3.200	
No screener completed	3.210	
Other	3.900	
<b>Not eligible (Category 4)</b>	4.000	
Out of sample - other strata than originally coded	4.100	
Fax/data line	4.200	50
Non-working/disconnect	4.300	
Non-working number	4.310	175
Disconnected number	4.320	324
Temporarily out of service	4.330	18
Special technological circumstances	4.400	

Number changed	4.410	13
Cell phone	4.420	4
Call forwarding	4.430	
Residence to residence	4.431	
Non-residence to residence	4.432	
Pager	4.440	
Nonresidence	4.500	
Business, government office, other organizations	4.510	17
Institution	4.520	13
Group quarters	4.530	1
No eligible respondent	4.700	313
Quota filled	4.800	
Other-Duplicate	4.900	1
<b>Total phone numbers used</b>		3500
I=Complete Interviews (1.1)		301
P=Partial Interviews (1.2)		23
R=Refusal and break off (2.1)		562
NC=Non Contact (2.2)		841
O=Other (2.0, 2.3)		6
e=estimated proportion of cases of unknown eligibility that are eligible (enter a value in line 62 or accept the value in line 62 as a default)		
Estimate of e is based on proportion of eligible households among all numbers for which a definitive determination of status was obtained (a very conservative estimate). This will be used if you do not enter a different estimate in line 62.		0.651
UH=Unknown household (3.1)		838
UO=Unknown other (3.2, 3.9)		0
<b>Response Rate 1</b>		
$I/(I+P) + (R+NC+O) + (UH+UO)$		0.117
<b>Response Rate 2</b>		
$(I+P)/(I+P) + (R+NC+O) + (UH+UO)$		0.126
<b>Response Rate 3</b>		
$I/((I+P) + (R+NC+O) + e(UH+UO) )$		0.132
<b>Response Rate 4</b>		
$(I+P)/((I+P) + (R+NC+O) + e(UH+UO) )$		0.142
<b>Cooperation Rate 1</b>		
$I/(I+P)+R+O)$		0.337
<b>Cooperation Rate 2</b>		
$(I+P)/((I+P)+R+O))$		0.363
<b>Cooperation Rate 3</b>		

$I/((I+P)+R)$		0.340
<b>Cooperation Rate 4</b>		
$(I+P)/((I+P)+R)$		0.366
<b>Refusal Rate 1</b>		
$R/((I+P)+(R+NC+O) + UH + UO)$		0.219
<b>Refusal Rate 2</b>		
$R/((I+P)+(R+NC+O) + e(UH + UO))$		0.247
<b>Refusal Rate 3</b>		
$R/((I+P)+(R+NC+O))$		0.324
<b>Contact Rate 1</b>		
$(I+P)+R+O / (I+P)+R+O+NC+ (UH + UO)$		0.347
<b>Contact Rate 2</b>		
$(I+P)+R+O / (I+P)+R+O+NC + e(UH+UO)$		0.391
<b>Contact Rate 3</b>		
$(I+P)+R+O / (I+P)+R+O+NC$		0.515

## **Appendix I: Business Owner Survey Methodology (PPRI)**

The Public Policy Research Institute, PPRI, conducted a telephone survey on the topic of Hurricane Katrina Rebuilding Issues for Greater New Orleans' Business Owners for the Bush School of Public Policy at Texas A&M University. The data collection for the Business Owners survey started on February 1, 2007 and ended on March 7, 2007 and included a total of 301 completes. The Hurricane Katrina Business Owners survey was conducted according to PPRI's standard data collection procedures. These protocols cover the entire interviewing process from recruiting interviewers to data delivery. The lab's standard survey process is outlined below in detail and any specific changes to standard protocol are explained.

### **Sampling Methodology**

The sample was a random sample of businesses operating in the parishes of Jefferson, Orleans, and St. Bernard. The sample was stratified based on the number of employees at the location of the business. One strata had less than 10 employees and the other 10 or more. Approximately 150 were to be interviewed in each strata. The sample for the Business Owners survey was provided by Survey Sampling International and was from list of all businesses reported by Dunn and Bradstreet.

### **Recruiting**

New survey lab interviewers were recruited and selected utilizing our standard operating procedures. This process began with the announcement of new interviewer positions in local newspaper advertisements and student employment offices. A multi-step screening process required potential interviewers to telephone our Survey Lab supervisor. Prospects were initially screened through this first contact telephone conversation. Those who failed to present themselves well on the phone were eliminated from further consideration. Those who passed the initial screening were asked to visit the Lab and complete an application form. Prospects whose applications were positively evaluated were interviewed face-to-face by the Survey Lab supervisor. In addition to providing standard employee information, the prospect was required to conduct a brief telephone interview with the supervisor using the project questionnaire.

The criteria for evaluation include:

- . Evidence of reliability as an employee;
- . Bilingual capability;
- . Demonstrated articulation;
- . Positive telephone "personality"; and
- . Accuracy and attention to detail in reading the survey questionnaire; following instructions, and marking the responses.

Finally, new interviewers were carefully monitored during a trial period to identify and remedy problems immediately. This "on the job training" continued until the basic skills were mastered. At least five experienced shift supervisors were assigned to the project and trained along with the interviewers.

## Training

Existing training manuals covering the standard operating procedures at PPRI as well as training material designed specifically for this project were used. In addition to the printed manuals, training materials included overhead slide presentations, worksheets, and example questionnaires.

The training session for the Hurricane Katrina Business survey began on January 31, 2007. This training covered the standard topics included in the training manual and were designed to encourage active participation of trainees and to familiarize them with the different types of respondents who would be interviewed. A large portion of the training session, like the training manual, was devoted to a question-by-question review of the survey instrument. Much of the training session involved didactic classroom sessions and practice interviewing.

Each trainee was observed and evaluated during the training session. Any trainees who did not perform satisfactorily were given additional individualized training or replaced, as necessary. The training session was designed to maximize the effectiveness of the interviewers. Topics covered in the training included:

Background of the Hurricane Katrina Business survey including information on PPRI and random public opinion polls; Organization of the interviewing staff including responsibilities of supervisors, interviewers, and other staff; Standard management procedures including scheduling, logging in and out, payroll, sickness, absences, tardiness, etc.; Information on sampling: How it works in general; how the Hurricane Katrina Business sample was derived; what the interviewer must do; why the procedures must be followed exactly; General instructions on interviewing including interviewer preparation, how to establish contact, how to maximize response rates, how to deal with problems; Asking questions including maintaining neutrality, encouraging responses, probing, etc.; Specifics of the Hurricane Katrina Business survey including pronunciation, skips, allowable clarifications, etc.; Dealing with specific problems (such as concern about privacy); and Procedures for insuring confidentiality.

Supervisors worked on an individual basis or in small groups with the trainees. Although some of the material was presented in a lecture format, much of it was presented by example, or through participation in exercises designed to replicate actual interviewing experiences. Finally, interviewers practiced interviewing each other using the actual iCATI equipment.

The training was conducted in a two-hour session, followed by a two-hour follow-up session. The first session covered general issues and instructors conducted specific training for this project. The two-hour follow-up was devoted to practicing the interview with the iCATI system.

At the end of the training session the prospective interviewers were tested for basic knowledge of the material and evaluated in a practical interviewing exercise. Trainees not meeting adequate standards were required to remedy their deficiencies before conducting project interviews.

### Internet Computer-Assisted Telephone Interviewing System (iCATI)

The internet computer-assisted telephone interviewing system in place in the Survey Laboratory represents the cutting edge of survey technology. With iCATI on-line, a computer manages the

survey sample, displays prompt questions for the interviewer, and electronically records responses. The system also produces productivity reports, progress reports, interviewer time sheets, and telephone billing reports.

The iCATI prevents most mistakes from occurring by guiding the interviewer through the questionnaire and automatically skipping questions as appropriate, based on the respondent's answers. It also eliminates data entry errors that can occur as information is transferred from printed questionnaires into electronic format. The iCATI system allows the Survey Laboratory supervisor to monitor all interviewers from a central computer. Because the system is web-based, iCATI allows a survey to be conducted from anywhere where web access is available. A copy can also be installed on a laptop which allows surveys to be conducted in remote locations with the data being uploaded at a later point.

The iCATI hardware used in PPRI's Survey Laboratory consists of a network of 40 desktop computers. The iCATI system is installed a Windows Server machine running Apache. The webpages were written in PHP with a MySQL database backend.

Each of the 40 available phone lines in the interview operation is linked to a central monitoring phone. A bank of call status lights indicates whether or not a phone is in use. Supervisors monitor a specific number of

calls each shift using both the telephone monitoring and the interviewing computer monitoring capability.

Phones are connected to the computers and the iCATI system provides automatic dialing of telephone numbers. This reduces the potential for error in dialing and speeds calling. It should be noted that PPRI does not use "presumptive" dialing, a commonly used method of using computers to dial numbers in anticipation that an interviewer will be available when a connection is made. Among other problems, this method results in the person answering the phone to experience at least a short delay before the interviewer begins, which reduces the probability of cooperation.

#### Survey Lab Capacity and Capabilities

The telephone survey facility consists of a monitoring and supervising office connected to a large room containing 40 interview stations. The stations are custom built, sound insulated cubicles that provide an effective interviewing environment.

The telephone interview facility keeps a very extensive schedule, operating a total of 84.5 hours per week. Interviews can be done anytime between 8:00a.m. and 9:30p.m. during the week, Saturday from 10:00a.m. to 6:00p.m., and 1:00p.m. to 9:30p.m. on Sunday. Interviewers can be very flexible in arranging attempts to call a respondent back or in receiving incoming calls. The interview facility is closed only on major holidays. The survey operation is open on all other days including other state and university holidays. A telephone answering machine is used to take messages during hours when the facility is closed.

#### Telephone Data Collection

The following describes the activities involved in the actual collection of the telephone data.

**Interviewer Scheduling.** Prior to each week of scheduled interviews, the supervisory staff determined the requisite number of interviewers to assign to each shift. Typically, for a project of this nature, 5 to 10 interviewers were assigned to this survey. Morning and afternoon shifts were scheduled with five interviewers.

**Daily Survey Activity.** The survey program supervisory staff oversaw the preparation for interviewing each day. The following tasks were routinely part of that activity:

- Use the iCATI to produce sample status reports which could identify potential problems and establish priorities for interviewing during the shift;
- Use the iCATI to produce interviewer productivity reports which could identify problems; and
- Determine the appropriate response to refusals, (e.g., scheduling another attempt) and other special situations.

Prior to each shift the shift supervisor:

- Allocated interview stations on the iCATI to interviewers;
- Assigned interviewers to special tasks, such as refusal conversion; and
- Determined which interviewers would be monitored (priority was given to new interviewers, interviewers with recognized problems, and interviewers who had not been monitored during their last four shifts).

During an interviewing session, shift supervisors had the responsibility for:

- Answering questions that arose and dealing with difficult situations with respondents;
- Monitoring interviews--at least 20% of the interviewers in a shift were monitored;
- Maintaining shift productivity; and
- Monitoring the iCATI system to make sure that appropriate allocations of the sample were made.

PPRI assigned a shift supervisor, an assistant supervisor, and an edit checker to the evening and weekend shifts. During morning and afternoon shifts, when fewer interviewers were working, a single shift supervisor was present.

#### Procedures for Contacting Respondents

Our standard procedure for attempting to contact a business was to place a call during the day shifts throughout the week. Numbers that were apparently disconnected were tried twice. Busy numbers were tried twice during the same shift, with repeated attempts during the week. When a business had been reached, but the correct respondent was not available, as many as five more tries were made to reach the correct respondent.

PPRI attempted to convert virtually all refusals. The only refusals where conversions were not attempted were those where the respondent was extremely adamant that they did not want to be called again. Interviewers completed a special form when a refusal occurred that provided as

much information as possible on the circumstances of the refusal. The respondent was then re-contacted by interviewers specially trained to convert refusals.

#### Monitoring Interviews and Verification

Telephone interviewers were carefully supervised. One supervisor was on duty for every 10 interviewers. Interviews were regularly monitored from a central phone by supervisors who were required to monitor at least twenty percent of the interviews during a shift.

PPRI verified five percent of the interviews conducted by using the iCATI system to monitor all screen and keyboard activity at a workstation from a central terminal. A random procedure was specified for selecting interviews. Selection occurred throughout the entire shift.

#### Confidentiality

Several procedures insured confidentiality during the interviewing process. PPRI is required to maintain confidentiality of records on a variety of projects, including ones in which records are maintained on identified individuals. The approaches include maintaining security, following specified procedures, and employee training and supervision.

The iCATI system enables control to be maintained over all files and records. Because all sample management and data collection were handled by computer, there were few printed materials that could compromise confidentiality. The computer system was secure. All areas where confidential material was stored were password protected and available only to a small group of staff who required access. Additionally, the premises and physical data were secured.

The most important procedural consideration in maintaining security was to make sure that the anonymity of the telephone interviews was not compromised. In the iCATI system, specific information (i.e. telephone number, first name of someone to be called back) was in a file separate from the collected data. These files could be linked, but they are not maintained in a linked form. As soon as the results were processed so there was no further need for access to telephone numbers and other identifying information, this data was destroyed.

All staff at PPRI are aware of the need for confidentiality. Highlighting its importance is part of all new employee training as well as the monitoring and supervision processes.

As for all research projects PPRI obtained permission to conduct research from the Texas A&M University Internal Review Board. This committee reviews all human subject research done on campus to ensure that the rights of respondents are protected.

#### Sample Disposition

On the next page is the sample disposition for the Hurricane Katrina Business survey along with computed response, cooperation, refusal, and contact rates. PPRI uses the standard American Association for Public Opinion Research (AAPOR) definitions for classifying the types of calls and respondent contacts.



DESCRIPTION	Final Disposition Codes	Homeowners Survey Data
<b>Interview (Category 1)</b>		
Complete	1.0/1.10	352
Partial	1.200	15
<b>Eligible, non-interview (Category 2)</b>	2.000	
Refusal and breakoff	2.100	
Refusal	2.110	
Household-level refusal	2.111	820
Known-respondent refusal	2.112	213
Break off	2.120	
Non-contact	2.200	
Respondent never available	2.210	133
Telephone answering device (confirming HH)	2.220	
Answering machine household-no message left	2.221	1
Answering machine household-message left	2.222	20
Other, non-refusals	2.300	
Deceased respondent	2.310	
Physically or mentally unable/incompetent	2.320	7
Language problem	2.330	
Household-level language problem	2.331	18
Respondent language problem	2.332	7
No interviewer available for needed language	2.333	1
Miscellaneous	2.350	
<b>Unknown eligibility, non-interview (Category 3)</b>	3.000	
Unknown if housing unit	3.100	
Not attempted or worked	3.110	
Always busy	3.120	21
No answer	3.130	730
Answering machine-don't know if household	3.140	148
Call blocking	3.150	9
Technical phone problems	3.160	5
Housing unit, unknown if eligible respondent	3.200	
No screener completed	3.210	
Other	3.900	
<b>Not eligible (Category 4)</b>	4.000	
Out of sample - other strata than originally coded	4.100	
Fax/data line	4.200	306
Non-working/disconnect	4.300	
Non-working number	4.310	334
Disconnected number	4.320	2802
Temporarily out of service	4.330	85
Special technological circumstances	4.400	
Number changed	4.410	89

Cell phone	4.420	1
Call forwarding	4.430	
Residence to residence	4.431	
Non-residence to residence	4.432	
Pager	4.440	
Nonresidence	4.500	
Business, government office, other organizations	4.510	286
Institution	4.520	5
Group quarters	4.530	6
No eligible respondent	4.700	268
Quota filled	4.800	
Other	4.900	
<b>Total phone numbers used</b>		6682
I=Complete Interviews (1.1)		352
P=Partial Interviews (1.2)		15
R=Refusal and break off (2.1)		1033
NC=Non Contact (2.2)		154
O=Other (2.0, 2.3)		33
e=estimated proportion of cases of unknown eligibility that are eligible (enter a value in line 62 or accept the value in line 62 as a default)		
Estimate of e is based on proportion of eligible households among all numbers for which a definitive determination of status was obtained (a very conservative estimate). This will be used if you do not enter a different estimate in line 62.		0.275
UH=Unknown household (3.1)		913
UO=Unknown other (3.2, 3.9)		0
<b>Response Rate 1</b>		
$I/(I+P) + (R+NC+O) + (UH+UO)$		0.141
<b>Response Rate 2</b>		
$(I+P)/(I+P) + (R+NC+O) + (UH+UO)$		0.147
<b>Response Rate 3</b>		
$I/((I+P) + (R+NC+O) + e(UH+UO) )$		0.191
<b>Response Rate 4</b>		
$(I+P)/((I+P) + (R+NC+O) + e(UH+UO) )$		0.200
<b>Cooperation Rate 1</b>		
$I/(I+P)+R+O)$		0.246
<b>Cooperation Rate 2</b>		
$(I+P)/((I+P)+R+O)$		0.256
<b>Cooperation Rate 3</b>		
$I/((I+P)+R)$		0.251

<b>Cooperation Rate 4</b>		
$(I+P)/((I+P)+R)$		0.262
<b>Refusal Rate 1</b>		
$R/((I+P)+(R+NC+O) + UH + UO)$		0.413
<b>Refusal Rate 2</b>		
$R/((I+P)+(R+NC+O) + e(UH + UO))$		0.562
<b>Refusal Rate 3</b>		
$R/((I+P)+(R+NC+O))$		0.651
<b>Contact Rate 1</b>		
$(I+P)+R+O / (I+P)+R+O+NC+ (UH + UO)$		0.573
<b>Contact Rate 2</b>		
$(I+P)+R+O / (I+P)+R+O+NC + e(UH+UO)$		0.780
<b>Contact Rate 3</b>		
$(I+P)+R+O / (I+P)+R+O+NC$		0.903

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