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Catastrophes and the Role of Social Networks in Recovery:
A Case Study of St. Bernard Parish, LA, Residents After Hurricane Katrina

A Dissertation

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

Doctor of Philosophy
In
Urban Studies
Hazards Management

By

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August, 2012

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Abstract

The purpose of this dissertation is to examine the experiences of St. Bernard Parish, La., residents as they coped with the impact of the catastrophe of Hurricane Katrina on August 29, 2005. An estimated 50,000 St. Bernard Parish residents relocated to a new home one year after Katrina in 2006, and many of those residents moved again. This study examines the effects of the decisions of St. Bernard residents to relocate or to return on their social connections. The utility, adaptability and durability of social networks of these residents will be explored to enrich our knowledge about the social effects of recovery and the role that distance plays in the way residents connect to each other six years after Hurricane Katrina. It also examines the applicability of disaster theory as it relates to this case and develops a methodology for examining the impact of geographic dispersal on social networks.

Keywords: Disaster recovery; community change; geographic dispersal; St. Bernard Parish; Hurricane Katrina; social networks

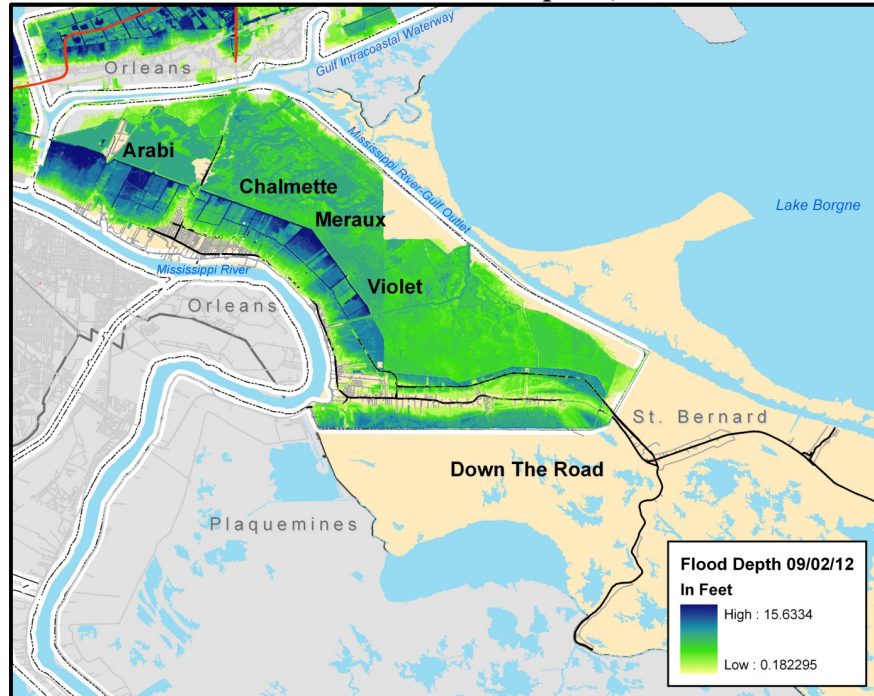
Chapter One: Introduction

1.1 Introduction

On August 29, 2005, Hurricane Katrina made its initial landfall in Louisiana south of St. Bernard Parish, in Buras, La., and then charged through St. Bernard Parish's outer marshes before coming aground for its second landfall at the Louisiana-Mississippi border, north of St. Bernard Parish. The surge from the storm first overwhelmed and toppled federal levees along the Mississippi River and the Mississippi-River Gulf Outlet (MR-GO), and then entered the populated portion of St. Bernard Parish through breaches in the older 40-Arpent agricultural levees, and from breaches in the Industrial Canal levees in the Lower Ninth Ward of New Orleans. Total flood depths in St. Bernard Parish, shown in Figure 1.1, ranged from inches to more than 15 feet¹ (Interagency Performance Evaluation Taskforce 2009). The storm surge associated with Hurricane Katrina was complicated by a 65,000-barrel crude oil spill on land at the Murphy Oil Refinery that affected almost 1,700 homes. All this occurred inside the containment-style levee system that separated most St. Bernardians from coastal wetlands (St. Bernard Parish Government August 2008, U.S. Environmental Protection Agency 2008). When Katrina's damage could be tallied, **all but six structures in St. Bernard** were damaged by Katrina (Kieper 2006).

¹ Depths were not measured until Sept. 1, 2005, at which point flood waters had receded from higher areas, but were still exceeding 15 feet in most areas north of East Judge Perez Blvd.

Figure 1.1 Flood Depths from Hurricane Katrina in St. Bernard Parish on Sept. 1, 2005



LiDAR, FEMA 2005

Because of the extensive flooding and a re-inundation of portions of the parish from Hurricane Rita on September 23, 2005, most St. Bernardians would not be allowed to even visit their homes until September 26, 2005, about one month later (The Times-Picayune 2005). In that month, they had to find a way to live away from home and had to determine what they would do next. For most residents, most of their belongings that would be salvaged were in the vehicle in which they evacuated. The 67,000 pre-Katrina residents of St. Bernard Parish faced an unexpected crossroads. With little or nothing left of their properties in the parish, St. Bernardians had to secure temporary and/or permanent housing, and rebuild or relocate, not just their homes, but their lives, because more than just houses were flooded during Katrina.

Businesses, schools and the gathering places also were damaged. Places like churches and schools, and civic infrastructure, including Parish government facilities, the hospital and the civic center, would also have to be rebuilt, relocated or abandoned. Anything that would be returned to service would need to be repaired in the best cases, but totally reconstructed in many circumstances. When the first residents returned, basic municipal services were not restored and would not be until weeks later (The Times-

Picayune 2005). Sewer services were restored only in late 2008² (St. Bernard Parish Government 2008) and in 2011 road rebuilding continues throughout St Bernard Parish, referred to locally as “the parish”.

St. Bernard Parish, 5 miles east of downtown New Orleans is an inner industrial suburb with three major commercial streets, two oil refineries and one sugar refinery. New Orleans lies directly to its north, as well as across the Mississippi River to its south, and its western border is with the city’s Lower Ninth Ward. It is a large, low-lying coastal parish protected from the Gulf of Mexico by its vast marshes that suffer some of the highest rates of subsidence in the nation (Couvillion, et al. 2011, Yuill, Lavoie and Reed 2009). Along the coastal bayous are a series of low-density commercial fishing villages in the eastern area of the parish. The amount of land that is developed and settled is small compared to the entire landmass. Most residents are dependent on levees to protect them from coastal storm surge. In addition to a ring of federal levees, a line of secondary agricultural levees called the 40-Arpent levee separates most of the developed area of St. Bernard Parish from surrounding coastal marshes. Some St. Bernard residents live in a series of rural fishing villages outside the levee system. These fishing villages and an area just inside of the levees were among the first colonial settlements in St. Bernard Parish in the late 1700s (St. Bernard Parish Tourism 2011). During the colonial era, Spanish settlers from the Canary Islands originally made their homes in St. Bernard, and their descendants still have a strong presence in the parish. Until the 1950s, St. Bernard would have seemed familiar to its original settlers because its rural character remained until the post-World War II years, after which New Orleanians began to settle in new subdivisions of ranch homes on modest lots that were being built in St. Bernard at the time (St. Bernard Parish Tourism 2011). This suburban-pattern settlement increased in the 1960s when white New Orleanians moved to St. Bernard Parish to avoid sending their children to integrated schools (Landphair 2007).

Hurricane Katrina was not the first storm to impact St. Bernard. It has a history of storms that dates back to colonial times in the 18th and 19th Centuries, and even a history of community devastation in the face of hurricanes (Wilkins, et al. 2008). Saint Malo, a Filipino fishing village on Lake Lery in St.

² Pump trucks collected and removed waste during repairs.

Bernard, was destroyed in the New Orleans Hurricane of 1915, never to return (Cordova 1983). In 1965, Hurricane Betsy caused breaches on both sides of the Industrial Canal, causing shallow flooding inside the levees. Betsy's storm surge devastated the rural fishing villages of St. Bernard Parish (The Times-Picayune 2011). In 1998, Hurricane Georges brushed past St. Bernard on its way to Mississippi, breaching a levee near Florissant and damaging eastern fishing villages with a 10-foot storm surge (Turni 1998). After each of these previous events, St. Bernardians returned to the parish, often with population increases, accepting the threat of storms. Whether it was intergenerational connections to the community, stable jobs offered in the Parish or the desire to come home, St. Bernardians cleaned up and rebuilt after previous storms. But Hurricane Katrina's impact was greater, and thus the effects of the storm on the population were greater as well, or would the magnitude of the catastrophic impact create results unlike those of more common disasters?

One year after Katrina, more than 50,000 of the approximately 67,000 residents of St. Bernard Parish were living in a different parish (Louisiana Recovery Authority 2006a). Many of these residents would return at a later date, but others relocated permanently. Five years after Hurricane Katrina, according to Census 2010, the population of St. Bernard Parish was smaller, estimated at 35,897, just 54 percent of the population in 2000, or the approximate equivalent of the population of St. Bernard Parish in the 1960s (U.S. Census Bureau 2011). Today, an estimated 23,000 of the original 67,000 residents have returned to St. Bernard with about 13,000 newcomers joining them. This leaves about 44,000 St. Bernardians who relocated, largely to the North Shore of Lake Pontchartrain, primarily St. Tammany, including nearby communities in Tangipahoa Parish, Louisiana and southwest Mississippi (Louisiana Recovery Authority 2006a). It is not just residents, but the workplaces, community facilities and businesses that would relocate to new locations or return at a later time. Restaurants, grocery stores and even Archbishop Hannan Catholic High School relocated within the region away from St. Bernard Parish.

In light of such sudden and unanticipated widespread disruption of the people, businesses, social groups and places familiar to them, St. Bernard residents accessed their existing social networks, or web of social contacts, to address recovery needs. This study investigates the manner in which their social

networks assisted St. Bernardians in addressing recovery needs for their household, especially housing. This study also identifies the way that social networks influenced recovery decisions by motivating St. Bernardians to stay close, relocate elsewhere or alter their original decisions about returning or relocating. Finally this study also describes the ways in which the social networks formed by St. Bernardians adapted to the dispersal of membership when so many residents chose to relocate.

The manner in which social networks assisted and influenced recovery decisions and how they adapted to the large-scale dispersal of residents, businesses and community institutions will be studied during the recovery experience. I will examine the pre-Katrina construction of social networks in St. Bernard and their influence and utility as residents accessed them to meet household needs after Katrina. The role of social networks in influencing and assisting decisions related to permanent housing locations of St. Bernardians will be explored. Once the resettlement patterns of St. Bernardians have been described, the impact of the dispersed social network membership and the changes and adaptations made by St. Bernardians to their social networks can be better understood.

Specifically, this study addresses the follow questions:

- Given the magnitude of impact from Hurricane Katrina in St. Bernard Parish, are the consequences of disasters of catastrophic scale distinct, showing unique qualities not common in more typical disasters or does this catastrophe, in particular, unfold as theorized at its larger scale?
- In what ways to social networks assist St. Bernard residents and influence St. Bernard residents in recovery, regardless of whether they choose to return or relocate? Once decisions about post-Katrina housing are made, how do social networks adapt to increased distance between people?

The chapters of the dissertation are organized as follows.

The second chapter examines the framing literature of this study. This case study will benefit from disaster recovery theory (Chang 2010; Laska 2012; Nigg 1995; Quarantelli 1999) and be compared to

other studies on Hurricane Katrina communities (Louisiana Recovery Authority 2006a; Li, et al. 2009) to help guide this study, which looks at the magnitude of a catastrophe and the dispersal that resulted from the massive amount of damage in St. Bernard. In doing so, we examine the uneven development that occurs as a result of recovery and the changing exposure to risk brought by these processes. I also will apply social network analysis (Castells 2004, Giddens 1986, Latour 2005, Soja 1989) to help to better understand the utility of social networks in recovery, the influence social networks have on recovery decisions and the adaptations that St. Bernardians made to their social networks to adjust to dispersal of membership after Hurricane Katrina. This study is not a traditional application of social network analysis, but the method helps to look at recovery as it is experienced by social networks, whether that network is a family unit, social group or work arrangement. Chapter Two also will survey literature on disasters, social networks and other community change events that will guide study.

The third chapter will describe the methods I employed to capture the details of the experience and to test this case against existing theories about recovery and social networks. In this chapter, I will explain how the study sample was obtained. I will also compare the study sample to the best available data about who comprised the pre-Katrina population of St. Bernard Parish because a systematic sample could not be taken under the population's dispersal dynamic after the catastrophe.

In the fourth chapter, I will begin to lay out the findings. I will set the stage by exploring what St. Bernard Parish was like for my participants prior to the storm. I compare the community to Herbert J Gans' (1962) "urban village" in Boston's West End in the late 1950s (Gans, *The Urban Villagers: Group and Class in the Life of Italian-Americans* 1962). I will also look at how the settlement pattern of St. Bernard neighborhoods enabled the formation of dense social connections (Sennett 1990, Soja 1989).

In Chapter Five, I discuss the short- and long-term evacuation plans made by residents who left for what they expected to be a short time, but had to stay away for a much longer period of time. The roles that social networks played in these decisions will be discussed, calling on the existing body of knowledge on post-disaster improvisation by organizations (Kendra and Wachtendorf 2001). Taking the theory on organizational disaster response, I will see if it applies to recovering households by elaborating

on the ways in which households improvised in much the same way organizations do while responding to disasters.

In Chapter Six, I will examine how households moved from temporary arrangements to permanent one after the storm, and how they made their decisions to return and rebuild or to relocate away from St. Bernard Parish. I will describe the constraints and opportunities involved in these decisions, the role social networks played in assisting St. Bernardians in finding permanent housing and influencing decisions about where to relocate. I will examine the findings in the context of the literature about urban decentralization from close-knit areas to see if St. Bernardians after a catastrophe follow more traditional patterns of long-term migration from close-knit communities (Logan et al. 2002; Logan et al. 1996; Zhou and Logan 1991; Lieberman 1962; Cantrell 2005).

In Chapters Seven and Eight, I will describe, respectively, the experiences of the residents who returned and the ones who relocated. Chapter Seven will look at St. Bernard Parish today, addressing its interaction with suburban decline and its relationship to the empty spaces left behind by relocating neighbors (Madden 2003; Smith et al. 2001; Lucy and Phillips 2000). Chapter Eight will highlight the experience of residents who relocated, focusing on those who moved to the North Shore, the location where many respondents relocated. I will also examine those who moved farther away. Exile communities provide a comparison for this group (Logan et al 2002; Korac 2005; Zhou and Logan 1991; Zhou and Logan 1989).

In Chapter Nine, I will apply Social Network Analysis (SNA) to my case study to visualize, elaborate and provide quantification to the dispersal of St. Bernardians. To achieve this goal, Geographic Information Systems (GIS) will be integrated into the SNA model (Castells 2004; Giddens 1986; Latour 2005; Soja 1989). In addition to describing the dispersal, I will also examine how St. Bernardians, both home and away, coped with dispersal through the use of social technology (Brinkerhoff 2004, Castells 2004).

In the conclusion, I will summarize the findings and discuss the importance of the work to theory and future studies. I will relate it to the theories discussed in Chapter Two, and will discuss the

implications for other fields, including mobility studies (Urry 2007), decentralization (Logan and Molotch 1987) and climate change adaptation (McLeman and Smit 2006). I will also discuss possible next steps for the research and the policy implications that my study can inform as related to disaster recovery.

Chapter Two: Catastrophes and Social Networks

2.1 Introduction

There are two goals for this chapter, which serves as a survey of relevant literature and introduces the concepts that this study will use as a foundation for building upon existing knowledge. The purpose is to situate this study in the literature and to identify its contribution to the fields of disaster studies and social networks.

There are three primary literatures that guide this case study that examines the impact of catastrophe on social networks. Each serves as a partial guide, providing an indication as to what impacts I might anticipate as the study progresses. Theories from disaster literature address what has been observed during events of smaller magnitude; and this study can serve as a test of these theories applied at the catastrophic scale. Literature about social networks discusses the everyday changes in the interactions among groups of people. This literature does not directly address the role of disasters, but provides some direction as to the dynamics of social networks. Finally, literature about other community changes, including decentralization and redevelopment may resemble the impact of natural disasters.

The objective of this chapter is to introduce these literatures and the theories to which this case study will be compared. The first area of studies that this chapter will discuss will be disaster recovery. Next, I will discuss literature about social networks and the changes they may experience as a result of Hurricane Katrina. Finally, I will discuss other community changes that have impacted residents. This chapter establishes the theoretical framework of this study by discussing what changes theories on these three subjects would anticipate from the impact of Hurricane Katrina, allowing the subsequent chapters to explore these possibilities to see if they apply to St. Bernardians after Hurricane Katrina.

The case of St. Bernard Parish provides an extreme case to test against the literature. Very little research has been conducted on catastrophic disasters in the United States because they are uncommon events. With the community essentially closed for three weeks following the event, and all but six structures

damaged, the challenges and constraints to recovery for St. Bernardians were massive. In studies of other disasters with limited impact areas, there has been a curiosity expressed as to if the impact of a catastrophe theory will show an amplified or demonstrate a contrary effect as compared to typical disasters (Chang 2010, Quarantelli 1999). Recovery also occurs in a dynamic risk environment where the risks of damage from future events are changing even as the victims respond to the past event (Berke et al. 1993; Laska 2012; Nance 2009).

Disaster recovery is a large field of study. To address the need for a frame small enough to pursue in a single study, I focus on social networks, a body of theories evolving since the 1970s. This terminology will be discussed in depth in the following pages, but, in brief, social networks are the groups that individuals build around them to undertake social interactions. These can be households, families, social groups or even business “regulars.” Focusing on the impacts of recovery on social networks provides a narrow enough framework to view the impacts of a complex recovery process, while also providing the opportunity to explore the related impacts of social networks on the process itself. In particular, this study will examine the utility that social networks provided to St. Bernardians as they addressed individual and household needs. It also examines the role of social networks in influencing recovery decisions. Finally, with so many households making decisions about relocating to other areas or returning to St. Bernard to start over, this study will examine the adaptations that social networks made to accommodate the changes. The impact of the catastrophe in St. Bernard Parish was particularly devastating to the physical structures of the community, and the recovery process would need time to overcome the extensive damage. For that reason, the role of time and place are essential to understanding the impact on social networks, and in surveying social network literature, the theorists to be discussed focus on the impact of time and the locations where interaction occurs.

The second purpose of this chapter is to introduce literature that provided insight as from other scales and similar urban issues that might provide guidance as to what our study may find. These studies have a

“family resemblance” to what this study is focusing on. Chapters 4-9 each present a different recovery experience and each have a distinct literature to guide the research.

2.2 Case Study Constraints

To guide a study on recovery from a catastrophe, it is important first to review what is known from studies on disaster recovery. Quarantelli (1999) in his evaluation of recovery called into question the goals of recovery processes. Although recovery is often cast against pre-disaster conditions, recovery need not reach that point to be successful; it may be a point incapable of being reached and it may not be the desired outcome. In some cases, failure to attain the previous conditions can lead to a better place which is safer from future disasters, with the disaster serving as a “driver” for change to make communities and residents more resilient (Aldrich 2010; Berke et al. 1993; Laska 2012; Paton and Johnston 2001; Tobin 1999). It can speed up change already underway prior to the disaster (Chang 2010). Even the relative risk of future disaster can be altered by local development decisions or regulations and decisions made by individuals and government agencies prior to or during the recovery process that would mitigate the impact of future events (Laska 2012; Nance 2009; Berke et al. 1993). Whether it is through infrastructure improvements (Nance 2009) or improvements in social equality (Laska 2012), changing landscapes of risk and resilience are in play before, during and after recovery (Berke et al. 1993; Laska 2012; Nance 2009). Recovery then is an interconnected process of change (Chang 2010, Laska 2012). The area and residents impacted by a disaster are changed by the decisions made by residents and officials that alter future risk and vulnerability (Quarantelli 1999; Laska 2012; Chang 2010; Nance 2009). This case study on St. Bernard Parish residents will not only look at the relative recovery of an impacted population beyond traditional pre-disaster comparisons, but will approach it as a process of change with uncertain outcomes that may even lead to desirable outcomes at individual, household and community scales., and which is unlikely to return exactly as it was before.

The impact of the catastrophe in St. Bernard Parish was particularly devastating to the physical structures of the community; recovery would be delayed by a lengthy period of rescue and recovery while pumps

were restored, floodwaters were drained from the parish and roads were restored. Municipal services and rebuilding of damaged homes and businesses would take even longer. Given the constraints of time and the need to extend the time spent away for evacuation and rebuilding, this case study about a catastrophe isn't about the impact but starts with the decision to evacuate and focuses on the utility of, and changes in, social networks. This focus has been chosen because while physical resources were not able to be accessed, social resources are not necessarily bound by space (Giddens 1986; Latour 2005).

Understanding how social capital was utilized in recovery decisions, when the devastation was so great, allows us to recognize the influence of social networks in recovery, and the physical patterns that result (Giddens 1986; Latour 2005; Soja 1989). In particular, this study will examine the utility that social networks provided to St. Bernardians as they addressed individual and household needs after leaving St. Bernard (or not in some circumstances) as Hurricane Katrina approached. It also examines the role of social networks in influencing recovery decisions. Finally, with many households making decisions to relocate to other areas or returning to St. Bernard to start over, this study will examine the adaptations that social networks made to accommodate the changing geography of social networks.

2.3 Disaster and Catastrophe

2.3.1 What is Recovery?

With a disaster of catastrophic magnitude in St Bernard Parish, what must be overcome in the recovery process should be anticipated to be great. Quarantelli (1999) and Nigg (1995) acknowledge that the goal of “recovery” may be difficult to define or achieve as the goal or restoration of pre-disaster conditions is not achievable. So too, may be the time trajectory of the recovery process: disaster victims may vary as to when they reach a point at which recovery has been achieved. Recovery in practice is a process without a goal or a point at which it concludes, and recovery happens at concurring scales at the same time (Quarantelli 1999, Nigg 1995).

Whereas Quarantelli separated community recovery from household recovery, Nigg divides business and what she terms “family recovery” (Nigg 1995), which relies heavily on kin networks, and is severely

hampered by low socioeconomic status, minority status and urban residence. Business recovery is similar to family recovery, as businesses vary in age, ties to the community, stability, income and networks all with varying influence on the ability/willingness to return. All three interact. A neighborhood with families struggling to recover will be unable to support a business that is reliant on local support, and must wait for residents to return; meanwhile the residents may be looking for indications that they will have business in their neighborhood. The result is delay and reduced revenues to the community government from sales tax and property tax, and thus layoffs and reductions in services occur, which in turn is bad for the local business climate and then fails to provide jobs to residents (Nigg 1995). In a disaster of catastrophic impact, such as Hurricane Katrina in St. Bernard Parish, the interaction is likely to be of great magnitude. Nigg (1995) asserted that more than just bricks and mortar, recovery is “a social process.” Even the structural elements of recovery such as housing and infrastructure are essentially reconstructed for the purpose of restoring the social needs of society embodied in “day-to-day lives” of the residents and their organizations. For this reason, as this study ensues, concurrent recovery at the household/community scale must be teased out, and their interactions appreciated. Businesses, households and social networks will be considered separately while their influence on each other is described honoring the Nigg approach. The magnitude of the catastrophe and the resulting magnitude of resettlement discussed, enhancing the comprehensive approach.

2.3.2 The Impacts of Recovery

Exactly what must be overcome, or what the obstacles are to a successful “recovery” for St. Bernard residents must be better understood. Nigg noted that residents must overcome three constraints to restoring everyday lives. “Physical constraints” are those that keep you from going to the same places (Nigg 1995). Examples would include the pursuit of household staples and groceries when the grocery store has also been destroyed, or having to bypass closed hospitals in pursuit of medical care. “Temporal constraints” is the increase in time that everyday activities take. The loss of a bridge can alter traffic routes and increase congestion. Relocated residents may have to travel farther to their jobs, or residents with children may have to delay return to the impacted area while schools are rebuilt. Finally, “subjective

constraints” are the resulting stress reactions created by the increase in the previous two hurdles. How these constraints impact the varying concurrent recoveries – including households, businesses and social networks – in St Bernard is then important to understand. How these constraints impact social networks allows a glimpse into that understanding.

While returning to pre-disaster conditions is unlikely, Nigg (1995) acknowledged that there are psychological benefits gained in the pursuit of replacement. It is important, in this study therefore, not just to examine what residents “achieved,” but also to investigate what is gained from recovery efforts, or if there is something lost.

Competition for housing and other resources can breed conflict and adaptation as those impacted must compete for scarce resources. Redevelopment of what was lost is often more expensive than what was there before, and this can price out the poor. Urban displacement becomes an uneven process in such dynamics, with neighbors, businesses and sectors of the community returning at different times, or not at all. The loss of livelihoods becomes an issue as it encourages migration, and the net effect displaces neighborhood businesses that no longer have the customers to sustain operation. This loss reduces tax revenue and slows infrastructure and community rebuilding efforts (Oliver-Smith 2009), impacting the long-term economic security of an impacted area. Returning residents seek renewed self-sufficiency and restoration of livelihood and their social networks to pre-event conditions (Oliver-Smith 1986). Thus, I should anticipate witnessing conflict both for St. Bernardians who move into new communities, and within recovering St. Bernard, among pre-Katrina and post-Katrina residents, especially when the conflict revolved around competition for resources, and maintenance of pre-Katrina conditions.

The need to invest time and resources into rebuilding housing and businesses, previous studies on disasters suggest that competition for housing should be anticipated (SE Chang 2010; Nigg 1995; Oliver-Smith 1986). Housing and housing access can become political and divisive issues, with the wealthy and well-connected attempting to control it (Oliver-Smith 1986). Housing and its related problems can

become issues that create fractures in otherwise cohesive groups (Button 2009; Nigg 1995; Oliver-Smith 1986; Quarantelli 1999). The cost of rebuilding and lack of available housing can be the primary factor that leads to the relocation of some residents to other communities. Conversely the abandonment of properties contributes to a loss of tax base, therefore causing other problems at the community level (Nigg 1995; Oliver-Smith 1986). In the receiving communities, the increase in tax base comes with rapid growth and a different set of problems, including escalating real estate values and traffic congestion (Nigg 1995; Quarantelli 1999). I will investigate if these patterns arise in the catastrophe of Hurricane Katrina in St. Bernard Parish and the communities that absorb relocating St. Bernardians.

To cope with constraints and conflict, victims formalize informal relationships or merge households in order to address needs. In previous studies on disasters, to cope with post-disaster conditions, the impacted residents have depended on each other in this manner (Oliver-Smith 1986). Survival becomes part of a cultural identity, separating those who lived through it from those who arrive later or who previously existed in the receiving community (Oliver-Smith 1986). I should look for these same patterns of behavior in St. Bernard residents, seeing evidence of protecting pre-catastrophe identity within St. Bernard Parish and forming insular groups in receiving communities.

2.3.3 Geographical Patterns in Recovery

Chang's (2010) geographical examination of recovery patterns after the 1995 Kobe Earthquake, suggests that locations may be predictable. In Kobe, residents from heavily impacted areas relocated to unimpacted, nearby and currently expanding suburbs farther outside the central city. Initially the undamaged areas were inundated with migrants, and the hard-hit areas struggled, but in time the process reversed somewhat, and the devastated areas returned to 90 percent of their pre-earthquake population. Trends not tied to the disaster related to residential suburbanization and the restructuring from an industrial to a services economy had accelerated as a result of the disaster (Chang 2010). As those with the means and will to decentralize do so, the population that remains, and those who move in will be more likely to be poor and minorities, skewing the demographics of the origin community toward a population

that is poorer and more ethnically diverse. Although Chang was writing about Kobe, she did reference Hurricane Katrina, speculating that the New Orleans area after Hurricane Katrina would likely experience more dramatic changes because Katrina was “a greater disruption” (Chang 2010). This research allows me to test that hypothesis, or determine if something unique is occurring. For St. Bernard Parish, its immediate neighbors to the north, west and east were heavily impacted by Hurricane Katrina. These areas and the area south of St. Bernard on the West Bank of the Mississippi River, were already built out prior to the storm. Areas left undeveloped in St. Bernard and in other Southeast Louisiana communities are undesirable for development because they are soft, moist marshes or subject to inundation from tidal processes. For that reason, the area nearest to St. Bernard Parish that was unimpacted and had available housing was on the North Shore of Lake Pontchartrain. Prior to the storm, St. Bernard Parish was undergoing modest population decline prior to Katrina due to increasing suburbanization, and Chang (2010) suggests that residents of St. Bernard Parish would continue this exodus at an accelerated pace.

Suburbanization, or residential decentralization occurs where it does because the pursuit of better housing sends residents to the edge of metropolitan areas for available land, but still within commuting distances of central-city employment (Fishman, *Bourgeois Utopias: The Rise and Fall of Suburbia* 1987). However, St. Bernard Parish is an industrial suburb (Fishman, *Bourgeois Utopias: The Rise and Fall of Suburbia* 1987, Teaford 2008) with a stable workforce and tax base provided by three large refineries, a port and chemical and petroleum manufacturers and leases.³ If industry recovers quickly, it would be expected that the stable employment opportunities in the parish may keep workers close to St. Bernard Parish, and not the central city of New Orleans, making locations west of the city less attractive because of New Orleans traffic. Relocating residents may choose areas that allow them to maintain accessibility to St. Bernard jobs, but maintain a suburban lifestyle (Teaford 2008). However, the Southeast Louisiana economy and the national economy in general have been undergoing a process of de-industrialization. Manufacturing jobs have been leaving the economy in favor of service-sector jobs. De-industrialization

³ In 2011, Valero Meraux, the smaller of the two oil refineries in the community paid \$5,000,000 in property taxes alone, and estimated their economic multiplier in the community to be 5 **Invalid source specified.**

would lead to increasing rates of decline in the parish, which has a substantial manufacturing base. The loss of tax base from the employees and the manufacturing facilities would further limit recovery and further accelerate decline in St. Bernard Parish.

2.3.4 Disasters and Social Networks

Having discussed what the impact on community and households is likely to be, I turn my focus to what the anticipated impacts are likely to be on social networks. Oliver-Smith (2002) identified 11 forms of vulnerability disaster migrants face. They are natural, physical, economic, ecologic, institutional, social, political, technical, ideological, cultural and educational (Oliver-Smith 2002). He suggests that there are three approaches to studying vulnerability. The first – *the behavioral response approach* – looks at the actions, adjustments and relationships of residents and organizations prior to, during and in the immediate aftermath of a disaster. The social change and development approach focuses on how reconstruction decisions about development can improve social conditions (Oliver-Smith 2002). My case study will take this approach, tracing the connections St. Bernardians make and how they adjust to recover decisions from the perspective of 6-7 years after the impact of Hurricane Katrina.

To offer a literature survey of what is known about changes in social groups within a community after a disaster, there is one important study to offer as a comparison. Li, et al. (2009), who examined the return rates in a single neighborhood that contained two distinct ethnic communities within it. They provided evidence of these varying rates of return among Vietnamese and African American neighbors in New Orleans East after Katrina. In the heavily-impacted community just to the north of St. Bernard Parish, Vietnamese residents returned in greater numbers than their African-American neighbors (Li, et al. 2009). Factors included the presence of social networks, kinship networks, as well as homeownership as factors in their decision to return (Li, et al. 2009). Li, et al. suggest that recovery from a disaster may have time, space and social factors influencing the trajectory. Li, et al (2009) indicate that different networks may have differing return rates within a space, and thus an aggregation can mask reality. Subgroups may emerge in St. Bernard Parish that do not follow traditional race, class and gender lines, and these subgroups may recover at different rates, and may even hold geographic bonds. Soja (1989) suggests that

subgroups may form along non-traditional lines in otherwise homogenous areas like most of St Bernard Parish. Groups may form around by industry, ethnicity, and even informal social associations in ways that defy traditional place boundaries. St. Bernard Parish does contain two distinct subgroups that can be easily compared -- suburban area near the city of New Orleans in the west, and a rural area with ties to commercial fishing in the east. Using Li's approach, I will compare these groups.

When I discuss the evacuation-recovery experience by St. Bernard residents who evacuated with the expectation of a quick return home and instead had to stay away for nearly a month, they may need to demonstrate creativity to meet basic needs. This characteristic of "*improvisation*" has been identified in disaster response literature that looks at organizational behavior. Kendra and Wachtendorf (2003) examined improvisation during response to a disaster in their case study of emergency operations after the 9/11 Terror Attack on the World Trade Center in 2001. At the time of the attack, the Emergency Operations Center for New York City was located in 7 World Trade Center, and had to be evacuated. An ad-hoc EOC was created at Hudson Pier, and was capable of full functioning in its social and operational roles. This demonstrated a skill of improvisation in response at an organizational level as the organization could sustain a shock without falling apart and was capable of problem solving quickly and effectively to maintain the function of the EOC (Kendra and Wachtendorf 2001). This organizational resilience when faced with uncertainty could be observed in social networks and in the household level as residents are faced with unanticipated needs for housing, work and possessions. Challenges to maintaining the function and composition of households and groups may then require improvisation to persist.

Historical experience from Hurricane Betsy suggests that many of those in the suburban area may have a history with disaster migration that brought them to St. Bernard Parish in the period after the 1965 hurricane, when the drain of white residents to St. Bernard from the Ninth Ward escalated after the flooding (BondGraham 2007). In addition to supporting Chang (2010) with evidence it demonstrates that families in St. Bernard and some individuals have previous experience with disaster migration after a hurricane, and that historically, populations have not remained stable after a disaster in the area. Previous

studies on migration after Katrina suggest a shifting of populations from one community to another in Southeast Louisiana (Greater New Orleans Community Data Center 2006; Louisiana Recovery Authority 2006a; Rowley 2007; Rowley 2008; US Census Bureau 2011). I should look for similar change patterns after Katrina.

In contrast, for coastal residents connection to a geographic place plays a unifying force, according to Burley in his 2010 study of land loss in Southeast Louisiana. He states that place in coastal Louisiana has physical qualities that act across time and culture to connect people and thus, physical place carries significance beyond physical features (Burley 2010). Burley states that the landscape in St. Bernard and other Southeast Louisiana coastal communities becomes part of the cultural and personal identity of the residents as they interact with it, and thus the community itself holds significance (Burley 2010, 39). When work involves interaction with the land the intensity of the connection to the land is 'thicker' (Burley 2010, 46). And, explains Burley, there is reluctance of residents to relocate from fading lands or to stay nearby when relocating as a protection mechanism; by remaining close, they are able to maintain some element of that connection and thus the identity that accompanies it (Burley 2010). This would indicate that those residents located in rural areas of St Bernard would be more likely to return or to relocate nearby. This pattern was observed by Cantrell (2005) in another rural population facing a different form of relocation. Industrial farming in the Great Plains has created a high rate of rural depopulation in states like Nebraska, but residents appear to be moving into small towns nearby (Cantrell 2005).

For some wishing to return, employment or the school needs of children caused them to search for available housing immediately instead of waiting to rebuild. Schools, some of which had temporary locations elsewhere, and work, whether the same or new, would then serve to pull St. Bernardians closer to where they would eventually re-settle. For those wishing to return quickly but whose homes were rendered uninhabitable, housing availability was limited, and this may have prompted the decision to relocate as well as influence the location of the move to areas less impacted by Katrina, because that was

what was available at the time. Rowley (2007) noted the interconnections of family or household recovery and business recovery, stating that demand for labor was being unmet because there was not enough available housing for the needed workforce. The relocation of work and schools and its impact on recovery decisions for St. Bernardians will be addressed.

Temporary housing -- FEMA trailers -- assisted with this need but was unappealing and often overcrowded, influencing some to relocate quickly in order to avoid them. Rowley (2006) notes that home sales in Western St. Tammany Parish skyrocketed, along with prices, as residents from within that parish's hard-hit community of Slidell, and from the surrounding parishes quickly purchased whatever homes they could afford. For this reason, there may be some relocaters in Western St. Tammany, despite a significant commute back to St. Bernard.

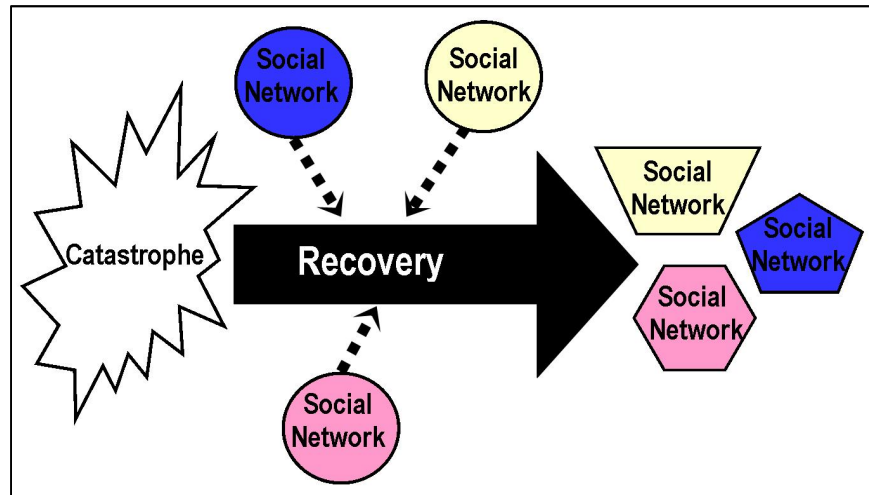
2.4 Social Networks

To some degree, I have introduced the concept of social networks and have briefly discussed the roles they might play in recovery. I have mentioned that social networks, like everything else, must undergo a process of adaptation to changes. I have also discussed the way particular types of social groups, including work, school, households, and rural and suburban networks may experience differing rates of return to the origin community. I will now turn my attention more broadly to review the relevant social network theories and research. I will consider how theorists have approached them, how they may be studied and the types of assistance, influence and adaptations that might be discovered in this study.

The social network in this study -- in its many forms -- will be the focus. The utility, influence and adaptation of social networks to changing circumstances are the topics of interest of this study, and thus, the method of looking at what occurred after the catastrophe. I will link disaster recovery to social network theory. Disaster recovery theory will serve as a guide to tell us what changes we should anticipate to social networks. This study elaborates on the changes and the interaction in social networks caused by the catalyzing event of Hurricane Katrina's impact by comparing pre- and post-Katrina changes in St. Bernardians' social networks. Social networks after such an event serve as recovery tools, resources

and elements of social capital used to meet needs, social and otherwise (Nigg 1995). Social networks also influence decisions of individuals during recovery by providing information (Giddens 1986, Latour 2005). They can create a ‘friction of distance,’ or a reason to stay nearby (Soja 1989). When these network ties are place-based, including family, work and school the friction of distance can influence the location of its membership (Soja 1989). Social networks also must adapt to rapid and unanticipated shifts in membership, and the concurrent recovery trajectories of members and other changes related to recovery or else they will dissolve (Latour 2005). This study also researches the roles that social networks play in recovery decisions by providing information and influence. Finally, the impact of the recovery decisions, once made, can impact the networks the St. Bernardians form, and those impacts will be discussed. This creates a before/after Katrina, and a before/after recovery dynamic within the study, as visualized in Figure 2.1.

Figure 2.1 Theoretical Model of Study



In order to examine how spatial and social changes in a community interact, this study will be developed from Bruno Latour’s 2005 elaboration of Actor-Network Theory (ANT), Anthony Giddens’ 1986 theory of structuration and Manuel Castells’ approach to networked societies (Castells 2004, Giddens 1986, Latour 2005). These approaches stress the interconnections of people and seek to trace the connections made among people, focusing on the social assemblages, or associations, formed by social

actors. In my study, these actors are the pre-Katrina residents of St. Bernard Parish, and the networks are the groups that they formed.

Social networks are the associations formed by actors. These associations can be defined as family, friends, work, school or social groups, or many other groupings. It is a sociological concept emphasizing the connections among people that generate networks (Latour 2005). These networks are dynamic and interconnected, sharing common members and occupying common spaces. Dynamic social networks, for example, would include a political agency whose membership changes without a loss of governance. Interconnectedness may be expressed when a relative is also a friend, or a coworker may be a congregant at the same church; and both may be neighbors.

These associations, or assemblages of people (Giddens 1986; Latour 2005) occur in overlapping space. Castells, Giddens and Latour all identify the role locations can play in shaping society, but caution in letting place boundaries fully define a place, distinguishing 'social' places (Castells 1996, Giddens 1986, Latour 2005). Whether they are identified as locales, nodes or hubs, the places where people interact create the landscape for the social milieu, serving as sites that enable social networks to reconstitute and persist.

Following this theoretical tool, then, it is essential to identify the connections among people, the locations of interaction, and the changes that transpire as a result of the impact of Hurricane Katrina. Latour acknowledges the fortunes of social networks that have "the great advantage of remaining in place," (Latour 2005, 199), a quality that I believe held true for most of St. Bernard before the storm. The impact of Hurricane Katrina may have impacted membership of these social networks and some of the places in which they congregated. Social networks are not tied exclusively to space -- for example, a group of neighbors may continue to meet after they no longer live near each other. However, there are more constraints to achieving this interaction. Greater distances must be crossed and thus more time must be contributed to maintaining the network (Nigg 1995; Giddens 1986; Latour 2005). Latour (2005) states

that actor-networks are not necessarily proximate, but can be spread across geographic space, which is what would have to occur if membership of St. Bernard Parish-based social networks were to remain static despite the relocation of so many people.

It is more likely that change will occur among the membership of these social networks since change is constant in networks. In this instance, however, Hurricane Katrina may be identified as the common mediator for these changes in networks (Castells 1996; Giddens 1986; Latour 2005). If the changes are ascribed to the impact of Hurricane Katrina, then tracing these changes in networks can identify patterns of change (Latour 2005; Soja 1986). To look at the changes in context of a pre-Katrina/post-Katrina, is to identify this pattern.

Not all change can be attributed to the catastrophe. Without a catalyst, networks formed by community actors are both constant and dynamic in nature. Constancy is best illustrated in the routines developed by social actors in their everyday life. Routines carried on by individuals form the building blocks of society (Giddens 1986, Latour 2005). Individuals aggregate to form institutions, which form the backbone of a community. They need individuals to bring them into existence, and these routine interactions form community, or as Giddens puts it, “[t]he fixity of institutional forms does not exist in spite of, or outside, the encounters of day-to-day life but is *implicated in those very encounters*,” (Giddens 1986, 69) (Emphasis original). Relationships evolve and dissolve; patterns change, and groups fail to reconvene through the course of natural life events (Latour 2005).

Persistence of networks, despite change in the members is strengthened through time and routine interaction, and thus if they had been persistent prior to Katrina, these networks would be less likely to dissolve because of the impact of the catastrophe; its members would be more willing to adapt to changes to keep the network cohesive. Giddens observed that institutions can link through time, connecting people through history or and across space in what he called “*time-geographies*.” Historical attachment to an area can bind through the socially held customs, priorities or beliefs, which are reinforced through the

routine interactions and activities of the community or network, carried on among members over time and bringing people together from a distance. As social actors' routines change their routine interactions may dissolve as time and space provide powerful constraints on their reproduction. The participating actors may change, and can influence the activities and even the participation of others within their networks (Latour 2005). Without the willful interaction and assemblage of the actors, the network ceases to exist (Latour 2005, 218).

Since members of networks must re-assemble in some form to exist, and disaster literature suggests that constraints are likely, then how networks adapt, dissolve and come to life in the face of those constraints is important to understanding how social networks and catastrophe interact. It is the "circulation" of the actors through networks that bring them to life (Latour 2005, 205). Networks do not exist without members. Members can reformulate new networks, join existing ones and alter networks to adapt to changing needs (Latour 2005). In following these shifts of membership, social change is rendered visible in the networks, and the connections and disconnections among people can be observed. It is these otherwise invisible lines of association between actors and networks that become the "connectors" of society (Latour 2005, 220), and community is formed or disbanded. The scientist must "*follow the actors,*" to understand how these connections hold and dissolve and to evaluate their relative strength and importance to members of the network (Latour 2005). Progression of time and geographical distance challenge social networks. They do not necessarily dissolve their existence, but shape and challenge them (Latour 2005). Likewise, sudden disruptions, such as a catastrophe, contest the persistence of social networks and can re-shape them (Latour 2005, 81).

What new shape adapting social networks may take can be guided by disaster recovery literature, but also can be informed by social network literature. In Latour's (2005) examination of actor-networks, he suggests that it is the number of connections and the strength of the attachment to place that explain how people behave in relation to it (Latour 2005). Those with strong attachment will be motivated to restore what existed.

The changes to the physical community itself can have impact in social networks. Networks are sustained by routine, and the re-establishment routine is fostered by predictability in the community form (Castells 1983). Decisions about where and how places will be redeveloped become important as they play a critical role for residents recreating their everyday life and how and where they connect, defending, or in this case, recreating the form that is familiar. The return of a grocery store or a hospital, and the locations of these facilities, can become socially important in this way. Decisions about where to restrict development and how to allocate recovery funds could assist or constrain recovery in a community. While social networks can survive change in the community form, they can also be altered by that form (Castells 1983; Sennett 1992). Changes that recovery decisions create in the settlement patterns and community resources impact social networks themselves.

Place can serve as nodes, or locations where social interaction occurs (Castells 1996). Identifying the key nodes of interaction will be important in observing their change as a result of the impact of Hurricane Katrina. These nodes can serve essentially as magnets, drawing members of social networks nearby. Soja (1989), in his space-based case study of Los Angeles, acknowledges the stress that geographical distance can put on social networks, describing the “*friction of distance*” that can keep members of social networks constrained geographically (Soja 1989, 125). Soja also acknowledges that distance has limiting effects, as “[t]o be human is not only to create distances but to attempt to cross them, to transform primal distance through intentionality, emotion, involvement, attachment” (Soja 1989, 133). This suggests that while networks may be constrained by increased distance among members, they can be maintained, and that members will strive to maintain the networks about which they feel strongly.

Nodes hold personal importance to the members of a network (Latour 2005) and relative weights in economic and political power, or essentially. This suggests that relocation decisions are likely to reinforce class, power and culture distinctions, and homogenous new enclaves may form in relation to economic and social needs of networks within a larger community. These enclaves can be the traditional ethnic enclave, but they need not be. These enclaves could be based on an origin community within a metro or

based on social and economic commonalities, as Soja (1989) uncovered in his examination of metropolitan Los Angeles. Tracing the residential patterns of engineers, defense employers and universities, Soja uncovered a “donut formation” formed by this group of upper-class educated workers. Inside the donut was an inner-ring of job losses related to the loss of manufacturing closures and the concentration of racial and ethnic minorities in the center of the city (Soja 1989). Mapping the locations of St. Bernard Parish residents after Katrina, could also demonstrate a clustering of social peers from a common origin community.

As discussed earlier, though, change is constant. With 44,000 displaced from St. Bernard Parish in the first year, but 36,000 residents in the community today, it is expected that there would not just be a singular post-Katrina move, but multiple moves as the population first leaves, and then returns, or moves to another location. To look at the changes over time, in this case since the storm, would be to examine something as it moves, or “flows,” to adopt a metaphor from Castells. To then catch dynamic change, a snapshot in time must be taken (Castells 1996). Patterns that are changing can be interpreted with this process of crystallizing time, showing the changes in these moments, even if they are to change before the methodological shutter can close again (Giddens 1986). It is my intent to capture such a snapshot in this case study.

2.5 Contextual Literature

As previously discussed, social networks change because of catalysts other than disasters, and thus, there exist studies outside of disaster recovery that may provide guidance as to social networks’ response to recovery. In the next sections, I will discuss literature, other than that on disasters, that may suggest how social networks of St. Bernardians may respond to the impact of Hurricane Katrina.

2.5.1 “The Urban Village”

If St. Bernard Parish residents are found to be a tight-knit community with dense and overlapping social ties, then the impact of Hurricane Katrina on its social networks may share similarities with working-class ethnic communities in the 1960s as they experienced change. The impact of Katrina on

social networks may resemble that which was faced by these communities in the face of urban redevelopment in these communities during this era.

In the 1960s, Herbert J. Gans (1962) examined the meaning and structure of community as it was experienced in the urban West End neighborhood in Boston and as it was created in the mono-structured Philadelphia suburb of Levittown (Gans 1967). Gans notes that there are common elements that unite his “urban village” in the West End. Working-class residents of Italian and Irish descent, live in relatively dense housing, and form “peer-group societies” in which community members form social networks with similarly-aged and situated others in their community, often people with whom they went to high school. Family ties are important, and extended relatives may gather in the same peer groups, and even neighborhoods. Businesses are full of life and social chatter abounds as community members speak about common acquaintances (Gans 1962). Everyone is known to nearly every other member of the community; and everyone knows something about everyone else, even if they don’t know them personally. A sense of belonging exists; that binds members to the community but that also marks outsiders (Gans 1962). The ties they have with each other are more important than the type of housing that they live in, as residents would be glad to relocate elsewhere if the social connections and experience could be replicated. They look to recreate this experience when forced to relocate (Gans 1962).

These social connections carry a currency in reciprocity and obligations between peers, family and friends that is expressed in a web of exchanged favors. This system of informal contracts carries into the political realm, with the community allowing for some tolerance of corruption and financial gain from the position held, in exchange for the government official serving as an agent for the community that brings resources to fulfill community needs and acts in concert with community desires (Gans 1962). Social ties are strong and durable in the face of change, but altered by the loss of social density (Gans 1962).

For St. Bernardians, the pre-Katrina community shares economic and cultural traits with Gans’ (1962) West End, but it is distinct in its suburban/rural setting instead of an urban neighborhood. The strength of

social networks to persist in the face of change, adapting to new circumstances, thus also might be present among St. Bernardians.

2.5.2 Urban Decentralization

St. Bernard Parish has a suburban and rural context, and if the catastrophe of Hurricane Katrina is to accelerate this pattern of decentralization, I should see St. Bernardians relocating to outer suburbs on the North Shore of Lake Pontchartrain. Decentralization of residents is a pattern that began with the Industrial Revolution, but which became a hallmark of the post-World War II era when suburbanization accelerated with policies that favored homeownership, and increased accessibility to automobiles and safe roads as well as improved construction techniques (Bearegard 2006, Beauregard 1993, Fishman, *Bourgeois Utopias: The Rise and Fall of Suburbia* 1987, Jackson 1985). It was in this time that St. Bernard Parish experienced a population and development boom (Landphair 2007). Encouraged by education policies that segregated select schools in working-class neighborhoods, St. Bernard Parish quickly became a suburban exodus for young families and others fearing the decline of their urban neighborhoods (Landphair 2007). Thus St. Bernard Parish's suburban area is itself a product of this decentralization process, often with families that have roots in the city of New Orleans (Landphair 2007), and residents may have experience themselves, or within their social network, with decentralization. It may also be that relocating St. Bernardians would have migrated to an outer suburb over the natural course of their lives, following a trend begun by the previous generation.

2.5.3 Community Abandonment

Since St. Bernard Parish was experiencing modest decline prior to Hurricane Katrina, an acceleration of that trend and the impact of the hurricane could trigger substantial and quick onset of issues associated with community abandonment. Considering that there are both suburban and rural areas of the Parish, I turn to literature to determine if I am likely to see distinct patterns for each area.

In the suburban area, I find a cohort in a study of a peer community on the outer edge of Chicago. Wilson and Taub (2006) and Kefalas (2003) examined a working-class Chicago neighborhood of

detached housing on small lots in their look at community abandonment in Chicago's Beltway neighborhood as well as the long-time residents' defense of community identity. White, working-class and stable, Beltway's decline occurred as its dense bungalows passed from traditional family lines to an increasing number of Hispanic and African-American residents, shaking the image the community had of itself as a conservative family-centered stronghold of familiar faces (Wilson and Taub 2006, Kefalas 2003). Many of the residents had come to Beltway in response to integrated housing objections in previous decades, and perceived the influx of minorities as a threat to property values, social order and safety (Kefalas 2003, Wilson and Taub 2006). Faced with a shifting population and quick change, established residents fought to control their image of a suburban homeownership community within the city limits. It was seen as one of the last places in Chicago where working-class white residents could afford to own a home in a safe neighborhood (Kefalas 2003). Residents owned meticulously homes and had pride in their neighborhood and felt threatened by an influx of renters and minorities (Kefalas 2003).

Evidence of decline was attributed to graffiti, empty lots and vacant homes, poor lawn maintenance and a large number of "for sale" signs. These were remembered in the community as being associated with previous periods of decline in the 1960s when many residents left the neighborhood (Wilson and Taub 2006). Residents banded together to fight off the threat, taking what outside observers recognized as extreme measures in some instances (Wilson and Taub 2006). While this is not in the disaster context, the visible cues of decline and historical context of declining maintenance, increased vacancies and empty lots may be present in large numbers due to the impact of the catastrophe in St. Bernard, and so I should look for similar extreme reaction from residents who return as they band together to guard against perceived social decay.

There is a different type of community abandonment experienced in rural communities that I might expect to see. For at least 110 years there has been decreasing density in rural areas in the American Great Plains as the young abandon the family farm for urban opportunities (Cantrell 2005). This has been called a "social and economic death spiral," though that is not necessarily the case (Cantrell 2005, 1). In truth,

what can be observed is a pattern of concentration of the population from rural margins to service-center towns that served the countryside, while the unincorporated rural areas and smallest towns lose their young adults to nearby urbanized areas (Cantrell 2005). Therefore, in St. Bernard Parish, I should expect to see residents from rural areas moving into suburban areas in St. Bernard.

Because of the magnitude of the impact on the individual households, guidance as to what to expect after a catastrophe may resemble that of involuntary displacement for economic development projects, such as dams. The “family resemblance” between disaster migration and involuntary displacement has been recognized by Button (2009, 255). He noted that for both those relocated and even for those who were able to remain, permanent displacement within or out of their community may occur as constraints require that the displaced must seek out smaller and more affordable housing, new shopping venues and new employment, leaving some as “refugees in their own land,” where even the familiar is strange because so much has changed (Button 2009, 257). This feeling of isolation is likely to be expressed by St. Bernardians as well.

2.5.5 Exile Communities

For those who relocated, the experience may be more similar to traditional migration and the formation of ‘exile’ communities. I should identify previous ties to areas where relocating St. Bernardians move and look for clustering of people from the same origin community – St. Bernard.

In examining the role of social networks in traditional international migration, Boyd (1989) states the economic pull factors continue to influence relocation, but that the role of family and friends and geographic place in migration decisions is increasing. Knowing family and friends in a community dominates migration patterns in some international flows (Boyd 1989). Once a connection to a place is made within a network, the network will self-sustain. This occurs because the number of connections with a place is increased within the network (Boyd 1989). This pattern is also identified in studies of ethnic enclaves and exile communities in New York and Los Angeles in a study that looked at suburban enclaves as well (Logan et al. 2002).. It found that social connections, socioeconomic status and

education were all factors that influenced suburbanization in most of these tight-knit communities (Logan et al. 2002). The concentration of residents hailing from the same community enable the migrant to more easily access and expand support networks of family, friends or compatriots in their new location (Boyd 1989).

In studying the social migration of St. Bernardians, attention to the accompanying migration of territory should be explored through business locations and social institutions. Enclaves or ghettos, as the term is used positively in migration research, are geographically contiguous areas with a strong singular ethnic presence that is isolated from the mainstream. The formation of ghettos are often linked to immigrant communities (Castells 2002; Sanders and Nee 1987; Zhou and Logan 1989), but recently also has been applied to social groups, including gay men (Castells 2002; Levine 1979; Sibalís 2004). Enclaves typically have a density of social institutions directed toward the cultural group in the ghetto (Castells 2002; Levine 1979). These institutions mark territory and make the presence of the community visible to its members. They include bars, stores, offices and other gathering places that claim territory. Identifying these social institutions, or gathering places, allows the cultural area to be mapped and better understood (Castells 2002; Levine 1979; Sibalís 2004). Even as ghetto residents relocate to the suburbs, they often remain in cultural communities, establishing satellite segregated communities and maintain ties in the region (Alba, et al. 1999). In areas where St. Bernardians relocate, then I should see their social places marking territory and social and residential patterns of clustering.

2.5.6 Social Technology

One form of social network adaptation that St. Bernardians used to maintain ties is the utilization of technology as a social tool. Castells (2004) and Brinkerhoff (2004) discuss the role of social technology in forming, maintaining and adapting social networks. Both see the Internet as a modern tool creating communities that transcend distance (Castells 2004, Brinkerhoff 2004). Castells examines community formation around knowledge and interests as a way of connecting dispersed community members through email and chat exchanges (Castells 2004). Brinkerhoff examines the role of the Internet not just in

connecting exiles to their friends and family back home but in continuing to influence political decisions and aid by nongovernmental organizations distributed back home (Brinkerhoff 2004).

Similarly, Urry discusses the mobility paradigm, where connections must be maintained across increasing space if they are to be maintained, noting that this dispersal leads to an increasing need for technology and communication to facilitate face-to-face interactions, which are the necessary maintenance tools for networks, even if these co-present interactions are intermittent and irregular (Urry 2007).

These studies suggest that St. Bernardians, faced with dispersal will integrate technology to adapt their social interactions, but that those who are able to maintain a co-present interaction will be more likely to survive.

2.6 Conclusion

The literature that shapes this case study serves two purposes. Primary literature provides the limitations and focus of the study and guides with theories that can be investigated for validity. Theories about disaster recovery and social networks will either be supported by the evidence in my study or will offer alternatives, perhaps indicating that existing theories about disaster recovery and social network maintenance cannot be scaled up to describe the impact of a catastrophe. If this is the case, then it will be essential to mull over the distinctions.

Some of the literature from disasters and from other research about community disruption help to provide direction for researching elements within recovery in general and helps to contextualize the findings beyond the disaster framework, demonstrating links to other studies that investigate community change and network maintenance.

Chapter Three: Methods

3.1 Overview

The purpose of this exploratory case study is to learn more about the influence, adaptations and changes in social relationships of St. Bernard residents as they adjusted to recovery from Hurricane Katrina (J. W. Cresswell 2009). The choice to conduct a case study, and the particular case that I selected lends itself to a study context with a number of methodological obstacles.

The case study is often criticized as a method because of its inability to generalize findings to populations beyond the study or even sub-populations within the case (Yin 2003). While statistical generalization is not achievable in a case study, analytical generalization, in which the findings or the case are tied to existing and developing theory, can and should be the objective of case study research (Yin 2003), and is the objective of this study. A case study is the best approach because the real-world context, not just the phenomenon, is important to the investigation (Yin 2003). Such is with the case with St. Bernard Parish social networks. The case study approach is also advantageous when there is an existing body of knowledge upon which to build the basis of this study (Yin 2003), as is the case with the disaster recovery, social networks and community change theories upon which I am building. Existing theories about disasters, recovery and social networks will provide the foundation of knowledge for this study using a number of methods to best catch, or to triangulate, the phenomenon of social networks within the context of recovery from catastrophe (Yin 2003). The incorporation of multiple methods of inquiry allows the methods to converge to support and elaborate the findings within the study from one method to another (Yin 2003). Different methods also lend themselves better to acquiring different types of information (Cresswell 2009, Yin 2003). For example, interviews can uncover the motivation, importance and context of a recovery decision, while a survey can help to identify which of a large number of factors were considered in a decision by a large group of respondents.

The units of analysis in this study are pre-Katrina residents of St. Bernard Parish and their existing social networks. Data were collected from July 2011 until May 2012, six years after the storm struck, giving residents time to settle into their “new normal,” and find permanent housing. The selection of the case is important in context because nearly every structure in St. Bernard Parish was damaged by Hurricane Katrina, and its close-knit suburban community lends itself well to questions both about recovery and social network change after an unplanned severe disruption.

Specifically, this study seeks to address the following problem: With an estimated 55,000 St. Bernard Parish residents relocating as a result of the impact of Hurricane Katrina in the first year (2006) after its impact, this exploratory case study examines the utility and role of social networks during recovery from catastrophe as experienced by pre-Katrina St. Bernard residents. It also investigates how social networks were adapted to cope with the “*friction of distance*” brought on by the dispersal of community members. Viewing the impact of Katrina as a driver, this study examines spatial impacts from the event and explores social adaptations to spatial change. Using a survey, interviews, secondary data, and spatial analysis, this study explores the socio-spatial adaptation and reconstitution of community as it copes with unanticipated disruption caused by a catastrophe.

3.2 Parameters and Limitations

This is a case study bounded in time to the recovery period after Hurricane Katrina. It is limited in scope to residents of St. Bernard Parish at the time that Hurricane Katrina impacted the physical community. It is, however, focused on the subject of social networks that existed at that time, and their roles in assisting recovery, influencing it and adapting to change.

The selection of the population and its context provides a large number of logistical hurdles. A representative or random sample would be difficult to attain. Because so many homes were destroyed and there were a large number of residents leaving St. Bernard and new people moving in, a systematic sample of existing houses would not provide me with relocaters and would include post-Katrina St. Bernardians. Phone directories from 2005 would not be adequate for the same reason. The case was

selected because of the transitory nature of the population. It is the trajectory of the sudden displacement of residents themselves that is the phenomenon that social networks in the study are influencing and adapting to in the recovery process. The sample is instead a convenience sample of residents and former residents reached largely through St. Bernardian networks that the researcher could access. The findings of this study are not intended to be generalizable to the entire pre-Katrina population of St. Bernard Parish, or to others recovering from disasters. Instead, this study asks if the knowledge gained from research on previous disasters, often smaller in scale, is useful for understanding the experiences identified in this study, and if there are common experiences within this event with regard to social network dynamics that are useful in understanding the interactional recovery behavior in American catastrophes.

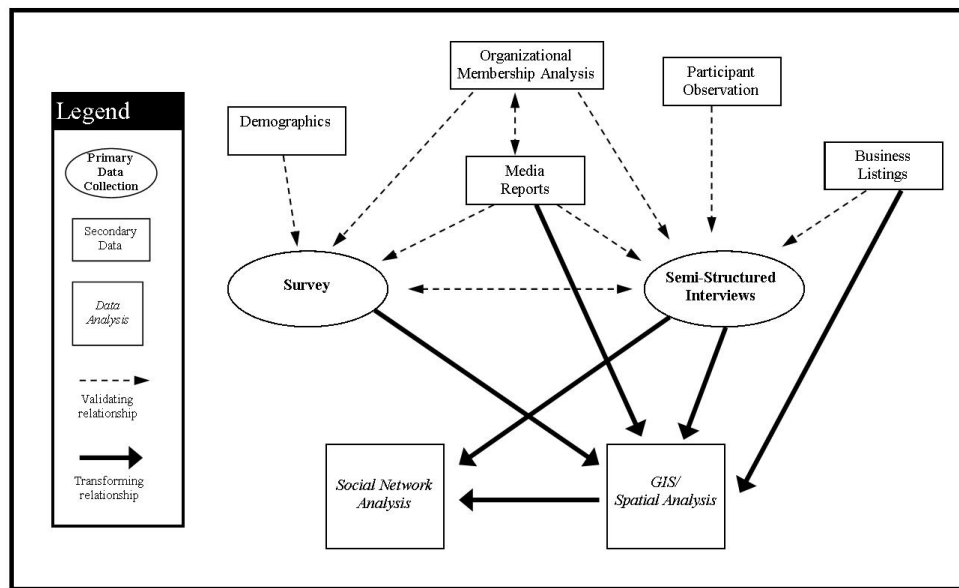
There is value to waiting to conduct this study. The impact of Hurricane Katrina was an evolving process. Although disasters are typically discussed in terms of an impact or an event, i.e. Hurricane Katrina, the Deepwater Horizon Oil Spill, the Northridge Earthquake), they are not a momentary event, but a multi-dimensional, all-encompassing process related to the existing conditions (Oliver-Smith 2002), and thus the conflicts and consequences of recovery decisions may take time to become apparent. Make-shift living arrangements are adopted and resources shared in the early period after a disaster, but may break apart in time (Oliver-Smith 1986). A spirit of cooperation and social organization and acceptance dissipates as response changes to recovery (Oliver-Smith 1986). What starts as a spirit of cooperative survival turns into a battle for, and defense of, resources. Changes may not appear in the early years after a catastrophe, or may dissolve over time.

3.3 Research Design

Figure 3.1 demonstrates the research design for the study graphically, to demonstrate the interaction of the methods and evidence used to validate findings. In all, nine different types of data were used (survey, semi-structured interviews, participant observation, media reports, demographics, roster analysis, business listings, GIS/spatial analysis, and social network analysis). Some types of data, such as media

reports, demographics, and business listings were used to validate data or to support findings. Two primary data collection methods – survey and semi-structured interviews – provide data to be analyzed through geographic information system analysis (GIS) and social network analysis (SNA). The interaction and triangulation of these methods bolster the robustness of the analysis from any single method (Cresswell and Clark 2007).

Figure 3.1 Research Design



The study is more thoroughly discussed in-depth below:

3.3.1 Survey

A survey was offered in online form at <http://www.wherematstbernard.com>, and was also made available in paper form. The survey was advertised in the *St. Bernard News* newspaper, and distributed through email and online through existing St. Bernard forums. The 43 survey questions covered a range of topics, largely relating to existing theories about recovery, including questions about community involvement, factors in relocation, employment and household and housing size. The resulting convenience sample (Cresswell and Clark 2007) included 313 respondents who answered the survey between July 31, 2011 and February 21, 2012. The results are used to discuss trends within my sample as they relate to the literature. It also allowed me to compare the experience of returning residents with

relocating St. Bernardians within my sample. Because of this, discussion of the responses are often broken into two groups – former residents who no longer live in St. Bernard Parish (relocaters) and former residents who still live in St. Bernard Parish (returners). Questions also asked respondents to compare their pre- and post-Katrina experiences. All questions were optional except the consent, so the number of responses for each question may vary. Because the sample was not representative or random, statistics to determine the error expected in the population was not appropriate and therefore not calculated. Consideration was given to include t-tests when comparing relocaters and returners, but trends were pronounced enough to stand alone in discussion. Additionally, the survey developed a pool of volunteers for semi-structured interviews, discussed in the next section. A discussion of the sample characteristics and that of the general population are discussed later in this chapter.

Survey questions related to all three research questions. Several asked about factors identified in disaster recovery literature, including identifying resources, amount of damage, and connection to the community for respondents. Other questions sought to trace St. Bernardian movements, sometimes specifically across zip codes, and others more generally, asking about pre- and post-Katrina activities and the proximity of friends and family. Two questions asked about the social network influence and factors in making recovery decisions about housing.

3.3.2 Semi-Structured Interviews

The final question on the survey allowed respondents to volunteer for interviews about the topics discussed in the survey. This question and key informants formed the pool from which participants for semi-structured interviews were drawn. Four returners and four relocaters were chosen from respondents taking the survey before October 1 using a random number generator and contacted to schedule interviews. The same process was used on February 21, 2012 with respondents after October 1. Additional interviews with resident and community leaders, as well as respondents with outlier experiences, were conducted to learn more about specific changes in social networks during recovery. In

all 23 were conducted. Most were about 40 minutes. Two extended beyond an hour and two were under 20 minutes.

Three primary questions were asked. The first was designed to trace the locations, household sizes and time spent as St. Bernardians resettled into their post-Katrina homes. This question allowed me to “trace the actors” as Latour (2005) suggested, and also provided information about how residents made decisions and when they made them. Using this question I would be able to observe household changes and learn more about what social networks were accessed to meet recovery needs (Nigg 1995; Oliver Smith 1986). The second question asked about how activities, group life and rituals changed in response to Katrina. This question is designed to provide information about the adaptation, dissolution and changing membership of social networks (Latour 2005; Castells 1996). The third question asked residents to distinguish between their pre-storm and post-storm neighborhoods. This question is designed to examine what people observed as changes in their communities for returning residents, and investigate what relocating residents sought and experienced as a result of that experience (Nigg 1995). The three primary questions are:

- How did you get from the house you lived in before Katrina to (or back into) the house you live in now?
- What activities or pastimes did you participate in prior to Katrina, and how have they changed in response to the storm?
- In what ways is the community you live in now (wherever it is) different than your neighborhood before Katrina?

Data gathered through this method helped to enrich and validate the evidence gained in the survey and also helped inform later data analysis steps in social networks and GIS.

3.3.3 Participant Observation

Participant observation was used to validate evidence gained in interviews. Engagement for the researcher with the community began in July 2008. Initially hired at The University of New Orleans Center for Hazards, Assessment, Response and Technology (UNO-CHART) to conduct participatory research in St. Bernard Parish related to hazard mitigation, I got to know residents, politicians and

community leaders in St. Bernard as well as former residents through them. After the project was complete, I continued to maintain relationships in St. Bernard, and serve on a community advisory panel concerned with environmental safety and community-refinery relations for a local refinery. I attended meetings and shopped regularly in St. Bernard Parish. Participant observation also occurred through the internet using Facebook to look at St. Bernard nostalgia sites and allowing “members” of that group to help me find difficult data points, including businesses that relocated after Katrina. The idea for the dissertation came from this initial engagement, and it continued to inform the data as it developed.

3.3.4 Demographics

Demographic data from the 2000 and the 2010 Census, as well as data from the intervening American Community Surveys, and data from the Louisiana Recovery Authority⁴ were used to validate migration trends uncovered in the survey and to help contextualize the current conditions of St. Bernard and nearby receiving communities. This evidence supports findings from interviews and surveys. Some of this data are expressed using GIS.

3.3.5 Media Reports

Media coverage about St. Bernardians after the storm was used to validate the experiences discussed in interviews and the survey as well as to identify respondents for interviews. Media reports were also used to verify dates when government action occurred. Media reports also validate observations and demographic data and also provide context to the narrative of the research. Media reports came from Metro New Orleans TV stations and newspapers, with an occasional commercial book or national media story also used. A topic-focused media analysis is conducted in Chapter 6, and a list of the reports is included in Appendix A.

3.3.6 Organizational Membership Analysis

Membership lists for organizations and political offices were analyzed to validate information gathered from surveys and interviews about the changing membership of social groups and to document

⁴ The Louisiana Recovery Authority was a state agency commissioned with administering recovery in Louisiana. Today it is part of Community Development.

their changes and the origin of members. Pre- and post-Katrina memberships are examined for common names. This was applied both to political change and more informal groups. This analysis is used primarily in Chapters 5, 6 and 7.

3.3.7 Business Listings

A commercial phone directory from 2005 and a current phone directory were compared to a current phone directory to note changes in locations of businesses from St. Bernard to outlying areas. This method was used to track the loss of medical services in table form. It was also used to track the relocation of retail and service businesses, and was geocoded for display in GIS. Data from this method was used to validate information gained through participant observation and in interviews.

3.3.8 GIS/Spatial Analysis

Because this study is interested in understanding the friction of, and adaptation to, distance as members of social networks are dispersed after a catastrophe, GIS is the primary spatial analysis method in this study. Data from the survey and interviews as well as information gathered using other methods and data sources were integrated into a GIS for analysis and visualization of data. For this study, ArcMap 9.2 from ESRI was used for the analysis and data management. GIS is used to visualize demographic characteristics of the population and the sample and to analyze patterns of dispersal and clustering within my sample. GIS is also used to show the locations of relocated businesses and to visualize evacuation and temporary housing decisions.

3.3.9 Social Network Analysis

GIS is not only used to analyze information gathered via previous methods, it also plays an integral role in a social network analysis method developed for this study (Carrington, et al. 2005; Giddens 1986; Latour 2005). Using data derived from the semi-structured interviews, social network analysis is conducted by plotting the locations at which social interaction occurred for resident prior to Hurricane Katrina and after. Borrowing from the diffusion model of social network analysis, the geographic locations will be plotted (Carrington et al. 2005). The social “closeness” model also will be integrated

through the creation of an index indicating the frequency of interaction, connecting the informant from the interview to his or her social locations (Carrington, Scott and Wasserman 2005). Applying these two approaches in a GIS allows for spatial patterns to be observed (Soja 1989). A detailed description of the method is included in Appendix B.

3.4 Case Selection

In addition to an existing engagement with the community, the type of study conducted and the population selected were chosen for a number of reasons. St. Bernard Parish after Hurricane Katrina is an outlier disaster case because of the magnitude of the impact. All but six structures were damaged in Hurricane Katrina, and it resulted in the parish being closed to nonessential personnel for nearly a month. Thus every resident of St. Bernard Parish was affected by the hurricane. St. Bernard Parish's immediate neighboring communities – Orleans and Plaquemines Parishes – were also heavily impacted, and thus were unable to assist as would be typical in other disasters (Quarantelli 1999). Literature on disaster recovery has noted that in such a catastrophic situation, theory about normal disasters may not apply because the system has been overwhelmed and is unable to respond (Quarantelli 1999, Chang 2010, Nigg 1995).

St. Bernard Parish serves as a non-urban setting for disaster with a rural (“down the road”) context in the eastern portions of the parish. St. Bernard Parish also encompasses a suburban (“up the road”) context in the west, abutting New Orleans, within its boundaries. While the up-the-road suburban area is largely protected from hurricanes and other coastal storm flooding by a federal levee system, the rural residents down the road live in areas inside and outside the levee system. This means that rural residents would have more experience with flooding during coastal storms, and that the flooding experience that takes place outside the levee system would be different. Floodwaters occur more frequently but are not held in by containment levees and leave the area quickly. Suburban residents would be less likely to have experienced significant flooding. The same occurred during Katrina, with waters slowly being pumped out of the suburban area over several weeks. Rural residents would have experienced higher floods for

briefed durations, as water quickly rose, then went out after the storm passed, while suburban residents had floodwaters held in by levees for weeks. Rural residents would also be familiar with the experience of evacuation and recovery since these communities have begun to experience flooding during most coastal storms in the area, including Hurricane Georges (1998), Hurricane Lili (2002) and Tropical Storm Lee (2011).

The third reason why St. Bernard Parish residents were selected for this type of study is because participant observation indicated that St. Bernard was a densely connected community, with historical connections to the community that extend often beyond the current generation. Those not born and raised in St. Bernard had often been there decades. Whereas many urban and even suburban environments are communities of in-migrants, St. Bernardians often claim connections to the community through many generations, making the sudden disruption and decision about returning or relocating, both unanticipated and novel to St. Bernardians.

3.5 Sample Characteristics

The residents who responded to the survey (respondents) helped form the interview pool as well. Twelve of the 23 interviewees (informants) were conducted with respondents. This pool was not representative of the population and could not be randomly drawn, given the dynamics of post-Katrina relocation, both permanent and temporary. There was no existing roster of pre-Katrina St. Bernard Parish residents and the informants with whom I spoke did not know what their future contact information would be when they left in advance of the hurricane.

Instead, the pool of respondents was drawn using the existing relationships and contacts with St. Bernardian networks that the researcher had access to and was aware of from her work in the community. These included a large listserv (*da-parish*) which had existed for several years prior to Katrina and still has multiple posts daily about current events and other items of interest. Members of a citizens group formed to plan for recovery after the storm were contacted. Neighborhood groups and a local refinery distributed invitations to their members and employees. A story ran in the *St. Bernard Parish News*

weekly newspaper ran to request participation. Most surveys were conducted online using Conformat survey research software, which manages the data and converted it to a Microsoft Excel format for analysis. Use of the software was donated by Conformat.

Because of the methods for reaching contacts and the heavy online presence, my respondents skewed wealthy and white from Census 2000 figures as shown in Figures 3.2- 3.5. Efforts were made to seek out lower income informants and those with minority backgrounds.

Figure 3.2 Population Income

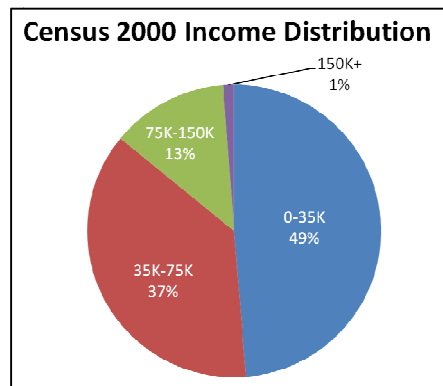


Figure 3.3 Sample Income

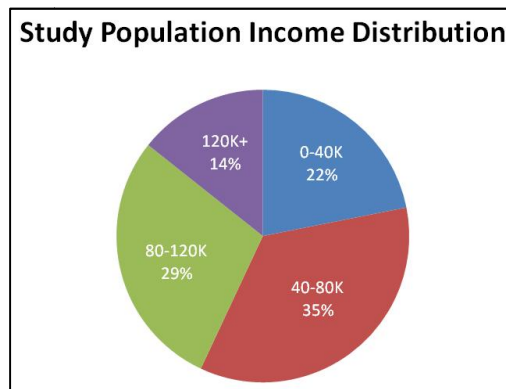


Figure 3.4 Population Race

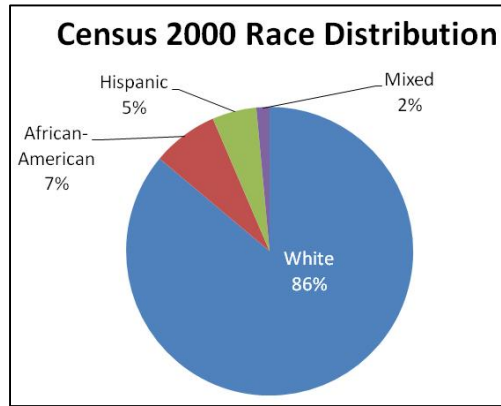
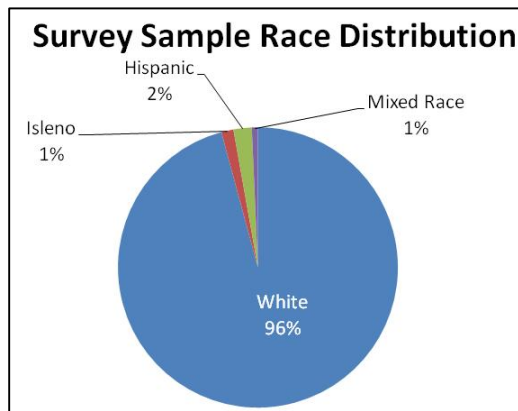


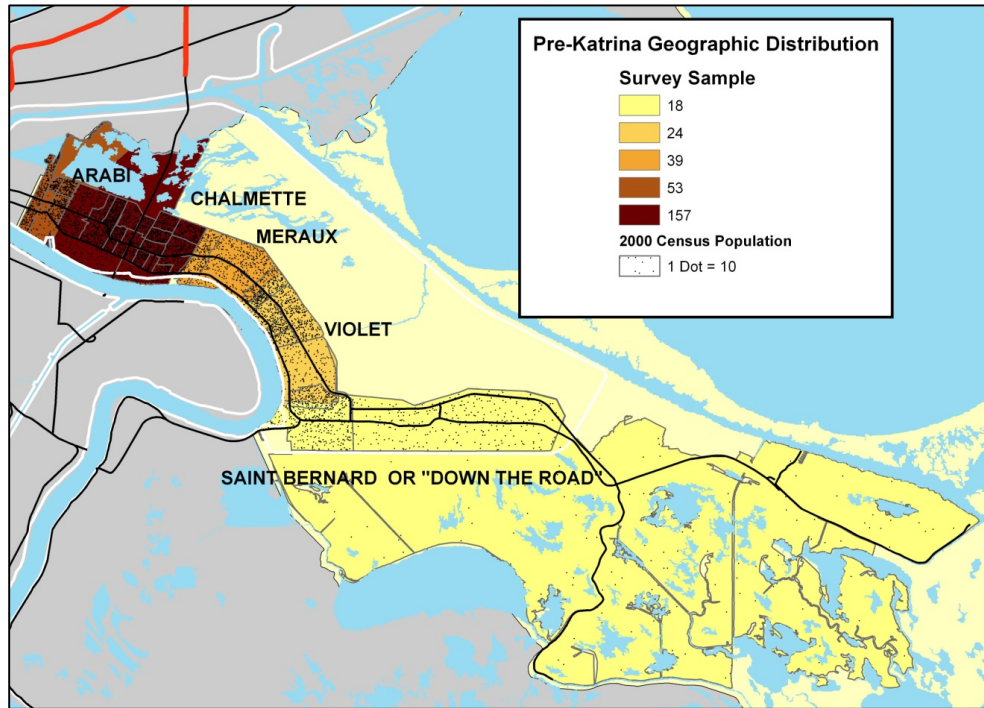
Figure 3.5 Sample Race



In the sample, 43 percent of my population made more than \$80,000 a year, but in the general population, just 14 percent of the population makes more than \$75,000/year. Likewise, the general population has 49 percent making less than \$35,000 per year, while my sample had just 22 percent making less than \$40,000 per year. St. Bernard’s racial composition included more minorities than my sample.

However, spatial distribution across the parish tracked truer to reality. Analysis was conducted by zip codes that corresponded to existing unincorporated communities in St. Bernard Parish. Figure 3.6 shows the density of the survey sample and the population according to Census 2000. Pre-Katrina zip codes of survey respondents track proportionally with the general population, with high populations in Chalmette and Arabi, and smaller populations as you travel down the road in rural areas.

Figure 3.6 Population and Survey Geographic Distribution



The challenge of a case study about the post-event impacts on a pre-event population provided logistical hurdles to generating a sample. Findings in this study are triangulated using multiple methods to develop a better understanding of the interaction between social networks and catastrophes among residents of one heavily impacted neighborhood.

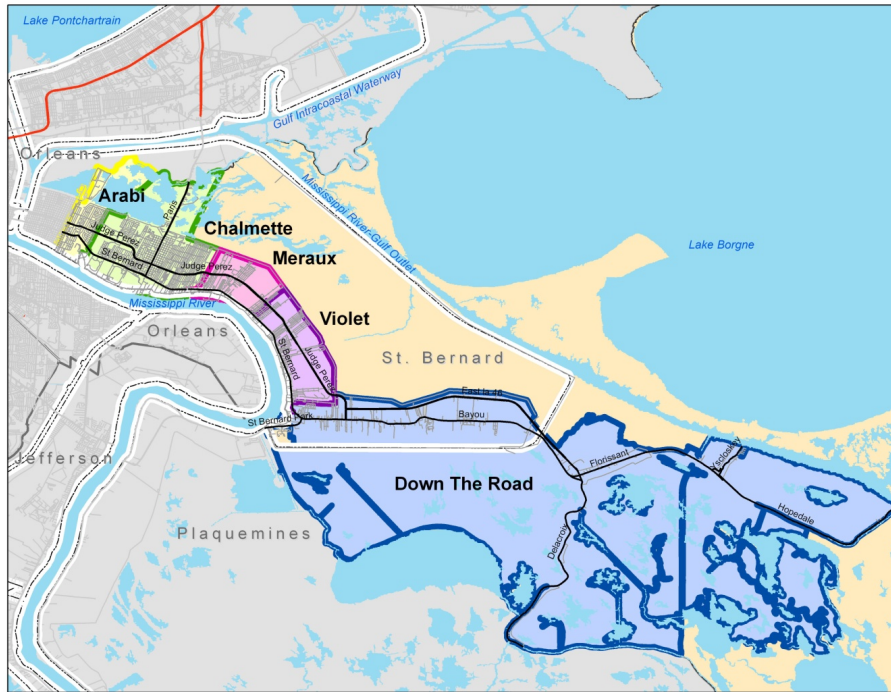
Chapter Four: St. Bernard Parish: “Suburban Village”

4.1 St. Bernard Parish as a Village in Rural and Suburban Contexts

In the years leading up to Hurricane Katrina St. Bernard Parish had developed into a close-knit industrial suburb in which residents shared multiple connections with each other and familiarity with nearly everyone. This was perhaps the most dominant feature of the community and it was expressed in everything from its physical form to the local style of eating and how they members of the community celebrated rituals. In the parish, houses were close together, tables sit 10 to accommodate visiting with other patrons, and holidays were celebrated with both family and friends. This insular and densely connected society formed as it defined itself and developed in opposition to its nearby urban area – New Orleans, and its more traditional bedroom suburbs in Jefferson Parish. This distinction was further reinforced through social behaviors and frequent interaction of its residents.

The settled area of St. Bernard Parish, shown in Figure 4.1 is densely settled, and although it is entirely unincorporated, there are four distinct communities and a rural area of fishing villages and farms. St. Bernard Parish contains two distinct contexts – suburban and rural. Each formed at different times, and in contrast to neighbors. The suburban area includes Arabi, Chalmette, Meraux and parts of Violet from the west. The rural area includes the rest of Violet and the original settlements in Poydras, Saint Bernard (Village) and the fishing communities outside the levee system.

Figure 4.1 St. Bernard Parish



The way residents (and former residents) in each of these areas describe themselves demonstrates awareness and pride for their identities. The parish has two contexts, both in opposition to neighbors. Jason, who had moved to Meraux from the neighboring Lower Ninth Ward to start his family in 1994, said St. Bernard, “has the reputation as a working-class suburb, and it was.” Another former resident called it a “blue-collar bedroom community.” Christine, who lived “Down the Road” in the Village of Saint Bernard, used the word “rural” to describe her area. In neighboring rural Poydras, in the down-the-road area, Rachel acknowledged that there were internal colloquial terms that rural and suburban residents used to insult each other that connected the communities to the dominant industry in the areas – refineries in the suburbs and commercial fishing in the rural area. These areas also were settled at different times and for different reasons.

The rural area was the original settlement, in the eastern portion of the Parish, and includes the communities of Saint Bernard, Poydras, Verret, Reggio, Delacroix, Yscloskey and Hopedale, as well as parts of Violet. They still contain cattle runs, truck farms and fishing villages, as well as modest homes, small retail establishments and churches to serve residents. The communities had roots in the area that

preceded Louisiana statehood in 1812. During the Spanish Colonial Era in the second half of the 18th Century, areas of St. Bernard Parish were settled to maintain the colony of Louisiana and establish Spanish settlements in the newly acquired colony that was predominantly French-speaking at the time. Spanish Canary Islanders, called Isleños were paid to establish the colony and to raise cattle and fish in a permanent settlement along the Mississippi River at San Bernardo, or St. Bernard Village as it is currently known (West 2009). Joining them in the area now known as St. Bernard Parish were a few French farmers and privateers (pirates) from many nations, making St. Bernard a culturally diverse rural place at the beginning of the 19th Century (St. Bernard Parish Tourism 2011, West 2009). Today, the Isleños Festival in the spring offers traditional arts and foods, history and genealogy in a restored and expanding homestead grounds known as the Canary Islanders Heritage Site. Spanish surnames are common, but distinctions are made between Spanish (Isleño) and Hispanic/Latino ancestry in St. Bernard. Most of the residents in the rural area participate in commercial fishing or have relatives who do. This area also has a large proportion of the community located outside the levee system, and therefore experiences regular flooding during even small coastal storms, including the pre-Katrina events of Hurricane Georges (1998) and Tropical Storm Isidore and Hurricane Lili (2002) (Turni 1998, Federal Emergency Management Agency 2002). Hurricane Georges even caused a levee failure that flooded rural St. Bernard inside the levee system as well (Turni 1998). For this reason, much of this area has long contained at least moderately elevated housing or inexpensive housing that can be easily cleaned or replaced after flooding. As one informant put it, in the rural area “they expect to be blown out ever so many years.”

Even the original settlers elevated their homes more than 3 feet off the ground as can be witnessed today at the Canary Islanders Heritage Site on Bayou Road. Residents in this rural area are familiar with flooding, have family or individual familiarity with the land loss problem in the area because of their connection to the land through employment or other family members’ occupations, and are connected to neighbors, often through bloodlines (Burley 2010; West 2009). Social networks overlap, with family

often serving as neighbors and sometimes co-workers. Residents in the rural area share an at-large councilman in addition to having community representatives in the St. Bernard Parish Police Jury.⁵

From the western border with New Orleans, St. Bernard's suburbanized communities formed during the Post-World War II housing and baby booms. Increased access to automobiles, manufacturing jobs and housing policies accelerated the rate of suburbanization in areas such as Arabi and Chalmette and eventually Meraux. These communities, just 5 miles from downtown New Orleans, were beyond the reach of urban transit, serving to separate the St. Bernard suburbs from its nearby urban neighbor in New Orleans – the Lower Ninth Ward (Fishman 1987, Jackson 1985, Landphair 2007). It limited access to the parish from Lower Ninth Ward neighbors and changed the nature of the community. It was not the lone distinction or barrier to its neighbors. Racial segregation was visually apparent at the parish frontier, and it was race that caused a population surge in St. Bernard in the 1950s and 1960s (Landphair 2007; U.S. Census Bureau 1940-2010). St. Bernard Parish suburbanized quickly as white residents avoided newly integrated public schools in the Ninth Ward. St. Bernard Parish would go to great lengths to avoid integrating schools for years after integration occurred in New Orleans (Landphair 2007). Political mobilization and leadership by staunch segregationist Leander Perez drew white residents from the Ninth Ward in large numbers across the parish line to St. Bernard Parish, fleeing forced integration in Ninth Ward public schools as well as decreasing property values as a result of the white flight that followed real estate practices that encouraged black homeownership in areas where working-class white residents lived (Landphair 2007, Hirsch 1998). While it was the flight from African American neighbors, not the arrival of the neighbors themselves that caused the drop in property values, white residents would scapegoat the arrival of unfamiliar African American neighbors, and would find similarly-sized and affordable homes with yards of their Ninth-Ward homes, in St. Bernard Parish. The outspoken and institutionalized racism

⁵ In St. Bernard Parish and some other parishes still influenced by their rural character, the ruling elected body is called the Police Jury. Representatives in St. Bernard are elected as Councilmen representing districts that correspond to the identified communities in this study. Parish Council is the term used up the road.

in Perez's administration assured that they could invest in the homes without the feared loss of property from another wave of abandonment from the influx of African American residents (Landphair 2007).

At 86 percent white in 2000, St. Bernard Parish was almost as white as the neighboring Lower Ninth Ward was African American (98 percent African American) (U.S. Census Bureau 2000). In the parish, before Katrina minority residents were clustered in two neighborhoods. Openly racist statements were spoken publicly by some residents and even some leaders. Most of these racist comments were made by those who were adults at the time of the initial "white flight" from the Ninth Ward in the 1950s and 1960s. These comments were made in public forums without St. Bernardian speakers feeling obligated to censor themselves or fearing reprisal. When racist statements were made from 2008 to 2012, they also were openly chastised by many residents present at the time they were spoken and flagged as inappropriate. When Parish President Craig Tafarro hosted a public forum in an African American church in Violet in 2009, African American residents stated they were disappointed that it represented the first time that the parish government had reached out to African Americans in the community.

Two oil refineries (Exxon/Mobil-Chalmette and Valero Meraux⁶), a sugar refinery and the port provide ample jobs for the area, serving as another draw for well-paid blue-collar workers and petroleum engineers. Homes were typically mid-century American housing developed in the post-World War II-era, a combination of slab-on-grade ranch homes and Craftsman bungalows. Some newer and larger homes had been developed in recent years, but they maintained the dense lots, narrow side yards and grade-level construction that dominated the area.

Although there is a division, and even friendly kidding between the rural and suburban communities, there is a great deal of overlap among the groups as well. Descendants of the Isleños moved westward, as exemplified in my four Isleño survey respondents, of which three were living in Arabi and Chalmette prior to Hurricane Katrina. The two areas also were woven together by two parallel commercial corridors,

⁶ Murphy Oil Corp. sold the refining operation in Meraux to Valero in October 2011.

St. Bernard Highway and Judge Perez Drive. Community functions integrated both communities. In the spring, the suburban Crawfish Festival corresponds with the Redfish Cup held in Hopedale; and the ethnic parade in the spring in St. Bernard is the Irish-Italian- Isleño Parade, celebrating the dominant ethnicities of both areas. Recreational fishing is a common hobby among suburban residents, who often launch from docks in eastern St. Bernard and store their boats there. They also shared common facilities, including a Catholic high school in Meraux and a hospital in Chalmette. And their collective allegiance was to maintaining the Parish, with one informant describing the community as both warm and inclusionary, but discriminating in whom it allowed in. As one St. Bernard native said, “if they like you they treat you like royalty, and if they don’t like you, you gonna be alligator bait.”

4.2 Features of a Village

This insular closeness and coinciding distrust of outsiders has been witnessed in other working-class communities, including the one observed by Herbert J. Gans in Boston’s West End in the 1950s. While the urban Northeastern ethnic community may on the surface appear an unlikely peer, when compared situationally, the two communities have a great deal in common (Gans 1962). Both communities had ties to second-wave working-class immigrant groups, working-class reputations and socioeconomic status among most of its population, and a development pattern that is relatively denser than other similarly situated neighborhoods in the metropolitan area (Gans 1962). Because of these factors, the social networks formed within the community were often overlapping across bloodlines and social groups, but were centered on peer-group societies (Gans 1962). In such a society, residents interacted most with friends, family and neighbors with children of a similar age or with others in a similar stage of life, such as newlyweds or empty nesters. The other members of an individual’s peer group may have members with overlapping roles in that individual’s life, such as a cousin who has been a lifelong friend and also lives down the street (Gans 1962).

These same features were observed in the late 1990s in the white working-class Chicago neighborhood of Beltway (Kefalas 2003). Just inside the city limits, it had become unusual in its suburban

appearance. Neat yards and garden surrounded affordable bungalows that were home to white city service workers who had to live in the city as a requirement of their job (Kefalas 2003). Beltway, too, lived in stark contrast to nearby African-American neighborhoods, and took pride in homeownership, maintenance and civic involvement. For the generation that had moved to the area in the Civil Rights era in the 1950s and 1960s, there was a need to defend the community from what was perceived to be a migrating race line that threatened their community with an influx of poor black tenants and violent crime. Either held to the community for occupational requirements or unable to afford a home in suburbs, Beltway was viewed as the last stand for working-class white residents crushed between middle- and upper-class white communities they could not afford and a lower-class black community they feared they could become with nowhere else to go (Kefalas 2003). The insularity of their community was also a binding feature that promoted community pride, civic involvement and individual charity among those deemed insiders (Kefalas 2003).

Most of the St. Bernard informants in this study discussed the nearness of family in St. Bernard. Many lived on the same block or in the same neighborhood with extended family. Jack, a father of three, described St. Bernard as a family-centered community, in which the structure of time and interaction was centered on the needs and desires of children.

You just kind of lived and breathed St. Bernard. [The kids] played sports there, and sang in the choir and the parish chorus. That's what we did. Went to work and you spent your time toting kids around. That was our whole life. We'd decided to plant roots there. It was a safe place and a good community.

Even adult activities could be organized around children. Gail played in a women's volleyball league in the Parish; the women divided into teams based on the elementary schools that their children attended. Several parents talked about volunteering for school activities.

Having a local group of friends was common even among adults. Although Nick was in his 20s and still lived with his parents in Meraux before the storm, he spent several nights a week at a pool hall in

Chalmette playing with a group of regulars. Even for adults who were married, socializing was an important activity. Retired Maria went out with a group of five or six couples in her Meraux neighborhood, going out to dinner at local restaurants and at each other's homes.

We had lots of friends our age. Many or most were retired or living within two, two-and half miles of us or less. Walking distance even. And we did lots of impromptu stuff. Like "Oh, I'm making meatballs tonight. Do you wanna come over?"

Terry, in his late 50s when Katrina hit, had a group within a group that he and his wife interacted with in Chalmette. There were about 35 people in a social group colloquially known as the Joes and Joeettes. Terry estimated that he ran around with a group of about eight others within that group on a regular basis, allowing him to joke that he was "just going out with the regular Joes."

The interaction of friends often blended into family as ball-playing children grew up then married neighbors and further linked residents to each other through formal family connections. Brian, Chalmette native, married a woman from Chalmette, and he was not alone among his peers, noting:

It was like everyone in my generation married their neighbors and their friends. Everyone married someone else from Chalmette.

Families stayed in St. Bernard. Maria had a daughter and her mother within walking distance. Gail had most of her family in the Parish. Christine, a homemaker in her 50s in St. Bernard community, and Rachel, in her 20s in neighboring Poydras, both had nearly their entire family within a few miles of their home. When Katrina hit, no one in Gina's extended family of 36 lived outside of St. Bernard.

Family tended to set the routine and access to family members kept St. Bernard residents close and satisfied. Terry talked about the importance of access to family when he lived in Chalmette.

The thing that caused me to love Chalmette is family. ... My family would come to my house in Chalmette after Mass on Sunday and we'd have coffee and biscuits and we'd talk about what was going on in our lives. Every Sunday we did this.

He was not the only one. Gail and Maria both specified Sunday as a day for family meals and discussion, as did others.

A second connection can be made between Gans' West Enders and pre-Katrina St. Bernard through time. Studying working-class communities a generation prior, Gans' preface to the updated and expanded edition acknowledges that his societies may have passed into the suburbs over time, stating: "The white working class and its culture still exist in America although not as many whites hold blue-collar factory jobs as in the past, but are working in service occupations. They may also be living in working-class suburbs," (Gans 1982, xi). This, along with comments from respondents, observations from residents and historical data (Landphair 2007) suggest that Gans' urban enclave had a peer in the Lower Ninth Ward that made the jump to a St. Bernard suburb. It was a desire that Gans noted in his urban population, attributing the social costs as a deterrent, that "many West Enders indicated that they would be glad to move to a new house in the suburbs, if they could do it together and maintain the old social ties and the old social climate" (Gans 1982, 22). Most St. Bernardian informants stated that they never had any intention of leaving the parish prior to Katrina precisely because of the people who were there and the comfort in living in a place where they knew the history of the people around them. Much like Gans' pre-urban renewal West Enders, St. Bernardians had established a close-knit interconnected community and would be surprised by a sudden change that would threaten that society (Gans 1962).

Pre-Katrina, these social ties could lead to monetary savings. Terry and Gail both discussed the value of neighbors for getting through everyday life obstacles. Gail mentioned the ease of getting assistance with car problems for her girls by simply popping the hood and waiting for a neighbor to come by and diagnose the problem. She also talked about leaving keys with neighbors for lockouts and house sitting for them while they are away on vacation. Terry discussed the importance of name dropping to get better deals or service, taking advantage of a "favor society," that forms in working-class communities (Gans 1962; Kefalas 2003).

In Chalmette, I could trust that I could get things done right. If someone had to fix their car, I'd tell them where to go, and to tell them that you're a friend of [Terry's] and they'd make sure to take good care of you.

Rachel recognized that familiarity could be an asset as she started her career. Having people around who knew she was a responsible person helped her to get her first post-college position by using the connections that she had with others and their faith that she was a responsible worker.

After graduating I had these moments where it was like you need to know someone to get a job. And maybe St. Bernard Parish is the only place where I can drop a name, but that's an asset. Being known and having a reputation is an asset, so why shouldn't I use it to help me get a job?

A third connection between the two communities is found in the situations they were about to face. The West End of Boston would be destroyed and redeveloped as part of urban renewal, members of its society scattered and the social fabric torn apart by dispersal (Gans 1982). Likewise, St. Bernard would soon face Hurricane Katrina and the dispersal that followed.

As much as St. Bernard Parish and the West Enders had in common, St. Bernard prior to Katrina had its own distinct quirks that made it a special place. The neighborhood and the relationship among neighbors were profound. Both returning residents and relocating St. Bernardians detailed how that relationship was expressed and nurtured through regular contact. Jason, a father of three children who moved to Meraux to start his family in the 1990s recalled seeing his neighbors in Cypress Gardens in Meraux regularly, saying he had either a neighbor or a neighbor's child visiting approximately five nights a week. Nearby in Chalmette, Gail, a single mother of teenagers, saw neighbors nightly during the social practice of "sitting out."

We used to sit out every night until the gnats came out. As soon as the sun would set the gnats would come out, and then you'd go in. But then you'd come back out about 8 or 9 o'clock and we would. It would just be no one would be in each other's houses. Sometimes I'd pull up and it would be people on my lawn already and, "I guess I'm sitting with ya'll, you know." It wouldn't be drinking beer. It would be drinking iced tea. And the kids would be playing ball.

Leaving your neighborhood did not guarantee a night free of visiting with neighbors. St. Bernardians talked about interacting with friends at restaurants and bars, during and after church, and while participating in adult sports leagues and in activities centered on their children. Maria acknowledged that

she always knew someone in the room when she walked into a local establishment. Even the design of most St. Bernard restaurants accommodated easy interaction. Most St. Bernard restaurants have ordering at the counter with most tables seating 10 people each, in order to easily facilitate patrons who combine tables during the meal when they see someone they know and those who stayed after their meal was done to speak with others. The self-service ordering and large tables encourage interaction during meals.

Holidays in St. Bernard also were adapted by residents to broaden the interaction among, not just family, but friends and neighbors as well. Brian, a father of teenagers when Katrina hit noted his post-Katrina holidays have smaller headcounts:

It used to be at Christmas we'd do it at the house from maybe 6 p.m. to 2 a.m., and over the course of the evening there might be 100 people coming through. Most of them might just stay for an hour or whatever. That first Christmas, there was a smaller crowd, a much smaller crowd. Everyone had to drive. In Chalmette you might go to 4 or 5 parties in the evening. We'd go to four houses or so, because it was all right there.

4.3 Attachment

Survey respondents reported an overwhelmingly high rate of satisfaction with St. Bernard Parish prior to the storm. With 275 residents responding, 93.5 percent of survey respondents described themselves as either satisfied or completely satisfied, with 71.9 percent of the positive responses listed as completely satisfied. It was described by an informant as “a utopia, but we didn't know it.”

The attachment to place typically extended beyond the present generation. Nearly half (47.8 percent) of survey respondents identified themselves as born in St. Bernard Parish. A large number of informants in the interviews who did not identify themselves as born in the Parish, maintained multi-decade residencies there, and many could trace themselves back to the original settlement. Thus, they were reluctant to consider leaving with nearly 80 percent (78.9 percent) of survey respondents stating that no one in their household had considered moving prior to Hurricane Katrina. Ray, in his 50s with grown children, joked that everyone was a cousin in St. Bernard, but in reality, regularly bumped into several cousins when about the Parish doing errands. He could trace his roots in the Parish to some of the original

privateers who intermarried with Isleños, and then continued their westward spread up the road in the Parish. Such connections to St. Bernard hold Ray close enough to never consider leaving.

Roots run deep in Southern Louisiana anyway, really deep here. ... I was coming back. I was born, raised, lived, worked all within one mile of one spot my entire life.

4.4 Political Stability

Lineages and expectations were well-established in St. Bernard Parish. Public service positions of Clerk of Court and Assessor had been held in family dynasties for years. Assessor Marlene Vinsanau had been Assessor for 10 years when Hurricane Katrina hit , never facing opposition. She had taken over the office in 1995, when her husband Maurice Vinsanau died of cancer. Maurice had held the office for 32 years, after stepping into the position when his father Lewis Vinsanau stepped down. Lewis had held the office since 1948 (Alexander-Bloch 2011).

Similarly, Clerk of Court Lena Torres, 90, had never faced an opponent until 2007, holding the office (1988-2012) that was all-but-inherited from husband Sidney Torres Jr. (1956-1988). Lena had worked in the office since 1940. When Lena replaced Sidney Jr., she brought her daughter in to work for her (Alexander-Block 2011).

While Sheriff Jack Stephens was not part of a family dynasty, his office was secure. Holding the office since 1985, Stephens was the longest-serving sheriff in Louisiana (Alexander-Block 2011).

In the 2004 elections, just 4 of 11 elected offices for St. Bernard Parish were held by someone who had never held a local office before. The newly-elected Parish President followed the traditional path to office, coming up through the police jury as a councilman. The previous election had brought just one new name into office (Louisiana Secretary of State 1948-2010). In 2004, it was already a year of change. Four new people had been elected to office as a result of term-limits on the Parish Council (Louisiana Secretary of State 1948-2010).

4.5 Conclusion

Stable was an accurate word to use for St. Bernard social networks in the summer of 2005. Since a settlement boom in the 1960s, stability has typified affairs in St. Bernard Parish and the social interactions that they maintained. Family, friends and neighbors fell into common and regular patterns of interaction that were broad and frequent and St. Bernardians formed an insular working-class community with observable pride in their home. Social interaction was reified by the physical form of the community. Small front yards with porches, on homes that are mostly detached but densely developed on small lots with carports, enabled interaction with neighbors.

While this society was not averse to outsiders, it was not accustomed to them, and it was often defined in contrast to neighbors such as urban New Orleans or more traditional bedroom-community suburbs in the area. St. Bernard social networks were thus highly jurisdictionally based. The relatives, friends and coworkers who formed individual social networks were often located entirely within the parish. Parish institutions of churches, schools, neighborhood associations, businesses and parish sports leagues reinforced the place-based nature of the community by increasing the residents' connections with each other.

Much like Gans' West Enders, St. Bernardians were about to be tossed into instability, and their geographically tight social networks would be threatened by sudden change. The social networks that individuals had formed would assist as a recovery tool for the working-class St. Bernardians. These networks would also influence the new geography of St. Bernardians, and would need to adapt to the changes that occurred. Gans' West Enders had the advantage of a short but advanced warning. The urban renewal project that would disrupt their society was announced before destruction began. St. Bernardians generally had just a day or two of a head start. Most informants stated that they left on Sunday, expecting to be away for a few days. Most would be gone nearly a month. Some would never come back, and St. Bernard Parish and their social networks would never be the same.

Chapter Five: ‘On the Road’

5.1 Introduction

When Hurricane Katrina’s storm surge passed through the crumbled levees along the Mississippi River-Gulf Outlet, most of the 67,000 residents of St. Bernard Parish were not home, having evacuated over the weekend in advance of a stormy Monday landfall, so the disconnection from St. Bernard Parish for residents occurred before the storm hit. They found out about the damage done to their home community through various information channels, including radio, television and each other.

In this chapter I will focus on the temporary moves residents made before settling in the place they now call home. In mapping these transient geographic patterns, I identify three distinct spatial phases that form a recovery trajectory that most of the participants in my study followed. These spatial patterns had distinct features as experienced by informants, and I elaborate on these spatial patterns by focusing on three women from different generational peer groups and with different resources and constraints (Nigg 1995).

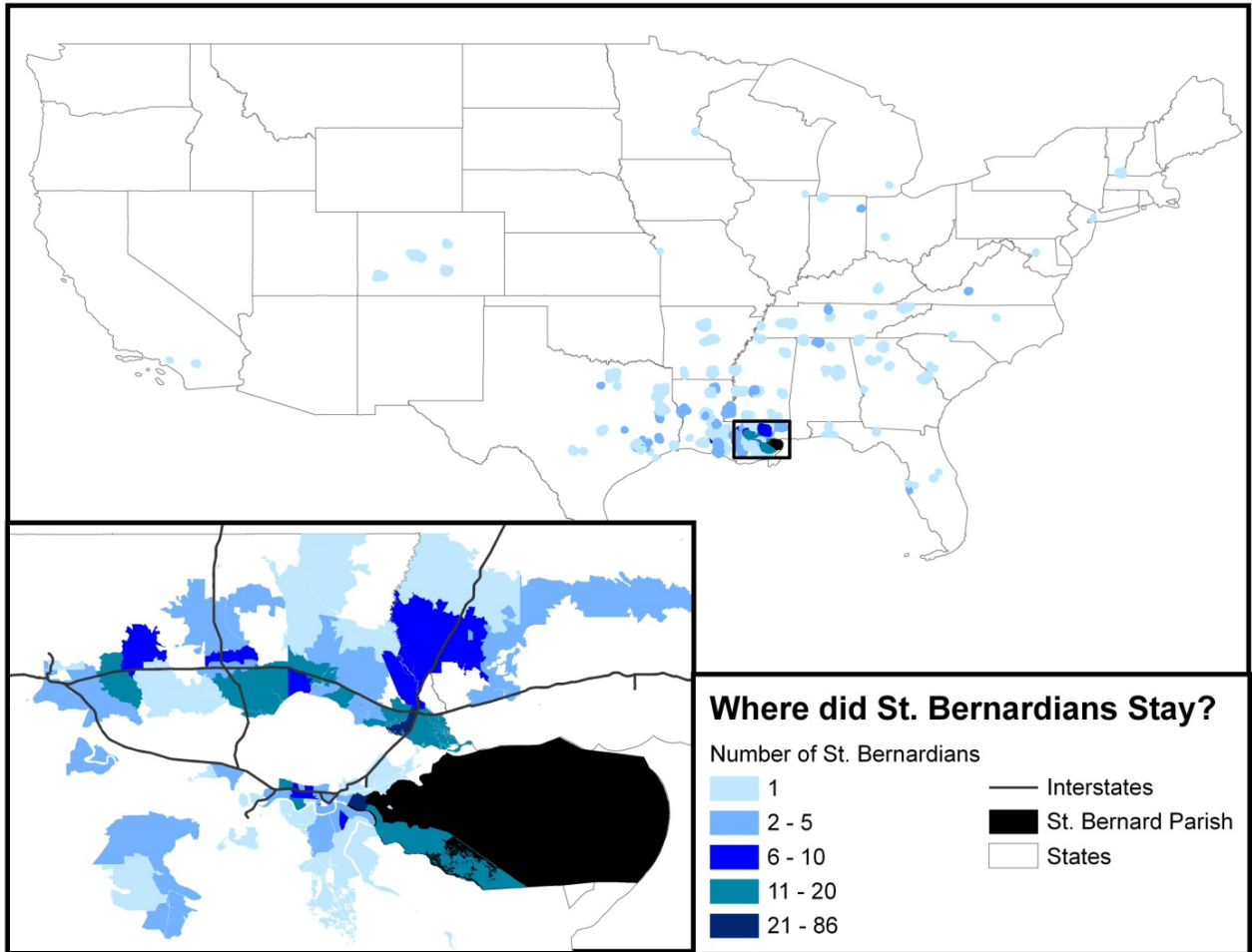
The temporal characteristics of their different recovery trajectories are accelerated by their access to resources and limited by their constraints. Resources come in the form of social and financial capital, as well as their own personal savvy. Temporal and geographic constraints include the real or perceived need to keep children in school, commute to work, care for relatives or even pursue education or return to the place they knew as home. After discussing these resources and constraints as they are experienced by the women, the phases will be summarized.

5.2 Transitional Housing Patterns and Features

The 312 survey respondents in the study would identify 857 distinct moves, with 670 identified with enough information to map. St. Bernardians would stay in these places for different periods of time and at different times, but Figure 5.1 shows the locations where survey respondents spent time living during the

first six years after Hurricane Katrina. Most stayed nearby, but respondents spent time from California to New Hampshire.

Figure 5.1 Map of All St. Bernardian Locations after Hurricane Katrina (2005) until 2011



Long-term evacuation solutions and intermediary moves followed a common pattern with some, although the timelines varied by resident based on the constraints and opportunities that they had at their disposal. Nearly every path to a new or old home followed a three-stage arch.

5.3 Phases of Recovery

5.3.1 Stage One: Short-Term Evacuation Phase

Rachel, in her 20s, was recently married with an infant daughter and was enrolled in college in August 2005. She lived in Poydras, in the “Down the Road” area of St. Bernard Parish. Her home was inside the levee, prior to the storm, and she lived near many of her relatives and friends. Today she lives about a mile up the road in Violet. On Saturday, she packed up her family, which included her husband and their infant daughter, and went to her brother’s house in Covington on the North Shore of Lake Pontchartrain, about an hour away. She was looking for a safe place within her budget for evacuation.

With the expense and all, you don’t really want to go too far away. You go the safest distance you can afford to, and I think when the storm hit, I had maybe a hundred bucks in my pocket.

Just up the road in Meraux, recently retired Maria cut short a vacation in Cleveland to go with her elderly mother, husband and pets to a downtown New Orleans hotel where a daughter worked. They were hoping that a quick vertical evacuation would allow them to wait out the storm and quickly return home. She never did return, and now lives in Lacombe, a community on the North Shore of Lake Pontchartrain, about 40 minutes away.

Further up the road in Chalmette, Gail, a divorced mother of three in her 40s, would drive to Natchitoches, La., in the northwest area of the state. She would share a hotel room with her middle child, her boyfriend, his father and two beagles. Her daughter’s boyfriend went to college in that community, and so they were familiar with it, and it was a relatively short drive away. After the storm, she would move to Metairie, La., another suburb, to the west of New Orleans on the South Shore of Lake Pontchartrain, about 20 minutes from Chalmette. She was relieved that her other children were already on a vacation in Texas, because evacuation was a priority in their household after she experienced Hurricane Betsy as a child in 1965.

We had all our neighbors out. It was funny. They were putting wood on the windows and such, and I’m thinking, that’s not going to help. I had been through Betsy. I was

in second grade when Betsy hit and I remember my mother, we woke up to water coming through the floor furnace and my mother is screaming for us to put our good shoes on. ... By the time I got my shoes on, the water was up to my knees. I was little, but it was up to my knees and coming fast. And we evacuated and the house flooded up over the roof in my mother's home in Arabi. So every time it's a hurricane, my mother said to get out because when the water comes you have no place to go.

These women represent three different generational peer groups with different levels of resources and constraints.

Rachel is just starting her family and career and is enrolled in college. She has limited financial resources. However, she knows people both nearby and far away, and uses these tools guided by personal savvy to work through her recovery. She also has limited constraints. Her child is not yet in school, she is renting her home. She has her own schooling, but as a college student, she knows this is something that can delay or transfer.

Maria is beginning her retirement and has adult children. She has access to more resources and has limited constraints on her geography or time. Both she and her husband are retired and they own their home, which was insured. They have family and friends nearby and at a distance and are able to utilize them.

Gail has two teenagers at home when Katrina hits. Gail has access to a moderate amount of resources. She has some friends and relatives at a distance, and owned her insured home and a job, but had financial constraints related to tuition. She is limited by the transient recovery of her daughter's school, which she is committed to keeping her daughter enrolled in so that she has friends around her.

Each woman came from different parts of the parish and each would choose a different place to resettle after Katrina, with Rachel returning to St. Bernard, Maria relocating to the North Shore, and Gail relocating on the South Shore to Jefferson Parish.

Evacuating to a nearby family member's home or a hotel where the resident had a local connection or familiarity was common among St. Bernardians I interviewed. Family vacation spots and regional

cities were common for hotel rooms. Siblings, grown children and friends opened doors to St. Bernardians. In many instances, the evacuation spot was a routine location where residents had evacuated before.

Similarly to the fact that Hurricane Katrina is now considered a “storm of record”, it is colloquially and reverently characterized as “the storm.” It serves as a marker in time and local understanding. Today’s St. Bernard residents are “pre-storm” and “post-storm,” events and directions given with a mix of pre- and post-storm references, and no one needs an explanation as to which storm is in the discussion. But in the last pre-storm and early post-storm days, St. Bernardians anticipated a Wednesday return with relief that another glancing blow had left their property and belongings safe and dry, or frustration in cleaning and repairing minor wind damage and sludge from shallow flooding. None of the St. Bernardians I spoke with planned initially for the lengthy evacuations that they would have to experience.

Initial reports of widespread damage were often met with skepticism, as St. Bernardians sought confirmation from trusted sources. Gail, after a night in Alexandria, La., left for a nephew’s house in Katy, Texas. Staying with a collection of relatives in Katy, Gail relied on information from St. Bernardians who had not evacuated. Firefighter relatives told her that she had water to the eaves of her home, she said: “Between the three of them getting the phone calls out, it’s the only way we knew what was going on.”

Gail was not the only one to learn about the fate of her home from those who stayed. Others called knowledgeable St. Bernardians. One resident called the nearby Toca Gas Plant to ask for a damage assessment. Others called refineries, and some depended on media reports. In Rachel’s case, her mechanically inclined father cobbled together a workable generator from the parts of two broken generators and managed to get a television signal, and the visual evidence confirmed radio reports they had been listening to, but unsure if to believe. One informant drove all over the panhandle of Florida seeking high ground to listen to reports from WWL 870 AM in New Orleans from that distance.

Maria learned about the devastation in her hometown when then-Lt. Gov. Mitch Landrieu⁷ announced over a loud speaker while riding on tanks through downtown New Orleans that St. Bernard was flooded. Fearing the deteriorating conditions in the New Orleans hotel would worsen, Maria and her family fled the city heading west for a hotel in Lafayette, La., for a night of sleep. She continued with her mother to Houston so that she could send her mother to Florida to live with relatives permanently. In the early days of the long evacuation period, brief stays at multiple locations were common as residents sought long-term solutions that were adequate and comfortable for their families. Both Maria and Gail moved multiple times initially, as did others. Once Maria's mother was safe, Maria would make an unexpected 10-day stop in Houston, exhausted from the journey.

We have friends in Houston. But I wasn't planning to stay with them. It was late [when I put my mom on the plane], so I stayed in a hotel in Houston. I was feeling really bad at the time, but I didn't know what was wrong. The next morning, I thought I just need a cup of coffee and I'll drive back to Lafayette. I was dehydrated and hungry. And disoriented because I so dehydrated and so hungry. It was dark. It was five o'clock in the morning and I was trying to get back on the Interstate, and I couldn't. I knew I was going into a ditch. So I pulled into a Wal-Mart, and [the Wal-Mart employees] called friends of ours who came and got me. In the end I stayed and I couldn't drive home. I stayed there for 10 days, in Houston.

Eventually, Maria would get a ride back to the metropolitan New Orleans region with a family friend before moving in with family at her daughter's house in Slidell on the North Shore of Lake Pontchartrain.

Like Gail, Maria and Rachel, most informants and survey respondents originally evacuated to nearby communities in the region. They shared costs by evacuating larger groups or extended families into cramped hotel rooms and relatives' homes that, in the case of Maria and Rachel and others, were coping with the storm's impact as well. Other solutions were too costly to maintain in the long term, such as Gail's hotel. In a scramble for alternatives, social networks often provided a "Plan B." In many instances, the Plan B offered little solace. Gail's boss informed her that there would be housing available to her and her daughters at Camp Beauregard, but they

⁷ Mitch Landrieu took office as the Mayor of New Orleans in 2010.

were in mixed-gender barracks, unacceptable to Gail who left after a single night and joined her sister in Katy, Texas, where her nephew had opened his doors to all relatives, and assigned each of the five families a room to live in, leaving them still crowded. For those without regional social connections in the region that were unlikely to be impacted by the storm, familiarity helped determine the site. Previously living in a location, having a child who attended college in an area, or simply having a college that regularly played LSU in football drew residents to communities in the region that were perceived to be out of the storm's impact area.

Gail's experience of bumping from one northern Louisiana temporary location to another was not uncommon. Monetary constraints, overcrowding and deteriorating conditions could motivate an unanticipated change in location as St. Bernardians sought more amenable rests prior to deciding what the next step for the household would be. Communication and credible specific information about property and livelihood were the priorities discussed by informants while evacuated. In this way, they were engaging in a bit of post-disaster evacuation, as identified by Kendra and Wachtendorf (2001) who studied the actions taken by emergency management agencies in New York City after the World Trade Center Attacks in 2001. The organization, much like St. Bernardians, experienced an unanticipated loss of place when the Emergency Operations Center was impacted by the attack. Through sharing information they were able to locate a space, and re-convene in a new location to conduct the same activities (Kendra and Wachtendorf 2001).

Some did not initially evacuate. Those like Greg and Chief Sutton, who were in St. Bernard during Hurricane Katrina because their employers required it, would be unable to return to their damaged homes immediately. In the aftermath, they would spend time in nearby communities. Greg went to Lafayette, La., for a brief stay before returning to St. Bernard to live and work and live on a cruise boat. Chief Sutton would stay with his wife's family on the North Shore when he got a break from the temporary trailer park that had been established at the Chalmette Refinery

for the Fire Department. These arrangements back in the parish also take on an improvisational quality (Kendra and Wachtendorf 2001). There were no pre-disaster plans to bring in the cruise boat or set up firefighting capabilities on the refinery site, but individual and professional relationships often helped to solve problems.

Short-Term Evacuation had distinct features that set it aside from later phases. Identified in the stories and evidence above, they include:

- Residents remain in the region. The sites chosen are based on social ties or familiarity.
- Information about the damage in the impacted area is a perceived or real need.
- The duration of anticipated stay is not expected to last more than a few days.
- Long-term practicality is not considered in site selection.
- More than one location may be included in the Phase
- Phase ends when information about damage is known, and a more suitable long-term solution is identified.

5.3.2 Phase Two: Early Long-Term Recovery

It was in the first uncertain weeks or months, when St. Bernardians were only sure that they had no address to return to, and that their employment and income were insecure, that residents moved the farthest away and utilized the weakest ties in their network to bridge the gap to a permanent housing solution. It is during this phase that St. Bernardians can first have a place, no matter how small or shared, to call home and can begin to address the long-term needs of the household and deal with the impact of the storm.

One week after the storm, Gail (Katy, Texas), Maria (Houston), and Rachel (Memphis, Tenn.) were as geographically far away from home as they would ever be, staying with people they had not anticipated to visit prior to impact. This pattern was shared with others.

Greg, uncertain about the status of his employment or education one month after the storm, would leave for Manhattan, N.Y., to live with a stranger and set up a new life. But he would later return to St. Bernard six months later, to work the same employer and attend the same school.

A friend of a friend who I knew from high school had been living up there for about three years and knew someone who was looking for a roommate. And they knew that I liked the city and that I was kind of considering moving there anyway and that I had really nowhere else to go at the time. There were a lot of question marks about my job at the time and about [graduate school] at the time. So I thought, hey, you know what. I'll give it a shot.

Greg, young like Rachel, decided to pack up and settle somewhere far away for a fresh starts. Having spent a year in college in Memphis, Rachel knew people and had familiarity with the place where she would spend her Early Long-Term Evacuation. Rachel, like many of the St. Bernardians I spoke with who went to college, spent time with her college roommate, driving to Memphis Tuesday night. Phones and cell phones were unable to call out in the immediate aftermath of the storm, sending incoming calls straight to voicemail. Text messages went through sporadically. To adapt to the communications hurdle, Rachel came up with a technological fix. She could access her voicemail, and to try and warn her college roommate of her impending houseguests changed her incoming message to the following:

Hey, guys, It's [Rachel]. Just so you know we're safe. We're heading toward Memphis. [Erin], if you get this, we're heading your way.

Although most of the younger informants visited their college friends, if only for a brief period, this practice was not uncommon even among residents nearing retirement age. Friends, college-earned or not, and other weak ties were often the people who helped St. Bernardians find a place to settle during this phase, or as one informant put it, "a place to put down their suitcase and call home." Rachel and her family would move across town to stay with her college roommate's sister who had more space. Maria would live with her daughter and then stay with a friend who could provide more space.

Gail would leave Texas to go to Baton Rouge, a necessity, since her youngest was in high school, and the school she attended in New Orleans was opening for the semester in the state capital. To stay in Baton Rouge, Gail and her daughter would end up relying on the generosity of a couple they barely knew – her son's fiancé's parents. It had been a quick romance, and she had just met the young woman's parents twice before the storm. The third time would be at their temporary condominium in Baton Rouge.

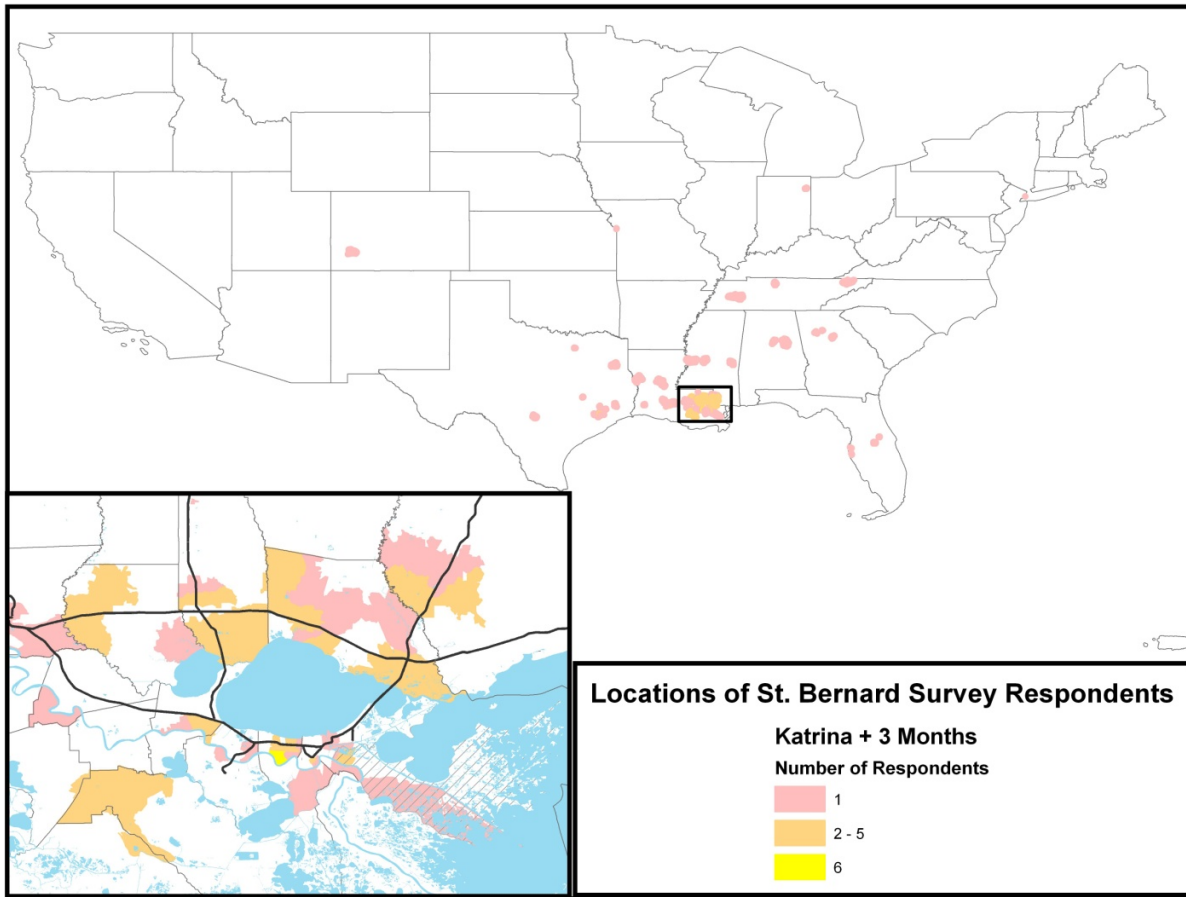
The next time I met them, they invited me to live in their condo [they got from a friend] in Baton Rouge that they had [after the storm]. So I meet them again, and shake their hands, and it's like "Hi, I'm [Gail], I'm coming to live with you, and I don't know (for) how long." That was literally how it was. What he did, what [Bill] did, my son's father-in-law, was he held my hand and he said, "You're not going to sleep on the floor anymore." That night he ordered two mattresses.

While social connections, no matter how weak, could influence where a St. Bernardian would live in this phase, it wasn't the only determinant. Christine, from and currently living in the community of St. Bernard, and her husband left their initial evacuation location of Prairie, Miss., for Hot Springs, Ark., to stay in their camper for a few weeks while the floodwaters receded from St. Bernard Parish. While they didn't know people there, it was a place where her family often vacationed, not just during her lifetime, but in the generation before, and a place that felt "like a second home."

Jack, however, moved from a hotel in Baton Rouge to Houston at the request of his wife's employer, who provided them with a furnished apartment complete with the post-Katrina luxury of beds to sleep in and furniture to sit on. Later, the same employer would move his family to Maryland, where they believed they would be starting over. Today they live in Slidell on the North Shore of the lake.

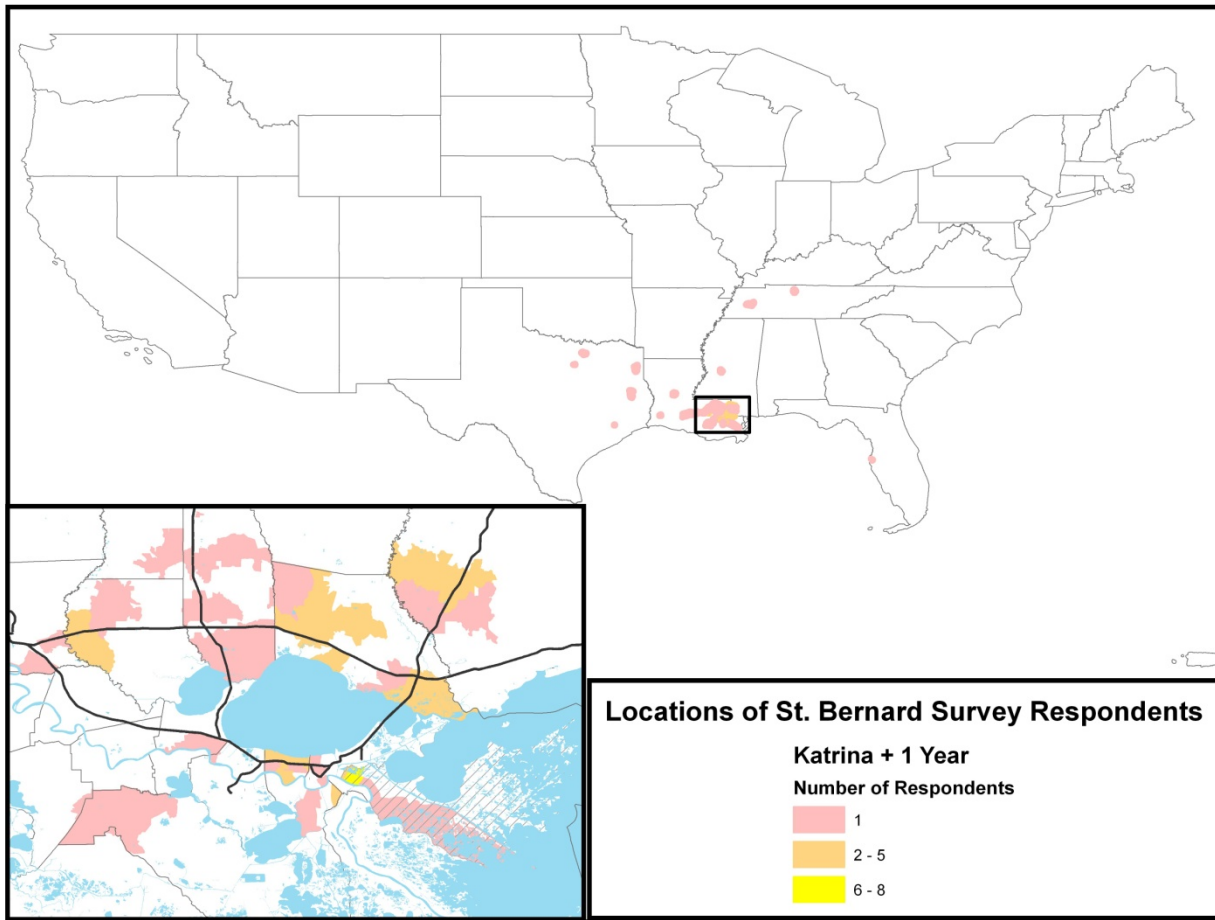
The timeframes of St. Bernardians' recovery trajectories ranged from a few weeks to years based on a wide range of financial, social and life-stage constraints and opportunities. Survey respondents were asked to identify zip codes and dates for intermediary and permanent moves. There were 157 survey respondents who provided enough information to map their location on November 29, 2005, three months after the storm (Figure 5.2). Respondents show a disperse pattern that extends from Parker, Colo., to Manhattan, N.Y. Three months after Katrina, 56 respondents still lived outside the state of Louisiana, although most were in the South. Even those inside the state and metro New Orleans area were spread wide and thin in largely unimpacted areas. Just eight respondents had returned to St. Bernard Parish.

Figure 5.2 Locations of St. Bernardians on November 29, 2005



In time, more St. Bernardians settled. Figure 5.3 shows the temporary location of the 109 St. Bernardian respondents who provided enough information to show their location on August 29, 2006, one year after the storm. Between 3 months out and a year after Hurricane Katrina, fewer St. Bernardians lived out of state. Just 13 (11.9 percent) are still staying out of state. More respondents (13) had returned to St. Bernard.

Figure 5.3 Temporary Locations of St. Bernardians on August 29, 2006



Early Long-Term Recovery has distinct geographic features and characteristics that separate it from other phases temporally, including the following:

- Phase begins after magnitude of damage is perceived by the household and ends when residents take action to realize post-recovery settlement decisions.
- Most residents go the farthest distance away from origin during this phase.
- Many younger residents relocate out of the region with a plan to make a fresh start, only to be drawn back to the region to better access resources available near home.
- During this phase residents took inventory and made decisions about long-term actions.

5.3.3 Phase Three: Late Staging Phase

Most informants spent some time in the Metropolitan New Orleans region working on their homes, looking for new homes, or otherwise trying to put their lives back together before settling into new permanent housing

situations. These nearby residences were conceived of and treated as temporary situations, and usually involved the sharing of space with extended family members, or at least the sharing of property when FEMA trailers arrived to the region to provide temporary housing. Both occurred for Maria, who spent September-November at her daughter's house in Covington, before moving to another address in the community with their FEMA-issued trailer. That property had an acre, capable of providing privacy after being in a home full of extended family during the previous phase. There she and her husband grew to love the peace of the pine trees, that later inspired them to relocate to the area.

Gail's staging phase occurred as an emergency plan. She was staying with her son's fiancé's parents in the Baton Rouge condo, with a daughter enrolled in a school that was in Baton Rouge, but would re-open in New Orleans in January. She had a job in Gonzales, La., which was along the river between New Orleans and Baton Rouge, and felt fortunate to have purchased a home in Metairie that would be ready by Thanksgiving. When Thanksgiving came, the house was not ready. Contractors in the area were overextended, and she had a single person working on her home. It was behind schedule, and her housing situation became suddenly tenuous. The condo she was living in was sold underneath her during the Thanksgiving break, and she had a weekend to figure out something for her and her teenage daughter to do. They spent the weekend after Thanksgiving at her son's one-bedroom house in New Orleans that he shared with his fiancé. However, by Monday, the morning commute from New Orleans to Baton Rouge (for her daughter's school) and then back down to Gonzales (for work) was too much to repeat. It was 112 miles traveled before work started. She wouldn't be able to afford the gasoline to make it happen until her daughter was done with school for the semester in late December, and she was too tired to do good work. She needed a one-month patch, and she reached to yet another weak tie that was strengthened by the recovery process (Granovetter 1969; Oliver-Smith 1986). More than a decade prior, Gail had used a neighborhood teenager, Andrea, as her regular baby-sitter. Gail had been close to her neighbors, and Andrea had become part of their lives until Andrea grew up, married and started a family of her own in Baton Rouge. After Hurricane Katrina, Andrea worried about Gail and her family and posted on an online forum requesting news of their safety. Gail and Andrea had reconnected in the three months they both lived in Baton Rouge since the storm,

and she turned to her former baby-sitter to help her out of her commuting crisis, asking if she and her daughter could spend Monday night through Friday morning in her home until school let out four weeks later.

So she said OK. So she just tells [her 5-year-old twins about my daughter] that this is your new sister moving in. We took over the little girl's room, and the little girl moved in with the little boy.

Gail and her daughter shuttled from Baton Rouge on weekdays to New Orleans on the weekends that winter while their house was being prepared. This was common. Chief Sutton and many of his firemen as well as Ray who worked at a refinery that quickly returned to operation, both split time between temporary work housing in St. Bernard and with their families who were staying with relatives elsewhere while their homes were being rebuilt. Sarah, who moved to Hammond on the North Shore to be nearer to her husband's work, spent weekdays with her mother and daughter in Harahan on the South Shore to be nearer her work, and to allow her daughter to commute to school in Chalmette so that she could be with her friends.

With this action, Gail also had formalized an informal relationship to meet her daughter's need for schooling. Having school-age children could limit the geographic range or dictate the timing of moves. Family-centered St. Bernardian mothers and fathers with school-aged children, in every interview, discussed the importance of maintaining stability or reducing disruption in their children's education as an important factor in determining where they moved or when they moved. Gail made getting her daughter to school in Baton Rouge until January, and then to New Orleans after that, the reason why she elected to split time between Baton Rouge and New Orleans in temporary situations. It allowed her to stay with her daughter and make sure her daughter could attend the same school she did prior to the storm. Similarly, Jack, who was living in Maryland with his wife and children where her work transferred her, tried to stay up north when she was laid off to keep their children happy.

At one point we thought we would be there for two years so my son could graduate from high school. He'd been through five schools in the Katrina years. So we were going to be established, and he was going to have at least a junior and senior year that was stable. He graduated in 2008. Our daughter was a freshman, and she loved it out

there, but without the job and the income, we just couldn't do it. Housing was just expensive so we had to come home and she was just going to have to make the best of it, so it was a rough adjustment.

Rachel, too, was careful to time her moves so not to disrupt her daughter's education while she pursued her own. After attempting to start fresh in Memphis, Rachel returned to the area. To do so, she had to short-sale her "dream house" in Memphis to a high school friend from Chalmette, then move with her husband and daughter into her parent's house for a year and a half while she returned to finish her bachelor's degree at The University of New Orleans. Rachel spent four years in Memphis, even purchasing a house there. Her staging phase began in 2009 after a stint of bad jobs and unemployment motivated a change.

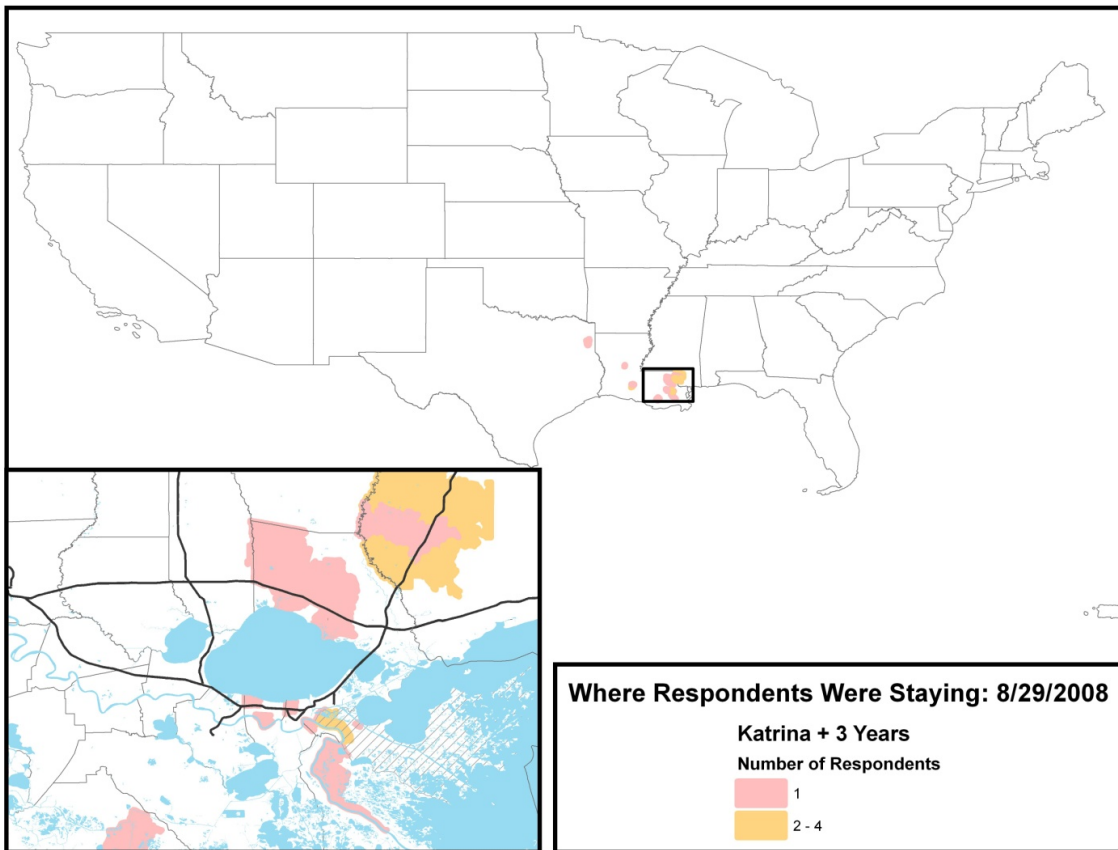
That's really what sparked [moving to Picayune, Miss., on the North Shore to live with my mom], the need to finish my degree. We put all of our stuff in storage. We kept everything in Memphis. We had the intention of coming back to Memphis. We wanted to. We left that option completely open.

The geographic locations of these staging areas can be difficult to trace as their appearance and dissolution varied by household. Even among the St. Bernardians I interviewed, the amount of time that it took to move from short-term evacuation to the late staging phase ranged widely. Christine and her husband staged from a camper on their lot in St. Bernard, ready to occupy their home on the day the St. Bernard Parish Government offices opened to issue the proper permits. She had gone in two months from short-term evacuation (Prairieville, two days) to early long-term recovery (Hot Springs, two weeks) to late staging phase (St. Bernard, six weeks), while Rachel took five years to settle. I distinguish in the data analysis between intermediate moves and resettlement, asking respondents to state the location and dates of intermediate moves. One year after Hurricane Katrina (Figure 5.3 above), on August 29, 2006, 61.6 percent of respondents who reported their location, had not yet settled in their permanent location. Most of those respondents had moved from farther away to stay in the metropolitan area. Just 11 respondents (10.1 percent) who had not permanently relocated were located out of state. Just a few respondents (18, 16.5 percent) had returned to St. Bernard, some of these only on a temporary basis. This left 80 (73.4

percent) in the state of Louisiana but not in St. Bernard. The temporary dispersal of respondents across the nation and in the state, had decreased. The respondents' locations within the metropolitan area showed that respondents were temporarily widely distributed in the New Orleans area one year after Katrina. Whether it was the need to clean and rebuild their homes, the often lengthy search for a new home in the area or the constraints of work and school, respondents were moving closer to their home base.

Over time, respondents who were still moving around decreased in number as respondents bought or rebuilt homes and settled into their new normal, wherever that was. They also concentrated over time. Three years after Hurricane Katrina impacted St. Bernard Parish (Figure 5.4), 20.3 percent of respondents were still unsettled, and just six (15.6 percent) were out of state, with five of the six located just across the Louisiana border in Southwest Mississippi. Over time, there were fewer respondents in communities outside the metropolitan area as St. Bernardians who remained unsettled increasingly settled in the region.

Figure 5.4 Locations of St. Bernardians Who Had Not Settled By August 29, 2008



Nearly all 23 informants followed this geographical pattern, although the time spent in each phase varied. Even for those working in St. Bernard the entire time, like Chief Sutton and Ray, their families followed this pattern as employers made other accommodations for them. For those who resettled elsewhere quickly, such as Councilman Dan, this pattern of three stages occurred within days. Even for those like Greg and Rachel who thought they were starting over in other states, their false starts sent them back to the New Orleans area to begin their late staging phase in the homes of their relocated or staging parents. But shown with maps demonstrating crystallized time (Castells 1996), a geographic pattern emerges of fewer residents remaining transient and those still transient returning closer to the metropolitan region.

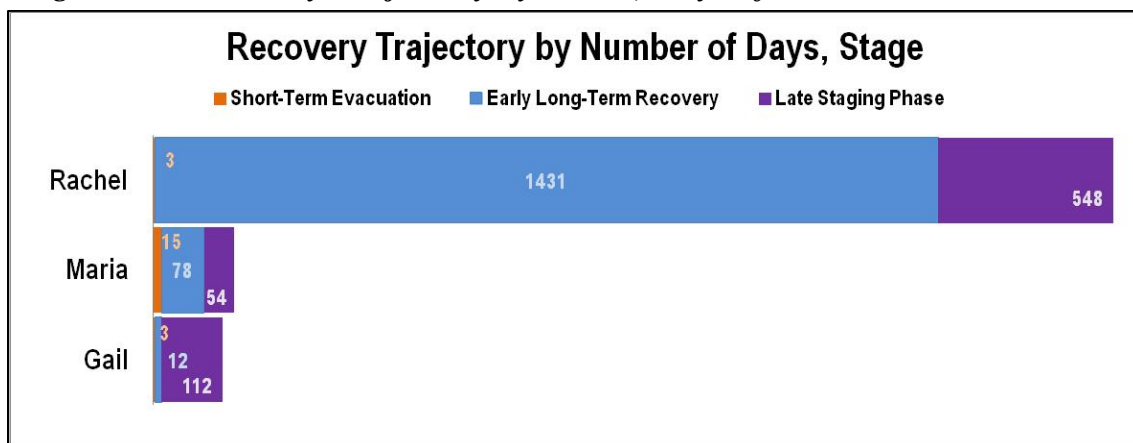
Geographic and temporal characteristics distinct to the Late Staging Phase include:

- Phase begins when resettlement decisions are made, and actions are taken toward achieving that goal and ends when resettlement occurs
- Residents move closer to their final destination, often participating in rebuilding or relocation activities.
- Many residents who had attempted to start over in distant places return because of obligations, jobs or education.
- Residents share housing with relatives or stay in temporary housing in the region until their post-catastrophe home is ready for occupation.

5.4 Time Trajectories

For the population as a whole, St. Bernardians did not experience each stage at the same time, but the geographical ‘rhythm’ of their relocation was the same. Using our primary three St. Bernardians for this chapter – Rachel, Maria, and Gail, it is impossible to find a date after the initial day that they were in the same stage at the same time, despite all three going through each phase (Figure 5.5). Rachel, having close contacts far away, and a standing invitation to arrive at their doorstep, was able to quickly move onto her second phase, by driving to Memphis and beginning what she thought was a fresh start. Her Short-Term Evacuation Phase lasted less than a day after impact. On that day, Maria was abandoning her first location – New Orleans -- for the short evacuation, for her second in Lafayette, still looking for a place to rest before the unanticipated stay in Houston. Meanwhile, after two failed arrangements in northern Louisiana, Gail found a safe place to stay with extended family in Texas, where she could take the time to figure out what the permanent situation would be for her two teenage daughters and herself.

Figure 5.5 Recovery Trajectory by Phase, Days of Rachel Maria and Gail



Rachel, the youngest of the three, was able to utilize her out-of-region contacts to move quickly into the early long-term recovery phase. When St. Bernardians reached this phase of recovery, they moved from addressing emergency needs to dealing with long-term needs such as housing, employment and school. They also began to cope with the impact of a disaster, including making insurance claims, and seeking out friends and neighbors who also had dispersed. During this phase residents begin to take an unofficial inventory of their constraints and opportunities. Gail used the time in Katy, Texas, to arrange for a new job, find out details about one daughter's school's plans and arrange for the other to finish online. From Katy, while staying with a large number of family members, she would get in touch with the people who would help her in the next phase of recovery. Gail had a number of constraints that motivated her rapid move through the first two stages. With two daughters in private high school, the single mother had to get them settled and enrolled in school, and needed income to support them. The solution for each child was different. Her oldest daughter would end up squatting in a vacant university dorm room and finishing her senior year online before enrolling early in college. Gail's youngest daughter was a high school sophomore; Gail moved so that her youngest could go to school. Her daughter's school in New Orleans was opening a night school in another Baton Rouge school. Gail would leave Katy 12 days after Katrina and move into the third phase of recovery. Gail made the trip to Baton Rouge from Texas to start the late staging phase on the same day that Maria would make the same trip east on Interstate 10, progressing to phase two on her own recovery trajectory.

Maria's early long-term recovery phase was less hectic. After coming to her daughter's house in Slidell, 12 days after Katrina, she and her husband could make plans about their heavily flooded home and reconsider how they would experience their retirement, which had begun two weeks prior to Katrina. Having family in the region, she could wait for her FEMA-issued trailer to arrive in November. Meanwhile, Gail utilized a series of weak contacts made in the Katy days to piece together a turbulent staging phase to keep her daughter in school in Baton Rouge until January and to keep her close to her new job in Gonzales, La., located between New Orleans and Baton Rouge. Gail would exploit three weak

social ties that would help her form short- and long-term solutions to housing. Much like previous studies that have shown that “weak” connections between people can help them to access employment (Granovetter 1969), access to scarce commodities after the storm such as housing and employment, were gained by Gail and others through weak ties. It was the friend of the father of her son’s fiancé who provided the Baton Rouge condominium for Gail and her youngest daughter to stay in while the Metairie home that they had purchased from her former boss’s son was being repaired. When the condominium was sold under her in Thanksgiving with her house still a month away from occupancy, she reached out to a once-baby-sitter to her now-adult son. All three phases would be complete by the end of 2005, just four weeks after Maria moved into her late staging phase. From a peaceful location on a relative’s property in Covington, she and her husband looked for a home on the more rural North Shore, into which they would move four weeks after Gail moved into her new home in Metairie. As Maria didn’t have the constraints of work or school, she had the luxury of taking time to figure out what she wanted to do. She both rebuilt her home in St. Bernard, but looked for a house on the North Shore, having the luxury of resources of time and savings to consider both and make a decision when the time was right.

Despite arriving quickly to the second phase, Rachel was still there when Gail and Maria settled into their new post-Katrina homes. Using both social connections and public recovery programs, Rachel and her family first stayed in a model condominium, then utilized a recovery assistance program from the City of Memphis. Unsure how long that program would continue, she took advantage of the economic downturn and recovery assistance to take a rental property through a foreclosure firm. After discovering the company was engaging in defrauding FEMA, she and her husband purchased a home in Memphis thinking that nearly a year and a half after Katrina that their journey had ended. The small home was similar to what existed in St. Bernard.

It reminded me of this area. It’s kind of what attracted me to the house. A small cottage-type house, really small, like a thousand square feet. It was tiny, but perfect.

But her trajectory had not yet ended. Lured by an unfruitful job and the incomplete degree, she came back to finish her degree four years after the storm, finally entering the late staging phase. Five and half years after Katrina, she would move a mile up the road from her pre-Katrina home.

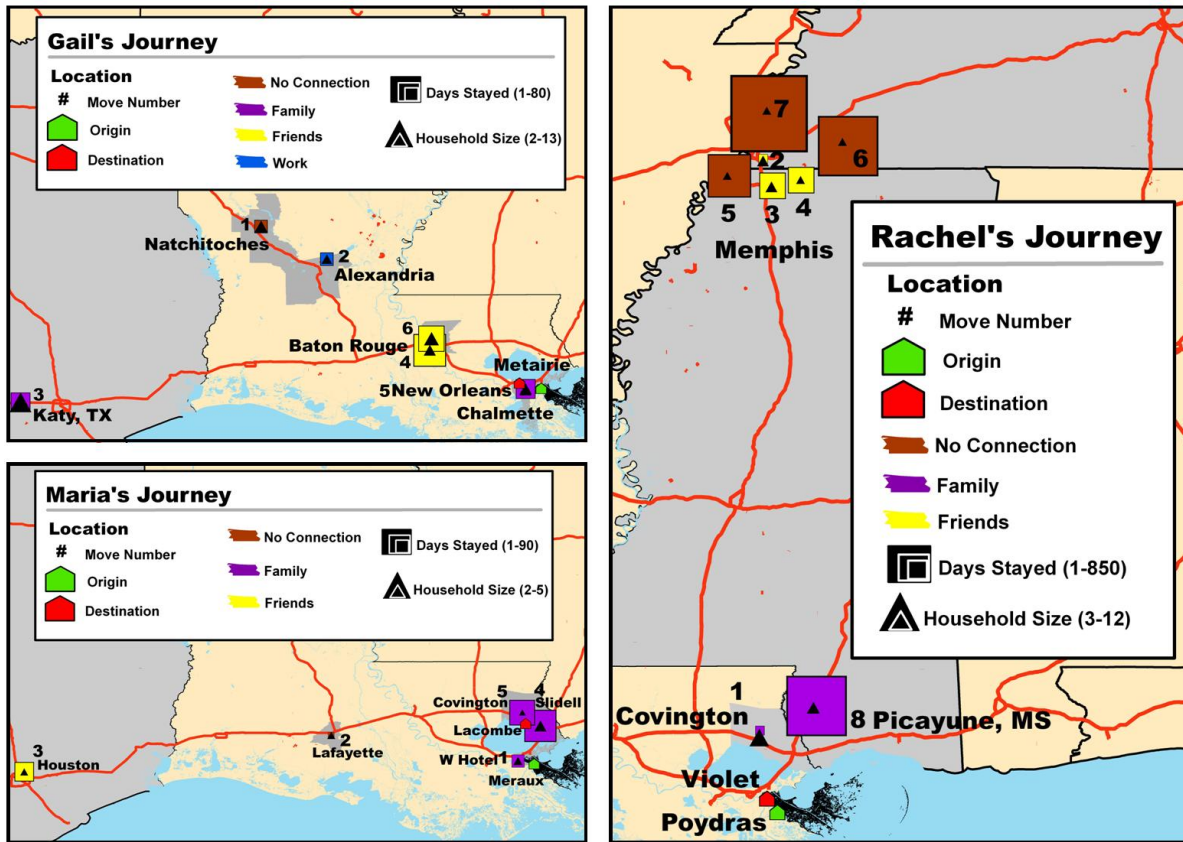
Not only did their time scales vary widely, but stress and disruptions peaked during different phases for each of the three women (Figure 5.6). Maria’s short-term evacuation was marked with three moves as her first location was impacted by the storm, and household needs to take care of her mother kept her moving until the stress overcame her. For Rachel, despite a planned fresh start in Memphis, the experience was more false start than fresh, and marked with several moves before they could feel comfortable. Gail may have moved quickly into purchasing a new home, but delays in repairs left her scrambling to bridge a housing gap between the holidays.

Figure 5.6 Recovery Trajectory by Dates, Moves of Gail, Maria and Rachel

Recovery Trajectory							
Informant	Short-Term Evacuation	# Locations	Early Long-Term Recovery	# Locations	Late Staging Phase	# Locations	Destination
Gail	08/28/2005-08/31/2005 (3 days)	2	08/31/2005-09/11/2005 (2 weeks)	1	09/11/2005-12/31/2005 (3 months)	3	Metairie
Maria	08/28/2005-09/11/2005 (2 weeks)	3	09/11/2005-11/28/2005 (2.5 months)	1	11/28/2005-2/1/2006 (3 months)	1	Lacombe
Rachel	08/27/2005-08/30/2005 (3 days)	1	08/30/2005-08/1/2009 (4 years)	6	08/01/2009-06/01/2011 (14 months)	1	Violet

Household sizes often changed, sometimes permanently, but temporary housing swells were common as a result of the impact of Hurricane Katrina. Figure 5.7 shows the locations, length of stays and the household changes that occurred during the recovery experience. Rachel started with a short-term evacuation plan that included three of her siblings, their families and her parents, but spent most of the time in her nuclear family. Gail went from sharing her home with a boyfriend and two daughters prior to the storm to living in a larger home with just one daughter by the end. But when she was in Katy, she shared a house with five other families, and spent her entire late phasing stage in non-traditional households that included unrelated adults and children. Maria would begin and end with just her husband in the household, but in the middle, she would share space with a number of relatives and friends.

Figure 5.7 Recovery Maps by Network, Days Stayed and Household Size for Gail, Maria and Rachel



5.5 Common Features of Temporary Moves

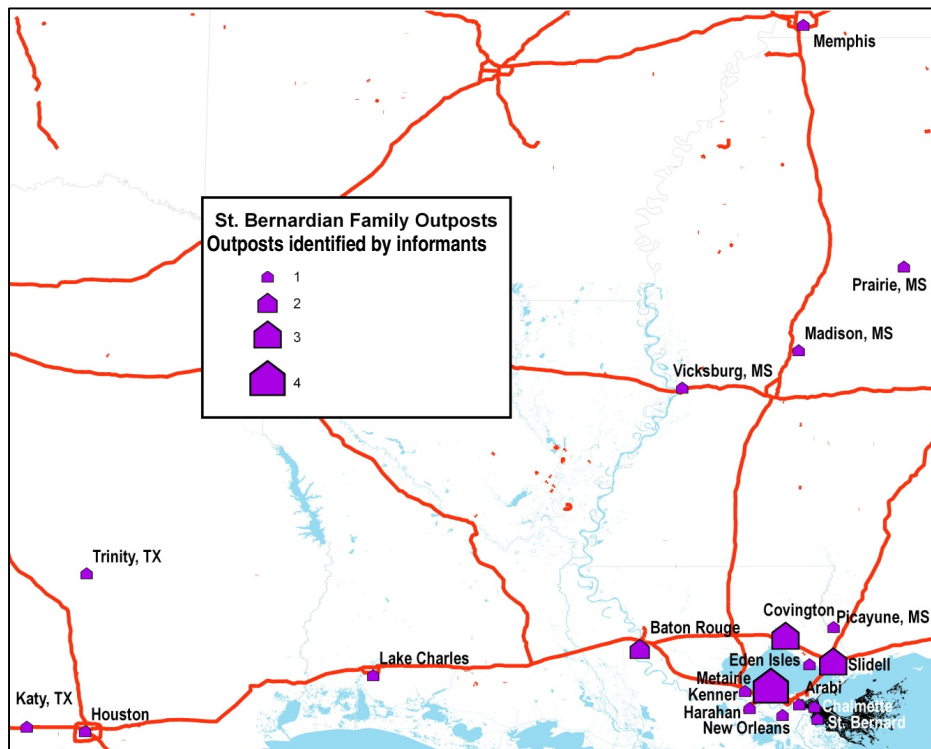
5.5.1 Family Outposts

When Rachel evacuated to Covington, Gail fled to Katy, and Maria arrived in Slidell, they shared a common experience with most St. Bernardians that were interviewed. Large numbers of family members often shared housing for brief or extended periods during their recovery experience. The appearance of family outposts in the region indicates that the social networks of St. Bernardians provided a resource during recovery. Staying with family or friends, or joining with family members to rent a communal apartment allowed St. Bernardians to work with the members of their social networks to meet housing needs in a time of scarcity.

Gina, upon learning about the extent of the damage, called a realtor in Baton Rouge and immediately purchased a home near the interstate for herself and 35 other members of her family. As each worked out their future, they relocated, until it was just Gina and her elderly mother remaining. The house was too big, and they sold it and settled in Lafayette.

Most post-Katrina St. Bernardians didn't have the luxury of a house bought to meet their needs. Instead, household sizes swelled to absorb temporarily homeless relatives and friends. That was Gail's experience in Katy, where each family was assigned a different room. She shared, with two teenagers and two other adults, a bedroom with three air mattresses in it, but others in Katy had less desirable arrangements. With five families in one home, and K-Mart being short on air mattresses, one cousin's family drew the dining room floor. While Gail's family outpost in Texas was hours away, most family outposts were located nearby. Figure 5.8 shows the locations of outposts as identified by informants. Relatives in the metropolitan area who did not have damaged properties opened their doors to family members who needed a safe and dry place to stay, water for a shower and electricity for an air conditioner while they looked for a new home, awaited temporary housing, waited on repairs or rebuilt their homes themselves. For this analysis, a family outpost was identified as a combined household of people who did not live together prior to Hurricane Katrina in which at least two residents who did not previously share a household are related or which otherwise identify themselves as family. The 'outpost' household size ranged as high as 36 and occurred in all phases of recovery. Most of the family outposts are located in the metropolitan area. They range from homes owned by children, siblings and parents prior to the storm, but could also be rented locations in which a family workforce set up as a home base for working on everyone's home. This was the case with Terry and Nick, who bunked with relatives in Jefferson Parish while working on relatives' homes. Terry would end up rebuilding five relatives' homes over the course of the recovery.

Figure 5.8 Map of St. Bernardian Family Outposts



5.5.2 Temporary Housing and Disposable Housing

Living in temporary housing, including trailers and campers, and disposable housing purchased for temporary living, were common among St. Bernardians. Of survey respondents, 54 percent stated that they spent time in temporary housing, including FEMA trailers, but of those who returned to St. Bernard, 70 percent spent time living in temporary homes, like Maria did on a relative’s property in Covington. She wasn’t the only one. Greg lived on a cruise ship at the port before leaving St. Bernard for New York, then returned to share a FEMA trailer with his father. Christine came back as soon as she could, parking the camper she and her husband had bought on their property in St Bernard. Ray spent time in a trailer at his work site in Meraux, bought a camper for his grown children to live in while he lived with his sister in Covington, purchased a disposable house in Covington , and rented another home in Mandeville before he returned to his rebuilt Chalmette home. He and his wife never sold their Covington disposable house.

It’s being rented. My wife thinks she’s using it as a safe house [for the next storm]. I guess we’ll have to move in with the renter.

Fire Chief Sutton had to keep his force housed while in St. Bernard, and found his circumstances called him into unusual service.

We were living in the trailers like sardines. They put 90-something trailers on a small footprint and it caused a lot of controversies. I became a fire chief that had problems that no other fire department chief had to deal with. I had to deal with problems that occurred in their neighborhood and you'd have to come out and make a rule or make a procedure or tell somebody "you can't do this," or "you can't do that," or "you've got to keep an eye on your kids" or it's like, it was something that other fire chiefs in America had never ever had to deal with.

The fire department lost all of their firehouses and most of their equipment. Municipal water services had not been restored, and arson was epidemic as uninsured residents falsely believed setting fire to the wreckage of their homes might trigger their homeowner's policy. Chief Sutton was arguing with FEMA to keep water trucks, changing firefighting procedures to cope with arsons in vacant homes, and managing a force under stress with most of their families in communities all over the Southeast. Chief Sutton altered schedules for four days on, eight days off without the opportunity to call in sick to accommodate the distance his once-residential firefighters now had to commute to get to their families who were located as far away as Arkansas and Tennessee.

5.5.3 Charity

Gail expressed that one of the more difficult moments of the recovery period was a decision to accept charity for the first time in her life. Charity would be another opportunity for weak social ties to serve as a resource for St. Bernardians (Granovetter 1969). Her nephew, an FBI agent, had told the church that fronted his Katy, Texas, neighborhood that there would be Katrina refugees in his home. On the second day after she arrived, church members came to help out the family outpost by offering a meal, and then came by the next day to offer the same. The single mother who had put her kids through private school had found it difficult to accept something for free.

Trust me when I say it was hard to take handouts. It was. We had worked all our lives. But you just can't do it. So anyway, after two days of this, the church says, "don't worry about coming to get it. We'll bring it to you," because everybody would cry when we came to get it. It was hard. It was really, really hard.

Gail would continue to take assistance from others as she worked toward self-sufficiency. She would accept luxury sheets and mattresses from her son's fiancé's parents, a place to stay from a former baby-sitter and a little help with the paperwork at the bank, before she could finally settle into her new home in Metairie, where the previous owners had left items for her to use in the home.

She wasn't the only person that had to grapple with the loss of self-sufficiency. Rachel used government-administered aid in a rental program in Memphis. While in Mississippi with his college roommate, Terry had an offer from another friend in Dallas to use his camper. The friend offering even to drive it to him, and Terry gained an appreciation for having a widely dispersed social network.

He said, "[Terry], I lost my daddy when I was 15, but one of the things my daddy always taught me was that if money can fix it, it ain't no problem." You've lost all your stuff, but you've got your health. Nobody was hurt. Nobody was lost. If money can fix it, it ain't no problem, and money can fix your problems. Let me tell you something. If you run out of money, just let me know. I've got all the money you could possibly need. So, there's that kind of extension of generosity. I'll get you what you need, and I'll help you. I'll give it to you. The kindness of people once they understood what we had been through and what we were going through!

Dan found charity when he moved into the new house he'd purchased in Lacombe. Purchasing the home on a handshake deal for a value that was below what the previous owner could get from others, Dan and his family packed up their suitcases for moving day and opened the door to find a house full of furniture.

He was a very nice guy. He left all his furniture. I still have his freezer out in the garage. I mean, he took his clothes, his dogs, his guns and a generator and a rocking chair. He left everything. We didn't have to rush out and buy furniture. We had a couch to sit on.

5.6 Improvisation on the Road

James Kendra and Tricia Wachtendorf of University of Delaware Disaster Research Center cited the creative problem-solving of emergency organizations in New York City after the 9/11 World Trade Center Attacks in 2001 as an example of organizational improvisation during a disaster. The Emergency Operations Center was destroyed in the attacks, but members were able to utilize available resources to

form a suitable mirror for what was destroyed, depending on their relationships with each other to spread the word of the newly established EOC farther uptown (Kendra and Wachtendorf 2001). The EOC served, in this respect, more as a social system than a physical place, and it was social systems that enabled a reconceptualization of the physical place in a period of limited communications and confusion (Kendra and Wachtendorf 2001). Kendra and Wachtendorf (2001) state that, “[O]rganisations draw their strength from their human and material resources and knowledge, and also, importantly, through creativity and initiative of its members,” (Kendra and Wachtendorf 2001: 78-79).

While Kendra and Wachtendorf were focused on organizational resiliency, St. Bernardians demonstrated these same strengths within their households and among the membership of their social community. Equally, and for a lengthier period of time, St Bernardians lost contact with one another, faced the loss of place, and were pushed into creative problem-solving to maintain the function of their households as they awaited the return of their place. Housing, household goods, employment, education and medical needs all asked St. Bernardians to improvise and to use available resources in order to endure the recovery process and to achieve it.

One of the larger hurdles that brought out some of the most creative solutions was the loss of contact among St. Bernardians and their friends and family. In the days leading up to and following Hurricane Katrina, cell phone and landline services were down. In 2005, text messages were still used predominantly by the young and technologically savvy. Faced with isolation, many quickly adopted the new method of communication. Text messages were able to go through sometimes, when calls would not. Both Ray and Jack, fathers of young adults and teenagers, mentioned the introduction of text messaging into their repertoire in the aftermath of the storm. Jack began to pay more attention to the capabilities of his hand-held device.

That’s when we learned about texting. Somebody sent me a text, and I’m like, “Oh, I can do that?” I really didn’t know much about my cell phone.

Housing, too, was a primary area for creativity. The housing situations of the family outpost, perhaps serve as the most common examples, but other creative situations had to be worked out. Both Gail and Rachel spent time in condominiums that would be later used for others. Terry and Nick each shared apartments with others for small periods of time while they worked on their homes. Ray and Christine both spent time in campers.

However, the connections that St. Bernardians accessed to solve their recovery problems with housing and otherwise, are perhaps the most creative of problem-solving methods they used. Weak ties garnered unexpected resources (Granovetter 1969). Gail got her condo in Baton Rouge through a friend of her son's fiancé's parents. Later she would find housing through reconnecting with a former baby-sitter through an online forum. Rachel got her condo through the employer of her college roommate's sister. They weren't the only ones. Greg shared an apartment with a friend of a friend, and Jack got a house for his family through a friend of his preacher.

5.7 Conclusion

Social networks created by St. Bernardians prior to Hurricane Katrina proved their utility when they were needed as a resource to meet household and individual needs as they progressed through phases of recovery. Three phases were identified with distinct geographic and social characteristics. During the Short-Term Evacuation, immediate needs for housing and information were sought near home. In the Early Long-Term Recovery Phase, residents moved farthest away, attempting to determine and realize long-term solutions for employment and housing. In the Late Staging Phase, residents moved near where their permanent housing situation would be, and took actions that allowed these plans to come to fruition. Depending on constraints and resources, residents moved through these phases at different paces.

Throughout all phases, family members and friends opened doors and shifted sleeping arrangements to accommodate evacuees. They provided household resources and helped connect St. Bernardians to others in their networks that could help address needs for housing as they looked for a new (or rebuilt) permanent home. In this manner social networks functioned as resources.

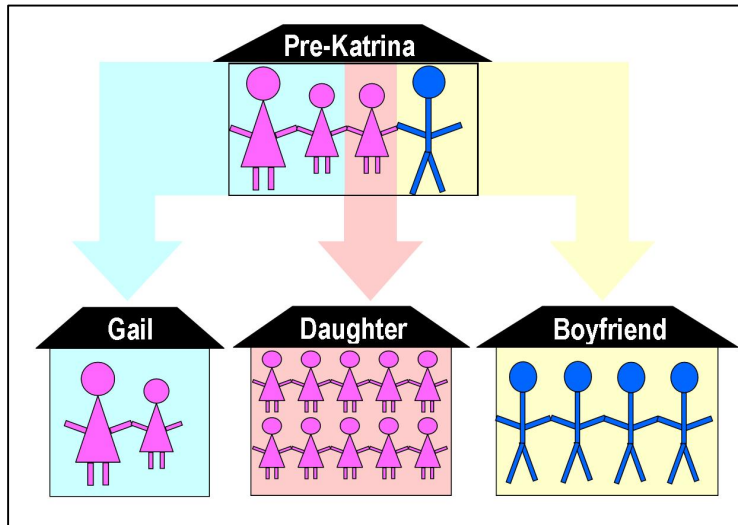
Social networks also served to assist and influence St. Bernardians as they decided where to go. In no instance did an informant choose a ‘random’ location for evacuation, or in other words, a place where they knew no one and had no previous experience with the location. Selections were made based on prior experience as a household for people such as Ray and Christine, who spent part of the time away at family vacation locations. Otherwise, St. Bernardians went where they had friends, family or employment to help them, including at family outposts. Even for those choosing hotels, there was a local connection to the place, either familiarity, or someone in the community who was known to them.

Social networks also could provide friction in the form of constraints (Soja 1989). This friction pulled St. Bernardians near place-based obligations, such as school, work, and family obligations. This friction led St. Bernardians to locations they might not have otherwise chosen as they worked toward permanent resettlement. Gail ended up in Baton Rouge because her daughter needed to be in school there. Jack wound up in Maryland because his wife’s work required it.

Social networks also had to be adapted to changing circumstances as recovery moved from phase to phase. Personal savvy and flexibility served as a scaled-down form of post-disaster improvisation aided this adaptation. For Gail, the household would adapt to meet changing needs. Prior to Hurricane Katrina, Gail lived in her Chalmette home with her two teenage daughters and her boyfriend (Figure 5.9). But that home would be broken up as circumstances forced actions that may have been years on the horizon. First to leave was her boyfriend. With two brothers who did not evacuate their Arabi homes, the boyfriend returned with his elderly father to search for his brothers and assure their safety. One, with medical problems had walked to the hospital and would not be found for a week. It became evident to the boyfriend that he was needed to assist in the care of his brothers and father. Next to leave was Gail’s oldest daughter, who planned to finish her high school senior year online, and did so while squatting in a university dorm room. Gail’s youngest daughter would remain with her through it all. Similar Sarah and Steve, who moved to the North Shore had to split up their household. At first Sarah and her daughter moved to Harahan to stay with relatives, while Steve stayed in Baton Rouge with his brother to work and

his son stayed to go to school. Eventually Steve and Sarah moved to Hammond; their daughter moved in with a friend to finish high school in Chalmette; and their son now lives in New Orleans after finishing college.

Figure 5.9 Pre- and Post-Katrina Household Shifts for Gail



While household sizes often swelled at family outposts, they shifted at other points too. Staying with friends or relatives could temporarily shift the household size. This shifting in household size served as an adaptation. Gail had to change her household and its size three times to keep her daughter in school in Baton Rouge, and had to let another daughter go to tend to her life; her boyfriend moved to help meet the financial and health needs of his brothers and father. These changes in household structures allowed St. Bernardians to adapt to changing needs, housing scarcity, and obligations that required they be near to work or school.

Social networks served as a tool, a shaper and adapted to changing needs as St. Bernardians expressed necessary creativity to maintain a mobile household able to meet obligations related to education and employment while they awaited, sought for and worked on their permanent homes. In doing so they followed a distinct geographical pattern with three phases. Despite not planning for a lengthy evacuation, St. Bernardians followed a common pattern in many directions and at different time scales that can help us to understand how they approached an unanticipated long-term separation from

their homes and neighbors. Creativity and the resources provided by social networks were integral to the shape and success of recovery for St. Bernardians.

Chapter Six: Choosing a Path Forward

6.1 Introduction

By the time this study was conducted in 2011-12, most St. Bernardians had enough time to determine where their permanent housing would be. One objective of this study is to explore how social networks influenced recovery decisions. This chapter isolates recovery decisions, specifically examining how St. Bernard Parish residents made decisions about where to live and when to make that move.

This chapter will center on the experiences of three pre-Katrina St. Bernard residents who had different experiences. Dan, now in his 60s, moved to Lacombe quickly after his home in Chalmette was destroyed. Dane, now in his 30s, knew he would return to St. Bernard, and he did, but to a different home in a different neighborhood. Greg, also in his 30s, returned to Arabi after first deciding to leave, thus changing his mind. The experiences of others will also be integrated into this discussion.

6.2 Factors and Influences

When Dan realized his home would need to be rebuilt before he and his family could return, he immediately began looking for a home. He loved his home in Chalmette. He had a workshop, a pool and a nice home but he knew he did not want to live in temporary housing while he rebuilt. Dan knew he was in the housing market, along with a large number of other South Shore residents, but he had a job in Chalmette. He just needed somewhere from where he could commute, but he was looking for something more, having left a place he loved, he wanted something new he could love and grow in. Pickings were slim.

Initially, he did what he would do in a normal circumstance when looking for a home, he went to a real estate agent and, not being picky, quickly moved into negotiations. Although he was not being discriminating, he was not without criteria. He knew he did not want to go through the experience of flooding again. He was willing to go anywhere in the metropolitan region if he knew it would not flood.

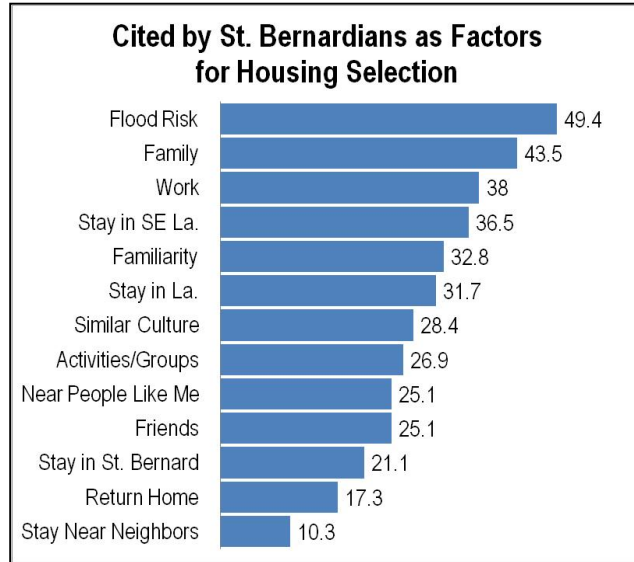
Any house big enough and safe from flooding was the goal, and at the beginning of October, he went to the realtor's office to sign for a house.

The day we went to sign the papers, the deal fell through because they forgot to tell us (about being in an A Flood Zone). They forgot to disclose to us. ... I gotta say after I got through yelling and hollering (about the nondisclosure), I mean, I gotta say I kind of embarrassed myself.

Discouraged, he came home to tell his wife that the house had fallen through. On the same day his wife got a call from a friend from Chalmette who had moved to Lacombe on the North Shore prior to the storm. She said the man across the street was selling his home, and that they should drive by and check it out and maybe see what he was asking for it. After what, at the time, seemed like a drive into the "wilderness," Dan thought he'd wasted his time. It was in the process of getting a new roof, and it was lined with 255 feet of white-picket fence around more than an acre of land. He doubted he could afford it. He'd set a limit of \$200,000. Seeing the family, the owner said he would sell it to Dan for \$145,000, and on a handshake, the deal was made.

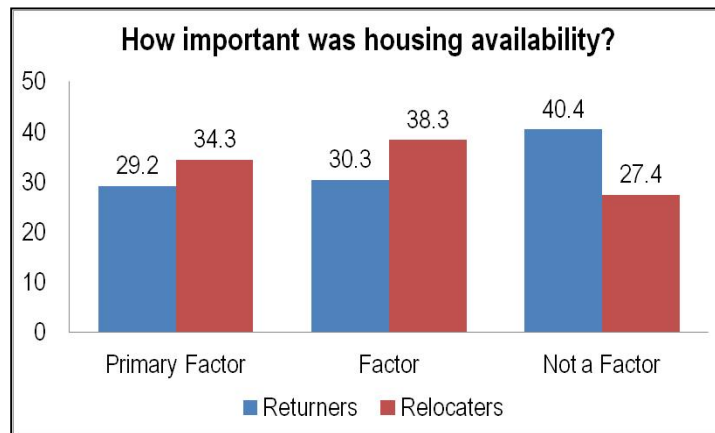
For Dan and his family, housing availability, flood risk and nearness to work were important factors in choosing the home that he now lives in. His wife's friend, a former neighbor in Chalmette, who had relocated prior to the storm was an influence in finding his home in Lacombe. These weren't unusual factors or influences for St. Bernardians who took the survey. Flood risk was selected by 49.4 percent of respondents as a factor for housing selection. Respondents could name as many factors as they felt applied. Family (43.5), work (38.0), and staying in the area (36.5) were also selected by more than a third of respondents, as seen in Figure 6.1.

Figure 6.1 Factors for Housing Selection from the St. Bernard Community Recovery Study



The importance of housing availability was asked in a previous question and is shown in Figure 6.2. More than two-thirds (68.2 percent) listed it as a factor, with 32.8 percent saying it was the primary factor. With a quick return often difficult or impossible, it is not surprising that housing availability is important more so among relocaters, with 72.5 percent stating it as a factor, and 34.2 percent stating it was a primary factor.

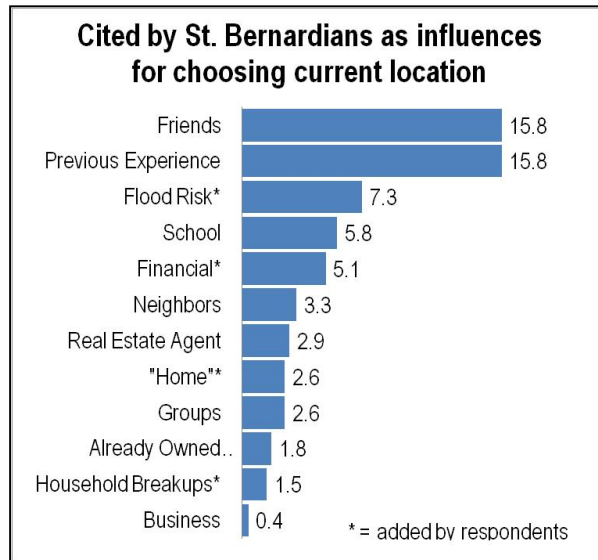
Figure 6.2 Importance of Housing Availability



The influences for housing selection, shown in Figure 6.3, were dominated by friends and previous experiences with the location (15.8 percent each), but also included school (5.8) and neighbors (3.3)

before a real estate agent (2.9) was listed. Respondents added flood risk (7.3), demonstrating its importance, but also financial constraints (5.1), home (2.6) and household breakups (1.5). Connecting through others to strangers with housing was not unusual. Gail bought her home from the son of a coworker and Brian through the neighbor of a friend, and Rachel through her aunt.

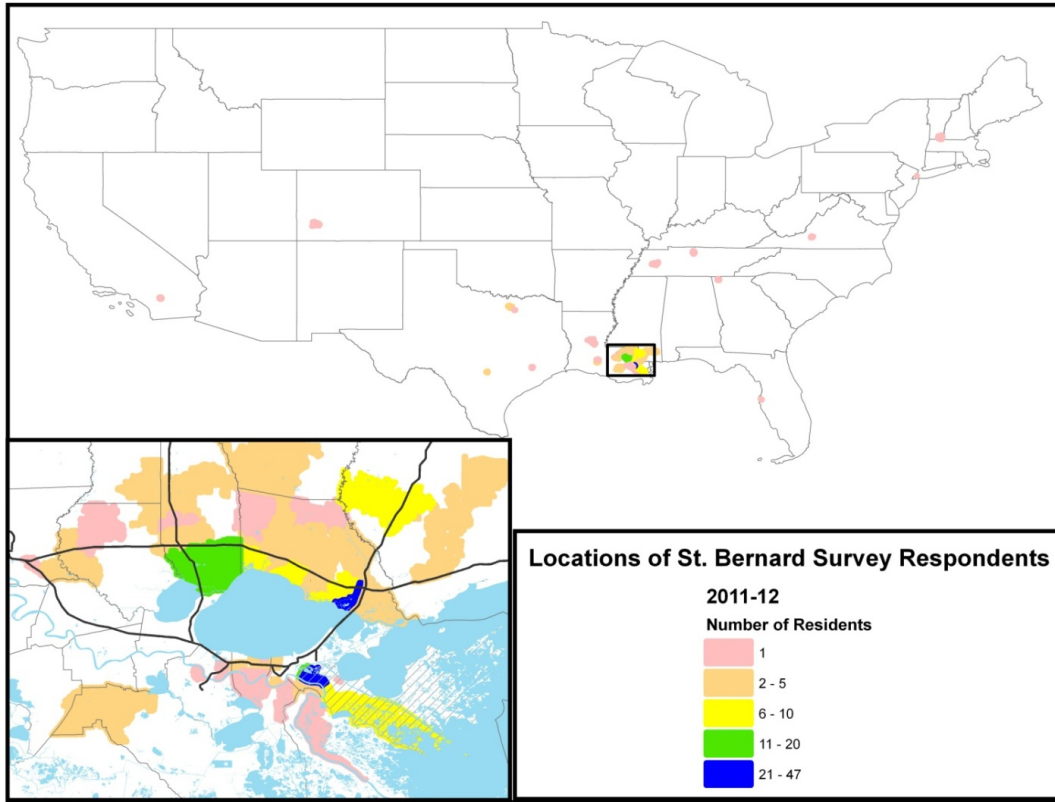
Figure 6.3 Influences for Housing Selection from the St. Bernard Community Recovery Study



6.3 Where St. Bernardians went

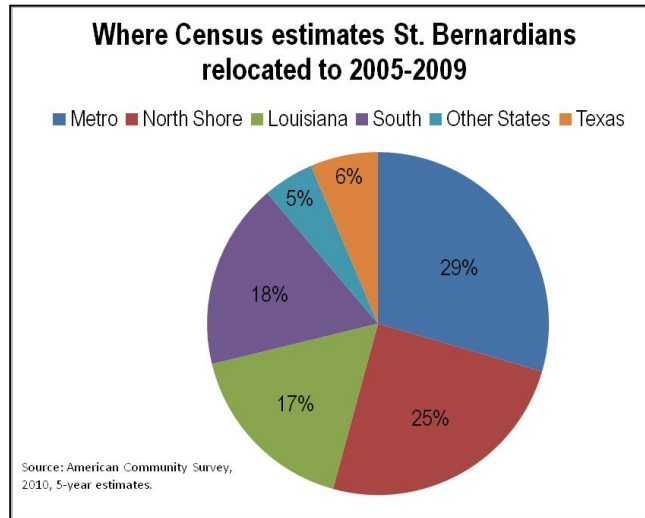
The primary methods for drawing my sample were through St. Bernard networks, including the local newspaper, existing contacts and through listservs and web sites that cater to St. Bernard Parish and all those still interested in it. For that reason, it is anticipated that the sample will be St. Bernard current resident heavy, since they are most likely to be interested in St. Bernard. The sample included a large number of people who no longer reside in St. Bernard. Among those were a large number of St. Bernardians who now live in other states, including Massachusetts and California. Largely, respondents were scattered throughout the South, as shown in Figure 6.4. Clusters occur along suburban corridors that connect easily to St. Bernard, especially along the Interstates on the North Shore. Most respondents relocated back to the New Orleans region; however, the sampling methods likely influence those results.

Figure 6.4 Current Locations of St. Bernard Community Recovery Study Respondents



Census figures from the American Community Survey seem to support the dispersal pattern found in the sample. Five-year estimates, shown in Figure 6.5, suggest that of those relocating from St. Bernard to other locations between 2005 and 2009, 54 percent stayed in the Metro region, with 25 percent relocating to the North Shore. Of those who left the region, most stayed close, with all but 5 percent staying in the South.

Figure 6.5 Current Locations of St. Bernard Residents according to the U.S. Census Bureau



The tendency demonstrated by both the sample and Census data suggest that is one of a homeward orientation to relocation decisions, and that nearby suburban locations are more common than relocations to the central city or rural locations. Dan suggested that he was in pursuit of a similar *home*, and to him, this was symbolized by the white picket fence and big yard that he now calls “home,” just as his previous “home” gave him the luxury of a workshop and a pool.

But similarity was not always what was pursued as St. Bernardians considered their futures. Greg, Katy and Heather, all in their 20s, wanted something different. For Heather, constrained financially from having just purchased and renovated her home prior to Katrina, something different would need to wait, as everything she had would have to go into her home. For Greg and Katy, tenants at the time of Katrina, there were no such constraints. Their rental property was gone. For Katy, so was her job. For Greg, his job became immediately tenuous, as was graduate school, which he was attending part-time. Both of them had whimsically considered living elsewhere before, trying out the anonymous big-city life in far-away places. Now with housing and resources stretched at home, they each departed for elsewhere. Katy, after a rooftop post-storm evacuation, finally caught her breath in Mississippi and decided to drive with a friend to Chicago to meet up with relatives there. She had an idea of what it was going to be like culturally and

socially, but the reality did not live up to the dream. And in the end, it became apparent to her that she wanted to be in St. Bernard and the web of friends and family she left behind.

[Before Katrina] I was planning on moving to Chicago, thinking I needed to get out of the Parish. After Katrina when I went to Chicago, it was like, “no, I hate Chicago.” All I had was my Uncle John and Aunt David and nine cats, and being a lesbian, yes, [Chicago] is a gay kind of city, but it’s kind of male gay.

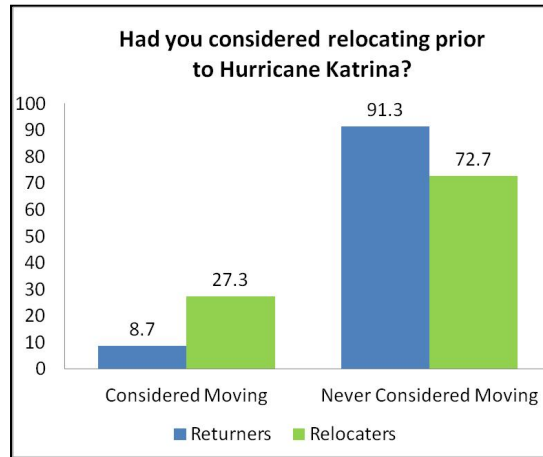
For Greg, he had left job insecurity, academic insecurity and housing insecurity, only to find himself in the same situation in New York City. It was not that he had rejected New York, or discovered a desire to be home as Katy had, but opportunities back in St. Bernard became more appealing.

Everything was sort of waiting for me a few months later, which I didn’t expect. But once I realized all that, I thought it was probably best to just come home.

In the case of both Greg and Katy, the factors and influences switched over time. Greg’s preference changed as constraints shifted. What looked uncertain at the beginning of recovery, began to rebound. It was the capability of his employer to assure the security of his position, and the capability of his academic institution to allow him to continue to progress that drew him back to the area, despite what would be a lingering insecure housing situation, and a period of time in St. Bernard without a car.

It was not just young adults who had considered or embarked upon life outside the Parish; in total, 21.1 percent of respondents indicated that they had considered relocating prior to Hurricane Katrina. This may demonstrate loyalty and satisfaction with St. Bernard Parish, in general, but when the group is divided into returners and relocaters, another trend can be seen. Many more of those who relocated after Katrina (27.3 percent) had considered moving prior to Katrina, but just 8.7 percent of those who returned to St. Bernard after Katrina had previously considered relocating. This is shown in Figure 6.6. It is important to note, however, an overwhelming majority of both groups had never considered moving.

**Figure 6.6 St. Bernard Community Recovery Study Respondents
Pre-Katrina Relocation Consideration**



Yet many of those who had never considered moving prior to the storm did relocate after it, including Terry. He was not constrained by time or resources, although his home on Florida Avenue was destroyed. What was left after the hurricane and 14 feet of flooding was finished by a boat and then struck by a tornado,⁸ leaving nothing to salvage. He wasn't averse to the hard work of rebuilding. Terry rebuilt five different homes with family members after the storm. The house he bought in Slidell needed an estimated \$180,000 of work that he put in himself with the help of family. It too was flooded and the exterior chipped away by a boat driven into it from storm surge. The chimney fell in through the roof. Despite the enormous amount of damage, he initially considered returning and rebuilding. He wanted to wait and see how recovery was going. And he was not pleased. He wanted to see changes in the community aesthetic. When that change did not arrive, under the long-standing pressure of his college roommate, he relocated to Slidell, and since then has seen his friend more frequently.

In the 27 years [that I lived in Chalmette], he came to my house twice and never spent the night. He had been suggesting that I move from that neighborhood for a few years, probably the last seven or eight years. Since the storm, I've been in the house [in Slidell] six years, I've been living in it five and half years. In the first three years I noticed he had stayed with me about 12 times. And I asked him. I said, "So what's the deal?" And he said, "I had been telling you that you needed to upgrade."

⁸ The actual sequence of damage to Terry's home is not known, but his home experienced damage from all three and 14 feet of floodwaters as well.

Not all paths to a new home were taken quickly or easily. One year after Hurricane Katrina, as shown in Figure 6.7, many of the survey respondents were still moving from one temporary housing situation to another or were living in FEMA trailers. Two years later, in 2008, as shown in Figure 6.8, many more had settled into permanent homes, but most of the settling was done in or near St. Bernard. However, by 2010, as shown in Figure 6.9, all new settling was occurring in St. Bernard Parish, with new permanent moves, even in near suburbs, slowed.

Figure 6.7 St. Bernard Community Recovery Study Respondents' Locations for Relocation as of August 29, 2006

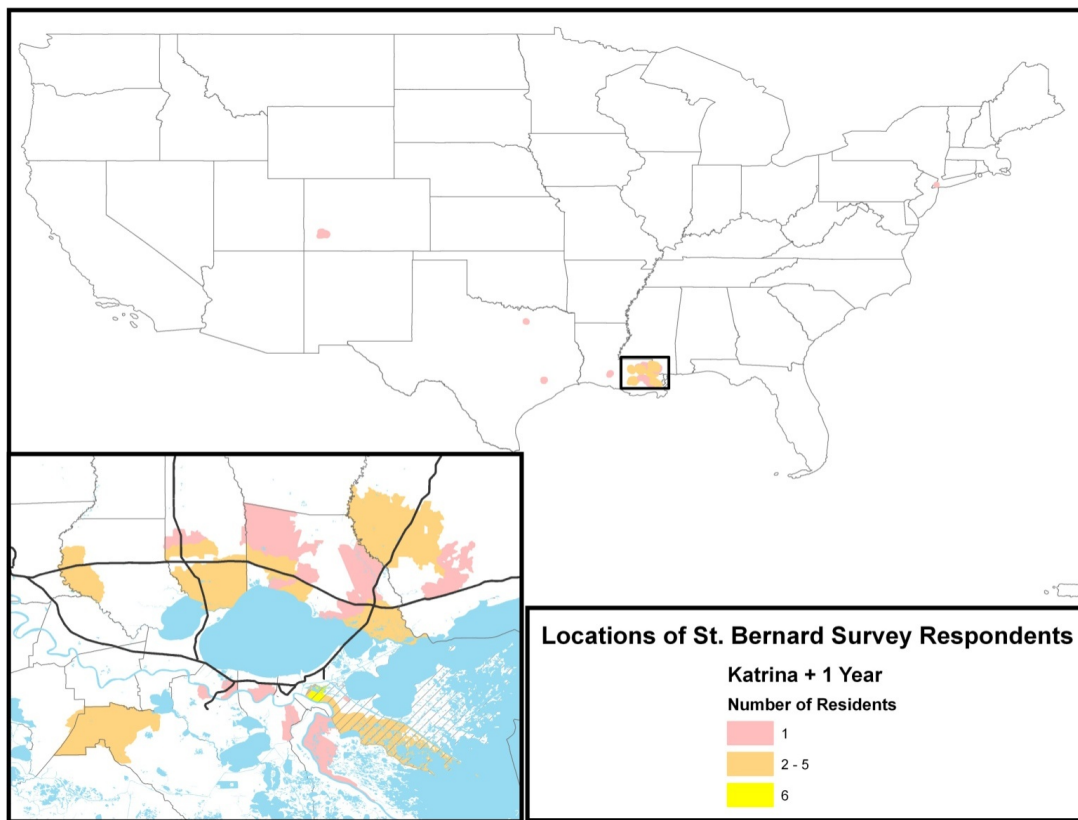


Figure 6.8 St. Bernard Community Recovery Study Respondents' Locations for Relocation as of August 29, 2008

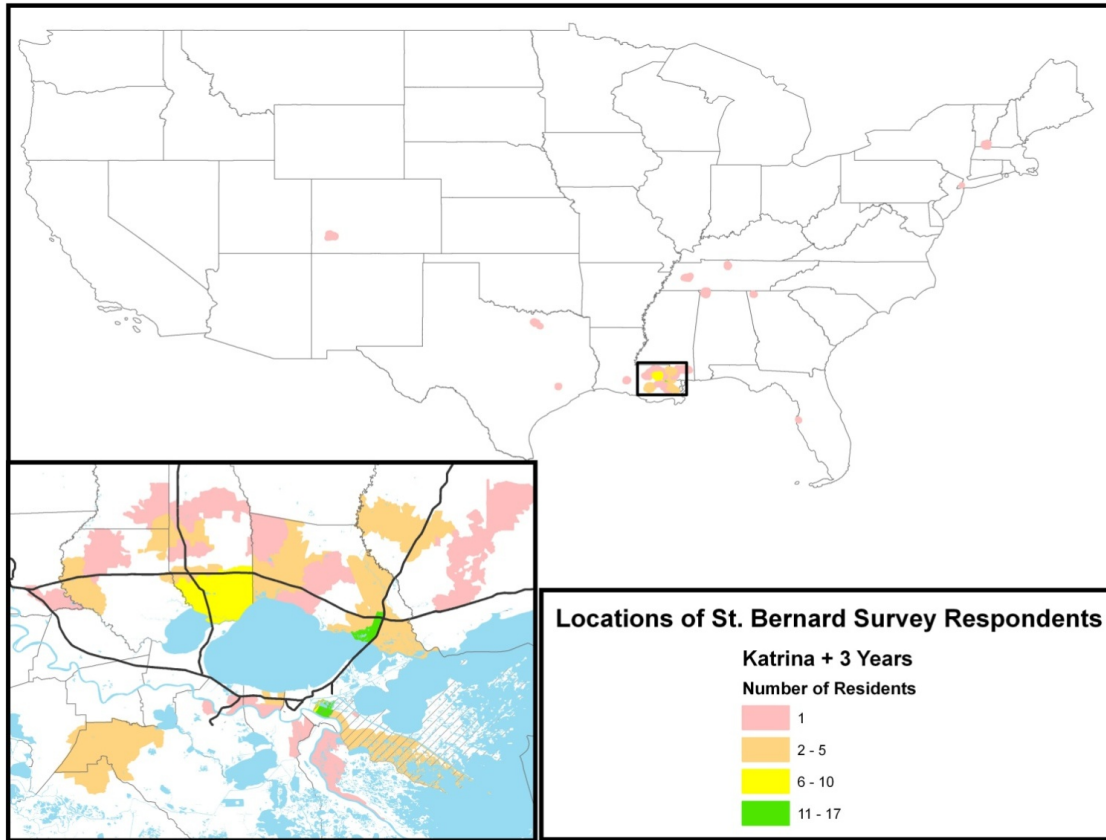
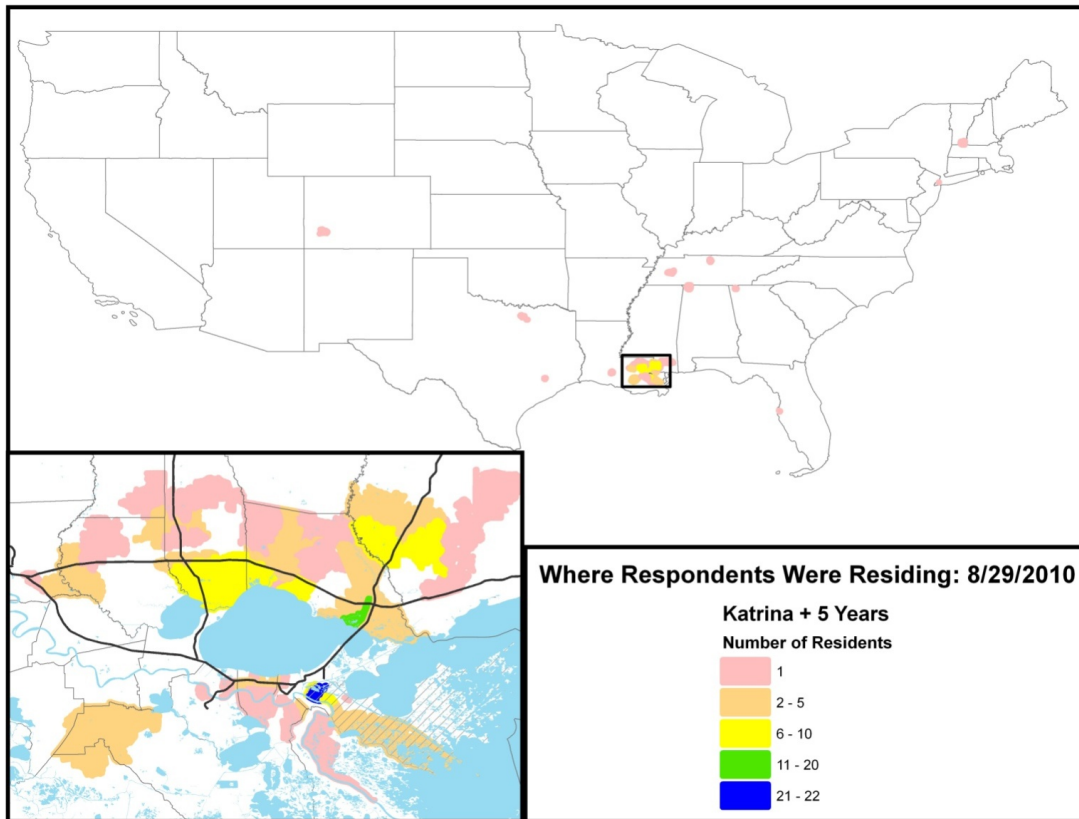
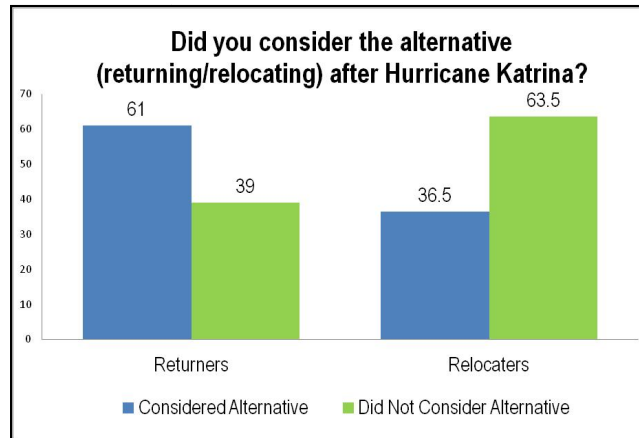


Figure 6.9 St. Bernard Community Recovery Study Respondents' Locations for Relocation as of August 29, 2010



This study also asked respondents if they considered an alternative action to what they took. Respondents who relocated were asked if they considered returning; those who returned were asked if they considered relocating. This was done to determine if the decision was easily made, but the results, shown in Figure 6.10, showed that there were two different narratives. The majority (61 percent) of returners were those like Greg, who considered, and maybe even attempted, to relocate, only to return. Among relocaters, the mirror was true. Relocating was often an easily made choice, with only 36.3 percent of relocaters considers moving back to St. Bernard.

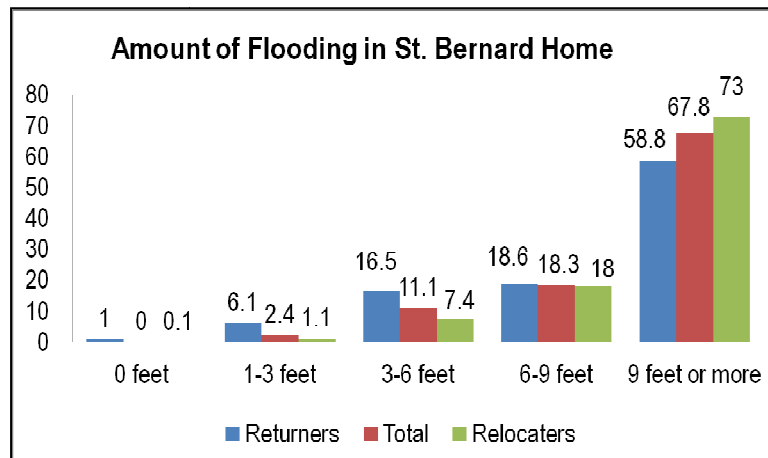
Figure 6.10 St. Bernard Community Recovery Study Respondents' Post-storm Consideration to Alternative (returners considering relocating and relocaters considering returning)



6.4 Who Chose Which Path?

Previous studies (Chang 2010; Quarantelli 1999) indicated that the amount of damage sustained would affect willingness to return, with those receiving less damage more willing to return to face a similar future risk. For this reason, survey respondents were asked to indicate the amount of flooding that their St. Bernard residences took during Hurricane Katrina, shown in Figure 6.11. As many did not return for a month, 3-foot intervals were used, with flooding above 9 feet, which would have been in the second floor of most homes, were lumped together, despite flood depths that exceeded 15 feet in places (Interagency Performance Evaluation Taskforce 2009).

Figure 6.10 Amount of Flooding in St. Bernard Home by Returners and Relocaters



Even for those who returned to St. Bernard, they did not necessarily return to the same home. Dane was certain he was coming back to St. Bernard Parish, even as he was spending time in Houston after the storm, and this sentiment was common among returners.

I didn't want to go anywhere else. This is where I grew up, and everything I liked was here.

Dane had planned to return and to rebuild his home in Chalmette until he showed up to do it. Close to the refinery, his home was not considered to be impacted from the oil spill from the refinery, but he felt uncomfortable with what he saw. His home was not considered to be impacted by the oil spill, but when he returned, his neighborhood was flush with people wearing hazardous material suits cleaning the homes of so many of his neighbors, that he "was afraid" that his home had been contaminated as well. He sold the house and took a FEMA trailer that he parked on his mother's property in Arabi.

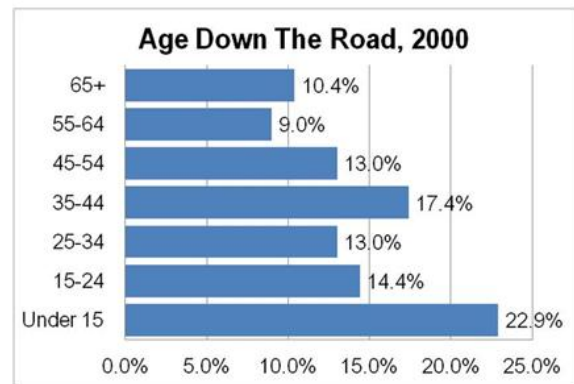
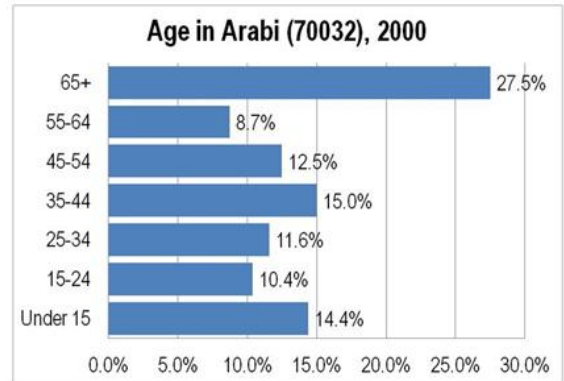
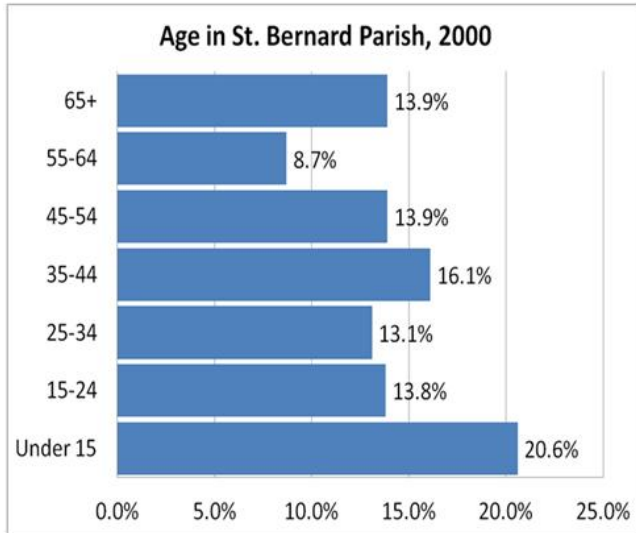
In Arabi, Dane liked what he saw out his FEMA trailer window. Parked at his mother's house in Arabi, it was a neighborhood he was familiar with, and the gutted house across the street had a low price tag. After cobbling together his resources he bought it, eager for the quiet life of the Arabi he had always known and a rebuilding project that he could afford.

I liked Arabi before the storm because it was a nice clean quiet neighborhood before the storm. It was mostly older people. It didn't have the younger population, I guess, so it was more established, and Meraux had all the oil spill and everything. And I don't want to get too far down (the road in) St. Bernard because I didn't know how bad it was going to be down there. It seemed like [the damage] wasn't too bad in Arabi.

Statistics give credence to Dane's pre-conceived notions of Arabi. In his 20s when Katrina hit, he would have felt out of place in a neighborhood with more than a quarter of the population at retirement age or older, Figure 6.11.

Figure 6.11 Census 2000 Age Distribution in the Parish and in 70032, 70085

In 2000, St. Bernard Parish’s age distribution was largely evenly spread, according to the 2000 Census. However, the near-New Orleans suburb of Arabi had a large number of older residents. On the other end of the Parish, the “Down The Road” communities skewed young.

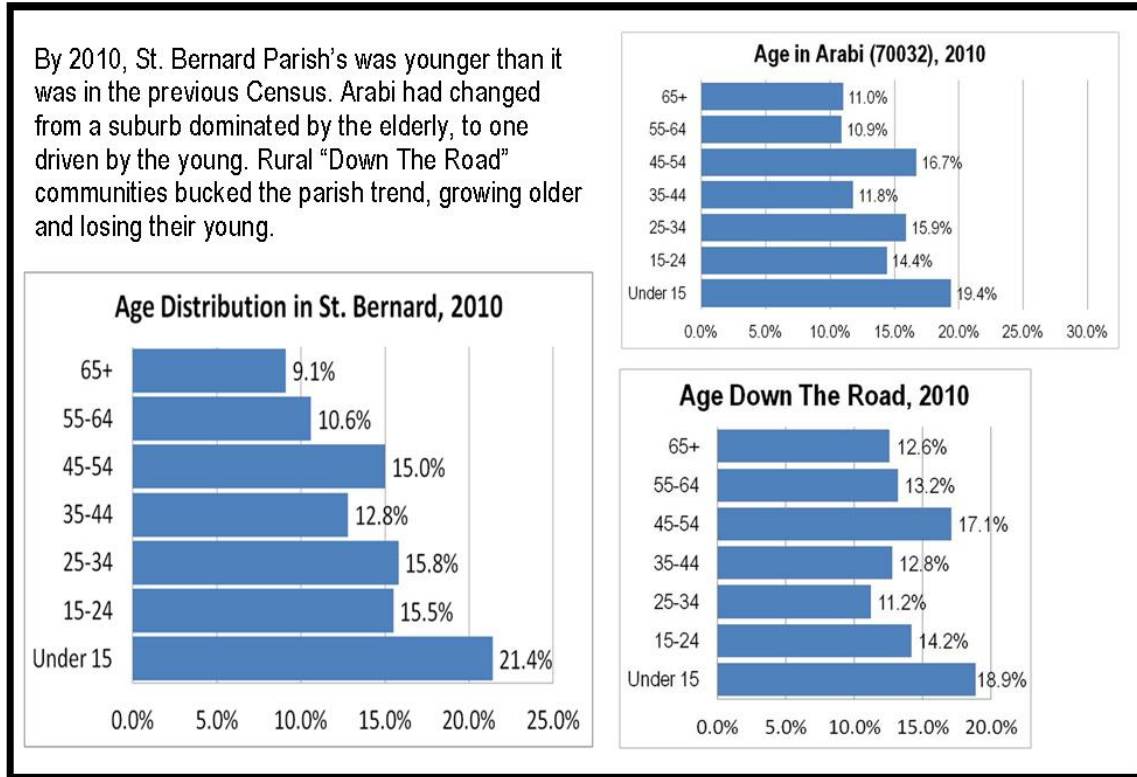


At the other end of the Parish, the rural communities down the road represented the youthful area of the Parish, with more children and young adults than the Parish average, and fewer residents at retirement age. However, Katrina flipped the trend, as shown in Figure 6.12. An estimated 13,000 new residents moved into St. Bernard (Taffaro and Dysart 2010), while others moved within St. Bernard and most relocated elsewhere. This shuffling in of new residents and moving within the parish changed the character and composition of the neighborhoods within St. Bernard Parish. Dane left in fear of the oil spill, but he stayed in St. Bernard. He moved to Arabi, expecting to have quiet, retired neighbors. What he found was a good price and peers all around.

I didn’t really know my neighborhood that well because the people who did come back, they aren’t the original people. They’re relatives of the people, like their grandchildren. [Where I am now], I looked at the house originally, but the guy bought it, or he took it over from his grandma. And then he sold the house to me. Each one of

[four neighbors], they took it over from their parents, and so they're kind of close to my age.

Figure 6.12 Census 2010 Age Distribution in the Parish and in 70032, 70085



Although Greg also ended up in Arabi, he spent time elsewhere. In New York, and in New Orleans, he spent time renting in unimpacted neighborhoods and enjoyed living among unimpacted facilities, but like Dane, the low-cost of owning a home drew him back.

To be honest once I moved to Mid-City, I liked the neighborhood so much and I lived near Esplanade Avenue where there hadn't been much flooding and so I don't want to say that this was a Katrina-free neighborhood, but it really hadn't been touched by Katrina like St. Bernard had. I really liked that about living here [in Mid-City]. And so I really had no intention of leaving except I needed more space, and the amount of money I was going to pay for some additional space to rent something in this neighborhood I knew I could buy something in Arabi. That played a big part in me saying, I'm not going to rent something when I can afford to buy something.

Arabi was rejuvenated with young families, often descendants of previous generations, much like Heather, who moved into her grandmother's home prior to the storm and lives there in Chalmette today.

Others, like Greg and Dane were drawn, like a previous generation, by the prospect of affordable homeownership.

At the other end of Judge Perez Boulevard, the rural area was changing as well. For generations it has been a place where families held big tracts and children grew up to build on the family property. Sharon's property is legally subdivided into pieces for her and each of her three children, but the subdivision of Sharon's property is only on paper. Her children had left for new lives on the North Shore or in the Air Force. In the past 10 years, many of the young had moved. Down the road, the children had gone with the young adults, and now the once young fishing villages and rural outposts became much older. Nearly half of the population was over 40, including Sharon and Christine, now in their 60s. They came back because of ties to the land that went back generations. But Sharon was starting to think that the binds of time and property would not last forever.

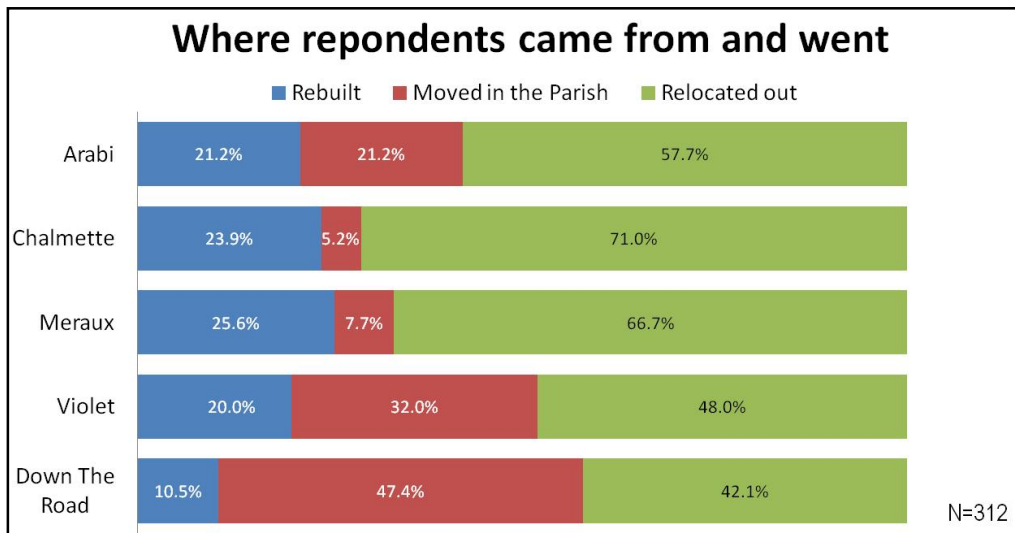
Pretty much everybody down here (in St. Bernard Village) came back. I think one of the differences in this location as opposed to say from Violet on up [the road], is that most people down here No. 1, own a piece of land, not just a lot, and (No. 2), it's more families. If you live in a subdivision, and you have three kids, and they get married, there's no way they can live on your lot. So they have to move away. Whereas down here, kids either build or they've got trailers or whatever, and (they) would stay on a piece of their parent's property. I think that makes a difference. Unfortunately because of Katrina, you have less of the kids that stay. ... The thing of it is, is that [the kids] don't want to put money out to have something like [Katrina] happen again. ... And it probably won't for a while, but at some point there will be another Katrina.

Sharon's property had been officially subdivided to share with her three children, but all three now live elsewhere and will not return. Among those four official lots on her land, only Sharon returned with her husband and a grandchild. As Sharon considered the future, she was not just considering her children's detachment from the land, but she considered relocation as a possibility for her own future. Her parents, now in their 80s, had rebuilt, but their return had been mired with contractor fraud and other struggles. The strain of rebuilding had Sharon thinking that this would even be *her* last stand against hurricanes on the family land.

If it happened again, a big storm like Katrina, I wouldn't come back again, and I wouldn't be the only one. Even if I lived in a subdivision this time, I don't think I would have come back.

While fewer survey respondents from this rural area rebuilt than respondents from any other zip code (10.5 percent), as shown in Figure 6.13, fewer residents from the area, represented by zip code 70085, left the Parish for areas outside St. Bernard. If evidence from respondents and interview informants is characteristic of the population at large, then the rural area may be slowly aging and shrinking. Its residents largely stay tied to the community at large and will continue to have financial investments in the form of family land, even if the residents living on them may be one disaster away from leaving it undeveloped. The owners of these rural lands may be the ones who are often filling in the vast vacancies left by suburban counterparts, who relocated at higher rates.

Figure 6.13 St. Bernard Community Recovery Study Respondents by Origin Zip Code and Housing Decision



6.5 Conclusion

The desire to avoid future flooding and the desire to stay near family, friends and work helped to shape where St. Bernardians would relocate. Most relocating St. Bernardians in my study located near St. Bernard Parish. Even for those who relocated out of state, there was a connection to someone there who helped them to locate housing and find jobs. Despite never considering relocation before Hurricane

Katrina, faced with the prospect of temporary housing and rebuilding, many chose to relocate or to purchase another home in St. Bernard. Suburban St. Bernardians and those with significant damage were more likely to choose relocation. This changed the character of neighborhoods, leaving suburban Arabi younger, and rural St. Bernard older.

Chapter Seven: The New Normal in St. Bernard

7.1 Introduction

In the previous two chapters, I described household and individual decisions, and examined how social networks interfaced with these decisions by providing social capital in the form of shared resources, housing and information, as well as how social networks helped to influence decisions about long-term recovery by providing constraints in the form of social and financial obligations. At the end of the Chapter Six I started to turn toward the community changes experienced as a result of aggregated individual decisions about long-term recovery. These aggregated decisions altered the character of some neighborhoods to the point that post-Katrina shifts were perceived by individuals and observable in the demographics. Recovery processes even responded to recovery rumors and reconstruction plans that would never come to fruition. What was common in St. Bernard, even in neighborhoods with robust return rates, was that St. Bernard had issues with community abandonment. Community abandonment has been linked to increased crime and vandalism and decreasing property values and community pride (Wilson and Taub 2006).

This chapter continues to look at the impact of individual recovery decisions on recovery at the community level as well as the impact of community decisions about recovery on individual recovery decisions as it is experienced in social networks. Faced with sudden, unanticipated change related to community abandonment, St. Bernard as a community had to adapt to both immediate changes and adjust long-term plans to meet the needs of the communities they were becoming. Over the next pages I will describe the “New St. Bernard Parish” as it developed, examining the impact of changes on social networks and recovery decisions.

7.2 The Difficult “Rebirth” of St. Bernard Parish

Once the rooftops were cleared, and the floodwaters began to slowly recede, St. Bernard Parish remained a place of only temporary housing. The first residents were essential personnel, soon followed by refinery workers living in employer-provided temporary facilities and residents who could be self-

contained by bringing in their own food, water and shelter. While most St. Bernardians trekked from the homes of friends, to the homes of family, to the homes of friends of family, struggling to stay away from St. Bernard Parish, those who remained in the Parish had other struggles to confront.

Fire Chief Sutton, and Greg both remained in St. Bernard during its earliest post-Katrina days, living on the Scotia Prince, a 485-foot cruise ship that retired from its route on the North Atlantic coasts of Maine and the Canadian Maritime provinces earlier that year.⁹ The cruise ship did not tour, and the vistas were of a sludge-and-marsh-covered devastation, but the Scotia Prince met immediate housing needs, serving as a dry home with electricity and water. For Chief Sutton, the Scotia Prince and the undamaged Chalmette Refining Facility firehouse became home to the Fire Department, when the standards for home were low. The location provided the opportunity for showers and sleeping, and thus was a luxury in the immediate post-Katrina days. They stayed there for the remainder of 2005, celebrating holidays on the cruise ship.

The regular one-day-on, two-days-off schedule would not be adequate for the Fire Department. The ship and firehouse could house the firefighters, but these were mostly family men, and their families were not there. They were scattered widely with friends and relatives. Chief Sutton first had to come up with an innovative fire schedule that would allow the firefighters to spend time with their families. Scattered throughout the South, the regular one-day-on, two-days-off schedule would not allow firefighters to spend time with families located as far away as Orlando and Little Rock. Instead, the Fire Chief instituted a four-on, eight-off schedule, and took away the right to call in sick.

The duties of work changed too. In the early days, there were few fires, but there was plenty to do. Even without residents to service, or fires to fight, anything that needed to be done in the Parish to get it on its feet became a fire-department duty. Even after residents returned, the fire department would offer an expanded list of public services beyond what most fire departments in the nation provided. Firefighters

⁹ According to the March 19, 2012 edition of the Portland (Maine) Press Herald, the Scotia Prince would continue to India, assisting the tsunami-ravaged area there and in Sri Lanka, and later would be used to evacuate Indian citizens from war-torn Libya before the vessel was scrapped in 2012.

removed mud and marsh-mat so that temporary facilities could be established, they delivered water, inspected roofs for tarpaulins, trained volunteers for safety and worked security among other things.

I did everything you could think of to keep them at work. We had a large force of public servants with no tax base, so anything that needed to be done, I volunteered the fire department to do it.

As temporary housing was made available, the fire department became an early recipient of trailers for the purpose of allowing the firefighters to have their family nearby and to allow them to begin working on their homes when they were off work. Chief Sutton, his force and their families were there together, for better or worse, all the time. There were 90 trailers in a space so tight that cars had to be parked elsewhere, a situation that Sutton described as “like sardines they were so close together.”

Parish officials first allowed residents to come survey their damaged homes on September 17 and were given two days to retrieve their belongings. One section at a time was allowed in, and had to prove their residency and bring in everything they would need to survive in the service-free zone (Staff of the Times-Picayune 2005). Ray came back that day. His wife had wedged all the family photos they could not take with them in a high corner of their closet, and he was able to salvage them before mold and humidity destroyed them. On September 19, re-entry plans were stopped and a mandatory evacuation for Hurricane Rita was ordered as floodwaters re-inundated portions of the parish with up to 8 feet of water (Staff of the Times-Picayune 2005). On September 27, St. Bernard residents not re-inundated by Hurricane Rita were allowed to return, but they had to be self-contained (Staff of the Times-Picayune 2005).

That’s when Christine and her husband returned in their camper, which they parked outside of their St. Bernard Village home on Bayou Road. They started cleaning right away, a task that Christine recalls with rolling eyes and an exasperated expression seven years after it was over. Cleaning in those early days was difficult not just because of the magnitude of the physical damage. There were additional constraints: In St. Bernard Parish, there were no stores, supplies, electricity or water (Nigg 1995). There were no neighbors from whom to borrow tools and no municipal sewers. For the first few months, both up the

road and down the road, St. Bernard was a salvage site of daytime work and night time struggles to get by, not just at the individual level, but at the municipal level as well. Chief Sutton also faced a daily struggle to get water. Loaned a water truck from FEMA via the National Forest Service for municipal fire service, Chief Sutton was quickly told that it would be taken away for use in another community. He refused to release it, because it would leave the community with no water, and he spent time fighting daily battles to protect the community's sole water supply from federal financial officers concerned about bottom lines.

The need for water to fight fires was critical as a rash of arson began as residents returned. Misinformation and greed drove many uninsured St. Bernard residents to fiery conclusions. Believing that their homeowner's insurance policy would cover the damage if their destroyed home caught fire, desperate and greedy residents set fires. This insurance scheme was inaccurate. Chief Sutton had a fire every day in the Parish, and the unique circumstances led to alterations in the firefighting procedures.

We had to develop new tactics for firefighting. We had to stop [firefighters] from making interior fire attacks. It wasn't worth having an injury of any firefighter by going into an entirely destroyed structure to save property that had no value to it. I mean the shell of the structure did, but still it wasn't worth our firefighters getting injured for it. We would have whole blocks burning at one time. We actually started learning how to use the helicopters with the helicopter water drops. We used our first helicopter water drop [ever] on an apartment complex fire, and we'd never used a water drop on a wildland fire, much less a structure fire.

7.2.1 Return of the Private Sector

The fire department and other government officials were soon joined in the private industry by the workforce of St. Bernard Parish's largest employers. Murphy Oil (now Valero Meraux), Exxon/Mobil Chalmette Refining and Domino Sugar were quick to bring trailers and vessels onto their property to house workers who went quickly to work to clean and restart refining operations for their product that had national and international markets. Ray, who worked for Murphy, returned at the time, splitting time between his work site in Meraux and his sister-in-law's home on Covington. Murphy brought in a barge and trailers to house its workforce beginning on Nov.16. It allowed him to work on his house.

More than the temporary arrangements and early access to his flooded home, Ray was happy he would not be looking for work.

Murphy did take care of the people, assuring them that you would have a job, which was the first thing that you would want to hear. Monetarily they gave money to people who were affected and just the ability to just remain working at your present salary. We got fed. We were going to eat. Refinery workers have a way of eating. They fed us pretty good. They housed us.

The certain return and stability of the industrial sector and employment were important to St. Bernard Parish's recovery. At the individual level, having secure employment and a known salary allowed families like Ray's family to know that they would still have income, and they could plan their recovery with a known budget. Ray would purchase a home on the North Shore to live in while his home was rebuilt in Chalmette. He had the income available to do so, and he needed to commute. Ray had this security because he was working for a large employer with an international product that did not rely on a local customer base; it had national and international resources and experience with disaster recovery within its leadership. These were also employers that could not be easily reconstructed elsewhere. The large industrial employers in St. Bernard were quick to respond and recover; the market was not impacted by the catastrophe, and they were invested in their locations in St. Bernard Parish. They needed their individual employees to recover, and they invested in food, temporary housing and other assistance to enable that individual recovery.

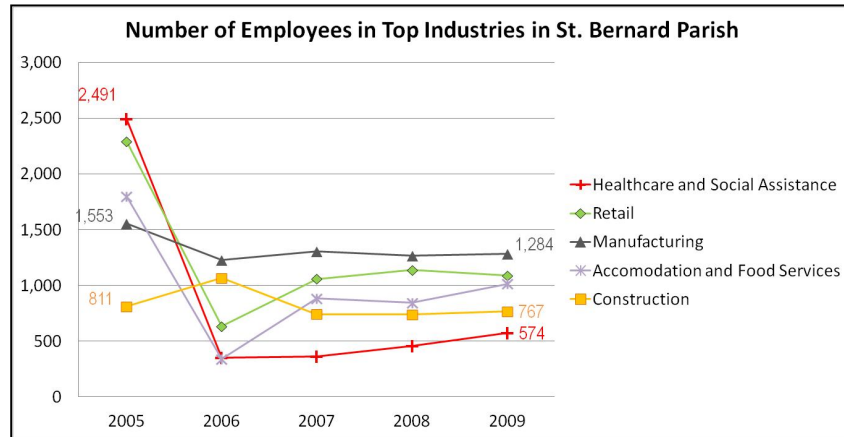
For many others in the private sector, Katrina washed out their homes and their jobs. Restaurant owners like Brian lost their facilities, and their employees lost jobs. Brian was able to cater to refinery workers while opening a new restaurant on the North Shore. Those jobs were limited. Peter, a machinist in New Orleans East, lost his job when Katrina washed the shop away. Kristin, who stayed home with the kids, had to go back to work after Katrina. Her husband owned his own shop in St. Bernard. It is gone, and now he works for someone else. Finding new employment was part of many St. Bernardians' recovery process.

The big industrial employers were important to the community's recovery as well. While both public and private employment with large employers could provide job security and bridge the gap for housing needs, the industrial-sector refineries in St. Bernard provided additional forms of security to the community. The certain and quick return of these facilities would assure a tax base. They were insured and supported by international corporations that could sustain the local devastation without cutting back. This put these facilities in the position to be able to help local officials and their employees. Chief Sutton, in particular, mentioned the facilities willingness to help house and fuel his force, citing the large employers as life support in the early months.

The local industries -- Chalmette Refining, Murphy Oil, Domino Sugar -- those people kind of kept the parish alive with their tax base and their assistance to the parish. The parish had moved their seat of government to Chalmette Refining and we used their fire station, and then Murphy Oil fueled all our rescue vehicles for months.

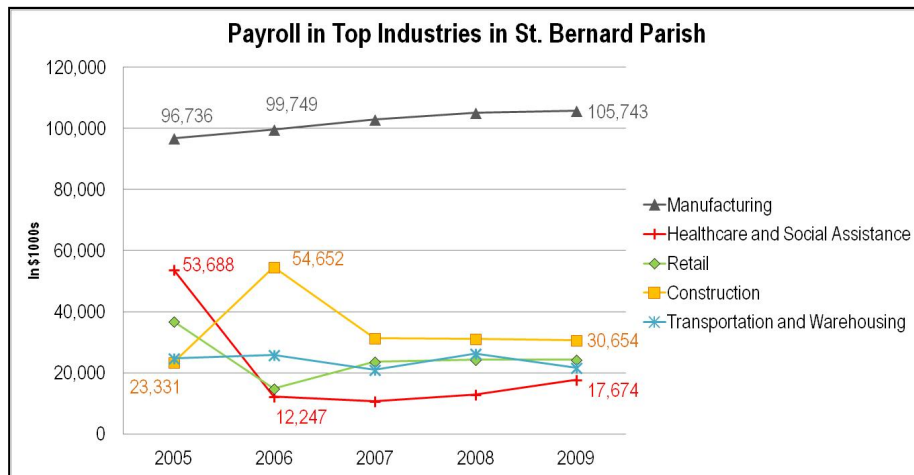
Examining the statistics from the U.S. Census Bureau's annual county business indicators, the stability of the employment and income in the manufacturing sector in St. Bernard can be expressed and easily visualized, especially when compared to the other top employment sectors in the local economy. The manufacturing workforce showed just modest decline after the storm, in contrast to other industries in the Parish. In 2005, the manufacturing sector provided 1,553 jobs, fourth most in the Parish, according to the U.S. Census Bureau's annual county business indicators (U.S. Census Bureau 2005). Healthcare, retail, and accommodation and food services each employed more but these jobs suffered devastating losses in the storm, and their rebound has been slow. Construction employment experienced a surge in 2006 for rebuilding, but has since settled below Pre-Katrina numbers (U.S. Census Bureau 2006). In 2010, with 1,284 employees, the manufacturing sector is the top employer, staying relatively stable after a modest post-storm downturn (U.S. Census Bureau 2010). Chief Sutton also cited job security as a source of peace of mind for his force in the public sector.

Figure 7.1 Employment by Sector in St. Bernard Parish



While the number of employees in the sector may have fallen slightly, the incomes did not. After Katrina, payroll in the manufacturing sector climbed, while all sectors other than construction fell, according to the U.S. Census Bureau’s annual country business indicators, shown in Figure 7.2 (U.S. Census Bureau 2005-2009). Construction, again, showed a boom in 2006 before falling to numbers slightly higher than the pre-Katrina payroll (U.S. Census Bureau 2006-2009).

Figure 7.2 Payroll by Sector in St. Bernard Parish



7.2.2 Coping with Constraints

In the autumn of 2005, St. Bernard was a series of construction sites with trailers, no longer a close-knit tribe of homeowners in bungalows and sprawling ranch homes, but a mud-covered rebuilding project

with nothing to do, nowhere to go and partial services. Nigg (1995) identified three types of constraints from disasters – physical, temporal and subjective – and all three were abundant in St. Bernard.

The physical structure was devastated beyond buildings. Roads were damaged. A large fishing boat blocked passage to one neighborhood in Chalmette while officials considered whose responsibility it was to move it. An arsonist set fire to the vessel, rendering responsibility moot. Debris and construction damaged roads and vehicles more. Temporal constraints were often greater. Shopping needs, once met locally, required a trip across the Mississippi River to the West Bank of New Orleans. The Interstate bridge across Lake Pontchartrain was damaged. Jack initially stayed on as a teacher in the consolidated school in St. Bernard. He was staying with his parents in Slidell on the North Shore of Lake Pontchartrain, a 30-minute drive in pre-Katrina times, but found himself unwilling to cope with the new commute home, which took 2.5 hours.

(It was) the lack of bridge. Lighting. I was coming home at 6 o'clock in New Orleans, and everybody is getting off at 5. No one lives in town anymore. So after two and a half hours and getting home at 8:30, I'm thinking I could care less about what I was going to be teaching (tomorrow). I thought I can't live my life this way, so I politely just put in my resignation and decided to look for something else.

There was plenty of work, but nothing to do, and it took a mental toll, even in returning to work, things were different. Chief Sutton said it was difficult on the early returners, who often lived and worked in a trailer and had few possessions. It took a mental toll, identified by Nigg (1995) as subjective constraints.

Keeping morale up was a challenge for employers. Phil runs a theater production company in St. Bernard. Shortly after the storm he was contacted by the parish government and asked to put on a little production on the Scotia Prince to boost morale, but the experience altered their concept of their own work.

What happened was, and this is one of the greatest experiences I had. ...We put on a show for all the relief workers and all the rescue workers and news came out and did a little piece on it. And this lady, whose son was a fireman, wrote me a letter and said

she saw a clip of her son on the news and he was smiling, and she said she knew it was the first time he'd smiled since August. And that was a turning point for us. Here we were being our usual jackass selves and yet it made a difference for at least one person. That's when we started thinking of ourselves as ambassadors. We were going to use our meager talents as best we could to tell our story and represent the people who didn't have a voice, to keep it out there.

After that experience, Phil created a non-profit in addition to the production company, allowing his regular cast to turn more toward improvisational comedy that they had grown to embrace after the storm, while bringing in arts grants that would allow them to perform plays that preserved the history and culture of St. Bernard. The experience not only provided his company a chance to get back to work and spend time with one another, but it also changed the way they approached the theater. They too, lost their theatrical home, and it shifted the troupe from being a stay-at-home conventional company to something specialized, a roving comedic troupe that also performed cultural-historical pieces designed to capture the local experience.

7.3 After Salvage

When Greg returned to St. Bernard in March, the mud was gone, but not much else had changed. The absence of anything was stark and stressful as he lived with his father in a trailer at the Port of St. Bernard until he could afford to purchase a new car and rent his own place. St. Bernard had become a place of temporary places.

There was just a sea of these office trailers. The park near the office building wasn't there anymore. It was just a sea of FEMA trailers that people were living in. Obviously none of the restaurants. No grocery stores. I was buying groceries from Family Dollar, where, really the only meat you could buy was frozen chicken and things like that. Basically there were no amenities in St. Bernard at the time. Again, that's what made Mid-City so attractive was that I moved here and I lived two blocks away from a very good grocery store and I lived three blocks away from this coffee shop. And restaurants and bars. There were things to do [in Mid-City], where in St. Bernard, there was nothing.

Slowly businesses began to return to serve those working on their homes and working at refineries. Smaller companies, with fewer resources out of the impacted area often relocated, although, like the resident-owners, some of the relocations were temporary. Ray was back at work at Murphy in Meraux,

but up the road in Arabi, his mother-in-law worked on restoring her business, while doing business elsewhere. While running her business out of a smaller facility on the North Shore, she put back their Arabi facility and re-opened there when it was ready. With 50 years in business in St. Bernard Parish, they were committed to staying.

Other business owners felt it was a bad business decision to return. Brian and Heather, both business owners, did not think their businesses would thrive. Brian knew it first hand from his experience feeding workers.

Being at Murphy, you could see how slowly recovery was going. From a business perspective there was no coming back. My customer base was gone. Emotionally I wanted to go back, but it wasn't the best decision for my business. The demographics had changed.

Job security was not always enough. For Chief Sutton's fire fighters, the need to make a home elsewhere soon created high rates of attrition and early retirement. The force went from 116 to 90 in the years just following Katrina, simply through attrition, and it was impacting the Department's capabilities to respond, and taking a toll on the mental fitness of the force.

We had people living from Poplarville, to Baton Rouge, to Denham Springs. And it began to cause a lot of problems for some of these firefighters who had 28-33 years on the job. What they were trying to do was have a normal life for their family. The St. Bernard Parish firefighters, we give our first-year firefighters more live fire training and certifications than any other fire department in the state of Louisiana. We're proud of that. Not only do we have our older firefighters retiring, we had some of our younger firefighters transfer to other fire departments. ... Just trying to rebuild the department was pretty difficult. We went from a department that could put a hazmat team on a hazmat incident to a fire department that struggled to put water on a fire. ... If you look now, probably 30 percent of our fire department has less than 3 years on the job. That's crazy, isn't it? We had a great fitness program pre-Katrina where people had just made such improvements in improving their health to where post-Katrina we had an increase in people who were on medications we still had a lot of counseling that was going on years after Katrina we had people who had to be counseled. We still have some people we keep an eye on when different storms come in. The department was up and coming in fitness to a department that actually had people that were suffering from different types of illnesses a lot of psychological I guess you can call them an illness from the trauma of losing everything.

Some businesses seemed essential as recovery continued. In 2009, Parish President Craig Taffaro held a series of community forums in each of the communities that comprised the parish. In all five, he was asked about the return of Wal-Mart and the hospital. Wal-Mart re-opened on February 3, 2010 (Taffaro and Dysart 2010). The hospital in St. Bernard Parish is scheduled to open on August 1, 2012, but in the intervening seven years the residents' medical needs are served in a series of clinic trailers, which sat in front of the rising shell of a new, but down-sized hospital. When Chalmette Hospital was flooded and closed, the jobs went. It also meant that ailing residents would need to drive farther to see familiar doctors or would have to change to a new physician. Using phone listings for 2005 and 2012, I traced where physicians, who were located in St. Bernard Parish prior to Katrina, were located in 2012, as shown in Figure 7.3 (Yellow Pages 2005, 2012). Slidell, New Orleans and Metairie now have more pre-Katrina St. Bernard Parish physicians than St. Bernard. The loss of physicians carries with it the loss of nurses, office staff, administrators and service workers in the hospital. Earlier figures (7.1 and 7.2) showed the precipitous drop in healthcare employment in the parish.

Figure 7.3 Departure of St. Bernard Physicians

Pre-Katrina St. Bernard Physicians' Location in 2012	
Slidell	10
New Orleans	8
Metairie	7
St Bernard	5
Covington	4
Kenner	2
Luling	2
Marrero	2
Gretna	1
Hammond	1
Lacombe	1
Texas (various)	3

Source: Yellow Pages, 2005, 2012

Smaller businesses and retail firms have trickled back in. Each opening is an event. The parish government posts photos for every ribbon-cutting ceremony, and no retail business is too small to warrant

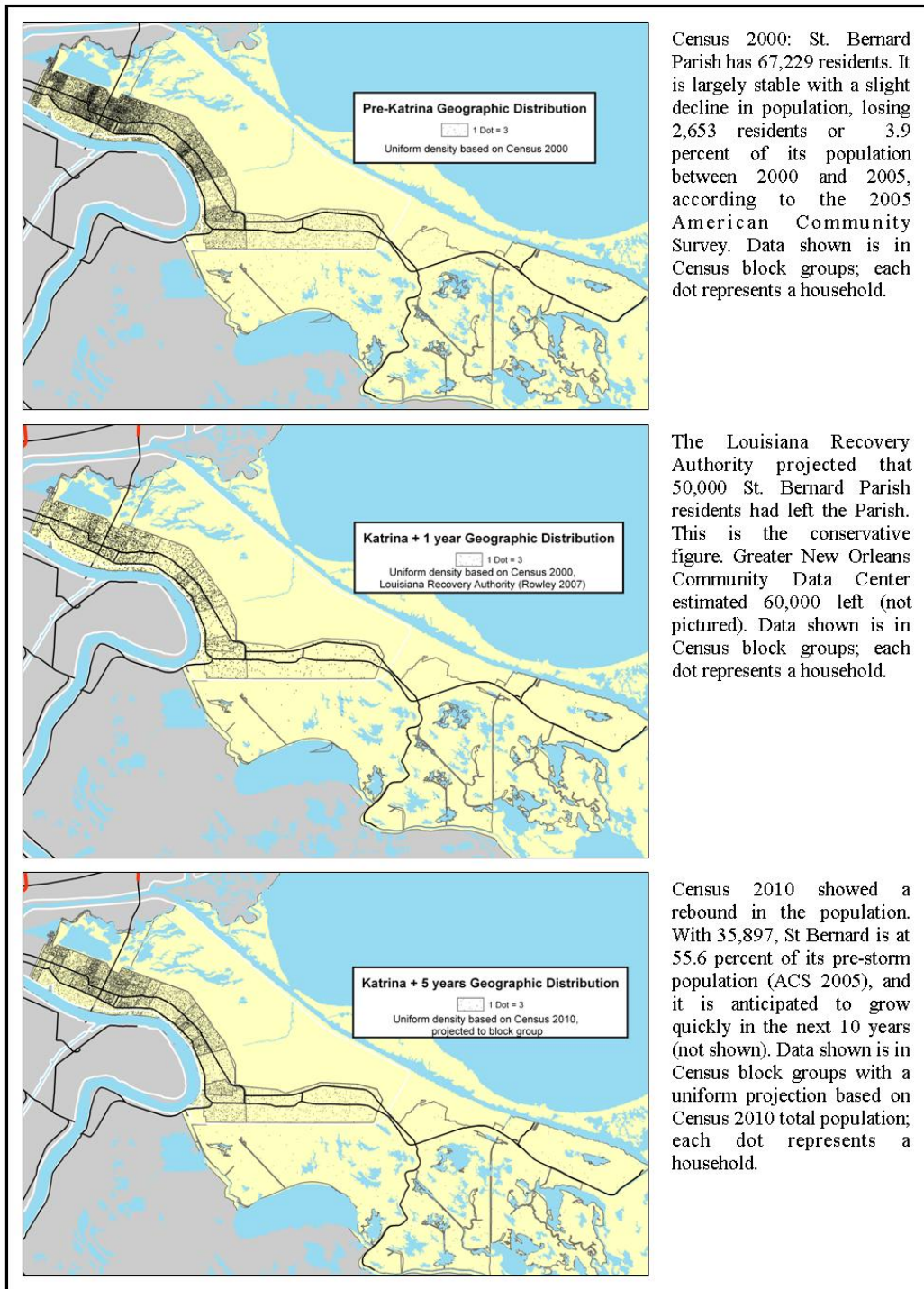
such an affair. Even six years after the storm, the April 12, 2012 opening of Little Caesar's Pizza maintained a line out the door well beyond dinner rush, demonstrating that it was not just the parish officials that were excited for new shops.

Better than new shops, were old friends and neighbors. In the early days, it was difficult to tell who was cleaning to relocate and who was cleaning to rebuild from a distance. People who were returning were staying nights elsewhere, and people who planned to relocate were cleaning to put their properties on the market. Ray said the way to tell was during personal interaction. Behaviors could indicate both increased appreciation for friends and neighbors and plans for the future.

Hugs were different right after the storm, too. If you see someone you hadn't seen in a while, and [if] you're a guy and a girl, you're going to give them a little hug and a kiss. It's no longer a little hug and a kiss. It's a hug like you're saving them from drowning. ... And then they ask you if you're coming back. Usually the people that were asking that were the people who were coming back. If they didn't ask it, they weren't coming back. And you could tell early on who was going to be around, who was going to be here.

Over time, more residents returned to St. Bernard, joining others who moved there for the first time. In the first year, however, population was sparse. Figure 7.4 shows a graphical projection of the population. Using a uniform dot-density model with each dot representing a household, the population of St. Bernard is modeled using Census 2000, Louisiana Recovery Authority 2006, and Census 2010 data (U.S. Census Bureau 2000; Louisiana Recovery Authority 2006a; U.S. Census Bureau 2010). Recovery was not, however, uniform, with some places returning at faster rates than others. With an estimated 17,000 residents returning in the first year (Louisiana Recovery Authority 2006a), a once dense population was sparse in the settled area, but five years after Katrina, the population is starting to fill in (U.S. Census Bureau 2010).

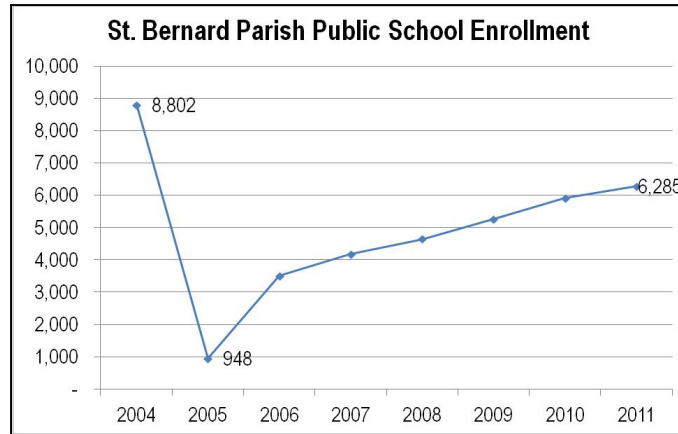
Figure 7.4 Uniform Dot-Density Models of St. Bernard population



School statistics can serve as a proxy for both population and employment. A unified school opened in St. Bernard after Katrina. A full school system was unnecessary at the time. There was a loss of about 7,900 students in the first year, as shown in Figure 7.5, with a bump in 2006 and a nearly uniform

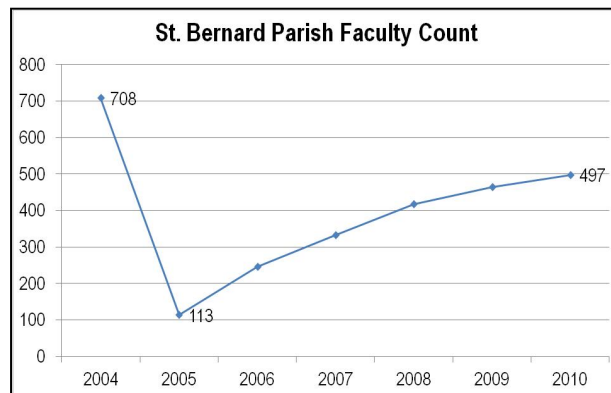
increase each additional year, bringing the enrollment to 71.4 percent of the Pre-Katrina enrollment (2004), according to the Louisiana Department of Education, which looks at Oct. 1 enrollment figures.

Figure 7.5 Louisiana Department of Education Enrollment in St. Bernard Parish



School closures led to the loss of teachers. However, schools also serve as community centers where families with children interact. Figure 7.6 shows the faculty counts in St. Bernard Parish public schools. It shows a similar trend to school enrollment, with the faculty count rising to 70.2 percent of the 2004 figure after a significant loss immediately after Katrina.

Figure 7.6 Louisiana Department of Education Faculty Employment in St. Bernard Parish



Since Katrina, slow growth has led to reduced constraints on time as small businesses and retail have returned, bringing jobs and new places to shop and eat (Nigg 1995). New facilities have been built to

replace the old, including new schools and firehouses. St. Bernard Parish is slowly growing back into its footprint.

7.4 Defending Open Spaces and Creating Open Space

Regardless of individuals’ recovery trajectories, St. Bernard Parish and its residents had to face a present and immediate future complicated by the loss of neighbors to relocation, and the loss of the homes where those neighbors once lived. Ray, Katy, Heather, Chief Sutton, and Sharon all mentioned the loss of neighbors. Often, much like Dane did when I asked what his neighborhood was like. They laugh and cast it into an ironic positive, looking at the missing neighbors as “open space” or “green space,” noting the “quiet,” “peace” and lack of traffic.

Empty lots became an immediately apparent complication, not just to neighbors, but to local and state governments. According to the U.S. Census Bureau, the vacancy rate in St. Bernard Parish went from 6.2 percent in 2000 to 25.4 percent in 2010, this despite a large number of homes that were demolished. In Wilson and Taub’s (2006) study of Chicago’s Beltway community, vacancy rates were one of the indicators residents mentioned that caused them to believe that the neighborhood was in decline. Figure 7.7 shows other indicators listed in Wilson and Taub’s study for which data could be found.¹⁰

Figure 7.7 Indicators of Decline in St. Bernard Parish (Wilson and Taub 2006)

	Pre-Katrina	Post-Katrina
Vacancy Rate ¹	6.2	25.4
Percent African-American ¹	7.6	17.7
Percent Hispanic ¹	5.1	9.2
Real Estate Avg Sale Price ²	\$115,741	\$93,468
Real Estate Avg Days on Market ²	64	138
Homeownership Rate ¹	74.6	65.7
1: U.S. Census 2000, 2010.		
2: Gulf South Real Estate Information Network, Inc. 08/2005, 03/2012		

¹⁰ St. Bernard Sheriff’s Office does not voluntarily report crime data to the Bureau of Justice Statistics.

The problem with open spaces was more than a problem if slow rebuilding, demolition and blight. Often cast as a blessing of a clean slate, Katrina's clearing of development may have offered the opportunity to re-envision a St. Bernard Parish without its previous blemishes, but it also offered the opportunity for dramatic changes. For the stable, interconnected community of St. Bernard Parish, change was not always welcome. Open spaces, rebuilt and gutted homes and abandoned property opened the door for others to fill in the open spaces. Not all others were necessarily welcome by all. A generation before the older residents of St. Bernard had rushed to the then-rural parish to escape unwelcome changes in their neighborhoods and schools and recreate their community in opposition to neighboring New Orleans, one that was working class, white and suburban by design.

Katrina would renew old fears of strangers. A generation prior white Ninth Ward residents had protested the forced integration of schools by protesting at the schools as African-American children entered, shouting and throwing rocks (Landphair 2007). Southeast Louisiana has a history with racial discrimination but also copes with these issues in contemporary arenas. In the aftermath of Hurricane Katrina, African-American residents were shot and killed on the Danziger Bridge by white New Orleans police officers as they tried to walk to safety.¹¹ Crescent City Connection Police and Gretna City Police in suburban Jefferson Parish blockaded the bridge and pulled guns to turn away African-American evacuees from New Orleans trying to cross the Mississippi River Bridge to dry land.¹² In 2012, the NOPD would agree to a consent decree after the Department of Justice found that the department engaged in racially discriminatory practices as well as having other problems.¹³

In St. Bernard, the fear of new people, embodied in the image of an unemployed African-American in New Orleans East or the Lower Ninth Ward, was equally present. With just three entrances into the community from New Orleans, St. Bernard immediately enacted administrative procedures to control

¹¹ As of July 2012, 10 NOPD police officers have been sentenced after pleading or being found guilty of crimes related to the shooting and its cover-up.

¹² Crescent City Connection is a bridge authority.

¹³ Other findings included excessive use of force, corruption and illegal searches, which, combined with racially discriminatory practices, impacted African-Americans more.

access to residents only. Stacking destroyed cars at the parish line, St. Bernard Sherriff's deputies checked residency before allowing people to return to look at their damaged homes in the immediate aftermath, but would continue to invoke administrative irregularities in an attempt to ward off a feared influx of impoverished New Orleans renters who would bring crime, fail to invest in the community and reduce the investment that returning residents were making in the community that was perceived as "theirs" to defend. With many returning residents taking on excessive debt to rebuild, the protection of their investment in their homes drove many returning residents into heavy civic engagement on the issue and lead some politicians to make bold moves to retain popularity. It became a question of community membership and access, complicated and maybe even agitated by the dramatic and sudden changes of recovery.

Much like St. Bernard Parish after Katrina, Wilson and Taub (2006) and Kefalas (2003) noted that Chicago's Beltway neighborhood was obstinately facing change. Beltway, too, was populated by white, working-class families who lived in bungalows. Beltway residents viewed themselves as a conservative family-centered community where relatives often passed their homes on to the young, as Dane and Rachel had both experienced in St. Bernard. There are even historical similarities to the development of suburban St. Bernard and Chicago's Beltway. Both formed when racial integration of schools and housing motivated residents to abandon their urban neighborhoods (Wilson and Taub 2006, Landphair 2007, Kefalas 2003). Wilson and Taub (2006) and Kefalas (2003) indicate that it was that an increasing number of homes passed to Hispanic and African-American renters, instead of being sold or passed along family lines, that challenged residents' image of their community as a place of familiarity and stability (Wilson and Taub 2006, Kefalas 2003). These unfamiliar and sometimes different-looking new residents were viewed as a threat to property values, public safety and social order (Wilson and Taub 2006, Kefalas 2003). More importantly, the Beltway residents viewed these actions as an encroachment upon the last place in the city where they could afford to own a house with a yard (Kefalas 2003). Thus, the residents perceived change as a threat to a way of life, as they felt squeezed between the economics of increasing

property values in middle-class neighborhoods and the decentralization of crime and poverty from lower-class neighborhoods, often associated with minority status and tenancy (Kefalas 2003).

Collective and administrative measures were adopted to stave off the threat to community character in Beltway, and to outsiders, these actions were often viewed as extreme while being popular locally (Kefalas 2003; Wilson and Taub 2006). These actions were taken in what was perceived as a defense of a way of life. It was precisely the society with its interconnected social networks and its blue-collar, family-centered way of life that residents and officials were protecting (Wilson and Taub 2006, Kefalas 2003). Regardless of perception, the measures were enacted to limit access to the community to those familiar and connected to the community. In this way, the social network became a pre-requisite for community membership and served as a means for exclusion of outsiders.

The actions of St. Bernard Parish in the years following Hurricane Katrina, and the comments made by informants suggest that St. Bernard's swift demographic change after the storm was not just similar in character to the changes in Beltway, but its defense of the nature of the community that they had built would be just as strong, but more urgent as change was occurring quickly in the midst of rebuilding. The defense of the suburban village in St. Bernard Parish would be mounted in a number of arenas. One arena of this defense played out in the fate of the open spaces that were left by relocating neighbors. Actions were taken by the Parish Council and Planning Commission to control recovery, and limit the types of development and the range of residents who could live in the community. It would result in costly court battles, and was fueled by vociferous public support by homeowners who had returned to St. Bernard after Katrina who had moved to the area a generation prior to "escape" school integration, and a perceived influx of poor minorities (Landphair 2007).

A series of issues related to the fate of unoccupied tracts became dominating political issues in St. Bernard Parish. Initially, there were issues relating to who had the right to determine the post-Katrina form, then the cleanup and maintenance of properties. This was followed by the restriction of who may

rent existing homes, then the conversion of an area of apartments to green space before a final battle was waged against a new development that residents feared would bring undesirables into the community at high rates. Appendix A shows the results of a media and document study that identified 28 different actions taken by state, local or community organizations that related to the fate of unoccupied parcels and their negative impact to the community.

7.4.1 Planning: Who decides?

The initial actions came from the state and from local citizens. These planning efforts involved dramatic and expensive redevelopment plans that would have entailed re-subdivision of land, increased open space and a redevelopment and change in ownership in large portions of the Parish. Two primary bodies initiated post-disaster planning activities in the community. The St. Bernard Parish Citizens Recovery Committee (CRC) was formed from active pre-Katrina homeowners, and it worked with Waggoner & Ball Architects and the Tulane Regional Urban Design Center to form a plan starting in the winter of 2005. The state, through the Louisiana Recovery Authority brought in the new urbanist firm Duany, Plater-Zyberk and Company, to conduct a charrette with returning residents and create a plan. Activities for these plans occurred between December of 2005 and April 2006, and included residents and those who were staying elsewhere but willing to come back to the Parish to participate (Louisiana Recovery Authority 2006b).

The state plan, led by renowned architect Andres Duany, was unveiled to hundreds of residents. Planned by outsiders to the community, it incorporated transportation, town squares and large amounts of open space to serve as mitigation for future events and would require billions of dollars in investment for redevelopment (Louisiana Recovery Authority 2006b). Created by early returners, the plans include medical, government and collegiate campuses, extensive transit, golf courses and recreational kayaking courses into redevelopment plans that would eliminate large areas of residential development and increased residential density. It demonstrated a disconnection with the recreational needs, residential

form, and car-based lifestyle that existed in St. Bernard prior to Katrina. Instead, it favored popular middle-class redevelopment movements that ran counter to the St. Bernard experience.

In addition to being impractical culturally, the funds needed to implement the redevelopment would likely never be generated by the working-class community struggling to rebuild. Chief Sutton considered the effort a detriment to long-term recovery in the community, leading some residents to opt to relocate when it looked as if their homes were being planned as part of a park footprint. He also knew an unrealistic plan when he saw it.

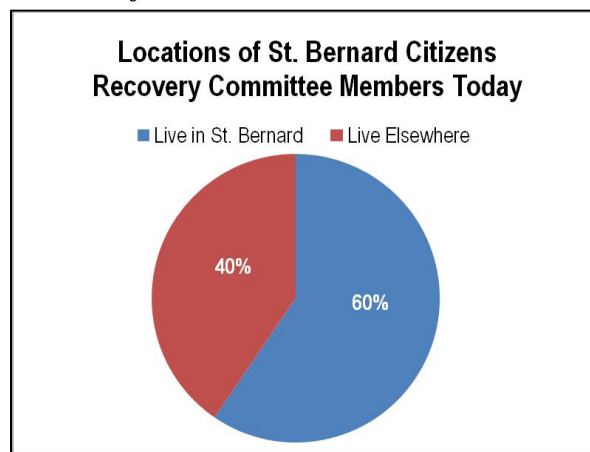
I called it the Duany wet dream. Because that's what it was. It was fantasy. How they were going to come in and make it a new model community, and they're showing all these great drawings. And that's perfect. We could look like we live in Disney World if someone would give us the money to for that. It was beautiful, but it wasn't realistic. ... But of course you realize it was a waste of the state's money because nothing ever came of it but a bunch of drawings.

The recovery plan that residents created in the wake of the catastrophe did come from involved residents, and from a group that grew organically from early returning St. Bernardians. It, too, called for an increase in open space and redevelopment in some areas, though its plans were less expensive or dramatic. There was a recognition that areas farthest from the river, especially those in Buccaneer Villa and Carolyn Park in the northern areas of Arabi and Chalmette would need to have a lower density to prevent a repeat of the damage done by Katrina during future disasters. The CRC members considered land swaps and working with large landowners in the Parish to develop land for the purpose of swapping (St. Bernard Parish Citizens' Recovery Committee 2006). Brian, a member of the CRC, would have been one of the residents asked to swap, and said at the time, he would have traded for a smaller lot. Full of hope, the CRC presented plans that, just like the high-cost DPZ plan, never came to be. As Brian described the experience:

It was the government that was charged with putting it back, and they were not necessarily the smartest that were in charge at the time, and the people in the government were scared to make tough choices. Still, it was amazing to see all these great ideas coming from the committee fall on deaf ears.

Brian understood the position the government was in, financially and possibly legally constrained from discouraging anyone to rebuild. He knew it was also dealing with a catastrophe with just limited staff. Still, the pace of recovery was not encouraging. He relocated, and despite being an active and engaged citizen prior to Katrina, and during the early recovery period, today he no longer even visits the Parish routinely. That trajectory was not uncommon among parish leaders on the CRC. Figure 7.8 shows the results of an organizational membership analysis, using 2012 White Pages and Facebook to determine the current locations of members listed in the 2006 recovery plan. While the majority of members live in St. Bernard Parish today, 40 percent live elsewhere, with some maintaining businesses in St. Bernard. With nearly half of the post-disaster citizen recovery planning committee members no longer in St. Bernard, it calls into question the value of planning for recovery when the process is under way. The population, in flux, may experience additional uncertainty about their housing future when plans show alternate uses. Frustration with the planning process may frustrate citizen-leaders like Brian, still engaged in his own household and business decision-making. Two informants mentioned planned green space for their property as a factor that motivated them to look elsewhere.

Figure 7.8 2012 Locations of St. Bernard Parish Citizens' Recovery Committee

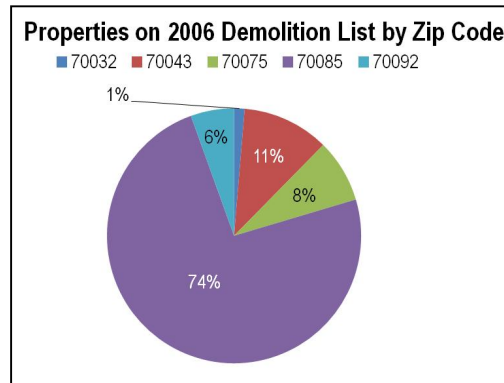


7.4.2 Maintenance and Demolition: Fending off Blight

The next battlefront was the front lawn. One year after Hurricane Katrina, St. Bernard Parish released its first demolition list (St. Bernard Parish Council 2006). The 598 properties on the Parish

government’s list, shown by Zip Code in Figure 7.9, had been deemed a health and safety hazard with the owner failing to contact the parish or secure the property. They were not evenly dispersed. Just 20 percent were in the suburban communities of Arabi, Chalmette and Meraux, while 74 percent were in the fully rural 70085 zip code (St. Bernard Parish Council 2006).

Figure 7.9 Location of Properties on the Parish Government’s 2006 Demolition List



The initial demolition list was the first round of administrative actions aimed at reducing abandonment. Grass grows year-round in the warm climate in Southeast Louisiana. By February 2007, the vacant lots had reached another crisis point. The sparse and dispersed residents living in St. Bernard were at odds with those who left. Unsecured homes and 10-foot tall lawns prompted the parish government to start applying \$100/day fines to offenders to prompt compliance (Staff of the Times-Picayune 2007). In 2009, maintenance violations would undergo another period of heavy enforcement (Kirkham 2009a). Much as in Wilson and Taub’s (2006) and Kefalas’ (2003) Beltway, St. Bernard Parish fought decline by enforcing maintenance laws to keep their community pleasant looking and free of blight in an effort to maintain property values high enough to deter impoverished newcomers and attract and maintain homeowners.

7.4.3 Controlling Access: Rental Properties

As the first demolitions were being sorted out in the fall of 2006, St. Bernard began to address more than the physical future of vacated spaces. Two controversial rental-property restrictions were enacted by

government officials in September 2006 that would have them in court off and on for at least six years. The St. Bernard Parish Council enacted a moratorium on the rebuilding and new construction of all multi-family housing of five or more units, and a covenant restriction on all existing construction that limited tenancy to blood-relatives of the owner. The actions were viewed locally as an effort to slow down recovery so that the community could recover in the way it wanted as well as a method to keep non-local speculators and New Orleans landlords from purchasing property cheaply to make money and increase the number of renters, threatening the image that the community had of itself as a safe homeownership community of known families and friends. The actions served to limit the number of new residents to those who were familiar to returning residents and those who had someone familiar to vouch for them, essentially there was an effort to keep St. Bernard Parish within the parameters of the pre-Katrina social networks, and exclude others. In a community that was largely racially homogenous, these actions limited the access to those of other races only to those known, and therefore accepted, by the existing residents. This action and others, including maintenance measures, were also viewed as a way for returning St. Bernardians to make relocating residents responsible for the upkeep of their properties and community stability. With these actions, abandonment of St. Bernard Parish in the physical sense came with the social responsibility to maintain the socially stable networks of the communities to those already there.

The influx of new people was expressed in terms that expressed the fear of new races and classes of people. Six of 23 informants discussed the changes to St. Bernard as one of “demographic change,” this same concentration on the differences between newcomers and returning residents as one of demographic difference was echoed by leaders as exclusionary to others, primarily the African-American neighbors that older St. Bernardians had relocated to St. Bernard to flee.

The exclusionary administrative measures drew attention from housing advocates, outside observers and eventually the courts. While there was a contingent of older residents eager to provide inflammatory racist statements in public meetings, four years of observation indicate that for most St. Bernardians the objection was not based entirely on race. Objections to open access to housing were often characterized as

fear of the criminal class, and a desire to maintain the cozy appeal of interconnected social networks. Even incoming white newcomers could find it difficult to crack the “sitting out circles” in their neighborhoods. However, that neighboring African-Americans in the Lower Ninth Ward were perceived, not just as part of that group, but the dominant member of the group of feared strangers was clear. Residents at public meetings and in private discussions were clear that they feared becoming “another Lower Ninth Ward.”

The first legal objection to these actions would be filed one month later when the Greater New Orleans Fair Housing Action Center objected to the “blood relative” clause, stating it was in violation of the Fair Housing Act (Greater New Orleans Fair Housing Action Center et al. vs. St. Bernard Parish et al. 2009). Since St. Bernard Parish was a predominantly white community, the blood-relative clause maintained the parish racial composition, and restricted access to non-St. Bernardians. In the March 25, 2009 court order, U.S. District Court Judge H. Ginger Berrigan cited evidence that the blood-relative clause was enacted precisely to maintain racial composition, citing Parish President Craig Taffaro’s own editorial comments posted on the Parish Web site in his weekly address. Wrote Berrigan:

Mr. Taffaro later stated that the purpose of the “blood relative” ordinance was to “maintain the demographics of St. Bernard Parish.” (Tr. Mar. 12 Hr’g 44.) Given that St. Bernard Parish is overwhelmingly Caucasian, plaintiff claimed the ordinance was racially discriminatory since African-Americans de facto became ineligible for rental housing in the Parish.” (Greater New Orleans Fair Housing Action Center et al. vs. St. Bernard Parish et al. 2009, 9)

A moratorium on new multifamily housing allowed the Parish to plan and implement redevelopment of Village Square, a once-problematic area of dense apartments, with a large minority population. Initially planning to redevelop the area as a medical unit/senior housing/park combination with a mix of Community Development Block Grant funding from the Department of Housing and Urban Development and Hazard Mitigation Grant Program funding from FEMA, parish leaders soon found that the funding programs could not be easily combined. Instead the area was redeveloped with 34 acres of open space, for possible use as festival grounds (Kirkham 2009b). To raise revenue, the location was first used as the set

for the post-apocalyptic survival reality game show *The Colony*, which was filmed on the site Kirkham 2009b).

The successful de-development of Village Square in favor of open space for communal gatherings represented a collective victory for St. Bernardians who sought to defend their detached housing and family networks. Recovery funding enabled residents to remove the concentrated area of rental units.

As Village Square wrapped up its voluntary program in 2009, a new set of apartment-complex problems was developing. The last of the multifamily moratoriums were struck down by courts in March 2009, allowing Dallas developer Provident to move forward with four planned 72-unit complexes in Arabi and Chalmette (Greater New Orleans Fair Housing Action Center et al. vs. St. Bernard Parish et al. 2006-2009). The four Provident complexes would draw national media attention to the affordable-housing battle that was occurring in St. Bernard as well as other New Orleans neighborhoods that pitted two narratives of the situation against each other. In the Oct. 3, 2009 *New York Times*, the newspaper described the situation as such:

The battle over low-income housing has been one of the most bitter that anyone in the middle-class, mostly white parish can remember, one that has stoked issues the region has been grappling with since Hurricane Katrina: anger at the federal government and long-simmering class and racial tensions. (Roberts 2009)

Fair housing advocates, and the courts declared that moratoriums were enacted because local leaders with the support of residents were trying to control access to the community and exclude racial minorities. Local leaders declared that they were trying to avoid a property value freefall because the local market was flooded with homes for sale and rent that were affordable, but the actions taken by the parish did limit who could access those homes.

A local newspaper editorial in the St. Bernard Voice, compared the planned new complexes to the recently dismantled Village Square, asking long-term residents to remember the slide the once respectable units in Village Square took toward disrepair and renting to tenants with criminal tendencies. The

language used to describe Village Square and to foreshadow the Provident developments were cited by the court as an example of racialized rhetoric surrounding a series of administrative abnormalities that had occurred to stall development and earn the Parish a contempt charge. Berrigan wrote of the newspaper's language in her March 25, 2009:

The references to "ghetto," "crime," "blight," and "shared values" are similar to the types of expressions that courts in similar situations have found to be nothing more than "camouflaged racial expressions." (Greater New Orleans Fair Housing Action Center et al. vs. St. Bernard Parish et al. 2009, 12)

Legal cases and decisions would characterize St. Bernard Parish leaders and supportive residents as racially discriminatory. For the parish administration and its allies in the community, the actions of Provident were viewed as flooding the housing market with hundreds of affordable units in a community awash in inexpensive rebuilt housing that was not selling and could not offer the amenities that the large complexes could (Greater New Orleans Fair Housing Action Center et al. vs. St. Bernard Parish et al. 2009). The complexes were concentrated near New Orleans. Located near one of the new complexes in Arabi, Dane was concerned about long-term decline, but it was not a primary concern. He was worried that the progress of his neighborhood would be challenged by the structures.

I think I'd be less pissed off if we were crowded. But you see houses with for rent and for-sale signs everywhere, and they'll be like that for like a year or two. I know there's 20 like that just in my area alone. And we're living right next to [the apartments] so why wouldn't you go to the apartments? It's not going to change. The second house from my house has literally been on the market for three years. ... [When I was looking for a house], you could just drive down the street and like every other house had some sort of sign on it. For sale, or even if it didn't have a sign on it, you could just go in the house and look around and eventually there'd be a sign out front. And if no one bought it, eventually they demo it.

St. Bernard Parish fought the complexes with every tool they could (Robertson 2009). This zealous protection of the existing community was anticipated by the literature (Oliver-Smith 1986; Wilson and Taub 2006). After the building moratorium was lifted in March, the Parish refused to issue building permits to Provident until October 2009, when the courts compelled it. Additional disputes would delay the construction another 16 months. On February 1, 2012, the Department of Justice would file a Fair

Housing Act suit against St. Bernard Parish, alleging racial discrimination (Dept. of Justice Office of Public Affairs 2012).

The court would cite language used by Taffaro and Councilman Wayne Landry as indication of “thinly-veiled racism.” (Greater New Orleans Fair Housing Action Center et al. vs. St. Bernard Parish et al. 2009, 7). Casting the argument against development in terms of economic and class concerns, property maintenance and a defense of property values and the status quo were indicative of arguments identified in the literature as racially discriminatory (Kefalas 2003; Wilson and Taub 2006) and supported by court evidence in Judge Berrigan’s August 17, 2009 ruling:

On May 5, 2009, Mr. Taffaro analogized the current dispute as a game of high-stakes poker, with St. Bernard residents and their “commitment to [their] way of life” on one side and the developers “with their federal court ruling” on the other. . . . On March 30, 2009, in a thinly veiled reference to the mixed-income developments at issue, Mr. Taffaro wrote “. . . but when the push to disrupt the investment of neighborhoods through allowing blight, an overabundance of rental properties, and a lack of personal accountability for one’s area becomes the focus, it is murderous to our Recovery.” (Rec. Doc. 241-36.) (Greater New Orleans Fair Housing Action Center et al. vs. St. Bernard Parish et al. 2009, 7)

Judge Berrigan found St. Bernard Parish in violation of the Fair Housing Act once again, citing that the arguments voiced by leaders and media were backed by public commentary that indicated that residents sought to limit the influx of minorities from neighboring African-American communities. In the August 17 judgment, Berrigan cited public commentary as evidence of racial bias, writing:

A member of the public characterized the future residents as people who “are going to sit in the yard or on the balcony all day with the music up, screaming at their neighbors, dealing drugs” and compared the developments to living in New Orleans East, which is predominantly African-American. (Id. at 28-29.) Another member of the public complained that more “renters” in the parish would threaten the “similar values” and shared “value system” that drew homeowners back home after Hurricane Katrina. (Tr. Planning Comm Hr’g, April 28, 2009, Rec. Doc. 251-3 at 41.) These types of comments are reminiscent of comments by President Taffaro and others about preserving our “way of life” and “shared values.” There were also explicit references to race. One resident noted that he has a “polite” “black family living nearby” that doesn’t play “their music.” (Id. at 34.) The same resident does, however, have “a problem with someone that’s going to be coming up the street, gang-banging

somebody or they're kicking the door down every couple of days.” (Id.) (Greater New Orleans Fair Housing Action Center et al. vs. St. Bernard Parish et al. 2009, 11)

Despite public stalling and frequent lawsuits on the matter, the Provident apartments opened in early 2012. The Parish continues to explore administrative measures to limit access, including scanning the license plates of cars crossing the border with New Orleans to check for attachments so the Sheriff's deputies can pull over unwanted visitors, which impacts African-American driving to St. Bernard for shopping, as well as exploring measures to limit the number of discount stores operating in the community.

While the two apartment issues would determine the long-term fate of two large parcels, there was still the issue of the many small parcels in the suburban area. The Road Home program, run by the state's Louisiana Recovery Authority would purchase properties from relocating Louisianans, demolish or gut existing structures, and then turn the cleared lots back over to parish governments for redevelopment and/or maintenance. This transition occurred on June 1, 2012, when 2,200 properties were transferred to a parish government that was undergoing austerity measures to cope with crippling debts and overestimated revenue projections. As early as 2008, parish leaders were aware that the cost of maintaining these properties would be a financial burden, and that reselling many of the lots would be required to meet financial obligations. Lots bordering drainage features were held by the parish, but most of the more than 6,500 lots would be offered to neighbors in the Lot Next Door program, which offered neighboring lots to homeowners wanting to expand their current home or yard, but not construct a second residence, thus lowering the density of development in St. Bernard Parish one enlarged lot at a time. After that, the parish planned to auction larger lots to encourage redevelopment in stagnant areas, and to establish pocket parks throughout the parish (Alexander-Bloch 2012a).

7.4.4 Absorbing space

It was not the lots – or open spaces – that were the problem “Down the Road” in the rural areas of the parish, but the open space that was growing on each family tract. Suburban St. Bernard had spent the

past 50 years being subdivided into uniform, dense lots with dominant homes. Ownership of the lot is secondary to ownership of the often destroyed home. That was different than the connection formed by rural residents. Sharon's allegiance was to her land. It was held as a family asset, only forcibly subdivided in her lifetime when modern tax assessment procedures required it. While it is not unusual among St. Bernard informants to pass homes to relatives, homes were not passed "Down the Road," land was, be it the homestead or coastal claims and leases. Sharon and Christine both lived on family property. Christine knew what to expect from her neighbors. All family members, they returned quickly after the storm.

Although 74 percent of the properties on the demolition list were in Christine and Sharon's zip code, the loss of structures just meant that the view out the window became less cluttered. As younger family members relocated away, their trailers and homes were demolished and the returning family members just absorbed the land.

The fact that ownership of the land often persists even when the structures were removed did not mean that the existence of open space instead of open spaces is not without its equally complex problems. Sharon returned to her property with her husband and grandson. Her grown children lived on the North Shore and elsewhere. She did not anticipate their return, and knew she and her parents were a storm away from abandonment.

The residents who did return would still have needs, and the abundance of open space meant that there were fewer people in the area to form the critical mass needed to attract commercial services. They still needed fire protection, medical facilities, churches and shops. Christine noticed the difference when she made her errands.

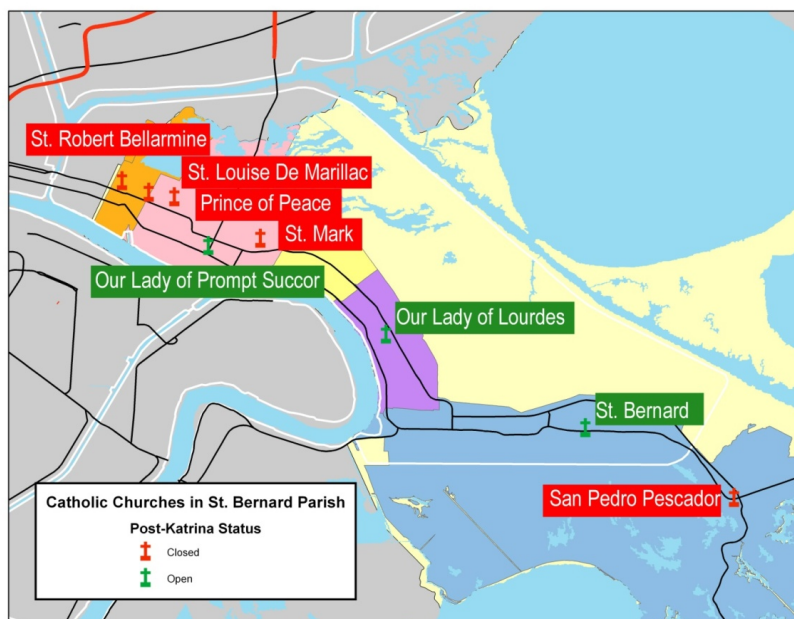
Shopping in the parish just is not quite the same as it was.. [Shopping] hasn't come back open like we thought it would. We lost the Kmart (department store), and all those stores in with there. We lost the Sav-A-Center (grocery). We lost our Winn-Dixie (grocery) in Meraux. There's no grocery store in the eastern part of the parish. In the far eastern part of the parish and we had several before, small ones especially.

Sharon, active in her rural church, wrote the Archdiocese as a member of the Pastoral Council at St. Bernard Catholic Church in St. Bernard Village. They recognized the need for the church for the returning population, regardless if the young population returned. Churches were especially critical for the aging population.

Once you realize, because people have returned to Delacroix Island and Hopedale (Down the Road). You don't have as many people living down there as you did before, but people needed to have something in this area. And then with the cemetery being across the bayou from [our church], unfortunately, we have considerable number of funerals here. ... It was really hard, after Katrina, when a few of our elderly parishioners died, and their service was held at Prompt Succor [in Chalmette]. So it was just good to getting back to being able to get back to doing things like we used to do here.

St. Bernard Church, in a historic building and inside the levee system, was reopened, but farther "Down the Road" San Pedro Pescador, was closed. The Archdiocese would leave five churches shuttered and re-open three, as shown in Figure 7.10, with most of the closings occurring in the suburban area. The remaining parishes in the Parish are approximately equidistant, and the aging rural community maintained a congregation despite having a smaller population.

Figure 7.10 Map of Pre- and Post-Katrina Catholic Churches in St. Bernard Parish



7.5 Community Abandonment and Social Networks

The loss of a church is also the loss of a social network. Churches become aggregations of committees, prayer groups, and event-planning groups. They are the maintainers of traditions and rituals, but also a site of gathering and a way of grouping oneself. All these were the case as St. Bernard coped with the loss of these social institutions and the dispersal of members. The parish and its residents may have been struggling to overcome the loss of physical structures and an abundance of vacant spaces from departing residents, but social networks are not necessarily tied to place (Latour 2005). At St. Bernard Catholic Church in St. Bernard Village, two parishes were becoming a single community of worship as San Pedro Pescador in Florissant was shuttered after Katrina. Prior to Katrina, the two parishes had shared a priest, but after the storm, the Catholic Archdiocese reconfigured churches, with some closing. Congregants of San Pedro, outside the levee system, anticipated correctly that their structure would be closed, but the sharing of a priest and common social ties enabled merger with St. Bernard church.

[St. Bernard Catholic Church] lost a lot of our families from before Katrina. But between those that now come here from San Pedro we're pretty much back to about the same numbers. We have quite a few of the same ones that came back. But we have some that moved across the lake and come occasionally, or for a special activity or something. But you know, we've just kind of melted into a new family, which we all knew. We always did activities together between St. Bernard and San Pedro. A lot of the families were related. I had a lot of family members that went down there. So it was easy for us to mesh into St. Bernard.

As church social activities came back, parishioners had to make decisions about the continuance of activities and make decisions about which activities to keep when they were similar among the two churches. Having activity leaders return to the community increased the likelihood that the activity would continue. But there were overlapping activities as well, and they required the faith community to consider which activity to keep.

Both churches before always had some sort of a [Lenten] seafood dinner. San Pedro always used to do the Friday night seafood dinner. St. Bernard would have more of a lunch. We would have it after the Mass on Sunday afternoons around noontime. So the San Pedro group with people from St. Bernard, we do the Friday night seafood suppers in the [St. Bernard] hall now. ... [The San Pedro parishioners] are the ones

who know how they used to fry their seafood and stuff like that so they're basically in charge of that now, but St. Bernard people are right there working beside them. The guys who used to fry the seafood down at San Pedro are the same guys frying the seafood here at St. Bernard.

For Gail, who has moved to Metairie since the storm. St. Mark's, now closed in Chalmette, helped to form her social circle. The mothers gathered together for an informal volleyball league that was big on team building, and light on volleyball. Teams were decided based on what Catholic school their children attended. Soon her volleyball team was meeting when the league was out and before the games even started. They would go to Mass together and out to eat.

Sports were also a way that Ray, who worked at the refinery, spent time with friends, but that was soon to change after Katrina. Although, Ray admits that, at seven years older, he likely would have retired from sports by now, Katrina brought a quick and early retirement.

We had ballparks that had softball leagues and cabbage ball leagues, football leagues. I played volleyball. Everything. After the storm ... the venues and the ability to do that, the people that were in place to do that, was gone. So the amount of sports I recreationally played went to almost nothing.

Churches are only one form of social network. In Louisiana, Carnival is celebrated with weeks of parades leading up to Mardi Gras, not just in New Orleans, but also in the suburbs nearby. Parades are put on by social clubs, or krewes, with members throwing beads and trinkets from floats on the parade day. St. Bernard was no different. The Krewe of Gladiators, a large St. Bernard krewe, folded after an attempted restart in 2007. The Mardi Gras spirit had not, and Knights of Nemesis became the new main event in St. Bernard when Gladiators fizzled. Ray became more involved in this krewe after the storm, in an act of defiance against the storm's impact and as an assertion of his right to return.

After the storm, we decided that, if we could get 120 people to ride, let's ride anyway. We ended up getting 200-odd, maybe 230 people to ride in the parade. And we rode, and it was similar to us thumbing up our nose at the rest of our world. Like selling out the Superdome. Do you know why the Superdome sold out after Katrina? New Orleans thumbing its nose at the rest of the world. We're still living here. We did the same thing with the parade. There was more people lined up for that parade than anyone had ever seen. It was literally amazing when we turned that corner from Paris

Road looked down to see everyone 10 (people) deep. Those people were thumbing their nose at the rest of the world. They're saying we're still going to be here.

For Dane, who had moved from Meraux to Arabi, his past-time had lost its appeal. A regular pool player, after the storm the people he played with were spread across the South, and his pool hall reopened in Metairie, on the other side of the City of New Orleans, too far for him to participate regularly and it no longer holds the same appeal.

I don't really shoot pool anymore. It's not the same, places around here. It's still OK. It's not the same. It's not as fun. Plus I'm a little older, I guess. All the people are gone.

7.6 Patterns

Many St. Bernardians left. Approximately 44,000 residents left, if statistics from St. Bernard Parish and the Census are reliable (U.S. Census Bureau 2010; Taffaro and Dysart 2010). The missing spaces and the changed places and groups they abandoned often felt the loss. Sometimes, as in the Krewe of Gladiators, they even dissolved. But those who returned understood the plight, and the difficulty of the individual decisions, made with a variety of constraints and opportunities.

Ray recognized that some would feel compelled to leave. People with children would find a community with overcrowded classrooms and vacant homes unappealing. Older residents would not want the hassle of rebuilding. Those without money would be unable to access alternatives, and others may have taken advantage of the storm and improved their lot in life. Identifying himself as a "tweener," between having a family and old age, he believed that he was the dominant type of resident who returned

Anybody with children in school had to find a community that they believed was a stable community for their family. ... If I would have had a young family at the time, it's a possibility for my family that we would have relocated, at least for a short period of time until we saw what was going on in the St. Bernard School System. Not only that, you have to see what's going on with the Parish itself. Socially how good is it for your kids to be living on a block with you and three other people on the block? Where's your social base? ... Someone who is older, say 60 years old plus might not want the hassle and aggravation, or really have the ability for trying to rebuild in a place like this. It's easier for them to just take the money they have and move to another place. So you lose the older section of the society and you lose the younger

working section with family section of society, and the tweeners, the people who have the ability to rebuild their house, have the desire to rebuild their house, will come back. You also have people who are in the limbo with their monetary situation. So you either go to an outlying area and buy a home in an older section or mobile home or you take that [money] and you come back to the house that you had that was now destroyed in St. Bernard and you fix that. That happened a lot. There was a bunch of people who just flat-out didn't have the money to pick up and say I'm moving. ... And some people had a move up by the storm, believe it or not. People that were in that intersection of society, where they're in an older home, and it's run down. They're going to live like that until they die, and all of a sudden Katrina comes and wipes that all out and because of whatever moneys that had and whatever money Road Home was giving, they had the ability to upgrade their position.

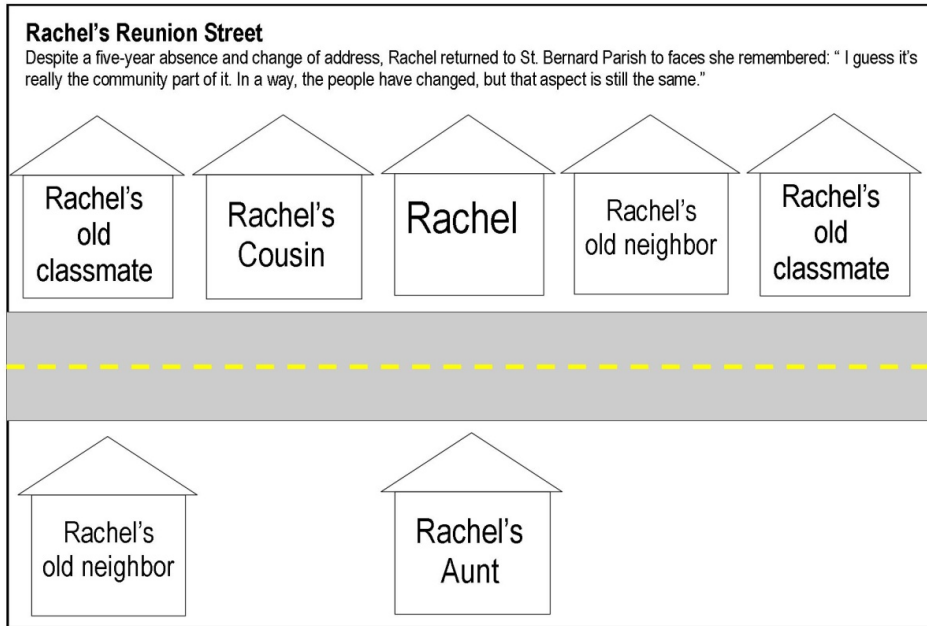
But Ray and others chose to come back. For Rachel, who moved to Memphis before returning home, it was the familiar faces that provided an appeal that only St. Bernard could offer. She rented a home from an aunt and found her job through old high school contacts. The value of familiar faces was lost on her in her early 20s when she left for Memphis, but not anymore. As a mother of a growing child she now appreciates that she knows the history of the people around her child.

It's just the familiarity of knowing people and running into people. I can't go anywhere without running into people I know and catching up. It used to be a burden before the storm. ... Now I'm like if it takes longer, it takes longer because you appreciate it more, just running into someone and having them know you and have that just history and have experienced similar things. That was all something I was looking to get out of [when I was] growing up. I wanted to get out and meet different people and go different places. And I still want that. But for my daughter, this place is the home base I needed to come back to. And the only place that made sense was St. Bernard. I was really grateful for that too. To be that close to home and to feel so distant at the same time, I really wanted to be home. And everything has been so wonderful since we came back home to St. Bernard.

Rachel's new street, Reunion Street in Violet was a familiar surprise for someone who grew up a few miles down the road in Poydras. Figure 7.11 shows Reunion Street through Rachel's perspective, as a street of neighbors she knows. She moved in knowing that she knew her aunt and her cousin on her street, but when she moved in, she recognized two of her pre-Katrina neighbors and two high school classmates.

I guess it's really the community part of it. And I guess in a way the people have changed, but that aspect is still the same.

Figure 7.11 Mental Map of Reunion Street through Rachel



Back in Poydras, though, the neighborhood had changed. An influx of new people had changed the character of the community, according to Rachel, allowing more dangerous people in.

It's actually changed a lot. Some of the families, the fixtures of the neighborhood have stayed, but a lot of people have left, and a lot of new people have moved in, and a term my mom would use would be riff raff. The house we lived in before the storm, the family that lives there now is always getting arrested and there's drugs.

Katy, too, found that having pre-Katrina knowledge about what neighborhoods was good and bad did not help her pick an adequate rental house. Her first place in Chalmette after her return from the Midwest was not as safe as she'd anticipated. Sharing a double-wide trailer with her aunt in Chalmette, the neighborhood she had known before Katrina was no longer safe and full of familiar faces. They would eventually move out of the trailer, only to learn that three month after they had moved that the person who had moved in was fatally shot.

It started becoming a bad neighborhood (around Dewberry Street in Chalmette). We started getting people knocking and looking for people, and it started looking ghetto.

7.7 New Faces

It isn't just returning pre-Katrina St. Bernardians who populate the Parish today. St. Bernard has more minorities, more residents living in poverty and more renters than before Katrina according to Census figures in 2000 and 2010. However, St. Bernard, along with being younger as shown in Chapter Six, also has more high school graduates and nearly as many Louisiana natives, according to the Census as shown in Figure 7.12.

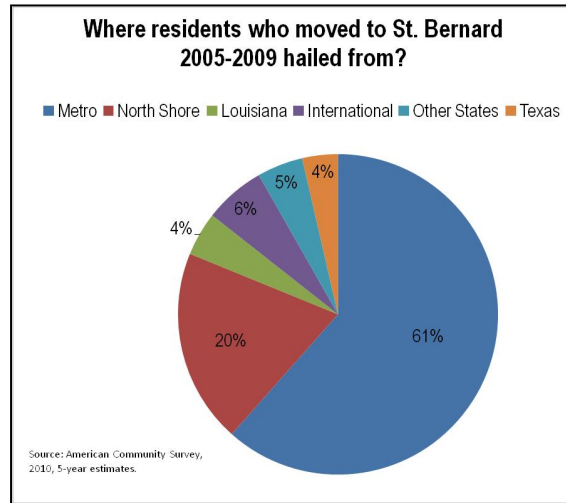
Figure 7.12 Select St. Bernard Demographics, 2000, 2010

St. Bernard Parish Then and Now			
Metric	2000	2010	Difference
Population	67,229	35,897	-31,322
Percent White	88.3%	74.0%	-14.3%
Median Income	\$35,939	\$38,076	2,137
Percent HS graduate	73.1%	80.7%	7.6%
Poverty Rate	10.5%	21.3%	10.8%
Residence same	65.1% (5 yrs)	22.6% (1 yr)	-42.5%
Louisiana Native	86.1%	85.9%	-0.2%
Owner-Occupied	74.6%	64.4%	-10.2%
Vacancy Rate	6.2%	25.4%	19.2%

Source: U.S Census Bureau 2000,2010

This high rate of nativity is further explained in Figure 7.13, produced from data from the American Community Survey's five-year estimates, it shows that 85 percent of residents that had moved to St. Bernard between 2005 and 2009 came from Louisiana.

Figure 7.13 Where New St. Bernardians Came From



New faces from far away have entered Greg’s social circle. His neighbor stayed in St. Bernard after visiting from San Diego and volunteering. Greg’s Sunday football parties now have a northern flare. He met volunteers who decided to stay, and his new friends introduced him to new people from their home areas. Now his Sunday parties are a mix of natives and transplants willing to take on cultural norms.

I guess what’s most different now is that we have some people outside of our initial circle of friends who aren’t even from Louisiana who now attend. Things like this. ... So now, all of a sudden, I have all these Minnesota people in my world. We’re all very good friends. They’re Saints fans now. Believe it or not, hardcore.

Even the leadership has changed, following the demographics. In 2004, the average age of an elected executive or police juror/council member in St. Bernard Parish was 56 years old . Today the average age is 43.4 years. In 2004, among those holding office were the longest-tenured Louisiana Sherriff (Jack Stephens), and two long-enduring family dynasties (Torres, Vinsanau). Of the 11 people elected in 2011, nine of them were first-time officeholders (Figure 7.14).

Figure 7.14 Politicians in St. Bernard by Age and Status (yellow=new)

	2/15/2012	Age	12/25/2008	Age	12/25/2004	Age	12/25/2000	Age
President	Dave Peralta	57	Craig Taffarro	42	Junior Rodriguez	68	Charles Ponstein	56
Sherriff	Jimmy Pohlmann	46	Jack Stephens	59	Jack Stephens	55	Jack Stephens	49
Clerk of Court	Randy Nunez	46	Lena Torres	86	Lena Torres	82	Lena Torres	78
Accessor	Jaylynn Bergeron Turner	42	Marlene Vinsanau	62	Marlene Vinsanau	58	Marlene Vinsanau	54
Council At-Large East	Guy McInnis	47	Wayne Landry	48	Lynn Dean	81	Junior Rodriguez	64
Council At-Large West	George Cavnac	43	Frank Auderer	63	Clay Cosse	51	Clay Cosse	47
Council District A	Ray Lauga	43	Ray Lauga	39	Mark Madary	52	Curtis Pitre	47
Council District B	Nathan Gorbaty	37	George Cavnac	39	Judy Darby Hoffmeister	42	Nita Hutter	50
Council District C	Richie Lewis	37	Kenny Henderson	42	Kenny Henderson	38	Joey DiFatta	44
Council District D	Casey Hunnicutt	25	Mike Ginart	42	Craig Taffarro	38	Joe Gallodoro	51
Council District E	Monty Montelongo	54	Fred Everhardt	44	Ricky Melerine	54	Ricky Melerine	50
		43.4		51.45		56		53.6

7.8 Conclusion

Whether it was because they were offered a relative's home or just an affordable home of their own, today St. Bernard is generally younger, more spread out, and more diverse. The familiar features and faces, however, are what have the ones who returned happy to call it home. They have defended the pre-Katrina character of their community even at the administrative level. Ray, who thumbed his nose at the world with a Mardi Gras parade will bear his teeth to defend the home he never plans to leave.

I love people who give an analysis. After Katrina there was a big, let's say it was popular for people who moved away, not necessarily from New Orleans or the metro area, it was popular for those people to give you reasons, credible reasons why they can't live in St. Bernard. ... And they can give me any reason they wanted to, but they didn't have to. That was your choice (to relocate). That's fine. Go ahead and move there. And a lot of time, those same reasons they gave you were knocks on the place, they were knocks on St. Bernard. ... OK, Listen, stay where you want to stay. Don't knock where I stay because the fangs get real long real quick.

This protectionist attitude about their community as it faces dramatic change is similar to that expressed by similar communities undergoing change (Wilson and Taub 2006). Social networks were impacted by the loss of residents (Latour 2005), and access to housing became a political issue (Oliver-Smith 1986).

St. Bernard Parish, however, did not experience de-industrialization. An opposite trend, in fact dominated. Industrial jobs and resources helped to support the community and its employees, serving as a recovery resource to both. Other industries would return slowly over time, along with the population.

After experiencing a significant drop in population, St. Bernard has experienced sustained growth as residents, new and old, come to the parish for affordable homes and stable employment.

Chapter Eight: The New Normal on the North Shore

8.1 Introduction

St. Tammany Parish, 25 miles North of St. Bernard Parish on the North Shore of Lake Pontchartrain, is not problematized with open spaces; the opposite is true. Open spaces in St. Tammany Parish were disappearing under a wave of development before Hurricane Katrina. Once wooded expanses and marshy meadows were filling in with subdivisions and shopping centers. For more than a decade there was a crisis of growth enough to inspire community groups to put money together as early as 1997 to have the University of New Orleans Survey Research Center learn about public opinion about growth. The study found that voters saw growth as the top problem, felt growth was a threat to their quality of life, lacked confidence in the government to address growth, and would approve higher taxes and other restrictions to limit growth (Howell 1997).

Growth is not a post-Katrina problem in St. Tammany. It's the narrative post-World War II. As the most popular destination for St. Bernard respondents who relocated, theory and observation indicate that there would be an increase in growth as the less impacted North Shore communities absorbed migrants from St. Bernard and elsewhere. As it would turn out, the sudden influx of post-Katrina migrants from the South Shore is just another chapter in the North Shore growth narrative (Adelson 2011). Statistically, the post-Katrina surge of migrants was unremarkable. A closer look at what was happening tells a more interesting story, and St. Bernard Parish migrants would be the chief protagonists.

St. Tammany Parish and other communities on the North Shore of Lake Pontchartrain have been popular destinations for white middle-class South Shore residents who were looking for a new home for years. Outer suburbs on the edge of metropolitan areas have been increasing in size for years as vehicles have enabled commuting, and farms have been converted to subdivisions for middle- and upper-class homeowners (Bearegard 2006, Fishman, *Bourgeois Utopias: The Rise and Fall of Suburbia* 1987). With 629-acre Lake Pontchartrain north of the city and with the marsh and Gulf of Mexico limiting further

development to the east and west, the North Shore has become the suburban frontier in New Orleans, and has been growing in that role.

Hurricane Katrina did not change that. Chang (2010) suggests that the rates of suburbanization are likely to accelerate as a result of the catastrophe. A large number of respondents in this study relocated to these communities. Were these residents part of an anticipated post-disaster surge? St. Bernard is also distinct from St. Tammany in a number of significant ways. St. Bernardians who relocated to the North Shore would be leaving a close-knit coastal and industrial suburb for suburbs that were not close-knit, coastal or industrial. How would relocating St. Bernardians fit in with their new communities, and how would their pre-Katrina social networks help to ease the transition?

8.2 An Underwhelming Surge

The Louisiana Recovery Authority's (LRA) 2006 Migration Report states that about one-third of the estimated 50,000 residents who did not return to St. Bernard Parish in the first year after Katrina were displaced to the North Shore parishes of St. Tammany, Tangipahoa and Washington (Louisiana Recovery Authority 2006a). St. Bernard residents surpassed other South Shore populations on the North Shore (Louisiana Recovery Authority 2006a). This influx of Katrina victims occurred even as eastern and low-lying portions of St. Tammany were devastated by the same hurricane, creating internal displacement at a high rate (Louisiana Recovery Authority 2006a). Some of the St. Bernardians who relocated initially to the North Shore would leave for rebuilt homes in St. Bernard or to homes elsewhere, but many would stay.

The impact of Katrina on the North Shore would be most apparent in increased development, especially in particular areas. Kristin, in her 40s, had relatives during her childhood who lived near where she now lives and works in Madisonville. The place she visited 30 years ago is not anything like the place she lives today. There is a high school, athletic fields, gas stations, shopping centers, a hotel, movie theater, fitness center and hospital nearby. Those developments did not even exist when Kristin arrived after Katrina.

My cousin lived here from childhood, and ... when I would come out here, there was nothing. There was nothing. He took me one time to St. Paul's where he went to school. And I was like, "You go this far away to go to school?" Because you just drove and drove, and there was nothing. No businesses, just trees and woods. Nothing.

Since moving to Madisonville in 2006, she has seen expansion before her own eyes. When she moved in in 2006, there was a Target department store nearby but that once free-standing Target now anchors a substantial shopping center, and connects under the Interstate to another new shopping center with sections that are still being built, and a newly-installed stop light stands ready for anticipated future development.

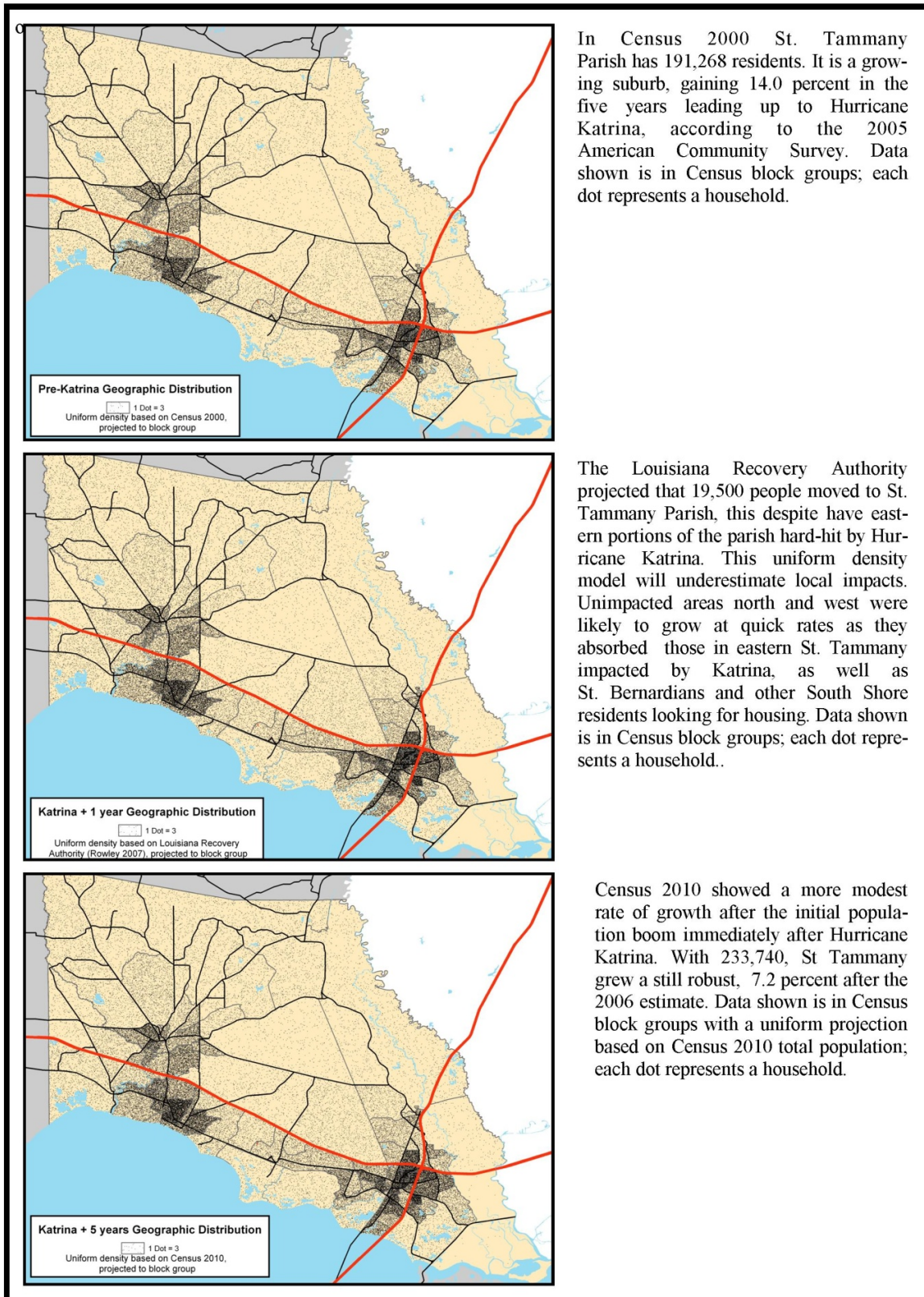
Peter, a hospice chaplain now living in Ponchatoula, was aware of the area's problems with growth when he came there from Chalmette after Hurricane Katrina, but he recognized that what was happening here was a little different. In this case, the working-class St. Bernardians were moving into wealthier communities that had already unseated another working-class population a generation prior.

There's always been turmoil in the North Shore. Back in the '70s and '80s there was a big influx of people from the South Shore [to] the North Shore. Most of it was white flight from New Orleans. A lot of those people were wealthy and much better educated people. One of the biggest things that you found culturally was that these people were predominantly Metairie, Kenner, Lakeview -- your more economically well-to-do people. And the first thing that happened to the natives here is that it drove property values through the roof. ...What happened was the property values were escalating so fast that the families who had inherited properties, their children couldn't live in the houses because they couldn't afford the land, and so there was this clash of these white, predominantly white, well-educated people coming over to the North Shore. They kind of put their claim on the North Shore, and now you saw it happened in the reverse (after Katrina). First of all what you saw was a whole bunch of blue-collar workers, predominantly blue-collar people, coming to the North Shore.

To look at a dot-density model of the population growth of St. Tammany Parish, there is not the dramatic reverse of what happened in St. Bernard Parish, which had a precipitous loss and then sustained growth. Growth increased in the first year after Katrina, but growth occurred prior to Katrina and continued afterward. Visually, by household, as shown in Figure 8.1, the post-Katrina surge is hardly observable.

In Figure 8.1, the top image shows a uniform-density model of the 2000 population of St. Tammany Parish by census block group using the Census Bureau's population estimate of 191,269 residents. The U.S. Census Bureau's 2005 American Community Survey, in the five years leading up to Hurricane Katrina, estimates that St. Tammany Parish grew 14 percent. Combined with the 19,500 residents that the Louisiana Recovery Authority (2006) estimated moved into St. Tammany in 2006, following Hurricane Katrina, adds up to a 21 percent growth rate between 2000 and 2006, as shown in the second map in Figure 8.1. After the initial uptick in growth, St. Tammany would continue to grow at a rate of 8 percent from 2006-2010. This rate is lower than the rate of growth before Katrina and less than half the rate of growth in the year following Hurricane Katrina, but still a strong growth rate. The uniform population-density model for St. Tammany shows a more modest pattern of change than that of St. Bernard (Figure 7.1).

Figure 8.1: Uniform Dot-Density Model of St. Tammany Population Shifts



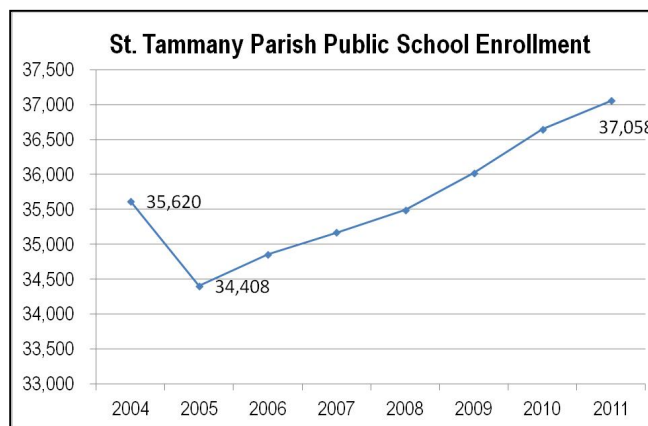
In Census 2000 St. Tammany Parish has 191,268 residents. It is a growing suburb, gaining 14.0 percent in the five years leading up to Hurricane Katrina, according to the 2005 American Community Survey. Data shown is in Census block groups; each dot represents a household.

The Louisiana Recovery Authority projected that 19,500 people moved to St. Tammany Parish, this despite have eastern portions of the parish hard-hit by Hurricane Katrina. This uniform density model will underestimate local impacts. Unimpacted areas north and west were likely to grow at quick rates as they absorbed those in eastern St. Tammany impacted by Katrina, as well as St. Bernardians and other South Shore residents looking for housing. Data shown is in Census block groups; each dot represents a household.

Census 2010 showed a more modest rate of growth after the initial population boom immediately after Hurricane Katrina. With 233,740, St Tammany grew a still robust, 7.2 percent after the 2006 estimate. Data shown is in Census block groups with a uniform projection based on Census 2010 total population; each dot represents a household.

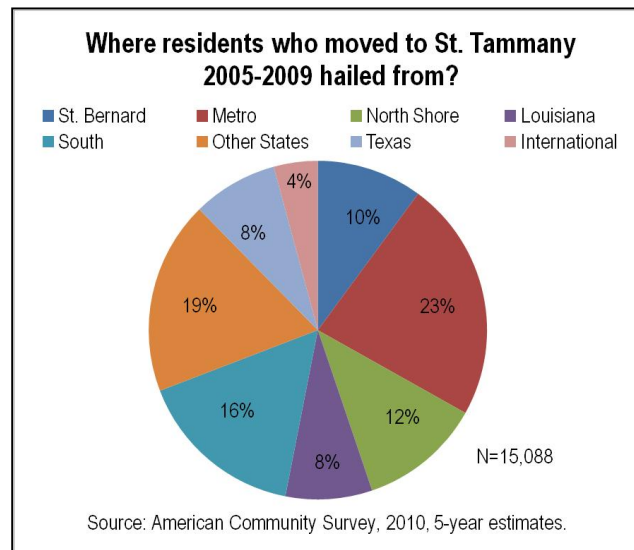
To validate Census and LRA data, public school enrollment from the Louisiana Department of Education are used. This proxy for population shows an initial impact of Katrina in the form of a loss of students in St. Tammany Parish before sustained growth after the initial impact. No post-Katrina surge is apparent. In the first school year after Katrina, St. Tammany public schools lost 1,200 students in 2005. Counts are conducted on Oct. 1 of each year. Growth continues at a relatively uniform rate after the disaster.

Figure 8.2: Public School Enrollment in St. Tammany Parish



Not all of this growth is from St. Bernardians, but their impact was substantial. As shown in Chapter 5, many of the respondents to the survey spent time in and/or moved to North Shore communities following Hurricane Katrina. However, migrants from other communities moved to St. Tammany as well. The U.S. Census Bureau’s American Community Survey asked in-migrants where they lived the year before, and the 2010 5-year estimate can serve as a demographic proxy for post-Katrina migrants. As shown in Figure 8.3, 10 percent (1,521) of all new St. Tammany residents (15,088) were from St. Bernard Parish. However, 46 percent (7,080) came from outside of Louisiana.

Figure 8.3 Origins of New St. Tammany Parish Residents



8.3 Familiar Faces in a Strange Land

8.3.1 Familiar People

Even among informants, there was an acknowledged pre-Katrina migration pattern of St. Bernardians moving to the North Shore. Kristin in Madisonville acknowledged that her husband had “always wanted to relocate to the North Shore.” When she got there, her extended family had migrated there as well. She was not the only one to find she now knew more people on the North Shore than in St. Bernard. This supports Chang’s (2010) theory of acceleration of suburbanization, and indicates that this acceleration may be occurring within St. Bernard networks. Kristin’s family had started to relocate to the North Shore before Katrina. The impact of the hurricane caused Kristin and her remaining St. Bernard relatives to move to the North Shore. This was something she said she had accepted would happen eventually, probably after her kids were grown up and out of the house. Katrina had accelerated the time, and the phase of her life, at which that migration would occur for Kristin and her family.

Brian, who now lives in and owns a restaurant in Covington, had a similar pattern of the members of his social networks migrating to the North Shore over time. Family and friends had been moving across the lake for years, giving him more reason to relocate to the North Shore rather than to return to his

substantially flooded home and businesses in Chalmette. After Katrina, he knew very few people in Chalmette.

My family is pretty much here now. My ex-wife is in New Orleans. Most of my circle of friends are not in Chalmette. In my group of people that I run around with, I'd say, maybe 20 percent went back. And those people had close ties that caused them to stay ... like they worked for the school board or they had a sick relative who wouldn't leave.

Following friends and family to new destinations is a feature of traditional migration (Boyd 1989). The experience of Kristin, Brian and several other informants suggests that population shifts in a region after Hurricane Katrina also followed along social network lines, but within a metropolitan region. Most informants stated that they had friends and relatives on the North Shore prior to Hurricane Katrina, and one even went so far as to say that they believed the migration of St. Bernardians to the North Shore started "just a few years prior to the storm." Boyd (1989) theorized that in the case of international migration that once several members of a social network have made a connection with a destination that the connection is self-sustaining as members who have not relocated develop a stronger connection to the destination as more people they know migrate. The increased connection to the place, as well as the improved knowledge gained through members of the social network helps new migrants quickly build a support network in the new location (Boyd 1989). This study provides evidence that this trend applies within a metropolitan region as well and during a catastrophe.

8.3.2 New Economics

Lifestyle and the tax burden were problems mentioned by informants. Most residents I spoke with discussed paying between \$60,000 and \$100,000 for their homes in St. Bernard Parish. Housing in that range is limited on the North Shore, where property values are high and so is the tax burden. For Kristin in Madisonville, the change in the cost of living changed her life plans. She was a stay-at-home mother prior to Hurricane Katrina while attending school part-time so that she could go to work when her kids were older. Instead her family needed a second income earlier than intended. She quit nursing school and got a job. She loves her work now at Archbishop Hannan High School, a Catholic High School near her

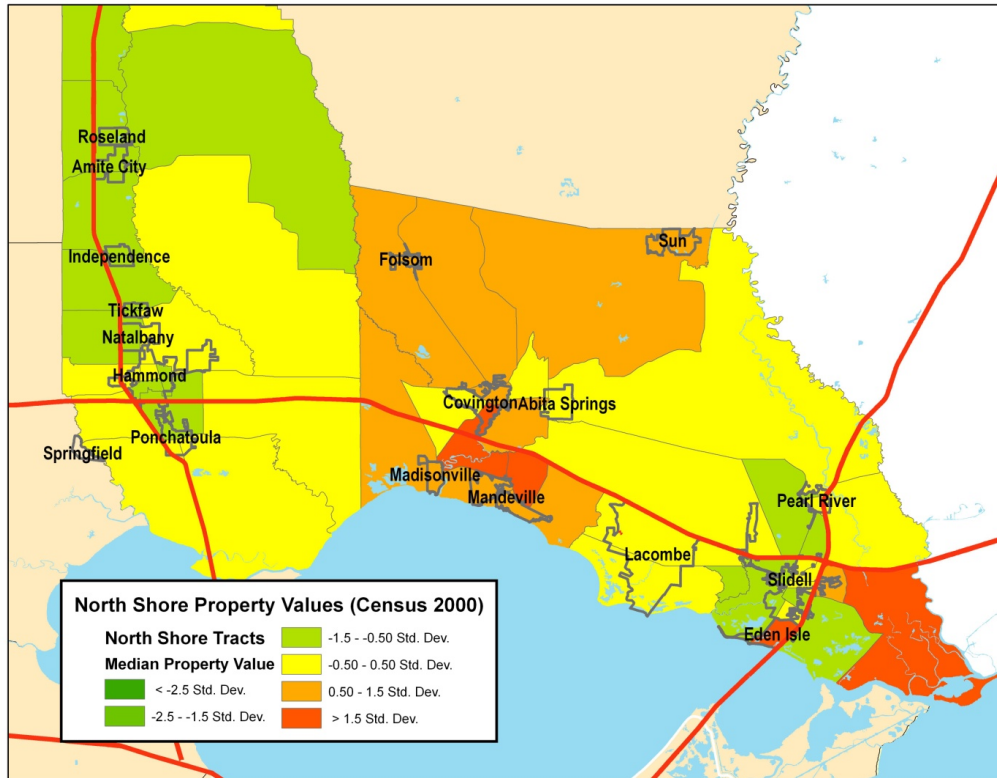
home, which also migrated to the North Shore from St. Bernard after Hurricane Katrina. Kristin said she likely would have gone back to work eventually but North Shore life hastened the return. The smaller home that she owns on the North Shore has triple the mortgage. Taxes are higher. Even water and trash services cost more on the North Shore.

We knew it [would be more expensive]. I didn't realize how expensive. Before Katrina I didn't work. I was going to school. I was going to go to nursing school eventually. And I was a stay-at-home mom. I volunteered at school. We never worried about money. Not that we had money, but it was just different.

The high comparative cost of housing precluded most St. Bernardians from investing in long-established neighborhoods in Slidell, Mandeville and parts of Covington, pushing them to areas where they could afford housing in more rural and developing areas of St. Tammany and Tangipahoa as well as nearby communities in Mississippi. With uncertain employment situations or employment opportunities likely to return on the South Shore, informants also discussed the importance of Interstate access.

Studies of suburban ethnic enclaves outside Los Angeles and New York have shown that enclaves are created outside the initial urban ethnic ghetto (Logan et al. 2002). In that study urban migrants that had resources in the form of social connections, socioeconomic status and education relocated to suburban locations that allowed them to maintain their connection to the origin community through each other and the stores and cultural offerings offered in the satellite enclave (Logan et al. 2002). In the case of Hurricane Katrina in St. Bernard, many of the relocating residents did not have adequate means to relocate, but did anyway. Concerns about the size of a mortgage and having to find a much smaller home were mentioned by more than one relocating informant. Figure 8.4 is a map representing median property values census tracts using the Census 2000 estimates for median property value. Tangipahoa Parish, western St. Tammany and parts of Lacombe and Slidell near the Interstate were areas that provided reasonably accessible housing at more affordable prices. Often this combination drew displaced St. Bernardians.

Figure 8.4 North Shore Housing by Median Property Values



Jennifer, who moved to Madisonville with her two boys and husband, took two days off of work a week to spend time on the phone and doing paperwork to make sure her family would get the money it needed to buy a new home. They needed every dollar to close the property-value gap. Disaster assistance often requires that replacement properties or items cannot be upgrades, and so the house she bought on the North Shore, though very similar, cost more and caused the federal agency to question if it would allow a loan for the new home in Madisonville.

They kept trying to tell me that I was upgrading. The house back in Chalmette, we still owed \$130,000, and the house in Madisonville was \$240,000. And I'm like, "I'm not upgrading. You don't understand. The house we're moving into is the same. That's just how much these houses cost up here." ... They had a [federal adjuster] call me from my driveway, and he says he's with the SBA and he needs to know where my sidewalk started or something; he was measuring the sidewalk and my driveway. And he said, "You know, because we're trying to get some more money for you." And I said, "Seriously? Are you kidding? You're trying to get me more money by measuring my driveway so you can give me an extra \$40,000?" I just started crying, and I'm like, "Look, dude, I don't know what you want from me."

Negotiating for every penny of aid was not uncommon, but the task was often impossible for the St. Bernardians. Asking the size of no longer existent driveways is but one example. Three informants discussed being asked to produce cars that they could not find. Many cars were never found. One informant, Peter found his car vertical against a tree several blocks away.

The car was not the only important possession Peter lost in the storm. His job at Michoud in New Orleans East and his home in Chalmette both had water above the roof. He would neither work at his job nor live in his house again. In his late 50s at the time, he was not willing to take on a big mortgage. He wanted to live near his son in Madisonville, but could not find anything in his price range. He expanded his church into neighboring Tangipahoa Parish, and found something. Once he did, another crisis awaited.

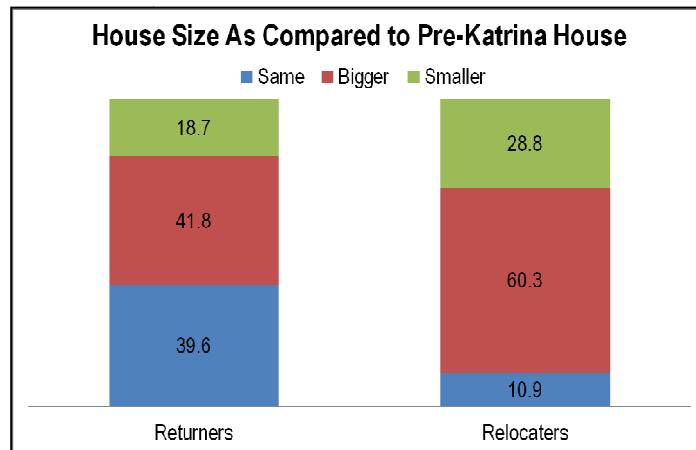
Come to find out before we got to active sale, the guy didn't have clear title to it. That was another terrible emotional time for my wife and I. We were both sitting there crying, and I said, "Let's just go take a ride," and this is the truth. We drove about half a mile away and we're driving down the street, and we see this lady walking out of the front of her house. It was one of these modular homes on 2 acres. And she started to pound a sign into the lawn that says For Sale by Owner, and I said, "Baby let's pull in there and see," because she was still crying. And we bought it from her on the spot. We were able to pay \$85,000 for it, and it was something we could afford.

For those who could afford it, St. Tammany offered an opportunity to "upgrade." Terry, now in his 60s had never considered leaving St. Bernard Parish. He had a beautiful home in Chalmette, and was very active in the community. He'd have liked to see some regulations to improve the overall aesthetic, but he was generally happy with his community. When Katrina came through, hitting his home with flooding, a tornado and a boat, he found the pace and the direction of recovery in St. Bernard to be disappointing. He had a secure job at Chalmette Refining. He needed something accessible to Chalmette, but if he was going to invest sweat-equity into rebuilding, he wanted something better. He found a home on the water in Slidell. Also flooded (but less), damaged by wind (but not a tornado), and battered, but not broken by a boat, the house he bought and restored in Slidell was right on the water and better than what he had before.

The neighborhood itself, I did, I upgraded, if you will, for the purpose of getting a nicer neighborhood. I love it. And I love living on the water. Nobody else can take credit for this phrase. This is mine: “When I lived in Chalmette I had all the risks and liabilities of waterfront property but none of the benefits. Now I still have those risks and liabilities, but I have the benefits.”

Most relocating respondents (60.3 percent) did move into a bigger home, as shown in Figure 8.5, although many informants stated that this larger home came at a great financial burden. However, more relocaters than returning St. Bernardian respondents moved into smaller homes (28.8 percent vs. 18.7 percent).

Figure 8.5 Survey Responses comparing pre- and post-Katrina House Size

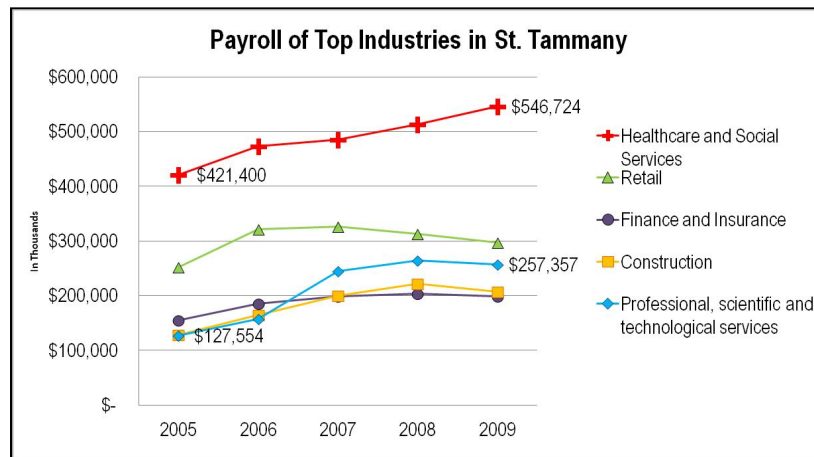


8.3.3 New Economies

Businesses, like households, had to consider if recovery would be best back in St. Bernard or if closure or relocation would be better. Businesses not only face recovery like households and communities, but businesses can serve as social networks that connect people to one another. They link coworkers, people in the same industry and clients to each other (Giddens 1986; Latour 2005; Soja 1989). Businesses also can serve as places of interaction for social networks. They can be locations where members of an individual’s social network interact and maintain their relationships, like a dance school that connects groups of children and groups of parents (Giddens 1986; Latour 2005; Castells 1996). As we saw in the previous chapter, work also influenced where 38 percent of survey respondents chose to live.

In St. Bernard Parish, three large industrial employers served as an anchor and resource to returning St. Bernardians and the community. The rural area had commercial fishing; fishing in St. Tammany is recreational. St. Tammany lacks the big industrial tenants or port, but it has more business and retail, according to County Business Trends data published by the U.S. Census Bureau. Professional services and finance industries are more prominent in St. Tammany. Payroll in St. Tammany grew until 2008, as shown in Figure 8.4, when a national economic downturn impacted payroll in every industry but healthcare.

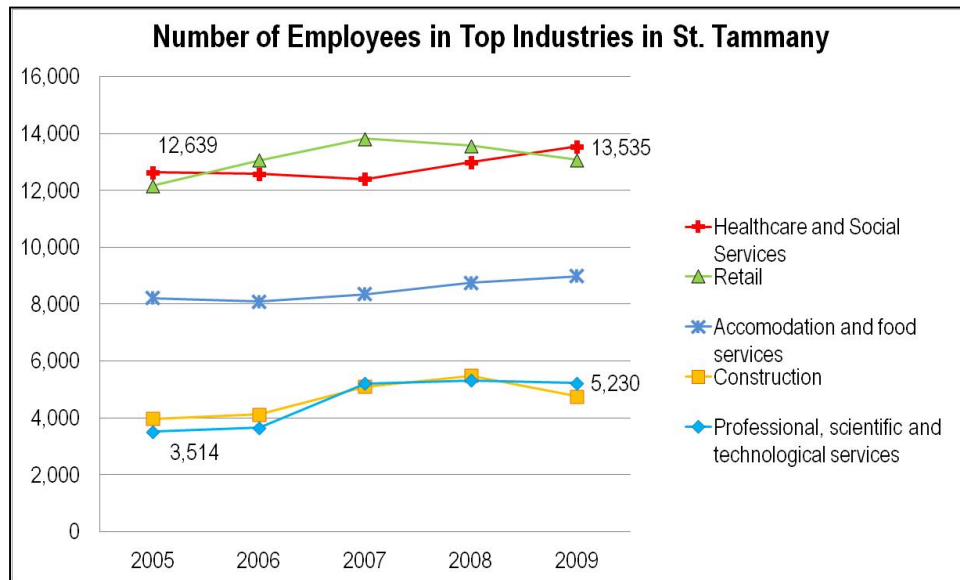
Figure 8.4 Top Industries by Payroll in St. Tammany Parish



The trend in the number of employees in top St. Tammany Parish industries, as seen in Figure 8.5, demonstrate varying trends by sector, but overall growth in the four-year period. Service sector jobs in healthcare and finance grew, not experiencing the precipitous drop that St. Bernard experienced. Healthcare continued to grow. The number of employees in accommodation and food services and professional, scientific and technological services grew just slightly through the national economic downturn in 2008. Lacking is the industrial base that was able to stabilize St. Bernard Parish after Katrina. While the facility-based manufacturing jobs were certain to return to St. Bernard and return quickly, the small businesses and services in St. Tammany are more footloose and not dependent on large facilities and port facilities for operation. Not only is the economy of St. Tammany composed of more white-collar

employment, the jobs in St. Tammany are more easily able to relocate, whether for a disaster or for any other reason because they are not reliant on the large and expensive facilities that industrial employers must build to operate.

Figure 8.5 Top Industries by Payroll in St. Tammany Parish



Dan, a Chalmette native and pre-Katrina St. Bernardian, now lives in Lacombe. He represents his new community in the St. Tammany Parish Council after being elected to office in 2012. He acknowledged that there was a comparative economic disadvantage in his new home parish. St. Tammany lacks the stable industrial base that St. Bernard had. There were many small taxpayers instead of a few substantial taxpaying refineries.

That in itself becomes a problem because they don't have the tax base that industrial parishes like St. Bernard, Orleans and St. John can rely on. The refineries can pick up a lot of the tax base.

The stability of manufacturing jobs in St. Bernard Parish and the strength of the service sector can be corroborated by demographic data from the Economic Census (2002, 2007) and American Community Survey (2000, 2010). Manufacturing jobs in St. Tammany are just 11.2 percent of the economy in St. Tammany but 21.7 percent of St. Bernard's post-Katrina economy. Management produces 39.2 percent of

the economy of St. Tammany Parish and retail sales are more than 10 times higher than retail sales in post-Katrina St. Bernard.

8.3.4 Business Migration

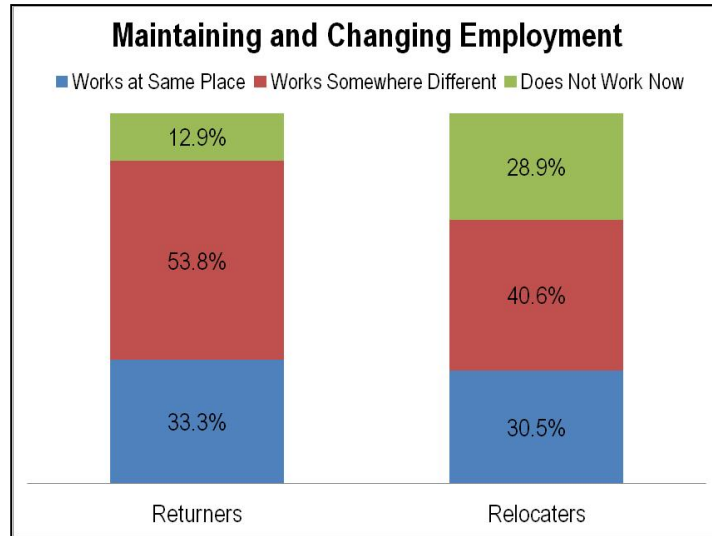
Steve and Sarah moved to Hammond in Tangipahoa Parish because of Steve's job. After the storm, Steve's employer had him re-assigned temporarily to Baton Rouge, drawing them toward the western side of the metro area so they could both be near now-scattered family on the South Shore and still keep Steve's job. Sarah had a job in Harahan on the South Shore, west of New Orleans in Jefferson Parish. Their family had migrated mostly to Harahan and neighboring Kenner on the South Shore. They needed their salaries, but they also wanted to be near family. To be near family, they could have relocated to the South Shore. Steve's commute would have been just a little longer, but there was another reason for moving north of Lake Pontchartrain. After seeing the high-water mark on the Chalmette Wal-Mart on TV, Steve and Sarah knew that their home was under water. They never wanted that to happen again, and it pushed them north to Hammond. It was the pace, not "busy" like Baton Rouge, but more like St. Bernard, and some nearby friends who had pushed them to select Hammond after considering briefly a move to a nearby community that did not have friends nearby. Sarah, once eager to move to the other community closer to Baton Rouge, found Hammond advantageous for reasons other than the acceptable commute. It provided her peace of mind and reminded her of Arabi.

It would be far away from floods. And then some friends of mine we went to visit in Hammond and when we drove around I really liked Hammond. It's small. It's a small little community. It wasn't that far from Kenner, where we could meet up with family.

In my survey, I asked respondents about both their employment and the shifts in their employers' location. Changing employment was common both among returners and relocaters. As shown in Figure 8.6, just 31.3 percent of all survey respondents maintained the same employment after Hurricane Katrina, and more than twice as many of the respondents who relocated (28.9 percent) than those who returned (12.9 percent) who worked prior to the storm no longer work. Some, such as Maria, who moved with her husband to Lacombe, have retired. Others, like Christine's daughter in Prairieville, Rachel's father in

Picayune and Jennifer’s father in Covington have been unable to find work after Katrina and thus, their move to the North Shore is a move to cheaper or rental housing based on necessity due to unemployment.

Figure 8.6 Survey Responses about Post-Katrina Employment



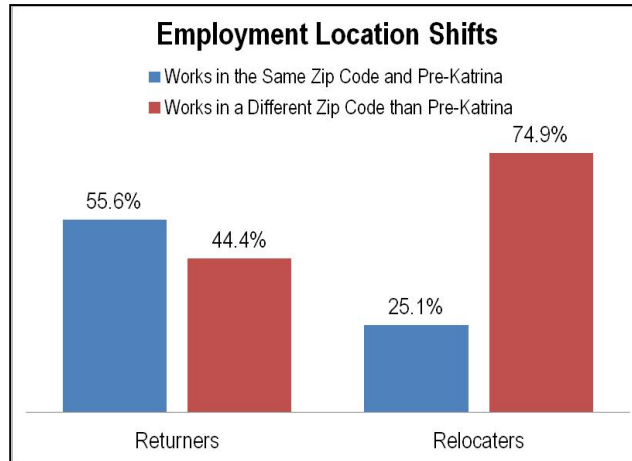
With businesses and residences both impacted heavily on the South Shore, even maintaining employment could mean a different commute as employers also opted to relocate. Such was the case for Steve who went from driving in to New Orleans to driving to Baton Rouge (and eventually Hammond after a transfer). Even when a job maintained its location, the relocation of residents could create a commute that was too cumbersome. Jennifer, who moved to Madisonville with her husband and two sons, returned to her job in Harahan on the South Shore after a short stay in Houston. Soon after, the cross-lake commute motivated a change in her job. She went to work for her sister in their newly opened insurance office in Mandeville, which replaced the offices that they lost in Slidell and Chalmette.

I continued to work in Harahan, but the commute was getting to me with the kids. I had to get home to get them. My employer was good to me. They worked with me, and they were able to let me off at 2 to go get them. But the commute was getting to me, so after we bought our house, I quit.

Situations such as this may explain why a much larger (74.9 percent) of relocating respondents to the survey reported that they now work in a different zip code than they did prior to Hurricane Katrina than

returning respondents (55.6 percent), as shown in Figure 8.7. In Steve’s situation, his employer moved his position, and in Jennifer’s the long commute motivated her to change her employer.

Figure 8.7 Survey Responses about Locations of Post-Katrina Employment



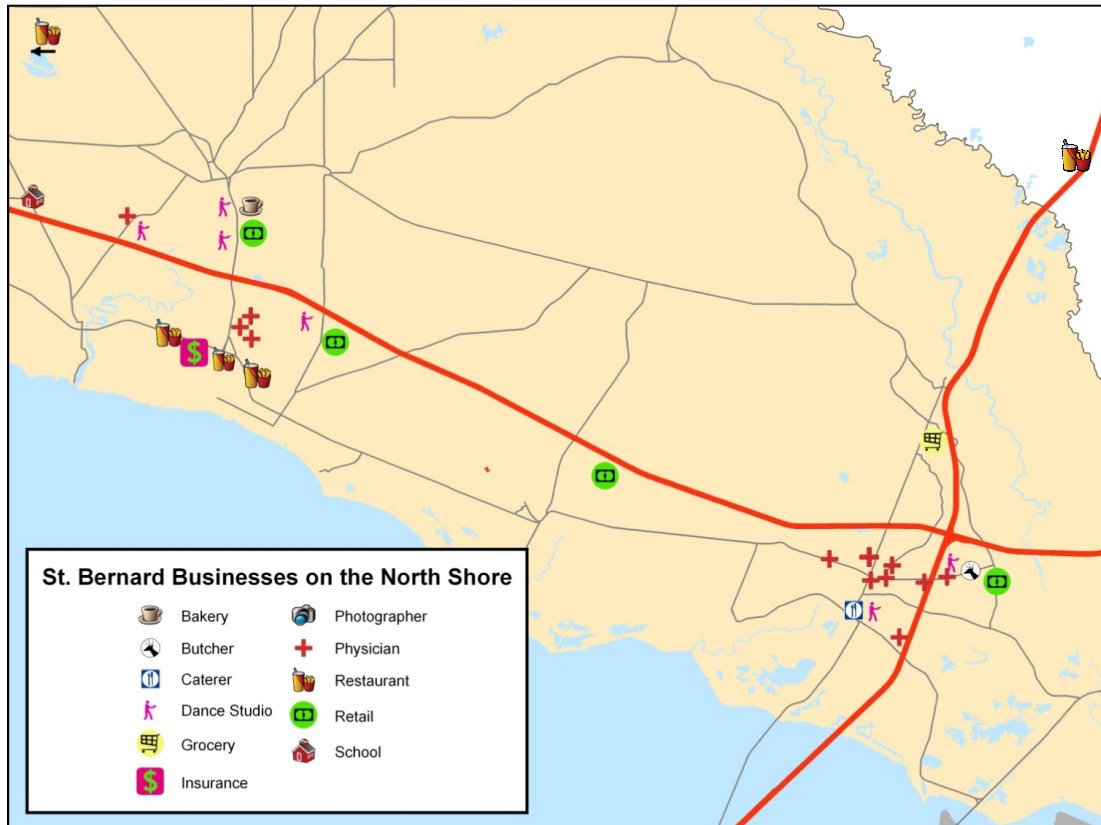
Employees changed locations and commutes and made decisions based on where their jobs were located. Conversely, some businesses followed their owners to the North Shore. This phenomenon has been observed in the development of ethnic enclaves and social communities (Castells 2002; Levine 1979). These businesses and services, especially in the case of tight-knit St. Bernardians, can be more than places of business. They can be gathering places, where members of social networks interact. They can provide familiar territory for relocated St. Bernardians, and also serve as markers of the incoming group’s arrival to the destination community (Castells 2002; Levine 1979; Sibalís 2004). Studies that have investigated this phenomenon have often used more contrasting examples, such as Korean-language groceries, and gay bars. However, territory can be marked more subtly from social groups. Businesses have even been demonstrated to follow immigrant groups as they move from inner-cities to suburban areas (Logan et al. 2002).

Smaller businesses that are locally owned or managed were often as impacted by the catastrophe as local residences. Relocating proprietors like Brian, whose family owned three restaurants in St. Bernard Parish, often relocated their businesses near their new homes. Brian likes and works in Covington now,

where he re-opened one of his restaurants. I have identified at least 35 St. Bernard Parish businesses that relocated to the North Shore via information from local residents and telephone listings for both 2005 and 2011, as shown in Figure 8.8. Many of these businesses had functions in addition to making money. Brian's restaurant both in Chalmette and Covington serves up more than food; it continues to serve as a valuable social hangout for St. Bernardians on the North Shore. Brian had moved, but it was not just his change in zip code that motivated business location. He knew he needed a change of venue to maintain his bottom line. He'd spent the early months after Katrina feeding refinery workers in Meraux, and he did not find the pace of recovery reassuring.

From a business perspective there was no coming back. My customer base was gone. Emotionally, I wanted to go back, but it wasn't the best decision for my business. The demographics had changed, and we had people here (on the North Shore). There was good demographics for our business here, and a good customer base. ... There was a large percentage of Chalmette people already here when we opened. What we were seeing is that our Chalmette friends -- friends, customers, regulars -- would be coming in and bringing eight new people that we'd never seen before. My clients brought in new customers because they'd see that we were here, and they'd suggest to their new friends that it was a good place to go. Every day we'd see someone we knew, but they'd be with new people, so the business really grew from there.

Figure 8.8 Map of St. Bernard Parish Businesses that Relocated to St. Tammany Parish



Kristin in Madisonville is one such return patron who crossed the lake and still has lunch at Brian’s restaurant whenever she can. Back in Chalmette, she was familiar with Brian, and with his civic interaction in the Parish. His diner provided honor roll students in St. Bernard with discounts. Kristin and her family always used their children’s discounts for family dinners after parades. Brian and his brother also owned a diner and a coffee shop in St. Bernard. Both are gone, and so is Kristin’s family tradition. Kristin not only dines at Brian’s restaurant in Covington, “every opportunity I have to go.” Kristin is preparing should Brian expand his endeavors on the North Shore like he had in St. Bernard. Having evacuated with her key ring reward card for his family’s coffee shop still on her keys, she’s keeping it there just in case Brian re-opens on the North Shore. She shows it to him and asks him to re-open every time she sees him.

Perhaps the most legendary culinary landmark in St. Bernard Parish is a restaurant on St. Bernard Highway named Rocky and Carlo's. Back quickly after the storm serving its signature baked macaroni and cheese, "Wop" Salad and Italian favorites, North Shore residents would not find Rocky and Carlo's, but they would find the restaurant of an actual cousin, complete with a familiar menu of favorites. Deacon Peter, who lives in Tangipahoa Parish still finds businesses holding St. Bernardians together. It is not the common menu, but the common faces and friendly atmosphere that today, and in the past, makes St. Bernard restaurants social institutions.

Rocky and Carlo's while the food is good, what makes it important is the people who go there. It's not the food. Here in Covington, they have a restaurant called [Nunzio's], and [Nunzio's] is family to Rocky and Carlo's and so they have the same menu. You know when I go in there -- sometimes I go in there with some of the local nuns once or twice a year -- and we never have to pay because everyone knows us. And I go there once or twice a year. I don't know them. They know us from, well, everybody knows everybody.

8.4 Network Patterns

8.4.1 Accessing Existing Networks

Jack, who now lives in Slidell, twice moved for his wife's job. Jack's wife worked for a large national corporation shifted her to other locations -- first, to Houston, then to the Washington D.C. area -- before the company laid her off when new management took over. Their teenage children were happy in Maryland and wanted to stay, and Jack and his wife looked for jobs that would allow them to stay. They could not find employment in the D.C. area. Frustrated, they moved to Slidell where they had family to rely on if they could not find work. Jack found a job through a friend who had moved to the North Shore. He found a house through family friends who lived on the North Shore. Friends of his parents were putting their home on the market and gave him advance notice, so he could put in an offer when the real estate office opened on Saturday morning. Jack knew it was important to know about the house and get inside information because, "at the time housing was very scarce and people were getting sinful amounts of money for stuff that was just dilapidated." This response provides evidence that having social network

members in the area provided a resource to residents for locating housing and employment in the region much like Boyd (1989) observed in international migration flows.

When speaking with informants, I did not ask them directly if they had family on the North Shore. Still, over the course of the interview 82.6 percent (19 of 23) revealed that they had family members on the North Shore or in the area where they moved prior to Hurricane Katrina, and of the 23 informants, 21 mentioned knowing someone in their close circle of friends or family on the North Shore.

Many relocaters, like Councilman Dan in Lacombe, found their homes, or homes for family members through friends and family. Steve found a place for his parents in Kenner when the house next to his best friend went on the market. With so many St. Bernardians already knowing friends and family on the North Shore, information in a tight housing market was critical not just for finding housing, but for finding something reasonable.

8.4.2 Clustering

This sharing of local information through social networks shares features with traditional international migration. Information about available housing or work spreads from initial migrants to others who migrate to those areas (Boyd 1989). In this case, the pre-Katrina migrants and earliest relocaters shared information with other relocating St. Bernardians about available homes and other opportunities. Information about new developments and houses for sale spread through the overlapping St. Bernard social networks. As more St. Bernardians relocate to an area, more of them see and learn about available housing and share this information with friends and family.

As this process continues, clusters form. Residents from a few overlapping social networks become concentrated on a single destination (Boyd 1989). Because they know people and businesses in the area, residents relocating to these clusters have access to more information about opportunities in the area. The sight of familiar businesses appeals to the migrant (Boyd 1989). Relocated residents moving into these

developing clusters, or enclaves, relocate with some knowledge about people, businesses and social services and can more easily find employment in this area (Boyd 1989).

This process has been identified at the regional scale as communities of ethnic groups move from urban immigrant ghettos to suburban enclaves, still maintaining ties to each other and to the origin communities in New York and Los Angeles (Alba et al. 1999; Logan et al. 2002). St. Bernardians are not a foreign ethnic group, but informant comments and observations have indicated that relocating St. Bernardians formed clusters and maintained many of the ties that they had to others from tight-knit St. Bernard Parish. Informants identified that St. Bernardians were perceived as blue-collar, insular, and sometimes stereotyped as ‘backward.’

St. Bernard clusters were identified on the North Shore by informants and others. Tangipahoa, St. Tammany and Livingston Parish in Louisiana and Pearl River County in Mississippi are home to most of these communities of relocated St. Bernardians, but clusters have been identified in Gretna on the West Bank of the Mississippi River and upriver in St. Charles Parish Louisiana. Migration of St. Bernard residents to these areas has spawned local colloquial vocabulary. St. Bernardians on the West Bank have been called “Grenations,” and those relocating to the North Shore have been called “St. Tammanards,” both are combinations of the new and old community names (Gretna + Chalmations and Tammany + St. Bernard).

In Eastern St. Tammany Parish in Slidell, Terry restored a storm-battered waterfront property and found he had other neighbors who were St. Bernardians, also staying close to St. Bernard. He lived at the water’s edge on the North Shore, and across the street he found another St. Bernardian, a young man who relocated from Arabi, but had roots Down the Road in one of the fishing villages. Not far from St. Luke’s the Evangelist, Terry quickly identified others nearby that he knew from St. Bernard and when he was ready (because of work) to get involved, he called on old friends from the Parish that he knew that were involved in local politics and the church.

Just to the west of Terry, Councilman Dan found his house through an old neighbor in Chalmette, but quickly found out they were not the only ones from St. Bernard Parish making the wooded rural area home. Dan works for St. Bernard Parish in a capacity that provides him with a work vehicle with the St. Bernard crest on its front doors. It served as a beacon to others new to Lacombe from St. Bernard.

(We) just stumbled across each other. The ones across the street we knew, but the other ones around the corner are just saying hi and waving, and he saw the emblem on my truck and he says, “Oh you’re from St. Bernard,” and one thing led to another.

These clusters of St. Bernardians formed as friends and family moved near each other and let each other know about affordable housing of decent quality. As this occurred, there were a few locations -- often new neighborhoods with houses and lots of modest size – that would become super-clusters. These neighborhoods included Tallow Creek and Madison Farms, both in Madisonville close to Archbishop Hannan High School. Hannan itself relocated to the area from Meraux in St. Bernard. In parts of these neighborhoods St. Bernardians often outnumbered everyone else.

Jennifer, her husband and two sons relocated to Madison Farms because she found out about the neighborhood through her social network. She needed a house, and she knew someone who knew about Madison Farms. Her neighbor in Chalmette was the cousin to the developer of the new neighborhood. The developer was a St. Bernard native who had developed property in St. Bernard.

[My neighbor] said, “Look, there’s this subdivision in Madisonville, Madison Farms, and that’s where we’re probably going to go. They have like four houses left in that phase.” So I called (the developer) Randy (Varuso). ... We came down [around] the end of September, and we came down to see the house. We met with Randy, and he showed me the four lots and we picked one. ... Randy Varuso had actually sold my mother a lot 20 years ago in a subdivision in St. Bernard.

There were two phases constructed to create Madison Farms, the first section was built prior to the storm, and is the home of native St. Tammanites as well as pre-storm migrants to the North Shore. Some of those early migrants were from St. Bernard Parish, and the neighborhood was already known to Kristin’s husband, through their social network. Kristin’s husband immediately lobbied for relocating to

the subdivision with their school-age girls. Kristin initially looked in Covington to be near where her mother rented, since her mother did not drive. Not finding anything they could afford in Covington, Madison Farms was nearby, accessible to Covington, had friends nearby and her husband was fairly clear about where he wanted to move.

He wanted [Madison Farms]. We bought this house, and he didn't even see it. I drove around every day (looking for a house in Madison Farms). I saw the for-sale sign. I called the guy. It was by owner, and he had an open house Saturday or Sunday, and it was the St. Patrick's Day parade at St. Bernard, and we were going to go to the Open House after that. I got a call [for a family emergency, and] I missed the open house. So I called the man the next day, and I asked if there was any way I could still look at the house, and I asked if he'd gotten a contract on it, and he said, "Come on by." And I went on by, and I was talking to him and telling him the whole story, and he said, "Well, I have two people interested but nobody sent me anything." So I said, 'OK. I want it.' It was the only house for sale in the subdivision. So I got in the car and called my husband and said, "We just bought a house." And that's how it happened. He really wanted that neighborhood.

Kristin knew a few people who had moved to the neighborhood prior to Katrina, and found her house near them in the "old section." By the time she moved in, she found she was not just conveniently near her mother in Covington and known friends in the neighborhood. She would soon be just 2 miles from the future campus of her daughter's relocated school (and later, her job), and another mile from her husband's parents who moved into nearby Tallow Creek subdivision. Once she settled in, she discovered she had even more friends located nearby. What she had recreated with friends was similar to what she once had with family in St. Bernard.

It's nice. We've been friends all along since high school, and now it's so convenient to get together because we can walk to each other's houses.

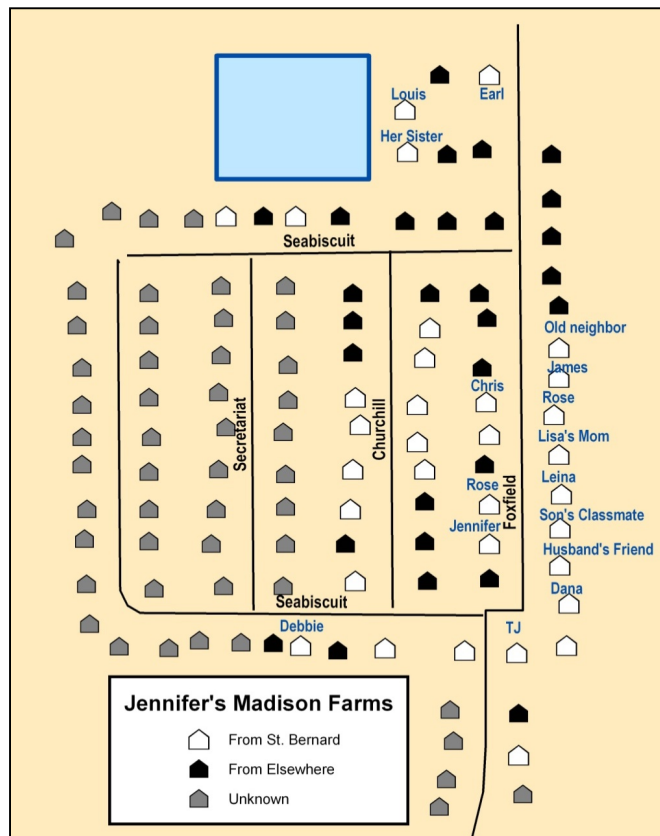
Both Kristin in the "old section" and Jennifer in the "new section" of Madison Farms said that they love their neighborhood on the North Shore. It has familiar faces, familiar places, and is close to family and friends, both those who relocated after the storm and those who moved prior to the hurricane.

In the new section of Madison Farms Jennifer's house was complete in April, and she moved into her new neighborhood, shown in Figure 8.9. Her next-door neighbor from Chalmette was down the block,

but she saw familiar faces when she looked around. Of the 62 homes that she knows near her house in Madison Farms, 53.2 percent (33) are occupied by former St. Bernardians.

We moved into our house and during that time, my husband's best friend all through high school -- there was a lot directly across the street from us -- and his best friend bought that lot and built his house there with another builder which made it much easier for my husband to go [to the North Shore]. It just so happened, and we didn't know, but the people right across the street from us, her little boy was in my son's class in Chalmette, so he had a friend, and while the house was being built, we'd go see it periodically and we'd see people. Our back section is people from Chalmette.

Figure 8.9: Madison Farms "New Section" by Origin according to Jennifer



Kristin and Jennifer both enjoy living in Madison Farms. Not only was it safe and close to family, but it was close to shopping and schools. For Kristin, whose daughters are now teenagers, she's comforted by having shopping nearby.

Oh, shopping here is wonderful. We have everything here. Shopping is wonderful because you don't have to go to Lakeside (Mall in Metairie in a suburb in the South Shore about 15 miles from Chalmette). You don't have to drive through the Ninth

Ward (of New Orleans). It made me nervous because my daughter, when she started driving, they all go to the mall, and they'd have to drive through the Ninth Ward. Out here, it's not so bad. It's not bad at all.

Despite finding themselves in a shopper's paradise, safe and surrounded by friends and family, Jennifer didn't always find welcoming gestures from all of her neighbors. Suspicious of their blue-collar neighbors, established residents encouraged conformity, but eventually grew to appreciate some of the St. Bernard traditions that their new neighbors brought with them.

There is a homeowner's association for the neighborhood. In the beginning for about the first year, we all felt as though they were stalking us in the back section. They would religiously ride every night in a golf cart up and down our two streets looking for violations. That eventually ended when they realized our Halloween parties were better in the back than the front. The entire front section of the neighborhood trick-or-treats in our section.

8.5 Fractures

8.5.1 Class Conflict

In many ways, pre-Katrina St. Bernard Parish is more like post-Katrina St. Tammany than it is post-Katrina St. Bernard Parish. The economy, as discussed, was blue-collar. But in terms of race, poverty and homeownership, post-Katrina St. Tammany is very similar to pre-Katrina St. Bernard, as shown in Figure 8.10. Even housing size is similar. The true distinction between relocating St. Bernardians and pre-Katrina St. Tammanites was the working-class background of the in-migrants.

**Figure 8.10 Select Demographic Characteristics
for St. Bernard and St. Tammany Parishes**

	Pre-K St. Bernard	Post-K St. Tammany	Post-K St. Bernard
¹ Population	67,229	233,740	35,897
² White Population	88.3%	83.6%	74.0%
² Black Population	7.6%	15.7%	17.7%
² Poverty Rate	10.5%	10.3%	21.3%
² Occupation (Mgmt, Biz)	24.4%	39.2%	20.7%
² Occupation (Nat. Res., Construct.)	14.7%	11.2%	21.7%
³ Retail Sales	\$457,970,000	\$3,481,120,000	\$291,779,000
² Median Housing Value	\$85,200	\$188,300	\$126,500
¹ Owner-Occupied	74.6%	80.7%	67.0%
² Median Rooms	5.2	6.0	5.6
² Median Mortgage	\$246	\$390	\$322

¹ Data from Census 2000, 2010. ² Data from Census 2000, American Community Survey 2010 (3-year estimate). ³ Data from Economic Census 2002, 2007.

These distinctions led to prejudice identified by relocating St. Bernard Parish informants. Despite having a population that was more than 80 percent white, pockets of St. Bernard could be incredibly diverse within that race. The white population of St. Bernard was more working-class and had a large number of descendants from Spanish, Italian and Irish immigrants. Relocating informants discussed experiencing some aloofness from established St. Tammany residents.

Peter, a deacon, initially became active in a North Shore church where he experienced awkwardness as he tried to fit into his new faith community. Despite coming from St. Bernard, which has a reputation that some informants acknowledged as being somewhat insular and prejudiced, Peter found the North Shore to be uncomfortably homogenous.

It was hard for me at first to get used to these people. I was a St. Bernard pastor, so I knew a lot of people. I had a lot of friends in Violet. I knew a lot of people in St. Bernard. And for a year, I struggled to find something in these people. It was a great struggle for me. Because I was just -- it was me stereotyping. Because it was so different I felt like they walked around feeling entitled. They had no concept in my mind of what our life was. And they all would invite me to these -- I didn't know what a gala is. (They would say,) "Here, come to this gala." I'll never forget, and the difference, it's wealthy families. I was asked to go to the gala for [another church], and I didn't want to look stupid. What do I wear to a gala? I thought it was something with a bunch of gay people. A GAY-la. I don't know I've never been invited to a gala in my life.

I finally had to go visit an older priest here on the North Shore, and I said, “Fr. [Bob], I don’t like them, I really don’t. They all seem self-indulgent. They all have this, they all drive these fancy cars and have these fancy houses and they wear all of their diamonds,” and I said, “I can’t connect with them.” He said, “You need to think of them as a Christmas tree.” I said, “What do you mean?” and he said, “You know, on a Christmas tree we hang all of our ornaments on the outside of the tree. You’ve got to look behind them and you’ll see they’re just as twisted and bent and broken as all of us, and in some cases, they are more broken.” That really helped me it. [It] made me step back a little bit. And today I can tell you that I absolutely love these people and it was my issue. I hated to go to church because I would look around church and it would be all white people. So I just missed all of that social diversity. St. Mark’s had a real strong Sicilian and Italian community, and I miss that. Our favorite hangout for our St. Mark’s people was that we’d get together and go to Sal’s Bagels. So it was a struggle, and it was a struggle for my wife for a long time.

The coldness was not immediate, according to Peter, in the initial weeks, St. Bernardians on the North Shore were seen as unfortunate victims of nature’s wrath. They were Louisiana kin who needed the help of North Shore residents. They were also seen as potential buyers for newly constructed homes, which were built in a hurry to meet post-Katrina housing demands. St. Bernard migrants proved to be neither peer nor gold mines, and Peter saw sentiments turn bad before they started to improve.

It’s been remarkable how, at first, there was just big, wide-open arms to welcome everybody. People were generous. Then their arms closed once they realized we were staying, if you talk about a clash of cultures, there could not have been a greater clash of cultures than the St. Bernardians and the people from the North Shore. ... You had all these people moving in and people resented us being here now because we talk funny, and then what happened was all these developers were land speculating. ... These people all started to get greedy and they started developing this land, but what they didn’t realize was that there was an influx of people, but that this influx of people didn’t have any money. St. Bernard people, our economics didn’t work. ... But you see people start to meld. Both sides of this community has changed. Both sides have changed, and I think it’s been remarkable. It’s been what? Seven years. I think it’s been remarkable, the change in the people. I take care of a lot of widows. The hardest time for widows is the year after their spouse dies. People tell them they need to move on. All the sympathy is gone. And I noticed the same thing in the people on the North Shore. Everybody was good for a year, but after that, you need to move on. Once it became apparent that we weren’t going nowhere, you started to seeing the cultural exchange happen.

In Madisonville, Jennifer found established local residents to be openly hostile from time to time. It was both the blue-collar background and the perceived contribution to traffic and other growth trends that spawned negativity.

You know when we first came out here I'm sure you've learned from research that Chalmette has a stigma, you know we marry our cousins and we don't have teeth and you know. So the people out here were kind of not happy that we were all coming out here. And we took some heat for it. There was some comments made. ... I handed [a store clerk] my driver's license. It said Chalmette, and she said, "Oh, so you're one of the ones holding up our traffic up here." ... I did have a moment with a Mandeville resident once, she caught me on a bad day making comments about St Bernard transplants. She was not aware I was one. I told her "One of yours is going to marry one of mine, so get over it."

8.5.2 The Disconnected

October 31 may have become a high-traffic time for Jennifer in Madison Farms, just as it had always been in St. Bernard. Halloween was not the same for Jason. Living on the South Shore in the suburb of Kenner in Jefferson Parish, Jason had moved closer to relatives. He lived near a mall; his commute was more or less the same. When Halloween came, he noticed a difference. A full bowl of candy near the front door of the father of three was emblematic of the difference between his pre-Katrina neighborhood in Meraux and his home now in Kenner. A night full of kids and neighbors was now a good night for a chore.

Halloween, I don't know if it's a holiday or not, was big in St. Bernard. They actually shut down our whole subdivision, so there was always a party of some sort going on there. (In Kenner), we stayed home this Halloween and painted my foyer and maybe five people trick or treated.

In the neighboring suburb of Metairie, also in Jefferson Parish, when Gail and her daughter moved into their neighborhood, they were isolated, arriving before return rates were high enough to justify mail service in early 2006. Over time, the houses around them filled with people, but the feelings of isolation remained.

Metairie people are just different from St. Bernard people. Metairie people are just standoffish, and for two years after I moved in I waved to my neighbor across the

street and his wife. I waved to them every time I saw them. Every morning. We were getting up at the same time of the morning, and I'd wave to them. The man never waved to me. After two years there was a breakthrough, and he waves to me now. Now if I don't wave to him, he goes, "how you doing?" It's funny but they don't talk. They don't talk. You do it, and my dad always said, it doesn't cost you anything to smile at somebody. And if you do it long enough they will say hi to you. But they don't want to get close to you. But Metairie people just don't say hello, you know.

She also found her neighbors reluctant to help. In Chalmette, when her car was broken, she lifted the hood and waited for a neighbor to look at the problem and suggest a solution. In Metairie, this trick failed to produce results when her daughter's car had problems. She had to call a friend from St. Bernard. To fix the problem, he needed a screwdriver, which Fail had not yet replaced since Katrina. Her daughter asked a neighbor, who begrudgingly lent it to her asking her to just return it to the porch so they wouldn't be bothered anymore.

The cold shoulder from neighbors, jarring because it was so unusual for tight-knit St. Bernardians, was not just a South Shore phenomenon. Jack, who returned to Louisiana from the Washington, D.C. area in 2008, experienced the same coldness in Slidell. Despite being close to home and the culture they loved, Slidell was a long way from Meraux as an experience. In Slidell he lived amongst strangers.

It's quiet. It's different. I mean, I guess the big thing is that I knew my neighbors (in Meraux). I didn't know them really well, but we were on a first-name basis and we'd call them if something was wrong with their house or anything like that. [In Slidell], you just say hello, you wave. No one goes out of their way to know you. Sometimes [in Meraux] we would just sit out. You just sit out at somebody's house, and everyone comes and talks to you. We just don't do that here.

More than a loss of congeniality in the neighborhood, the loss of friends and family among neighbors has led to social isolation. Maria, who lives in Lacombe, lived in the same neighborhood and worked with Jack. Her social life was largely constructed of impromptu get-togethers with friends and family, both planned and unplanned. Spontaneous social activities were once the norm, according to interview informants, including Maria, and knowing others made everything easier.

[Someone would say,] "Ya'll wanna meet us at, say, Big Easy Café?" And of course, you knew everyone sitting in there because everyone that grew up in St. Bernard you

knew. Some people you wanted to see, some you didn't, especially me, because I was a disciplinarian. [It's not the same], not at all. I don't know anyone here (in this coffee shop). I don't know one person here. I'm not used to this."

Farther west in Hammond, Sarah and Steve felt the isolation. But it has faded. Nearly seven years after Katrina, having relocated there from Arabi, Hammond is starting to feel a little more like home. At first trips to the store without conversations with friends and neighbors felt alien. They still made an effort to go for a walk and talk to people they see. Seven years after the storm, it's starting to change, as Sarah said, she and Steve are "starting to get to know more people and it's getting better. It's a little adjustment."

8.5.3 Disconnecting

Several relocating St. Bernardians discussed the first year after the storm as a year where they were still connected to St. Bernard from afar. They made efforts to return to their homes to prepare them for demolition or gut them for the market. Brian was cooking for workers in St. Bernard at first; meanwhile in Slidell, Terry's employer eased him into telecommuting. In the first year, relocated St. Bernardians still maintained more than roots in the Parish. They described themselves as social outcasts, and Steve and Sarah in Hammond still felt more at home in Arabi than they did in Hammond. When they first moved to Hammond, they tried going to area festivals, but described the feeling of being out in public and not knowing people as "like the witness protection program." Returning to the Parish for festivals did not bring back the same feeling. Said Sarah:

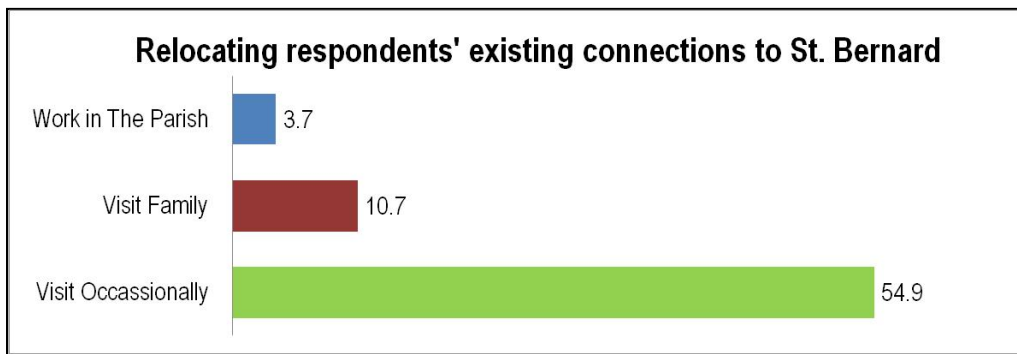
That first year we did (go back to St. Bernard for festivals). We went to Crawfish [Festival]. But not anymore. It's a whole different world now, you know. And it's not the same when you go. It doesn't have any feelings anymore.

Kristin in Madisonville also made a point to take her husband and two girls back to St. Bernard for community traditions. In Southeast Louisiana, a number of events are marked by parades. Carnival season, and especially Mardi Gras, is the most famous example, but St. Bernard Parish celebrates its cultural heritage with an Irish-Italian-Isleño Parade near St. Patrick's Day. It was a can't-miss social event that first year for relocated St. Bernardians, but after that North Shore commitments took precedence.

That first year we made a point of going back. But I do have some friends who still live there, and my husband's reunion was there. [I didn't make it back because of] scheduling conflicts. We had a parade here, and [my daughter] was a cheerleader so she had to march. It's been things like that. We've just never made it back.

The majority of relocated respondents to the survey reported only occasionally visiting St. Bernard Parish, as shown in Figure 8.11. Events including school reunions, funerals and birthday parties were mentioned by informants as events that currently draw them back to St. Bernard. Just 10.7 percent of respondents reported visiting family still in St. Bernard. Even fewer still work in the Parish (3.7 percent).

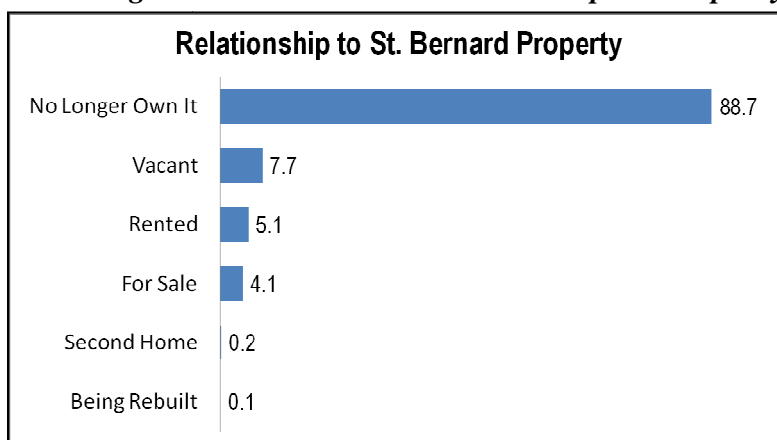
Figure 8.11: Connections to St. Bernard Relocated Respondents by Percentage



By the time of this study, in 2011-12, most relocating residents had cut ties with their property in St. Bernard. Some informants I spoke with sold their homes to the Road Home, Louisiana's housing recovery program. Others sold their homes to other buyers or rented them out. Survey respondents reported a high rate of severance from their properties in St. Bernard Parish. Nearly 9/10 of the respondents to the survey stated that they no longer owned their property, as shown in Figure 8.12. For the other tenth, just one third of 1percent of the respondents indicated that they were still rebuilding their St. Bernard homes or lived in it part of the time.¹⁴

¹⁴ In at least one instance, property in St. Bernard was maintained as a Monday-Friday work residence and "home" was in a North Shore community where an extended family purchased a large property to live on.

Figure 8.12: Relocating St. Bernardians' Relationship to Property by Percentage



For Steve and Sarah, and their at-the-time, teenaged children, Sean and Samantha, they kept up a family tradition with their house on Perrin Street in Arabi for one final year. Their home was flooded into the attic, gutted and placed on the market, but they had one last holiday in Arabi, of which they shared photos with me. They set up a Christmas tree on their old porch, and decorated their yard along with what was left of the house. It included a Santa Claus landing his plane in the tree in their front yard. Making the Christmas card at the flooded home, and decorating the outside for Christmas provided an opportunity for “closure,” as Sarah phrased it. It would also be the last time the family got together and decorated a yard for Christmas.

Steve: That was our Christmas card that year. It was us standing out in front of it.

Sarah: It was a great way to say goodbye to the house. It really was. It was one of the best things we did. [The kids] got to laugh and joke and just have fun and do things. It was really our last Christmas there.

While Steve, Sarah, Sean and Samantha said good-bye with one last holiday, and now three of them rarely return, Peter the deacon, who works hospice, still returns to St. Bernard to visit clients who live there. His disconnection has happened over time. When he visits, he comes across Interstate 510, the same road he took home every day from his job in New Orleans East. The highway that connects St. Bernard to Interstate 10, takes a high bridge over the navigation canals that funneled storm surge into his community and the degraded marshes that were once robust enough to absorb storm surge from Hurricane Betsy. From the peak of the bridge suburban St. Bernard can be seen.

I am the first one to admit that it tugs at the heart sometimes when I go down there. I also know that that feeling is starting to go away. [The North Shore] is becoming home more [than St. Bernard]. What I miss is what I can never recapture. And that would be the community of people.

8.6 Establishing Social Infrastructure

8.6.1 Group Life

Many elements of group life would relocate along with the many members of these social networks. Other groups would form in response to a need to bring the former members of St. Bernard Parish together or provide a new community to be shaped by St. Bernardians and others.

In some instances St. Bernardians joined existing groups and became part of something established, blending in like any new member. That was the case for Steve and Sarah in Hammond. Steve, a saxophonist, was a longtime member of the community band in St. Bernard. He sought out a similar experience when he arrived on the North Shore, and it was a band mate, also relocated from St. Bernard, who had helped Steve and Sarah find their home. Another former band mate from St. Bernard joined them in the North Shore's community band. Steve and Sarah's two children were teenagers by the time that Katrina impacted St. Bernard. It gave Sarah more time to spend on her own activities. When Steve joined the band on the North Shore, Sarah took up an instrument for the first time. The North Shore band was just a little different. It played standards and not the jazz that Steve loved.

Two Interstate exits to the east of Hammond and just across the Tangipahoa Parish border in St. Tammany Parish sits Archbishop Hannan High School's new campus. The red brick-and-glass buildings are flanked by brand-new sports facilities. Hannan was once the only Catholic High School in predominantly Catholic St. Bernard Parish. In Meraux, the old campus lay abandoned and largely undeveloped, plans have slowly progressed, then floundered, to turn it into a community arts and recreation facility.

A trailer-based temporary campus opened on the North Shore for the 2006-07 year, before the new and current campus opening in Goodbee, near the Tangipahoa/St. Tammany Parish line (Comiskey 2008).

Hannan sits at the same intersection where Kristin visited her North Shore cousins as a child. A place she once considered a remote rural frontier is now where she spends her weekdays. It's where she works and where her children go to school. She has a catch-all sort of job that she loves, but quickly noticed a pattern to the enrollment. As she enters baptismal records she sees that she's in a school full of St. Bernard families she didn't even know.

Hannan was not the only element of social infrastructure to relocate. Social groups with formal membership have migrated to the North Shore. The St. Bernard Genealogical Society has relocated to Slidell. Half of the theater company that Phil leads now lives on the North Shore although all of the members were in St. Bernard prior to Katrina. Phil's business has spread wider to the North Shore as well. The Chalmette Computer User's Group now resides in Denham Springs, just west of Tangipahoa Parish in Livingston Parish. The Arabi Chapter of the American Association of Retired People (AARP) has located to Madisonville.

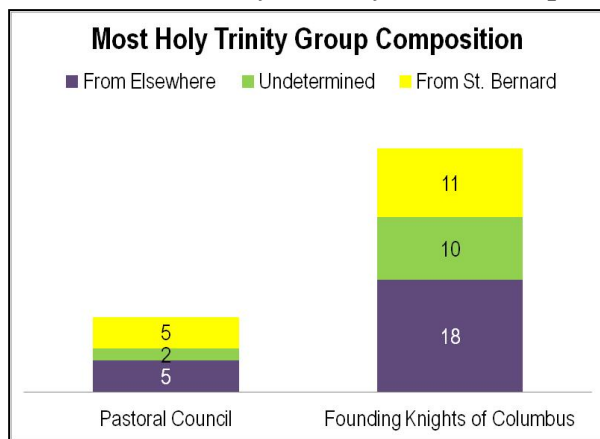
In Covington, after Hurricane Katrina the Archdiocese of New Orleans did not 'migrate' a church, but the physical pieces of closed St. Bernard Parish churches did find new life on the North Shore. In addition to devotional statues and an altar from St. Bernard, Most Holy Trinity Catholic Church also has several members formerly from St. Bernard. The new congregation on the North Shore had been planned for about 20 years, but did not open until after Hurricane Katrina, according to Fr. Henry, who now serves as the pastor. Before the catastrophe, there were never enough priests to accommodate a new congregation in the growing community, but when the Archdiocese closed some South Shore churches after the storm, including the five in St. Bernard Parish, there were resources for the new parish. There were also newly arriving Catholics looking for a new church, and they came from other South Shore communities as well.

It's a good mix. One of the things that helped Most Holy Trinity is that a lot of the people who were displaced were leaders and the movers of St. Bernard, and a couple of them have settled here. And the reason they've settled here is that they were their church leaders in St. Bernard prior to the hurricane. So that when the hurricane

happened and they were displaced, as good as the other parishes in the areas were, they had all their leadership established. So when we were getting established, we were a natural fit for many of the leadership of St. Bernard. And that has been to the detriment of St Bernard, because while people are moving back to St. Bernard most of its shakers and movers are not.

Figure 8.13 shows the origins of members of Most Holy Trinity’s Pastoral Council and Knights of Columbus, a men’s club common to Catholic parishes. Both groups have a large number of St. Bernardians, but also many from other areas. Using phone listings from 2005, members’ origins were determined, showing a strong presence of former St. Bernard residents participating in the social leadership at the North Shore church.

Figure 8.13: Most Holy Trinity Leadership Origins



While the St. Bernard presence is strong, it’s not dominating, and Most Holy Trinity has become in the eyes of its pastor a new community to wayward St. Bernard residents, but one that has built on the strength of its membership, whether from St. Bernard or elsewhere. In the new parish, there is safety in numbers among the blue-collar St. Bernardians, and the white-collar natives had no established claims on leadership or tradition, and Fr. Henry sees this as a luxury that has allowed the group to get past class issues. Fr. Henry also sees people moving on more now than in previous years, and he sees people moving forward and rebuilding the social communities they once had.

One thing that we have had go on, and that we’re still doing, is allowing the people to mourn, and that’s one of the things that I think we realized early on, and I’m not patting myself on the back for it, but we have to allow the people to mourn. We have

to allow the people to cry about their loss, because they lost everything. Some people, after 40 years or 35 years of marriage, they have nothing. Some of them are literally starting over. But with the help of the community they were able to mourn and to move on. What's making us grow (is) in St. Bernard they had that feel of community, and they're helping me form it on this side.

8.6.2 Transitional Networks

Although established, establishing and migrating social groups existed, even at the formal level, Brian quickly saw the need for forming something just for his fellow relocated St. Bernard residents after finding and reconnecting with old friends from Chalmette. He, his wife and five other couples had begun having regular dinner parties, and over one such occasion, they were lamenting that the little dinner party couldn't be expanded outward to include all the former St. Bernardians on the North Shore. It occurred to Brian that they could have such a dinner party. And he got to work organizing what would be the First Annual Castaway Dance, held in a Catholic school in Madisonville, in a reunion-style format.

Word from the original dinner party spread quickly. About 700 people showed to the First Annual Castaway Dance on the North Shore in 2007, Brian held repeat events in 2008 (1,500 attended), 2009 (3,000 attended) and 2010 (800 attended). In 2011, Castaway just was not a priority anymore. Its sole purpose was achieved by the short run. It had brought St. Bernardians together.

I just kind of [felt] like skipping it. I guess I'm just too tired and lazy. It's a lot of work, and I just didn't want to do all that work this year. I had other things to do. ... People are tending to move on now. At first, we didn't really know where people were at, so you kind of showed up to find everyone, and then once they figured that out, they kind of made their own plans to meet up and see each other so the Castaway wasn't really necessary after awhile.

It was a well-timed sentiment. Kristin in Madisonville had attended each four of the Castaway events, but she was ready to move on as well.

It was funny. I thought, I'm not going to go this year. I've seen everybody over and over again. I'm not going to go. And then they didn't have one.

8.7 Conclusion

For the residents who chose to relocate after Hurricane Katrina, the North Shore was a popular location, primarily because it was a place where St. Bernardians knew people and could find housing and neighborhoods that were similar to the ones they left in St. Bernard Parish. It was also near to the place where they had lived before Katrina. The population and development pressure that St. Bernard residents and other post-Katrina migrants contributed to St. Tammany and other North Shore communities was not unprecedented or unusual to the fast-growing area.

St. Tammany, though more similar to pre-Katrina than post-Katrina St. Bernard, is different than St. Bernard in a number of ways. Property values, educational and employment backgrounds, and even mannerisms and speech are distinctive between St. Bernard migrants and the existing population. This has led to a conflict and contributed to social isolation as expressed by a number of informants. Property values, commutes and social ties have influenced the locations where St. Bernardians relocated.

Business and social infrastructure often followed residents, creating clusters of both residents and businesses, easing the transition from St. Bernard society into the North Shore society. Today, most relocaters maintain only loose ties to the place they once called home.

Chapter Nine: Overcoming Distance

9.1 Dispersal

For the St. Bernard Parish residents who stayed as well as those who moved, there were both familiar and unfamiliar faces and social places around them wherever they resettled. In St. Bernard Parish, an influx of a population that was younger, poorer and more diverse has joined a returning population that was often new to the neighborhood if old to the parish. On the North Shore and in other neighborhoods where relocating residents moved within the region, often in clusters, the neighborhood and commute were new as well. The physical, demographic and contextual community around them changed as a result of the geographical shifts of population after Hurricane Katrina. The impact of post-disaster dispersal on the social networks that St. Bernardians had formed prior to Hurricane Katrina will be analyzed in this chapter.

In nearly every case, social connections faced the added stress of dispersal. In the face of dispersal, the social networks that St. Bernardians built, wherever the members may be located, would need to adapt to this dispersal, or the social networks formed in the working-class suburb would dissolve.

Brian, who owns a restaurant and lives in Covington, saw dispersal as a fundamental change that St. Bernardians were coping with after the storm.

You know, the biggest thing about this whole thing, and I'm sure you university people have a word for it, but when you were in Chalmette you were all kind of packed in together (weaves hands into ball), and now everyone is all like (spreads hands and fingers). It was like everyone in my generation married their neighbors and their friends. Everyone married someone else from Chalmette. My children are not dating people from Chalmette. I bet 20 out of 25 of my friends from high school married someone they went to high school with, and it's just not like that anymore. Our lives have veered off in other paths. There was this dynamic of 60,000 people intermingling, and now you've gone and pulled them apart.

Wellman (1979) and Ryan et al. (2008) and Logan et al. (2002) examine the impact of dispersed social networks in more traditional communities. Wellman's East Yorkers are a homogenous working-

class neighborhood in urban Toronto (Wellman 1979); Polish migrants into London are transnational migrants (Ryan et al. 2008); and Logan et al. (2002) primarily look at second-generation immigrants in New York as they move in the city. In each of these circumstances, residents developed increasingly dispersed social networks. Ties are often maintained despite dispersal, but something is lost (Logan et al. 2002; Ryan et al. 2008; Wellman 1979).

Overlapping social ties, in which one person belongs to many different types of networks, are fewer in number when dispersal occurs (Wellman 1979). An example of an overlapping tie would include a cousin who is a neighbor and a friend. After dispersal, there are also fewer interactions among unlinked members, such as when two friends of one person become friends to each other; and a loss of place-based ties that foster community solidarity at the neighborhood scale (Wellman 1979). A social milieu is lost as ties are spread across the metropolitan region, but the closest ties are maintained and facilitated by vehicles and communication technologies (Wellman 1979).

There are different types of support that networks provide to each other. Social support can be accessed from a distance through telephones and the Internet (Ryan et al. 2008; Castells 2004; Urry 2007). Support with daily needs, such as childcare and transportation must be locally met, and with Polish immigrants in London this was accomplished by changing over time who provided this support (Ryan et al. 2008). These needs were first addressed by nearby family, but as dispersal and time increased, the Polish in London often turned to friends to address these needs (Ryan et al. 2008).

Much like Soja (1989), Logan et al. (2002) noted that dispersal occurred, but that clustering in suburban neighborhoods enabled maintenance of social institutions and social support networks because clustering enabled strong ties to the origin neighborhoods and among newly suburban ethnics (Logan et al. 2002).

These studies show that dispersal among other close-knit communities led to adaptation and maintenance of relationships among close contacts despite increased commutes, and changing patterns in

friendship, except in circumstances enabled by clustering where friends may be able to maintain more of their relationships. For St. Bernardians, I have established that clustering sometimes occurred, but would it be enough to enable friends and other non-kin to maintain their relationships? Or, would relocating St. Bernardians form new relationships with new friends nearby, abandoning previous relationships? In either reality, how is this experienced?

9.2 Social Network Analysis and GIS

There were a few commonalities among informants – both those returning and those relocating – to recognize a “pulling apart” of their social networks. Latour (2005) states that actor-networks are assemblages of individuals that reconstitute over time. The actors, or individuals, connect to one another in a social web. The connections, or networks, are strengthened through frequency of contact (Latour 2005). When groups fail to reassemble they are dissolved, and thus networks can be better understood by tracing the members (Latour 2005). Giddens (1986) stated that the places where interaction occurs can also serve as social locales, or locations where interaction occurs, and that length of time that an interaction endures, even through history, enhances the connection. The members of a network may change over time, yet the network continues. Consider the regulated example of a parish governing body, like that discussed in Chapter 7. Regular elections and retirement of members meant that since Katrina, there has been a complete turnover of membership, yet the group and its function endures. In the case of such a group, there are formal processes (elections) to maintain the group, but in other groups, including families, friends and social groups, reconstitution of the network may be subject to the personal commitment of the members.

With a population described by informants as a place where families lived within blocks, neighbors shared meals, and peer-groups of friends interacted both formally and informally, the frequency and duration of the networks formed by St. Bernard residents is thus theorized to be strong (Giddens 1986). However, with increased distance between the many actors in the social

networks formed by St. Bernardians, the challenge to re-assemblage of the many social actors (Latour 2005), or nodes (Castells 2000) in these close-knit, intertwined social networks, would be challenged. Distance between nodes has likely increased and coping with distance was often an alien experience to insular St. Bernardians. Frequent spontaneous social contact while shopping at stores was mentioned by many of the informants, who once considered the interruption from errands to talk to be a burden. For many of these same residents, this is now a missed social opportunity. Running errands with mom or friends, and impromptu extended-family dinners, and sitting out chatting on a neighbor's "stoop" were activities enabled by geographic and social proximity, that are likely to be threatened by dispersal.

If nodes are dispersed, networks are challenged to reassemble (Latour 2005) and endure (Giddens 1986). How will social networks adapt to the constraint of distance? Having discussed the friction of distance (Soja 1989), in Chapter 6, as a force that kept St. Bernardians near work, family and schools, I turn my attention to its complement – dispersal, or the constraints of distance.

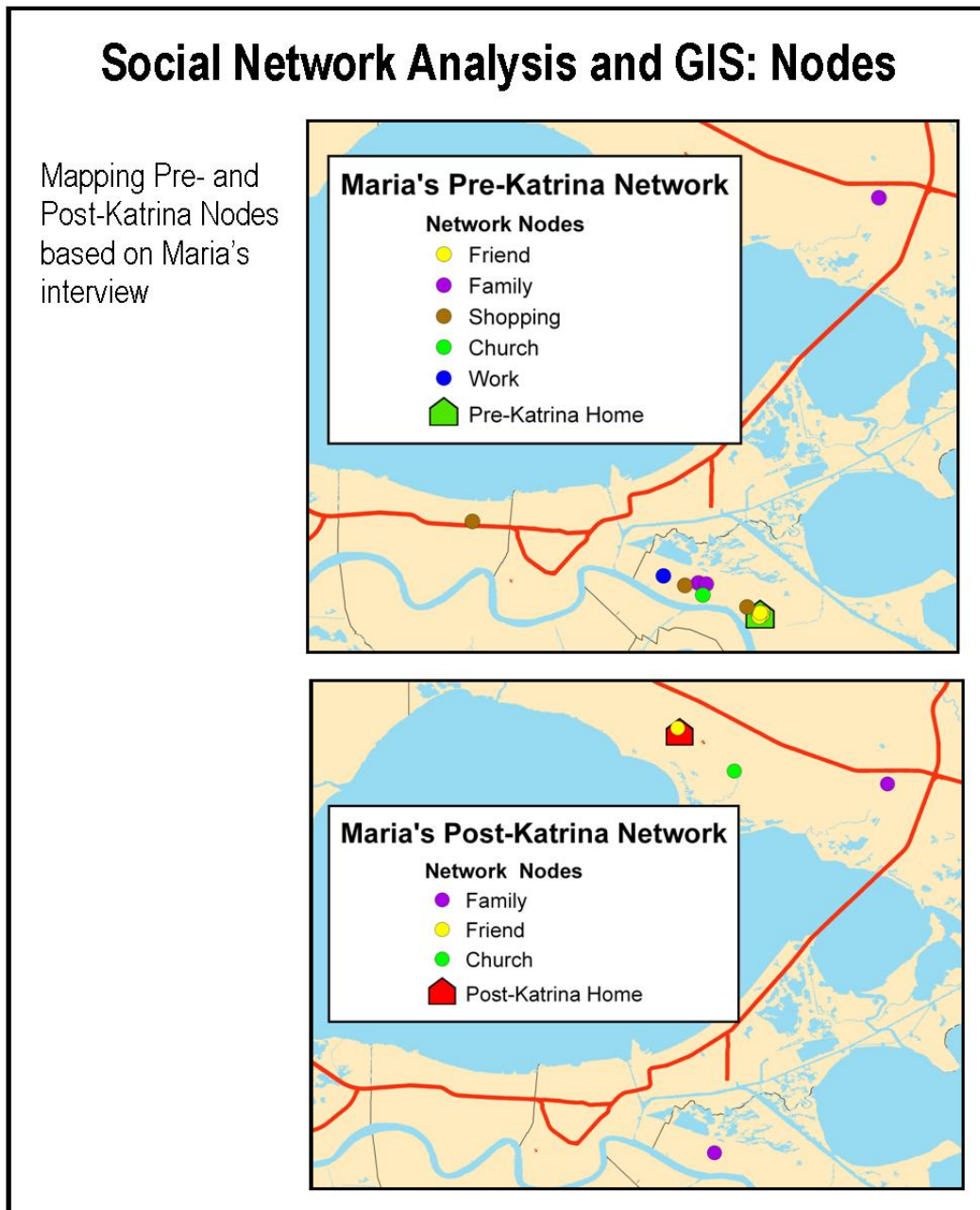
In this chapter I develop a methodology to trace the social actors, as Latour (2005) encouraged, but also to specifically trace the reconstitution, dissolution and changes across geographic space (Soja 1989). This is done to determine if dispersal of social network nodes was indeed occurring, and if so, to what degree, borrowing from diffusion social network analysis (Carrington et al. 2005). The strength of the connection was measured, borrowing from social network analysis related to centrality, but altered so as to not lose the geographic elements related to physical – not social – distance. Once the dispersal has been analyzed, the adaptations that St. Bernardians adopted with their social networks will be described.

During interviews, informants were asked about regular activities or rituals that had changed or that they could no longer participate in since Hurricane Katrina. Responses from this question,

and data from follow-up questions from this question and others allowed informants to name a number of social activities that they engaged in and the people with whom they interacted, both before and after the Hurricane Katrina. The approximate locations of these interactions were then plotted on the map. The result is a map that includes the locations of interactions (Carrington et al. 2005; Soja 1989). These social nodes were plotted using GIS. An example of an informant's pre- and post-Katrina nodes is shown in Figure 9.1.

Prior to Katrina, Maria lived in Meraux. She had a number of friends, many of whom were also coworkers, who lived in her neighborhood. She worked, and had her mother and daughter living in Chalmette. Most of her activities and errands were in the parish, and when she went out she always saw someone she knew. She left St. Bernard Parish to visit malls in Jefferson Parish on the other side of New Orleans and to visit her daughter in Slidell on the North Shore. After Katrina, Maria moves to Lacombe. She goes to church in Lacombe and has one set of neighbors whom they interact with. Her daughters both returned to the homes they lived in prior to the storm in Slidell and Chalmette. Her mother moved to Miami to be with relatives there and she no longer interacts with her old friends with any regularity. She also retired less than a month prior to Hurricane Katrina. Shopping and errands are no longer accompanied by social interactions with others because she rarely sees people that she knows.

Figure 9.1: Example of Nodes Mapping



I asked informants about the frequencies of interaction among members of their social networks (Giddens 1986; Latour 2005), allowing me to create a proxy for connection strength, as shown. Total connection strength is derived by providing an index number for each node. This number is between 1 (monthly) to 10 (daily) and is based on the frequency of interaction for each node. The index number for each node is then added to get a total connection strength index number for the network that accounts for

the number of people in the network and the frequency of interaction. The formula for total connection strength is shown in Figure 9.2.

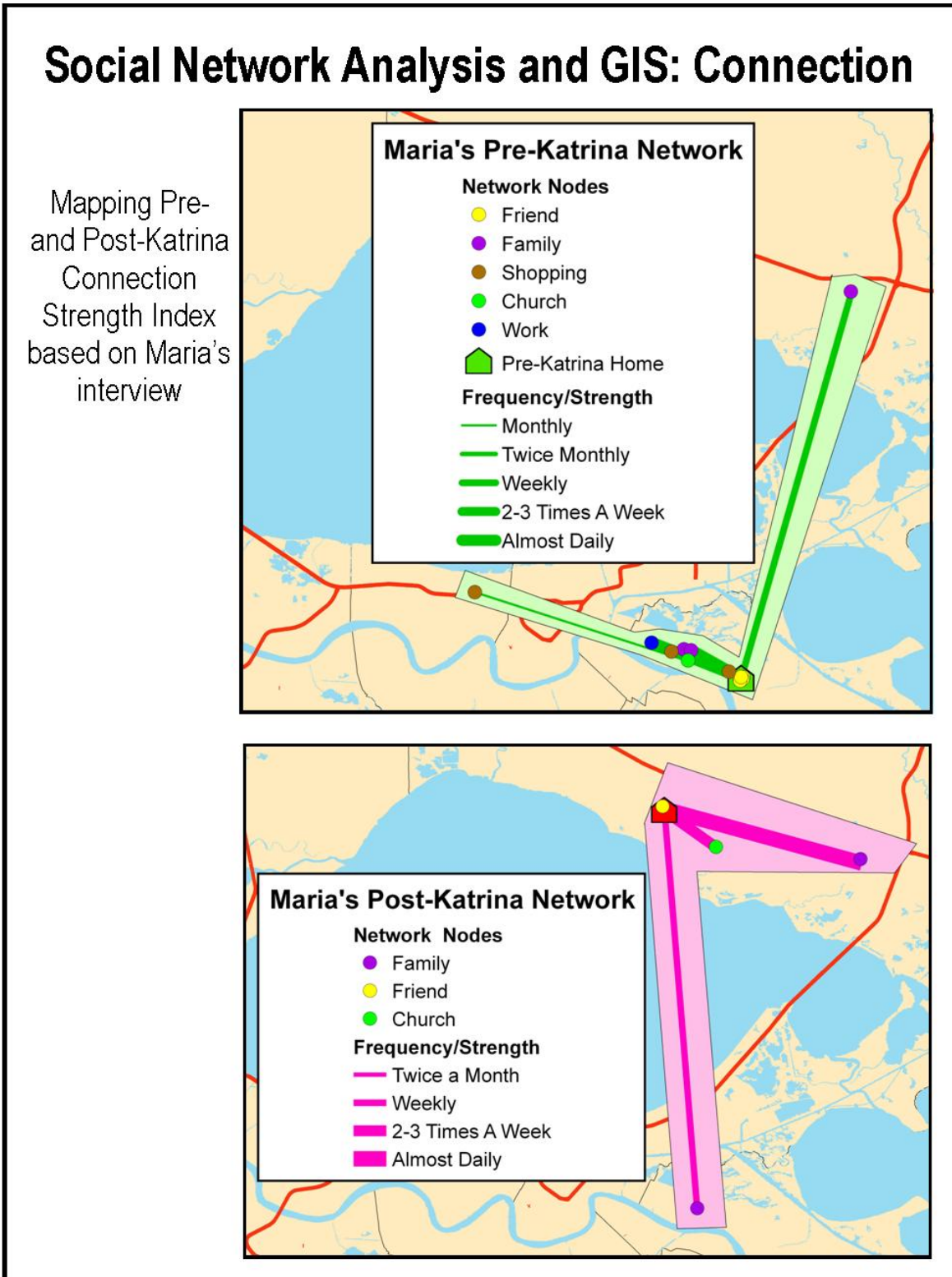
Figure 9.2: Formula for Total Connection Strength Index for Informant Social Networks

Where χ represents a node, and f represents the frequency of contact:

$$\text{Total Connection Strength} = \sum \{ \chi^{f_1} \dots \chi_{\eta}^{f_{\eta}} \}$$

While frequency of contact is one measure, it is not a complete measure. Quality of interaction and length of time that a connection has been maintained (Giddens 1986) are not examined in this analysis. In the example shown in Figure 9.3, prior to the hurricane, Maria frequently visited neighbors and interacted with friends, neighbors and coworkers in the Parish. She invited family over for dinner regularly and went to Mass on Sundays near her home. After the storm, she visits with her next-door neighbor about twice a month, mostly because their home sits on 40 acres necessitating a car ride to visit. She sees her daughter in Slidell, and now granddaughters almost daily as she is close enough to help with childcare and is now retired. Family dinners now don't happen weekly or more. They occur once or twice a month. She goes to St. Bernard Parish about once a month, usually to see her daughter.

Figure 9.3: Example of Visualization of Connection Strength Pre- and Post-Katrina



Once nodes and connection strength are plotted, a proximity analysis is conducted using concentric-ring buffers of 1, 5, 10, and 25 miles. This buffer analysis is conducted to determine the distance away that social nodes existed from the pre- and post-Katrina homes of informants. This type of proximity analysis is more common in transportation accessibility (Hsiao 2005) and environmental exposure analysis (Maantay 2007). The distances chosen was to approximate walking distance (1 mile), a distance that would be overcome spontaneously with a car (5 miles), a distance that would require time to be set aside (10 miles) and a distance that might be considered far (25 miles) and prompt advanced planning for interaction. These distances were selected based on interview responses. When informants said something was too far, this concept was explored (Soja 1989). Although these proxies are provided, the precise distances are not important, but rather the trend of dispersal. The result of this analysis is a set of pre- and post-Katrina network statistics that can be analyzed. These statistics include the number of nodes, the total connection strength of all nodes in the network, and the nodes within the prescribed distances. In our example, shown in Figure 9.4, Maria went from having most of her social interaction near her home, to having most of it farther from home. She had fewer nodes and reduced total connection strength. Unsurprising, given this data, Maria spoke about feeling “isolated” and seeking help for depression.

Figure 9.4: Example of Buffer Analysis for Informant

Social Network Analysis and GIS: Distance

Concentric rings create buffers of different distances for the purpose of proximity analysis. Distance from the informant's home is analyzed for each pre- and post-Katrina social network

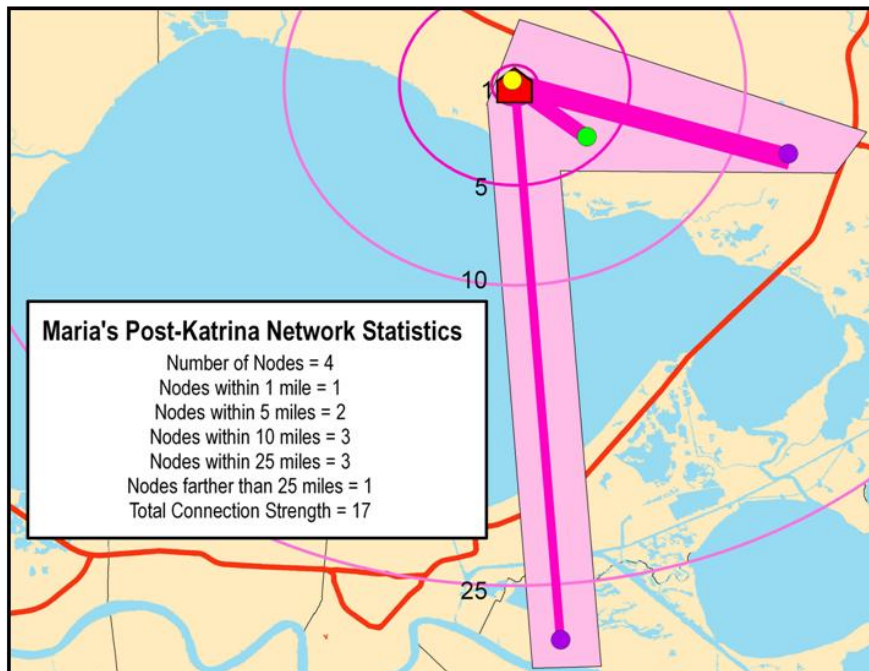
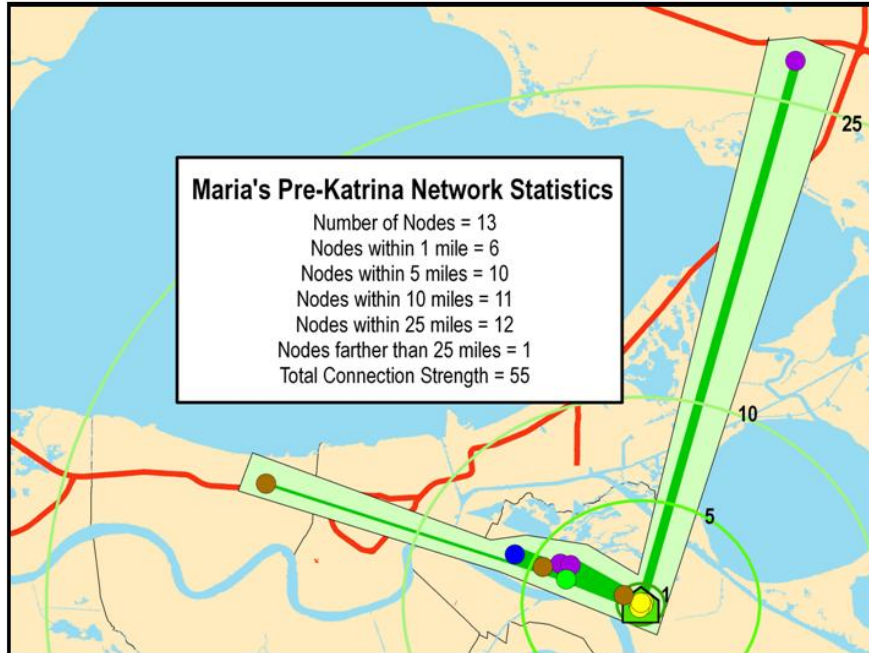


Figure 9.5 shows the pseudonyms and locations for the informants used in the study. Selections were based on post-Katrina geography to get a range of experiences. Four returned, and six relocated. Of those who relocated, four of the six were in North Shore communities.

Figure 9.5: Pseudonyms and Locations of Informants Used in Social Network/GIS Analysis



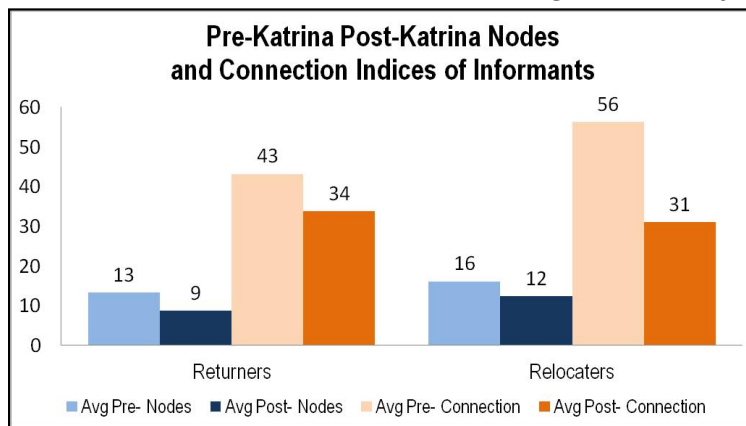
Figure 9.6 shows the network statistics that were developed by the analysis. In each geography (St. Bernard/South Shore/North Shore) one of the informants demonstrated an increase in connection strength index numbers. Each of these informants (Kristin, Jason, and Rachel) took on more employment since Katrina. Otherwise, there were significant reductions in both the number of nodes and the connection strength. The number of nodes that were greater than 25 miles away increased and the number of nodes within walking distance (1 mile) decreased. These trends were more pronounced among relocaters.

Figure 9.6: Network Statistics for Informants

Social Network Statistics									
Returners									
Time	Informant	Home	Total Nodes	Nodes/1 mi	Nodes/5 mi	Nodes/10 mi	Nodes/25 mi	Nodes >25 mi	Connection Strength Index
Pre	Christine	St. Bernard	14	7	7	11	13	1	59
Post	Christine	St. Bernard	10	6	6	6	9	1	48
Pre	Rachel	Poydras	13	6	8	11	13	0	33
Post	Rachel	Violet	9	5	5	8	10	0	40
Pre	Katy	Chalmette	9	4	5	6	7	2	36
Post	Katy	Chalmette	5	3	3	3	4	1	19
Pre	Greg	Arabi	17	3	16	16	17	0	45
Post	Greg	Arabi	11	1	4	4	4	7	28
Relocaters									
Time	Informant	Home	Total Nodes	Nodes/1 mi	Nodes/5 mi	Nodes/10 mi	Nodes/25 mi	Nodes > 25 mi	Connection Strength Index
Pre	Terry	Chalmette	28	7	26	26	28	0	50
Post	Terry	Slidell	12	1	2	3	6	6	18
Pre	Maria	Meraux	13	6	10	11	12	1	55
Post	Maria	Lacombe	4	1	2	3	3	1	17
Pre	Kristin	Chalmette	13	4	9	9	10	2	40
Post	Kristin	Madisonville	13	5	11	12	12	1	46
Pre	Steve & Sarah	Arabi	21	12	18	19	21	1	82
Post	Steve & Sarah	Hammond	23	5	9	9	10	13	58
Pre	Jason	Meraux	5	1	2	3	5	0	18
Post	Jason	Kenner	5	0	1	2	5	0	20
Pre	Gail	Chalmette	17	15	17	17	17	0	93
Post	Gail	Metairie	13	0	2	2	5	8	21

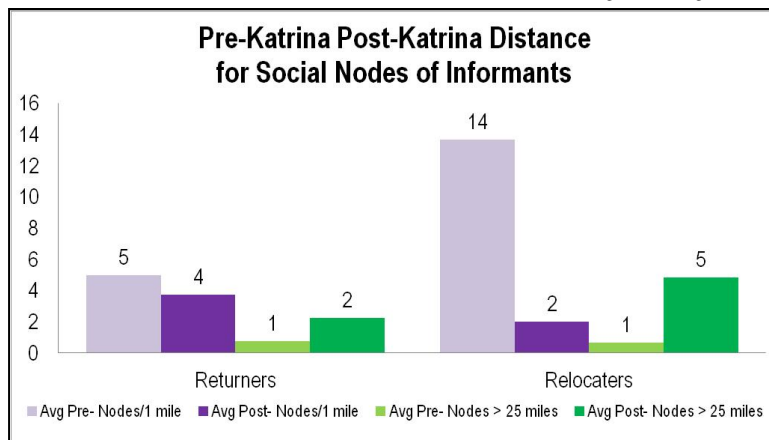
The number of nodes and the connection strength index averages are shown in Figure 9.7. The averages in each category for both returners and relocaters showed a trend downward with post-Katrina networks having fewer nodes and a lower connection strength index than pre-Katrina networks on average. The drop in the total connection strength index was more pronounced among relocaters (25) than it was among returners (9).

Figure 9.7: Network Node and Connection Strength Trends for Informants



In Figure 9.8, the same comparison is made, again with returners and relocaters sharing a common trend, or increased dispersal. Where pre-Katrina networks for all St. Bernardians were concentrated within short distances, post-Katrina social networks had a smaller number of nodes in walking distance and more nodes that were greater than 25 miles away. While this trend held for both groups, the effect was once again smaller for returning St. Bernardians than it was for relocating St. Bernardians. Returning residents saw a decrease of one node within a mile, and an increase of one node greater than 25 miles. For relocating St. Bernardians, there was a loss of 12 nodes within walking distance and an increase of 4 nodes greater than 25 miles away.

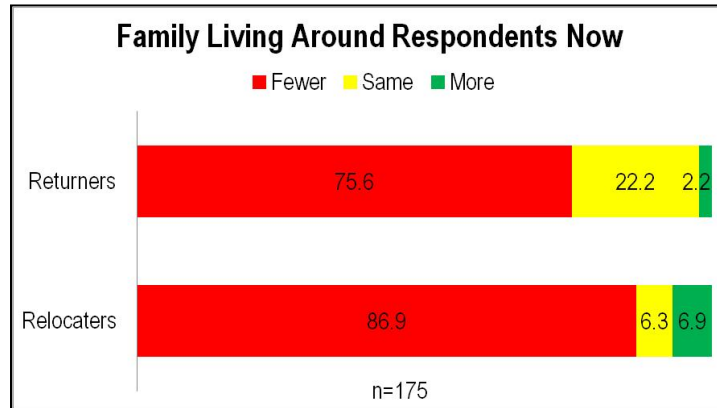
Figure 9.8: Network Node Distance Trends for Informants



9.2.1 Dispersing from Friends and Family

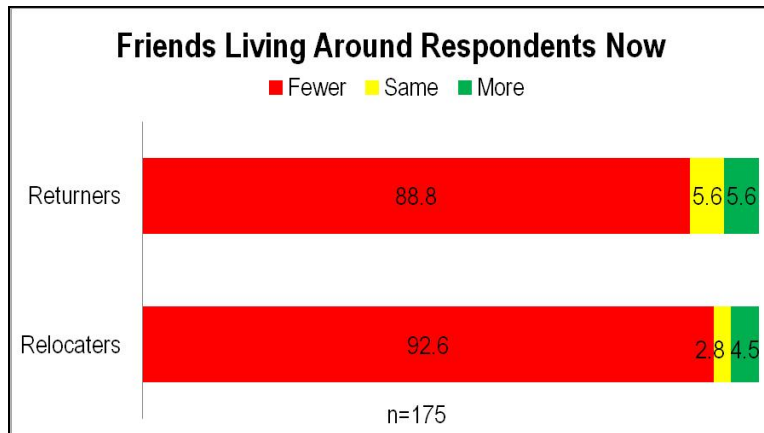
Since this method of social network analysis relies heavily on the researcher to identify nodes, locations, and frequency of interaction, additional methods will be used to confirm the findings. In the survey, respondents were asked if they lived around more, the exact same number of, or fewer relatives. Figure 9.9 shows the responses by proportion. Both relocaters (86.9 percent) and returners (75.6 percent) state they live around fewer relatives. Relocaters, however, were more likely to state that they live around more family members than they did prior to the storm.

Figure 9.9: Respondents' Geographical Situation with Family Members



The same question was asked of respondents in regards to their geographical situation with friends. More than 9 of 10 respondents in total live around fewer friends than they did prior to Hurricane Katrina. This low proportion of St. Bernardians who live around more of their friends now was similar for both returners (88.8 percent) and relocaters (92.6 percent).

Figure 9.10: Respondents' Geographical Situation with Friends



Kristin in Madison Farms, though not a respondent in the survey, provides an example of one St. Bernardian who relocated to the North Shore and now lives around more friends and more family. Most people that Kristin associates with are on the North Shore today. Although Kristin lives around more people in her network on the North Shore, it isn't the same. In Chalmette, Kristin lived almost within walking distance of family. Most of her relatives migrated to the North Shore along with Kristin and her husband. Despite the mass migration, her nearby friends and family have altered her concept of nearby.

Currently, both parents are within 5 miles, but before, they lived 1 and 2 miles away. “We were literally within 5 minutes of either parent,” Kristin said about her situation in Chalmette. Even without a car, back in Chalmette she could tend to her mother, who does not drive. Now she cannot.

Still, in St. Bernard-laden Madison Farms, Kristin has found she is able to appreciate the friends that she has in her neighborhood more, knowing now the value of friends and family.

It’s funny because Katrina kind of helped you regroup with your friends and realize how important they are. You start to take it for granted. You’d see certain people every five years at the reunion or run into them in the grocery now and then. But now we’re making more of a point to get together on a regular basis, where we didn’t before.

Likewise, in the same neighborhood, Jennifer found the presence of friends who helped her family cope with facing increased distances from family, although her sister later moved in down the street. She said that she loves her new North Shore neighborhood, and she had been the one to push the decision to relocate from Chalmette to Madison Farms. Even with most of her family on the North Shore, it is not the same as it was when she lived in Chalmette with most of her family in the same neighborhood. Still having friends nearby helped.

[I never planned to leave], because you know, your mama lives three streets over, your sister lived five streets over and the whole family is there. It was very safe. ... (After seeing Chalmette) I basically just said, we aren’t going back. It’s devastated. There are no schools. We don’t know how long it’s going to take, so we’re going back to Madisonville. My husband ... wanted to go back. And I’m like, ‘Don’t worry about your mom. Worry about us.’ So we talked, and he started talking to all of his friends, and they were saying they were coming back to [North Shore communities] and he was feeling a bit easier with it. It made it easier for him. I wasn’t going back, no matter what, but his friends made it easier for him to accept it.

Terry in Slidell, had a daughter who was planning a wedding when Hurricane Katrina hit. His daughter had evacuated everything for the planned wedding. The church in which they had planned to hold the ceremony in New Orleans had been destroyed in the storm. The Archdiocese allowed them to hold their nuptials in the iconic St. Louis Cathedral, which they did. Sending out the invitations proved to be a disheartening challenge. He sent 35 invitations to St. Bernard. All of them came back.

None of them returned to St. Bernard Parish. So the anchor for me, in that community, was gone. [It was] all over the North Shore.

Also on the North Shore, in Hammond, Steve and Sarah have picked up much of the same activities that they had on the South Shore. With the kids grown and out of the house Sarah has taken up new activities. They socialize with new friends in their neighborhood, but there are some things that distance keeps them from doing. Once again, friendships fill the gap where family is missing. According to Sarah:

I have a niece and nephew that are younger than my kids. They're in high school and I miss going to see my niece dance for her team. We couldn't see a lot of that. I couldn't see my nephew who's still in school play ball. We would have seen them if we were closer. They live in Metairie. That's definitely one of the things. Just the family functions. My brother used to fry fish every Friday, and we would go over. Crawfish boils. We don't get to do it anymore. A lot of family events is the biggest thing, really.

Most St. Bernardians lamented the loss of casual family activities. Sarah and Steve had to institute a rule that they would only drive across the lake to the South Shore once a weekend after finding themselves in a revolving door of commuting. Thus, the frequency of contact has been reduced.

This can lead to problems for some in adjusting to the change. Deacon Peter in Ponchatoula has seen in his own family and his work with others a grief that can be incapacitating in coping with the dispersal of loved ones and the detachment from a community that once housed them all.

My sister-in-law and brother-in-law, they have it horrible, just a horrible time. She has since had just a time of depression and never been able to reclaim the people that they were. Her kids, her daughter moved to Houston, and they all lived together right there in St. Bernard within a half a block of each other and now they're scattered to the four winds. You know, she'll die unhappy. When she finally dies, she'll die missing St. Bernard Parish. But I think [many more people] accept that it's gone.

9.2.2 Satisfaction

If the presence of friends and family can be therapeutic for those coping with post-disaster change and the dispersal of loved ones could be devastating, you might suspect to see higher rates of post-storm dissatisfaction among residents who face increased dispersal of their social networks.

In the survey, St. Bernardians were asked to rate both their pre- and post- Katrina satisfaction with their neighborhoods, which is shown in Figures 9.11-9.13. Prior to Hurricane Katrina, among returners and relocaters, about two-thirds or residents said they were completely satisfied with their neighborhood. In both circumstances, the post-Katrina happiness fell precipitously. Post-Katrina, the majority of both residents were still satisfied; however, very few returning residents (7.6 percent) were completely satisfied and nearly nine times as many returning residents were completely dissatisfied.

Figure 9.11: Likert Scale Neighborhood Satisfaction of Returning Survey Respondents

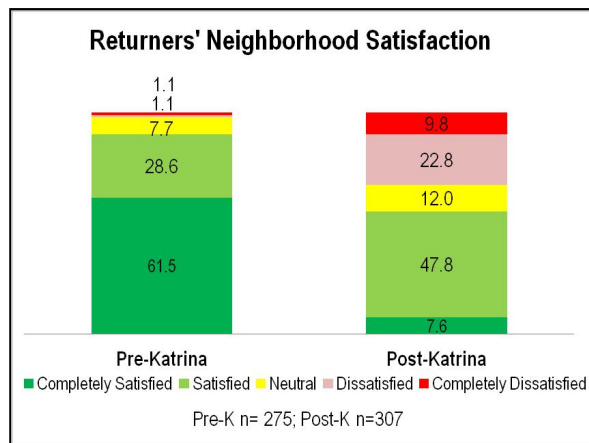
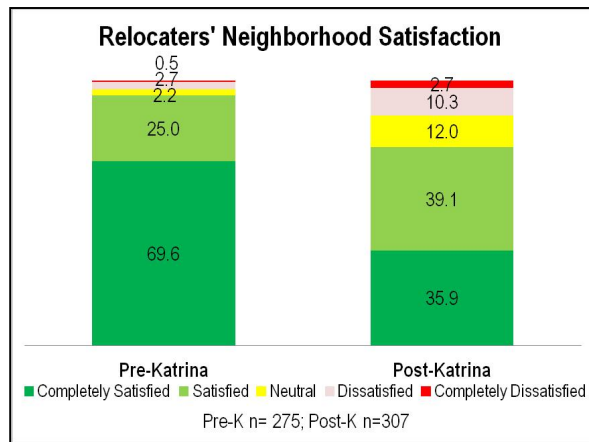
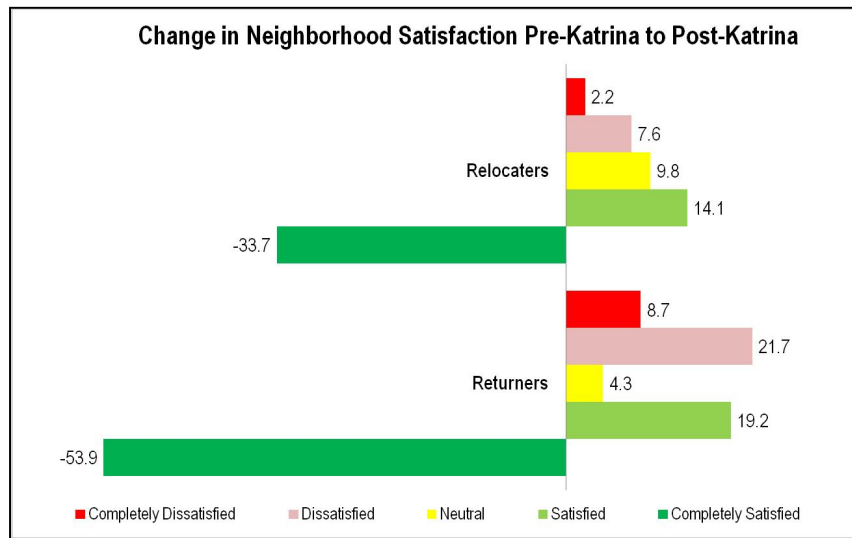


Figure 9.12: Likert Scale Neighborhood Satisfaction of Relocating Survey Respondents



While the number of relocating respondents reporting complete satisfaction fell by nearly 34 percent, and those completely dissatisfied quintupled, those relocating reported higher rates of overall satisfaction with their current neighborhood as shown in Figure 9.13.

Figure 9.13: Change in Likert Scale Neighborhood Satisfaction of Survey Respondents



It would be a mistake to confuse satisfaction with happiness. For Brian, business and life in Covington is good, and he was pleased with his decision to relocate to Covington, where he now lives closer to his daughter and a good friend. Although the North Shore has become a new home, Brian still finds there are elements he cannot recreate.

People have been real nice around here. But in Chalmette, you have a history with people. Everyone knew you as a teenager, knew how you are, knew your background, and your family. And now we're really just not around people who know who you are. That's a dynamic that's so much harder to duplicate. There was no transience before and now everyone is so geographically dispersed and sometimes you don't even really know where people are. ... We like the North Shore, but it's not the same. When my wife tells a story about her sister, you know, she wants to tell it to a person who knows her sister. She wants them to know who her sister is, and how she is. Now she has to tell them the background, and that's not there.

9.3 Group Life

9.3.1 Formal Groups

A series of questions on the survey asked respondents to list their participation in a number of group activities – school groups, neighborhood associations, sports groups, Mardi Gras krewes and others – both before and after Hurricane Katrina. A comparison of their rates of participation in organized groups is shown in Figure 9.14. Returning residents experienced a more dramatic decrease (-26.2 percent) in group activities, many of which required facilities that were not immediately restored after the storm, including ballfields. In the same table are results from the responses from a series of questions that asked residents if they participated in a series of activities both in and out of St. Bernard Parish before and after the storm. The questions ask residents if they frequented restaurants, bars, parks, movies, shops, festivals and the homes of friends and family members both inside and outside St. Bernard Parish. This question was asked in the pre- and post-Katrina context. Participation in activities in St. Bernard Parish dropped for both groups, although the loss of in-parish activities was small for those who returned (-0.5 percent). Activities for returning St. Bernardians dropped just slightly for activities outside of St. Bernard as well (-1.2 percent). For those who relocated, activities dropped significantly (-22.8 percent), almost 80 percent of activities in St. Bernard were ceased (-78.9 percent). There was an increase in activities outside of the parish, of a third (33.3 percent), but it results in more than a 20 percent drop in activities that relocating St. Bernardians engage in at either location.

Figure 9.14: Group Participation and Activities in and out of St. Bernard Parish

	Returners	Relocaters
Total Group Participation	-26.2%	-10.2%
Activities in St. Bernard	-0.5%	-78.9%
Activities Outside St. Bernard	-1.2%	33.3%
Total Activity Change	-0.7%	-22.8%

For Phil and his theater company, the experience of bringing smiles to strained workers after Katrina had caused a shift in the type of works that they performed, but the cast of seven had lived entirely in St. Bernard prior to Hurricane Katrina, and everyone had lost their homes. The cast members remain the

same today. Four have returned to St. Bernard, including Phil and his wife. Three now drive to St. Bernard for rehearsals, one each from Kenner, Covington and Mandeville. The stability and commitment of the cast has helped Phil produce new works quickly. He knows who he's writing for and the need to rehearse has decreased as the company has familiarity with one another.

Phil's group; now two groups with the same cast -- one focused on comedy and another on cultural heritage -- have taken to the road for more than just their commutes. The works that he has created for Voices have dealt with topics of the history of St. Bernard Parish, Hurricane Betsy (1965) and the experience of survivors, and the New Orleans Saints NFL football team's special relationship with the fan base. His works bring in local humor and dialects and have even included cameos from local politicians. While his home was being rebuilt, he and his company took his Saints play, *Bless You Boys* on the road. They worked out of trunks then, and still do. Where they were once a company in residence at Nunez Community College in Chalmette, they are now a company of actors with trunks or a theater company without a theater.

I miss the magic of the theater sometimes because we were the only show in town when we were at Nunez (Community College in Chalmette). ... And having space with the good lights, the good sound and the good comfortable seating, I kind of miss that. The beginning of my theater company career, we were the artists in residents at Nunez because Nunez was only doing one show a year at the college, and we were doing five. I really liked having that space and having that opportunity. ... Post-storm, everything that we owned in the theater, we lost too. We lost all of our sets, all of our costumes, all of our mailing lists, computers, and we weren't insured for any of that. It's so funny there were fish on Nunez's stage after the storm. ... Over the years it's been putting our money back into props and stuff. But we've really become a travelling troupe. We have portable lights and sound and they're in trunks. Each member has their own trunk and it has their name on it, and it has all their props in it. ... It's just a pain in the ass to bring everything that you own every time that you do it. You have to bring props. You have to bring sets. You have to bring everything with you, which is why I bought the trunks

Phil's company, through the Voices Foundation, performs now on the North Shore as well. The connection to St. Bernardians relocated there is more than a matter of available theater space. It's a

relationship that is becoming formal and deliberate. The Voices Foundation provides scholarships to students in both St. Bernard and those in St. Tammany Parishes who have St. Bernard ties.

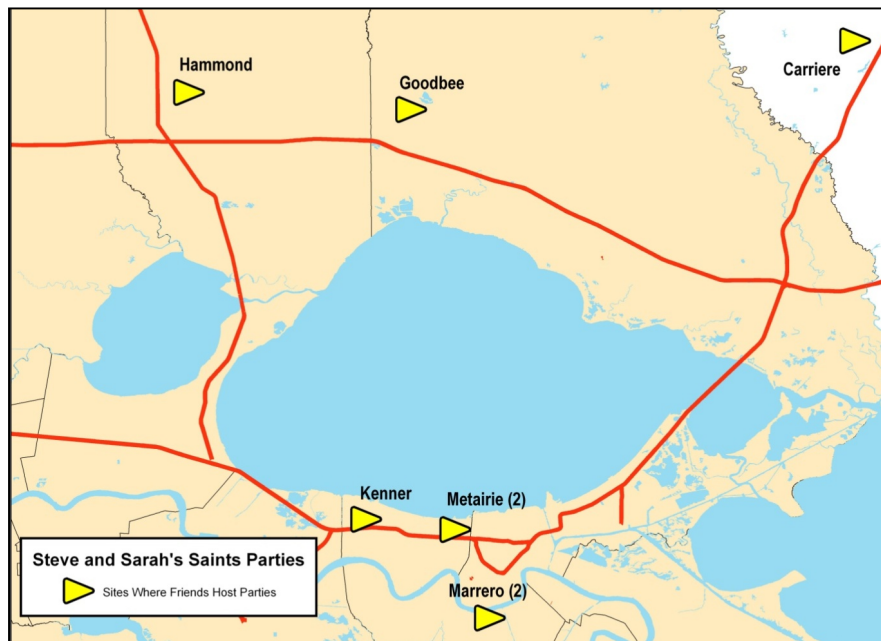
9.3.2 Informal Groups

It wasn't just informal groups who changed, but maintained contact after Hurricane Katrina. In Hammond, Steve and Sarah were making new friends, but they had a group of friends from St. Bernard that they had no intention of losing contact with. Despite the fact that the group is scattered widely across the metro area as shown in Figure 9.14, they still make a point to watch Saints games together. Even if it means driving, two hours, the whole group still does it. As shown in the figure, Steve and Sarah do sometimes drive that far to go to gameday parties on the West Bank of the Mississippi River. This is a group of friends that used to see each other at least a couple of times a month and now meet eight times a year. They'd love to see each other more, but it's difficult because of dispersal, as they noted:

Steve: We've been trying to get together. This is the anniversary of The Godfather. We had been planning a group get together where everybody dressed up. All the girls and the guys can dress up like The Godfather. It's been scheduled three times, and somebody can't make it to at least one of them.

Sarah: If we were all in St. Bernard still, it wouldn't be a problem. We all would be closer together and stuff. It can be tough at times, yeah. Because you know, the commute to go see them is so tough at times. It's pretty bad.

Figure 9.15: Group Participation and Activities in and out of St. Bernard Parish



Both young and old mentioned large groups of friends that they regularly spent time with. Terry's group even created a formal name for their informal group that expressed how informal they were.

We certainly had through my brother-in-law a circle of friends called "the Joes". And it's basically, I'm having a super bowl party. Well, who's coming to your super bowl party? "Just the regular Joes." And so they referred to themselves as the Joes and the Joe-ettes. ... The whole group was maybe about 30. So the storm spread us out pretty broadly. But I've only maintained contact with maybe eight of them, six or eight of them and not nearly as frequently as I used to.

Similarly, the group of volleyball moms that Gail was part of would have to give up their monthly volleyball games, but that didn't mean they had to quit communicating. But the distance between them has meant that get-togethers are now more about quality time than regular interaction. Her once monthly volleyball gathering has since become a more sporadic meeting, and some members have dropped out. When they do get together, it becomes an overnight event. In February 2006, after moving into her home in Metairie, she sent her daughter out, and had the volleyball team over for a sleepover. They have struggled to find times to get together, but they keep trying.

I didn't have any living room sets, so I had this patio set that [the previous owners] left out there [from before Katrina] with four chairs. I had a kitchen table that they had

left with four chairs. And we found out that if you sat on them too long from being in the water, it broke. I didn't have any beds yet, [just one mattress]. But I had carpet in the bedroom, so everyone brought sleeping bags. It was so much fun. We had shots, and we were drinking. There was nine of us. ... And another time we got together about a year later. You keep saying you're going to do these things every year, but it never happens. But we got together about a year later. It was only four of us. ... But we haven't gotten together again. But I just rented two condos, one in June for my birthday, and I told my kids you can have Friday and Saturday night with me, but on Sunday night and Monday I'm going to invite the girls up.

Gail and her volleyball moms have moved from frequent volleyball games to full-day gatherings with complicated carpooling and overnight stays. Gail, like many others had made the transition from living out of a suitcase during her evacuation period to packing an overnight bag for dinner parties. The weekend bag had become a common accessory among informants that started at evacuation and still plays a prominent role.

Heather returned to Chalmette, after rebuilding the home she had purchased from her grandmother prior to Katrina. Her sister had lived on the North Shore prior to Katrina, but her mother was nearby until the storm. Now in Lacombe, Heather doesn't have as many spontaneous family dinners, but she still makes a point to make it out to Lacombe for dinner at least once a month. Even when she's just out with friends, she comes prepared.

One thing I do find myself doing more, is like on a Saturday, I will pack a bag of clothes, because I know wherever I'm going to be I'm probably going to sleep there instead of driving all the way back.

9.3.3 Gathering

Both the importance of social gatherings and the need to plan for them were common topics that informants brought up. It was something that they were aware had changed since the storm. Dispersal had reduced the number of spontaneous social events among friends and family. This loss of social density had also left St. Bernard informants nostalgic for what they once had.

In the food-rich culture of Southeast Louisiana, restaurants were commonly mentioned as gathering spots. Relatives to the owners of a historic Chalmette restaurant opened their own restaurant in

Covington, serving a familiar menu. Other restaurants that were once open in the Parish re-opened in Ponchatoula and Covington. The place most mentioned was Brian's restaurant in Covington, where he claims he sees 10 to 20 people he knows from Chalmette a day, and they stay past closing on the weekend.

Chalmette people stick together. Friday, Saturday nights, though, there will probably be six 10-tops (large tables that seat 10) of people from Chalmette. Those tables will go mixing. They'll go from table to table visiting with each other. My wait staff tells me they always know that the last group out the door is always someone from St. Bernard and they'll still be talking out in the parking lot.

Deacon Peter in Ponchatoula singled out the importance of gathering as a way of reminiscing or holding on to a community that is no longer there.

I think people gather together much more, and from the people that I've spoken to that have moved away. It's funny. They used to say a couple years after the hurricane, that, oh, they're so glad that their school system is so much better where they are. But now you hear them pining to be back in St. Bernard. Back to the community. Their community just happens to be located on the North Shore. The patients that I've taken care of and the families I've taken care of in Chalmette aren't near as happy as they could be. Because I'm a hospice chaplain, so there's a lot of grief. But if you listen to what they are talking about, they are talking about the community and all that. ... Home has changed a great deal, the concept of home. The concept of community.

As "the Chalmette deacon" on the North Shore, Peter in Ponchatoula's role in the Church puts him regularly in gatherings, including funerals, weddings and other church functions. These events, always well attended in the Parish have become community events drawing large crowds. He went to a private Baptism in northern St. Tammany, and he anticipated there would be about 20 people there, having been to several similar events before.

But there was 200 people there. All from St. Bernard. All from Chalmette. I thought they were going to break out a pot of crawfish and a case of beer in the parking lot. It was like a big time for a reunion of Chalmette people.

Gail attended a similar function for an old neighbor in Chalmette. The drive from Metairie, where Gail now lives, to Mississippi, where her neighbor now lives, would be more than 100 miles roundtrip

and take more than an hour each way. Gail said, she “felt like I took a little trip,” to get to the baby shower for her neighbor. Still, despite the distance, she and her daughter never considered not attending. They hadn’t seen each other in a few years, but they still kept in contact.

9.3.4 Planning

Driving distances to celebrate social occasions is something that St. Bernard informants stated that they did to maintain their social networks. However, the distance between relatives could be more problematic when it came to dealing with family issues. Gail has struggled to attend family functions for relatives who have moved. Her mother passed before Katrina after a battle with cancer. In 2011, Gail’s sister was diagnosed with cancer. Gail, who lived in Chalmette and worked in Arabi prior to Hurricane Katrina, was able to attend easily to the healthcare needs of her mother in Arabi. Her family, now scattered across the South have had to make more deliberate plans to help her sister with cancer.

I have five brothers and sisters and we all were down here, and we all lived within blocks of one another. ... But you had my sister in Independence (in Tangipahoa on the North Shore) and right now, it’s really, really hard because it’s an hour away and she’s dealing with colon cancer and she’s raising her 6-year-old grandson. My youngest daughter is up there with her this week because this is her fourth week of chemo and radiation. I’m taking off next week to be with her. And the following week, my daughter is taking off a week again to take care of her. But when she was in Chalmette, she was five minutes away from me. My mother went through cancer and radiation treatments before the storm and because I lived here and my mother lived four blocks away from here in Arabi from [work]. I would leave [work] tell them “I’m going to bring my mother to radiation.” Leave here, go take my mother to radiation, it’s like 15 minutes. Bring her home. Come back to work. After work I’d go pick up food for her to eat, go sit with her and watch her eat, and then I’d come home and feed my family. I can’t do that with my sister because it’s like too far away. Just the time involved driving up there and spending all day and trying to drive home.

Holidays had often changed for the informants. Compact families, native to St. Bernard, meant holiday commutes in pre-Katrina St. Bernard were negligible; multiple parties were standard for holidays. Arrival times were loose. With relatives scattered, these flexible conditions may no longer be possible. For Kristin in Madisonville, despite having all her relatives on the North Shore, there is a decision to make. St. Tammany is geographically larger. She must choose a family for the holidays because her

family celebrates in eastern St. Tammany, and her husband's family celebrates near their home in western St. Tammany.

[Before Katrina], when it was at my mother's and my mother-in-law's they were five minutes from each other, so it wasn't a big deal to do both. Now my sister is in Slidell, and if we're going to Slidell, we stay there. My other sister, my husband's sister is in Madisonville, close to us, but that's a 35-minute drive (back from Slidell).

Brian, who lives in and owns a restaurant in Covington, also relocated to be nearer to North Shore relatives. He still sees family at Christmas, but few others. This is new for him. Christmas for him in Chalmette was a day that often extended into the night with a revolving door of friends.

I remember sitting around talking about it a couple of years after the storm. It used to be at Christmas we'd do it at the house from maybe 6 p.m. to 2 a.m., and over the course of the evening there might be 100 people coming through. Most of them might just stay for an hour or whatever. That first Christmas, there was a smaller crowd, a much smaller crowd. Everyone had to drive. In Chalmette you might go to 4 or 5 parties in the evening. We'd go to four houses or so, because it was all right there, and now it's a lot more just family only. It's not like it was.

Brian's house may feel empty of friends, but Gail's house in Metairie, though bigger than her home in Chalmette is now full of family. For Gail, the element of shared arrival times coordinated in advance instead of a long day of many visitors arriving at will has provided new challenges related to finding places for everyone to sit, but it also has brought siblings together who previously missed each other for years.

The biggest thing that's changed is Christmas. [Before Katrina, with people coming to her house throughout the day], my mother would be like, this is such a long day on Christmas for me. My youngest brother would never get to see everybody. That's how holidays have changed. I think it actually changed for the better. We all see each other at the same time. Before we all would miss each other. My youngest brother is 10 years younger than me, and 20 years younger than my older brother. So he was the after-life. My mother was like 38 when he was born, so it was like the five of us and then him. I was the only one. I'm still the only one close to him. I think that's why he'd come late because he felt out of place. So they never did see him. Now at least they see him.

Most of the St. Bernardian informants that I spoke with still see both friends and family. To do so, they have had to develop social skills they never needed in St. Bernard Parish. Planning has become a new activity for St. Bernardians. Family and friend activities once penciled in have become more important. Brian recognized this change, noting that St. Bernardians were learning quickly how to plan for gathering with groups spread widely across the metropolitan region.

Meeting at a new central location: that's something Chalmette people have had to learn how to do that we were never really good at before -- visiting. We aren't used to planning to see friends. We never used to do that. In Chalmette, you didn't have to plan to see people. You just stopped by or called and came over. Everyone was right there, so if you decided to start cooking something or to drink beer and watch a game or whatever, you could just decide to do it that day, and call around and it would happen, and you can't do that anymore because people are so spread out. It takes more planning, and we never really had to learn how to do that, but we have to do that now.

Planning was not the only social tool that many informants mentioned when they were discussing post-Katrina social interaction. Even older St. Bernardian informants discussed the increasing role of new social technology and media in overcoming distance. While many learned for the first time about how to send text messages from their phones during their evacuation, once settled in, social media sites, specifically Facebook became a virtual meeting place for keeping in touch with friends from afar.

Technology, in this instance, serves as an adaptation mechanism for social networks (Brinkerhoff 2004; Castells 2004). The Internet allows members of a network to cross distance *virtually* to socialize and form virtual communities, or groups, around common interests or people, or in this case around a common origin community (Brinkerhoff 2004; Castells 2004). A number of such communities exist on Facebook, allowing residents to communicate one-on-one, or reminisce about their old neighborhoods.

In addition to Facebook, one relocated St. Bernard resident maintains a community listserv for residents and for those who are still interested in keeping up with what is going on. The listserv and other forums have an active membership with posts nearly daily in 2012.

Urry (2007), in his work on mobility, or increasing flows of people over space, acknowledges the need for face-to-face interaction, even if infrequent, to maintain social relationships while acknowledging the increased utility that social technology permits in maintaining relationships despite greater distances to be crossed. Urry (2007) considers technology to be a maintenance tool for networks.

Jack is one informant who discussed the importance of social media in keeping in touch with friends who have scattered through the region. He had a close group of work friends. They used the technology not just to interact, but to plan their infrequent gatherings. However, it lacks the intimacy of in-person meetings.

With Facebook sometimes you just catch up that way. It helps us to set up those meetings. You aren't doing phone tag or anything anymore. You just don't use the phones or anymore. You use the messaging or whatever. Things like Facebook wasn't around [before Katrina], I mean it was but it wasn't as popular. So those things kind of helped to keep up with some friends. It's just not the same. But that's just what we gotta do.

St. Bernardian informants indicated that great efforts were made to maintain friends as well as family contacts after Katrina. Although these relationships have been maintained in the first six years after Hurricane Katrina, informal friendships have utilized social technology and have altered their relationships to include infrequent gatherings that often last overnight where these relationships were built on frequent regular contact that lasted hours. Clustering enabled many of these relationships to continue, and altered the locations of interaction. Here, Soja's (1989) concept of *friction of distance* once again becomes important for planning purposes. Brian, Gail and Steve and Sarah all mentioned the search for either a central or rotating location to meet the commuting needs of everyone involved. Jack discussed the shift to a distance-free forum of the Internet on Facebook as the new mechanism for interacting with old friends. Largely, St. Bernardians have maintained their old friendships, but they have had to change how they interact to do so.

9.4 Moving Ahead

Terry in Slidell was an active member of his community in St. Bernard Parish. Church, school board, charities and other activities kept Terry involved and friendly with the decision-makers in the parish. In Slidell, that hadn't yet occurred in early 2012, but Terry was ready and looking to pick up new activities.

My wife and I have this year committed to getting involved with St. Luke the Evangelist. That's our church so we've been peripherally involved in the church in the past, and this year we really decided to dive in.

Even for Gail, who maintained many of her old networks in some form, her social networks were changing. When she moved from her starter home into a new neighborhood in Chalmette when her children were young, she maintained her friendships with her first neighborhood in Chalmette. She also attended an annual summer gathering in the neighborhood. She still made a point to keep it part of her summer ritual after Katrina but it changed as time went on. Others have stopped going, as the constraints of the commute have led to abandonment (Nigg 1995).

It's changed now since the storm because there's a lot of new people I don't know, and it's all their neighbors now. It's new neighbors, but I see some of my old neighbors still, but it's new people and it feels kind of different. The first two years after the storm it was the same people 'cause everybody wanted to see what people were doing. Now there are people, they live in Mandeville, and they live an hour away. They don't want to drive all that way down for the Fourth of July, so, it's different now.

Brian, a New Orleans Saints football fan, he has made a point to adapt gameday rituals to the increased distance from the Superdome in New Orleans, where the Saints play. Informal pre-game activities were formalized to cope with the distance (Oliver-Smith 1986).

Me and five of my buddies still sit together, but it used to be that we all got together gameday and grilled out or boiled up some seafood and had some beers and then went in for the game. Now that I live on the North Shore, it's just too far. It's too much to drive across that bridge after some beers. So I started this Saints Party Bus from the North Shore. And we can all meet up here (at the restaurant), and eat and drink and then we don't have to worry about how we're getting to the game. I figured, I was going to have to find a ride to the Dome, so I might as well find a bunch of other people to get together to help me pay my ride.

For Greg, time spent in Mid-City New Orleans in an area not as heavily impacted changed his shopping habits permanently. Despite returning to Arabi, he formed a connection the urban neighborhood he lived in after Hurricane Katrina, keeping that neighborhood familiar.

I do a lot of shopping in the city again. Groceries. Clothes. Most of what I get is in the city now. The Parish has Wal-Mart now but we prefer to use Rouse's (in Mid-City). And that goes back to my time in Mid-City. We got used to using Rouse's. We like Rouse's. It's really not that far from where we live now. It's like 5 miles.

Most informants said they believed they were moving forward. Often unprompted they placed a time frame on "feeling recovered," that was consistent 'to a person' for returners and relocaters and across age groups and situations. After the 2005 storm, most cited 2011 as the year that they were ready to move on with new circumstances. Peter, the deacon in Ponchatoula, noticed the same pattern among those he speaks with, when he spoke with me in early 2012.

I'm sure they miss what they had, because it was a beautiful place, but at the same time, I've seen it, and I've counseled a lot of them, and you know, very seldom will I have to sit down with someone from Chalmette and listen (anymore). It used to be weekly or monthly thing, but now that the kind of trauma had worn off and they've made new community connections and revived some of their own community connections, it's certainly not St. Bernard but at the same time St. Bernard is not St. Bernard.

Six years after the impact of Hurricane Katrina, St. Bernardians see each other less frequently whether they stayed or relocated. They are less involved and spend less time regularly interacting with others. Six years after the storm, however, St. Bernardians have made efforts to maintain contact with family and friends from their old neighborhoods. These gatherings of friends do not draw the same numbers or involve all the same activities, but the Internet, clustering on the North Shore and a willingness to commute has allowed many to maintain valuable friendships six years after the storm. These new patterns of planned, infrequent and lengthy interaction are distinct from their experience of regular, spontaneous interaction. The experience is described as "isolating," and "not the same," by informants, but they still hold meaning and serve as one way in which St. Bernardians maintain their connections to each other despite the loss of social milieu once experienced in the parish.

Chapter Ten: Conclusion

10.1 Summary of Findings

This case study examined the long-term (6-7 years) recovery from catastrophe of a close-knit blue-collar community of residents located in St. Bernard Parish. Multiple densely connected and highly interactive social networks had created a “peer-group society” (Gans 1962) in which social capital was high (Gans 1962). St. Bernardians said that they had no plans to leave the parish and reported a high rate of satisfaction prior to Hurricane Katrina. Social activities, including sitting out with neighbors, socializing during errands and marrying one another reinforced social bonds. Faced with a disaster of catastrophic scale, St. Bernardian respondents and informants turned to their social networks to meet needs for housing and support during the recovery process.

This study, in particular, focused on the relevance of disaster recovery literature to a catastrophe. It also focused on the role of social networks in assisting, influencing and adapting to recovery decisions. Finally, it asked if the recovery experience made St. Bernard Parish residents more or less resilient to future disasters.

10.2 Addressing the Research Questions

10.2.1 Disasters and Catastrophes

This study first asked if the theories developed about disaster recovery applied to this catastrophe, with significant amplification or if it had unique qualities with the impacts amplified. The findings indicate that many of the impacts are similar, but there are a few critical areas in which the social impacts of this catastrophe in St. Bernard Parish were different from what disaster literature indicated that they would be.

As disaster theories indicated, the “recovered” community was not a return to pre-disaster conditions, but became different than they were prior to the event (Quarantelli 1999). As Quarantelli (1999) and Nigg (1995) indicated the recovery process did have interwoven recoveries of businesses,

community and households. Businesses that needed local customers waited to return, and many choose not to return in areas where the population is no longer as high (Nigg 1995). Similarly, while many households had returned by the time that municipal services had been restored; other households took years to settle down. Physical constraints from the damage done by the impact of Katrina, temporal constraints in meeting daily needs, and subjective constraints related to stress from other constraints (Nigg 1995) were elements in the stories of all St. Bernardian informants.

The recover trajectories of St. Bernardians differed greatly, influenced by availability of resources and constraints and opportunities. St. Bernardians mostly stayed nearby to evacuate, but then went farther away to make plans the future before returning, often to stay with friend and family as they sought new housing or rebuilt damaged homes in St. Bernard. This three-stage pattern – Evacuation, Early Long-Term Recovery, and Late Staging – was observed in multiple methods of data collection.

Many disaster theorists have indicated that housing scarcity and the resulting competition for housing would create conflict (Button 2009; Chang 2010; Nigg 1995; Oliver-Smith 1986; Quarantelli 1999). Even later in the process, when housing became abundant in St. Bernard Parish, conflict occurred as returning residents tried to control access to housing in an attempt to maintain their identity and property values. Housing scarcity was amplified by the magnitude of the damage. With most neighboring communities also heavily impacted by the catastrophe, St. Bernardians who needed housing quickly often had to go across the lake to the North Shore, where information about available housing was difficult to obtain. When housing could not be found or afforded, friends and relatives allowed St. Bernardians to stay with them, integrating them into their households (Oliver-Smith 1986). This creative problem-solving by individuals and households to meet household needs, and housing needs in particular, shares qualities with Kendra and Wachtendorf's (2001) theory of improvisation. Their observations about response organizations appear to be relevant to households as they recover.

In Kobe, Chang found evidence of increased decentralization of residents in the inner-ring suburbs and urban areas that were impacted by the earthquake relocating to the city's edge where development was already underway (Chang 2010). In the areas where the impact was greatest, relocating residents with means departed for unimpacted areas in outer suburbs. In St. Bernard, a parallel process occurred. Vacancy rates climbed, and the rate of poor residents and renters increased in St. Bernard Parish. While there was not a significant surge in growth in St. Tammany Parish as anticipated in the literature (Chang 2010; Quarantelli 1999), several informants indicated that the move that they made to the North Shore after Katrina was a relocation that they would likely have made, but at a later date. In that regard the process of decentralization was accelerated in time.

Li, et al. (2009) observed that in another Katrina neighborhood, subgroups within the population had different return rates. This same dynamic was observed among St. Bernardians. Approximately two-thirds of rural St. Bernard respondents returned to St. Bernard Parish, about the same percentage of St. Bernard suburban residents who chose to relocate elsewhere after Katrina. The demographic patterns of relocation were different for rural and suburban neighborhoods, and neighborhood change literature foreshadowed the pattern (Wilson and Taub 2006; Cantrell 2005). In the suburbs, the older residents moved out and younger residents moved into their affordable homes (Wilson and Taub 2006). In the rural areas, relocating residents were the younger residents, and they relocated nearby in the suburbs near their rural homes while the older residents returned to their original homes (Cantrell 2005).

There were characteristics of the recovery from Katrina in St. Bernard Parish that were unanticipated from the disaster recovery literature. Although processes of de-industrialization were observed in Kobe after port facilities and industrial facilities were damaged (Chang 2010), de-industrialization did not occur in St. Bernard Parish. Industrial employers returned quickly, and were also able to assist the community and households in their recovery. The port, the nearness to the input product (Gulf of Mexico oil) and

local workers likely prompted the selection of the original location¹⁵. The large industrial employers built and maintained expensive and specialized facilities that are not quickly constructed even when they are permitted.¹⁶ These industries are invested in and therefore tied to the location; relocation is prohibitive. The footloose qualities of professional and service firms, which can be more easily and quickly relocated to a new location with a smaller investment in place-based facilities, led to a significant exodus of employers from these sectors. Additionally, the market for their national/international product was not negatively impacted by the loss of the local market.

The stability of industry is significant for two reasons. The first is that the location of work influenced where many residents chose to resettle after Katrina as they sought tolerable commutes to their original jobs or new ones that they acquired. The stability of St. Bernard employment opportunities would encourage employees to settle nearby. Therefore, a catastrophe survivor who works for a place-based industry, such as a refinery, is unlikely to consider relocation. Because its extra-local market is still available to purchase its product as soon as it can be delivered, there is incentive to recover quickly and assist its workforce and community to recover so that efficiency can be restored. The second reason why this finding is significant is what it means for de-industrialized economies that face catastrophe. Payroll increased after Katrina, while manufacturing jobs were largely secure at a time when other sectors experienced precipitous decreases in both payroll and employees. The loss of employment in retail and service sectors was substantial, and their return only occurred with the return of residents. However, returning households also needed the salaries services and products that these businesses could provide as they returned to recover from the catastrophe and faced additional obstacles because of the slow return of retail opportunities and income.

Nigg (1995) theorized that the pursuit of “recovery” provided benefits even if the outcomes were never achieved. However, the pursuit of post-disaster planning for recovery *after* Katrina occurred caused

¹⁵ Interview responses supported this claim.

¹⁶ No new refineries have come online in the United States since 1976, primarily because of more environmental regulation regarding pollution have made air permits more difficult to attain.

a negative impact at the community level. Several St. Bernardians noted that redevelopment plans that included substantial changes in the community caused them to look elsewhere, unsure if they would even be allowed to rebuild. This finding would support the case for post-disaster planning that occurs prior to the disaster so that such uncertainty is not introduced at a time when so much of the survivors' lives were in upheaval.

St. Bernardians indicated that damage could be done by planning initiatives in the recovery period, when the wrong message can encourage decisions to relocate.

The surge of growth in communities that receive disaster victims that was anticipated by the literature (Chang 2010; Nigg 1995; Oliver-Smith 1999; Quarantelli 1999) was not observed in St. Tammany Parish, where many St. Bernard Parish victims relocated temporarily and/or permanently. Growth did occur, but these communities had been growing before Katrina, and it continues well after in the expanding outer suburbs in St. Tammany Parish. Absorbing the post-Katrina migrants from St. Bernard and elsewhere did not result in growth rates that were substantially greater than the rapid growth rates in St. Tammany that were occurring prior to Katrina (Census 2010). St. Tammany continued to expand, but the trend line was not altered with a sharp increase in response to post-disaster migration. Public school enrollment even expresses a contrary trend of student loss in the first year after Katrina (Louisiana Department of Education 2004-2009), the opposite of what disaster theorists anticipated (Chang 2010; Quarantelli 1999). Although the reasons for the underwhelming growth figures are not explored in this study, it is a trend that would benefit from further investigation, especially considering that St. Tammany was an area of rapid growth prior to Hurricane Katrina.

10.2.1 Social Networks

This case study examined the influence and utility of social networks in recovery decisions and addressing household needs, and also the reverse, the impact of recovery decisions *on* social networks and the adaptations made to cope with that impact.

Social networks were able to assist St. Bernardians during recovery. The findings of this study suggest that, stripped of physical resources, St. Bernardians turned to members of their social networks to meet household needs (Aldrich 2010; Boyd 1989; Nigg 1995). A significant example of this phenomenon among St. Bernardians was the sharing of information about available housing during a period of housing scarcity (Boyd 1989; Castells 1996; Latour 2005). The majority of relocating informants found their homes, and sometimes homes for others, through information gained from friends, family, coworkers and neighbors.

Friends, family and “weaker ties” also provided temporary housing, support and other assistance (Aldrich 2002; Granovetter 1969; Giddens 1986). This assistance came often without advanced planning as St. Bernardians were kept away from their damaged homes in St. Bernard for three weeks or longer, and thus had to improvise immediately and over a very long time to meet recovery needs (Kendra and Wachtendorf 2001).

In addition to assisting recovering St. Bernardians, social networks influenced where they would choose to resettle. School, work and family obligations, in particular applied *friction of distance* (Soja 1989), keeping St. Bernardians physically tied to the people and places that were important to them based on the information about housing available to them. In particular, the location of children’s schools, employment, and aging family members, limited the willingness of St. Bernardians. This kept many residents in the metropolitan region so that children could continue to go to the same schools with their friends, and elderly relatives could continue to depend on their children for help. Knowing where school, work and relatives would be after the storm allowed St. Bernardians to make decisions about relocation or return and to adjust accordingly.

Social networks, by facilitating information sharing, helped create a “clustering” effect (Boyd 1989). Simply the knowledge that a member of one’s social network had relocated to a particular neighborhood improved the knowledge about the neighborhood and made that neighborhood appealing, as reported by

to at least three St. Bernardian informants who chose locations that were near friends and family members. The inability to find affordable housing throughout St. Tammany Parish, which had significantly higher property values than St. Bernard, also contributed to clustering. This made information about where affordable housing could be found that much more important, and suggests that social networks do help influence relocation site selection and contribute to clustering.

Within these clusters, a re-creation of St. Bernardian society could emerge (Soja 1989). Clustering was formed through the influence of social networks, but also served as an adaptation. In neighborhoods such as Madison Farms, friends and family were once again located nearby. Relocated residents in these clusters maintained some ability to establish new networks that were informal and place-based as they were in St. Bernard, and they appeared to be doing precisely that. Similarly, social groups with large numbers of St. Bernardians could re-establish leadership roles and connections as they had in St. Bernard.

Clustering and the relocation of familiar businesses allowed St. Bernardians to claim social territory that spoke to them and outsiders, and this claiming of territory through their presence was another way that St. Bernardians adapted their social networks through re-creation. The relocation of schools, popular restaurants and stores helped former St. Bernard residents to re-establish social connections with each other by once again intermingling spontaneously. It also allowed them to share information and legitimize their presence to pre-Katrina residents (Castells 1983). These familiar locations served as nodes of interaction for relocated residents (Castells 1983; Castells 1996).

Dispersal of members was the primary obstacle to which social networks had to adapt. With the majority of St. Bernard Parish residents choosing to relocate, a negative impact on the membership and viability of St. Bernardian social networks was to be anticipated, as members of an individual's social networks relocated out of the area, and no longer regularly interacted with the network (Giddens 1986; Latour 2005). The loss of even a single member can threaten the existence of a network, and the dispersal

of membership requires members to overcome additional burdens to maintain membership in social networks (Latour 2005, Soja 1989).

St. Bernardian networks, believed to be close-knit, adapted to dispersal in a number of ways. The integration of the internet and social media as well as cell phones helped St. Bernardians to virtually eliminate distances through social technology (Castells 1996). Increased access to vehicles and a willingness to commute allowed members of St. Bernard social networks to physically cross distances in order to maintain their networks, and many informants and respondents did exactly that (Castells 1996; Giddens 1986; Latour 2005). St. Bernardian informants discussed an eagerness to maintain their relationships even with informal groups of friends, but discussed the changing dynamics of these relationships, as a result of dispersal. These groups have often become smaller as some members move long distances. However, most groups still gather at least occasionally in pre-planned often overnight events to maintain the face-to-face gathering so important in maintaining networks (Latour 2005).

In some instances, new social networks emerged to meet the needs of St. Bernardians trying to reconnect with each other (Latour 2005). The Castaway Dance was one such example of a group that emerged for the purpose of reuniting St. Bernardians. From 2007-2011, it was held, but by 2012, once its goal had been achieved, it dissolved.

Other pre-Katrina social networks relocated or dissolved as they were abandoned (Latour 2005). At least two informants never re-established their pre-Katrina households as children and adults moved in with others to meet needs for school and work, and to assist family members. Other groups relocated along with their leadership and membership to new locations.

10.3 Areas for Future Study

10.3.1 Resilience

Resilience has been defined by disaster researchers as characteristics of a system that relate to the ability of a system to absorb disturbance without disruption, and the capability of a system to self-

organize (Klein, et al. 2004). Since the purpose of studying disasters is to reduce the impact to lives and property by enhancing resiliency in future events, the contribution of dispersal and social networks to overall resilience should be considered in greater depth. Actions explored in this study provide some indication about resilience to future disasters, but the topic needs more attention as St. Bernard Parish and its residents continue to recover. The impact of recovery decisions in this study, and the direction that future consideration could explore, are discussed in this section.

St. Bernard Parish is gradually filling up its old footprint. Adopting massive redevelopment plans proved to be impossible given the financial constraints faced by the recovering government. In small but significant ways, the parish has improved its sustainability to flooding. Properties located near drainage canals that were turned over to the parish were held off the market, reducing the development in the most floodprone areas. Other areas of high risk have been identified and prioritized for buyout and demolition if future resources become available. The floodprone area around the old Village Square apartment complex has now been converted to green space, as has the area near then-Murphy Oil Refinery in Meraux, which was bought out as a result of the oil spill. Although these represent small measures as compared to redevelopment plans created in the early days after the storm, they are steps in the proper direction.

Additionally, the redevelopment of the hospital and other essential facilities including schools and fire houses to incorporate more flood-resilient features demonstrates an awareness of the flood risk and a willingness to confront it when resources permit. These facilities were often rebuilt on higher ground or to higher regulatory standards. Many redeveloped homes also had to meet higher regulatory standards. Several new and returning residents also purchased additional lots through the Lot Next Door program for the purpose of expanding their property, but restrictions limited the construction of new structures or subdivision. In areas where the risk is highest, the young population demonstrated a willingness to abandon the rural areas in favor of nearby inland suburbs. Through deconcentration of residents and structures on family parcels in rural areas additional green space is again gained. Many of the homes were

rebuilt to higher elevations, prompted by higher regulatory standards. The result is that although the boundaries of the original footprint of the community may return, the community still has more open space, is better able to drain stormwater and has less debris during a flood, and is thus more resilient to future events. Consideration as to the overall impact these small measures have contributed to the resilience of St. Bernard Parish should be studied more in depth to examine if policy changes could enable a more robust integration of resilience into recovery actions.

There is also support that deconcentration after the next disaster will be enhanced. The hesitancy of some returning residents to commit to rebuilding again in the event of a similar disaster indicates that there is a point at which the risk of hurricane damage is significant enough to prompt abandonment by residents, despite living on lands connected to their families for multiple generations. After Katrina, aging residents in Arabi opted to relocate at high rates. Those who returned to rural areas were the older residents, who have continued to age. As these residents age, their willingness to rebuild is likely to wane, as indicated during interviews. Therefore, the overall vulnerability of the population may be enhanced due to age, but dispersal increases the social capital for residents after the next event because they have more resources located out of the impact area.

There may, however, be a social cost to the improved physical resilience from green space and higher regulatory standards. These wider lots and the dispersed families now make St. Bernard more physically similar to other suburbs in the area. The physical form of St. Bernard no longer enables neighbor interaction as much as it once did, and thus the resilience of neighborhood networks may be in jeopardy.

Industrial stability ensures future employment in the area, demonstrating economic resilience, and the jobs that exist ensure that a workforce will locate nearby, if not in, St. Bernard Parish now and in the future. The persistence of these 1,000+positions manufacturing industries will continue to make the parish resilient because of the jobs and taxes that they continue to provide. In the case of disasters, industrial

economies are more resilient. Economies dependent on commercial services may find, as St. Bernard did, that these businesses are capable of relatively easy relocation and will be more willing to wait to see if the population returns before re-opening businesses in the community.

In addition to the stability of jobs, St. Bernard Parish showed elements of resilience as a place for residents as well. The affordable homes that drew urban residents to the area in the 1960s still exist although they were damaged. These small affordable homes on small affordable lots offer a needed resource in the metropolitan New Orleans area for affordable homeownership to both returning residents and in-migrants. In 1965 after Hurricane Betsy impacted low-lying areas young people moved into the area to start their families in these homes. After Hurricane Katrina, those now elderly residents relocated in large numbers, often moving in with relatives. In their place, young families are purchasing the homes and moving into the area. The opportunity for affordable homeownership ensures that despite what can be characterized as decline by demographic indicators, ultimate demise is unlikely. What demographic statistics about the age, income and race of these inner-ring suburbs may indicate instead is a “recycling of place.” Small older homes are being vacated by one generation and occupied by their counterparts in the generation of their grandchildren. Therefore, St. Bernard is likely to persist as a place regardless of who populates the low-lying area of affordable housing.

As people, regardless of where they live now, St. Bernardians show a mix of increased and decreased resilience. Respondents, both returners and relocaters, indicated that they are less satisfied with their neighborhoods in general. This should not be surprising as both groups faced conflict as relocaters were seen as invaders, and returning residents fought to defend their group identity and property values. These experiences mirror each other. North Shore residents felt their lifestyles and financial investments were threatened by blue-collar in-migrants from St. Bernard. This group was not able to afford the lifestyle or purchase the top-tier real estate. Instead they increased the demand for lower cost housing and accompanying retail and services. Meanwhile, south of the lake in St. Bernard, returning residents resented in-migrants from Orleans Parish for similar reasons. In this way, what happened during recovery

in both communities resembled the experiences identified by theorists who study the more traditional onset of neighborhood change and redevelopment (Wilson and Taub 2006). This body of literature is growing as outer-ring suburbs expand at the expense of inner-ring suburbs (Lucy and Phillips 2000).

Dispersal increases the obstacles that must be overcome to maintain social networks. Dispersal was present in my pool of respondents; it led to a decrease in the number of people in their social networks and the frequency of interaction that they had with members of their social network on a regular basis. This helped fuel a sense of social isolation. Despite the obstacle of geographic distance, the willingness to maintain friendship groups with infrequent interaction is a testament to the durability of St. Bernardian social networks. With this added need to plan and to cross distances to maintain networks, along with a large number of informants stating that they have just recently felt as though they were “recovered,” the continuing durability of social networks may be in question as relocated residents continue to become involved in their new communities and make new friends new their current location.

There is a benefit to dispersal of social network members when a disaster strikes. While many informants discussed knowing friends and family on the North Shore prior to Katrina, and spending time with those people, not everyone had someone nearby. Some families had to find their own locations to form family outposts because everyone in their network was impacted by the catastrophe. These St. Bernardians now likely have more people that they can turn to outside of the parish. Only one informant was able to say that all members of his family returned to St. Bernard. That same informant also acknowledged having friends on the North Shore now. The dispersal of friends and family does require that St. Bernardians adapt to distance in their relationships. However, if they are capable of maintaining these dispersed contacts, they have now increased the social capital available to them outside St. Bernard Parish for the purposes of disaster response.

10.3.2 Dispersal in Other Events of Community Change

Given that a number of peer literatures and cases were identified within this study, and that urban studies has a rich history of studying neighborhood change, the framework and methods used in this study

to identify patterns of dispersal and examine social network change would be relevant to such studies in the future (Gans 1962; Wilson and Taub 2006; Kefalas 2003; Alba et al. 1999; Cantrell 2005; Urry 2007). Studies on immigration, redevelopment, community abandonment, community defense, decentralization, deconcentration and mobility are all areas in which dispersal and social networks are prominent. These studies can benefit from an examination of the role of social networks and the impact of dispersal.

The field of disaster studies also can benefit from this study, as some of the patterns and impacts may be unique to this community, this level of destruction or this particular disaster. Because this study is a case study, application to additional cases would bolster findings. Specifically, future cases should consider addressing the phases of recovery, social network influences and impacts, and the length of time that victims took to feel recovered.

10.3 Policy and Planning Recommendations

- Post-disaster planning must occur prior to a disaster. Post-disaster planning that occurred after Hurricane Katrina left residents discouraged and pessimistic about the ability to return. Planning for recovery during the process may become counterproductive and may not include proper stakeholders. Pre-disaster post-disaster planning processes must also consider the unintended consequences of the plan, addressing the plan's impact on resettlement and not just redevelopment.
- Participation in the post-disaster planning process itself can be problematic. Even when local residents formed a recovery committee themselves to engage in citizen planning initiatives through the state, the citizen planners were pre-Katrina residents, but not all returned to St. Bernard after the storm. In addition, they were also generating plans for the pre-Katrina population which was different in size and characteristics than the population that now lives in St. Bernard. This indicated a need for pre-disaster post-disaster planning processes, so that residents can make decisions about returning or relocating with an improved understanding of what the government's plans are for their community and their neighborhood in particular.

- Pre-disaster post-disaster planning processes should account for likely demographic changes in at the neighborhood level, not just the parish or county. Rural and suburban areas may be undergoing different processes, and aging neighborhoods may be more likely to undergo dramatic change. These neighborhood-level changes can alter where schools or clinics will be needed post-disaster.
- Business continuity planning needs to be encouraged and incentivized in communities that face the threat of disaster or catastrophe. The impact to small businesses and services was substantial while larger employers were able to recover more quickly. Both are needed for a more robust recovery.
- Continuity plans or pre-disaster post disaster planning initiatives need to be generated for essential municipal services, especially for schools, which families need to be operational and strong if they are going to choose to return.
- The pre-disaster creation of an internet or social media location, publicized in advance and during recovery can help connect evacuated residents and provide accurate information. Both of these needs were identified by informants, and many of these informants found creative solutions to meet these needs. However, establishing a dependable location in advance can better facilitate the relationship between the community and its residents, especially as the technological capabilities of the population increase over time.
- Policies about aid for recovering communities should not require money to be spent quickly. The community's precious recovery aid should be disbursed with the understanding that recovery from catastrophes may take years (six, in this case), and that the needs that will be addressed with this aid will develop over time as well. Often those returning quickly, and therefore better able to access aid, are those with the most resources. Those who need aid most may not return right away. Current aid programs often require that aid be fully allocated in a brief period.

Comparatively, when need is great, local government and other allocating bodies must be willing to hold back aid to better serve those who have longer recovery trajectories.

- The social density and overlapping of pre-Katrina social networks in St. Bernard prompts a question for future study in this field. While most social network from St. Bernard were capable of adapting and persisting under the stress of dispersal, the density and overlapping qualities of St. Bernard social networks may prove to be a positive mitigating factor. While suburban St. Bernard housed a community of social networks in which interaction was frequent, spontaneous and common, most suburbs do not share these qualities. St. Bernardian informants indicated that they developed friendships with neighbors and lived near family. This is not common in more traditional suburbs (Beauregard 2006; Fishman 1987). The integration of garages, the removal of the front porch, and increasing lot sizes discourage the development of neighborhood networks in these areas (Sennett 2005). Suburban residents impacted by Katrina, including those in Jefferson Parish (west of New Orleans) and Slidell (on the North Shore), may not have had similar experiences.
- Communities should consider what regional networks exist for its residents and identify those less capable of accessing resources that are nearby. Residents who had friends and family in the region who were not impacted by Katrina were better able to arrive to the Late Staging phase of their recovery.
- Coastal communities and other communities that find themselves at increasing risk from hazards may discover that there is a tipping point at which residents would be unwilling to return. Rural St. Bernard residents indicated that a second catastrophic flooding event would prompt abandonment. Climate change and other devastating events, such as the 2010 BP Oil Spill that impacted some of these areas push these communities closer to that point.

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Appendices

Appendix A: Media Study

Media and Document Timeline of Decisions Regarding Unoccupied Parcels					
Date	Action	Affected Area	Long Description	Quote	Source
12/11/2005	Public Planning Meeting	120 residents	LRA holds a public meeting for visioning.		http://www.louisianaspeaks-parishplans.org/IndParishHomepage_CommunityInvolvement.cfm?EntID=13
1/21/2006	Louisiana Recovery Planning Day is held	160 residents	LRA holds a public planning day to gather information for Louisiana Speaks.		http://www.louisianaspeaks-parishplans.org/IndParishHomepage_CommunityInvolvement.cfm?EntID=13
2/21/2006	CRC presents recovery plans	all units	The St. Bernard Parish Citizens Recovery Committee unveils its recovery plans to residents.		http://six.pairlist.net/pipermail/stbernard/20060219/004526.html
3/15/2006	DPZ plan unveiled to public	1000 residents	State-hired New Urbanist design firm unveils its plans for St. Bernard Parish, a massive redevelopment that would cost billions of dollars and require massive buyouts.		http://www.lra.louisiana.gov/index.cfm?md=newsroom&tmp=detail&articleID=365
Apr-06	CRC releases its parish plan	parish	Waggoner & Ball Architects and the Tulane Regional Urban Design Center publish the plans that they made with the St. Bernard Citizens Recovery Committee. It includes moving some developed property to green space and maintaining undeveloped parcels as such.	"The cornerstones of a healthy society are the home, church and school." From Plan	http://dutchdialogues.com/LinkedDocuments/SIB/StBernard-Parish-Planning.pdf
9/5/2006	Parish releases initial demo list	598 properties	Parish releases initial demo list of properties that pose a safety or health hazard.	Council member Ricky Melerine, who represents the easternmost part of the parish which includes many of the homes on the demolition list:"We can't let houses just sit (unattended to) when we are trying to get people back here."	http://www.safeguardproperties.com/News_and_Events/All_Client_Alerts/2006/09/St_Bernard_Demolition_Update.aspx
10/3/2006	Lawsuit file for blood-relative	parish	Greater New Orleans Fair Housing Action Center files suit against St. Bernard for blood-relative clause.		http://six.pairlist.net/pipermail/stbernard/20061004/010280.html
2/22/2007	Grass violations begin	parish	\$100/day fines begin for unsecured homes and grass violations	"I haven't had anybody complain to me," Peralta said. "Every person who came to me said they applauded the effort. They want to see it happen."	http://www.safeguardproperties.com/News_and_Events/All_Client_Alerts/2007/02/St_Bernard_Blighted_Properties_Update.aspx
6/4/2007	Parish adopts ABFEs on new construction	new	Permits require new construction to be 3 feet up.	St. Bernard Parish government has never required a building permit if someone was merely renovating and not changing the basic layout of a home. "We want folks to know this is a regulation FEMA came in with," Council Chairman Joseph DiFatta Jr. said.	http://www.lra.louisiana.gov/index.cfm?articleID=211&md=newsroom&tmp=detail; http://daparish.livjournal.com/35562.html
2/27/2008	Court strikes blood-relative clause	all units	After the New Orleans Fair Housing Action Center files suit, the court orders it struck		http://www.relmanlaw.com/civil-rights-litigation/cases/stbernard-parish.php
Sep-08	Multifamily moratorium passed	288 units	Council puts moratorium on construction of all structures containing 5 or more units.		http://www.relmanlaw.com/civil-rights-litigation/cases/stbernard-parish.php
1/11/2009	Village Square targeted for redevelopment	34 acres	CBO of Maryland works with a company formed by St. Bernard politicians with the purpose of using HMGP and CDBG funds combined with private investment to redevelop the Village Square site	It's a ghost town of decaying low-rise apartments known as Village Square, a scourge for parish officials and residents long before the 2005 storm and now one of the largest concentrations of blight in flood-torn St. Bernard.	http://www.nola.com/news/index.ssf/2009/01/redevelopment_plans_for_st_ber.html
3/25/2009	Court strikes down Multifamily moratorium	288 units	Court finds St. Bernard in violation of Fair Housing Act with ban.		http://www.relmanlaw.com/civil-rights-litigation/cases/stbernard-parish.php

Media and Document Timeline of Decisions Regarding Unoccupied Parcels					
Date	Action	Affected Area	Long Description	Quote	Source
7/1/2009	LND Property List released	3963 properties	There are 3,963 properties in the initial Lot Next Door program to offer unoccupied and cleared lots to neighbors for property expansion.		http://lotnextdoor-sbp.com/uploads/LLT_Property_Available.pdf
Sep-09	Grass Violation Enforcement increased	parish	With lot maintenance a problem, the parish levies fines	"Right now we're dangerously close ... to telling people, 'If you don't take care of your property, we're coming to take care of it for you,'" Taffaro said. "I want you to be aware of the cost that comes with that. There's no silver bullet to this."	http://www.nola.com/politics/index.ssf/2009/10/st_bernard_weighs_stiffer_enfo.html
9/5/2009	Village Square becomes green-space program	121 properties	The Village Square Acquisition Program purchased properties in and near the former Village Square apartment complex with FEMA Hazard Mitigation Grant Program (HMGP) to become permanent green space. It is voluntary, but paid pre-storm values.		http://www.scribd.com/doc/20596594/Village-Square-Announced-a-Hazard-Mitigation-Area-Sept-2006
10/1/2009	Provident issued permits	288 units	Court battles lead to building permits issued to Provident.		http://www.reimanlaw.com/civil-rights-litigation/cases/stbernard-parish.php
11/4/2009	Funding comes for demolition	750 structures	Gov. Jindal directs more than \$20 million of federal Community Development Block Grants to pay for demolition of 750 structures that could not be funded with FEMA funds.	Governor Jindal: "When FEMA refused to reimburse St. Bernard Parish for these demolitions, we were determined they not be stuck paying this bill. ... funding will go towards the demolition of more than 750 blighted structures that served as old wounds."	http://gov.louisiana.gov/index.cfm?md=newsroom&trmp=detail&articleID=1729
1/18/2010	Slab Removal blitz starts	6,500 slabs	Parish begins blitz to clear 6,500 lots so that many can be used in the Lot Next Door program or otherwise.	"I'd rather see grass than a big slab," he said. "It's just a bad reminder of the storm is all it is."	http://www.nola.com/politics/index.ssf/2010/01/post_271.html
Apr-10	"The Colony" filmed at Village Square	4 acres	The Discovery Channel forms the post-apocalyptic survival challenge reality show on the site of the former apartment complexes	So synonymous was the neighborhood with blighted, run-down areas that it became a euphemism for, well, run-down, blighted areas. <i>As in The weeds were growing so high in that yard I thought for a second I was in Village Square.</i>	http://da-parish.livejournal.com/48910.html
12/21/2010	LND program accepts first deposits	3963 properties	This is the first day that deposits are taken on LND properties.		http://www.sbp.net/index.php?option=com_content&view=article&id=594&sectionid=30&Itemid=1
2/10/2011	Provident construction begins	288 units	Construction begins on controversial mixed-income apartment complexes. Four sites of 72 units are planned.	Lauga said that as with Village Square, there would be no landlord maintaining the properties, and could lead to high crime rates. The councilman said he would prefer if the plans were for lower-density, more spread-out structures.	http://thebernardvoice.com/?p=491
7/24/2011	Village Square demolished	121 properties	Demolition of Village Square is complete.	What was left of Village Square's abandoned and crumbling buildings became an eyesore and a source of frustration for parish residents and officials.	http://www.nola.com/politics/index.ssf/2011/07/chalmettes_village_square_now.html

Media and Document Timeline of Decisions Regarding Unoccupied Parcels					
Date	Action	Affected Area	Long Description	Quote	Source
12/23/2011	Parish issues occupancy permits	288 units	To avoid \$10,000/day fines, Parish government issues occupancy permits to Provident	"As a municipality, we lost our right to govern ourselves and actually were governed by the bench," parish council member Wayne Landry told WDSU.	http://www.wdsu.com/news/30064175/detail.html
2/1/2012	DOJ files FHA suit	288 units	The Department of Justice files a Fair Housing suit against St. Bernard's multifamily housing ban.	John Trasviña, HUD Assistant Secretary for Fair Housing and Equal Opportunity: "Our agencies will not allow zoning or other exclusionary means to deny housing because of race."	http://www.justice.gov/opa/pr/2012/January/12-crt-143.html
5/1/2012	Parish government raises elevation standards	all undeveloped	Parish government raises elevation standards for rebuilding to join the CRS.	In order to meet or exceed NFIP standards and because the Parish is no longer in a state of emergency ...	http://insurancenewsnet.com/article.aspx?id=338855&type=newswires
6/1/2012	LLT lots transferred	2,200 lots	Louisiana Land Trust lots are transferred to parish for maintenance	"We have worked out many problems since Katrina and this is another one, a unique one, but we'll work this one out too," parish Chief Administrative Officer Jerry Graves said	http://www.stbernardbusinessguide.net/?module=news&action=ver&doc=270

Appendix B: Methodology for Measuring Geographic Dispersal in Social Network Analysis

B.1 Introduction

The objective of this appendix is to describe a method of social network analysis that uses qualitative data analyzed using a geographic information system (GIS) to elaborate on the impact of geographic dispersal on social networks. The method was developed to study dispersal in a pre-disaster/post-disaster framework as it related to the relocation decisions of a large number of residents. Interview questions ask informants to discuss their pre- and post-disaster social interactions, which are coded for use in a GIS. Proximity analysis is conducted to gain data about the geographic distance between an individual and the locations where that individual interacts with others. The result is a set of statistics about an individual's social network that allows us to analyze change in its composition, robustness and geographic dispersal.

B.2 Theoretical Framework

The theoretical basis of this methodology lies in the works of Bruno Latour (2005) and Anthony Giddens (1986).

In Latour's (2005) work, *Re-assembling the Social*, he advocates for an approach to studying social change that traces the "actors" of networks over time. Actors are the individuals, and in Latour's case also places and abstractions, which assemble and re-assemble over time (Latour 2005). It is the repetition of interaction which forms the foundation of society and connects people to one another. The frequency of interaction helps to maintain and strengthen the connection between individuals (Latour 2005). This can be a group that meets frequently, such as a family that has regular family meals, or a recreational volleyball team that meets year round for practice and games. Connections among individuals also can be strengthened through multiple connections, such as having a sister who lives in the neighborhood, attends Church and regularly runs into an individual. When groups no longer come together to interact, they dissolve, and it is in this way that social change can be viewed (Latour 2005).

Giddens (1986) stated that the places where interaction occurs can also serve as social locales, or locations where interaction occurs, and that length of time that an interaction endures, even through history, enhances the connection. Castells (1996) calls these same “locales” by his term “nodes,” which I prefer. Giddens (1986) notes that while members of a network may change over time, the network continues. For example, a family dinner may continue without a son’s presence, and a community does not descend into chaos with each new change in the governing body as the result of an election. The endurance of the group will depend on the commitment of the members, and the continued membership of the locale or node in an individual’s social life is dependent on that commitment (Giddens 1986). Both the frequency and the duration across time are identified by Giddens (1986) as essential to survival, but also as a reifying force (Giddens 1986). Family dinners that survive generations, and groups that meet daily have stronger connections that are less likely to dissolve (Giddens 1986).

Giddens (1986) and Latour (2005) briefly considered the role of geographic dispersal. Latour (2005) identified distance as a challenge that must be overcome for reassembly. Giddens acknowledged that increased distances serve as a constraint to continued endurance over time. This methodology was developed to develop a way to quantify the impact of the constraints of geographic dispersal in social networks for the purpose of a more informed discussion about social change as it is experienced in mobile and changing societies.

In summary, this method follows a philosophy of tracing changes in networks across time from before to after an event (Latour 2005). Nodes where interaction occur, and frequency of interaction serve as the two primary units to be analyzed (Giddens 1986), along with geographic distance and dispersal.

B.3 Methodological Precedents

To build a method to study geographic dispersal in social networks, existing methods in social network analysis and GIS were integrated.

After examining a range of social network models with the spatial element playing a limited or nonexistent role (Carrington, Scott and Wasserman 2005), a new method was developed. Few models of social network analysis integrated geographic distance. Actor-oriented models and centrality models allow for the weighting of geographic distance within their analysis (Doreian et al. 2005; Everett and Borgatti 2005; Snijders 2005). Affiliation models and diffusion models considered geographic relationships, but were focused on formal relationships (Valente 2005; Faust 2005). Longitudinal models allowed for change to be viewed across time, but not with a quasi-experimental design that allows for the social impact of catalyst events to be studied (Snijders 2005).

Borrowing characteristics, predominantly from positional analysis (Doreian, Batagelj and Ferligoj 2005) and diffusion models (Valente 2005) of social network analysis but the spatial aspect was integrated into these methods by bringing in practical uses for GIS. Environmental justice models that trace exposure to pollution inspire (Maantay 2007) and transit planning methods that examine access (Hsaio et al. 2000) inspire this integration with GIS for the purpose of studying geographic dispersal in social networks.

Positional analysis allows for the social closeness to be examined, noting that some individuals within a group are more connected to each other than others (Doreian, Batagelj and Ferligoj 2005). I integrate this model, substituting their treatment of social distance for the study of geographic distance, but still trying to maintain some element of their social proximity within the model by focusing on the connection strength of the network by using Giddens (1986) and Latour (2005), by basing the connection on frequency of face-to-face interaction. Diffusion models trace the adoption of innovation through networks, sometimes even incorporating elements of geographic distance without respect to the nature or maintenance of those relationships except that the connection enables exposure to new innovation (Valente 2005). In

this study, I sought to build upon these methods to discuss the role of geographic distance and the endurance of connections.

Environmental justice models look at the exposure to pollutants, and mark off an area based on a proximity to the source, and sometimes altered for wind direction within which exposure is likely (Maantay 2007). This model considers increasing concepts of “far,” as expressed by informants. It considers the nodes within a short distance, much as in environmental models would have a high rate of “exposure,” expressed as interaction, to the originator of the network. This would be expressed in the form of spontaneous and unplanned interaction. While nodes outside a certain distance would require commuting and planning. Information from informants supports this hypothesis, Informants describe relationships in the smallest distance to contain more spontaneous and unplanned interaction, and nodes are described as within a walking distance. The farther the distance the more planning and commuting will be required, with those outside the farthest circle having low rates of unplanned interaction with the individual who has formed the network.

Access is the concern for transit planning. Transit stops should have enough employers and residents within a short distance so as not to waste resources by assuring enough use of the facility. Thus the direction and density of development shape the direction of new routes and services (Hsaio et al. 2000). Likewise the geographic orientation of nodes can orient or stretch a network so that the individual is socially isolated, spending more time maintaining connections than experiencing them and leaving the individual expressing a sense of social isolation, which the informant in the example described.

The theories discussed and their roles in shaping the metrics in this study are shown in Figure B.1.

Figure B.1 Theoretical Design

Theoretical Design			
Theory	Concept	Metric	Methodological Base
Tracing actors (Latour 2005)	Time	Pre-/Post-	Longitudinal SNA (Snijders 2005)
Locales or Nodes of Interaction (Giddens 1986)	People	Number of Nodes	Diffusion Models (Doreian et al. 2005; Valente 2005)
Frequency of interaction as relationship maintenance (Latour 2005; Giddens 1986)	Robustness	Connection Strength	Positional Analysis (Valente 2005)
Proximity Analysis using Buffers (Maantay 2007; Hsaio et al. 2000)	Geographic Distance	Miles	Environmental justice and transit accessibility (Maantay 2007; Hsaio et al. 2000)

B.4 Qualitative Data Collection

Informants were asked two related questions with many follow-ups to collect the relevant details related to frequency of interaction and location. For this analysis, the buffer distances used in analysis were also derived from interviews.

Informants were asked:

What sort of things did you do before (the event) that you don't do, or don't do as often anymore?

What sort of things that you do now that you no longer did, or didn't do as often before (the event)?

These two questions were then followed up with questions about general location of nodes and frequency of interaction. Specific addresses were not necessary in most circumstances. "Friends in the neighborhood," and "errands around town," could be easily mapped. Specific locations were sought for locations of schools, work, regular group activities, and any other location that was not easily identifiable.

In this study, informants who discussed locations as "too far," or "nearby" were asked to elaborate on these distances, informing the model based on collective experience of the group. These distances then determined the buffers that were used for analysis in the GIS that will be discussed farther below.

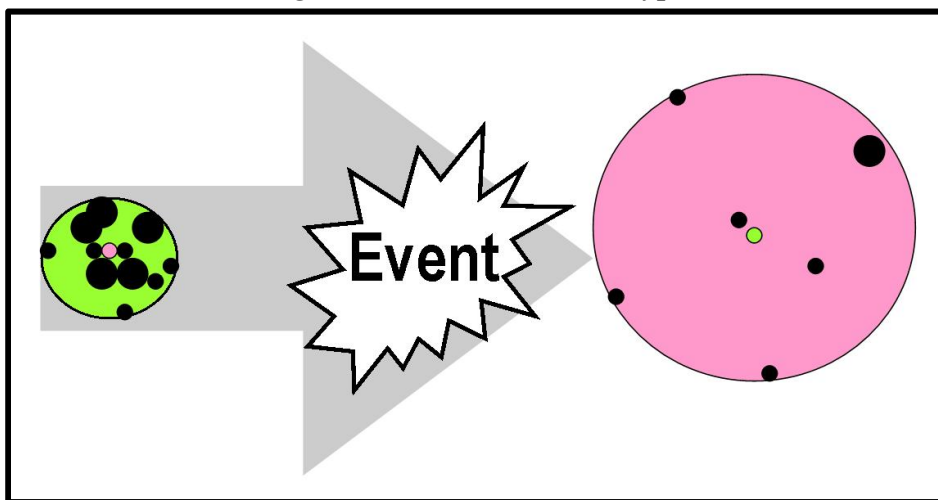
Interviews were transcribed and coded for geographic locations of interaction and frequency of interaction.

The type of node was also tracked. In this study, the node types were identified as family, friend, work, school, church, leisure or shopping/errands (only included when activity was social). For my final analysis, I did not analyze the type of nodes within a network, but this data could have been included.

B.5 Quantitative Data Generation

Three types of statistics evolve from a basic application of this method. Additional coding can be conducted to garner more information about network change. This section will discuss the three types of indicators: nodal, connection strength and dispersal. I will make recommendations for additional indicators. In this pre- post-event application, this method attempts to study the impact of geographic change in response to a stimulus that leads to geographic disruption of a stable network. This is visualized in Figure B.2. The hypothesis is that networks are impacted by geographic change that spawns from the event, and that this impact leads to an individual's network having fewer nodes of interaction, decreased frequency of interaction, and a more geographically dispersed network. The design serves as a quasi-experimental design in which a single group is analyzed before and after an event, or treatment (J. W. Cresswell 2009). The resulting impact on the network is the effect of the treatment

Figure B.2 Theoretical Hypothesis



B.5.1 Nodal Indicators

The nodes of interaction were identified for both the pre-event and post-event social networks. The number of nodes could then be compared for the pre-event and post-event network.

The locations of these nodes are plotted in a GIS. The type of node was also coded during this study, but for the purpose of general discussion. Collecting this data would allow for further analysis about the composition of networks and would allow for further comparison. This additional step is not included for discussion, but models will show the data.

B.5.2 Connection Strength

The frequency of interaction was used as a proxy for connection strength between an individual and a node of interaction, as the literature identified it as a good, but not complete measure (Latour 2005, Giddens 1986). Based on the qualitative responses, the Connection Strength Index, shown in Figure B.3 was developed.

Figure B.3 Connection Strength Table

Connection Strength Codes	
Almost Daily	10
Weekdays	8
2-3 Times/Week	6
Weekly	4
Twice Monthly	2
Monthly	1

The connection strength between the individual and each node would then be assigned a number to serve as a proxy for strength of the connection. To aggregate this data to the network level, as shown in Figure B.4, the connection strength index for each node is added together to determine a Total Connection Strength for each person's pre-event and post-event network, which can then be compared.

Figure B.4: Formula for Total Connection Strength Index for Informant Social Networks

Where χ represents a node, and f represents the frequency of contact:

$$\text{Total Connection Strength} = \sum \{ \chi^{f_1} \dots \chi_{\eta}^{f_{\eta}} \}$$

B.5.3 Dispersal

To study the impact of geographic dispersal, the research design uses proximity analysis in a manner more frequently used in environmental justice or exposure models (Maantay 2007).

Using distances determined by the informants' discussion about concepts of "walking distance," "nearby," "short drive," and "too far," distances were selected of 1 mile, 5 miles, 10 miles and 25 miles. Nodes within and outside these distances are counted and compared in a pre-/post-event context.

B.6 Application of Methodology

This method was developed for study on the role of social networks in disaster recovery as experienced by the residents of St. Bernard Parish, Louisiana after Hurricane Katrina in 2005. Informants were asked to describe their social life prior to the impact of the disaster and at the time of the interview, which was between six and seven years after the catastrophe. In the case of St. Bernard Parish, all but six structures were damaged by the storm's winds and floodwaters and an estimated 44,000 pre-Katrina residents relocated out of St. Bernard to other locations. This study attempted to document and quantify changes in social networks that occurred as a result of so many residents choosing to relocate. Analysis was conducted for 10 pre-Katrina residents of St. Bernard Parish, and was selected based upon the post-Katrina location of the same resident. This allowed for overall trends to be compared among groups within the study and theories to be formed about the social network changes for both those who returned and those who relocated.

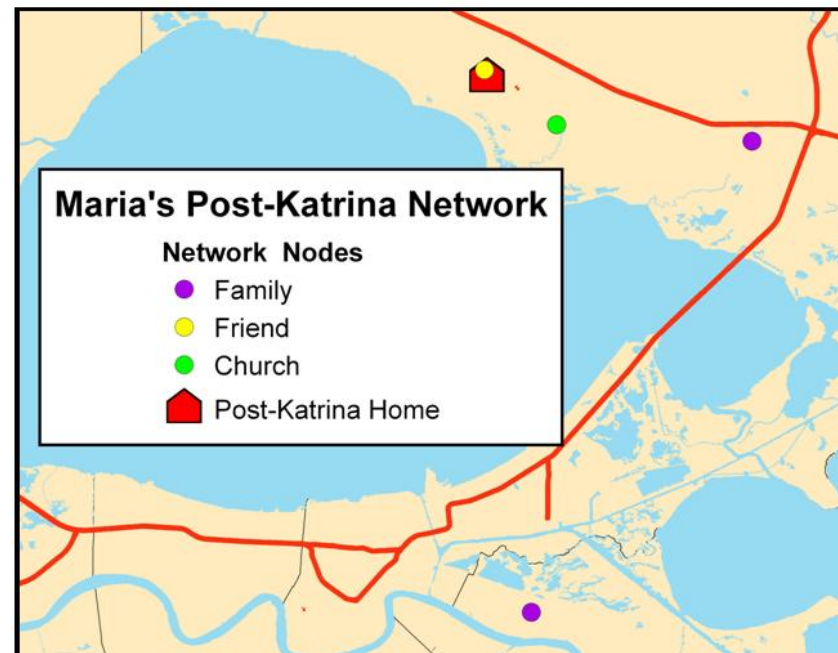
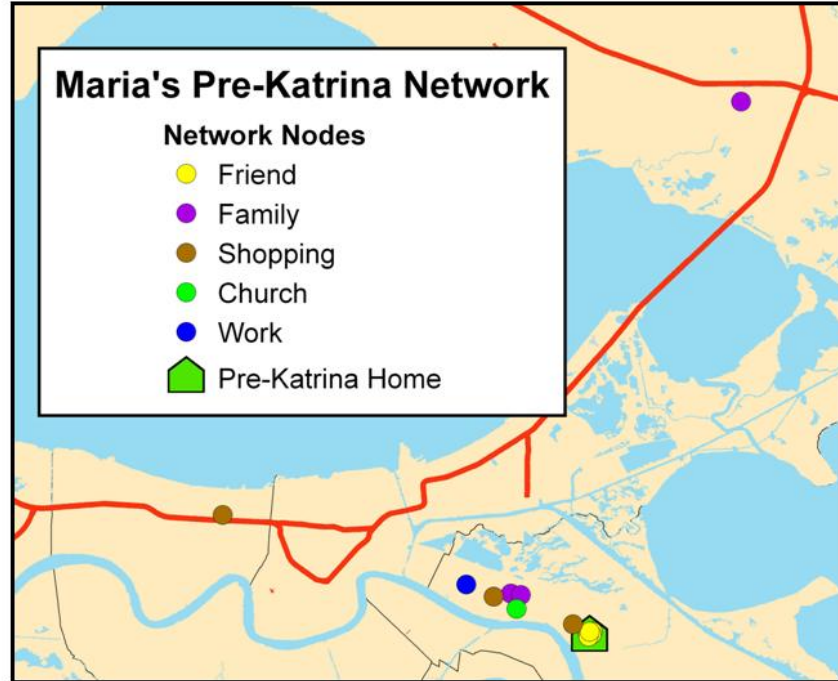
B.6.1 Step One: Social Network Nodes

The first step is to identify nodes for social interaction and to map them as well as the origin and destination (in the event that an informant moved). Nodes must be identified through coding the interview and then undergoing geocoding in GIS for analysis. An example of this is shown in Figure B.5, in which the 13 pre-Katrina and 4 post-Katrina nodes for a resident are identified. In this case, the resident moved, and she lost many of her friends as a result. The types of nodes are identified by color.

Figure B.5: Example of Nodes Mapping

Social Network Analysis and GIS: Nodes

Mapping Pre- and Post-Katrina Nodes based on Maria's interview



The nodes of interaction that Maria identified are shown in Figure B.6. Prior to Katrina, she had a group of five friends in her neighborhood that she interacted with in each other's homes and in nearby shops and restaurants. She worked at a nearby school and conducted most of her shopping nearby except for an approximately monthly trip to another New Orleans suburb for shopping at a mall and nearby stores. Shopping for Maria was always a social activity. She usually went with friends or family to the mall, but even in running errands, she saw people she knew from around the community and stopped and spoke with them. She had a mother and daughter just a few miles away, and went to Mass nearby. Her only distant node of interaction was her daughter in Slidell. After Katrina, she moved to a new location.

Shopping is no longer a social activity, and she has one friend nearby. Her daughters have no moved, but her mother left the area. She still attends church, but it is now near her home. She does not work or go to the same mall. When she does go to the mall, she does not see people that she knows.

Figure B.6: Maria's Nodes of Interaction

Maria's Nodes		
Time	Home	Total Nodes
Pre	Meraux	13
Post	Lacombe	4

B.6.2 Step Two: Total Connection Strength Index

The next step is to determine the total connection strength index. The connection strength index number for each node is determined based on frequency of interaction. Added all nodes together, the total connection strength index can be determined. Figure B.7 visualizes this step. Figure B.8 shows Maria's Total Connection Strength Index, based upon adding up the Connection Strength of each node.

Figure B.7: Example of Visualization of Connection Strength Pre- and Post-Katrina

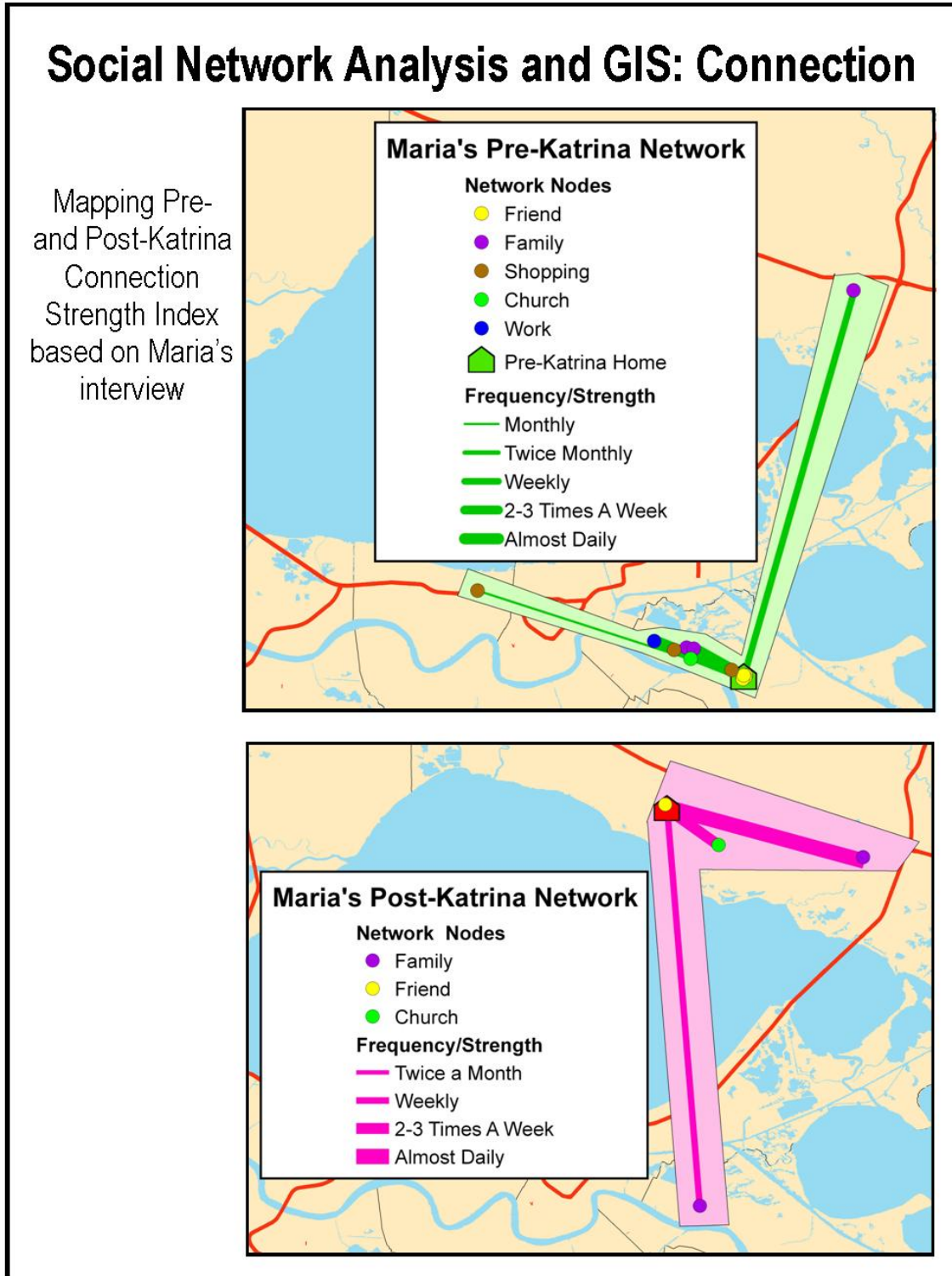


Figure B.8: Maria's Total Connection Strength

Maria's Total Connection Strength		
Time	Home	Total Connection Strength Index
Pre	Meraux	55
Post	Lacombe	17

Before Katrina, Maria lived near a daughter and her mother, and saw each more than once a week. She worked and shopped nearby, and ran around with a group of friends in her neighborhood that she saw at least some of most days. She attended church weekly. After the storm, Maria moved across Lake Pontchartrain. She now sees her daughter and new grandchildren more frequently. She also attends church more than once a week. However, she sees her daughter near her old home less frequently. The one friend that she has nearby she sees only twice a month.

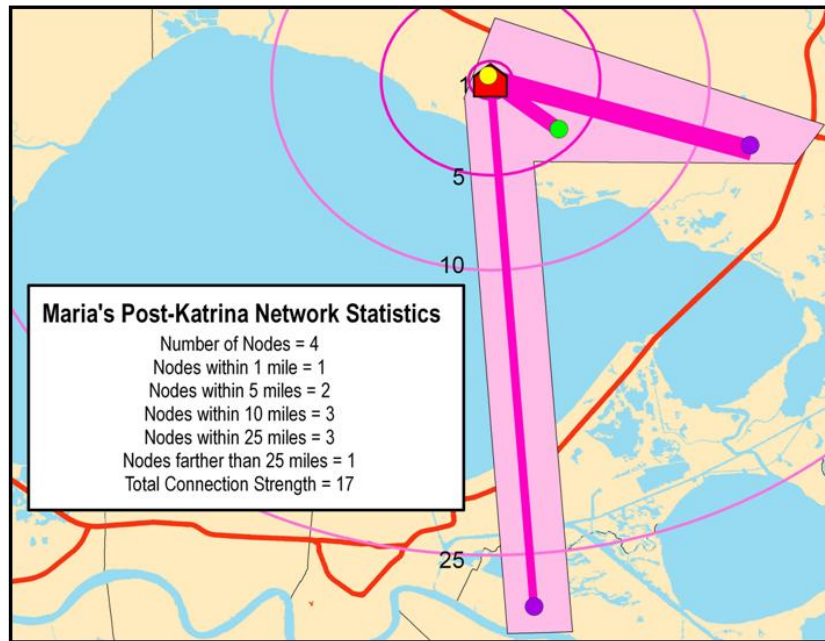
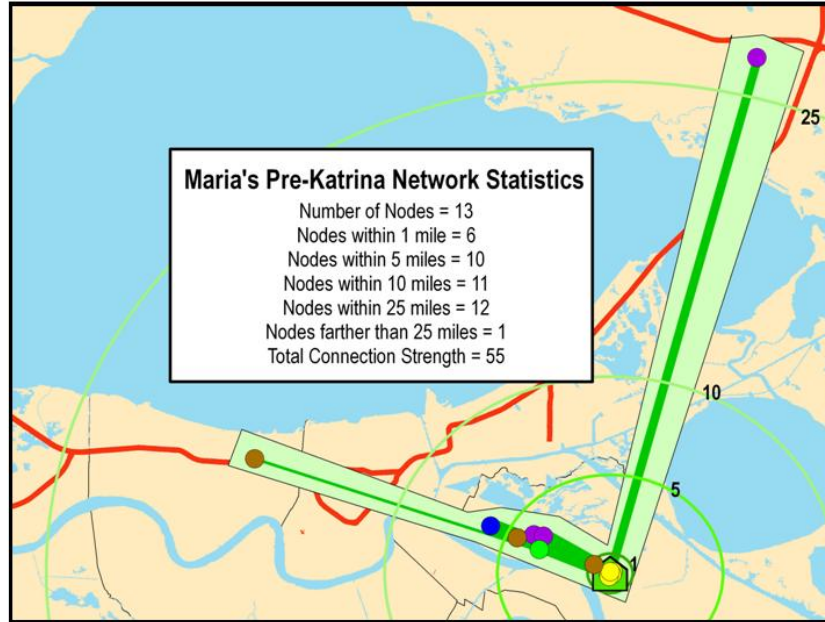
B.6.3 Step Three: Proximity Analysis

Finally, proximity analysis is conducted using GIS software. The geocoded nodes from Step One, and the individual's home before and after the event, are entered into the GIS. The pre- and post-event homes of the individual are the input layer for the proximity analysis. Sometimes this is the same, but not in the example I am using. Using the Analysis Toolbox, choose the Multiple Ring Buffer Tool to create concentric circles around the individual. The distances, which were derived from the interviews, for the example, were 1, 5, 10 and 25 miles. Nodes are counted for each ring using the selection tool and counted for those beyond the farthest buffer. These statistics are shown with a buffer analysis in Figure B.9.

Figure B.9: Example of Buffer Analysis for Informant

Social Network Analysis and GIS: Distance

Concentric rings create buffers of different distances for the purpose of proximity analysis. Distance from the informant's home is analyzed for each pre- and post-Katrina social network



Maria's network once had several friends and nearby, with family, shopping and work all within a short drive. Only one daughter lived more than 25 miles away. However, after moving across the lake, even her nearby nodes are farther away than they were when she lived in Meraux. Because neither of her daughters moved, the one who once lived nearby now lived more than 25 miles away.

The resulting social network changes in Maria's case included fewer nodes, a lower Total Connection Strength, and more disperse nodes. In total, 10 interviews were coded, allowing analysis not just before and after event, but across demographic and geographic indicators, and allowed patterns to emerge. The 10 informants included in the analysis spanned a wide geography around the metropolitan region, as shown in Figure B.10, and they ranged in current age from their mid-20s to late-60s.

Figure B.10: Map of Post-Katrina Location of Informants for Analysis



In the example, the study wanted to understand patterns or trends among the population that experienced the disaster, but also wanted to compare the experience of those who returned to their community (returners) with the experience of those who moved away (relocaters) to see if the experience was similar. Figure B.11 is a table showing the results of 10 analyses.

Figure B.11: Network Statistics for Informants

Social Network Statistics									
Returners									
Time	Informant	Home	Total Nodes	Nodes/1 mi	Nodes/5 mi	Nodes/10 mi	Nodes/25 mi	Nodes >25 mi	Connection Strength Index
Pre	Christine	St. Bernard	14	7	7	11	13	1	59
Post	Christine	St. Bernard	10	6	6	6	9	1	48
Pre	Rachel	Poydras	13	6	8	11	13	0	33
Post	Rachel	Violet	9	5	5	8	10	0	40
Pre	Katy	Chalmette	9	4	5	6	7	2	36
Post	Katy	Chalmette	5	3	3	3	4	1	19
Pre	Greg	Arabi	17	3	16	16	17	0	45
Post	Greg	Arabi	11	1	4	4	4	7	28
Relocaters									
Time	Informant	Home	Total Nodes	Nodes/1 mi	Nodes/5 mi	Nodes/10 mi	Nodes/25 mi	Nodes >25 mi	Connection Strength Index
Pre	Terry	Chalmette	28	7	26	26	28	0	50
Post	Terry	Slidell	12	1	2	3	6	6	18
Pre	Maria	Meraux	13	6	10	11	12	1	55
Post	Maria	Lacombe	4	1	2	3	3	1	17
Pre	Kristin	Chalmette	13	4	9	9	10	2	40
Post	Kristin	Madisonville	13	5	11	12	12	1	46
Pre	Steve & Sarah	Arabi	21	12	18	19	21	1	82
Post	Steve & Sarah	Hammond	23	5	9	9	10	13	58
Pre	Jason	Meraux	5	1	2	3	5	0	18
Post	Jason	Kenner	5	0	1	2	5	0	20
Pre	Gail	Chalmette	17	15	17	17	17	0	93
Post	Gail	Metairie	13	0	2	2	5	8	21

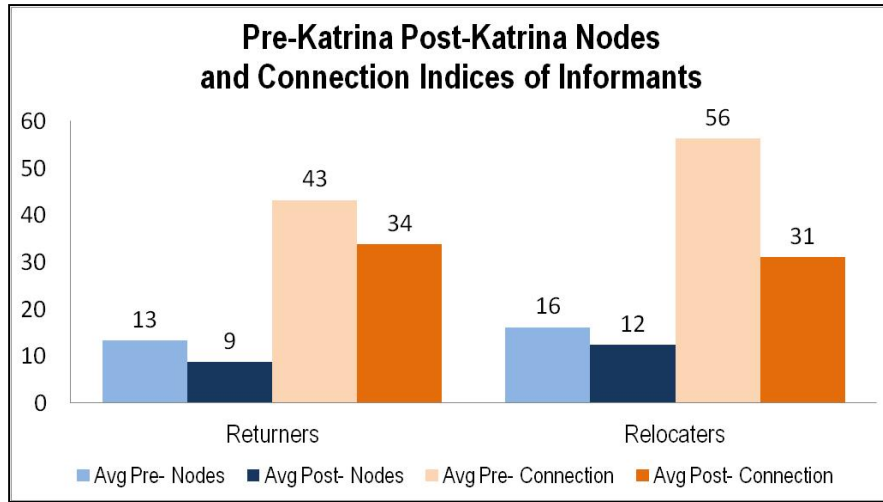
B.7 Discussion

This study looked at the pre- and post-Katrina trends for a pre-Katrina community of residents in St. Bernard Parish. Most of the residents relocated after the storm. This method was developed to better describe and compare changes in social networks as a result of post-disaster geographic dispersal of a community. It also compared the experience of returning residents with relocating residents to determine if there was a common experience among the population or if there would be a difference in outcomes.

This method uses GIS and interviews to develop simple descriptive statistics that can be compared. I could stratify the group and conduct averages for returners and relocaters. I took the average number of nodes and the average networks strengths of each group and compare them, as shown in Figure B.12 Figure B.8. From the data, there is a shared loss of nodes and total connection strength among both

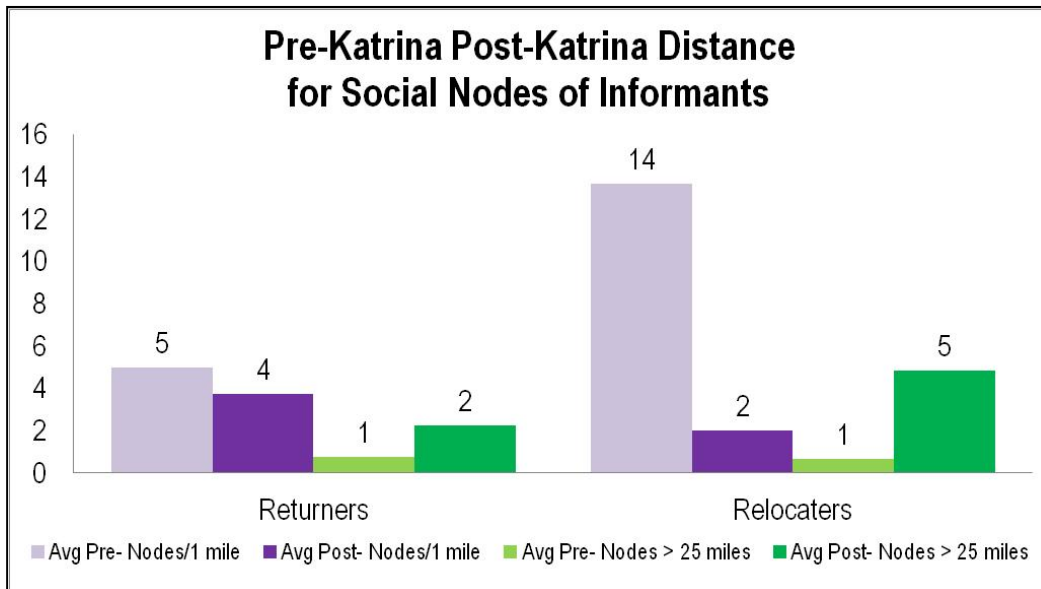
groups, so both groups have fewer opportunities to interact with others and interact with fewer people regularly.

Figure B.12: Network Node and Connection Strength Trends for Informants



The proximity analysis allows for a closer look at the geographic changes in the networks of both groups. While both groups experienced a decrease in the number of nodes within walking distance (1 mile), and an increase in the number of nodes considered to be far (25 miles). The pattern of change was more pronounced for those who relocated.

Figure B.13: Network Node Distance Trends for Informants



B.8 Next Steps

Additional avenues for geographic analysis in this dataset include comparing the amount of geographic change among the nodes themselves, when in many cases, including the example, the relocating resident moved when many of the nodes did not. All of these measures allow the impact of an event on social networks to be analyzed.

While the type of nodes was coded for this study, they were not analyzed. The composition of networks can be discussed to determine the changing roles of family, friends and other types of nodes, as well as their increasing or decreasing frequency of interaction. Many informants discussed the changing roles of friends, family and church in their lives.

Using the qualitative foundation allowed me to explain change on their terms. It also allowed me to quickly explain the data points that run counter to the trend and provides insight into the value of weights, which could be added. In Figure B.11 above, Rachel, Kristin and Jason each experiences an increase in their Total Connection Strength, though small, it is counter to the rest of the group. However, given the qualitative foundation of this study I can explain the data. Each of these residents took on additional employment because of financial constraints. So while they spend more time interacting with coworkers, this has come at the cost of interacting as volunteers at their children's schools or with friends and family. The type of node may be weighted in later iterations of the method.

Application of the method was applied to a pre-disaster, post-disaster framework, but this study could apply to any series of studies about network changes. Resettlement, redevelopment and even the closure of large employers all would provide opportunities for application of this method as well.

Vita

The author was born in the South End of Louisville, Kentucky. She earned her Bachelor's degree in news-editorial journalism from the University of Missouri School of Journalism in 2000. During a brief career as a copy editor and designer for The Journal News in White Plains, New York, she earned her Bachelor's degree in geography and Geographic Information Systems certificate at the City University of New York-Lehman College in 2005. She continued her education, achieving her Masters in Urban Planning at the University of Louisville while working under David Simpson at the Center for Hazards Research and Policy Development and John Gilderbloom at the Center for Sustainable Urban Neighborhoods. Her degree was complete in 2009. From 2008-2012, she was a member of the Center for Hazards Assessment, Response and Technology at The University of New Orleans, and began her doctorate in 2009.