5-18-2007

A Methodological Exploration of Mailed Survey Research in a Post Disaster Setting

Michelle Gremillion
University of New Orleans

A Methodological Exploration of Mailed Survey Research in a Post Disaster Setting

A Thesis

Submitted to the Graduate Faculty of the
University of New Orleans
in partial fulfillment of the
requirements for the degree of

Master of Arts
in
Sociology

by

Michelle M Gremillion

B.A. Sociology University of New Orleans, 2004

May 2007

Table of Contents

List of Tables

List of Maps

List of Illustrations

Abstract

This paper analyzes and assesses the success and failures of the implemented methods of two mailed survey research projects conducted in post-Katrina New Orleans. Mailed survey research is an essential part of the recovery process following a major disaster in which people have been displaced. A survey can provide insight into how many residents intend to return to the area as well as resident needs and concerns. Traditional methods alone are inadequate in a post-disaster setting and supplemental measures must be taken. The collected data from a survey in this setting will be unrepresentative of the pre-disaster population. Spatial analysis of the response combined with a comparison of the collected data to known census data identifies the ways in which the data is unrepresentative. Knowledge of the data shortcomings increases its utility in planning and recovery efforts in the affected region.

Key Words and Phrases:

Survey Methods
Disaster Research
Post-Disaster Research

Chapter One: Introduction

Illustration 1: A District Five Residence

Hurricane Ivan, the Christmas tsunamis and hurricane Katrina have shown us the magnitude and long term effects of disasters. Following a disaster, it is essential to ascertain what the lasting effects on the community will be. To date, there is very little information on how to collect and analyze these data. Special circumstances exist in post-disaster settings that challenge traditional mail survey methodology. Though there is an abundance of literature on mailed survey methodologies and efforts to increase response rates, very little has been written about conducting mailed survey research in atypical settings. It is essential for social scientists to be able to move in and conduct prompt and accurate assessments of the damage the disaster has inflicted on the community. The findings of this type of research will aid in the planning and recovery efforts of the affected communities.

The purpose of this study is to test the effectiveness of accepted, traditional mail survey methodology, in a post-disaster setting. The cases being studied are two surveys conducted in some of the hardest hit and least re-populated areas of New Orleans in the wake of hurricane

Katrina. The methodological challenges rendered inadequate traditional data collection and analysis measures. As disasters are a regular and increasing part of the American landscape, a guideline for this type of survey research will prove useful.

This study analyzes the appropriate methodology and analysis for mailed survey research conducted in a post disaster setting. The study reviews established methodological techniques in an attempt to guide future research on which methods will be most effective in this type of setting. More specifically, the focus is on reaching displaced residents and on assessing the external validity of the collected data.

This is a study about methods, but it arose from an applied research project. Though the majority of the collected data are quantitative, the thesis is organized as a case study in order to provide context for the specific challenges of this type of post-disaster research. "A case study is a study in which the researcher explores in depth a program, an event, an activity, a process, or one or more individuals. The case(s) are bounded by time and researchers collect detailed information using a variety of data collection procedures over a sustained period of time." (Creswell 1998:18)

This case study utilized a mixed methods approach. However, because this is a methodological inquiry, it as an atypical case study. I am not seeking to understand meanings or perspectives of the residents in district five and six; I am trying to analyze the implemented methods for reaching displaced persons and contextualizing the data collected in a post-disaster environment. In a sense this is an experiment or pilot study in conducting mailed survey research post disaster, when people are displaced.

I. Research Questions

Mailed survey research in a post-disaster setting requires a specially tailored methodology. Traditional knowledge claims about internal validity may be suspect in a disaster area. Which issues challenge the internal validity of the response? What are the methodological challenges of conducting survey research in a disaster area? Which quantitative census comparisons can be made to contextualize the findings? How will spatial analyses of the non-response shed light on the missing information contained in the undeliverable mail? Can guidelines be established to serve as a tool for future research?

II. Limitations

There are several potential limitations of this study. The largest limitation is that all of the conclusions reached in this study are based on research conducted following hurricane Katrina in New Orleans, LA. It is unclear, because of the unique qualities of hurricane Katrina, how similar or different future major disasters will be to the findings drawn in New Orleans. Also, the guidelines I will offer to contextualize the data have not been and cannot be tested. Spatial analysis and census comparisons can help to check the external validity of the recovery surveys, but there is no other data to which to compare the collected data.

Chapter Two: Theory

I. The Theoretical Paradigm

Before analyzing the validity of mailed survey methodologies it is important to understand the theories that drive them. "Quantitative research is based on a positivist philosophy which assumes that there are social facts with an objective reality apart from the beliefs of individuals…Quantitative research seeks to explain the causes of changes in social facts, primarily through objective measurement and quantitative analysis" (Firestone 1987: p16). Mailed survey research and experimental design are generally based in positivist beliefs, and use independent and dependent variables to frame relationships. The goal of mailed survey research is to establish the distribution of attitudes and behaviors within a population.

Similarly, post-positivism is based in the belief that we cannot know if we have found absolute truth. This slight revision on positivism was no doubt in response to criticism about what a researcher can really know, especially in the context of social science.

> Post-positivism reflects a deterministic philosophy in which causes probably determine effects or outcomes…The knowledge that develops through a post-positivist lens is based on careful observation and measurement of the objective reality that exists "out there" in the world…Knowledge is conjectural- absolute truth can never be found. Thus, evidence established in research is always imperfect and fallible.
>
> (Creswell 2003:7)

II. Critical Theory

Critical theory does not believe that there is one knowable world, and thus they do not believe that quantitative methods can uncover any absolute truth. Instead they argue that reality is ever changing and is the result of interaction between institutions and people. "Critical social philosophy describes the complex set of mediations that interconnect consciousness and society, culture and economy, state and citizens…Concepts and theories therefore provide

representations of the sociomaterial world, and not any absolute or indubitable knowledge" (Kellner 1990:15-18). Critical theorists turn to qualitative methodology to uncover the meanings and value that individuals give to these specific interactions in order to better understand social relationships.

This dichotomous view of social research is unnecessary and detrimental to social science. "We suspect these conflicts arise not from fundamental metatheoretical differences but from routine turf battles common to all disciplines…If we are right that much contention in sociology results from competition over resources, then we would expect the most strident voices would be raised against those methods that produce compelling results. Practitioners using less accepted methods must work harder to justify their methods" (Szmatka and Lovaglia 1996:396-398). They suggest that a researcher chooses his or her research paradigm based on which methodologies they are most comfortable with. "Our experience opposes the idea that metatheoretical concerns dictate preferred methods. Rather, methodological preferences spark much metatheoretical argument. Having discovered a method that suits her, a sociologist must fight to protect it. She must show that the method she enjoys is capable of producing output that meets the standards of the profession" (Szmatka and Lovaglia1996:395-396).

III. Social Constructivism

Szmatka and Lovaglia (1996) point out that social constructivists have found some middle ground between quantitative and qualitative methodologies. "Constructivists view science not as theoretically-driven and rule-based search but as pragmatic tinkering. This centers investigation on the methods that scientists use…Science as actually practiced is a matter of negotiation and practical tinkering to create scientific facts through interaction" (Szmatka and

Lovaglia 1996:396-397). This is where this paper lies. This is not an attempt to question positivism, but rather it is an attempt to question one-size-fits all methodologies.

This study analyzes the effectiveness of accepted mailed survey research methodologies when mailed survey research must be conducted in an atypical setting such as the post-disaster environment. The question is not what is knowable or is there one reality? For me, the question is how can we accurately know the world? And is one methodological design sufficient for the majority of research settings. The struggles faced in the planning district survey project are extreme, but every research setting contains its own unique challenges and must be treated as such.

IV. Social Exchange Theory

Positivism is the worldview underlying quantitative methods. However more specific theories guide individual aspects of quantitative research. Methods designed to increase response rates are based in social exchange theory. Dillman uses social exchange theory to identify reasons why a potential respondent will or will not complete a survey. "Social exchange is a theory of human behavior used to explain the development and continuation of human interaction. The theory asserts that actions of individuals are motivated by the return these actions are expected to bring from others. Three elements are critical for predicting a particular action: rewards, costs, and trust" (Dillman 2007:14). Dillman designed his methodology to offer potential respondents rewards for completing a questionnaire, to keep the costs of taking a survey as low as possible, and to establish trust with the intended respondent (Dillman 2007:14-22).

Mailed survey research is based on a positivist paradigm that states that there is a world that can be known through careful quantitative measures. How tailored should research designs

be in order to get at the truth? Can generic methodological designs suit all research endeavors, or should each step of the process be developed for a particular context and setting. Once the data are collected which procedures can aid in determining the external validity of the findings? Constructivism encourages pragmatic tinkering with methods in order to find the best fit. Tinkering with the methods has been essential to the planning district recovery surveys.

V. Definition of Terms

Post-disaster residential setting-For the purpose of this study a post-disaster setting will be defined as a substantial geographic region in which over 25% of the residents have been displaced for over one month, and in which, the postal system has been affected by the man made or natural disaster.

Generalizability- Refers to the extent to which a researcher can assume that observed relationships within the collected data of a mailed survey reflect the actual extent and direction of those relationships within the target population.

External validity- Sullivan (2001) defines external validity as, "The extent to which causal inferences made in an experiment can be generalized to other times, settings, or people." (Sullivan 2007: G-5)

Survey nonresponse- Dillman, Eltinge, Groves, and Little (2002:3) explain that, "Nonresponse occurs when a sampled unit does not respond to the request to be surveyed or to particular survey questions" (Dillman, Eltinge, Groves, and Little 2002:3).

Nonreponse error- Dillman explains that nonresponse error occurs when a significant number of people in the survey sample do not respond to the questionnaire and have different characteristics from those who do respond, and the characteristics in which they are different are important to the study (Dillman 2007:10).

Undeliverables- Refers to those questionnaires, in a mailed survey, that are returned to the researcher, from the post office as undeliverable. There are several reasons why this may occur Dillman provides three explanations for undeliverable mail: the intended respondent has moved and not provided the post office with forwarding information, the questionnaire was addressed improperly due to a clerical error, or the letter is unclaimed or refused by the intended respondent (Dillman 2007:189).

Spatial Analysis- Spatial analysis uses GIS (Geographic Information System) technology to see the spread of responses or the spread of a particular variable across a geographic region. "GIS is a computer system capable of capturing, storing, analyzing, and displaying geographically referenced information; that is, data identified according to location" (USGS 2007).

Chapter Three: Literature Review

I. An Introduction to the Literature

The importance of rigorous methodology cannot be over emphasized. "The procedures used to conduct a survey have a major effect on the likelihood that the resulting data will describe accurately what they are intended to describe…there are many reasons for variation in the quality of surveys. Lack of funding and of adequate staff, as well as lack of methodological knowledge, no doubt all contribute to poor practice in some cases" (Fowler 2002:4-7). However in some cases, which methods are the most appropriate measures, may not always be clear. Dillman's tailored design method attempts to apply general procedures to many scenarios. But it seems some extreme survey situations may not fit into this model, as is the case with the New Orleans recovery surveys.

Though a great deal has been written about mailed survey methodologies and survey response rates, very little has been written about adjusting methodologies to fit the research setting. This section outlines the available literature and its value for this project; it also illuminates the gaps in the literature concerning conducting mailed research in extreme settings. I present a detailed outline of Dillman's mailed survey methodology, as well as the theory behind his methods. In 1978, Dillman offers a five element plan for achieving high response rates and details four sources for error in mailed survey research. Next I will illustrate how Dillman's model has been used as the foundation for many other methodological investigations including Fowler's Survey Research Methods (2002). Two other pieces on total design methodology will be reviewed including Sullivan's Methods of Social Research (2001) and Jones and Linda's article "Multiple Criteria Effects in a Mail Survey Experiment" (1978).

I examine factors affecting response rates and strategies for increasing them such as incentives, postcards, and personalization. Much attention has been given to increasing response rates, especially in very general survey circumstances. Less attention has been given to special case survey methods. Some circumstances that have been investigated are surveying homeless populations, surveying elderly populations, and surveying about sensitive issues, such as suicide. I have not yet found any literature that directly addresses the methodological issues of surveying displaced persons following a disaster. Some issues specific to surveying the homeless, and surveying about sensitive topics are shown to be relevant to surveying in a post-disaster setting.

Next, there will be a review of literature on non-response and non-response error. I will also attempt to determine which response rates are acceptable. Undeliverable mail has been a major factor for this project, but there is little literature that addresses this issue. I have reviewed the consequences of high rates of undeliverable mail, and what can be learned from it. Finally, I will illustrate the need for more specifically tailored design methods and guidance for conducting survey research in special case scenarios, more specifically, a post disaster setting.

II. Standard and Accepted Survey Methods

Dillman's Tailored Design Method

Dillman is one of the most respected authorities on mailed survey research. He published Mail and Telephone Surveys: the Total Design Method in 1978. This text has been used as the guide for countless research projects. His Total Design Method, or TDM, has been the core methodology upon which special research topics have developed. Twenty- two years after this publication, Dillman realized changes in society and technology have led to the need for a more up to date design. His response to this was Mail and Internet Surveys: The Tailored Design Method (2000) which took into account the value of the internet in social research, as well as the

continuing increase in the trend of self- administered survey research. In 2006 Dillman released the 2007 Update with new Internet, Visual, and Mixed Mode Guide. Once again he cited changes in technology and the research field as the driving reason for his additional text. Dillman is an authority of methodology because his Tailored Design (TD) consistently yields response rates of more than 70%.

Dillman built his survey methods within social exchange theory. Dillman argues that there are measures within survey design that can be taken to increase the rewards, reduce the costs, and elicit trust from a potential respondent. These factors can encourage or discourage potential respondents from participating in the survey. Thus, Dillman's entire research design is based on eliciting a high response rate by offering rewards, reducing costs, and gaining trust from the survey participants. He has outlined specific ways do accomplish these goals.

Rewards- Dillman offers eight ways to provide rewards to survey respondents.

1. *Show Positive Regard*- This can be done by explaining the importance of a survey, and why it is being conducted. Positive regard can also be conveyed by providing contact information that makes the researcher available to the respondents.

2. *Say Thank You*- Simple phrases can convey gratitude and appreciation for the respondents taking their time to complete a survey.

3. *Ask for Advice*- This is accomplished by letting respondents know that their knowledge and or opinions are valuable and needed for the research project.

4. *Support Group Values*- Identify and appeal to one or some of the population's shared values.

5. *Give Tangible Rewards*- Incentives can be offered to respondents to create feelings of obligation to participate; this is usually done with cash, ink pens, or some other small token.

6. *Make the Questionnaire Interesting*- This can be achieved through the visual layout and look of a survey, as well as intriguing opening questions.

7. *Give So*cial Validation- Generally done by letting the respondent know that many other people in the population have already completed the survey. The desire to be the same as the group will encourage response.

8. *Inform Respondents that Opportunities to Respond are Scarce*- Deadlines can sometimes encourage people to take the survey immediately rather than putting it off for later, when it may be lost or forgotten. (Dillman 2007:17)

Dillman states that following these measures can increase response rates in mailed survey research. He also outlines some ways to reduce non response rates by reducing the social costs for the respondent.

Costs- Dillman spells out six ways to reduce the costs of taking surveys for respondents.

1. *Avoid subordinating language.*

2. *Avoid embarrassment by avoiding overly technical terms and complicated language.*
3. *Avoid inconvenience by providing envelopes and postage for returning responses.*

4. *Make questionnaires appear short and easy.*

5. *Minimize requests to obtain personal information.*

6. *Keep requests similar to other requests to which a person has already responded.*

(Dillman 2007:18)

And finally, Dillman explains the various ways to establish trust, in survey design. Creating trust will again help to increase the response rate of the mailed survey.

Trust- Dillman provides four ways to establish trust with potential respondents.

1. *Provide a token of appreciation in advance.*

2. *Display sponsorship by a legitimate authority.*

3. *Make the task appear important.*

4. *Invoke other exchange relationships.* (Dillman 2007:21)

Some elements of survey design may invoke more than one of these elements. There are measures a researcher can take that will offer rewards and establish trust from the respondent.

An Overview of the Tailored Design Method

Dillman's first guide to survey research was written in 1978, and was a one size fits all survey design. It was successful, but in certain cases it became clear that different circumstances and settings require unique approaches in design. This realization lead to his "tailored design" approach. Dillman defines tailored design as, "The development of survey procedures that create respondent trust and perceptions of increased rewards and reduced costs for being a respondent take into account features of the survey situation, and have as their goal the overall reduction of survey error" (Dillman 2007:4).

He suggests that researchers allow theory to guide their decision making in the planning process of survey research. Dillman asserts that there are two fundamental assumptions in designing quality surveys.

1. Responding to a self administered questionnaire involves not only cognition, but also motivation.
2. Multiple attempts are essential to achieving satisfactory response rates.

(Dillman 2007:13)

The first assumption about motivation has been addressed through social exchange theory. Dillman's second assumption is further detailed in his tailored design. He calls for four separate, first class mailings and a fifth special contact. Dillman warns researchers not to get bogged down on decisions about paper color and font size, but instead stresses the importance of considering the unique aspects of the research project. For example, "Who are you surveying and what's the topic? What is your overall implementation plan- how many contacts do you plan to make? Will the mailings be personalized? What interval will you use between contacts? How

long is the questionnaire?" (Dillman 2007:12) Dillman provides little guidance on what to do once the unique characteristics of the setting have been identified.

From the start, it was obvious that special care must be taken with the implementation of the recovery surveys. Outside of the typical concerns mentioned, there was the general question of how to reach displaced persons by mail. Dillman offers five elements of implementation for achieving high response rates in traditional settings.

Respondent-friendly questionnaires

Dillman (2007) outlines several easy ways to make surveys respondent-friendly. Researchers should keep questions clear and concise. They should arrange questions with the most interesting and pertinent questions at the beginning, more boring and routine demographics questions in the middle, and the most controversial and objectionable questions at the end of the questionnaire. Researchers should avoid asking for personal contact information from respondents that would diminish anonymity. Careful attention should be given to the length and look of the document. Surveys should not be too long, confusing, complicated or cluttered. Booklets are preferable to stapled surveys. And personalization will yield a higher response rate.

Four contacts by first class mail, with an additional special contact

First Dillman suggests that researchers begin with a **pre-notice letter**. This is sent to respondents days before the actual instrument, to let them know a survey is coming and their prompt response is appreciated. The pre-notice letter is followed by the **questionnaire**. And the questionnaire should be mailed with a cover letter that reiterates the importance of response. Just days after the questionnaire is mailed a **thank you card** should be sent. This card thanks those who have responded and thanks in advance the recipients who have not yet completed the survey. Two to four weeks after the thank you cards, a second copy of the survey is mailed, with

a revised cover letter designed to appeal to those that have not yet responded. Once again the **replacement questionnaire** stresses the importance of the project as well as each individual response. And next a **final contact** is made either by express priority mail or by phone call to once again encourage response.

Return envelopes with real first class stamps

Return envelopes should be included with the questionnaire for the respondent. "Sending a real stamp represents a goodwill gesture; the sender has sent something of value that recipients can use for some other purposes if they like" (Dillman 2007:152). It also reduces the cost of participation.

Personalization of correspondence

There are many ways to personalize the contacts sent to respondents. High quality paper can be used. Respondent's actual names can be typed at the top of each cover letter, thank you card, pre-notice letter, and envelope. Real signatures personalize cover and pre-notice letters as well as thank you cards. "It provides the look and feeling of being from a real person, rather than a carefully programmed computer" (Dillman 2007:152).

Token prepaid financial incentives

Small monetary or token incentives can be enclosed with the questionnaire to encourage response. This is more effective than promising to send a monetary or token compensation once the survey is completed. " If a surveyor has made a good will gesture such as sending a dollar or two as a token of appreciation in advance, that produces a sense of reciprocal obligation, especially if the offer is made in a pleasant way" (Dillman 2007:153).

Dillman's Treatment of Error Reduction

Dillman identifies four sources of survey error and outlines their potential consequences. The four sources are sampling error, coverage error, measurement error, and non-response error. Sampling error results from not reaching all elements of the survey population. Coverage error is the result of not allowing all persons in a population to have an equal opportunity to participate in the survey. Measurement error is the result of poor question construction. These questions yield unusable or un-interpretable data. Finally, non-response error results when those who respond to the survey are dissimilar to those who do not take the survey. (Dillman p.11, 2007) In other words non-response error occurs when a certain type of person within a population is more likely to participate in a survey than another type of person. This type of error diminishes the internal validity of the collected data, and is most pertinent to this inquiry.

An Analysis of the Tailored Design

Though Dillman has attempted to steer away from the one size fits all design methodology that he presented in 1978, his tailored design methodology is essentially just that, a one size fits all discourse on survey research methods. There are minimal changes between the two designs, most of which focus on a switch from telephone to internet survey modes. Dillman's "tailored" design is essentially "tailored" because he warns the researcher to take into account the specific circumstances of each research project. He does not, however, offer much detail on how to implement his methodology once those unique circumstances have been outlined. Dillman does not explain which aspects of the general method can or should be tinkered with to accommodate the settings specific challenges.

This lack of guidance on how to tailor methods to settings is especially significant in a post disaster setting where the postal system has been crippled and the vast majority of the target population is not living at their own residences. This gap in the literature is the basis and origin

of this paper. Though this may appear to be merely an extreme case, disasters occur everyday and other non disaster settings may be very difficult to survey as well. For instance, surveying refugees from a war torn nation would provide insight into the situation, but at this time no literature explains how this can and should be executed.

III. Sampling Methodology and Benefits

"A major development in the process of making surveys useful was learning how to sample: to select a small subset of a population representative of the whole population. The keys to good sampling are finding a way to give all (or nearly all) population members the same chance of being selected, and to use probability methods for choosing the sample" (Fowler p.5, 2002). There are other ways to conduct a survey and they include:

- *Census*- Surveys that are conducted as a census send a questionnaire to every individual in the target population. This method is generally avoided because of the expense and because of the risk of non response bias.
- *Convenience Samples*- This is when a researcher surveys the respondents that he or she has the easiest access to.
- *Snowball Samples*- This is when one member of the targeted population is identified and then they may give the names of other potential respondents. This is especially useful when the target population is hard to penetrate.

Sampling is a major component of quality survey research. Random sampling allows a researcher to use inferential statistics to analyze their data and make claims about the population as a whole. Scores of texts have been written to explain appropriate sample size and sampling methodology. However, the largest survey in the United States does not implement independent random sampling techniques.

The U.S. census is mailed to every known address with the warning, "Your response is required by law" (Dillman 2007:3). The 2000 census yielded a response rate of 78% and is used as a legitimate information source by social researchers. Despite the high response rate there has been much debate over whether the US Census should be conducted using probability samples.

The census' count of the population has many policy implications. Political representation is determined by population and many other policies are based on census findings. In the 1940's it became clear to researchers that the census was under reporting a substantial proportion of the population. Many efforts have been made to improve the quality if census data. Many believe that a scientific sample would yield more accurate data but there has been a strong campaign to stop this from happening. The three components in the argument against sampling are political, constitutional, and technical concerns (Anderson & Fienberg 1999:29). Opponents to sampling believe that the error contained in a sampled census may be intentional to shift power in the House of Representatives. Many people believe that there is a constitutional right to be counted, and do not believe in the science behind probability sampling.

When is it legitimate to conduct a census rather than sampling? What types of error is a censused survey vulnerable to, and how is this different from the types of error Dillman explains can come from sampling methods? I have not found anything that speaks to these questions. Conducting a census is expensive and time consuming; it is generally not worth it in a traditional research setting. Most texts address that the census is not a sample, but this is the only example they give of a censused survey. They do not outline appropriate times for this type of research, or even say if it is appropriate at all.

IV. Increasing Response Rates

Which Response Rates are Acceptable

When it comes to mailed survey research, one of the main ways the success of a project is measured is its response rate. Sullivan defines response rate as, "The percentage of a sample that completes and returns a questionnaire or agrees to be interviewed" (Sullivan 2001:250). As mentioned above the 2000 U.S. census achieved a 78% response rate. Is this an exceptionally high rate? The standards by which response rates are judged are not crystal clear.

> "With interviews, response rates are often very high- in the area of 90%- largely because people are reluctant to refuse a face-to-face request for cooperation…With mailed questionnaires, however, this personal pressure is absent, and people feel freer to refuse…Response rates with questionnaires, especially mailed ones, vary considerably, from an unacceptable low of 20% to levels that rival those of interviews."
>
> (Sullivan 2001:258)

Here Sullivan illuminates that 20% is unacceptable, but he is vague about what rate is acceptable. Dillman is also unclear on this issue. When writing about his Total Design Method, Dillman states that, "Repeated tests of this one-size-fits-all approach showed that response rates of 70% could be produced consistently for general public populations, and higher rates were feasible for more specialized populations whose education was not particularly low" (Dillman 2007:5). Dillman goes on to say that expectations for response rates have changed over the past twenty years. He states that of 31 surveys that implemented his design methods, the average response rate was 77% for mailed surveys. "My own impression of response rate changes for mailed surveys is, first, that Tailored Design response rates similar to those obtained with the original TDM can be achieved, but that doing so generally requires using somewhat more intensive procedures, including token financial incentives and five contacts, one of which is done using special procedures" (Dillman 2007:28). Dillman is telling us what rates are good, but he is not providing any insight to at what point do response rates become unacceptable.

Fowler defines response rate as, "A basic parameter for evaluating a data collection effort" (Fowler 2002:40). Like the others, Fowler does not give clear guidelines for assessing response rates. Instead he gives the following clues:

- One occasionally will see reports of mail surveys in which 5% to 20% of the selected sample responded. In such instances the final sample has little relationship to the original sampling process; those responding are essentially self-selected.
- The Office of Management and Budget of the federal government, which reviews surveys done under contract to the government, generally ask that procedures be likely to yield a response rate in excess of 75%.
- In the United States, academic survey organizations are often able to achieve response rates for designated adults in the 75% range with general household samples. (Fowler 2002:45)

Not only are clear guidelines not given, it is also not clear how a high number of undeliverable questionnaires should be calculated into a response rate. Guidelines for assessing response rates when a censused survey is conducted remain completely unaddressed. This gap in the literature is significant to this project.

Methods for Inducing Higher Response Rates

There are several ways to increase response rates in mailed survey research including personalization, postcards, and incentives. These tactics are frequently explored by business and social science researchers alike. Other writings are interested in the way these tactics react with one another and which combination of these methods produces the highest results. First we will look at the tactics individually.

Personalization

It has long been accepted that personalization of envelopes, letters, and questionnaires will improve response rates. Dillman outlined these tactics in the elements of his Tailored Design Method (2007). Based on Dillman's writing other researchers have conducted experiments to test this theory.

Kahle and Sales (1978) conducted a study to test the effectiveness of postage stamps versus metered mail and the effect of handwritten addresses versus printed labels. Their findings revealed that, "Postage appearance is no longer a simple index of a letter's importance…some research has shown that stamps and metered first class letters do not affect response rate differentially" (Kahle and Sales 1978:549). Experiments do show however that handwriting addresses can increase response. "These results imply that individually addressing envelopes is an important factor in personalization, but postage expense is not" (Kahle and Sales 1978:549).

Byrom and Bennison (2000) also tested the theory about personalization. To test this they performed a split-run test. Half of the surveys had standard postage and handwritten addresses and the other half were mailed out with typed addresses and franked (printed postage marks) postage. They concluded that these efforts of personalization did not have a statistically significant impact on response rates.

Postcards

Dillman calls for five contacts when conducting mailed survey research, including a pre-notice letter. There is a lot of literature about primer postcards and thank you notes. Some attention has also been given to the tone of the post card's message.

Pirotta, Gunn, Farish, and Karabatsos (1999) conducted a study analyzing the effectiveness of primer postcards. Essentially primer postcards serve as Dillman's pre-notice letter, which lets the sample know a survey is coming, explains the purpose of the research, and

demonstrates the value of the respondent's potential participation. The study was a side project implemented in a survey investigating attitudes about general practitioners in Australia. They concluded that primer postcards do increase response rates in mailed survey research.

Another study sought to determine the effects of the tone of follow up postcards on response rates. The researchers sent out postcards with insistent as well as amiable language. A chi-square test revealed that there was no statistically significant difference between the two tones. However, one group in the target population, nurses, responded at a higher rate when they received postcards with an insistent tone.

Incentives

Following along with social exchange theory the next tactic for increasing response is enclosing a token incentive in the envelope with the questionnaire. This token can either be monetary or just a token of appreciation like an ink pen. As this greatly increases the expense of mailed survey research, the effectiveness of this practice has been highly tested.

Jobber, Saunders, and Mitchell (2004) conducted a survey to test the value of monetary incentives. They tested how much incentive was required to increase response, and whether or not the increase in response rate justified the additional expense. They determined that monetary incentives do significantly increase response but that this may not be cost-effective in all circumstances.

Ryu, Couper, and Marans (2006) conducted a study to test the timing factor in incentives, as well as monetary incentive affects on non-response bias. They also compared cash incentives to in-kind incentives such as free passes to recreational facilities. "Although there were demographic differences between incentive groups, the response distributions on key related variables did not vary by incentive type" (Ryu, Cooper, and Marans 2006:95).

V. Non-Response and Undeliverables

Non-Response

"Non-response occurs when a sampled unit does not respond to the request to be surveyed…Error caused by non-response is only one of several sources of potential error in surveys- but it is one that has attracted much interest in recent years, as response rates to certain surveys appear to have been declining, and this is of much concern to social scientists and statisticians throughout the world" (Groves, Dillman, Eltinge, and Little 2002:3). Non-response refers to those in a sample population who receive a survey, but do not choose to take it. The major concern around non-response is non-response bias that threatens internal and external validity. That is if only a specific type of person is responding to your survey, than you can not know about the population as a whole.

There are a variety of reasons why a respondent may choose not to participate in a survey. Many of these are addressed in Dillman's explanation of social exchange theory. The goal is to produce a survey that the population will take or not take evenly. That is, that the non-respondents will be identical to the respondents. "Transforming a list of questions into a questionnaire involves much more than the manipulation of words. It requires that decisions be made about paper size and binding. It also necessitates determining which questions will encourage the recipient to start responding and keep going until the end" (Dillman 2007:80).

Undeliverables

Undeliverable mail occurs when mailed surveys come back "return to sender". The general consensus about undeliverable mail is that it can and should be avoided. Both Fowler (2002) and Dillman (2007) state that good software and up to date mailing lists all but eliminate this issue from mailed survey research. Dillman identifies three categories of undelivered questionnaires. The first is that the respondent has moved and either forwarded their mail and the

forward expired or they did not leave a forwarding address. The second source of undelivered questionnaires is that the researcher mailed to an invalid address. These will come back with labels that say, "No such number" or "insufficient address". Dillman states that these tend to be data entry errors on the part of whoever created the mailing list, and they are avoidable. And the final type of undeliverable mail occurs when the potential respondent refuses delivery of the questionnaire or does not claim it at the post office (Dillman 2007:189).

VI Special Case Survey Methods

As stated by Dillman (2007) each research endeavor requires a tailored design plan. There is no existing literature about conducting mailed survey research of displaced persons, or about conducting mailed survey research in a disaster setting. There are however articles that explain special circumstances relevant to this project.

Reaching the Homeless

In his paper "Changing the Conventional Rules: Surveying Homeless People in Non-Conventional Locations" Dennis (1991) examined the methods used to enumerate homeless populations. Dennis states that, "The conventional practice for collecting information… is to contact people at home. However, homeless people do not fit neatly into conventional household sampling frames. Although some stay in hotels, motels, or emergency shelters, many others move around frequently and seldom use shelters" (Dennis 1991:6).

Dennis offers a two pronged approach for reaching the homeless. First, is the most widely used method, reaching people at homeless shelters. The other method is to randomly sample census block groups and search them late at night for people outside of the homes and businesses. "The optimal methodology for studying homeless people varies with the types of

questions being asked. The more varied the questions, the more likely a combination of methods is required" (Dennis 1991:8).

Studying Sensitive Topics

Nederhof (1985) analyzed the effectiveness of Dillman's TDM when used to study sensitive or threatening topics. Dillman advises that as few as one or two objectionable questions can lead to potential respondents' refusal to participate. (1978) "Self administered questionnaires have a long history of being used in studies of sensitive topics to reduce biasing affects due to self-presentational concerns of respondents and subjects. Questionnaires on sensitive or threatening topics have seldom been mailed to respondents" (Nederhof 1985:1).

Nederhof recognized the gap in the literature about conducting mailed survey research on sensitive topics. "The procedures developed by Dillman et al. (1974) have been highly effective in increasing return rates to mail surveys, while ensuring a high quality of data. However, so far, these procedures (TDM) have been applied only to mail surveys on rather congenial topics (Nederhof 1985:1).

Nederhof found that when a research team sent post cards requesting a face-to-face interview about suicide and life problems:

- 37% of potential respondents refused to take the survey
- 46% of those mailed did not respond
- Only 17% of potential respondents agreed to participate

(Nederhof 1985:293)

To Nederhof, this was a sign that mailed questionnaires may be most appropriate for highly sensitive topics. He acknowledges that there is value in the TDM. He suggests some minor modifications to the TDM when surveying on threatening or sensitive issues. For example, instead of a reminder post card, a second shorter questionnaire of similar content was mailed.

Nederhof notes that small changes like this can make the TDM very effective for sensitive topic surveys. Nederhof notes that one of the only drawbacks is partial or item non-response, but in general the TDM can be very effective even when there are more than one or two objectionable questions on the instrument.

Reaching Special Groups (The Elderly)

Kaldenberg, Koenig, and Becker (1994) identify the elderly as a difficult to reach subset in mailed survey research. They state that age does have a significant impact on survey response. "On average, the response rate fell more than .5 percentage points for each unit of measure of age…Owing to the decrease in response rate with age, the oldest of the elderly are slightly underrepresented in the results" (Kaldenberg, Koenig, and Becker 1994:74-75).

VII. Reviewing the Gaps in the Literature

In review there are several gaps in the literature that are relevant to this paper. First, there is no clear methodology for reaching displaced persons following a major catastrophe. Traditional methods are not designed for these unique types of settings and may leave a researcher with a data set that is unrepresentative of the target, displaced population.

Also, the literature available on response rates is unclear about which rates are acceptable and how different settings can affect the response rate. Another gap is that it is generally understood that undeliverable mail be kept under three percent. In the case of the two recovery surveys analyzed for this study, nearly fifty percent of the questionnaires were returned as undeliverable. There is no guide in the literature for contextualizing the response in this instance. This study will aim to fill these holes in the literature.

Chapter Four: Setting

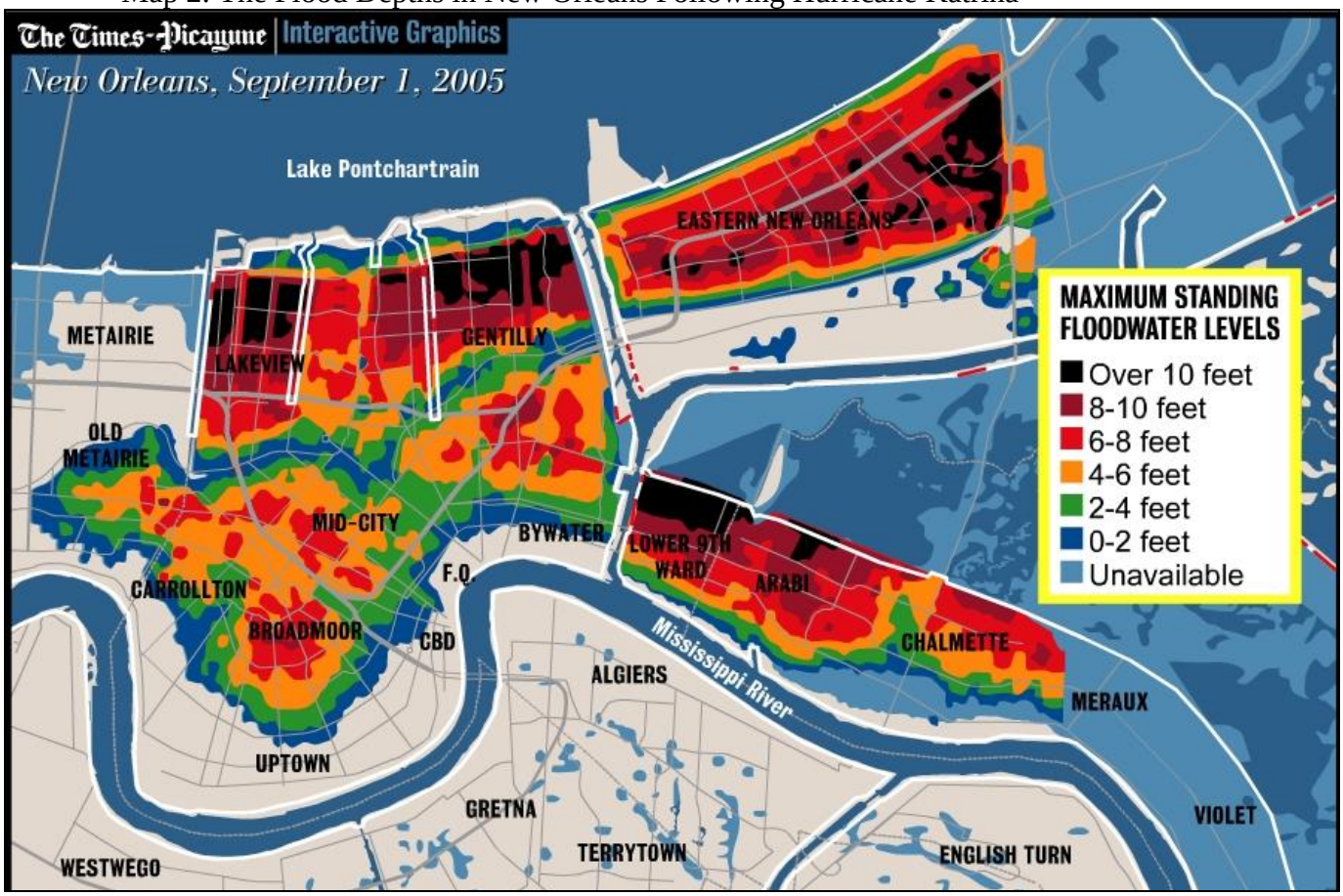
Map 1: The Planning Districts of Orleans Parish

I. Orleans Parish

New Orleans is an historic city founded in 1718. It has enjoyed a rich and diverse cultural history. Before Hurricane Katrina there were 484,674 people living in Orleans Parish (2000 Census). These residents occupied 188,251 homes. Orleans parish was populated mainly by African Americans (comprising 66.6% of the population), and Caucasians (comprising 26.6% of the population). Pre-Katrina, 27.9% of Orleans Parish residents were living in poverty, compared

to 12.4% nationally (2000 U.S. Census). The parish is comprised of nine planning districts. Each has its own unique racial diversity, income level, and historic beginning. Despite its rich history and strategic placement on the Mississippi river, New Orleans was experiencing a period of economic decline and out-migration before it was flooded by Katrina on August 29th, 2005.

Map 2: The Flood Depths in New Orleans Following Hurricane Katrina



Hurricane Katrina flooded approximately 80% of Orleans parish (see map 2). The U.S. Department of Housing and Urban Development's office of Policy Development and Research concluded that over seventy percent of the homes were damaged:

- A total of 134,564 homes were damaged (72%)
- 78,918 homes received severe damage or were destroyed (42%)

- 26,405 homes received major damage (14%)
- 29,241 homes received minor damage (16%)

(GNOCDC 2007)

Following the massive evacuation from hurricane Katrina, the repopulation of the parish has been a slow and unsteady process. A report released in October 2006 from the Louisiana Public Health Institute, the Louisiana Department of Health and Hospitals, and the Louisiana Recovery Authority (LRA) estimate that there were 191,139 people living in Orleans Parish. This is approximately 40% of the pre-Katrina population. The repopulation has not been spread evenly across the nine planning districts (see map 1). Two of the least repopulated areas are the setting for this paper: district five (Lakeview) and district six (Gentilly).

II. District Five

Illustration Two: A District Five Neighborhood

Planning district five lies on the south shore of Lake Pontchartrain. Though some features of the district have been in place since the beginning of the twentieth century most development was done in the 1930's through the 1950's. Planning district five encompasses six large neighborhoods: Lakeview, Lakewood, Lakeshore, Lake Vista, West End, and Navarre. These neighborhoods are very similar to one another with the exception of some minor differences in

income levels. The 2000 census reported 8,444 owner occupied housing units in district five. The district is one of the wealthiest in Orleans parish, and is also not nearly as racially diverse as the parish as a whole. The neighborhoods are, on average, 91% white.

Because of its proximity to the original lake edge and the mouth of the drainage canals, district five was one of the most heavily affected districts in New Orleans:

- 81% of owner occupied homes received major to severe damage or were destroyed.
  - 5,932 homes received severe damage or were destroyed (70%)
  - 927 homes received major damage (11%)
  - 413 homes received minor damage (5%)

(GNOCDC 2007)

Because of the severe flood levels, district five is also one of the least repopulated planning districts in Orleans Parish.

III. District Six

Illustration Three: A District Six Residence

Planning district six is the also situated on the southern shore of Lake Pontchartrain. The district is generally referred to as Gentilly, but is comprised of nine major neighborhoods (and eleven smaller neighborhoods). The major neighborhoods include: Lake Terrace, Lake Oaks, Dillard, Filmore, Gentilly Terrace, Gentilly Woods, Milneburg, Pontchartrain Park, and St. Anthony.

District six is much more diverse than district five. Income levels and ethnicity vary considerably from neighborhood to neighborhood (see table 2).

Table 1: Racial Diversity of District Six

Neighborhood	White	African American	Hispanic	Asian	Other	
Dillard	6.9%	88.4%	2.1%	0.3%	2.3%	100%
Filmore	36.4%	56.9%	3.8%	1.6%	1.4%	100%
Gentilly Terrace	24.9%	69.7%	3.0%	.5%	1.9%	100%
Gentilly Woods	24.8%	68.4%	2.4%	2.7%	1.7%	100%
Lake Terrace/ Lake Oaks	72.5%	18.9%	3.7%	3.8%	1.1%	100%
Milneburg	17.7%	75.4%	4.2%	0.7%	2.0%	100%
Pontchartrain Park	0.6%	96.7%	0.8%	0.1%	1.8%	100%
St. Anthony	29.8%	58.0%	5.6%	4.0%	2.6%	100%
Orleans Parish	26.6%	66.6%	3.1%	2.3%	1.4%	100%

(GNOCDC 2007)

Again, because of its placement on the south shore of the lake it was heavily affected by the flooding from hurricane Katrina. Before the storm there were 12,053 owner occupied housing units in Gentilly. 9,921 of these homes were damaged:

- 79% of the owner occupied homes received major to severe damage or were destroyed
    - 8,591 homes received severe damage or were destroyed (71%)
    - 962 homes received major damage (8%)
    - 368 homes received minor damage (3%)

(GNOCDC 2007)

Chapter Five: The Collected Data

I. The Neighborhood Surveys

The actual methods implemented by the research team for the two recovery surveys are a major source of data for this study. Analysis of the success and failures of the researchers' methods will help to identify which methods are most appropriate when conducting mailed survey research in a post-disaster setting.

The surveys were both created in an applied research setting using participatory action research methods. In other words, researchers from the University of New Orleans and more specifically the Center for Hazard Assessment, Response and Technology CHART, came together with two newly created district wide civic associations to create the survey instruments.

The surveys contain both open and closed ended questions dealing with issues such as whether or not the resident planned to return, what the resident intended to do with their damaged home, what factors are most affecting their decisions, and what the city and neighborhood association can do to aid their return. Both instruments included maps of the respective districts which were broken down into either census tracts or census block groups. Residents were asked to identify in which map quadrant their pre-Katrina home was located. The respondents were also given the option to link their name and pre-Katrina addresses to their answers. (See the appendix for a copy of the instruments.) All questions that appear on the instrument were chosen by the residents themselves so the data would best serve the needs and interests of the neighborhoods.

U.N.O. and CHART became involved with these particular districts because the campus lies within district six and is only a mile or so outside of district five. The university's students

must drive through and spend time in these decimated areas and their recovery is key to the survival of the school. The relationship between the neighbors and the university is symbiotic and it was important to the chancellor that the situation be properly assessed. The university is, in effect, a resident of these districts.

The district five survey

The district five survey was created and mailed first. The researchers determined that a census style survey would be the most appropriate, because it would offer a voice to each resident. In May of 2006 researchers mailed the survey to 8,707 homes in the district. By mailing to every resident, a larger response was collected, all residents were given a voice on recovery efforts, and census comparisons and detailed analyses of the non-response were made possible. A web version of the survey was also made available on the district's civic association website.

The questionnaire was mailed out first class (at the time the USPS was not allowing any bulk mail in this district). The questionnaire was folded inside of the civic association's newsletter. The newsletter offered valuable information to the residents and served as a reward for taking the time to participate. The De Lorme Street Atlas (a phone directory) was used for the mailing list. A questionnaire was mailed to all addresses with listed home phone numbers. Surveys were addressed to the name that the household's home phone number was listed under. This mailing list was problematic because not all residents have listed phone numbers. Renters were especially likely not to be included. The list did not contain apartment numbers. Renters with listed phone numbers that live in buildings with more than two units could not be reached.

Another issue with the using a mailing list from a telephone directory is that some addresses are listed more than once under the same last name. It is not uncommon for a single residence to have more than one land line listed under the same last name. In this instance the

researchers only sent one survey per household alternating between the male and female names provided on the list. If there were two numbers at the same address with different last names two surveys were mailed.

The addresses were typed directly on the questionnaire and the first class postage was franked. The questionnaires included a cover letter from the neighborhood association explaining the involvement of the association and the university to elicit trust from potential respondents.

When the first wave of surveys was mailed, approximately 3,000 were returned by the post office as undeliverable. Attempts were made to test the mailing list itself, and the addresses were correct when compared to the most recent telephone directory. Meanwhile, 981 responses were received (response rate of 11.27%). At this time the researchers decided to make a second attempt to reach district five residents. They also decided that due to non-traditional living arrangements the residents who had not completed the questionnaire probably would not still have it in their possession. So instead of a reminder post card, a second copy of the same instrument was mailed.

To create the mailing list for the second mailing, all of the addresses from the undeliverable mail were deleted from the original list, as well as the addresses from the completed surveys that provided their pre-Katrina addresses. The second wave of the survey was mailed to approximately 5,900 residents in the middle of July 2006. Another 1,300 questionnaires came back undeliverable, bringing the total of undeliverable questionnaires to 4,300.The second mailing was successful and yielded and additional 1,369 completed questionnaires, for a grand total of 2,350 completed responses (response rate of 26.99%).

As the undeliverable mail mounted it became evident that careful and extensive measures must be taken to analyze and contextualize the collected data. The team also found that some of

the questions on the instrument were either unclear or had become out of date during the process. And finally, because of the crippled postal system, it was taking an unusually long time for the responses to come back. Some of the undeliverable mail from the first mailing in May was still coming back as undeliverable in December.

The district six survey

The district six survey instrument was created in the same way that the district five survey was created. The main difference was that the research team had the benefit of the knowledge they gained from district five to guide them. The district five survey was presented to a group of district six residents, and the residents chose to keep or change items based on the item's success in district five and relevance to district six. Some questions were updated to include more current issues. Others were completely new and more indicative of the district six demographics. (See the appendix for the complete questionnaire.)

The first mailing to 12,171 homes went out to district six residents in mid August 2006. An informative newsletter, which contained the contact information for individual neighborhood captains, was mailed with the questionnaire. Nearly 5,000 questionnaires were sent back as undeliverable and 1,313 were returned completed. Once again a decision was made to conduct a second mailing of the same instrument.

The same methods were used to create the revised mailing list as were used in district five, and the mailing list was reduced from 12,171 addresses to 6,900 addresses. The mailing list was brought to the printers in late November, and the research team was informed that the post office was now screening the addresses of all mass mailings. An additional 1,500 of the addresses were listed as undeliverable by the newly created postal software. The remaining 5,400 addresses were mailed in the first week of December 2006. A printing error occurred and all of

the questionnaires were returned as undeliverable. The printer corrected the mistake and the survey was remailed in the last week of December.

Unfortunately, District Six's second mailing was not as successful as District Five's second mailing. The team only received an additional 146 completed responses. Additionally, only 816 of the questionnaires were returned undeliverable, leaving approximately 80% unaccounted for. At this writing there are no explanations for the low response rate of the second mailing.

II. The Questionnaires

Other main sources of data are the completed and undeliverable questionnaires as well as the mailing lists. The questionnaires and the collected data from the recovery surveys are what are being studied. I am comparing these collected data to other known data sources to determine the effectiveness of the implemented traditional methodologies. The questionnaires and collected data revealed key variables and indicators that can be used to contextualize the response.

Using the information contained on these questionnaires, I was able to create a spatial layout of the response rate and the undeliverable mail. I was able identify the census tract for each completed and undeliverable survey. In addition to the census block group, the undeliverable mail contained information from the post office about why it was not deliverable.

III. Interviews with Postal Workers

Several brief and informal interviews were conducted with postal employees to determine the meaning of the categories of undeliverable mail. Interviews were also conducted with the printer, who was affected by newly implemented postal policy. Two of the interviews with postal workers were held at the post office. Additionally, conversations with residents enhanced my understanding of the extent of the postal issues.

IV. Personal Observation and Participant Observation

Extensive personal observation and attendance of community meetings have provided a basis for a rich description of the setting and circumstances specific to post-Katrina New Orleans. I work and attend school in district six, and drive through district five everyday. I have been to countless meetings to not only aid in the creation of the survey instruments and discuss the dissemination plan, but also to aid in planning the rebuilding process. I have collected field notes, newsletters, and other materials handed out to residents at these meetings. I have developed relationships with association members which has given me a better understanding with which to contextualize these data.

V. Other Surveys and Recent Studies Conducted within the Setting

A local data base website, the Greater New Orleans Community Data Center, is an excellent source for recent population and damage estimates. Much of the data at this site is available at the district level. These data have been very helpful.

Also, district 5 residents conducted their own survey concerning residents' intent to return to the area in the spring of 2006. The methods and results of this survey are an indicator of the importance of solid tailored methods and careful research design when implementing mailed survey research. The district five civic association conducted a survey using convenience sampling. They handed out their survey at community meetings and at churches. They also placed it on the doors of homes, and made it available on their newly created district five website. The reported results can be found in table 1.

Table 2: District 5 Neighborhood Recovery Group Survey Data (April 5, 2006)

Neighborhood	Total Households	Valid Responses	Percent Returning	Percent Undecided
Lakeview	7,360	2,158	75	14
City Park	1,550	1,550	100	0
Lake Vista	756	488	81	9
Lakeshore	660	95	92	0
Parkview	550	48	90	0
Lakewood	403	203	45	31
Country Club Gardens	265	265	90	0
Total District 5	11,544	4,807	84	8

This survey is reporting a response rate of 41.6% (see table 1). I find this suspect as they used convenience sampling only eight months after the disaster, when even fewer residents were living within the district than when the CHART researchers conducted their surveys.

Chapter Six: Methods

The methods for this paper were based around the following goals: determining if the recovery surveys implemented the most appropriate methodology, assessing the generalizibility of the recovery survey findings, determining the effects of the postal system on the survey results, and outlining the unique ethical issues of post disaster survey work. Separating my research methods from the methods of the recovery surveys has been a difficult process.

I. Assessing the Implemented Methods using the Available Literature

The literature review served as a guide for assessing the research team's implemented methods. I have compared the general design to Dillman's Total Design (2007). I have also compared their methods to other literature written on special topics of mailed survey research such as response rate. This analysis has enabled me to determine which implemented methods are accepted, which are successful, and which are unique to this study.

II. Assessing the Quality of the Collected Data

One way to assess the success of the implemented methodology is to assess the representativeness of the collected data. There are several ways to do this. The first is to assess how well distributed geographically the surveys were. By using GIS software all data for the district six survey can be analyzed by census tract. This allowed me to determine a percentage of homes mailed to per tract. Next I mapped the undeliverable mail (which was separated by the reason given by the post office for why each questionnaire was undeliverable). With this I was able to see what percentage of each tract was undeliverable. This identified areas with more severe postal issues than adjoining neighborhoods. I also mapped the response and was able to

get a response rate for each tract. This enabled me to determine if certain areas were over or under represented.

Another way to assess representativeness was to compare collected data to known census data from 2000. There were seven variables on the district five and district six instruments that can be directly compared to the 2000 US Census tract statistics. They include:

1. Number of people in the household
2. Percent of households with children
3. Percent of households with senior citizens
4. Median Age
5. Sex
6. Percent of households that are owner occupied
7. Percent of households that are single family units

Using these variables I was able to compare the collected data to the census data at the block group and census tract levels in district five and at the census tract level in district six. I did not conduct a block group analysis in district six because the number of cases per block group would have been to small .Measures of central tendency for each variable were compared to the census data using significance test. By determining if any differences are significant, I was able to establish the level of representativeness.

The final way I assessed data quality was by analyzing the current location of the respondents. It is important to see where responses came from in order to determine if the response was only representative of those residents who had returned. Respondents in both districts were asked if they were living at their pre-Katrina addresses.

III. Determining the Role of the Post Office

It is clear with an undeliverable rate of over 45% in both districts that the condition of the postal system and unique problems of reaching displaced persons (many of whom have moved several times since they left New Orleans) had an effect on the response rates of the recovery

surveys. The primary way used to assess the extent of this effect was by reviewing the individual undeliverable surveys which were returned to the research team. With the first mailing in district five, very little could be derived from the undeliverable surveys. The undeliverable addresses were the extent of the information. But with the second mailing in district five and both mailings in district six, the undeliverable mail also indicated a postal reason for being unable to forward (these included "forward time expired", "moved and left no address", "vacant", "unable to forward", "attempted not known", "notify sender of new address", "send for postmaster review", and "insufficient address"). Using this information a map was prepared for each district of all undeliverable mail (See page 61). This allowed identification of neighborhoods with higher concentrations of undeliverable mail as well as the most prominent postal reason for the undeliverable mail.

Another way to determine the role of the post office was to speak with residents of the districts. Residents approached me in meetings and contacted me via email to inform me that they had not received the survey or most of their other mail since they returned. Through these conversations I have identified a number of postal issues that affect the distribution of the instrument. By the time I presented data to district six, I had had open conversations with groups of twenty or more residents focused on the ineptitude of the post Katrina postal system.

The interviews with the post office were largely inconclusive. The postal workers said that households are determined to be vacant or are deemed as "moved and left no address" based on comments from neighbors as well as the postal carriers' personal observations. This method for determining which households will be included in postal routes is vulnerable to error and misunderstandings. Distinguishing between the various levels of blight and reconstruction is a

guessing game at best. Postal workers either were unsure about what was going on, or were uncomfortable explaining the postal systems shortcomings.

Chapter Seven: Ethics

I. Researchers Role

I have an extensive and complicated role as the researcher of this project. I am the data manager for both of these surveys. I am employed by the University of New Orleans and CHART. I am attempting to analyze and critique a research project that I am still working on. At this writing we are analyzing the data, and are attempting to identify potential uses for this information. The ethical considerations are numerous. Many of the methods identified to analyze the data for this paper have been adopted by the survey team. In many ways the two projects are one for me.

My position on the Recovery Survey research team compelled me to find literature that would relate to the unique and challenging endeavor that we faced. When I discussed my questions with the university faculty they encouraged me to write about this topic. I am still struggling to make sense of our findings. I feel an obligation to write this paper to save the next researcher who attempts a similar post-disaster survey, from having to re-invent the wheel on these methods.

I have no way, at this time, to establish the accuracy of my assumptions. The extent of devastation in New Orleans is ever changing and remains largely un-documented. Most surveys to date, in post-Katrina New Orleans, have been conducted through convenience samples and have yielded results that conflict with even the most limited personal observations. We are the first research team to attempt to mail to all addresses in a district and to use accepted methodological measures, with the hope of collecting more representative data.

My position at the University of New Orleans has given me access to data as well as professional assistance from highly qualified faculty across a broad spectrum of departments.

Also, in addition to financial backing, I have the services of a trained GIS planning professional who has assisted in the spatial mapping of all addresses. Without access to these resources, I would not have been able to complete this project.

II. Ethical Considerations

As I am the data manager I cannot be truly objective when reviewing the methods implemented and the validity of our findings. However, the review and exploration of these methods are very important to me, because it is essential that I provide my fellow residents with the best possible data to aid them in their decision making process. Unlike the bias of some researchers attempting to reach the results that they anticipated, I am constantly questioning our research team's methods and the external validity of our data.

I can only review the available literature, rely on personal observation, and trial and error techniques to illuminate the most appropriate methodology for the current circumstances. Time and financial constraints have restricted the methods and tactics we were able to implement in the recovery surveys. For example there was not enough funding to implement Dillman's (2007) five suggested contacts.

There is a basic question about the way in which the circumstances unique to this unprecedented, large scale disaster will apply to future and smaller disaster settings. I am unsure how they will apply to man made disaster areas. None-the-less, there must be a starting place from which future research teams can base their designs. The only example available to me is post-Katrina New Orleans. So if the guidelines do not translate perfectly to a future disaster, they should be, if anything, overly thorough, and thus not detrimental to future research endeavors.

III. Determining the Unique Ethical Considerations of Post Disaster Research

While working on the recovery surveys the dissemination process was a constant concern. Data that contains information about which neighborhoods may or may not be coming back has the potential to further hinder the recovery of those neighborhoods. Property values, service availability, and the reopening of pre-disaster schools can all be affected by this type of data. The surveys were created and implemented using Participatory Action Research, which gave the residents some decision making power over the research. The extent of their power was not outlined at the onset of the surveys. The same residents who participated in the formation process of the surveys were hesitant to release the findings due to these implications.

Other major issues include the difficulty of working with newly formed and unstable neighborhood groups. As group dynamics change, researchers can fall in and out of grace with their neighborhood contacts. These issues will affect the eventual dissemination process, as well as the reception of the findings by residents. Due to these types of challenges, neither of the surveys' findings has been released at this time, despite their potential value to the community. Researchers conducting surveys in a post disaster environment need to carefully determine who will own the eventual data before beginning their study. They must also be careful with whom they work, as these types of neighborhood politics are extremely sensitive in a post-disaster setting.

Chapter Eight: Findings

I. The Survey Team's uses of Social Exchange Theory

Dillman (2007) promotes maximizing survey response rates by providing rewards, reducing costs, and encouraging trust from respondents. He is very specific on how to accomplish each of these goals. In the case of the Planning District Recovery Surveys, all three of these elements are at play.

Rewards

Dillman (2007) offered eight ways to provide rewards. The first suggestion is to "Show positive regard…by explaining the importance of a survey". (Dillman 2007:17) The cover letters sent out with each survey outlined the importance of resident response. The district six cover letter states, "Many ideas have been put forth…about how to not simply restore Gentilly, but to rebuild it better than it was before…But in order to get where we're going, we must first know where we are…Your response will greatly help the recovery effort." (GCIA survey) These statements are an attempt to instill the critical importance of the recovery survey, meeting Dillman's first criterion.

The second way to provide rewards is to thank potential respondents for their responses. The district five survey cover letter accomplishes this by saying, "We thank you in advance for your support." (District 5 Instrument) Unfortunately the district six survey did not thank respondents any where on the instrument or cover letter.

Third Dillman (2007) suggests asking the respondents for advice. Neither of the two recovery surveys directly asks for the respondents' advice. But they did provide residents with a chance to express concerns and opinions as well as make requests from local officials. Frustrated

residents were finally given a voice, and were able to make themselves heard. This may be the largest reward for taking these surveys.

Next Dillman suggests that the survey team show support and identify with group values (2007:17). Because both of the survey cover letters were composed by the district wide neighborhood associations, they do a nice job of conveying support for the groups values. The district six cover letter begins by stating, "Greetings fellow Gentillians near and far. Like much of the city, none of Gentilly's 17,000 homes, nor the families who lived in them, completely escaped the wrath of Hurricane Katrina…together we mourn the losses and together we must move forward" (D6 Cover letter). This greeting is an attempt to convey to residents that the people conducting the survey are members of their group, and that the researchers understand what the residents are going through.

Dillman also promotes tangible incentives "to create feelings of obligations to participate" (Dillman 2007:17). Though the recovery surveys did not provide monetary incentives, they did provide resources by offering information to potential respondents. They offered contact information for neighborhood presidents. They also offered a list of free home gutting sources and neighborhood news. Information is so limited in the post Katrina environment that these types of resources are invaluable, especially to residents who are still displaced.

The final three mechanisms for offering rewards are making the questionnaire interesting by opening with intriguing questions, giving social validation by telling potential respondents that many other residents have already completed the questionnaire, and by informing residents that there are limited opportunities to respond. (Dillman 2007:17) The recovery surveys do not implement these mechanisms (two of these tactics were not relevant to this post disaster

environment). So out Dillman's eight ways to increase rewards the recovery surveys directly implemented four and indirectly employed a fifth. This is a pretty solid design for inducing high response rates.

Costs

Dillman provides six ways to reduce costs. The recovery surveys were largely successful at adhering to these suggestions. The team was careful not to use subordinating language. The questionnaires were formed in partnership with residents, and were screened by residents to prevent offensive language.

In order to prevent embarrassment of respondents the team was careful not to use overly technical terms. When questioning residents the researchers tried to use the most prolific nomenclature found in post Katrina headlines. The questionnaires were printed in such a way that they could be refolded and taped to be sent back to the university. Pre-flanked postage was provided on the questionnaire, so that no stamps or envelopes were necessary to respond.

Both instruments were kept under four pages so that respondents would not be overly inconvenienced. Also, questions were generally kept close ended to make taking the survey as easy as possible.

Dillman suggests "minimizing requests for personal information" (Dillman 2007:18). The recovery surveys did and did not accomplish this. In order to keep "costs" low the researchers decided not to ask questions about income, race, and educational attainment. Race was not included because it has played such divisive role in post Katrina politics. However, both instruments ask respondents to provide their names and pre-Katrina addresses. This was important to the researchers so that follow up interviews could be conducted, and an unintended outcome is that the response can be plotted using spatial data to ascertain how well distributed it

is across the district. Generally, this would be a survey feaux pas, and it may have affected the response rate. However though optional approximately 60% of the 4,000 respondents provided their names and addresses.

Dillman's sixth way to reduce costs is to "Keep requests similar to other requests to which a person has already responded" (Dillman 2007:18). The two recovery survey instruments cover a lot of ground. Questions range from general demographics to future plans, concerns, whereabouts, and needs of residents. Though these encompass a large range of topics, so have the effects of Hurricane Katrina, and all questions were pertinent to assessing the status of the districts.

Trust

The instrument tried to establish trust by being endorsed by both the University of New Orleans, as well as the local district civic associations. However, asking respondents of a survey containing sensitive information to link names and addresses to their responses is asking for a great deal of trust and faith from residents. Despite this, over sixty percent of district 5 residents did link their name to their answers, indicating a high level of trust.

II. Personalization and Postcards

Personalization

The recovery surveys were mailed out first class using franked postage. Residents' names were typed directly on the front of the instrument. Colored paper was used to catch the attention of potential respondents. Kahle and Sales (1978) found that respondents do not respond differently to metered mail versus stamped mail, but hand written names and addresses receive better response than typed names and addresses. (Kahle and Sales 1978:549) However, another

study conducted by Byrom and Bennison (2000) concluded that handwritten instead of typed addresses did not significantly improve response rates.

Postcards and Multiple Mailings

Dillman's Tailored Design (2007) calls for five separate contacts. The first contact is intended to alert potential respondents that a survey is coming, and explaining the importance of the study. Generally researchers send post cards to accomplish this phase of the mailing. Much attention has been given on which postcards do the best job of encouraging response. The recovery surveys did not send five separate contacts, and did not mail a pre notice, or post card. There were two separate contacts. The survey instrument (enclosed in the newsletter) was mailed first class twice. The two mailings were sent months apart due to the slow mailing process, limited budget, and large amount of undeliverable mail. Typically, all of the contacts are sent out within about six to seven weeks of one another.

III. The Recovery Surveys Compared to Mailed Surveys Special Topics

Sensitive Issues

Nederhof (1985) disagrees with Dillman's warning that 'asking as few as two sensitive or objectionable questions can discourage response'. Nederhof found that mailed survey methods *should* be used to ask respondents about sensitive topics such as suicide (Nederhof 1985:1). This is important because the recovery surveys asked questions that are of a sensitive nature. Though the research team tried to keep the respondents' costs low by keeping the instrument as short as possible and not asking questions about race and income, honestly answering some of the questions may have come at a high cost for some residents. For example writing down on paper that the decision has been made not to return to the area can be an emotional, permanent, and depressing step for some respondents. Also on the district 6 instrument, the respondent is asked

if they have complied with the ordinance to gut and secure their homes. They are also asked their name and address. Homes that have not met the requirements of the ordinance may be seized and sold by the city, thus this is a very serious question to ask of someone.

Comparing to Homeless

Dennis (1991) recognized the difficulty of reaching non-traditional populations using traditional methods. He devised a two pronged approach for reaching homeless people. As the majority of the residents in this setting are displaced, and in a sense are homeless, Dennis' (1991) suggestions are pertinent. However, these are not mailed survey methods, and the residents of district five and six are too distantly displaced and dispersed to find them in person. Also the majority of the displaced residents are not sleeping in shelters or on the street, which will make them nearly impossible to find using this method. Dennis is trying to find homeless people, not a specific set of displaced homeless people. His methods could not have been implemented by these studies. However, Dennis' suggestions closely resemble the methods implemented by the Lakeview neighborhood survey, and may suffer from similar problems that respondents may be counted more than once and that the characteristics of those sampled by convenience may be very different from those of the population as a whole.

With the survey conducted in April 2006, surveys were placed on homes whether or not they were empty or untouched since the storm. They also handed surveys out at a local church which had reopened and was holding Sunday services. Essentially they went where they thought they would find people and they gave them a survey. This is what Dennis suggests. Unfortunately, if the goal is to determine how many people are returning to a decimated area, asking only those people who are inside of that area will not provide an accurate assessment.

Reaching the Elderly

Kaldenberg, Koenig, and Becker's study (1994) found that "age does have a significant impact on response" (1994:74). They found that the elderly population was difficult to reach with mailed survey methods. This is the opposite of what was found in the recovery surveys. The researchers at CHART received a disproportionately high elderly response, yielding median and mean ages of respondents in their early sixties (see table 3). Because census data only provides median age of all residents and not of head of households, a direct comparison of median age cannot be made to determine the skew of the data. I was able to compare the proportion of households with senior citizens in the survey responses to the known proportion from the census. I determined that 15 out the 29 census tracts surveyed had a significantly higher number of households with seniors than reported by the 2000 census.

Table 3: Age of Respondents

Respondent's Age	District Five		District Six	
	#	%	#	%
21 to 40	350	16.5	140	9.9
41 to 60	985	46.3	633	44.7
61 to 80	559	26.3	496	35.0
81 and over	233	10.9	147	10.4
Totals	2,127	100.0	1,416	100.0

It is unclear why the elderly response was so large. There is no literature to indicate the effects on external validity of such a mature response.

IV. The Use of Census Methods Instead of Sampling

In order to reach as many residents as they possibly could after the disaster survey researchers decided not to sample. This method was also chosen to make all of the residents in the district feel included in the recovery process. The only other censused survey found in the literature is the US census, which has some of the highest response rates of any survey. It is not clear from the literature when census style methods are appropriate.

The decision to census and not sample has come with costs and benefits. The setting the researchers were working in was unprecedented and they did not have any literature to guide them on what response rates they could expect. Conducting two mailings of a censused survey to such a large geographic region was also a very expensive strategy. In addition to this, the variability in the population was unknown. They did not know which factors influenced the respondent's ability or desire to return to their neighborhood. So they mailed to every household listed in a telephone directory. As is the case with the US census, the implications for the collected data are highly political. Over or under representing certain populations can have consequences, and the target population was likely to feel most comfortable with data that counted or attempted to count every household.

The problem with this method is that the researchers cannot use inferential statistics to make claims about the number of residents planning to return to their pre disaster planning district. Using a telephone directory as a mailing list excluded many renters, and those living in multi family housing. Not conducting a random sample may exaggerate the risk of non response bias in the collected data, but it may also reduce it. By conducting a random sample a researcher could control how many residents were sampled by census block group. This would allow the researcher to calibrate their mailing list by the extent of damage of each block group as well as control for the population of the block groups. By doing this the survey would at least be mailed

evenly to each neighborhood or each level of damage. The problem is the undeliverable mail removes the possibility of having a true random sample and will exaggerate the effects of non-response bias. The benefit is that considering the severe conditions in which they were working, they received a remarkable number of responses. Mailing to every known address allowed spatial analysis of the response to be conducted. Also they were able to learn the major factors involved in the resident's decision to return.

One way to assess the success of the census is to look at who the surveys reached. Both surveys asked respondents if they were living at the pre-Katrina addresses. For both surveys nearly half of the respondents indicated they were living at their pre-Katrina addresses. The district six survey asked respondents who were not home where they were living. The results from this question are as follows.

Table 4: Whereabouts of Displaced District Six Respondents

Location of respondents not living at their pre-Katrina addresses N= 663	Percent of Respondents
Elsewhere in Gentilly	5.7
Elsewhere in Orleans Parish	17.4
Elsewhere in the New Orleans metro area	23.4
Elsewhere in Louisiana	17.0
Out of state	36.5
Total	100.0

The majority (77%) of respondents not living at their pre-Katrina addresses were living outside of New Orleans. This is a good sign of representation because it shows the surveys did reach some displaced residents, even when they were still out of state. The goal of the recovery surveys (determining what type and how many residents are returning) requires reaching

residents who have not yet returned. I am not sure that a sample would have reached as many displaced residents.

V. Non Response and Undeliverables

Non Response

Nearly half of the people who received the district five survey chose not to take it. Over two thirds of the people who received the district six survey did not complete it. There is evidence to support that residents who did not take the survey are different from the residents who did complete the survey. This is a major issue as one of the main goals of the research project is to determine the number, plans and characteristics of returning residents.

It is likely that displaced residents who do not intend to return are less invested in the district, and are therefore less likely to take the survey. They may also feel uncomfortable expressing their choice not to return due to the neighborhood associations' strong pressure on residents to return. Thus, the results may be skewed toward returnees. Also I have shown that residents with the most severe damage to their homes were less likely to receive the surveys, which further skews the response toward returnees. In other words, it cannot be assumed that the respondents who took the survey are representative of those who did not.

The research team cannot infer that their findings are representative of the district as a whole. The effects of non-response bias on the recovery survey have probably resulted in a best case scenario data set. If the response is skewed toward returnees, the number of people not returning (and their fears and concerns) will be under represented.

Undeliverables

Dillman (2007) describes undeliverable mail as avoidable clerical error. The New Orleans Recovery Surveys' undeliverable mail was not avoidable.

Illustrations Three and Four: Undeliverable Homes

The post office was not delivering to all parts of the districts and new mail box requirements were implemented while people were away after the disaster. There were no open post office branches in either of the districts and all open branches elsewhere in New Orleans were under staffed.

Forwarding addresses expired within six months not the eighteen months that Dillman offers as standard. No literature at this writing has given limits of what is an acceptable undeliverable rate. Furthermore, there is no literature for what high rates of undeliverable mail do to reduce response rates and contribute to response bias.

Some guidance is needed to know how to contextualize the collected data. This is a different category of non-response bias because individual respondents do not necessarily choose not to take the survey. Some claim that residents who have moved without forwarding their mail may be different from the rest of the population, especially on the issue of desire to return to their pre-disaster neighborhood. This difference would be very similar to non-response bias, and thus could be analyzed in a similar way. However, with an inept postal system and a lack of research on this specific scenario, there is no tangible evidence to support the conclusion that members of the target population who do not receive the survey are different from those who do receive it.

In fact, some residents sent emails with their current addresses, requesting a survey be mailed to them. Even when surveys were mailed to these current and correct addresses, several came back as undeliverable. Also, some residents indicated in meetings that they never changed their addresses and had minimal damage to their homes, but did not receive the survey. Residents that never changed their address must issue a change of address to the post office to make the post office aware of their presence. Unfortunately, all of these specific changes to the postal process have not been made very public. Thus, it is difficult to draw any conclusions about the households noted as having undeliverable mail. The spatial analysis of the undeliverable mail has provided more insight. The available evidence indicates that pre-Katrina residents with undeliverable mail are less likely to return than those with deliverable addresses.

VI. Response Rates

Contextualizing the Response

The recovery survey's response rate of 27% for district five and 12% for district six remains un-contextualized (see tables 5 and 6). It is notable that 53% of those who received the questionnaire in district five completed and returned it. How would a survey done in ordinary circumstances be received if its response rate were 53%? The literature tells us what is good and what is bad, but is there an acceptable in-between?

Table 5: District Five Response Rate

District Five Response Rates	#	% of mailed surveys	% of delivered surveys
Total mailed surveys	8,707	_____	_____
Returned undeliverable	4,300	49.39	_____
Delivered surveys	4,407	50.61	_____
Completed surveys	2,350	26.99	53.32
Not completed	2,057	23.62	46.68

Table 6: District Six Response Rate

District Six Response Rates	#	% of mailed surveys	% of delivered surveys
Total mailed surveys	12,171	_____	_____
Returned undeliverable	5,674	46.62	_____
Delivered surveys	6,497	53.38	_____
Completed surveys	1,461	12.00	22.50
Not completed	5,036	41.38	77.50

The Response Rate Considered Spatially

Spatial analysis allows the response rate to be examined by census tract. Using GIS software the original mailing lists, undeliverable mail, and response have been mapped by tract. These data tell not only which areas the response came from, but also which areas were more thoroughly covered. In table 7 District Six's response has been separated by tract.

These data show that the tract with the highest percentage of homes mailed to (25.03) also had one of the highest response rates. The spatial analyses of the response rate can also be

looked at in combination with the collected data from the recovery surveys. Table 8 illustrates the effects of water depth on the response rate by tract.

Table 7: District Six Response Rate by Tract Considering Water Depth

Census Tract Number	Actual Number of Households	Mean Water Depth in the Household	Percent Mailed	Percent Undeliverable	Response Rate of Mailed Surveys	Response Rate of Deliverable Surveys
133.02	689	1.79ft	66.76	9.35	26.74	29.50
25.04	1,075	3.03 ft	61.02	28.35	14.48	21.69
25.03	853	3.13 ft	75.38	32.19	16.02	23.62
24.01	847	3.76 ft	69.78	31.47	10.49	15.31
33.08	1,942	4.40 ft	48.56	28.00	15.38	21.35
33.06	1,601	4.50 ft	3.31	37.73	3.77	6.06
33.07	667	4.91 ft	58.02	28.16	16.02	22.30
24.02	1,483	5.03 ft	57.92	37.60	11.41	18.28
33.02	1,498	6.17 ft	70.36	30.65	10.82	15.60
17.02	1,480	6.53 ft	64.19	19.68	9.37	11.66
23.00	1,347	6.86 ft	35.63	35.42	4.38	6.77
33.01	1,259	7.20 ft	65.69	30.35	18.86	27.08
25.02	1,155	7.22 ft	58.27	45.77	5.65	10.41
33.03	1,089	7.28 ft	61.52	36.86	9.40	14.89
33.05	419	7.50 ft	12.89	55.56	3.70	8.33
33.04	1,144	7.56 ft	61.45	42.53	11.81	20.54
17.01	1,009	7.58 ft	73.24	18.54	7.17	8.80
25.01	1,039	8.92 ft	72.18	59.47	4.67	11.51

= Highest
= Lowest

Table 7 shows that the tract with the lowest water depth (133.02) had the lowest percentage of undeliverable mail and the highest response rate. The tract with the highest water depth (25.01) had the highest percentage of undeliverable mail and yielded the third lowest response rate. Clearly water depth of the tract affected the success of the survey within that area. This is very important because the research team found that water depth is significantly related to a resident's intent to return to their district (see table 8).

Table 8: Water Depth and Plans to Return (District Six)

Water Depth and Future Plans N=1377 (Percentages)	No water	0.1 to 4.0 feet	4.1 to 8.0 feet	8.1 plus feet
Returned	**91.1**	**61.7**	32.7	25.7
Returning	3.4	23.3	31.0	33.5
Undecided	1.4	5.3	10.1	15.1
Not Returning	4.1	9.7	**26.2**	**25.7**
Total	100.0	100.0	100.0	100.0

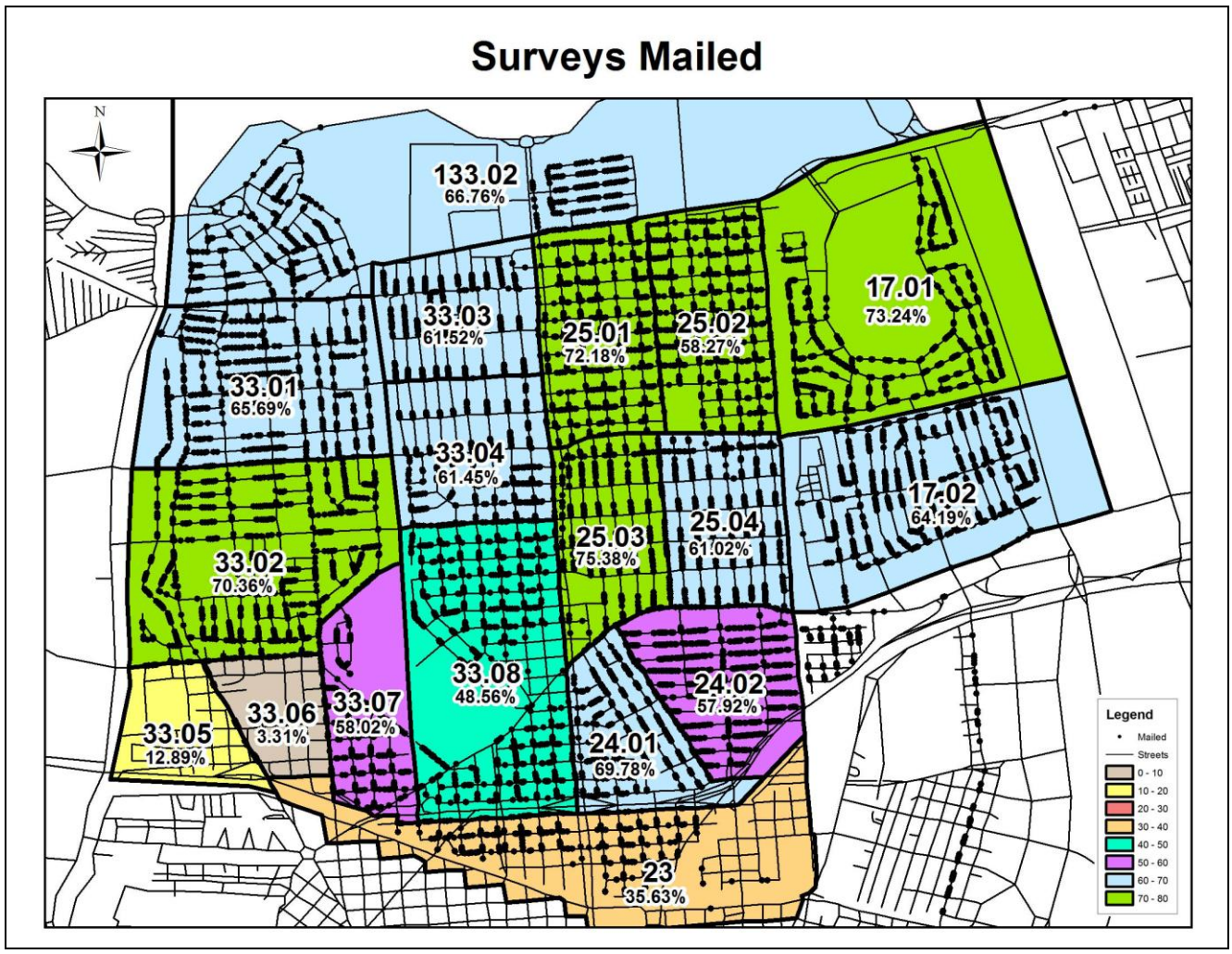
These data are evidence of non-response bias. If the residents who received the survey were more likely to have less water than those who did not receive survey, then it can be said the recovery survey response is skewed towards those most likely to be returning. Residents who had more water in their homes (and are therefore less likely to return) are under represented in the response.

VII. Looking at the Data Spatially

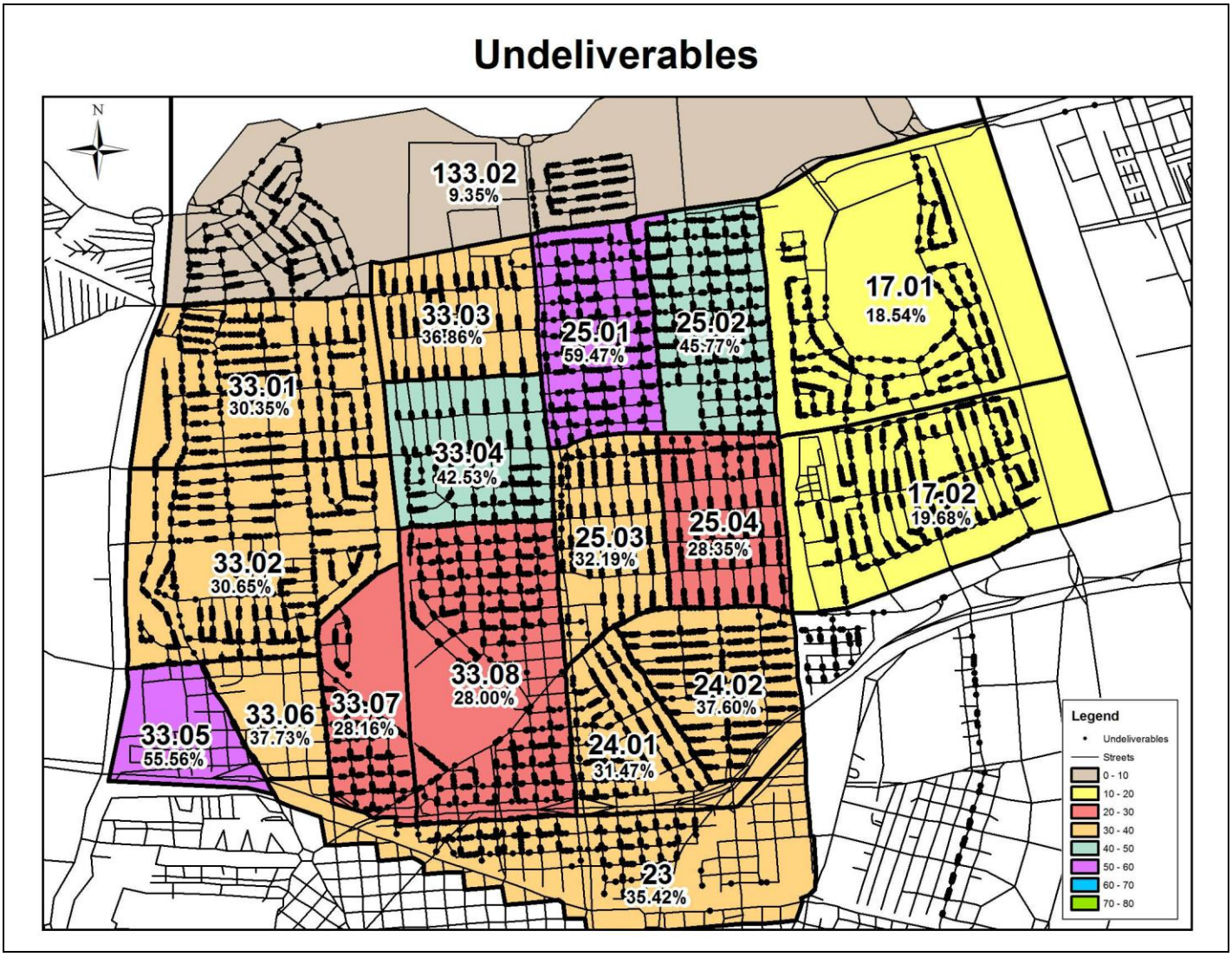
At this writing only the GIS work for district six has been completed. The main benefit of GIS for this project is it separated the mailing lists, undeliverable mail, and responses by census tract. The GIS work also creates maps of the data that further flesh out what happened with the mailed questionnaires and can show if there are patterns in the response.

The spatial analysis does not reveal any obvious patterns. There is a relationship between water depth and undeliverable mail, which I will explore in the next section. Also, tracts 33.05 and 33.06 both had a very low percentage of homes mailed to because these tracts contain the St. Bernard Housing Development. The housing projects are mainly multi family units, and the mailing list used did not include apartment numbers so the survey's success in these tracts was very poor. Renters are under represented

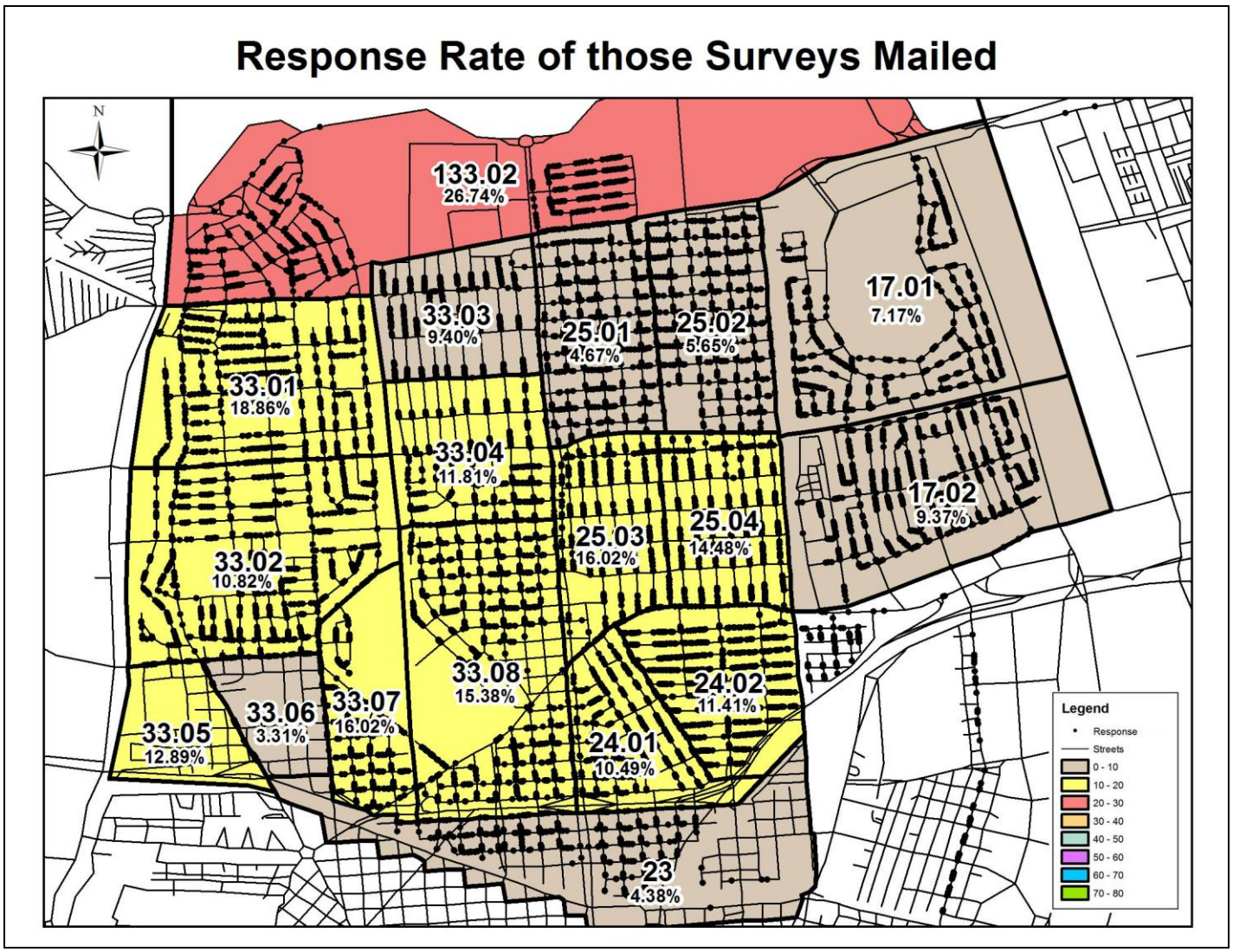
Map 3: Percentage of Households the Survey was Mailed
to in each Census Tract of District Six



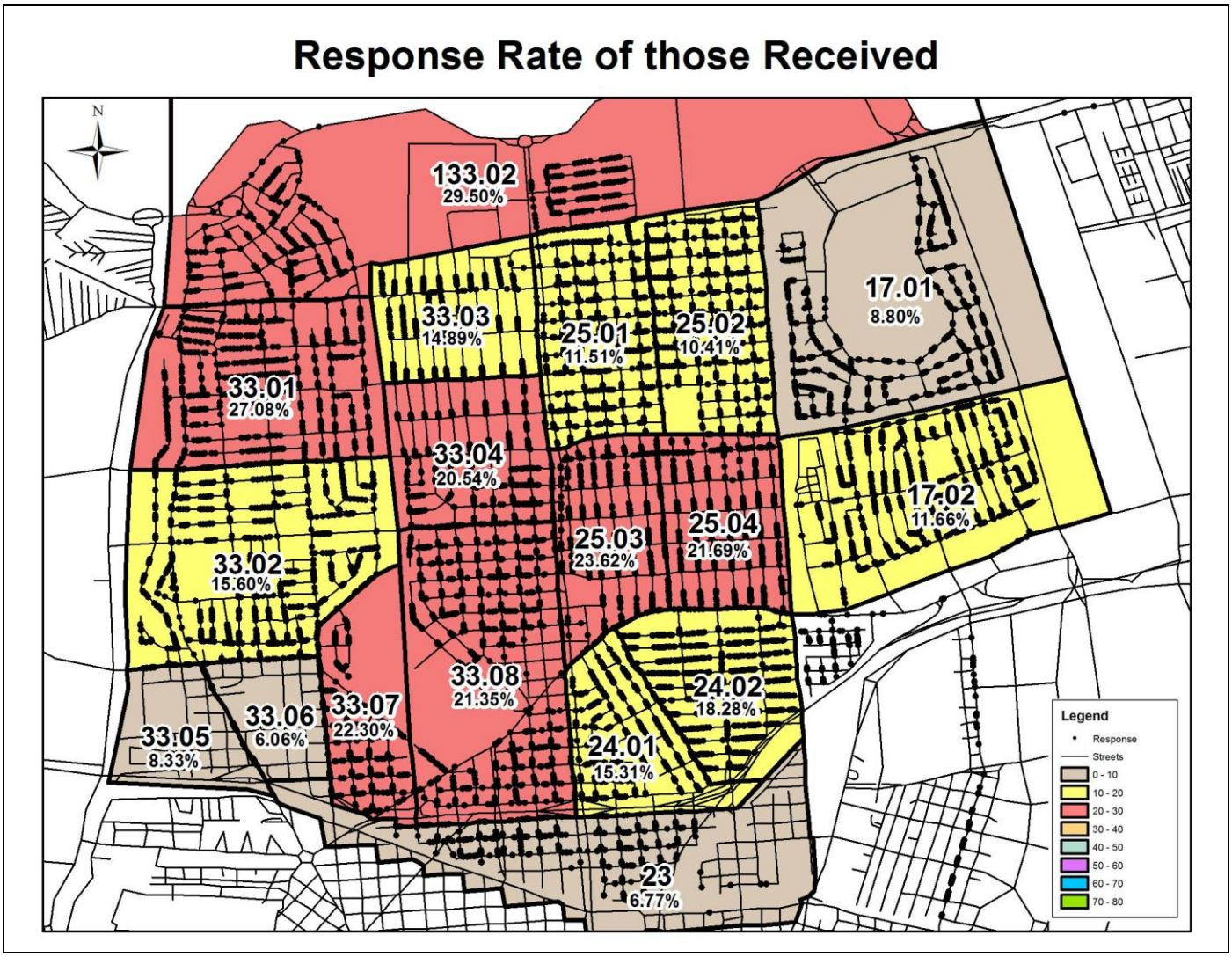
Map 4: Percentage of Mail Returned as Undeliverable
from each Census Tract of District Six



Map 5: Percentage of Surveys Completed of those Mailed
from each Census Tract of District Six



Map 6: Percentage of Surveys Completed of those Delivered
from each Census Tract of District Six



There does not seem to be a relationship between the percent of homes mailed to in each tract and the response rate from that tract. For example:

- Census tract 17.01 was mailed to fairly successfully. 73.24% of the homes were mailed to and only 18.54% of the questionnaires were returned as undeliverable. Despite this the tract has a low response rate (7.17% of those mailed to and 8.80% of those deliverable). Only 53 responses came from this tract.

- In census tract 33.01, 65.69% of the homes were mailed surveys. 30.35% of the questionnaires were returned as undeliverable. Response rate was 18.86% of the surveys mailed (and 27.08 of those deliverable). This tract had the most responses of any tract in district six (156 responses).
- Other tracts which had a low percentage of homes mailed experienced high numbers of responses. Only 48.56% of the homes in tract 33.08 were mailed surveys, and 30.35% were undeliverable. The response rate of the mailed surveys in tract 33.08 was 18.86% (which was 27.08% of the deliverable surveys). Tract 33.08 yielded 145 responses, making it second in number of responses for the district.

There is evidence that there are other factors driving the number of responses from each tract besides the percentage of homes mailed and the percentage of undeliverable mail. Some tracts that were heavily mailed to experienced low response rates. And other tracts with high amounts of undeliverable mail produced high numbers of responses.

One example of an outside factor affecting the response rate of the tract may be seen in tract 17.01. This tract is known as the Pontilly area and has established a very well organized neighborhood association. The Pontilly residents do not work with the district wide association, GCIA, which worked in partnership with UNO to create this survey. Pontilly has chosen to remain separate from GCIA and may not have felt the need to take the GCIA survey.

VIII. Comparing Survey Data to the Census

As mentioned there are several variables on the recovery survey that can be compared with the 2000 census. District five's survey results can be compared at the block group and census tract level because the map provided with district five's survey depicted block groups,

and the response was large enough to analyze the data in this way. District six's survey results can only be analyzed at the tract level. This was the geographic unit used on the survey map, and the response is not large enough to conduct an analysis at the block group level. Unfortunately, census data are not provided at the district level. Some variables can be calculated at the tract level (see table 9). For others averages can be made of census tract level data to provide a general summary, but because the tracts contain an uneven number of residents the averages are not as accurate as I would like them to be.

Table 9: A Summary of the Survey and Census Data for District Five and Six

Variable	District Five Survey Findings	District Five Census Data Averages	District Six Survey Findings	District Six Census Data Averages
Mean Household Size	**2.50***	**2.10**	**2.42***	**2.56**
% of Households with Seniors	**36.24***	**29.73**	**43.47***	**30.72**
% of Households with Children	**31.72***	**22.52**	26.92	27.84
% Owner Occupied	**95.70***	**66.05**	**96.31***	**69.83**
% Single Family Housing	**79.73***	**55.56**	**88.54***	**67.38**
% Male	46.44	46.44	**39.28***	**45.21**
Median Age	55.00	46.55	58.00	45.58
Average Median Income	-----	$56,244	-----	$35,456
Percent White	-----	94.67	-----	24.85
Percent African American	-----	1.26	-----	71.42
Average Residency Length	23.51	-----	25.96	-----
Average Water Depth	5.83 feet	-----	5.40 feet	-----

* Census data are not provided at the district level. The following variables have been recalculated at the district level: percent owner occupied, percent of households with seniors, percent of households with children, mean household size and percent male. The other census variables are averages of the census tract information.

Though some variables allow for a direct comparison to census data such as household size, percent of households with seniors, percent of households with children, percent owner occupied, and percent single family, other variables are not an exact match. The survey data offers the median age of respondent, which is likely to be the head of household or some other adult. The census offers the median age of all residents within the specified geographic area, including children etc. Because this is not an exact comparison, I did not conduct a significance test for this variable. However, the data can still be used to contextualize the response within the population. Sex is also not a direct comparison from survey to census. The survey asked the sex of the respondent, whereas the census provided the sex for every resident within the geographic unit. I did conduct a one sample case proportion test for sex to see how different the survey respondents were from the tracts or block groups as a whole (see tables 10, 11 and 12).

Table 10: Comparing District Five Survey Results to the Census at the Block Group Level

Variable	**# of Block Groups Significantly Different**	**Describing the Significant Differences (P<.05 one tailed test)**
Mean Household Size	21	The mean household size from the survey data is **larger** than the mean household size from the census in 21 out of 29 block groups.
% of Households with Seniors	11	Households with **seniors are over represented** in the survey data in 11 out of 29 block groups.
% of Households with Children	12	Households with **children are over represented** in 11 out of 29 block groups, and are under represented in one block group.
% Owner Occupied	28	**Home owners are over represented** in the survey data in 28 out of 29 block groups.
% Single Family	23	**Single family homes are over represented** in the survey data in 22 out of 29 block groups, and are under represented in one block group.
% Male	4	**Males are under represented** by survey data in three block groups and over represented by one.
Median Age	Not applicable	On average the median age of survey respondents is 13.7 years older than the median age of the census block group.
Total Number of Block Groups in District Five = 29		

Table 11: Comparing District Five Survey Results to the Census at the Tract Level

Variable	# of Tracts Significantly Different	Describing the Significant Differences (P<.05 one tailed test)
Mean Household Size	9	The mean household size from the survey data is **larger** than the mean household size from the census data in all tracts.
% of Households with Seniors		Households with **seniors are over represented** in the survey data in 4 out of 9 tracts.
% of Households with Children	8	Households with **children are over represented** in 8 out of 9 tracts.
% Owner Occupied	9	**Home owners are over represented** in the survey data in all tracts.
% Single Family	9	**Single family homes are over represented** in the survey data in all tracts.
% Male	0	There are no significant differences in percent male at the tract level.
Median Age	Not applicable	On average the median age of survey respondents is 13.7 years older than the median age of the census tract.
Total Number of Census Tracts in District Five = 9		

Table 12: Comparing District Six Survey Results to the Census at the Tract Level

Variable	# of Tracts Significantly Different	Describing the Significant Differences (P<.05 one tailed test)
Average Household Size	3	The average household size in the survey data is **smaller** than the average household size from the census in 3 tracts.
% of Households with Seniors	10	Households with **seniors are over represented** in the survey data in 10 out of 16 tracts.
% of Households with Children	3	Households with children are under represented in 2 tracts and are over represented in 1 tract.
% Owner Occupied	15	**Home owners are over represented** in the survey data in 15 out of 16 tracts.
% Single Family	13	**Single family homes are over represented** in the survey data in 13 out of 16 tracts.
% Male	5	Males are under represented by survey data in 4 tracts and are over represented in one tract.
Median Age	Not applicable	On average the median age of survey respondents is 21 years older than the median age of the census tract.
Total Number of Census Tracts in District Six = 19 (Significance tests have only been conducted for 16 tracts due to low response in 3 tracts.)		

These comparisons to known census data have provided a way to assess the representativeness of the collected data from each survey separately. It also allows a comparison of data quality when the collected data from each survey are compared to each other. However, there are some problems with this comparison. Both significance tests used in this study are sensitive to the size of the (N) from each geographic unit (block group or tract). The average N per census tract in district five is much higher than the average N in district six (see table 13). Consequently smaller differences in the measured variables will register as significant. The block group level data in district five provides a closer comparison to the tract level data in district six. The following table provides an evaluation of representativeness of the collected data.

Table 13: Assessing Representativeness of Survey Data through Census Comparisons

Geographic Unit	Average Survey N per Geographic Unit	Possible Points of Comparison for Statistical Significance Tests	# of Significant Differences **(p<.05)**	% of Points Significantly Different
District Five Block Groups	76.0*	174	99	56.9
District Five Census Tracts	244.4	54	39	72.2
District Six Census Tracts	83.8	96	49	51.0

*Comparison was based on six variables and twenty nine block groups in district five. One tailed significance tests were used to assess the differences between known census data from 2000 and the collected survey data of 2006.

Chapter Nine: Analysis

It is imperative to understand that the questionnaires were essentially mailed to 20,000 destroyed and un-inhabitable homes. This is the backdrop and basis for all of this analysis. The postal problems caused by the displacement of the population are the main problems from which nearly all questions of generalizibility arise.

The comparison to the literature revealed that the research team's methodology adhered to the requirements of social exchange theory. The researchers took measures to reduce costs, offer rewards and gain trust from potential respondents. Although no financial awards were provided newsletters containing contact and other valuable information served as incentives.

The level of personalization met with Kahle and Sales (1978) standards. However, the researchers did not make Dillman's (2007) suggested five contacts. The actual instruments were mailed twice which corresponds with the TDM, but no primer postcards, reminder letters, or thank you notes were mailed. Also the time lapse between the two mailings, in both district's recovery surveys, exceeded Dillman's (2007) suggested time line. These shortcomings likely reduced the response rate, but financial constraints prevented five contacts from being made. High rates of undeliverable mail and the slow postal turn around lead to the large time lapse between mailings. The research team made other efforts that increased the number of responses.

The decision to mail to every known address rather than sampling was time consuming and expensive, but proved successful at reaching many displaced residents. Though this methodology prevents the use of inferential statistics it helped to reduce non response bias by blanketing the districts with questionnaires. It was important to reach residents from all parts of the district because subtle differences in water depth and income are major factors affecting

residents' intent to return to the area. Unfortunately, an inadequate mailing list (that did not include many renters) detracted from the even distribution of the instrument. Also harder hit areas experienced more sever postal problems and were thus less evenly surveyed by the research team.

The response rates of both surveys would be considered unacceptable by traditional measures. District five had a 27% response rate and district six only received a 12% response rate. Despite these low rates, the research team received nearly 4,000 responses from these two decimated districts. Considering the setting, the response rate in this instance is impressive.

In addition to low response rates I have identified several sources of non response bias in the recovery surveys collected data. I have shown that returned residents are over represented. Residents that received less water are over represented, and because of that returnees are over represented. Residents who returning have the least incentive and fewest rewards for participating in the surveys, which likely lead to the further under representation of non returnees. It is possible that those not planning to return are less likely to jump through the hurdles of the postal system's changes exacerbating the undeliverable mail challenge.

Comparisons to the census data have revealed that the data are not truly representative of pre-Katrina district residents. Home owners and single family households are over represented. I have shown that renters are under represented. Also respondents are older than the pre-Katrina district residents. Households with seniors are significantly over represented. The question becomes, what does this mean in regards to the data?

It is possible that the data are more representative of those most likely to return to their pre-Katrina homes than it is representative of the pre-Katrina population. It would make sense that home owners would be more likely to return than renters. And older members of the

community may feel a stronger attachment to place and also are more financially invested in their homes, making them more likely to return than their younger counterparts. At this time these are only theories, and I have no way to investigate them.

The implication of all of this analysis is that by traditional standards the data collected in the recovery surveys are not representative of the pre-disaster population. The data offer a best case scenario and may only be representative of those likely to return. Data that better represents the new population of district five and district six would be very useful to the recovery and planning process.

Chapter Ten: Conclusion

I. Using the Established Methods in a Post-Disaster Setting

This paper has identified which traditional survey methodologies work in a post-disaster setting and some methodological suggestions for future survey research in a post-disaster setting. The study has shown that traditional survey methods are a starting place for post-disaster research. Dillman's (2007) principles regarding social exchange are applicable. Respondents in a post disaster setting require even more consideration, and offering rewards, keeping costs low and gaining trust are essential. Five contacts by mail would be ideal but may be difficult to implement in a post-disaster setting. All attempts at personalization and providing incentives serve to enhance response rates much as they do in a traditional setting. However, traditional methods alone are not sufficient.

There are several methodological challenges a researcher must face when conducting a mailed survey in a post-disaster setting. The largest of these involves basic mail challenges. Mailing to people who are displaced, mailing to homes that are uninhabitable, and mailing to areas without an open functioning post office affects response rates and creates non-response bias. Large quantities of undeliverable mail force a non-traditional assessment of response rates.

In addition to the basic problem of finding people and getting the survey instrument mailed, there are ethical and political challenges that drive the entire survey process. Data collected can be potentially harmful to specific neighborhoods. Neighborhood representatives as well as local politicians have strong reasons to control the release of the collected findings because evidence of a low level of repopulation can affect the future availability of public services for a neighborhood. Aligning with the residents and agreeing to specific dissemination

plans before starting the process can help to ease these challenges. But as the neighborhood groups evolve agreements may be undone. Careful measures must be taken to insure that data can be used by residents but not used against residents.

In addition to ethical considerations there is another reason to include residents in the survey formation process. It is difficult to know what to ask and how to ask it following a disaster. Problems following hurricane Katrina were ever changing. Involving residents when forming the questions provides insight into which questions are most pertinent and will invest them in supporting the release of the collected findings.

There is evidence from the recovery survey project that censusing the entire population may be more successful than conducting a sample. Small differences in the extent of damage are evident by neighborhood. These subtle nuances can be a source of non-response if the survey is not evenly distributed throughout the affected region. Accurate and complete mailing lists should be used. The recovery surveys in New Orleans used a telephone directory that excluded many renters and this was problematic. It would have been better if FEMA or some other federal agency could have provided a complete mailing list to make the recovery surveys more successful. Surveying every known address is both time consuming and expensive, but it opens up doors to further analysis which can provide a context for the collected data (such as comparisons to census data).

There are many factors that threaten the internal validity of post disaster survey findings. Residents that do not intend to return have few rewards to encourage response. Reaching residents evenly across the affected area proves to be nearly impossible. And residents most heavily affected by the disaster are the most difficult to reach. For all of these reasons extra steps must be taken to contextualize the collected findings.

The most straightforward way to assess the quality of data collected post disaster is to compare it to known census data. Doing such a comparison requires a geographic unit (such as block groups or census tracts) that can be directly compared to census data. The researchers were able to assess their data in this way for two reasons. They asked respondents to indicate their pre-disaster address, and they provided maps with either census tracts or block groups, so residents could self identify the geographic unit in which their home was located. These data allowed all of the other collected data to be sorted by tract and or block group so the central tendencies of demographic data can be compared to the most recent US census using one sample case significance tests. There are several specific demographic questions that should be included to provide a thorough assessment of representation:

1. Do you own or rent? (comparable to question H4 from the census)
2. The sex and age of all household members (comparable to P12,P13, P18 and P23)
3. The type of housing unit (comparable to H30)
4. The number of residents in the household (comparable to P17)

Race, income and educational attainment can be derived for the block group to make general assessments about their role in recovery. They need not be asked if the researchers fear they may discourage response. All questions included with the intent of a census comparison should be worded as similarly to the US census as possible to enhance the quality of the analysis.

GIS technology provides further assessment of a post-disaster survey's success. Mailing lists can be plotted and compared with the known number of households to determine the percentage of households mailed. Undeliverable mail as well as the addresses provided in the response can also be mapped to see which neighborhoods are best represented and which are under represented.

II. Using Unrepresentative Data

All of these steps allow researchers to assess the level of representativeness of their collected data. In a post disaster setting the collected data will not be representative. Surveys conducted post-disaster are likely to gather responses from residents most likely to return to their pre-disaster homes as well as from home owners. Knowing which groups are over or under represented allows the data to be used despite its shortcomings. The spatial analysis allows neighborhoods that are re-populating the fastest to be identified. It can illustrate whether income and race are factors in recovery. The survey data may show which types of residents are most able to return, and which types are the most affected.

Survey researchers will have to establish ways to use unrepresentative data if they want to aid in the recovery process following a disaster. I know which groups are over and under represented in the district five and six data, but I cannot say for certain the extent to which the data are skewed. Nonetheless it remains the best source of information available and we have no choice but to use it in the most cautious way possible.

Unfortunately there are researchers that have conducted post-Katrina surveys that have not been forthcoming about the ways in which their collected data are unrepresentative. There are some researchers that have used probability samples and are using inferential statistics to make determinations about the recovery and these findings are being used to develop policy. This is a problem because all inferential statistics operate under the assumption of independent random sampling. No post-Katrina survey could have achieved independent random sampling due to the displacement of residents and rate of undeliverable mail. There are numerous implications of post-Katrina policy being based on inferential statistics rum on unrepresentative data are numerous. The needs of the residents unable to return will not be considered and policy is being created around an overly optimistic view of the current status of recovery.

Hurricane Katrina has exaggerated the need for more tailored survey methodologies. Guidelines must be created to help researchers custom fit their survey design to suit the setting, as well as the nature and sensitivity of the survey topic. I have shed some light on mailed survey research post disaster, but many other atypical settings and cases exist that beg for a pragmatic restructuring of the mailed survey research process.

Sources

Anderson, Margo and Stephen Fienberg. 1999. "To Sample or not to Sample? The 2000 Census Controversy." *Journal of Interdisciplinary History* 30:1-36

Anonymous. "Tone of Postcards in Increasing Survey Response Rates." *Psychological Reports* 94: 444-448.

Axford, Rita, Barbara Carter, and Gary Grunwald. 1997. "Enhancing Dillman's Total Design Method for Mailed/ Telephone Surveys Using Current Technology to Maximize Cost-Benefit Ratios." *Australian & New Zealand Journal of Sociology* 33: 387-393.

Bernick, E. Lee. 1994. "Improving the Quality of Information in Mail Surveys: Use of Special Mailings." *Social Science Quarterly* 75:212-219.

Byrom, John and David Bennison. 2000. "The Effect of Personalization on Mailed Questionnaire Response Rates" *International Journal of Market Research* 42: 357-358.

Creswell, John W. 1998. *Qualitative Inquiry and Research Design Choosing: Among Five Traditions.* Thousand Oaks, California: Sage Publications, Inc.

Creswell, John W. 2003. *Research Design Qualitative, Quantitative, and Mixed Methods Approaches.* Thousand Oaks, California: Sage Publications, Inc.

Dennis, Michael. 1991. "Changing the Conventional Rules: Surveying Homeless People in Non-conventional Locations." *Housing Policy Debate* 3: 701-732.

Dillman, Don A. 2007. *Mail and Internet Surveys: The Tailored Design Method 2nd edition.* Hoboken, New Jersey: John Wiley & Sons, Inc.

Feitelson, Eran. 1991. "The Potential of Mail Surveys in Geography: Some Empirical Evidence." *Professional Geographer* 43: 190-205

Firestone, William A. 1987. "Meaning in Method: The Rhetoric of Quantitative and Qualitative Research." *Educational Researcher* 16: 16-21

Fowler, Floyd J. 2002. *Survey Research Methods*. Thousand Oaks, California: Sage Publications, Inc.

Fox, Richard J., Melvin R. Crask, and Kim Jonghoon. 1988. "Mail Survey Response Rate: A Meta-Analysis of Selected Techniques for Inducing Response." *Public Opinion Quarterly* 52: 467-491.

Greater New Orleans Community Data Center. Greater New Orleans Nonprofit Knowledge Works. March 2007. www.GNOCDC.com

Groves, Robert M., Don A. Dillman, John L. Eltinge, and Roderick Little. 2002. *Survey Nonresponse*. New York, New York: John Wiley & Sons, Inc.

Heberlein, Thomas A. and Robert Baumgartner. 1978. "Factors Affecting Response Rates to Mailed Questionnaires: A Quantitative Analysis of the Published Literature." *American Sociological Review* 43: 447-462.

Jobber, David, John Saunders, Vince-Wayne Mitcheel. 2004. "Prepaid Monetary Incentive Effects on Mail Survey Response." *Journal of Business Research* 57: 21-25.

Jones, Wesley H. and Gerald Linda. 1978. "Multiple Criteria Effects in a Mail Survey Experiment." *Journal of Marketing Research* 15: 280-284.

Kahle, Lynn and Bruce Dennis Sales. 1978. "Personalization of the Outside Envelope in Mail Surveys." *Public Opinion Quarterly* 42: 547-550.

Kaldenberg, Dennis O., Harold S. Koenig, and Boris W. Becker. 1994. "Mail Survey Response Rate Patterns of the Elderly." *Public Opinion Quarterly* 58: 68-76.

Kaplowitz, Michael D., Timothy D. Hadlock, and Ralph Levine. 2004. "A Comparison of Web and Mail Survey Response Rates." *Public Opinion Quarterly* 68: 94-101.

Kellner, Douglas. 1990. "Critical Theory and the Crisis of Social Theory." *Sociological Perspectives* 33: 11-33.

Lucas, Jeffrey W. 2003. "Theory-Testing, Generalization, and the Problem of External Validity." *Sociological Theory* 21: 236-253.

Miller, Delbert C. 2003. "Techniques for Increasing Response." Pp. 304-309 in the *Handbook of Research Design & Social Measurement*

Nederhof, Anton. 1985. "A Survey on Suicide: Using a Mail Survey to Study a Highly Threatening Topic." *Quality & Quantity* 19: 293.

Pirotta, Marie and Jane Gunn. 1999. "Primer Postcard Improves Postal Survey Response Rates." *Australian & New Zealand Journal of Public Health* 23: 196-198.

Ryu, Erica. 2006. "Survey Incentives: Cash vs. In-Kind; Face-to-Face." International Journal of Public Opinion Research 18: 89-106.

Schrag, Francis. 1992. "In Defense of Positivist Research Paradigms." *Educational Researcher* 21: 5-8.

Sullivan, Thomas J. 2001. *Methods of Social Research*. Orlando, Florida: Harcourt, Inc.

Szmatka, Jacek and Michael J. Lovaglia. 1996. “The Significance of Method.” *Sociological Perspectives* 39: 393-415.

U.S. Geological Survey. U.S. Department of the Interior. December 2006. <www.USGS.gov>

Appendices

Appendix I. District Five Survey Instrument

New Orleans District 5 Neighborhood Recovery Group

City Park Neighborhood Association
Country Club Gardens Association
Lake Vista Property Owners Association
Lakeshore Property Owners' Association
Lakeview Civic Improvement Association
Lakewood Property Owners Association
Parkview Neighborhood Association

P.O. Box 24378
New Orleans, LA 70184
504.324.2270

April 21, 2006

Dear Fellow Resident:

We hope this letter reaches you in good spirits. The last eight months have been a trying experience for all of us. But with the renewed hope of rebuilding our community to be beautiful once again, we bring you this news and information. This newsletter is provided to you by the District 5 Neighborhood Recovery Group, in partnership with the University of New Orleans College of Urban & Public Affairs (CUPA).

Through the initiatives of your neighborhood associations, a District 5 Neighborhood Recovery Group has been established and is in motion. New Orleans City Planning District 5 comprises the neighborhoods known as Lakeview, Lakeshore, Lake Vista, Lakewood, Parkview, City Park and Country Club Gardens.

The initial objective of the group is twofold: to assist our residents in the daily efforts to recover and restore our neighborhoods, and to prepare a comprehensive recovery plan for the short-term and long-term recovery process to be submitted to the various agencies involved in our city's recovery. This effort includes all aspects of recovery and involves the work of hundreds of volunteers. The group will continue to seek input from our residents and continue to provide information to you through our newsletters, website, meetings and community workshops. If you have something you would like to let us know, you can complete a suggestion survey on the website, www.lakeviewcivic.org. This website also provides up-to-date information about the recovery process. Our neighborhoods were a shining example of a fully functional community prior to the storm. In short, all of us want that back. We understand, as you certainly do, that this will take a lot of work and a fair amount of time. The Neighborhood Recovery Group has been established to help make this recovery possible.

Hurricane Katrina and it's effects devastated our homes and businesses. The District 5 Neighborhood Recovery Group has worked tirelessly over the past few months to keep our residents informed and prepare a plan for complete recovery. The Bring New Orleans Back Commission, the Louisiana Recovery Authority, FEMA, the City of New Orleans and others will be looking to our group for a comprehensive recovery plan for District 5. Our group has partnered with CUPA to prepare a written plan that will be available to the community and the appropriate recovery authorities. The plan will guide our short-term, mid-term and long-term recovery efforts. With the input and assistance of CUPA, we hope to complete the plan shortly. We will make this happen with your continued support and with the help of hundreds of volunteers and a committed group of community leaders.There are a few things that you can do now to help the current and future residents of our community, particularly in our most damaged neighborhoods. Some of the things that will help everyone include, but are certainly not limited to, stabilizing your property by removing the contents and flooded portions of the structure so that the debris can be removed from our area and that the house can be rebuilt or sold; making plans for the maintenance of the grounds of your property if you do not plan to return in a short time; or, if the condition warrants it, arrange for the demolition of the structure. We understand that sorting through the morass of organizations and agencies is a mind numbing and sometimes frustrating experience. However, there are people and agencies that can help, and we respectfully encourage you to seek out these resources for the betterment of your community at large. The City Council recently passed an ordinance that sets a deadline for property owners to clean and gut, maintain the lot, or demolish their property. **The proposed deadline is August 29, 2006**, the anniversary date of Katrina. We hope that you would take action prior to that to help restore our neighborhood and avoid blighted housing, unsafe and unhealthy conditions in our community.

We thank you in advance for your support.

Best wishes,
District 5 Neighborhood Recovery Group

Neighborhood Recovery Committee Moving Forward

The District 5 Neighborhood Recovery Group is working daily and preparing a comprehensive plan to assist in the recovery of our community. The Steering Committee is made up of current and past presidents of Lakeview Civic and the presidents or their representatives from Lake Vista, Lakeshore, Lakewood, Country Club Gardens, City Park and Parkview. The committee has established additional action-oriented committees with responsibilities that utilize the input and work of many volunteers to help meet the challenges of rebuilding our community. The action-oriented committees are as follows:

Communications/Community Engagement (Group A) is responsible for establishing and maintaining all the processes and methods necessary for communications to our residents, our neighboring communities and others as may be appropriate. This committee will also receive and process information that can be of assistance to our fellow residents and help to organize community meetings. This group has conducted and published results of returning residents surveys, established a community information center that is helping residents daily, and provided a user-friendly website that is interactive and current.

Greenspace Recovery and Beautification (Group B) is responsible for handling the restitution of our green spaces and cleanups beyond the level of debris removal. The activities of the group will include planning for our parks, playgrounds and neutral grounds; developing volunteer efforts to make immediate improvements to our greenspaces; and coordinating planning and cleanup efforts with each neighborhood organization and governmental agency (NORD, RPC, BGR, CPC, etc.) involved with District 5.

Neighborhood Planning Team (Group C) consists of subcommittees directed to the issues of zoning and planning, historic preservation, health and environment, mitigation and related finance issues. The University of New Orleans College of Urban and Public Affairs is integrally involved in the discussions and development of the planning process. Subcommittees are staffed with local professionals personally interested in the recovery of District 5 and the city as a whole. The group is addressing the short-term goal of the District 5 community to immediately repopulate into a safe and workable neighborhood, as well as the long-term prospects for a more functional neighborhood with sufficient and controlled business corridors and consistent building regulations for new residential construction. Parks and other green space, transportation needs and other infrastructure-related issues are also part of the overall plan.

Resources and Finances (Group D) will perform two vital community functions. First, the group is compiling a Resource and Recovery guide for families to coordinate and simplify the complexity of all financial resources available to aid in the rebuilding process. Group D is also working with local law firms to organize a neighborhood workshop designed to educate individuals on how to properly handle their insurance claims without the need for public adjusters or attorneys. Second, the group is establishing the District 5 Neighborhood Recovery Fund under the Greater New Orleans Foundation. The group is aggressively engaging individuals, nonprofit, public and private entities in an effort to raise the necessary funds to ensure that adequate funding will remain available in the likely event that the federal recovery dollars will not be sufficient to meet all community infrastructure needs.

Infrastructure (Group E) is responsible for evaluating the past, present and future of all utilities and infrastructure in District 5 and for making recommendations for infrastructure improvements. There are various subcommittees in this group, and the most recent status reports from each subcommittee are available at www.lakeviewcivic.org or by calling the Information Center at 504-324-2270. Some highlights include:

▼ *Utilities* – With the exception of those homes located near the 17th Street Canal Levee break, electrical service should be available to all residents; gas service should be available to all gas customers by the end of April. Power is available to all District 5 traffic lights; the city has the responsibility to restore the lights to service. The Sewerage and Water Board is working to restore pumping stations; see the website or call for detailed information. Bell South is working to restore voice, video and internet services; area specific details are available at the website. Cox Communications is working to restore video, internet and telephone service in District 5; they are limited by the availability of commercial power to the Cox supply centers and the erection of replacement poles.

▼ *Transportation* – RTA is under contract with FEMA/SBA and receiving funding for routes that do not include District 5. Special-needs transportation is in effect; the number for paratransit is 504-827-7433.

▼ *Community Facilities* – Efforts are underway to install two trailers to house information centers that will contain kiosks connected to City Hall to access permit and housing information. Potential locations are Delgado City Park campus and the Robert E. Lee Shopping Center. The Robert E. Lee Fire Station is operable and there is no change in the level of police protection. Looting continues to be a problem. The U.S. Postal Service is not moving forward with cluster box units; drive-by service is planned for residents who have a curbside box in place. Garbage collection occurs once a week. Times-Picayune delivery is available in some areas; contact the newspaper circulation department at 504-822-6600 for more information.

▼ *Storm Demo and Cleanup* – As of March 31, 2006, 254 demolition permits have been issued by the City Permit Department. Mosquito Control facilities were destroyed, but the Mosquito Control Administration has begun spraying neighborhoods. Unattended swimming pools are a problem – an inspector can be sent out and the pool treated at no charge if mosquito larvae are found.

Crime Prevention (Group F) is responsible for establishing and maintaining contact with the other Crime Prevention Districts in Recovery District 5 and for maintaining and enhancing our crime-prevention effectiveness in the area with this coordinated approach.

District 5 Neighborhoods (Group G) includes a collaborative effort by the presidents and liaisons of civic associations for each of the neighborhoods within the boundaries of District 5. Those leaders have initiated contact within their neighborhoods to encourage and track residents, as well as recruit volunteers to serve on other group subcommittees to address the specific rebuilding projects and wish lists of their respective neighborhood.

Planning District 5 Resident and Neighborhood Recovery Survey:

THE UNIVERSITY of NEW ORLEANS

Note: You may complete this survey on-line at www.lakeviewcivic.org

The purpose of this questionnaire is to find out what you, a resident of District 5*, are thinking about post-Katrina recovery. Specifically, we are interested in understanding where you are in your decision-making process regarding whether or not to return and what information and assistance you need from the neighborhood associations and the city. Please answer questions for your home in District 5.

*Note: District 5 includes City Park Neighborhood Assoc., Country Club Gardens Assoc., Lakeshore Property Owners Association, Lakeview Civic Improvement Assoc., Lake Vista Property Owners Assoc., Lakewood Property Owners Assoc., Parkview Neighborhood Assoc.

The University of New Orleans has prepared the survey in conjunction with members and residents of the District 5 Neighborhood Recovery Group.

We hope that you will participate by returning the survey. *Please simply fold the survey at dotted lines so that the address shows and seal it with a piece of tape* (no staples please – the Post Office will not process it with staples). No postage is necessary.

This survey is directed toward your home in District 5. If, however, you have multiple properties in District 5, you can complete a shorter version of this survey on the web at www.lakeviewcivic.org for each of the other properties.

1. Are you currently living at your home in District 5? ❑ Yes ❑ No

   a. If yes, are you living in the home ❑ or in a trailer ❑ on the property?

   b. If no, have you returned to your residence?

      ❑ Yes. How many times? _____
      ❑ No.

2. If you are not living on the property, where are you in your decision-making about whether you will return permanently to your address in District 5?:

   ❑ **I definitely plan to return.** When? _____
   ❑ I think at this time that I **will return** but my **decision is not final.**
   ❑ I think at this time that I **will not return** but my **decision is not final.**
   ❑ **I definitely will not return.**
   ❑ **I don't know** what I'm going to do.

   a. If you are not planning to return, what answer below most closely represents what you currently plan?:

      ❑ I plan to sell my home but I don't know when I will do so.
      ❑ I plan to sell my home and I already have it for sale or know when I will put it up for sale.
      ❑ I plan to have my house demolished but I don't know when that will happen.
      ❑ I plan to have my house demolished and I have taken the steps to have that happen.
      ❑ I do not have any plans at this time.

   b. If you are planning to return, which do you think you will do?

      ❑ Demolish my home and rebuild it.
      ❑ Rebuild my existing home.
      ❑ I will rebuild but I don't know at this time what method I will use.
      ❑ Buy another home that flooded.
      ❑ Buy another home that didn't flood.
      ❑ Rent.

Desiring contact information: We would like everyone who responds to this survey to provide contact information so that the neighborhood association in your area will be able to send you newsletters and to update you on issues affecting the neighborhood. If you are interested in being informed please fill in this page. It will be separated from information on the other pages.

Name: _____

Contact means (please include email if you have it):

Mail – Current Address _____

_____

Email _____ *Phone* _____

fold

Printing courtesy of Blue Cross. Mailing and postage courtesy of The University of New Orleans.

BlueCross BlueShield of Louisiana
An independent licensee of the Blue Cross and Blue Shield Association.

THE UNIVERSITY *of* NEW ORLEANS

fold

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 161 NEW ORLEANS, LA

POSTAGE WILL BE PAID BY ADDRESSEE

PLANNING DISTRICT 5 RESIDENT
AND NEIGHBORHOOD RECOVERY SURVEY
UNIVERSITY OF NEW ORLEANS
2000 LAKESHORE DRIVE
NEW ORLEANS LA 70122-9989

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

Please Tape Here

10. How long did you live in District 5 before Katrina?
_____

11. Before Katrina, how many people lived in your household? _____

a. How many members of your household were under 18? _____

b. How many members of your household were 65 years and over? _____

12. What is your age? _____

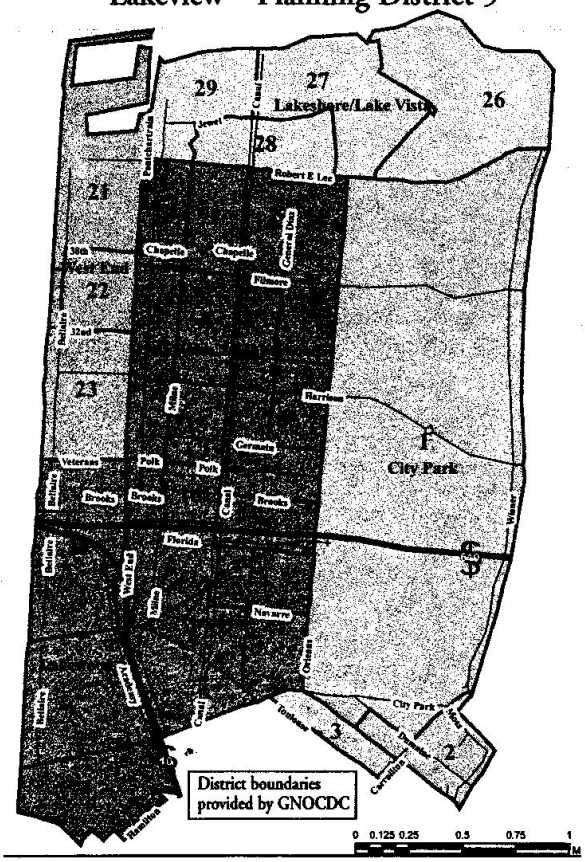
13. What is your sex?
❑ Male ❑ Female

14. Is your District 5 residence:
❑ owned by you or someone in your household?
❑ rented?

15. Which best describes your District 5 residence?
❑ single-family house
❑ double
❑ townhouse
❑ building with more than 2 units

16. Please mark the number of the map quadrant where your residence is: _____

Lakeview – Planning District 5



17. How deep was the water in your house?_____

18. Do you have any questions for the city or the neighborhood association in your part of District 5?

_____

_____

_____

_____

_____

_____

_____

19. Is there something that you need done with regard to your house that you think a neighborhood association could help you with?

_____

_____

_____

_____

_____

_____

_____

Use of survey responses: The information from this survey will be used for planning purposes for the recovery of District 5. Unless you give us specific permission below, your responses will be grouped with other similar responses and reported in summary fashion like the Census does but not linked to your name.

Are you willing to link your name to your answers?
❑ Yes ❑ No

If yes, what is your name?

_____

Street address of your District 5 residence:

_____

Zip Code_____

Desiring contact information: We would like everyone who responds to this survey to provide contact information so that the neighborhood association in your area will be able to send you newsletters and to update you on issues affecting the neighborhood. If you are interested in being informed please fill in this page. It will be separated from information on the other pages.

Name: _____

Contact means (please include email if you have it):

Mail – Current Address _____

_____

Email _____ *Phone* _____

fold

Printing courtesy of Blue Cross. Mailing and postage courtesy of The University of New Orleans.

BlueCross BlueShield of Louisiana
An independent licensee of the Blue Cross and Blue Shield Association.

THE UNIVERSITY of NEW ORLEANS

fold

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 161 NEW ORLEANS, LA
POSTAGE WILL BE PAID BY ADDRESSEE

PLANNING DISTRICT 5 RESIDENT
AND NEIGHBORHOOD RECOVERY SURVEY
UNIVERSITY OF NEW ORLEANS
2000 LAKESHORE DRIVE
NEW ORLEANS LA 70122-9989

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

Please Tape Here

Residents Surveys –Vital Information for Our Community

The civic associations of District 5 are conducting resident surveys to determine their intent to return to their neighborhood or any other decision they may make. It is critically important to the mission of the District 5 Neighborhood Recovery Group to collect this data. The survey data received has been very encouraging for our community. Below are the survey results as of April 5, 2006.

Neighborhood	Total Households	Valid Respondents	% Returning	% Undecided	Association Websites
Lakeview	7360	2158	75%	14%	www.lakeviewcivic.org
City Park	1550	1550	100%	0%	www.cityparkna.org
Lake Vista	756	488	81%	9%	www.lakevistapropertyowners.com
Lakeshore	660	95	92%	0%	www.lakeshorenola.org
Parkview	550	48	90%	0%	not available
Lakewood	403	203	45%	31%	www.lakewoodns.org
Country Club Gardens	265	265	90%	0%	www.countryclubgardens.net/index.php
Total District 5	11,544	4807	84%	8%	

Resident participation is vital. If you have not completed a survey, please check your association's website for information.

Demolition and the ICC Process

The intent of this article is to dispel some of the uncertainty surrounding the use of what has become known to many of us as ICC. As many of you are now aware, the ICC (or Increased Cost of Compliance) language included in your flood insurance policy states that the homeowner is entitled to an additional $30,000 (not to exceed the maximum coverage amount of $250,000 under the standard flood policy limits) so long as it is used to mitigate future damage resulting from flooding. They go on to state that the money can be used to demolish, raise or relocate the covered structure. Herein lies where much of the confusion has arisen.

It is extremely important to understand that this money can be used for any of the above-mentioned options. If you are planning on demolishing your home and building a new structure on the existing lot, you can use these funds toward the cost of demolition. However, it is important to know that the remaining balance can be applied to the foundation of the new home so long as it is built according to the mitigation standards. Therefore, it is imperative to maximize this money to the fullest extent. There are several eager demolition companies in our area that claim they will handle the entire process for you, and will happily work through your insurance company, saving you the headache. If you are not planning on rebuilding, that option may make sense for you. However, if you intend to rebuild, be sure to have your home demolished at a competitive price because the remaining funds can be used toward the new construction costs.

The City is offering demolition as well. They, too, will seek reimbursement from homeowners through the ICC funds. The City will demolish the structure and leave the slab in place. The amount of reimbursement that the City will seek has not been defined at this time. Again, as stated above, any remaining balance of ICC funds after demolition costs are subtracted can be applied to the foundation of the new home. Doing research prior to contracting for demolition will enable homeowners to maximize the value of their ICC funds.

Debris Removal

Currently, FEMA has a contract in place to remove debris in Lakeview. This contract expires at the end of May 2006. While it is anticipated that this contract will be extended for another 30 days, this will not be indefinite. Residents should utilize this free service now and ensure that their debris is on the curb for the contractor to pick up. Debris includes the contents of the home including refrigerators, freezers, washer and dryers, as well as sheetrock removed from the home. The debris removal contractors will also pick up trees and stumps. Following the termination of the FEMA contracts, residents will be required to facilitate and pay for their own debris removal.

State Establishes Website and Phone Number

The State of Louisiana has set up a registry to collect information that will be used to distribute money for rebuilding. This registry is called "The Road Home," and any homeowner whose damaged house was categorized as "major" or "severe" by FEMA is eligible to sign up by visiting www.housing-la.com or by calling 888-762-3252. Gov. Blanco has proposed to provide grant assistance of up to $150,000 per homeowner for houses damaged by Hurricanes Katrina and Rita. This registry is the first step to receive assistance.

Join or Renew Your Association Membership Now!

Your membership in your neighborhood's civic association is vital to the rebuilding of our neighborhoods. Please visit their website or contact them at the number listed.

Neighborhood	Phone Number	Websites
Lakeview	504-324-2270	www.lakeviewcivic.org
City Park	504-581-9322 ext. 147	www.cityparkna.org
Lake Vista		www.lakevistapropertyowners.com
Lakeshore	504-723-2417	www.lakeshorenola.org

Neighborhood	Phone Number	Websites
Parkview	504-891-9315	Not available
Lakewood		www.lakewoodns.org
Country Club Gardens	504-486-8128	www.countryclubgardens.net/index.php

Volunteer Now

Lakeview Community Information Center, 848 Harrison Ave. (located inside the Gulf Coast Bank Office),
Phone 504-324-2270
Hours: 9 a.m. to 3 p.m. Monday – Friday, 9 a.m. – noon Saturday

Our information center is staffed by volunteers who answer the phone and assist residents. If you have not yet completed a resident survey card, please visit us or give the center a call to complete the survey over the phone. If you can volunteer some time to work at the center, please stop by and sign up. The center is also accepting LCIA membership renewals, and your support is appreciated.

Special thanks to:

GULF COAST BANK & Trust Company

BRENNAN'S DIRECT MAIL

Lakeview Real Estate Market Alive and Well *By Jim Ruffin – Lakeview Resident and Certified Real Estate Appraiser*

Lakeview's post-Katrina popularity seems to be alive and well based on the level of real estate activity to date. There is more activity in the Lakeview area than any flooded area of New Orleans, which is remarkable considering the extent of devastation. Sales activity started slowly at the end of 2005, but since then there has been a sharp increase. According to the Multiple Listing Service (MLS) in Lakeview post-Katrina, there have been 66 single-family sales ranging from $65,000 to $330,000; there are currently 252 active listings and 40 pending sales. MLS also indicates 13 sales of multi-family homes, 37 active listings and 10 pending sales. These statistics do not include for-sale-by-owner activity.

There is considerable sales activity in the $80,000 to $130,000 range with a predominant value around $110,000. This represents older homes with little or no salvageable living area. Teardowns represent lower to midrange values. There is also noted activity in the $190,000 to $260,000 range composed of newer construction homes. As inventory of the newer construction has diminished over the past three months by sales, prices have moved steadily toward the upper range of value. This supply-and-demand reaction also applies to the older homes; however, it is going to take longer to diminish the large inventory of properties.

At the time of printing, Lakeview home sales, both MLS and by owner, totaled 207 homes.

BOX CLOSED

Rebuilding Together New Orleans District 5 Neighborhood Recovery Group

in association with

THE UNIVERSITY of NEW ORLEANS
2000 Lakeshore Drive • New Orleans, LA 70148

Forwarding Service Requested

PRESORTED
First-Class Mail
U.S. POSTAGE
PAID
PERMIT NO. 333
NEW ORLEANS, LA

Appendix II. District Six Survey Instrument

Gentilly
Civic Improvement
Association

Greetings, Fellow Gentillians near and far. Like much of the city, none of Gentilly's 17,000 homes, nor the families who lived within them, completely escaped the wrath of Hurricane Katrina. In fact, we may well for the rest of our lives define our very existence in terms of *before* and *after the storm*. Together we mourn the losses and together we must move forward. In October 2005 the Gentilly Civic Improvement Association was born to help breathe life back into our *neighborhood by the lake*.

Many ideas have been put forth – by both residents and industry professionals – about how to not simply restore Gentilly, but to rebuild it better than it was before. Proposed projects include various housing solutions from raising homes on piers to building second stories atop slab dwellings; a revitalized commercial district at Gentilly Boulevard and Elysian Fields Avenue including refurbished storefronts and a tree-shaded town square; and a new Elysian Fields streetcar line that would run from the river to the lake.

But in order to get where we're going, we must first know where we are. Enclosed, you will find a survey with questions about your current status, your plans for the future and how Gentilly fits into those plans. Please take a few minutes to let us know what you think. Your response will greatly help the recovery effort. Completing the current contact information at the end of the survey, will enable us to keep you up-to-date on neighborhood news and provide evacuation assistance and information for those without the means to evacuate. Regardless of whether your post-Katrina plans bring you back to Gentilly, our thoughts are with you, our neighbors, in this challenging time.

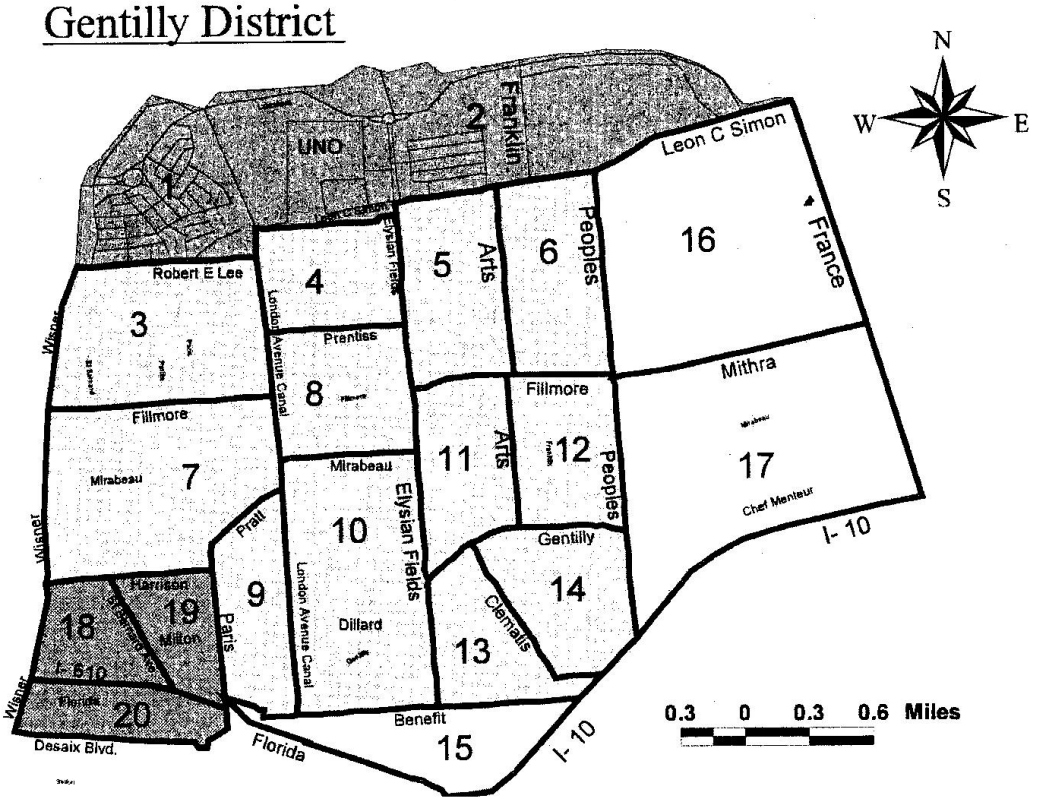
CHART

THE UNIVERSITY of NEW ORLEANS

SCHOOL OF URBAN & REGIONAL STUDIES

"We, the Gentilly Civic Improvement Association, are a diverse group of residents, businesses and civic organizations who have come together to form one united voice dedicated to preserving and improving our historic Gentilly Neighborhoods."

Gentilly District



Mailing and postage courtesy of The University of New Orleans.

THE UNIVERSITY of NEW ORLEANS

GENTILLY (PLANNING DISTRICT 6) RESIDENT AND NEIGHBORHOOD RECOVERY SURVEY:

The purpose of this questionnaire is to find out what you, a resident of Gentilly*, are thinking about post-Katrina recovery. Specifically, we are interested in understanding where you are in your decision-making process regarding whether or not to return and what information and assistance you need from the neighborhood associations and the city.

**Note: Gentilly includes Edgewood Park, Lower Gentilly, Indian Village, St. Roch Bend, Sugar Hill, Virgil Park, Gentilly Woods, Pontchartrain Park, Gentilly Terrace & Gardens, Gentilly Heights East, Vascoville, Mirabeau Gardens, Paris Oaks, Bancroft Park, Oak Park, Fillmore Gardens, Burbank Gardens, Milneburg, Seabrook Place, Lake Oaks, Lake Terrace, Vista Park, and St. Bernard neighborhoods.*

Note: You may complete this survey on-line at www.gcia.us

The University of New Orleans has prepared the survey in conjunction with members of the Gentilly Civic Improvement Association and local residents from all parts of the district.

We hope that you will participate by returning the survey. **Please simply fold the survey closed so that the address shows and seal it with a piece of tape** (no staples please – Post Office will balk at staples). **No postage is necessary.**

CURRENT SITUATION

1. Are you currently living at the address on the newsletter? Yes _____ No _____

   a. If yes, are you living: _____ in your residence or _____ in a trailer on the property?

   b. If you are not living at the address on the newsletter, have you visited your residence? Yes _____ No _____

   c. If no, are you living:
   _____ elsewhere in Gentilly
   _____ elsewhere in Orleans Parish
   _____ elsewhere in the New Orleans metropolitan area, which parish?_____
   _____ elsewhere in Louisiana, which parish?_____
   _____ out of state, which state? _____

2. If you are currently living in Orleans Parish, do you have a means to get yourself and your loved ones out when it is time to evacuate? Yes _____ No _____

   a. If you do not have a means to get out, are you familiar with the City's evacuation plan for people with no transportation means? Yes _____ No _____

HOUSEHOLD INFORMATION

3. Before Katrina, how many people lived in your household? _____

   a. How many members of your household were children (under 18)? _____

   b. How many members of your household were 65 years and over? _____

4. What is your age?_____

5. What is your sex? Male_____ Female _____

6. Is your Gentilly residence: _____ owned by you or someone in your household?
   _____ rented?

7. Which best describes your Gentilly residence? _____ single-family house
   _____ double
   _____ building with more than 2 units

8. Do you have relatives who live/lived in Gentilly? Yes _____ No _____

9. Do you have relatives who live/lived in other areas of New Orleans? Yes _____ No _____

10. Do you belong to a neighborhood association in Gentilly? Yes _____ No _____

11. How long did you live in Gentilly before Katrina? _____

12. Please write the quadrant number where your residence is by looking at the map on the opposite page _____

13. How deep was the water in your house? _____

GENTILLY (PLANNING DISTRICT 6) RESIDENT AND NEIGHBORHOOD RECOVERY SURVEY:

The purpose of this questionnaire is to find out what you, a resident of Gentilly*, are thinking about post-Katrina recovery. Specifically, we are interested in understanding where you are in your decision-making process regarding whether or not to return and what information and assistance you need from the neighborhood associations and the city.

**Note: Gentilly includes Edgewood Park, Lower Gentilly, Indian Village, St. Roch Bend, Sugar Hill, Virgil Park, Gentilly Woods, Pontchartrain Park, Gentilly Terrace & Gardens, Gentilly Heights East, Vascoville, Mirabeau Gardens, Paris Oaks, Bancroft Park, Oak Park, Fillmore Gardens, Burbank Gardens, Milneburg, Seabrook Place, Lake Oaks, Lake Terrace, Vista Park, and St. Bernard neighborhoods.*

Note: You may complete this survey on-line at www.gcia.us

The University of New Orleans has prepared the survey in conjunction with members of the Gentilly Civic Improvement Association and local residents from all parts of the district.

We hope that you will participate by returning the survey. **Please simply fold the survey closed so that the address shows and seal it with a piece of tape** (no staples please – Post Office will balk at staples). **No postage is necessary.**

CURRENT SITUATION

1. Are you currently living at the address on the newsletter? Yes _____ No _____

   a. If yes, are you living: _____ in your residence or _____ in a trailer on the property?

   b. If you are not living at the address on the newsletter, have you visited your residence? Yes _____ No _____

   c. If no, are you living:
   _____ elsewhere in Gentilly
   _____ elsewhere in Orleans Parish
   _____ elsewhere in the New Orleans metropolitan area, which parish?_____
   _____ elsewhere in Louisiana, which parish?_____
   _____ out of state, which state? _____

2. If you are currently living in Orleans Parish, do you have a means to get yourself and your loved ones out when it is time to evacuate? Yes _____ No _____

   a. If you do not have a means to get out, are you familiar with the City's evacuation plan for people with no transportation means? Yes _____ No _____

HOUSEHOLD INFORMATION

3. Before Katrina, how many people lived in your household? _____

   a. How many members of your household were children (under 18)? _____

   b. How many members of your household were 65 years and over? _____

4. What is your age?_____

5. What is your sex? Male_____ Female _____

6. Is your Gentilly residence: _____ owned by you or someone in your household?
   _____ rented?

7. Which best describes your Gentilly residence? _____ single-family house
   _____ double
   _____ building with more than 2 units

8. Do you have relatives who live/lived in Gentilly? Yes _____ No _____

9. Do you have relatives who live/lived in other areas of New Orleans? Yes _____ No _____

10. Do you belong to a neighborhood association in Gentilly? Yes _____ No _____

11. How long did you live in Gentilly before Katrina? _____

12. Please write the quadrant number where your residence is by looking at the map on the opposite page _____

13. How deep was the water in your house? _____

DECISION-MAKING

14. Where are you in your decision-making about whether you will return permanently to your address in Gentilly:

_____ I have returned.
_____ I have returned but may not stay.
_____ I definitely plan to return.
If so, when do you expect to return?
___ within 6 months from now
___ between 6 months and 1 year from now
___ more than a year from now
___ I definitely plan to return, but don't know when
_____ I think at this time that I will return but my decision is not final.
_____ I think at this time that I will not return but my decision is not final.
_____ I definitely will not return.
_____ I don't know what I'm going to do.

a. If you are not planning to return to Gentilly, what answer below most closely represents what you currently plan to do with your house?

_____ This does not apply to me because I rent
_____ I plan to sell my home/I have my house up for sale.
_____ I have already sold my house.
_____ I plan to have my house demolished
_____ I have already had my house demolished
_____ I do not have any plans at this time.

b. If you are not planning to return, where are you relocating?

____ elsewhere in Orleans Parish
____ elsewhere in the New Orleans metropolitan area
____ elsewhere in Louisiana
____ out of state

c. If you are planning to return to Gentilly, what do you currently plan to do with your house?

_____ This does not apply to me because I rent.
_____ I will demolish my home and rebuild it.
_____ I will rebuild my existing home.
_____ I will return but I don't know at this time if I will demolish or rebuild.
_____ I will buy another home that flooded.
_____ Buy another home that didn't flood.

15. What is the strongest reason for your current position about whether to return or not?

_____

_____

16. What factors are most important to your decision to return to/or stay in New Orleans? Please check up to 5 of the most important.

_____ levee protection
_____ what monies I will get from state rebuilding fund
_____ worry about future hurricanes
_____ employment opportunities in the metro area
_____ adequacy of rebuilding resources from insurance
_____ worried about blighted properties around my property
_____ concerned my property will be taken as green space or for levee construction
_____ insurance availability or costs
_____ schools
_____ services (Police, Fire, Hospitals)
_____ utilities costs (Entergy)
_____ elevation requirements for rebuilding if Substantially Damaged or constructing new house (i.e., 3 ft. or current BFE if higher than three feet)
_____ adequacy of drainage
_____ other (please specify) _____

17. What is your most important source of information about the situation in New Orleans?

_____

POST KATRINA PLANNING

18. Do you know about the city ordinance that requires homeowners to gut, mold remediate, and secure houses by August 29th 2006? Yes ____ No ____

a. If you are a homeowner, will your house(s) be gutted, or was your house(s) be gutted, mold remediated and secured by August 29th 2006?
___Yes ___ No ___ I don't know ___ Not applicable

b. Do you think it is a good idea for homes to be listed as blighted if they are not gutted, mold remediated and secured by August 29th 2006? ___Yes ___ No ___ I don't know

19. If you are a homeowner in Gentilly and your block has few people returning, would you be interested in acquiring your neighbor's lot?

___ Yes ___ I don't know
___ Possibly ___ This doesn't apply to me because I rent
___ No

20. If your block has few people returning, would you be willing to consider moving to a more populated block in Gentilly?

___ Yes ___ No
___ Possibly ___ I don't know

a. If you would consider moving, which features and amenities other than basic services and utilities would be most appealing?

___ Proximity to parks and playgrounds ___ Proximity to friends, families, neighbors
___ Proximity to schools ___ Same population density
___ Proximity to public transportation ___ Other_____

21. If you are a senior citizen, would you be interested in moving to senior housing in Gentilly?

___ Yes ___ I don't know
___ Possibly ___ Not applicable
___ No

22. Would you like to see new big box stores (very large retailers) in Gentilly?

___ Yes
___ No
___ I don't know

23. What types of businesses might you like to see in your neighborhood?

_____

_____

CONCLUSION

24. Do you have any questions for the city or the Gentilly Civic Improvement Association or the association in your part of the district?

_____

_____

_____

25. Is there something the neighborhood association could help you with?

_____

_____

_____

Use of survey responses: The information from this survey will be used for planning purposes for the recovery of Gentilly. Unless you give us specific permission below, your responses will be grouped with other similar responses and reported in summary fashion like the Census does but not linked to your name.

If you are willing to link your name to your answers please check yes here: ____Yes ___No

If yes, what is your name? _____

Street address of your Gentilly residence _____Zip Code_____

Desiring contact information: We would like everyone who responds to this survey to provide contact information so that the neighborhood association in your area will be able to send you newsletters and to update you on issues affecting the neighborhood. If you are interested in being informed please fill in this page. It will be separated from information on the other pages.

Name: _____

Mail: **Current** Address _____

_____

Email _____ Phone _____

Would you like to be contacted with evacuation information? ____Yes ___No

---

PLANNING DISTRICT 6 RESIDENT
AND NEIGHBORHOOD RECOVERY SURVEY
UNIVERSITY OF NEW ORLEANS
2000 LAKESHORE DRIVE
NEW ORLEANS LA 70122-9989

POSTAGE WILL BE PAID BY ADDRESSEE

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 161 NEW ORLEANS, LA

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

Gentilly Neighborhood Association Contacts:

Bancroft Park Neighborhood Association—Keith Pittman • pittmangroup@cox.net • 504-382-4794

Burbank Gardens—Meg Oconnell • mego_connell@hotmail.com • 504-329-8413

Edgewood Park Neighborhood Association—Marva Mitchell • michellm129@aol.com • 504-453-7203

Gentilly Heights East—Donna Brown • ghena2b@yahoo.com

Gentilly Heights/Vascoville Association—Gwendolyn Hawkins • gwenhawk59@yahoo.com
or Ms. Ruby Age • 504-458-8847

Gentilly Ridge Association—Victoria Romano • 504-452-0645

Gentilly Terrace & Gardens Association—J. Wayne Gillette • jwaynegillette@hotmail.com • 504-615-0780
April Lauterbach • april.lauterbach@la.gov • 504-931-4427

Indian Village Neighborhood Association—Lynn Lee • LLEE@entergy.com • 504-232-5244

Lake Oaks Neighborhood Association—Ann Duffy • 504-427-9390
Van Robichaux • info@robichauxlaw.com • 504-975-3891

Lake Terrace Property Owners Association—Joe Hassinger • Jhassinger@gjtbs.com • 504-283-6701

Lower Gentilly Association—Lamona Chandler • 504-430-3454
Jeanne Marie Jean • jeanne.jean@msf.nasa.gov • 504-810-4970

Milneburg Civic Association—Shannon Blue • sblue001@yahoo.com • 504-430-3183

Mirabeau Gardens Association—Laurie Watt • Laurie_Watt@hilton.com • 504-584-3971

Oak Park Civic Association—Jonathan Louis • j2louis@hotmail.com • 504-491-4264
Kim Henry • khenry@essential98.com • 504-237-5797

Pontilly Association—King Wells • kngwells@bellsouth.net • 504-258-6141 or Ms. Clara Carey • mamacarey2@aol.com

Seabrook Neighborhood Association—Denatus King • dkingsr@aol.com • 504-715-9019 • GCIA and Mr. King are in need of assistance from Seabrook residents with increasing participation in this association

St. Roch Bend Association—Ethan Crawford • eamjciii@aol.com • 504-430-6311

Sugar Hill Association—Barbara Blackwell • bblackwell@lajao.org • 504-234-2826

Virgil Park Association & Virgil Blvd. Association—Peggy & Dave Braud • peggyb504@yahoo.com • 504-214-3664

Vista Park Civic Association—Angele Givens • givensfamily@bellsouth.net • 504-899-5747

Fillmore Gardens—GCIA is in the process of assisting with the formation of this association

Paris Oaks Association—GCIA is in the process of assisting with the formation of this association

CHART

THE UNIVERSITY of NEW ORLEANS

SCHOOL OF URBAN & REGIONAL STUDIES

Gentilly Civic Improvement Association

GCIA Board Members

Officers:
Scott M. Darrah—President
Yvette Cola—Treasurer
Vera Triplett—Vice President
Morwen Madrigal—Secretary

Members at Large:
David Welch—Historian
Marisol Canedo
La Donna Darrah
Doug Carey
Roger Allen
Flora Williams
Deanna Causey
Tim Branaman
Marty Rowland
John Triplett

CHART

THE UNIVERSITY *of* NEW ORLEANS

SCHOOL OF URBAN & REGIONAL STUDIES

RESOURCES FOR FREE OR LOW COST GUTTING:

North American Mission Board • 1-877-934-0808

Chapel of the Holy Comforter • 504-282-4593

United Methodist Church • 504-888-7430

St. Matthews Methodist Church • 504-888-1155

ACORN • 504-934-0044

For Elderly residents in Orleans parish only • 504-520-8471

Celebration Church • contact Ruth Hatfield • 504-831-9673

Lake Vista UMC • 504-282-4600 • Mennonites will return in November to provide labor for repairs; home owner will need to provide the supplies

Metairie Baptist Church/Brent King • 504-835-2611 • Repairs only

Fish Camp/Debbie or Susan • 985-785-4912 • Gutting or repairs

Operation Rebuild • 504-362-4604

Gentilly Civic Improvement Association
in association with
THE UNIVERSITY *of* NEW ORLEANS
2000 Lakeshore Drive • New Orleans LA 70148

If you have already r...
please disregard, it is

Forwarding Service Requested

Presort
First-Class Mail
U.S. POSTAGE
PAID
PERMIT No759
NEW ORLEANS, LA

5-DIGIT 70126
TRAY 9
PKG 9
D
62

JONES461 * 701260126 1906 60 12/13/05
FORWARD TIME EXP RTN TO SEND
JONES, CAROL H
19642 SUMMERLIN LN #
KATY TX 77449-2349
RETURN TO SENDER

AppendixIII. Census Comparison Spreadsheets

District 5 Census Block Group Population

Map Quadrant	Census Tract Number	Census Block Group	Number of Responses	Census-Number of Households	Census-Total Population
1	46.00	BG1	12	355	653
2	46.00	BG2	87	789	1439
3	46.00	BG3	53	421	721
4	55.00	BG1	94	528	1082
5	55.00	BG2	77	487	911
6	55.00	BG3	89	455	915
7	56.01	BG1	85	352	791
8	56.01	BG2	132	467	1005
9	56.01	BG3	89	266	549
10	56.01	BG4	59	272	581
11	56.02	BG1	68	329	703
12	56.02	BG2	84	411	918
13	56.02	BG3	74	378	876
14	56.02	BG4	77	303	663
15	56.03	BG1	68	353	747
16	56.03	BG2	60	269	551
17	56.03	BG3	33	266	545
18	56.04	BG1	30	278	619
19	56.04	BG2	27	360	822
20	56.04	BG3	39	220	505
21	76.03	BG1	97	1069	1911
22	76.03	BG2	115	581	1101
23	76.03	BG3	94	822	1712
24	76.04	BG1	60	489	1186
25	76.04	BG2	97	291	776
26	133.01	BG1	51	588	1517
27	133.01	BG2	198	344	804
28	133.01	BG3	47	268	612
29	133.01	BG4	107	343	682

Census Data

Census Tract and Map Quadrant Information

District 5 Census Tract Population

Map Quadrant	Census Tract Number	Number of Responses	Census- Number of Households	Census- Total Population
1	76.03	303	2,472	4,724
2	133.01	403	1,543	3,615
3	56.01	365	1,357	2,926
4	56.02	303	1,421	3,160
5	46	152	1,565	2,813
6	56.03	161	888	1,843
7	56.04	96	858	1,946
8	76.04	157	780	1,962
9	55	260	1,470	2,908

Census Data

Census Tract and Map Quadrant Information

District 6 Census Tract Populations and Response Rates

Map Quadrant	Census Tract Number	Number Mailed to	Number Undeliverable	Number of Responses	Percent Mailed	Percent Undeliverable	Response Rate of those Mailed	Response Rate of those Deliverable	Census- Number of Households	Census- Total Population
1 & 2	133.02	460	43	123	66.76	9.35	26.74	29.50	689	1694
3	33.01	827	251	156	65.69	30.35	18.86	27.08	1,259	2,818
4	33.03	670	247	63	61.52	36.86	9.40	14.89	1,089	2,514
5	25.01	750	446	35	72.18	59.47	4.67	11.51	1,039	2,541
6	25.02	673	308	38	58.27	45.77	5.65	10.41	1,155	3,099
7	33.02	1054	323	114	70.36	30.65	10.82	15.60	1,498	4,165
8	33.04	703	299	83	61.45	42.53	11.81	20.54	1,144	2,804
9	33.07	387	109	62	58.02	28.16	16.02	22.30	667	1,689
10	33.08	943	264	145	48.56	28.00	15.38	21.35	1,942	4,782
11	25.03	643	207	103	75.38	32.19	16.02	23.62	853	2,035
12	25.04	656	218	95	61.02	28.35	14.48	21.69	1,075	2,625
13	24.01	591	186	62	69.78	31.47	10.49	15.31	847	2,175
14	24.02	859	323	98	57.92	37.60	11.41	18.28	1,483	3,707
15	23	480	170	21	35.63	35.42	4.38	6.77	1,347	3,725
16	17.01	739	137	53	73.24	18.54	7.17	8.80	1,009	2,630
17	17.02	950	187	89	64.19	19.68	9.37	11.66	1,480	4,387
18	*33.05*	*54*	*30*	*2*	*12.89*	*55.56*	*3.70*	*8.33*	*419*	*1,173*
19	*33.06*	*53*	*20*	*2*	*3.31*	*37.73*	*3.77*	*6.06*	*1,601*	*5,254*
20	*37.01*			*0*					*1,045*	*2,151*
	17.03								*1,379*	*3,739*
	17.06								*19*	*52*

Survey Data
Census Data
Census Tract and Map Quadrant Information

District 5 Census Block Group Comparison

Census Tract Number	Census Block Group	Number of Responses	Survey- Age of Respondent (Median)	Cesus- Age (Median Household)	Difference of Median Age	Survey- Sex (Percent Male)	Census- Sex (Percent Male)	Sex Percent Difference	Survey- Percent of Home Ownership	Census- Percent of Owner Occupied Households	Owner Occupied Percent Difference	Survey- Residency Length (Mean)	Survey- Household Type (Percent Single Family)	Census- Percent Single Family	Single Family Percent Difference
46.00	BG1	12.00	60.50	39.20	21.30	50.00	47.63	2.37	**75***	**45.07**	**29.93**	19.82	**83.3***	**24.05**	**59.25**
46.00	BG2	87.00	54.50	37.70	16.80	48.84	48.30	0.54	**91.86***	**41.57**	**50.29**	20.36	**59.3***	**32.25**	**27.05**
46.00	BG3	53.00	49.00	36.90	12.10	45.10	45.77	-0.67	**92.31***	**40.38**	**51.93**	23.39	**55.77***	**22.51**	**33.26**
55.00	BG1	94.00	51.00	37.90	13.10	42.39	45.10	-2.71	**94.62***	**73.67**	**20.95**	19.80	**86.17***	**70.97**	**15.20**
55.00	BG2	77.00	55.00	34.00	21.00	51.32	46.43	4.89	**89.47***	**41.89**	**47.58**	26.32	**64.47***	**30.51**	**33.96**
55.00	BG3	89.00	53.00	38.60	14.40	**34.09***	**47.87**	**-13.78**	**92.04***	**50.11**	**41.93**	23.40	**73.86***	**44.21**	**29.65**
56.01	BG1	85.00	54.50	44.70	9.80	52.90	43.74	9.16	**97.6***	**75.28**	**22.32**	20.10	**85.9***	**66.14**	**19.76**
56.01	BG2	132.00	54.00	41.00	13.00	42.64	47.26	-4.62	**97.71***	**74.30**	**23.41**	24.35	**84.73***	**71.69**	**13.04**
56.01	BG3	89.00	56.00	37.30	18.70	44.90	45.54	-0.64	**92.05***	**56.39**	**35.66**	25.98	**78.7***	**59.85**	**18.85**
56.01	BG4	59.00	54.00	38.20	15.80	49.20	45.09	4.11	**94.9***	**61.40**	**33.50**	22.15	**84.7***	**57.00**	**27.70**
56.02	BG1	68.00	58.00	37.80	20.20	36.80	46.66	-9.86	**95.6***	**69.60**	**26.00**	25.37	**83.8***	**61.85**	**21.95**
56.02	BG2	84.00	51.00	42.10	8.90	**62.2***	**46.73**	**15.47**	**100***	**78.10**	**21.90**	24.85	**81***	**66.97**	**14.03**
56.02	BG3	74.00	54.00	41.00	13.00	50.68	46.69	3.99	**95.9***	**75.13**	**20.77**	20.61	**86.5***	**66.34**	**20.16**
56.02	BG4	77.00	58.00	42.70	15.30	36.40	44.34	-7.94	**94.81***	**69.97**	**24.84**	23.45	**89.6***	**68.06**	**21.54**
56.03	BG1	68.00	51.00	40.20	10.80	44.10	44.44	-0.34	**92.6***	**66.86**	**25.74**	18.45	**82.4***	**59.79**	**22.61**
56.03	BG2	60.00	51.00	35.00	16.00	36.70	44.46	-7.76	**93.3***	**53.90**	**39.40**	18.39	**76.7***	**37.62**	**39.08**
56.03	BG3	33.00	52.00	36.00	16.00	**27.3***	**46.79**	**-19.49**	**96.88***	**50.75**	**46.13**	24.16	51.61	40.29	11.32
56.04	BG1	30.00	50.50	39.30	11.20	**26.7***	**45.56**	**-18.86**	**93.3***	**71.58**	**21.72**	22.86	**86.7***	**66.43**	**20.27**
56.04	BG2	27.00	44.00	39.80	4.20	40.70	45.38	-4.68	**96.3***	**78.89**	**17.41**	19.19	96.30	86.26	10.04
56.04	BG3	39.00	53.00	38.70	14.30	53.80	46.53	7.27	**100***	**76.82**	**23.18**	25.13	**92.3***	**69.09**	**23.21**
76.03	BG1	97.00	59.00	40.90	18.10	52.60	49.61	2.99	**91.75***	**57.90**	**33.85**	19.81	**48.45***	**23.82**	**24.63**
76.03	BG2	115.00	55.50	41.50	14.00	42.61	41.51	1.10	**93.04***	**56.97**	**36.07**	24.89	**62.6***	**35.51**	**27.09**
76.03	BG3	94.00	60.50	43.00	17.50	48.90	46.20	2.70	**96.74***	**67.03**	**29.71**	25.82	**63.44***	**48.41**	**15.03**
76.04	BG1	60.00	56.50	47.60	8.90	51.70	47.72	3.98	**100***	**89.37**	**10.63**	23.28	91.53	82.82	8.71
76.04	BG2	97.00	61.00	41.10	19.90	51.50	45.62	5.88	**100***	**95.53**	**4.47**	27.14	100.00	100.00	0.00
133.01	BG1	51.00	53.50	44.30	9.20	54.90	49.04	5.86	**100***	**91.33**	**8.67**	21.73	96.08	91.74	4.34
133.01	BG2	198.00	58.00	46.60	11.40	44.90	46.39	-1.49	**97.46***	**87.50**	**9.96**	26.44	**96***	**88.12**	**7.88**
133.01	BG3	47.00	54.00	51.10	2.90	53.20	48.52	4.68	100.00	96.64	3.36	28.57	**93.6***	**99.64**	**-6.04**
133.01	BG4	107.00	57.00	46.40	10.60	55.24	47.65	7.59	**97.17***	**65.60**	**31.57**	23.00	**80.40**	**51.04**	**29.36**

Survey Data

Census Data

Census Tract and Map Quadrant Information

Percent Difference Between Survey and Census Data

* Asterixs and bold print indicate statisically significant differencecs

District 5 Census Block Group Comparison Cont…

Census Tract Number	Census Block Group	Survey- Household Size (Mean)	Census- Household Size	Household Size Difference	Survey- Percent of Households w/ Children	Census- Percent of Households with Children	Percent with Children Percent Difference	Survey- Percent of Households with Seniors	Census- Percent of Households with Seniors	Percent with Seniors Percent Difference	Survey- Water Depth in feet (Mean)	Survey- Percent Returned	Survey- Percent Returning of those not back	Census- Percent White	Census- Percent African American	Census- Median Income (1999)
46.00	BG1	**2.38***	**1.82**	**0.56**	9.09	12.68	-3.59	**54.54***	**17.46**	**37.08**	1.33	75.00	66.67	92.50	4.60	45347.00
46.00	BG2	**2.45***	**1.82**	**0.63**	**34.15***	**16.10**	**18.05**	**27.16***	**17.24**	**9.92**	1.46	84.88	85.71	83.53	12.02	31875.00
46.00	BG3	**2.34***	**1.71**	**0.63**	**29.17***	**13.30**	**15.87**	**26.53***	**15.91**	**10.62**	1.40	84.90	57.14	83.08	9.15	33994.00
55.00	BG1	**2.39***	**2.05**	**0.34**	**36.36***	**22.92**	**13.44**	22.62	26.14	-3.52	5.47	18.28	51.85	95.84	1.02	44792.00
55.00	BG2	2.03	1.87	0.16	23.29	17.04	6.19	**36.62***	**20.94**	**15.68**	3.26	39.47	61.70	88.25	7.24	26518.00
55.00	BG3	**2.61***	**2.01**	**0.60**	**32.53***	**21.10**	**11.43**	29.76	25.93	3.83	6.05	33.70	52.54	92.02	2.95	56635.00
56.01	BG1	**2.49***	**2.12**	**0.37**	28.40	23.30	5.10	32.10	37.50	-5.40	8.32	10.60	47.44	97.35	0.00	45882.00
56.01	BG2	**2.45***	**2.15**	**0.30**	29.60	24.84	4.76	36.22	32.12	4.10	8.14	9.80	47.15	96.72	1.19	53462.00
56.01	BG3	**2.4***	**2.06**	**0.34**	30.49	24.06	6.43	**32.14***	**19.92**	**12.22**	7.53	12.40	42.31	95.08	0.73	46583.00
56.01	BG4	**2.58***	**2.14**	**0.44**	29.82	23.90	5.92	**35.59***	**23.90**	**11.69**	7.91	17.24	54.00	96.21	1.03	55000.00
56.02	BG1	**2.53***	**2.14**	**0.39**	31.25	25.23	6.02	42.42	32.52	9.90	8.67	4.48	42.19	95.87	0.14	61765.00
56.02	BG2	**2.83***	**2.23**	**0.60**	**41.46***	**26.76**	**14.70**	31.25	39.90	-8.65	7.47	8.43	53.25	98.04	0.00	52031.00
56.02	BG3	**2.94***	**2.30**	**0.64**	**43.66***	**30.69**	**12.97**	28.17	31.48	-3.31	7.64	12.20	60.60	97.49	0.00	62083.00
56.02	BG4	**2.55***	**2.16**	**0.39**	33.33	24.09	9.24	40.79	33.33	7.46	9.13	2.60	35.14	98.64	0.90	46250.00
56.03	BG1	**2.53***	**2.12**	**0.41**	**33.82***	**22.66**	**11.16**	26.87	28.16	-1.29	7.56	4.48	56.25	97.99	1.20	55417.00
56.03	BG2	2.19	2.05	0.14	26.32	21.19	5.13	27.59	23.05	4.54	7.29	13.30	57.69	96.91	0.91	32589.00
56.03	BG3	2.20	2.05	0.15	33.33	22.56	10.77	31.25	20.30	10.95	7.44	9.10	43.33	93.03	1.83	51544.00
56.04	BG1	2.43	2.23	0.20	26.92	25.90	1.02	38.46	35.97	2.49	7.07	6.90	46.42	95.96	1.62	41063.00
56.04	BG2	**3.11***	**2.28**	**0.83**	**61.54***	**25.83**	**35.71**	16.67	32.22	-15.55	7.43	11.10	70.83	98.18	0.24	64821.00
56.04	BG3	**2.83***	**2.30**	**0.53**	34.21	28.64	5.57	37.14	28.18	8.96	6.57	12.80	44.12	97.82	0.99	58846.00
76.03	BG1	**2.25***	**1.79**	**0.46**	**23.26***	**14.97**	**8.29**	**46.07***	**22.83**	**23.24**	7.73	12.40	41.86	94.92	1.41	55392.00
76.03	BG2	**2.38***	**1.90**	**0.48**	**25***	**17.21**	**7.79**	42.86	34.42	8.44	8.51	19.13	43.75	95.55	0.91	37900.00
76.03	BG3	2.21	2.08	0.13	24.73	21.65	3.08	39.56	35.04	4.52	8.12	14.90	53.16	93.11	2.57	40437.00
76.04	BG1	2.68	2.43	0.25	36.36	25.97	10.39	38.18	42.94	-4.76	7.24	15.25	39.62	96.12	0.93	109861.00
76.04	BG2	2.73	2.65	0.08	**30.43***	**40.89**	**-10.46**	**51.58***	**29.90**	**21.68**	4.48	41.20	62.89	96.13	2.84	109491.00
133.01	BG1	**3.09***	**2.58**	**0.51**	47.92	38.61	9.31	**14.58***	**36.56**	**-21.90**	1.16	74.50	53.85	96.18	0.40	75597.00
133.01	BG2	**2.59***	**2.34**	**0.25**	31.35	27.03	4.32	44.39	44.77	-0.38	0.84	76.80	46.94	95.40	0.62	64583.00
133.01	BG3	2.60	2.28	0.32	32.56	22.39	10.17	**39.53***	**53.73**	**-14.20**	3.64	25.50	57.57	96.24	1.31	76733.00
133.01	BG4	**2.45***	**1.99**	**0.46**	**32.67***	**16.33**	**16.34**	**42.86***	**35.57**	**7.29**	1.77	60.70	61.90	96.62	0.73	66607.00

Survey Data

Census Data

Census Tract and Map Quadrant Information

Percent Difference Between Survey and Census Data

* Asterixs and bold print indicate statisically significant differencecs

District 5 Census Tract Comparison

Census Tract Number	Number of Responses	Survey- Age of Respondent (Median)	Cesus- Age (Median Household)	Difference of Median Age	Survey- Sex (Percent Male)	Census- Sex (Percent Male)	Sex Percent Difference	Survey- Percent of Home Ownership	Census- Percent of Owner Occupied Households	Owner Occupied Percent Different	Survey- Residency Length (Mean)	Survey- Household Type (Percent Single Family)	Census- Percent Single Family	Single Family Percent Difference
76.03	303	59	41.8	17.2	48.18	46.49	1.69	**93.1***	**60.72**	**32.38**	23.5381	**58.2***	**34.48**	**23.72**
133.01	403	56.5	46	10.5	49.87	48.11	1.76	**97.3***	**85.68**	**11.62**	25.1657	**91.6***	**82.94**	**8.66**
56.01	365	54	40.9	13.1	46.69	45.56	1.13	**95.3***	**68.46**	**28.84**	23.416	**83.3***	**64.92**	**18.38**
56.02	303	54	41.2	12.8	47.00	46.2	0.80	**96.4***	**73.61**	**22.79**	23.5712	**85.1***	**65.93**	**19.17**
46	152	53	37.9	15.1	47.65	47.49	0.16	**89.5***	**42.04**	**47.46**	21.3707	**59.2***	**27.81**	**31.39**
56.03	161	51.5	37	14.5	37.90	45.14	-7.24	**93.2***	**58.11**	**35.09**	19.5835	**73.3***	**47.06**	**26.24**
56.04	96	50	39.2	10.8	41.70	45.73	-4.03	**96.9***	**75.99**	**20.91**	22.7234	**91.7***	**75.49**	**16.21**
76.04	157	59	45.1	13.9	51.60	46.89	4.71	**99.4***	**91.67**	**7.73**	25.6987	**95.5***	**89.21**	**6.29**
55	260	52.5	36.7	15.8	42.18	46.39	-4.21	**91.2***	**55.85**	**33.35**	22.9481	**75***	**48.77**	**26.23**

Survey Data

Census Data

Census Tract and Map Quadrant Information

Percent Difference Between Survey and Census Data

* Asterixs and bold print indicate statisically significant differencecs

District 5 Census Tract Comparison (cont…)

Census Tract Number	Survey- Household Size (Mean)	Census- Household Size	Household Size Difference	Survey- Percent of Households w/ Children	Census- Percent of Households with Children	Percent with Children Percent Difference	Survey- Percent of Households with Seniors	Census- Percent of Households with Seniors	Percent with Seniors Percent Difference	Survey- Water Depth in feet (Mean)	Survey- Percent Returned	Survey- Percent Returning of those not back	Census- Percent White	Census- Percent African American	Census- Median Income (1999)
76.03	**2.284***	**1.91**	**0.374**	**24.39***	**17.72**	**6.67**	**42.81***	**29.61**	**13.2**	8.14	15.7	42.14	94.41	1.71	41,082
133.01	**2.619***	**2.34**	**0.279**	**33.95***	**28.26**	**5.69**	39.63	41.15	-1.52	1.46	66.3	54.74	96.1	0.66	73,229
56.01	**2.467***	**2.12**	**0.347**	**29.56***	**24.1**	**5.46**	**34.19***	**29.48**	**4.71**	8	11.8	47.11	96.48	0.75	49,833
56.02	**2.716***	**2.21**	**0.506**	**37.67***	**26.88**	**10.79**	35.49	34.55	0.94	8.2	6.9	47.69	97.53	0.22	56,367
46	**2.412***	**1.79**	**0.622**	**30.5***	**14.57**	**15.93**	**29.08***	**16.93**	**12.15**	1.43	83.6	75	85.5	0.56	34,792
56.03	**2.338***	**2.08**	**0.258**	**30.97***	**22.18**	**8.79**	28.03	24.43	3.6	7.44	8.7	54.11	96.2	1.3	46,989
56.04	**2.786***	**2.27**	**0.516**	**40***	**26.57**	**13.43**	31.76	32.4	-0.64	6.96	10.4	52.32	97.38	0.87	49,348
76.04	**2.712***	**2.51**	**0.202**	32.65	31.54	1.11	**46.67***	**38.09**	**8.58**	5.52	31.2	42.105	96.13	1.68	109,721
55	**2.358***	**1.98**	**0.378**	**31.15***	**20.41**	**10.74**	29.29	24.35	4.94	5.01	29.6	54.54	92.26	3.58	44,833

Survey Data

Census Data

Census Tract and Map Quadrant Information

Percent Difference Between Survey and Census Data

* Asterixs and bold print indicate statisically significant differencecs

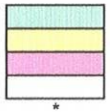
District 6 Census Tract Comparison

Census Tract Number	Response Rate of those Mailed	Survey- Age of Respondent (Median)	Cesus- Age (Median Household)	Percent Difference of Median Age	Survey- Sex (Percent Male)	Census- Sex (Percent Male)	Sex Percent Difference	Survey- Percent of Home Ownership	Census- Percent of Owner Occupied Households	Owner Occupied Percent Difference	Survey- Residency Length (Mean)	Survey- Household Type (Percent Single Family)	Census- Percent Single Family	Single Family Percent Difference
133.02	26.74	61	39.9	21.10	46.72	45.61	1.11	**99.2***	**95.07**	**4.13**	26.309	93.5	94.11	-0.61
33.01	18.86	54	43.5	10.50	44	45.21	-1.21	**98.1***	**80.38**	**17.72**	21.73	**97.4***	**83.92**	**13.48**
33.03	9.40	51	33.8	17.20	39	49.32	-10.32	**96.9***	**57.3**	**39.6**	25.45	**76.6***	**45.78**	**30.82**
25.01	4.67	56	37.2	18.80	51	46.44	4.56	**94.3***	**70.55**	**23.75**	28.1	**85.7***	**59.94**	**25.76**
25.02	5.65	59	37.1	21.90	50	45.43	4.57	**97.4***	**71.86**	**25.54**	28.513	**92.1***	**70.02**	**22.08**
33.02	10.82	61	41.5	19.50	45.54	44.2	1.34	**96.5***	**90.05**	**6.45**	24.512	**95.6***	**85.36**	**10.24**
33.04	11.81	57	35.1	21.90	43.4	44.58	-1.18	**96.4***	**57.6**	**38.8**	26.976	**83.1***	**44.35**	**38.75**
33.07	16.02	62.5	40.1	22.40	38.7	43.63	-4.93	**96.8***	**66.87**	**29.93**	29.347	**95.2***	**62.59**	**32.61**
33.08	15.38	62	37.6	24.40	35.42	40.88	-5.46	**91***	**54.79**	**36.21**	28.997	**81.4***	**56.54**	**24.86**
25.03	16.02	52	38	14.00	**35.9***	**45.9**	**-10**	**96.1***	**78.55**	**17.55**	21.025	**89.3***	**77.93**	**11.37**
25.04	14.48	52.5	37.5	15.00	38.3	45.45	-7.15	**94.7***	**72.65**	**22.05**	23.511	**81.1***	**63.92**	**17.18**
24.01	10.49	58	37.6	20.40	**30.6***	**45.2**	**-14.6**	**95.2***	**72.02**	**23.18**	24.79	79	69.69	9.31
24.02	11.41	59	35.2	23.80	**22.4***	**44.54**	**-22.14**	**92.9***	**58.33**	**34.57**	24.33	**80.6***	**56.16**	**24.44**
23	4.38	68	34.9	33.10	38.1	48.83	-10.73	**100***	**54.05**	**45.95**	40.048	**90.5***	**56.65**	**33.85**
17.01	7.17	71.5	46	25.50	**64.2***	**46.5**	**17.7**	98.1	92.07	6.03	35.298	100	99.43	0.57
17.02	9.37	63	35	28.00	**34.09***	**48.7**	**-14.61**	**96.6***	**75.74**	**20.86**	28.265	**96.6***	**79.39**	**17.21**
33.05	*3.70*	*82*	*37.5*	*44.50*	*0*	*46.21*		*100*	*45.11*		*36.5*	*100*	*34.94*	
33.06	*3.77*	*78*	*19.3*	*58.70*	*0*	*41.24*		*100*	*9.68*		*24.5*	*50*	*9.43*	
37.01			*46.9*			*41.05*			*47.67*				*48.27*	

Survey Data
Census Data
Census Tract and Map Quadrant Information
Percent Difference Between Survey and Census Data
* Asterixs and bold print indicate statisically significant differencecs

District 6 Census Tract Comparison (cont...)

Census Tract Number	Survey- Household Size	Census- Household Size	Household Size Difference	Survey- Percent of Households w/ Children	Census- Percent of Households with Children	Percent with Children Percent Difference	Survey- Percent of Households with Seniors	Census- Percent of Households with Seniors	Percent with Seniors Percent Difference	Survey- Water Depth in feet (Mean)	Survey- Percent Returned	Survey- Percent Returning of those not back	Census- Percent White	Census- Percent African American	Census- Median Income (1999)
133.02	2.38	2.46	-0.08	22.95	25.11	-2.16	47.06	47.46	-0.4	1.789	81.97	63.64	75	19	92,735
33.01	2.36	2.23	0.13	28.00	23.67	4.33	37	39.32	-2.32	7.2	18.71	39.68	70	24	53,958
33.03	2.27	2.3	-0.03	30.00	22.68	7.32	**36***	**25.16**	**10.84**	7.28	26.98	32.61	44	44	29,079
25.01	2.17	2.44	-0.27	20.00	30.8	-10.8	28.57	30.22	-1.65	8.92	31.4	37.5	32	64	37,782
25.02	2.89	2.68	0.21	31.43	29.18	2.25	**52.77***	**29.26**	**23.51**	7.2197	52.63	44.44	10	86	30,464
33.02	**2.24***	**2.74**	**-0.5**	26.21	27.7	-1.49	**46.67***	**30.64**	**16.03**	6.1693	32.46	42.86	17	80	48,494
33.04	2.53	2.45	0.08	**21.25***	**33.57**	**-12.32**	**44.44***	**24.56**	**19.88**	7.564	22.89	46.875	23	72	30,750
33.07	2.59	2.53	0.06	33.33	28.04	5.29	**50***	**31.93**	**18.07**	4.914	47.54	71.89	3	96	27,798
33.08	2.46	2.29	0.17	**26.62***	**18.69**	**7.93**	**50***	**37.23**	**12.77**	4.403	48.94	66.67	10	87	28,408
25.03	2.4	2.38	0.02	33.01	32	1.01	26.73	23.92	2.81	3.1265	61.76	51.28	45	52	37,411
25.04	2.44	2.43	0.01	27.96	31.07	-3.11	29.03	24.28	4.75	3.0344	59.57	57.89	35	60	40,179
24.01	**1.97***	**2.57**	**-0.6**	20.00	29.4	-9.4	**38.33***	**25.38**	**12.95**	3.7578	51.67	55.17	16	82	31,932
24.02	2.52	2.5	0.02	31.52	32.84	-1.32	**40.66***	**21.98**	**18.68**	5.034	50.52	54.17	17	81	27,526
23	2.43	2.7	-0.27	20.00	30.36	-10.36	**61.9***	**25.09**	**36.81**	6.8571	38.09	61.54	5	92	27,139
17.01	2.53	2.6	-0.07	24.53	18.04	6.49	65.38	58.87	6.51	7.5788	37.73	51.51	1	97	35,861
17.02	**2.58***	**2.88**	**-0.3**	**22.89***	**35.41**	**-12.52**	**48.19***	**23.99**	**24.2**	6.5318	34.09	41.38	26	69	35,948
33.05	*2.5*	*2.53*		*0.00*	*25.54*		*100*	*28.4*		*7.5*	*50*	*100*	*6*	*93*	*18,261*
33.06	*1*	*3.28*		*0.00*	*56.53*		*100*	*14.8*		*4.5*	*50*	*100*	*0.2*	*99*	*9,148*
37.01		*1.99*			*15.98*			*45.65*					*37*	*60*	*30,786*



Survey Data
Census Data
Census Tract and Map Quadrant Information
Percent Difference Between Survey and Census Data
Asterixs and bold print indicate statisically significant differencecs

Vita

Michelle Gremillion was born in Metairie, Louisiana. She received her B.A. in Sociology from the University of New Orleans, and was a graduate student living in the New Orleans Metropolitan Area before and after Hurricane Katrina. Ms. Gremillion worked as the data manager at the Center for Hazard Assessment Response and Technology on the two surveys studied in this paper. She received a M.A. in Sociology in May 2007.