Operationalizing Neighborhood Resiliency

A Grass-roots Approach

by

Shannon Acevedo

A Thesis Presented in Partial Fulfillment
of the Requirements for the Degree
Master of Urban and Environmental Planning

Approved April 2011 by the
Graduate Supervisory Committee:

David Pijawka, Chair
Rhonda Phillips
Francisco Lara-Valencia

ARIZONA STATE UNIVERSITY

May 2011

ABSTRACT

This research addresses the ability for neighborhoods to assess resiliency as it applies to their respective local areas. Two demographically and economically contrasting neighborhoods in Glendale, Arizona were studied to understand what residents' value and how those values link to key principles of resiliency. Through this exploratory research, a community-focused process was created to use these values in order to link them to key principles of resiliency and potential measureable indicators. A literature review was conducted to first assess definitions and key principles of resiliency. Second, it explored cases of neighborhoods or communities that faced a pressure or disaster and responded resiliently based on these general principles. Each case study demonstrated that resiliency at the neighborhood level was important to its ability to survive its respective pressure and emerge stronger. The Heart of Glendale and Thunderbird Palms were the two neighborhoods chosen to test the ability to operationalize neighborhood resiliency in the form of indicators. First, an in-depth interview was conducted with a neighborhood expert to understand each area's strengths and weaknesses and get a context for the neighborhood and how it has developed. Second, a visioning session was conducted with each neighborhood consisting of seven participants to discuss its values and how they relate to key principles of resiliency. The values were analyzed and used to shape locally relevant indicators. The results of this study found that the process of identifying participants' values and linking them to key principles of resiliency is a viable methodology for measuring neighborhood resiliency. It also found that indicators and values differed between the Heart of Glendale, a more economically vulnerable yet ethnically diverse area, than Thunderbird Palms, a more racially homogenous, middle income neighborhood. The Heart of Glendale valued the development of social capital more than Thunderbird Palms which placed a higher value

i

on the condition of the built environment as a vehicle for stimulating vibrancy and

resiliency in the neighborhood. However, both neighborhoods highly valued public

education and providing opportunities for children to be future leaders in their local

communities.

DEDICATION

This research is dedicated to my two Angels, Angel W. Acevedo and Angel M. Acevedo

who make it all worth it.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1

INTRODUCTION

Background

On August 29th, 2005, Hurricane Katrina caused severe damage to the central Gulf Coast region of the United States. The costs of this natural disaster were estimated to be over $100 billion in property losses and over 1,700 verified deaths, 1,464 in Louisiana alone (Kilmer Gil-Rivas, Tedeschi and Calhoun, 2010, p. 3). Aside from the magnitude of difficulties in bouncing back from this devastating natural disaster, there was one community which gained recognition for its adaptive capacity to efficiently rebuild its neighborhood faster than others in New Orleans: the Queen of Vietnam Church community in New Orleans East. This community demonstrated the ability to organize, collaborate, and identify their resources among the community to quickly rebuild their neighborhood. While resiliency is often examined in terms of a regional level or even national, there is limited literature examining principles of resiliency at the neighborhood level. Yet, examples such as the Vietnamese community in New Orleans illuminate certain neighborhood level characteristics which promote resiliency to specific pressures or disasters. If these characteristics can be identified and linked to general principles resiliency, it will be possible to understand neighborhood resiliency. These principles and characteristics can in turn guide neighborhoods to create their own specific indicators of resiliency based on their values and the perceived pressures and potential threats facing their own local communities.

This study examines three cases to identify key characteristics of resiliency focusing on perspectives of social, physical design, and systematic aspects of resiliency.

Additionally, it provides a community-based process for examining two contrasting neighborhoods in Glendale, AZ using in-depth interviews and focus groups comprised of key members of each neighborhood to understand how these characteristics can be measured and applied to create relevant indicators of neighborhood resiliency. It answers the overarching question: What does resiliency mean at the neighborhood level and how can it be operationalized? It explores how general principles of resiliency can be applied to a neighborhood based on residents' values as well as how those values can be measured. It also compares the results between the two test neighborhoods to understand the extent to which values and indicators of neighborhood resiliency differ based on the local environment. However, it is important to note that this is a qualitative and exploratory study and the values and indicators identified for each neighborhood do not necessarily generalize to other neighborhoods. Further research can assess the extent to which indicators are transferrable between neighborhoods.

Purpose for Researching Neighborhood Resiliency

Neighborhoods are complex, dynamic entities which adapt and change by responding to pressures spanning a wide range of possible scenarios. There are endless problems that can arise both from within the neighborhood unit and from the larger region that can affect the resiliency of a neighborhood. Unemployment, foreclosed properties, social disturbances, and water quality issues are just a few factors that can have an effect. Developing a model for promoting neighborhood resiliency could strengthen neighborhoods and help to offset potential threats in an organic way. Much of the focus of resiliency research centers on mitigation strategies for specific types of disasters such as flooding or terrorism. Rather than anticipating what disasters are likely to affect certain neighborhoods, vulnerability can be assessed through a wide lens by defining and measuring elements of resiliency.

According to the Resilience Alliance, resiliency has three defining characteristics: (1) "the amount of change a system can undergo and still retain the same controls on function and structure, (2) the degree to which the system is capable of self-organization, [and] (3) the ability to build and increase the capacity for learning and adaptation (Resilience Alliance, 2010)." If these elements of resiliency can be understood with relation to a neighborhood, then these capacities can be strengthened in order to decrease vulnerability to a number of potential threats. This is not to say that national, regional, and city-wide initiatives should not continue their efforts in building resiliency. Rather, the neighborhood scale can provide an immediate network of resources which can improve adaptive capacity during a time of stress and add another layer of resiliency to an interdependent and multi-scalar system.

There are many aspects of resiliency that are critically relevant and best measured at the neighborhood level. Extended American families no longer tend to live in the same area, so there is a need to connect more with neighbors in times of need for support (Armour, 2010, p. 34). With a variety of complex, external threats, both man-made and natural, communities must find a way to encourage safety and well-being for residents without relying on outside institutions (Armour, 2010, p. 35). The effects that neighborhoods can have on the residents who live in them can be powerful. Literature from Brooks-Gunn, Duncan, Klebanov and Sealand, Crane, Furstenberge, Cook, Eccles, Elder, Sameroff, Hipp, Hogan and Kitagawa, Sampson, Morenoff, and Gannon-Rowley, and Wilson has proven that these neighborhoods can affect levels and outcomes of teen pregnancy, school drop-out, employment, marriage, parenting, and perceptions of crime and social disorders (as cited in Campbell et. al., 2009, p. 462). However, the value of social relationships within the neighborhood is depleting in the U.S. Social scientists have determined that the frequency in which Americans spent social time with a neighbor

has fallen by one third from 1974 to 1998 (Lovenheim, 2010, p. xvi). If having social networks within the neighborhood is a key part to building resiliency, then there is a strong need to identify why it is deteriorating and what can be done about it.

This social need can be identified as social capital or the "features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit (Putnam, 2004, p. 66)." This crucial understanding of social capital connects to a number of other aspects of resiliency relevant to the neighborhood. For example, how does the built environment support or inhibit social capital? If there is no public space, it will be difficult to build trust between residents, collaborate for a common vision, and take advantage of the potential social networks that may be unrealized. This could negatively impact how educated residents are about local resources within their neighborhood. If there are programs and resources to help residents improve their health, economic situation, or access to goods and services in general, only neighbors who are educated about these programs can benefit from them. Building neighborhood resiliency is in a sense empowering neighbors. This empowerment can be created by encouraging the neighborhood to create its own indicators of resiliency. Resiliency from this perspective has not been researched in depth, but can positively affect the sustainability of maintaining strong neighborhoods. For this reason, this study takes a grass-roots approach at identifying metrics of resiliency directly with residents through in-depth interviews and visioning sessions.

Defining Resiliency

There are many perspectives in which resiliency can be understood and extensive research has been conducted on this subject. While the more traditional view of resiliency is defined as systems' ability to "return to their stable equilibrium point after disruption" more dynamic definitions of resiliency are emerging such as "the ability of a system to

adapt and adjust to changing internal or external processes (Pickett, 2004, p. 373)." In this definition, there is a need to link structure with function of a process. (Pickett, 2004, p. 374) Specifically for planners, this refers to the need for understanding an ecosystem as an integrated ecological-social-infrastructural system. In other words, a human ecosystem framework is necessary to not only understand environmental factors such as risks of flooding, but also social factors such as human perception, learning, and resultant actions (Pickett, 2004, p. 378). In fact, resilience can respond to a variety of possible scenarios that can negatively affect a place such as peak oil, crime, or economic decline just to name a few. Newman and Beatley relate the concept of resilience in cities to personal resilience claiming that resilience in our personal lives involves inner strength, strong physical constitution, and making it through our own crises (Newman and Beatley, 2009). Going one step further, family resiliency has been defined not only by surviving crises, but by actually emerging stronger and more resourceful (Vandergriff-Avery, Anderson and Braun, 2004, p. 563).This inner strength can be applied to neighborhoods through measuring areas such as community engagement, sense of place, and sustainable development. Based on the definitions of resiliency and how the term relates to geographic places and sustainability, the following definition will be used to understand neighborhood resiliency:

Neighborhood resiliency is the ability of a neighborhood to adapt to both internal and external social, economic, and environmental pressures to emerge stronger and more resourceful.

In addition to defining neighborhood resiliency it is important to understand in what context neighborhood resiliency can be applied. Often times, resiliency is understood as the ability to bounce back from a disaster such as a Hurricane Katrina which necessitates the ability to quickly mobilize in order to restore a community.

However, resiliency can be a response to gradual stresses as well such as climate change, for example. While the inherent qualities of resiliency might be the same, they are identified in a different context and may focus on different aspects of social, environmental, and systematic factors. Resiliency then has two qualities, the inherent ability to function well during non-crisis periods and the adaptive capacity and flexibility to respond effectively during disasters (Cutter, Barnes, Berry, Burton, Evans, Tate, and Webb, 2008, p. 601). Both of these contexts for demonstrating resiliency will be covered in the three cases presented in the following chapter.

Defining the Neighborhood

The idea of a neighborhood itself is a nebulous concept. While neighborhoods can have a variety of definitions especially from a social perspective, a simple objective definition may be "based on the walking distance between where people live and the goods and services they need on a daily basis, usually an area with a quarter- to one-mile radius (Talen, 2009, p. 14)." In the United States, census geography such as tracts and blocks are used to define neighborhoods and are characterized by similarities in homogenous property values, socioeconomic factors, political jurisdictions, school districts, and other housing attributes (Clapp and Wang, 2006, p. 260). However, often times the census tract is too large of an area to characterize a neighborhood (Plunkett, 2007, p. 20). This can be problematic as the tract level usually offers more demographic data through the Census than at the block level. In any case, there is not a single definition that works well for every neighborhood. Talen (2009) offers a step-by-step approach to integrating some of these determinants of neighborhoods to come up with a comprehensive definition starting with identifying a center location, whether that means some form of civic space, an important street intersection or any other type of focal point. Next, layers of information are integrated and used to best delineate neighborhood

6

boundaries including census tracts, historical boundaries, police precincts, and major thoroughfares for example (Talen, 2009).

In addition to these more objective indicators of neighborhood definition, there are other definitions that are more nuanced and based on social variables and more qualitative information. A less objective definition which includes a social factor defines the neighborhood as "a small urban area within which the residents receive or perceive a common set of socioeconomic effects and neighborhood services (Goodman, 1977, p. 483). Another such understanding of a neighborhood by R. J. Chaskin, M. A. Gephart, and D. S. Elliott includes three main dimensions including "(1) a small residential area physically located within a broader community, (2) that allows for direct resident interaction encouraging the formation of a neighborhood 'social life', and (3) that has its own psychological identity to residents and outsiders based on the sociopolitical history of its development (as cited in Campbell and Henly, 2009, p. 463). This definition warrants primary research through interviews with a sample of residents within a neighborhood, as these subjective meanings of neighborhood do not always mesh with administrative boundaries such as census tracts. This was the case for four neighborhood studies in neighborhoods within Denver, CO which found that neighborhoods defined by census tracts revealed inconsistent socio-economic results which were better understood when actual residents of those neighborhoods were interviewed to come up with a competing definition based on a combination of physical, institutional, demographic, perception of crime, and symbolic notions of their neighborhoods (Campbell, Henly, Elliott, and Irwin, 2009, p. 465-478). This study will not adopt a standard definition of neighborhood, but recognize that neighborhoods will identify themselves in a variety of ways. Part of the process of building neighborhood resiliency will be to collaborate with residents within a given neighborhood and understand how the neighborhood center and

borders are determined. The two neighborhood study areas chosen for this study have already delineated their own boundaries through forming neighborhood associations with the City of Glendale, AZ.

Theoretical Basis for Research

In Spring 2010, a class at Arizona State University made up of masters students ranging from expertise in planning to sustainability to performance art to name a few brainstormed ideas of what elements would impact neighborhood resiliency. By reviewing each factor and searching for trends and patterns, I have identified three overarching areas in which resiliency can be measured and understood.

1. Empowerment: This is the ability for communities to communicate their needs and opinions, network with each other and build resiliency by increasing social networks. This area is comprised of visioning which is a strategy for neighbors to collaborate in order to decide what the future of their neighborhood entails, social capital as previously defined, and education including both traditional institutions such as public schools as well as education about the neighborhood in general and the public services it and the surrounding area provides. These elements all contribute to the empowerment of residents living in the neighborhood.

2. Built Environment: This area of resiliency addresses the need to have a built environment that enhances and allows for a given neighborhood to be less dependent on outside resources while nurturing what defines it from other neighborhoods. The urban design should meet the needs of the neighborhood and provide choices for mode of transportation and housing. It should provide an environment which encourages walking by having access to goods and services nearby as well as encouraging the desire to walk by communicating a sense of art, culture, and heritage that defines a neighborhood's sense of place. The design

should also promote the development of social capital by providing opportunities for residents to interact in public space.

3. Systems: This section addresses how systems work cyclically to combat threats to resiliency and minimize both natural and socio-economic vulnerabilities. Some of the neighborhood aspects which could be understood in a systematic way included waste management, environmental health, local food production, and economic health. Trash pick-up systems and planting trees to improve air quality are systematic examples representing waste management and environmental health within the neighborhood. Facilitating local gardens or sourcing food from nearby locations is an example of local food production. Creating new employment opportunities within the neighborhood is an example of economic health. In short, a systems framework utilizes local resources to manage the metabolic flows that in turn strengthen the neighborhood as a whole.

The elements that make up each area are not mutually exclusive, nor are they completely autonomous. For example, the diversity and composition of housing and design of neighborhoods could affect social capital by encouraging or discouraging social interaction. Ideally, the areas of empowerment, the built environment, and systems-oriented elements would reinforce each other to build a webbed model of resiliency within the neighborhood. In addition, principles of resiliency, which will be explored further in Chapter Two, such as collaboration, strength, and redundancy, can be understood in the context of these three overarching areas as well as the elements of the neighborhood. It is important to note that these elements that make up a neighborhood are not an exhaustive list, but rather one way to understand the make-up of a neighborhood. Figure 1 visualizes how each of these aspects fit together and relate to each other in order to understand neighborhood resiliency holistically.

Figure 1: Visualization of Neighborhood Resiliency Framework

Methodological Approach

Neighborhood resiliency can be understood by both underlying principles of resiliency and tangible neighborhood indicators of resiliency. In general, there are two fundamental ways in which resiliency can be measured: (1) the magnitude of shock that the system can absorb and remain within a given state or (2) the degree to which the system can build capacity for learning and adaptation (Folke, 2002, p. 438). The latter of the two better represents the type of unpredictable kinds of disasters in which neighborhoods can build adaptive capacity. This type of adaptive capacity is analyzed for the three case studies in order to determine the applicability of key principles to a neighborhood. In addition, indicators will be created to measure neighborhood resiliency through visioning sessions with two test neighborhoods. There are many reasons why using indicators can be helpful to build stronger neighborhoods. They help to democratize information, embody the true values of a community, gauge the economic, social, and environmental conditions within a community to guide long-term decision-making, and can even improve the evaluation of policies by establishing a form of causality (Phillips, 2003, p. 21). If key metrics can be agreed upon which will represent resiliency for a given neighborhood, those metrics can be measured at a later date to monitor progress and evaluate any efforts which have been made to increase resiliency.

How indicators should be created is a much debated topic. While it can be beneficial to create simplistic, standardized indicators that can allow comparisons between different areas, they are often not specific enough to address local issues. Conversely, highly specialized indicators can be expensive and time-consuming to measure. For the purposes of this project, and organic, bottom-up approach to creating neighborhood resiliency indicators is adopted. There are many reasons why such an organic process is ideal for this study. Much like neighborhoods, cities are described as

"living systems – dynamic, connected, and open – constantly evolving in many and varied ways to both internal interactions and the influence of external factors (Commonwealth Scientific and Industrial Research Organisation, Arizona State University and Stockholm University, 2003, p. 9)." To properly measure the resiliency attributes in the context of a complex neighborhood, more nuanced indicators specific to the neighborhood may emerge. Jane Jacobs describes cities as having a form of "organized complexity" in which all the variables that characterize it are interrelated (1992, p. 430-432). This concept makes it very difficult to understand how good city development can be measured and what are the key contributing factors. Rather than coming up with objective, simple indicators which can be multiplied to a number of places, she proposes thinking more about processes, working inductively from specifics to the general, and seeking outliers that might provide clues to the way a city functions (Jacobs, 1992, p. 440). This way of thinking can be applied to the neighborhood unit as well, and can prevent cookie-cutter results which would identify specific, yet homogenous indicators of resiliency for any given neighborhood.

There is a shift in current indicator research particularly as it applies to the local level which emphasizes the need for public participation in the actual creation of indicators (Sawicki and Flynn, 1996; Phillips, 2003; Pickett, 2004). With over 200 community-based indicator projects in the United States identified by Dluhy and Swartz as of 2006, the methodology used for these projects has been largely a bottom-up approach (Zautra, 2008, p. 134). As such it will be more beneficial to identify key principles of resiliency relevant to the neighborhood level and utilize those principles to guide the specific indicators that will be produced through interviews and visioning sessions with residents within the neighborhoods.

Two neighborhoods in Glendale, Arizona will be tested in order to define measureable indicators and strategies which will be used to improve resiliency. Data will be collected via in-depth interviews, secondary data, and neighborhood visioning sessions. The visioning session will identify assets and determine how they can be utilized to form key indicators of resiliency. The results of the two study neighborhoods will reveal the applicability of this approach to understanding neighborhood resiliency as well as any changes which should be made to the process for the future. By choosing two neighborhoods which differ socio-economically and culturally, the results will also reveal how important it will be to create neighborhood-specific indicators versus standardized neighborhood resiliency indicators that can be applied to a variety of neighborhoods.

Organization of Thesis

This research is provided in five chapters. The next chapter reviews resiliency literature including three cases which demonstrate resiliency. It makes connections between the examples of adaptive capacities demonstrated and how these principles can be applied to a neighborhood. The third chapter provides the methodology and research design for the two test neighborhoods in Glendale, AZ. It discusses how the neighborhoods were chosen, the methodology of the study, and how the data is used for analysis. The fourth chapter reports the results from the two test neighborhoods and discusses what resiliency indicators were created and how they were measured. The fifth chapter discusses any insights based on this study as well as any limitations to the findings. It also suggests areas for future study in order to better understand neighborhood resiliency.

Chapter 2

LITERATURE REVIEW: PRINCIPLES OF RESILIENCY AND THEIR

APPLICATION TO THREE CASES AT THE NEIGHBORHOOD LEVEL

Resiliency Literature Review

In order to understand how resiliency can be applied for a neighborhood, it is important to first understand what principles characterize this concept in general. In "The Ozymandias principles: Thirty-one strategies for surviving change" Harold Foster among other researchers such as L. K. Comfort, K. Tierney, R. Zimmerman, and the Victoria Transport Policy Institute, have identified the following principles that guide resilient systems (as cited in Godschalk, 2003, p. 139).

- Redundant: Have a number of functionally similar components so that the entire system does not fail when one component fails

- Diverse: Have a number of functionally different components to protect the system against various threats

- Efficient: Create a positive ratio of energy supplied to energy delivered by a dynamic system

- Autonomous: Have the capability to operate independently of outside control

- Strong: Build the power to resist attack or other outside forces

- Interdependent: Ensure that system components are connected so that they support each other

- Adaptable: Develop the capacity to learn from experience while having the flexibility to change

- Collaborative: Produce multiple opportunities and incentives for broad stakeholder participation

The nature of these principles implies that they will be interrelated and that resiliency cannot be understood in a vacuum. Rather, it is conceptualized as the "capacity to buffer change, learn and develop" and should not be assumed to have a linear, predictable, and/or controllable relationship with its variables (Folke, 2002, p. 437). Specifically, urban resiliency is defined as "the degree to which cities are able to tolerate alteration before reorganizing around a new set of structures and processes (Commonwealth Scientific and Industrial Research Organisation, Arizona State University and Stockholm University, 2007, p. 8)." As such, the ability to be adaptable will increase the resiliency of a system by definition.

It is difficult to understand resiliency without addressing the concept of sustainability as their aims are so closely related. As the resilience of a community relies in part on the condition of its environment and treatment of its resources, the two concepts are inextricably linked (Cutter et al., 2008, p. 601). The words "sustainability" and "resiliency" often are blurred into the same definition, but do have some differences in their approach. The most basic definition of sustainable development (presented by the U.N. Commission on Sustainable Development 2001) "seeks to meet present needs without compromising the ability of future generations to meet their needs, but it cannot be successful without enabling cities to be resilient to natural hazards and ensuring that future development does not increase vulnerability (Godschalk, 2003, p. 138)." The linkage between resiliency and sustainable development is becoming clearer. Sustainable development has been defined as a middle ground which "seeks to enhance long and short term community *resilience* through investments in all the various forms of community capital (Callaghan and Colton, 2008, p. 932)." In other words, resiliency adds the element of risk and unpredictability to the already daunting task of creating sustainable places. "A resilient city is a sustainable network of physical systems and

15

human communities" (Godschalk, 2003, p. 137). Resilience can then be understood as a means of creating sustainability. While sustainability tends to be compartmentalized into economic, environmental, and equity or social priorities (Campbell, 1996, p. 298; Folke, 2002, p. 437; Agyeman and Evans, 2003), resiliency deals with *how* these priorities will be achieved so that resiliency can be sustained.

Collaboration is a very important aspect of resiliency and perhaps one of the most distinguishing elements between resiliency and sustainability. Resiliency with respect to community is understood by inquiring about humans' adaptive capacity to bounce back from stressful events and their ability to move forward in a challenging environment (Zautra, Hall, Murray, 2008, p. 132). The connections and networks between people then become very important to achieving resilience. As resiliency can work as a means to achieve sustainability the way in which is progresses is extremely important. Simply fostering better communication in the process of creating resiliency and involving many stakeholders can build or break success. Involvement and communication with community partners is more effective for research design and communication of results with respect to resiliency plans than simply "outreach" (Pickett, 2004, p. 379). In fact, one of the key issues of planning for resiliency is the broken promise to involve underrepresented citizens most affected by disasters in planning for response and recovery (Berke, 2006, p. 195). This can be remedied by involving the public in the creative process rather than simply sharing results of prospective resiliency plans.

Strength is a factor of resiliency which also supports social equity, a main focus area of sustainable development. For example, a resilient plan addresses the need for social mitigation through reducing the impact of vulnerable, poor communities that create the weakest link (Godschalk, 2003, p. 140). This creates a motivation to help those who

16

are most in need in order to increase resiliency for the entire community. Promoting greater economic equity and environmental justice for communities will strengthen their mitigation capacity and therefore build more resilient systems.

Diversity is another element that is related to sustainable development, particularly with regards to the housing and transportation choices presented within the built environment. Compact urban form models can be used to build resiliency. Smart growth and new urbanism principles which are characterized by combating sprawl through high density development may either build resiliency or lessen it depending on how it is developed (Berke, 2006, p. 195). With tragic events such as the destruction of the World Trade Center, it is argued that high density development is not optimal for resiliency, yet it is also argued that by avoiding hazardous, vulnerable locations, concentrating development in safer areas is optimal. The mix of uses, another attribute of new urbanism and smart growth principles, may more directly represent diversity in terms of the types of housing offered and the mix of land uses. Mix can also refer to the population itself in terms of diversity in employment, culture, and demographic characteristics. Lewis Mumford affirms that "A plan that does not further a daily intermixture of people, classes, activities, works against the best interests of maturity (cited in Talen, 2009, p. 53; Mumford: 1968 p. 39)." This intermixture also promotes a sense of character and pedestrian-friendliness which strengthens the resiliency of a given place.

There are some factors of resiliency that appear to be contradictory to each other. For example, while a resilient system is autonomous it is also interdependent. Autonomy to some extent strengthens resiliency, because it allows a system to continue to function even if outside forces threaten it. An example of how this would apply to a neighborhood is an increase in gas prices. The price of gas is an external, global issue, and the more

17

autonomous and less dependent a neighborhood can be to these external forces, the more resilient. One way in which a neighborhood may be autonomous is to have most of the residents' daily needs within walking distance. This idea of proximity or access to goods and services is one important aspect of good neighborhood develop which differentiates unplanned urban sprawl from efficient, compact city form (Talen, 2009, p. 61). Interdependency is not the antithesis of autonomy, but rather a connectedness between all facets of a given system. An example of this would be social cohesion. Philip Berke describes a resilient place as "a tapestry of human lives and social networks that are essential to the heart and soul of the place (Berke, 2006, p. 206)." These networks are interdependent, yet if one component fails, the system as a whole, in this case the community, can continue to function.

In addition, the factors of efficiency and redundancy also appear contradictory. Traditionally, in operations management, efficiency is measured by the amount of input to produce a given output in which redundancies are minimized in order to maximize production. However, this is based on only one scenario, without factoring risk into the equation. Based on the number of scenarios that could hinder a given system, it will be more efficient in the long-run to strategically incorporate redundancies that can prepare for a variety of potential threats. For a neighborhood, an example of a redundancy that could actually increase resiliency might be creating a community garden. Even though grocery stores nearby might provide all of the residents' dietary needs, a garden could provide a second choice, should market prices of fresh produce increase or should the local grocery store decide to relocate. Local development such as gardens, small businesses, and services such as daycare services can in fact increase efficiency to alternatives that might require longer, more expensive commutes.

18

Cases Demonstrating Resiliency at the Neighborhood Level

As mentioned in Chapter One, key principles of resiliency can be understood in the context of a neighborhood through three overarching areas of empowerment, the built environment, and systems. Three cases are now discussed that address these areas and test the applicability of principles of resiliency outlined above to the neighborhood level. These cases are analyzed to understand their key characteristics in order to provide general guidance and a framework for creating indicators and strategies of neighborhood resiliency which is discussed in Chapter Three.

The Vietnamese Village de L'Est in New Orleans East. The levee failures in New Orleans due to Hurricane Katrina flooded a large sector of the city including a Vietnamese neighborhood, causing the evacuation and displacement of its entire population (as cited in Norris, VanLandingham, and Vu, 2009, p. 91). While this particular Vietnamese community located in New Orleans East constituted less than 1.5% of the city's population prior to Hurricane Katrina, it "received significant press coverage due to its members' high rate of return and rapid rebuilding of their community (Leong, Airress, Li, Chia-Chen Chen, and Keith, 2007)." The community had returned just weeks after Hurricane Katrina hit and was one of the first to have electricity turned back on. Much of the community's success can be attributed to the social cohesion created by the leadership and coordination of the Mary Queen of Vietnam Church which played a pivotal role in the recovery process (Hauser, 2005; Joe, 2005; Zucchino, 2005; Hill, 2006; Li et. al., 2008). In addition, the Vietnamese American community in New Orleans East has a shared history which has strengthened its cultural identity and social ties to one another (Leong et. al., 2007; Nguyen and Nguyen, 2007; Li et. al., 2009). Both the historical context of the New Orleans East Vietnamese community as well as its strong affiliation to the Mary Queen of Vietnam Church contributed to its resiliency.

19

The Vietnamese settlement in the U.S. in general began in the 1970's when refugees started to arrive after The Vietnam War. The U.S. government relied on faith-based and non-governmental organizations to relocate refugees to 821 zip codes throughout the country (Leong, et. al, 2007, p. 771). One such refugee resettlement, Village de L'Est in New Orleans East was identified by the Catholic Charities of New Orleans to use federally subsidized low-income apartments to house 1,000 refugees, inducing rapid chain migration of Vietnamese friends and family (Leong, et. al, 2007, p. 771). This responsive and focused migration created a tightly knit community as its residents could easily relate to one another (Li, et. al., 2009). Cultivating social cohesion over time, this neighborhood built trust, care, and confidence in the strength of community which aided the recovery process. Prior to and after Hurricane Katrina hit, neighbors called each other, packed together, and knocked on each other's doors to urge and coordinate evacuation, particularly for the vulnerable (Li, et. al., 2008, p. 279). This form of social capital was derived from a shared history of migration and being war refugees, which provided a sense of strength within the community (Leong et. al, 2007, p. 777).

It also fostered an attachment to place. The intricate social network formed by this shared history of the Vietnamese cannot be easily rebuilt in another area. One Vietnamese respondent to Hurricane Katrina described the neighborhood as a family and that everyone knows everybody else (Li et. al, 2009, p. 114). The interdependent nature of these social networks then supports a resilient community, as the more social connections there are among its residents, the more likely they will be to continue to strengthen the community and realize value in saving it.

The Vietnamese neighborhood's ability to bounce back faster than other New Orleans neighborhoods was due to its superior ability to self-organize. Father Vien

20

Nguyen, Pastor of the Mary Queen of Vietnam Church, provided the local leadership needed to achieve a certain level of autonomy and self-sufficiency within the community (Leong, et. al, 2007). The organization of Vietnamese Catholic leadership transcends religious life. It is used to support communities with the priest managing the church community as a whole, with additional leaders assigned to each specific zone which are sub-divided into street units (Leong, et. al, 2007). This structure allows each geographical area to be organized and autonomous yet interdependent through supporting each other and was integral to the Vietnamese community's rapid rebuilding success. Within just weeks of storm, Father Vien Nyuyen organized crews of returning residents to gut and repair homes, paying special care to the elderly (Boettke, 2007, p. 370). In addition, he sparked the collaboration of the church community to attend Mass in order to prove that it would be beneficial for Entergy, the local energy supplier, to turn power back on for the Vietnamese neighborhood. Entergy was concerned that there were not enough clients to warrant providing electricity. Father Vien Nguyen presented photos of the 2,000 people that came to third Mass and within a week provided a list of 500 petitioners who had permanently returned to the city and Entergy and as a result in November became the first to have power turned back on (Boettke, 2007, p. 370).

This is not an isolated case of how this community was able to respond resiliently to a threat. Their local power allows them to collaborate and organize quickly to fight any stress that may threaten their neighborhood. For example, in 2006, the mayor of New Orleans planned to open a hurricane debris land fill a short distance from Village de L'Est. This initiative was protested by a united effort of the Vietnamese Americans, African Americans, environmentalists, and the Coalition for a Strong New Orleans East preventing this contract for a landfill to come to fruition (Leong, et. al, 2007, p. 773).

This demonstrates that having the flexibility and coordination to rise to action in a concerted effort can produce positive results.

The success of the Vietnamese community located in Village de L'Est is a prime example of how a neighborhood can behave resiliently. With incredible self-organizing capabilities, this community exhibited principles of interdependence, autonomy, and collaboration. It proves that strong local governance can create a flexible and efficient system that can respond to the needs of the community in ways that overarching federal and state systems cannot. It also demonstrates how the assets of the neighborhood including its sense of place and the unique social capital created in the context of a shared history can form a strong motivation to behave resiliently.

The Dudley Street Neighborhood Initiative in Boston, Massachusetts. The Dudley area of Roxbury/North Dorchester is one of the poorest neighborhoods in Boston with 27% of the area's population falling below the federal poverty level, and an average per capita income of $12,332 (Dudley Street Neighborhood Initiative History, 2008). The neighborhood has a long history of economic disinvestment coupled with political distrust for local government. These economic pressures make the Dudley area a highly vulnerable case for examining resiliency. However, the neighborhood's ability to organize, produce autonomy by founding the Dudley Street Neighborhood Initiative, and collaborate to bring about positive action has made this area of Roxbury arguably one of the most successful stories of neighborhood empowerment in American history.

Historically, the Roxbury neighborhood was first inhabited by Irish and Italian working class Americans, but during World War II, many of the factories left, and slowly, residents began to move out and seek other employment opportunities (Holding Ground Productions, 2006). It later became an area of predominantly black residents, with Latino and Cape Verdean populations inhabiting a sizable portion as well and white

22

people making up the remaining 10% of its residents (Eisen, 1994, p. 244). Starting in 1966 and proceeding through the 1970s, landlord-sponsored arson infected the neighborhood resulting in 1,300 vacant lots, or 20% of the neighborhood's land (Eisen, 1994, p. 244; Holding Ground Productions, 2006). The neighborhood was degraded such that owners felt it was worth more to burn their buildings than keep them. To make matters worse, in the 1980s the community faced environmental health issues as where other more prosperous areas of Boston were using Roxbury as a dumping ground for toxic waste (Eisen, 1994, p. 244).

The continuous disinvestment and growing number of vacant lots was perceived by the neighborhood as a real threat to its future, as real estate developers were feared of buying up the land cheaply and gentrifying its current residents (Eisen, 1994, p. 244). To address these problems, funds were sought from the Riley Foundation which initially formed the Dudley Advisory Group. However, the residents vocally protested the initiative which only allocated four out of twenty-three board seats to residents (Taylor, 1995). With the support from the Riley Foundation, this led to the mobilization of the Dudley Street Neighborhood Initiative (DSNI) which was 100% a grass roots effort controlled by its residents. It sought to create open planning and decision-making processes, strengthen existing community partners as well as create new ones, and organize residents and local organizations for advocacy (Chaskin and Garg, 1997, p. 642). Today, DSNI mandates equal representation of different races within the neighborhood for its leadership, allocating seats to Black, Latino, Cape Verdean, and White board members (Dudley Street Neighborhood Initiative History, 2008). This diversity of leadership helps to instill fairness in decision-making and prioritization among the different groups of people that make up the neighborhood. In addition, the DSNI's ability to govern itself without outside local control increases its autonomy and

23

efficiency to respond to outside threats that could potentially negatively affect the current neighborhood's population.

The initial founders of the DSNI recognized the importance of developing a sense of social responsibility and will power early on. As such, their strategy was to form a long-term strategy, but develop short-term objectives along the way to build trust, inclusiveness, and produce small victories that would sustain the group and motivate them to be true agents of change. The first of these short-term objectives was the "Don't Dump on Us" campaign designed to stop other communities from dumping their trash on the vacant lots of their neighborhood as well as mobilize the residents of Roxbury to pick up the existing garbage and begin to restore the land (Scalet, 2006, p. 314). This collective effort caught the attention of the Mayor of Boston, and the empowerment felt from the community to heal its neighborhood fueled the success of several other small victories. Among these were efforts to clear snow, create a public park, build a community greenhouse, and found a major community center which provides day care services, after school programs, a fitness room, computer lab, and a gym (Scalet, 2006, p. 314). Collaboration and persistence were the main ingredients for developing such success.

The momentum to achieve positive results resulted in building significant strength within the DSNI and possibilities of achieving larger more long-term successes. With vacancies throughout one third of the properties of the Dudley Street Triangle, a central area of the neighborhood, it became apparent that the ability to control land would be necessary for any large revitalization of the neighborhood. The DSNI decided that exercising eminent domain could be a powerful vehicle to make this a reality. In 1988, the initiative proceeded to form Dudley Neighbors Inc., an urban redevelopment corporation which persuaded the city to grant it eminent domain to acquire the privately-

24

owned vacant properties within the Dudley triangle. This decision to grant eminent domain to a neighborhood corporation was the first in U.S. history and a model case of exhibiting empowerment at the neighborhood level. However, the thoughtfulness of how this power was used strengthened the neighborhood even further. Community visioning sessions were facilitated by Dudley Neighbors, Inc. in order to develop long-term plans for the area based on the needs and shared vision of its residents. Affordable, relatively low-density homes were at the top of the list as well as daycare facilities, off street parking, and a town common area (Andrews, 1997). In response to these needs, Winthrop Estates was created comprised of 36 semi-detached, single-family homes with 3-4 bedrooms, 1.5 baths, porches, and backyards (Andrews, 1997) The community sessions have since refined their vision to be a form of urban village with a focus on shared public investment (Taylor, 1995). Realizing an initiative such as this would be difficult and piecemeal without the neighborhood's success in establishing eminent domain to control the Dudley triangle.

By 2000, DSNI had recruited 3,000 residents, businesses, and non-profit and religious institutions to the further its cause (Barros). This diversity of stakeholders continues to support the local initiatives and priorities that the organization strives to achieve. Aside from the direct and tangible successes DSNI has accomplished, social improvements of the area have been indirectly linked to its success as well. Since 1991, drug and violence-related arrests have declined dramatically in the Dudley Triangle, in part due to a park that was renovated which was previously the locale for a thriving drug market (Eisen, 1994, p. 246). Collaboration and building strength through persistence and consistent effort created long-term success for Dudley area. In addition, its autonomy and dedication to true empowerment produced a vision to motivate the DSNI and mobilize its members toward consistent improvement. Lastly, its overall strength provided the

wherewithal for the DSNI to persuade the city of Boston to grant it eminent domain over a seriously disinvested neighborhood core known as the Dudley Triangle. This mobilized the neighborhood to build a more resilient environment to progress, grow, and reverse the social deterioration which characterized the area prior to the creation of the DSNI.

The Box Elder community in southern Indiana. In the early 1980's a trend emerged in the Midwest to organize and develop communities that valued the natural environment and sought like-minded individuals to invest in and cultivate such places. While some were more successful than others in creating long-term sustainability, one community called Box Elder formed attributes that increased its resiliency by maintaining its population and conserving natural resources over time. The Box Elder community was created in 1983 by twenty members with the intent of celebrating and respecting the spiritual connection to parks and other natural resources (Fleishman et. al., 2010, p. 6). It proceeded to organize itself as a 501c(3) nonprofit organization and purchased 109 acres in 1987 to form a permanent community (Fleishman et. al., 2010, p. 13). While other communities dwindled in population due to conflicting interests and separation, Box Elder maintained its population through managing a flexible member participation structure. In addition, it developed an adaptive capacity to fight threats such as tree-cutting in order to preserve its environment through focused and inclusive governance.

The Box Elder community has faced multiple stresses just in its 30 plus years of existence. While the community reveres the forest as a sacred place and allocates over 80% of its land as forested area, it has been prone to tree-cutting and trespassing by outsiders (Fleishman et. al., 2010). In addition, Box Elder has faced complaints by the surrounding communities for being too loud during its festivals, and has attracted negative attention by media sources who claim that the community is everything from a

26

satanic cult to a terrorist organization (Fleishman et. al., 2010). Rather than dismantling Box Elder, these trials have inspired self-organization and social cohesion over time as a "result of long and difficult collective experiences in the communit[y]'s initial years (Fleishman et. al., 2010, p. 17)."

Box Elder's membership base and power is formed in a tiered structure. It is relatively easy for a person to become a member of the community which only requires a low membership fee and no fixed investment (Poteete, 2004, p. 13). However, each member's rights and responsibilities directly correlate to that person's contribution to the community in terms of labor and involvement (Poteete and Welch, 2004). This allows for governance by a smaller group of more invested members which brings decisions to consensus or at least a majority rule much faster than if the entire community voted. However, those who are not as invested in the community can still vocalize their views and can influence the "council of the elders" to which the governing leaders are referred, to have some say in decision-making. Box Elder's governance structure is described as "a pyramid with the top cut off (Poteete, 2004, p. 28)." Through having a flexible yet focused leadership group, decisions can be made in a timely manner without the risk of relying on one leader to sustain the community. This idea of flexibility of governance is demonstrated when the key leader of Box Elder was simply removed after becoming conflictive and misusing communal funds (Fleishman et. al., 2010, p. 13).

In addition, formal rules and regulations are adopted by the council of the elders in order to preserve the sustainability of the community. For example, there is a ban against cutting trees for firewood, and this is enforced particularly during festivals when the community has many outside visitors. They have also created rules to limit noise during festivals to foster tolerance among surrounding communities. Box Elder's multiple strategy approach to trespassing and tree-cutting has been successful (Fleishman

et. al, 2010). Having strategies and regulations that are redundant in the cause they support has increased the resiliency of the community as a whole.

Summary

The communities discussed in this chapter face both sudden and chronic pressures varying in type of threat and extremity. Yet, they all have exhibited key principles of resiliency which have contributed in some way to their sustainability. The Vietnamese community in New Orleans East tapped its tremendous social capital to collaborate in a time of distress and reestablish their lives after a massive hurricane. The interdependence of social relationships created a cohesion that allowed them to obtain needed resources more efficiently and flexibly than formal governance structures. The Dudley Neighborhood Initiative collaborated to build strength when their neighborhood was in danger of being destroyed and replaced. Having a shared goal to save their neighborhood formed the strength overtime to produce autonomy and eventually be granted eminent domain over the famous Dudley Triangle. This level of empowerment produced strong resiliency within the neighborhood and long-term sustainability. Lastly, the Box Elder community in southern Indiana used a layered governance structure to address a vulnerability of environmental degradation. The diversity of regulations used produced both redundancy and interdependence which strengthened the community's ability to be resilient. All communities demonstrated an adaptive capacity to fight a variety of stresses that threatened their sustainability. The next chapter addresses the methodology of how these principles can be understood as specific indicators for a given neighborhood using a grass roots approach.

Chapter 3

METHODOLOGY FOR STUDYING NEIGHBORHOOD RESILIENCY

Using a Participatory Indicator Approach

The Vietnamese community in New Orleans East, the Box Elder community of southern Indiana, and the Dudley Neighborhood initiative of Boston demonstrate the key principles of resiliency, but these principles are still quite subjective. Broad assets and qualities such as the possession of social capital or the ability to quickly adapt to change are difficult to measure and assess over time. Within these three cases, key principles of resiliency can be understood to a certain extent based on the severity of the stresses each of these communities faced. However, in order to apply these principles to any given neighborhood that may or may not currently face such pressures, indicators must be formed that are understood as metrics to assess neighborhood resiliency. These indicators should have a shared meaning and acceptance among the local community as accurate metrics of resiliency.

While current literature is extremely limited with regards to creating indicators specific to neighborhood resiliency, there are many resources and literature that address the importance of indicators in neighborhood development and the need to develop these in a participatory manner. The National Neighborhood Indicators Partnership, for example, "is a collaborative effort by the Urban Institute and local partners to further the development and use of neighborhood-level information systems in local policymaking and community building (National Neighborhood Indicators Partnership, n.d.)." It works to maintain confidentiality of information while broadly making data available to the public as well as democratizing data to help all stakeholders use the data themselves to achieve their own goals (Kingsley and Pettit, 2010, 2). While this national initiative seeks to track, assess, and improve quality of life for neighborhoods, a similar methodology can

29

be applied for measuring neighborhood resiliency. By implementing a research design that is transparent and involves the residents directly in the compilation of indicators, the end product will be highly relevant to the specific neighborhood at hand.

Choosing the Location

The Phoenix metropolitan area in Arizona is an interesting place to study neighborhood resiliency, because this region exhibits some differentiating aspects of resiliency. The impact of immigration, diversity, the scarcity of natural resources, and the decreasing emphasis on community resulting from sprawl and an individualist culture makes the area an interesting subject for measuring and understanding resiliency (Zautra, 2008, p. 137). The City of Glendale, a northwestern suburb of Phoenix provides a unique opportunity for local study as each neighborhood delineated by census block was assessed in 2010 using standard objective indicators in order to understand quality of life. Each neighborhood was assigned a score, which is an index comprised of social, economic, and physical variables. Using these scores, neighborhoods in need can be prioritized based on limited funding. Choosing both neighborhoods in Glendale, Arizona was a strategic decision to capitalize on this project to select contrasting neighborhoods.

The Heart of Glendale neighborhood was chosen, because it possesses some unique issues including a low median salary, prevalence of crime, and run-down rental homes, but it is the oldest neighborhood in Glendale with a unique housing stock, and is quite walkable in terms of accessing its parks and elementary school (City of Glendale Assessment). In contrast, Thunderbird Palms is a middle-income subdivision built in the 1980's with less pressing issues, including somewhat poor amenities at its focal point, the Sunset Palms Park (City of Glendale Assessment). By analyzing the results of indicators created for these two neighborhoods, trends may emerge that could indicate if there are

indicators that permeate different socio-economic factors, and if some indicators are only relevant to a specific neighborhood.

Methodology for Creating and Analyzing Indicators of Neighborhood Resiliency

The approach for this study was to obtain background knowledge about these two neighborhoods through a mixture of in-depth interviews including one interview from a neighborhood expert as well as a visioning session with residents to identify assets and form measurable indicators of neighborhood resiliency. Facilitating a visioning session is helpful to understand the needs of a community and produce tangible ideas and goals that can define and develop the community's vision based on its values (O'Brien and Meadows, 2007). These visioning sessions were used to accomplish three major goals. First, they were an opportunity for neighbors to identify the assets of their neighborhood. Second, key principles of resiliency as a concept were presented to residents who were asked to value certain elements within their neighborhood with regard to resiliency. The last stage of the visioning session was used to brainstorm and identify what was valued concerning these different elements and how they could be understood. These values were used to produce measureable indicators of neighborhood resiliency.

Obtaining secondary data. Many data points were available through the United States Census Bureau to understand socio-demographic information such as household income, education attainment, and vacant properties at the census tract level. While the census tract does not match the exact delineation of the neighborhood based on practical boundaries, it is close enough to provide some insight for the analysis of the two chosen neighborhoods.

Obtaining in-depth interviews. In order to understand some of the history and more nuanced characteristics of each neighborhood, an individual from each neighborhood who is visible and active in his/her community was chosen to participate in

31

an in-depth interview prior to the visioning session. The interviews were loosely

structured as interview guides used to steer the conversation toward answering the most

important general questions, but were meant to facilitate a natural, free-flowing

conversation (Hay, 2010). These individuals offered anecdotal information that helped

better characterize the neighborhood and produce insights that can be used in analyzing

each neighborhood's level of resiliency. The early engagement and buy-in of these

individuals helped gain momentum in recruiting participants for the visioning session.

Building and coordinating participation for the visioning sessions. In order to

motivate neighbor participation, the two neighborhoods chosen already had a designated

primary contact actively involved with neighborhood development who acted as a

catalyst for building participation. This person provided neighborhood contacts to bring a

diversity of perspectives to the visioning session. To build motivation, the first visioning

session was facilitated in tandem with a local house painting activity arranged by the

Church of Joy, a nearby religious organization. This was a strategic decision to capitalize

on the momentum of affecting change in a small, yet tangible way. The visioning session

was held in the Glendale Community Center which is a highly used public amenity

within the neighborhood. The second neighborhood visioning session in Thunderbird

Palms was held in a building at the Arizona State University West campus which is

adjacent to the neighborhood. To solicit a wide range of participants, flyers were hand

delivered to at least 50 households within each neighborhood. Food and refreshments

were also promised and provided to increase interest and participation.

Visioning Session Design. The purpose of the visioning session was to facilitate

a discussion of values and assets impacting resiliency driven by the participants with as

little guidance or direction as possible. Because this is a grass-roots approach, the only

piece of information given to participants in the beginning of the session was a handout

with a basic map of their neighborhood identifying a couple of landmarks and a list of the general principles of resiliency. They were simply asked to identify strengths, weaknesses and characteristics of their neighborhood. However, midway through the session, participants were presented with a short explanation of how the eight principles of resiliency could apply to a neighborhood in order to give them context. They were then asked to value and discuss the following elements that make up the neighborhood:

- o Education
- o Trust in Each Other (informal and local government)
- o Neighborhood Services
- o Quality of Streets and Sidewalks
- o Neighborhood Parks
- o Housing Conditions
- o Access to Goods and Services
- o Local jobs
- o Quality of Environment (water and air)
- o Neighborhood Safety
- o Social Relationships
- o Leadership

The purpose of presenting these twelve elements was to bring a healthy balance between engaging the thoughts and creativity of participants while offering guidance that could encourage the development of a more comprehensive list of indicators. However, participants could opt to not include elements that were not valued highly and they were able to add a category if they felt something was missing. As participants may not understand the intricacies and complexities of how resiliency can be measured, questions

were formed to obtain information about what residents' value versus asking them to directly create indicators of neighborhood resiliency.

Analytical Framework. Data from the visioning sessions was collected and organized in order to understand key neighborhood assets and how they translate into quantifiable indicators of resiliency. Data was first categorized based on the three general areas of neighborhood resiliency outlined earlier consisting of empowerment, the built environment, and systems variables. Strengths and opportunities were assessed through asset mapping through the identification of potential gaps. Next, the values produced from the visioning sessions were organized by asset attribute for each neighborhood which steered the creation of indicators. A comparison between neighborhoods was assessed to identify the diversity of indicators produced whether there were practical reasons why these differed based on each neighborhood's characteristics and current perceived threats to resiliency.

Summary

This chapter provided the methodology for assessing and creating key metrics of neighborhood resiliency. This participatory mixed-method approach of secondary and primary data was used to produce a robust understanding of neighborhoods and how resiliency can be interpreted using a grass roots approach. It outlined how results of the visioning sessions were analyzed and how they can be compared in order to understand which attributes are unique to a given neighborhood and how they impact its resiliency.

Chapter 4

RESULTS AND ANALYSIS OF THE TWO GLENDALE NEIGHBORHOOD

STUDIES

Results Overview

A combination of in-depth interviews and visioning sessions were conducted for

the Heart of Glendale neighborhood and the Thunderbird Palms neighborhood to

understand neighborhood resiliency from a grass roots approach. For both

neighborhoods, one in-depth interview was conducted to understand the intricacies of the

local area and how it developed over time. In addition, a visioning session was conducted

to gain multiple perspectives of each neighborhood and form indicators of resiliency

based on what residents valued. Seven residents participated in this visioning session for

the Heart of Glendale, but only three participated up for the Thunderbird Palms visioning

session. To gain more perspectives, four additional interviews were conducted with

interested participants in the Thunderbird Palms neighborhood to gather the same data

that was provided during the visioning session.

In addition to the visioning sessions and interviews, observation and secondary

data was used to better understand neighborhood attributes. Four visits were made to each

neighborhood to observe the surroundings and get a sense of each neighborhood's overall

character as well as interact with neighbors to build relationships with them and

encourage participation for the visioning session. Quantitative data points were noted

through previous studies conducted by the City of Glendale as well as data documented

by the United States Census in order to assess each neighborhood.

Heart of Glendale Neighborhood Results

Overview. The Heart of Glendale is a small neighborhood comprised of 313

households and 85 commercial properties positioned in the center of Glendale (City of

Glendale assessment). It is bordered to the north by Glendale Avenue, the South by

Grand Avenue, the 51ˢᵗ Avenue to the East, and 57ᵗʰ Avenue to the West. The

neighborhood is named "The Heart of Glendale" because it is the oldest one in the city

built in 1900 and it has a strong sense of history derived from its intergenerational

residents as well as its older architecture. Some of its landmarks include the Glendale

Community Center which appeals to teens and seniors; Clavelito, a small neighborhood

park; and Isaac E. Imes School, the local, public elementary school.

There is a strong diversity of race and ethnicity in the neighborhood. Within the

Heart of Glendale's census tract, 45.7% of its residents are white, 4.8% are black, 1.5%

are American Indian, 0.3% are Asian, and 42.5% are some other race (U.S. Census

Bureau, 2010). In addition, 79.8% of this population identify themselves as Hispanic and

constitute a diversity of races and mixture of races (U.S. Census Bureau, 2010). Many

appear to be first generation residents as 26.2% are not U.S. citizens (U.S. Census Bureau

2005-2009 American Community Survey).

Economically, the Heart of Glendale is a vulnerable neighborhood. The median

household income in 1999 at the census tract level was $25,946 and 29% of families were

living under the poverty level (U.S. Census Bureau 2000 Summary File 4). This low

economic status may be in part due to the high level of single parent families. For

households that currently care for children, only 36.2% of them are married-couple

families (U.S. Census Bureau 2005-2009 American Community Survey). The

unemployment rate of this neighborhood's census tract was 8.5% (U.S. Census Bureau

2000 Summary File 4). In addition, the largest area of occupations is construction which

employed 22.8% of employed residents in 2000 (U.S. Census Bureau 2000 Summary File

4). Aside from the unemployment issue, this focus on a volatile industry exacerbates the

area's economic vulnerability. For those that are employed, 68.7% of residents in the area

have a daily one-way commute of over thirty minutes, suggesting that most of the job opportunities are far away from the Heart of Glendale (U.S. Census Bureau 2005-2009 American Community Survey).

Investment in general for the neighborhood appears to be weak. Education is an area that appears to lack resources and support as 33.4% of those at least 25 years of age do not have a high school diploma, and 22% have below a ninth grade education level (U.S. Census Bureau 2005-2009 American Community Survey). In addition, the built environment lacks investment as there are 246 vacant housing units, or 21.5% of the total housing units within the Heart of Glendale's census tract (U.S. Census Bureau, 2010).

Neighborhood Characteristics: Strengths. A neighborhood expert was interviewed to understand the more nuanced aspects of the Heart of Glendale including its strengths and weaknesses and how it has developed over time. He described the area as a "real neighborhood" in which people were honest, genuine, and willing to help their fellow neighbors during times of need. People in the Heart of Glendale are described as "loving and selfless". The interviewee mentioned that if someone were to die or lose their house, the neighborhood would pull together to help that individual in any way possible. In general, there is a sense of trust in the neighborhood with a strong emphasis on reputation. This notion was echoed by all of the residents that participated in the visioning session. The interviewee claimed that the culture is such that a person's word is extremely important to cultivating trust and respect among the community. This is especially important since so many of the families that live in the neighborhood are intergenerational, including this interviewee. He mentioned that some families span as many as four generations.

There is an interesting relationship between the strong social relations present in the Heart of Glendale and neighborhood safety. While the interviewee mentioned that

drugs is a major concern within the neighborhood, he mentioned that there is a not a strong fear of crime within the neighborhood boundary. Part of this reason is due to residents going outside the neighborhood to steal or commit property crimes. While there is not a formal neighborhood block watch program, there is an "eyes on the street" mentality that acts as an informal form of surveillance. Because everyone knows each other, there is more pressure to be civil within the neighborhood. This idea was echoed in the visioning session. More than one participant mentioned that they don't feel a strong need to lock their doors. Part of this sense of safety was also due to being comfortable and educated about one's environment. One participant from the session mentioned that she knew where the druggies lived and she knew which streets to avoid including those of the public housing projects.

The interviewee stressed the importance and achievement in connecting resources within the neighborhood, especially since it is economically depressed. One way this has been done is through community events such as Oktoberfest and Springfest, which are designed to provide kids with entertainment. This is critical in the Heart of Glendale where many families cannot afford to pay for extracurricular activities such as sports offered within the public school system, or the monthly $35 fee for after school activities offered at the Glendale Community Center (formerly known as "the Youth Center"). One response to this lack of resources that one participant of the visioning session organized was a free football and basketball team which allows kids to participate in sports. He partnered with an adjacent neighborhood to bring kids together, and offer an economically feasible option for entertainment and social interaction.

Another way in which resources are connected is through the interviewee's church which in addition to religious services offers programs and community events to raise money to pay for food and clothing for those who cannot afford basic needs. He has

coordinated with other neighborhoods in the past who want to help those in need by educating people about the needs in his own neighborhood. In response to some local charitable organizations that seek opportunities to give, he asserted that "You don't have to go to South America, come to the hood," because there are many impoverished people in the area in which others nearby may not have awareness.

With regards to the physical design of the neighborhood, it is quite walkable with the community center and neighborhood park centralized within the residential area. These resources are used and neighbors take pride in these public amenities according to the interviewee. He mentioned that up to 200 people show up for basketball times at Clavelito Park to support their children and families. The Glendale Community Center is also used consistently throughout the week. There is a community busing program organized to pick up and drop off about 20-30 elderly residents who regularly use this center. In addition, the interviewee claimed that most children walk to school, with about 20% children taking the bus as they live farther out. Transportation is not a large concern in general. Participants from the visioning session agreed that there are ample public transportation opportunities including "Gus the Bus" which offers a dial ride which offers easy access to key amenities such as the police station, library, and post office, all of which are nearby.

Neighborhood Characteristics: Weaknesses. While the strengths identified by the neighbor expert interviewee and the visioning session were very similar, there was a surprising difference within the focus on identified weaknesses. The visioning session stressed the difficulties that drug-related crime presented for the local community. One participant, a senior in high school mentioned the excessive peer pressure to try different recreational drugs as well as the social pressure to join gangs. Another participant mentioned that historically heroine was a big problem in the neighborhood, and that now

Meth is the biggest problem. One participant mentioned that we must create more opportunities for children to play sports and have other activities that increase social skills rather than spending time in the bedrooms playing video games. Another participant mentioned that another opportunity for children would be activities related to science and technology such as regional science fairs in which they could participate. However, all of the participants within the visioning session agreed that reducing drug and gang involvement was most important to neighborhood resiliency which requires leadership by example from parents and other members of the community.

While the interviewee expert did not disagree that drugs and crime are a problem in the neighborhood, he found the largest weaknesses in the neighborhood to be related to economic development within and near the neighborhood and the inability for residents to fulfill their basic needs locally. In fact, there are no grocery stores or retail within the neighborhood, and there are very few restaurants nearby. Aside from the inefficiencies that this creates, it also severely limits the economic opportunities for people within the area as well as their chances to emerge from poverty. Historically, there were many local restaurants, mom-and-pop shops, and local resources that fueled the local economy, and created more vibrancy within the neighborhood. These small businesses have gone out of business within the past fifty years, leaving behind vacant buildings and lots.

There are some nearby larger businesses mostly within the automotive industry, but the interviewee claimed that this development was more of a detriment to the neighborhood than an asset. He mentioned that there is a stigma that residents of the neighborhood are criminals and not to be trusted, which acts as a self-fulfilling prophesy. Because these employers tend to favor employees from outside the neighborhood, there is not a strong informal surveillance for these businesses, and robberies have occurred with some of them. In addition, there is the perceived threat of new commercial large-scale

businesses interrupting the Heart of Glendale neighborhood and gentrifying longtime residents in the process.

None of the participants from the visioning session seemed overly concerned about access to local jobs or access to goods and services. While they valued access to goods and services highly, they did not perceive a large problem within the Heart of Glendale. The exception was one woman who claimed that employment opportunities for quality jobs were very important to the community. She mentioned that service-oriented minimum waged jobs were plentiful, but professional jobs and ones that offered health benefits and other types of investment in employees were seriously lacking.

Indicator Creation and Analysis. Twelve factors that make up a neighborhood were presented during the visioning session to assess their importance to neighborhood resiliency as well as determine what is valued in order to direct the creation of specific indicators. Participants ranked these factors by low, medium, or high and discussed their importance to the Heart of Glendale. Table 1 delineates the more highly valued factors in green and the less valued factors in yellow. None of the factors were consistently viewed as unimportant for this group of participants. Each factor is linked to at least one key principle of resiliency as well as its general area of neighborhood resiliency as depicted in Figure 1. In addition, interdependencies between factors are identified based on the participants' comments. The indicators created are solely based on the values communicated by participants.

In general, social variables related to empowerment were most highly stressed by the participants. Having strong leadership was something of great value and the notion of having "indigenous leaders" was something that came up both in the visioning session as well as the in-depth interview. Developing trust and knowing your neighbors was a common theme throughout the conversation. In addition, having a strong educational

system was described as extremely important to resiliency as the children in the neighborhood would become the next community leaders. These themes relate most strongly to the principles of collaboration and interdependency. Building this social capacity could also help the neighborhood become more adaptable to problems in the future.

Somewhat important, but not as stressed as the socially related factors, were those of the built environment and more systems-oriented factors. Participants asserted that the physical environment such as housing conditions, streets and sidewalks, and neighborhood parks, should be well-maintained as this directly relates to a neighborhood's sense of pride. There is a general feeling of inequity among local government to respond to the neighborhood's needs for neighborhood improvements versus other more affluent neighborhoods to the north of Northern Avenue. One participant became actively involved in developing a grant to improve alleys between houses. She was awarded $300,000 to get the alleys paved and planted street trees to improve its walkability. This was achieved by formalizing a neighborhood association. However, gaining involvement and greater public participation among the neighborhood has been a challenge. This is especially true since many are working more than one job, and struggling to make ends meet.

Table 1: Heart of Glendale Visioning Indicator Analysis

Factor		Importance to Resiliency and Values Identified by Residents			Analysis and Indicator Creation	
	Low	Medium	High	Values	Resiliency Application	Indicator
Neighborhood Safety	0	1	6	People are available and watching the street	EMPOWERMENT — Strong	Are there residents present in the neighborhood throughout different times of day?
				Everyone knows each other - related to trust		
				Leaders help build trust - but they must not move out of the neighborhood to be effective		How long do community leaders stay in the neighborhood?
				Leaders must not get burnt out	EMPOWERMENT — Adaptable Redundant	Are their volunteers available to take on different roles when leaders become burnt out?
				People who take initiative/charge	EMPOWERMENT — Autonomous Collaborative	Who are the leaders in the neighborhood and how to do they educate and communicate with residents?
				Educating the people		
				Need to heighten those with low self esteem	EMPOWERMENT — Strong Diverse	Are there programs and avenues available to strengthen individuals?
Leadership	1	2	4	Must have passion		
Education	2	1	4	Important to have a balance between sports and academics - offer many opportunitites to broaden minds - in the process of creating community leaders	EMPOWERMENT — Strong Diverse	Number and consistency of quality programs available for educational enrichment
				Trying to create math challenges, technology, robotics challenge		
				Opportunity to go to college	EMPOWERMENT — Strong	Number of college-bound children
				Need to prepare children for high school		High School graduate percentage
				Need support from parents - parents should be called when kids are having issues	EMPOWERMENT — Interdependent	Percentage of parents who get involved at some level with their kids by showing up to school meetings or for extracurricular programs
				Need to create vision, don't allow kids to settle for anything but to think big		
				Lead program initiated to bridge community center with police department and create volunteers - this is to build trust between residents and police		
Access to Goods and Services	0	2	5	Level of convenience to a wide range of stores: want to have convenient access to upscale shopping as well as the 99 cent store	BUILT ENVIRONMENT — Efficient	Where are these places located distance-wise to the heart of glendale?
				Catch Bus and "Gus the Bus" has dial ride - these are helpful for easily accessing goods and services like the police station, library, post office, all of which are nearby		Distance of bus stops from neighbors' homes, and identification of key goods and services available using bus system

	Importance to Resiliency and Values identified by Residents				Analysis and Indicator Creation	
Factor	Low	Medium	High	Values	Resiliency Application	Indicator
Trust in each other	0		2	People know each other - don't feel the need to lock their doors	EMPOWERMENT Interdependent	How many people does each neighbor know on his/her block?
				It's a family-oriented neighborhood - large families		How many family members live in the neighborhood?
				Thieves go to other areas outside the neighborhood	EMPOWERMENT Strong	Percent of residents who do not lock their doors
				If something happens - you know what house to tell		How many second and third generation residents?
			5	It is intergenerational - there are roots		
Social Relationships				Knowing each other - introducing yourself to new residents	EMPOWERMENT Interdependent Collaborative	Do neighbors introduce themselves when a new resident moves in?
				Having kids play together to get to know each other		
	1		6	Use these two strategies to deal with hermits and transients (people moving in and out)		
Neighborhood Parks				Parks are an asset and should allow kids to play and get exercise	BUILT ENVIRONMENT Interdependent Strong	How many kids are using the park?
			5	This neighborhood needs playground equipment Also needs shade and grass		How many play structures are shade structures are available for use?
Local Jobs				Need quality jobs in the area and career exposure, not just minimum wage jobs at fast food restaurants	SYSTEMS Autonomous Diverse	Number of jobs that require some training and offer upward mobility
	2		3	Need jobs that offer something more such as good benefits		Number of jobs that offer benefits other than wages
Quality of Environment	1		5	No specific values were given for this factor		
Housing Conditions				Public housing and rental occupied housing do not care much for maintenance of housing - owner-occupied does - there are many housing rentals which degrade housing conditions	BUILT ENVIRONMENT Strong	Percent of owner-occupied housing in neighborhood
	1		4	Slum lords can be a problem to housing conditions		
Quality of Streets and Sidewalks				There is a general feeling of unresponsiveness from city government for this neighborhood and the maintenance of its physical quality	BUILT ENVIRONMENT Efficient	How long does it take to do an improvement on a sidewalk or street from the time the request is made by the neighborhood
	2		3	Street lighting received a grant by the initiative of one of the participants Racial and income disparities are reasons thought to have this lack of responsiveness		
Neighborhood Services				Partipant solicited for a grant to improve alleys between houses - received $300k to get them paved, and put in street trees	SYSTEMS Interdependent Collaborative	Opportunities to apply for grants clearly communicated to residents from city or other sources
	3		1	Was able to do this by forming an association		Ability to self organize into an association

44

Final Insights and Strategies. There are several strategies and insights that emerged from the in-depth interview as well as the visioning session that could potential make the Heart of Glendale more resilient and improve the newly created indicators. Within the past decade or so, both the interviewee and participants mentioned that the area is becoming more ethnically and racially diverse and this can help create a well-rounded identity for the neighborhood and breakdown racial barriers. While historically and still largely a Hispanic neighborhood, many sub-ethnicities make up the community such as Mexican and South American for example. These different groups of people are influencing the neighborhood identity which is slowly "gelling together" as the interviewee described.

There are many resources available to people in the neighborhood, but they may not necessarily know about them. The interviewee proposed the development of a "one-stop shop" which could either provide or inform residents about all of the community resources available to them. Many of the residents in the Heart of Glendale suffer extreme financial problems and any effort to help them more efficiently in an organized way will help improve the neighborhood's overall resiliency.

Thunderbird Palms Neighborhood Results

Overview. The Thunderbird Palms neighborhood is comprised of 800 households and is bordered to the north by Voltaire Drive, to the Southwest by Paseo Canal, to the South by Columbine, and to the East by 51st Avenue (City of Glendale Assessment). It was built in 1979 by six different developers which show by the difference in architectural styles and price ranges of housing units within the area. Housing types range from apartments to duplexes, to small single family homes to large two-story homes. Some of its landmarks include Sunset Palms Park which is centered in the neighborhood, as well as Banner Thunderbird Medical Center. Directly south of the

neighborhood is Marshall Ranch Elementary School, and directly west is the Arizona State University West campus.

While there is some diversity of race within Thunderbird Palms, 77.9% of its census tract's residents are white (U.S. Census Bureau, 2010). Asian residents make up 5.8%, black residents make up 4.7%, and American Indian residents make up 1.3% of the population with the rest falling into other race categories or a mixture of more than one race (U.S. Census Bureau, 2010). Within the Thunderbird Palms census tract, 16.9% of the population is identified as Hispanic (U.S. Census Bureau, 2010).

In contrast to race, there is a well-rounded diversity with regard to age. For the census tract encompassing Thunderbird Palms, 22.4% of the population is made up of children, 67.5% is made up of adults under age 65, and 10.1% is made up of those over 65 years old (U.S. Census Bureau, 2010). For those households that do currently care for children, 68.1% of them are married couple families suggesting that there is an emphasis on family values within this neighborhood (U.S. Census Bureau 2005-2009 American Community Survey).

Economically, Thunderbird Palms is quite strong given the current regional economic climate. In 2000, its unemployment rate was only 2.3% (U.S. Census Bureau 2000 Summary File 4). In addition, the majority of its jobs fell into the management professional, and related occupations sector as well as the sales and office occupations sector (U.S. Census Bureau 2000 Summary File 4). These types of positions appear to require special skills and warrant higher income levels. In 2000, the median household income for Thunderbird Palms was $44,728 and the percent of families below poverty level was 6.3% (U.S. Census Bureau 2000 Summary File 4). For those that were employed in 2000, 58.4% traveled over thirty minutes during their one-way daily

commute suggesting that the majority of the jobs were well outside the neighborhood boundary (U.S. Census Bureau 2005-2009 American Community Survey).

Investment in the area for Thunderbird Palms is not strong. There appears to be a gap in level of educational attainment throughout the neighborhood as 9.4% of its population over 25 years old does not have a high school diploma, but 28.3% has a bachelor's degree or higher educational level (U.S. Census Bureau 2005-2009 American Community Survey). In addition, vacancies have been a large problem in the neighborhood with a rate of 17.4% of vacant housing units according to the 2005-2009 American Community Center. However, during the visioning session, participants mentioned that there has been a noticeable decline in vacancies over the last couple of years.

Neighborhood Characteristics: Strengths. A neighborhood expert was interviewed to understand the more nuanced aspects of the Thunderbird Palms including its strengths and weaknesses and how it has developed over time. She claims that the greatest strength is the social capital created throughout Thunderbird Palms in part by collaborating in a group effort to build up the neighborhood playground and by taking pride in the neighborhood as a whole. The neighborhood has received two grants to purchase playground equipment for Sunset Park in exchange for sweat equity. Both residents and a local Boy Scout troop made up the 120 volunteers which paid for this sweat equity by putting the equipment together themselves. Thunderbird Palms is an established neighborhood according to this interviewee and people are really willing to help out for a good cause. She mentioned that one family had recently moved into the neighborhood and in December suffered both losing a job as well as intensive property damage due to a house fire. While this particular family didn't know anyone personally

in the neighborhood yet, a few neighbors got together to chip in $400 to help the family out in the short term.

It is important to note that not everyone agreed that there is a strong sense of social capital within the neighborhood. A couple of participants from the visioning session claimed that those that attend neighborhood meetings and tend to get more involved with the neighborhood and form social relationships with their neighbors live in the more affluent part of the neighborhood which lines the residential streets surrounding Sunset Park. Those that live near the periphery tend to be lower middle income and the social dynamics are different. One participant who lived near the periphery described that there is not a strong sense of trust among neighbors and that people tend to be in "self preservation" mode.

The interviewee did mention that while GAIN night is helping inform the community and get people involved, it is currently the only neighborhood-wide event that is organized, and there is a lot of opportunity to do more. She explained that sometimes finding volunteers can be like "pulling teeth" and that there is not a strong foundation of community based organizations such as churches in the neighborhood in which to partner.

One initiative designed to improve neighborhood safety and trust among neighbors is a neighborhood block watch program. The interviewee is a block watch captain for her street and encourages others to do the same by offering pamphlets in a non-threatening way during GAIN night (Getting Arizona Involved with Neighborhoods), which is an annual neighborhood event designed to bring people together and provide education on available community resources. As part of the block watch program, Thunderbird Palms has an organized phone tree in which each resident has at least two people whom they should inform should something important and/or

48

serious happen. The interviewee explained that this can be important for a number of situations and gave an example of a past shooting near the elementary school which resulted in a school lock-down for a couple of hours. Parents were notified instantly by this phone tree mechanism. The interviewee mentioned that GAIN night is used as a vehicle to inform neighbors about all types of resources that can educate them including everything from how to get your VIN number etched onto your windshield to how to arrange for trash pick-up. As a secondary way to communicate to interested residents, this interviewee has a community website and an email distribution list that currently communicates to 70 people within the neighborhood.

Everyone in the visioning session and interviewee agree that the access to nearby goods and services from Thunderbird Palms is excellent. Grocery stores, restaurants, health facilities and parks are all very close to residents. One participant mentioned that the street network is "intuitive" and easy to navigate. The interviewee mentioned that there are also multiple modes of transportation to easily travel to meet one's needs. Aside from cars, there is a bus stop within the neighborhood that appears to be well utilized. She described that an eighteen-year-old blind person uses it every day. In addition, she mentioned that there are some children that walk to school by crossing the Paseo Canal. This canal aids in walkability, but acts as a detriment for children traveling by bus as it needs to go all the way around the canal to get to the other side of the neighborhood where Marshall Ranch Elementary School is positioned. In general, most participants agree that the walkability of the neighborhood is good as there are nearby bike and walking paths, and water stations and bathrooms available on the ASU West campus. However, one participant claimed that the landscaping is boring, and there are not enough street trees and shade structures to comfortably walk or jog through the neighborhood.

Neighborhood Characteristics: Weaknesses. One major problem that has been stressing the Thunderbird Palms neighborhood for the past several years is the high rate of vacant housing units. According to both the interviewee and visioning participants, this neighborhood was severely impacted by foreclosures and as a result, many people left the community. However, one participant in the visioning session commented that the vacancy rates have leveled off and that in the long-run they may have helped encourage a diversity of household types by bringing in more younger families and those in a lower income range who could capitalize on the low market values. The only drawback to this phenomenon has been the tension between those individual buyers who are competing with investor types typically favored by lenders for bank owned properties. Some mentioned that these high rates of vacancy, excess of rental homes, and two apartment complexes that border the neighborhood are characterized by more transient residents that degrade the stability of the neighborhood in general.

Related to this vacancy problem is the degradation of housing conditions that appear to be a concern of many participants. One participant mentioned that a neighbor on his street still had not repaired a fabric awning that was destroyed during a hail storm the previous year, and another participant complained about the weeds and high grass in some yards. In addition to housing conditions, the condition of public space is deteriorating as well. Several participants were concerned about copper wiring that was stolen out of the ground surrounding the perimeter of Sunset Park. This wiring lights the park at night, and so the area has been dark and underutilized during the evenings. In addition, graffiti has been an occasional problem in the park as well as along the Paseo Canal. Regardless of the degrading conditions of the built environment, one positive attribute of Thunderbird Palms that all of the participants agreed upon was that there was no Home Owners' Association. They value their freedom to maintain their homes how

they see fit more than the regulation that would set certain standards for neighborhood tidiness.
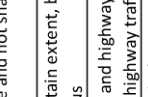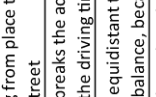
One participant mentioned that she felt the neighborhood was not very child-friendly. She noted three sex offenders on her street, as well as a house that had been visited twice by policemen for producing and selling amphetamines. This participant noted that it is unusual to see children playing outside on her block and that an angry elderly man shouts at children when they do play in their front yards or on the sidewalk and creates a negative vibe among his immediate neighbors. The interviewee mentioned that one threat to the neighborhood is the lack of supervision for Sunset Park. Because it is a neighborhood park, children often walk to it, and become vulnerable to potential criminals.

The design of housing in general within this neighborhood was described as a detriment to neighborhood safety according to multiple participants in the visioning session. They mentioned that homes are designed in such as way that limits visibility to the street and public realm. In general, the majority of space that will be used most often such as the family room and living area faces the back of the house, with underutilized rooms such as bedrooms facing the front. For this reason, it is more difficult for residents to pay attention to what is happening on the street.

Indicator Creation and Analysis. The same twelve factors that make up a neighborhood that were presented to the Heart of Glendale visioning session were presented for the Thunderbird Palms neighborhood to assess their importance to neighborhood resiliency as well as determine what is valued in order to direct the creation of specific indicators. Table 2 illustrates these values as well as potential indicators that could help measure these values.

Table 2: Thunderbird Palms Visioning Indicator Analysis

	Importance to Resiliency and Values Identified by Residents				Analysis and Indicator Creation	
Factor	Low	Medium	High	Values	Resiliency Application	Indicator
Neighborhood Safety	0	0	7	Feeling comfortable to walk outside and alone at night	EMPOWERMENT — Strong	Percent of residents who feel safe walking alone in the neighborhood
				Kids playing in the front yard or close by on bikes		
				Need eyes on the street and need to know people (Ex: kids breaking into a floor water management obect and throwing rocks into it - no nearby neighbors to see it)		
				Rumors can lead to a sense of abandonment (Ex: a kid made up a story of seeing a dead body in the paseo)	EMPOWERMENT — Strong Interdependent	
				Decrease burglaries which have happened in the past - there was a series of them 2-3 years ago, mainly from teens on break, but one burglary kicked in the front door, and no one saw		% of blocks that have a block watch program
				Block watch program - if it's too big it becomes counterproductive - needs to be at block scale		% of homes that have good visibility to surrounding environment
				Fences and home design impede the ability to watch the neighborhood		
				Need to have food on hand for at least three months should the area be faced with a disaster such as running out of oil - need to have capacity to deal with economic disturbances	EMPOWERMENT — Adaptable	% of households that have taken some precaution to prepare for disasters
				Need to trust and be given equal treatment by local police officers		
				Need to improve economic status of those who struggle to meet basic needs - links to jobs		
Trust in each other	0	1	6	Knowing that someone "has my back" when I'm not home - some participants saw this and social relationships as the same thing	EMPOWERMENT — Interdependent Redundant	What percent of the neighborhood population are called and is there duplication?
				Having social responsibility - people must talk to each other when there is a social problem such as a child misbehaving in public		
				Earning trust starts with having a "common decency" that must be learned - usually from parents		
Quality of Environment	0	2	5	Visual blight is an issue - graffiti on paseo block walls, community mailboxes - gang issue	SYSTEMS — Efficient	
				City has staff that support this by painting over, but budgets cuts create patchy work, because the paint colors don't always match - one person proposed having block watch captains org. repainting for their area, but another argued that this would be too difficult to coordinate		
				Water quality is important, but not great in Phoenix, many people pay a lot for bottled water	BUILT ENVIRONMENT — Efficient	Purchases of water in this neighborhood
				Air pollution is a concern - should plant trees around the perimeter of the neighborhood which could also increase walkability with shade - mequites might help and don't use much water		Number of shade-providing trees along streets

Importance to Resiliency and Values Identified by Residents | **Analysis and Indicator Creation**

Factor	Low	Medium	High	Values	Resiliency Application	Indicator
Access to Goods and Services	1	1	5	Everyday goods and services must be convenient and not far to get to	BUILT ENVIRONMENT Efficient	Are basic services available within the neighborhood boundary or within one mile?
				Grocery stores within a mile		
				It should be walkable		
				Navigating from place to place should be intuitive and not snake around from street to street	BUILT ENVIRONMENT Efficient	Do major streets and corridors connect to other streets?
				The canal breaks the access to the school to a certain extent, because it increases the driving time for kids traveling by bus		
				Should be equidistant to major shopping centers and highways - Ex: I-17 and 101 (good balance, because close, but don't hear highway traffic from home) Library and Ranch Park are close by (less than 3 miles)		How far away is the neighborhood center from major shopping centers, public amenities and highways?
Local Jobs	0	3	4	There are jobs for teens, but not many professional jobs other than the medical center within walking distance, but there is no space to continue development - must expand vertically		
				Opportunities to work from home would help remedy this situation and also help have eyes on the street and limit congestion - but home businesses are so highly regulated, and insurance required to do them make it not worth it.	SYSTEMS autonomous Diverse	Cost of working from home (in regulation and tax)
				Lots of retail and commercial, mostly strip malls, but no "production" oriented businesses - the neighborhood is only consuming not producing		Export of goods and services from the neighborhood to surrounding area
				Need to have opportunities to become self-sufficient - some communities have started farmer's market, this larger region is too focused on service jobs		How many businesses and jobs directly benefit the neighborhood economy?
Housing Conditions	0	2	5	People must be willing to invest in their homes in order to sustain the neighborhood, increase property values and have pride of neighborhood - links to how people care about the place they live and those around them		
				Need the community to pull together when a vacant property negatively affects the rest of the street - one participant partnered with another neighbor to fix up the yard of a vacant property on their street	BUILT ENVIRONMENT Strong Interdependent	Is there a organizing mechanism at the block level to coordinate efforts to improve the built environment?
				Neighbors education level about codes is also important to improving housing conditions - people must be educated on what government can provide		
				Garbage, grafitti causes other problems		
				Code compliance from city is important and their follow up	BUILT ENVIRONMENT Efficient	What is the response rate from city officials when a code compliance issue is raised within the neighborhood?

| | Importance to Resiliency and Values Identified by Residents | | | | Analysis and Indicator Creation | |
Factor	Low	Medium	High	Values	Resiliency Application	Indicator
Education	0		1	Kids that attend public school - this impacts the "fabric of the community" (Ex: parents may walk with other parents and their children to and from school)		% School age children attending a public school
				Need to educate people on sensitivity training to encourage good relationships between a diversity of people such as those with disabilities or gay people that may be discriminated against	EMPOWERMENT Strong Collaborative	Are there programs that encourage respectful behavior, diversity and/or sensitivity training within the community and how many people participate?
				Those kids and teens that are well educated are less likely to "act out" / Keep kids in school and in church	EMPOWERMENT Strong	Average number of years kids stay in school and other learning environments such as church
				Identify gaps in education from k-12 to monitor children's quality of education / Need to have parents involved and able to get involved in school system - right now 5 board members that control entire unified school district, and individual schools are not empowered to make decisions - one person mentioned that they left and began at a chartered school, because the publis school administration was unresponsive	EMPOWERMENT Collaborative Redundant	Level of decisions that individual schools can make and the extent to which parents influence those decisions - having multiple layers of decisionmakers
Neighborhood Services	1	3	3	Trash pickup is consistent, and reliable / There is a link to education - services should be marketed to people to inform them - billboards inform the public about all of the private businesses, but not public resources	SYSTEMS Interdependent Efficient	What % of people know about what the local government and public resources can provide the neighborhood?
				Resources to engage neighborhood - used to have a budget for annual block party to serve dinner, but now that is gone and attendance has decreased / When there is a problem, people speak up, but do not congregate a lot otherwise / Electronic communication such as facebook weaken the physical contact of people within the neighborhood	EMPOWERMENT Collaborative	Percent of people who attend neighborhood meetings and other neighborhood-oriented events
Neighborhood Parks	0	4	3	Should attract multiple age groups - want to do Volleyball for older crowd, but ran out of money / Needs lighting, but that is expensive - copper stolen from ground lighting and can't afford to replace it, so the park is dark at night - that limits its use especially in the summer	BUILT ENVIRONMENT Diverse Strong	How intensively is the park used and at what hours?
				Needs to be walking distance - should only appeal to the neighborhood and not attract outsiders to foster sense of community	BUILT ENVIRONMENT Collaborative	What % of park users are residents?
				Should be "intuitively planned" based on the environment - here it is hot and dry for most of the year	BUILT ENVIRONMENT Efficient	How many shade structures, trees, and water structures are there?

		Importance to Resiliency and Values Identified by Residents			Analysis and Indicator Creation	
Factor	Low	Medium	High	Values	Resiliency Application	Indicator
Quality of Streets and Sidewalks	0		5	2 Weeds are sprayed regularly Quality of streets - potholes Responsiveness to removing debri and obstacles to walking the neighborhood such as overhanging tree branches Residents should feel secure walking the streets and have enough lighting at night	EMPOWERMENT Strong Efficient	Response rate to issues involving the quality of streets and sidewalks including conditions, lighting, and obstacles such as branches
Social Relationships	1		4	Physical design of homes does not support social interaction - all family rooms and where people spend the most time faces the backyards, no large front 2 porches, bedrooms face the central park There are not many people home during the day	EMPOWERMENT Interdependent	% people present in the neighborhood at any given time How many people in the neighborhood does the average resident know?
				Don't need a single leader, but should be able to create a social network		
				Important to have intergenerational quality to the neighborhood and have people of all different stages of life so people can better help each other (Ex: elderly could watch kids, and younger families could do physical labor for elderly)	EMPOWERMENT Strong	Resident age distribution
Leadership	1		5	1 Should be raising leaders for future generations and help to leave a legacy Leader should be a communicator - send out emails, be integrated and informed of what the city's Neighborhood Partnership Office is doing Sense of community has room for improvement - not much coordination to do things such as block parties and other events Home Owners Associations are not the answer	EMPOWERMENT Collaborative	Percent of residents notified when something happens that affects the neighborhood

55

Trust and neighborhood safety were described as being somewhat related among visioning participants and were considered to be the most important factors of a neighborhood. They discussed the need to have "eyes on the street", a sense of social responsibility, and the importance of being able to trust the local police force. One participant mentioned that peace of mind is important and described trust as someone that "has my back when I'm not at home." In a different perspective of neighborhood safety, one participant mentioned the need to be secure in terms of having resources such as food and water should a disaster happen such as a temporary depletion of oil. This is associated with neighborhood safety, because it prevents vulnerable situations in which people may be prone to breaking into homes should they need to meet their basic needs.

Many factors that were very important to the visioning participants related to the built environment. They emphasized the importance of improving the condition of housing and the quality of the environment under the logic that people are very visual and if they took pride in the places in which they live, that pride would transcend to self esteem, positive neighborhood development, and higher property values, all of which would make the neighborhood stronger and more resilient in the long-term. Along the same lines, they believe that having access to goods and services would improve property values as well and would facilitate more activity within the neighborhood that would make it more vibrant.

In addition, participants tended to value access to local jobs as important to building resiliency. They claim that there are too many service-oriented jobs and not enough opportunities in the workforce for production and fueling the local economy. Some participants claimed that working from home should be a greater opportunity for those who work far away as it would be more efficient for them and would provide more

visibility to the neighborhood which encourages safety during daytime hours when most people are gone.

While nothing was rated as "low", social relationships and leadership were factors that appeared to be least important to visioning participants. Beyond having a sense of trust and neighborhood safety among their fellow neighbors, they did not have a tendency to value deeper friendships than distanced camaraderie. One participant mentioned the need to have a diversity of ages and household types so people could help each other. For example, a young couple could help an elderly person with yard work, and an elderly person could help a young couple with babysitting. In general, participants described a drop in interest in getting together as a community and developing social relationships. Part of this could be attributed to the neighborhood losing its budget to finance meals for GAIN night due to city budget cuts. Most participants agreed that having a single leader to create more collaboration among residents is not the answer, but that person could be a communicator. They stressed the importance of leadership being a shared responsibility without ego.

Final Insights and Strategies. There are several strategies and insights that emerged from the in-depth interview as well as the visioning session that could potentially make Thunderbird Palms a stronger, more resilient neighborhood. Education of community resources is an opportunity to get people involved and could also remedy the lull in social capital that is occurring in some areas of the neighborhood. The interviewee attended Glendale University which is a program designed by the city of Glendale to learn about the different public programs available to neighborhoods, and the services that public organizations can provide. This public education triggered the creation of the neighborhood block watch program as well as the approval of the grants to improve the local neighborhood park.

57

Some participants expressed some frustration that many times, city officials cannot always respond to complaints concerning the built environment such as housing conditions, need for night-time lighting, or graffiti along the canal. This may be an opportunity for neighbors to talk to each other in their immediate vicinity and start making incremental efforts to improve their space collectively. One participant mentioned that this sub-local level works best for handling things such as block watches as well, as the issues are usually only relevant to a small geographical area. This coordination and collaboration could help define social capital beyond the few households surrounding Sunset Park that appear to be the majority of those involved within their neighborhood.

Indicator Creation Trends

In the analysis of values and creation of indicators for the Heart of Glendale and Thunderbird Palms neighborhoods, several themes emerged which characterize each of the areas and provide contrast. For example, social values appeared to be far more important to the Heart of Glendale than to Thunderbird Palms. Both the interviewee and visioning participants stressed the value of having friends and family nearby and knowing your neighbors. More than one participant from the Heart of Glendale visioning session claimed that the main reason why they stayed in the neighborhood was due to the friendliness and social network that is non-existent or weak at best in the majority of neighborhoods. There is a sense of pride in the neighborhood and people are very willing to come together and help out a neighbor in need. In contrast, participants from the Thunderbird Palms neighborhood agreed that it is important to cultivate trust and be hospitable, but felt that it is not necessary or even desirable to get to know neighbors more intimately.

The built environment was something that was much more heavily stressed in the Thunderbird Palms neighborhood than the Heart of Glendale neighborhood. Thunderbird Palms residents stressed the importance of maintaining the housing, streets, and public space to be inviting and aesthetically pleasing. However, this did not appear to be a superficial assessment. Participants equate a built environment that depicts a sense of pride, strength, and beauty with that of social values. They believe that residents will have a sense of ownership and be more respectful of their environment and those around them if it maintains a positive image. They drew relationships between how the design of the neighborhood park as well as the majority of housing architecture either positively or negatively affects the opportunities to develop social capital within the neighborhood.

One factor that did not differ much between the two communities was that of education. Both neighborhoods valued this highly and claimed that children are most important with regard to long-term resiliency. They both also stressed the importance that parents played in shaping the success of education within the neighborhood both by improving success in educational institutions as well as forming the character that will promote children to become a benefit to society. Related to this focus on strengthening children through education, both neighborhoods also believe that children will become the future leaders, and if they value their neighborhoods, they will be more likely to remain in their neighborhoods and strengthen it. Both neighborhoods stressed the value of maintaining an intergenerational population which provides stability and sustains social capital.

Chapter 5

CONCLUSION

Key Insights

      This study on the development of neighborhood resiliency indicators has several implications. It illustrates that indicators and their relative importance will change given the neighborhood. Even for the factors that were similarly valued between the two neighborhoods, their perceptions of these factors and the resulting indicators often contrasted. While the Heart of Glendale focused heavily on the importance of empowerment and developing social capital, Thunderbird Palms focused more on the built environment and preserving home values. While these two case studies are not enough to generalize to other like neighborhoods, this study suggests that neighborhoods of differing cultural and socio-economic statuses will prioritize some factors pertaining to neighborhood development differently. It may be that a hierarchy of needs exists within the neighborhood to become resilient starting with basic social needs such as neighborhood safety before prioritizing needs related to the built environment such as the quality of housing conditions. Additional research will need to be conducted with a variety of neighborhoods to either support or disprove this finding.

      This analysis also demonstrates that there are considerable linkages between the different areas of the neighborhood that affect resiliency. As discussed in the Thunderbird Palms assessment, the built environment has a significant relationship to the sense of community and the development of social capital as the housing design does not promote social interaction between neighbors. In addition, as discussed in the in-depth interview with the Heart of Glendale, there was a lack of trust between residents and local business owners that negatively affected opportunities for local employment within the neighborhood. In other words, the local employment system was significantly impacted

60

by social trust which falls under the empowerment area of neighborhood resiliency. This supports the framework that considers different elements of the neighborhood and principles of resiliency as a web that reinforce each other.

Understanding these nuanced relationships is important to resiliency as demonstrated in the literature review. In the literature review, neighborhoods exhibited a strong adaptive capacity to natural disasters such as the case of the Vietnamese community in New Orleans as well as long-term stressors such as economic and environmental degradation as explored with the Dudley Street neighborhood and the Box Elder community. However, it is important to understand that in each of these examples there was some form of chronic or immediate shock which triggered a regime shift. In other words, they crossed a threshold of stress "into a regime in which the controls (feedbacks) are different and it [wouldn't] be easy to return to the way things were (Walker and Salt, 2006, p. 74)." In addition, each of these communities was in a systematic phase conducive to responding resiliently. Usually applied to ecological systems, but now encompassing a wider range of application, L. H. Gunderson and C. S. Holling developed an adaptive cycle of four stages including rapid growth, conservation, release, and reorganization (Gunderson and Holling, 2002). In each of these cases, some form of reorganization was initiated in order to overcome a problem.

These concepts are extremely important to consider with regard to the two neighborhood studies in Glendale, AZ. First, neither of the two neighborhoods appears to have reached a threshold of stress resulting in an entirely new regime. In the case of the Heart of Glendale, drug crime and poverty appear to be the largest pressures to the area, yet the neighborhood has not dramatically changed its response to handling such problems. In addition, Thunderbird Palms has not dramatically changed its response to improving the built environment in order to facilitate the development of social capital.

61

Measuring resiliency once this threshold is reached may be of no regard as it will be too late. Either a neighborhood will have the adaptive capacity to handle the problem or it will not. If indicators of neighborhood resiliency can be identified proactively, then perhaps neighborhoods will be able to respond resiliently to stressors.

Second, understanding what phase a neighborhood is within the adaptive cycle can be helpful to understanding what strategies will work in order to build resiliency and whether or not a new system is needed. This addresses the issue of whether or not a neighborhood should try to "bounce back" from a pressure or if it would be better off transforming into a new regime. In the Thunderbird Palms example, facing the economic pressure of high foreclosure and vacancy rates actually improved the neighborhood in the long-term. These changing dynamics created more affordability within the neighborhood so that once homes were resold at much lower price points, the vacancy rates decreased and a greater diversity of age and family types were introduced into the neighborhood. From this perspective, Thunderbird Palms progressed through the "release" and eventually the "reorganization" phase. However, in general, when examining all of the attributes of the neighborhood, Thunderbird Palms appears to be in a conservation stage as there are no overarching systematic changes that have changed the way in which residents live and interact with each other and their environment.

The Heart of Glendale seems to be a different story, perhaps in part because it is a much older neighborhood than Thunderbird Palms. While it does not appear to be in a state of reorganization, it has undergone many changes over the last twenty years. While it once provided local economic opportunities through mom-and-pop shops and nearby factories, it is now dependent on outside areas for these resources. In addition, it faces chronic drug-related conflicts and other types of crime. From this perspective, it appears to be in the "release" stage. By understanding resiliency from this perspective,

neighborhoods such as the Heart of Glendale will be better positioned to come up with strategies that will be beneficial to establishing a new regime rather than simply conserving what is already happening.

Studying resiliency is important to neighborhood development, because it not only aims to strengthen neighborhoods, but it prepares them for the many potential stressors and threats which can face it in the future. It incorporates the element of risk into the neighborhood's long-term sustainability. In addition, it recognizes that neighborhoods are complex, non-linear systems. Resiliency offers a framework to build stronger, more versatile neighborhoods given the many problems that do and could potentially face them.

Limitations

One limitation in this study was the lack of response among both neighborhoods. Coordinating visioning sessions proved to be a very difficult task particularly for a researcher with no affiliation to the neighborhood. It is inevitable that some of the residents that could have been very useful in the formation of indicators of resiliency are the ones who are struggling most. For example, participants in the Heart of Glendale visioning session as well as the interviewee described that many of the people in their neighborhood have two jobs and are living paycheck to paycheck. Understanding what these residents value the most could spark innovative indicators and strategies that could create more resiliency. However, they are the residents who will be less likely to have time to participate in a study such as this one.

A related limitation is the ability to attract residents from a community where there is not already a strong foundation for neighborhood development. This was the case for Thunderbird Palms. With the exception of the people that participated in the park project, residents are socially removed from their local community and so it was very

difficult to recruit visioning session participants. In fact, because the first visioning session only consisted of three people, follow-up interviews were conducted to collect data from seven people in order to incorporate a diversity of perspectives. However, this lack of interest is not an indication that neighborhood resiliency is not needed in this neighborhood, but that perhaps it is not yet recognized as an asset.

Recommendations for Further Research

Indicators are only as good as the extent to which people use them. It will be important to finalize indicators with residents of the community, design tracking procedures, and develop strategies to strengthen progress. This is a slow and steady process that can only be successful with diverse public participation. For this reason, more research is needed to study these two neighborhoods long-term and assess the success of the development of these indicators of neighborhood resiliency. This can also test the success of the community-based process introduced in this study.

In addition, while the purpose of creating these two sets of neighborhood resiliency indicators is not to generalize them to other neighborhoods, trends concerning neighborhood values and indicator analysis among neighborhoods with similar characteristics may emerge. For this reason, it will be helpful to expand this research to include other neighborhoods clustered by socio-economic and geographical variables. The data collected from such research can also be used to analyze the transferability of indicators from one neighborhood to another. Through this type of analysis, the potential also exists to identify trends between neighborhoods that fall into different stages of the adaptive capacity cycle. This analysis could add value to the creation of indicators that will most likely lead to successful strategy implementation.

REFERENCES

(2008). Dudley Street Neighborhood Initiative History. Retrieved from
        http://www.dsni.org/history.shtml.

Agyeman, Julian, Evans, Tom. (2003). Toward Just Sustainability in Urban
        Communities: Building Equity Rights with Sustainable Solutions. *Annals of
        American Academy of Political and Social Science, 590*, 35-53.

Andrews, James. (April 1997). Dudley Street Neighborhood Initiative/Winthrop Estates.
        Planning, 63(4), 6-7.

Armour, Gaston. (2010). Communities Communicating with Formal and Informal
        Systems: Being More Resilient in Times of Need. *Bulletin of the American
        Society for Information Science and Technology, 36*(5), 34-38.

Barros, John. (2000). Village Jamboree 2000 to Celebrate 15th Anniversary of Dudley
        Street Neighborhood Initiative Community Group to Honor Residents,
        Supporters of Historic Neighborhood Revitalization. *Cape Verdean News, 22*(9),
        1.

Berke, Philip R., and Campanella, Thomas J. (2006). Planning for Postdisaster
        Resiliency. *The Annals of the American Academy of Political and Social Science,
        604,* 192-207.

Boettke, Peter, Chamlee-Wright, Emily, Gordon, Peter, Ikeda, Sanford, Leeson, Peter T.,
        Sobel, Russell. (2007). The Politcal, Economic, and Social Aspects of Katrina.
        Southern Economic Journal, 74(2), 363-376.

Callaghan, Edith G., Colton, John. (2008). Building sustainable & resilient communities:
        a balancing of community capital. *Environment, Development and Sustainability,
        10*, 931-942.

Campbell, Elizabeth, Henly, Julia R., Elliott, Delbert S., Irwin, Katherine. (2009).
        Subjective Constructions of Neighborhood Boundaries: Lessons From a
        Qualitative Study of Four Neighborhoods. *Journal of Urban Affairs, 31*(4), 461-
        190.

Campbell, Scott. (1996). Green cities, growing cities, just cities? Urban planning and the
        contradictions of sustainable development. *Journal of the American Planning
        Association, 62*: Summer, 296-312.

Chaskin, Robert J., Garg, Sunil. (1997). The Issue of Governance in Neighborhood-
        Based Initiatives. *Urban Affairs Review, 32*(5), 631-661.

City of Glendale. (n.d.) [Data file]. *City of Glendale - Neighborhood Services Division –
        Registered Neighborhoods and HOA's.* Retrieved from http://gnn.glendaleaz.com

Clapp, John M., Wang, Yashen. (2006). Defining Neighborhood Boundaries: Are Census Tracts Obsolete? *Journal of Urban Economics*, *59*, 259-284.

Crowell, Cheryl D. (2008). Asset Mapping as a Tool in Economic Development and Community Revitalization: A Case Study of New Richmond, Ohio (Dissertation, University of Cincinnati, 2008). *UMI Microform 1452394*.

CSIRO, Arizona State University, Stockholm University. (February 2007). Urban Resilience Research Prospectus: A Resilience Alliance Initiative for Transitioning Urban Systems towards Sustainable Futures. *Resilience Alliance*.

Cutter, Susan L., Barnes, Lindsey, Berry, Melissa, Burton, Christopher, Evans, Elijah, Tate, Eric, Webb, Jennifer. (2008). A Place-based Model for Understanding Community Resilience to Natural Disasters. *Global Environmental Change, 18*, 598-606.

Eisen, Arlene. (1994). Survey of Neighborhood-Based Comprehensive Community Empowerment Initiatives. *Health Education Quarterly, 21*(2), 235-252.

Fleishman, Forrest D., Boenning, Kinga, Garcia-Lopez, Gustavo A., Mincey, Sarah, Schmitt-Harsh, Mikaela, Daedlow, Katrin, Lopez, Maria Claudia, Basurto, Xavier, Fischer, Burney, Ostrom, Elinor. (2010). Disturbance, Response, and Persistence in Self-Organized Forested Communities: Analysis of Robustness and Resilience in Five Communities in Southern Indiana. *Ecology and Society, 15*(4):9.

Folke, Carl, Carpenter, Steve, Elmqvist, Thomas, Gunderson, Lance, Holling, C.S., Walker, Brian. (2002). Resilience and Sustainable Development: Building Adaptive Capacity in a World of Transformations. *Ambio, 31*(5), 437-440.

Godschalk, David R. (2003). Urban Hazard Mitigation: Creating Resilient Cities. *Natural Hazards Review*, *4*(3), 136-143.

Goldman, Karen Denard, Schmalz, Kathleen Jahn. (2005). Accentuate the Positive! Using an Asset-Mapping Tool as Part of a Community-Health Needs Assessment, *Health Promotion Practice, 6*(2), 125-128.

Goodman, A.C. (1977). Comparison of block group and census tract data in a hedonic housing price model. *Land Economics, 53,* 483-487.

Gunderson, L. H., Holling, C. S. (2002). *Panarchy: Understanding Transformations in Human and Natural Systems*, Washington, DC: Island Press.

Hauser, C. (2005). Sustained by close ties, Vietnamese Americans toil to rebuild. *New York Times*. Retrieved from: http://members.cox.net/fweil/NYT051020.htm.

Hill, L. (2006). The miracle of Versailles: New Orleans Vietnamese Americans community rebuilds. *Louisiana Weekly*. Retrieved from http://www.louisiana-weekly .com/weekly/news/article gate.pl2006123b.

Holding Ground Productions (Producer), (2006). *Holding Ground: the Rebirth of Dudley Street* [Motion picture]. United States: New Day Films.

Jacobs, Jane. (1992).*The Death and Life of Great American Cities*, New York, NY: Vintage Books: A Division of Random House Inc.

Joe, M. (2005). Resurrecting the church after Katrina. *Asian Week*. Retrieved from http://news.asianweek.com/news/view_article.html?article_id=387b.

Kingsley, G. Thomas, Pettit, Kathryn L. S. (June 2010). Quality of Life at a Finer Grain: The National Neighborhood Indicators Partnership. (Unpublished Draft).

Leong, Karen J., Airress, Christopher A., Li, Wei, Chia-Chen Chen, Angela, Keith, Verna M. (2007). Resilient History and the Rebuilding of a Community: The Vietnamese American Community in New Orleans East. *The Journal of American History*, December, 770-779.

Li, Wei, Airress, Christopher, Chia-Chen Chen, Angela, Leong, Karen J., Keith, Verna. (2009). Katrina and Migration: Evacuation and Return by African Americans and Vietnamese Americans in an Eastern New Orleans Suburb. *The Professional Geographer, 62*(1), 103-118.

Li, Wei, Airress, Christopher, Chia-Chen Chen, Angela, Leong, Karen J., Keith, Verna M., Adams, Karen L. (2008). Surviving Katrina and its aftermath: evacuation and community mobilization by Vietnamese Americans and African Americans. *Journal of Cultural Geography, 25*(3), 263-286.

Lovenheim, Peter. (2010). *In the Neighborhood: The Search for Community on an American Street, One Sleepover at a Time.* New York, NY: Penguin Group.

National Neighborhood Indicators Partnership. Retrieved from http://www2.urban.org/nnip/.

Newman, Peter, Beatley, Timothy, Boyer, Heather. (2009). *Resilient Cities: Responding to Peak Oil and Climate Change,* Washington, DC: Island Press.

Norris, Fran H., Vanlandingham, Mark J., Vu, Lung. (2009). PTSD in Vietnamese Americans Following Hurricane Katrina: Prevalence, Patterns, and Predictors. *Journal of Traumatic Stress, 22*(2), 91-101.

Nguyen, Thang, Nguyen, Julie. (2007). Boat People SOS: From Rescue at Sea to Katrina Relief. *Public Manager, 36*(1), 18-22.

O'brien, F., Meadows, M. (2007). Developing a visioning methodology: Visioning Choices for the future of operational research. *Journal of the Operational Research Society, 58*, 557-575.

Phillips, Rhonda. (2003). Community Indicators. Planning Advisory Service Report

Number 517, *American Planning Association*.

Pickett, S.T.A., Cadenasso, M.L., Grove, J.M. (2004). Resilient Cities: meaning, models, and metaphor for integrating the ecological, socio-economic, and planning realms. *Landscape and Urban Planning, 69*, 369-384.

Plunkett, Scott W., Abarca-Mortensen, Sandra, Behnke, Andrew O., Sands, Tovah. (2007). Neighborhood Structural Qualities, Adolescents' Perceptions of Neighborhoods, and Latino Youth Development. *Hispanic Journal of Behavioral Sciences, 29*(1), 19-34.

Poteete, Amy R., Welch, David. (2004). Institutional Development in the Face of Complexity: Developing Rules for Managing Forest Resources. *Human Ecology, 32*(3), 279-311.

Poteete, Amy R. (2004). Durability of Collective Action: When Do Intentional Communities Survive Challenges? University of New Orleans. Draft.

Putnam, Robert. (1995). Bowling Alone: America's Declining Social Capital. *Journal of Democracy, 6*(1), 65-78.

Resilience Alliance. (2010). *Resilience*. Retrieved from http://www.resalliance.org/576.php

Sawicki, David S., Flynn, Patrice. (Spring 1996). Neighborhood Indicators: A Review of the Literature and an Assessment of Conceptual and Methodological Issues. *Journal of the American Planning Association, 62*(2), 165-183.

Scalet, Steven. (2006). Prisoner's Dilemmas, Cooperative Norms, and Codes of Business Ethics. *Journal of Business Ethics, 65*, 309-323.

Sharpe, Patricia A., Greaney, Mary L., Lee, Peter R., Royce, Sherer W. (2000). Assets-Oriented Community Assessment. *Public Health Reports, 115*, 205-211.

Talen, Emily. (2009). *Urban Design Reclaimed: Tools, Techniques, and Strategies for Planners*, Chicago, IL: American Planning Association Planners Press.

Taylor, Elizabeth A., (1995). The Dudley Street Neighborhood Initiative and the Power of Eminent Domain, *Boston College Law Review, 36*(5), 1061-1087.

United States Census Bureau. (2010). [Data file]. *QT-PL Race, Hispanic Latino, Age, and Housing Occupancy: 2010*. Retrieved from http://factfinder2.census.gov

United States Census Bureau. (2005-2009). [Data file]. *2005-2009 American Community Survey 5-Year Estimates*. Retrieved from http://factfinder.census.gov

United States Census Bureau. (2000). [Data file]. *2000 Summary File 4*. Retrieved from http://factfinder.census.gov

Vandergriff-Avery, Maria, Anderson, Elaine A., Braun, Bonnie. (2004). Resiliency Capacities Among Rural Low-Income Families. *Families in Society: The Journal of Contemporary Social Service, 85*(4), 562-570.

Walker, Brian Harrison, Salt, David Andrew. (2006). *Resilience Thinking: Sustaining Ecosystems and People in a Changing World*, Washington, DC: Island Press.

Zautra, Alex, Hall, John, Murray, Kate. (2008). Community Development and Community Resilience: An Integrative Approach. *Journal of the Community Development Society, 39*(3), 130-147.

Zucchino, D. (2005). Searchers wade through the thick of it. *Los Angeles Times*, May 16, 2005.

APPENDIX A

IN-DEPTH INTERVIEW GUIDE

Name and occupation (basic info to start interview and introductions)

<u>Sense of Place</u>

How would you describe your neighborhood and its boundaries?

    Is it a real neighborhood?

    Is it a stable neighborhood? (1st time homeowners, intergenerational)

Is there anything about this neighborhood that sets it apart and makes it unique from other neighborhoods?

<u>Adaptive Capacity</u>

What are the neighborhood's biggest strengths?

Are there any characteristics about this neighborhood that could help it be more resilient to certain stresses?

What are the neighborhood's biggest weaknesses?

Are there any characteristics about this neighborhood that would make it less resilient to certain stresses?

Within the past 10 years, what have been the major changes or issues within this neighborhood?

    Land use conflicts?

    How has the neighborhood responded to these situations?

    What was the outcome?

<u>Social Capital</u>

How strong is the Heart of Glendale neighborhood's sense of community?

Do neighbors know each other?

Do they trust each other? For example, would you trust a neighbor to babysit your children or lend their house key?

Do neighbors tend to help each other out in a time of need?

In what ways have you been involved with your neighborhood community?

Can you describe how safe it is to live in the Heart of Glendale neighborhood?

      Is there a neighborhood watch program?

What is the social/cultural mix of this neighborhood and how do differences or similarities in background affect the sense of community?

To what extent do churches affect social cohesion for this neighborhood?

      What role do they play?

      Do they come together during a time of crisis?

      Have they resolved problems/issues in the past?

How effective is the neighborhood association at strengthening the neighborhood?

      What's the level of representation?

      How often do they meet?

      Have they ever solved a problem?

<u>Built Environment & Access to Amenities</u>

To what extent do people walk/bike in your neighborhood?

      Do children walk to school? Chaperoned?

Are there transportation choices for people to get to work and/or run errands other than using their car? For example are there buses, carpool options for residents?

To what extent do residents use community spaces such as Clavelito Park, Glendale Community Center, Isaac Imes Elementary School?

      What public spaces do they use?

Are residents aware and educated about the different neighborhood services such as these available to them?

Where do neighbors get together?

Are there after school programs for children?

To what extent do residents use the goods and services in their neighborhood to meet their daily needs?

   Grocery stores, drug stores, and health centers

To what extent do people take pride in their residences and public spaces and can you give examples?

   Do they keep their areas clean and repaired?

   Is graffiti a problem?

Economic

What kinds of job opportunities are there for residents in the Heart of Glendale neighborhood?

   Is there much choice, or are most of the jobs in one area or industry?

Do people that live in the neighborhood work in the neighborhood as well?

Is the commercial and industrial activity stimulating neighborhood development or detrimental to it?

Can residents afford to meet their basic needs?

   Do they use services within the neighborhood to do so?

   Are they aware of different neighborhood services that can help them?

Environment & Health

Can you describe how healthy it is to live in this neighborhood?

   Does the neighborhood appear to have a problem with pollution?

   Do residents seem to be in good health?

Are the Maricopa Family Health Center and/or other health facilities valued and used resources to the neighborhood?

<u>Resiliency</u>

Summarize the risks for the neighborhood discussed and assess its preparation for such potential problems.

What are the most serious threats that the Heart of Glendale neighborhood faces?

How equipped is the neighborhood to overcome these potential problems?

If you wanted to measure how resilient the Heart of Glendale neighborhood is to the many issues it faces or could face in the future, what sorts of things would you measure?

APPENDIX B

VISIONING FACILITATION GUIDE

Prior to the session I will prepare the food, drinks, and get my equipment ready. I will setup drawing papers around the room. I will record the session by an audio application on my ipad.

As participants walk in, I will invite them to help themselves to snacks and drinks. I will present them with the information form to confirm agreement to participate and be audio-taped.

Introduction (15 minutes)

Thank you for coming to this event. I really appreciate your time and energy. My name is Shannon Acevedo. I am a student at Arizona State University and I'm here to learn more about your neighborhood and also explore the idea of neighborhood resiliency. But before we get into that, let's go around the room and very quickly I'd like for you to tell me how long you've lived in your neighborhood, and one thing you really like and really don't like about your neighborhood. Just tell me the first thing that comes to mind.

Listen carefully to each response.

As I mentioned, I am a student at ASU interested in neighborhood development. I want to understand what makes a neighborhood strong, vibrant, and able to overcome the many problems that can face a neighborhood. Today we will be discussing your neighborhood, both the good and the bad, what its stressors are or potential problems, and also how it could be strengthened. By the end of this session, we will have identified what can make your neighborhood strongest and explored this idea of neighborhood resiliency.

Resiliency can apply to many different contexts and situations and can be loosely defined as the ability to "bounce back". For example, a woman is described as resilient when she finds the strength to move forward after her husband dies. A man is described as resilient after finding a new employment opportunity after losing his job. In addition to bouncing back, it also measures the capacity to remain strong. For example, a person may become

76

resilient by taking Vitamins, eating, and getting enough rest to avoid getting sick. This concept of resiliency can be applied to the environment, the economy, human safety and many other subjects. It simply measures the ability of handling a stress or problem to adapt and become stronger.

I am interested in learning how this concept of resiliency can be applied to a neighborhood. A neighborhood is unique, because it is large enough to impact its residents in a number of ways, but small enough to be understood and organized in such as way as to build resiliency. There are many reasons to care about building resiliency. Here in central Arizona we have suffered a major foreclosure crisis and higher than average unemployment rates. Living in the desert we face potential water issues, air quality, and other environmental factors. In addition to these larger issues, there are stresses that can face our own neighborhoods internally which are smaller in scale. For example, local crime can become an issue. Maybe access to needed goods and services such as grocery stores and daycare centers are a problem. The idea is not to worry and become overwhelmed by the multitude of pressures that can face your neighborhood, but rather understand its capacity to bounce back and even become stronger. If we can understand resiliency with respect to your neighborhood, it will become easier to come up with strategies that will strengthen and improve it.

I am here today only as a facilitator and a student to learn about your neighborhood. I want to stress that this is a safe place, you should feel free to express yourself. There are no right or wrong answers, no judgments, and your identity will not be shared in my research. That's the reason I'm asking for only first names rather than your full names. Really, I'm here to learn from you, because you are the experts on this neighborhood, and you have valuable insights that can help me understand your neighborhood. Please note

that I want to hear everyone's voice. Also, if I cut you off, I am not trying to be rude, so please forgive me. I just want to make sure that everyone is heard.

Discuss the Neighborhood (45 minutes)

I will pass out a simple map with some basic information about the neighborhood and some lines for making notes and it will also have the basic principles of resiliency on it.

This neighborhood known as "The Heart of Glendale" runs from Glendale Ave. and Lamar Rd. to N. 51st St., to W. Maryland Ave. and then up through W. Grande Ave. and N. 57th Ave. Describe your neighborhood. What is it made up of? Think about it not only from the buildings and spaces, but also the people that live in it and your relationships to them, the businesses, public services, and anything else that you can think of that makes up your neighborhood. We are going to simply take an inventory of your neighborhood. Feel free to just tell me, or you can write on your map, or on the sheets posted on the wall. Also, if there are certain areas you want to stress, you can circle them on your map. *Take notes on the post-it big sheets and encourage participants to get up and write their thoughts.*

What is good about your neighborhood? Think about what resources it has. Think about what it offers you. If you moved away, what would you miss?

What are the stressors today? What kinds of problems are you currently facing in your neighborhood and how are you handling them?

What are the past problems of this neighborhood? How have you dealt with them in the past?

Are there threats to your neighborhood? External? Internal? Is your neighborhood vulnerable to potential problems?

Resiliency Thinking Part 1 (30 min.)

When researching the concept of resiliency, several principles emerged that support resiliency that remained consistent no matter the subject matter. Those principles are:

- Redundant: Have a "Plan B"

- Diverse: Don't put all your eggs in one basket

- Efficient: Use resources in the best way – don't be wasteful

- Autonomous: Be able to take care of yourself

- Strong: Strengthen your good traits

- Interdependent: Make sure your resources are connected so they can help each other

- Adaptable: Be flexible, able and willing to change

- Collaborative: Work together

If we can understand how these principles could be applied to your neighborhood based on the elements we just discussed, we can figure out how to strengthen resiliency.

Take a break if needed and have snacks and drinks. Take photos, if possible. At this time, I will put up the sheets for each area of a neighborhood to prepare for the resiliency activity. (15 minutes)

Let's do an activity on neighborhood resiliency. Around the room are different aspects of a neighborhood. Research has shown that these are areas that affect the development of a neighborhood and could also affect resiliency. First, I would like to know how you value each of these areas in your neighborhood. How important are they to influencing neighborhood resiliency? Please put your sticker in the Low, Medium, or High box on the sticky sheets. Are there any elements not on this list that you think are important to your neighborhood and making it stronger?

  o Education

o   Trust in Each Other (informal and local government)

o   Neighborhood Services

o   Quality of Streets and Sidewalks

o   Neighborhood Parks

o   Housing Conditions

o   Access to Goods and Services

o   Local jobs

o   Quality of Environment (water and air)

o   Neighborhood Safety

o   Social Relationships

o   Leadership

Write down responses on big sheets and add sheets for new areas if necessary.

Now we are going to explore how resilient your neighborhood is within each of these areas. I want you to think about the characteristics we identified in your neighborhood – the strengths and weaknesses. You can also think of new ones as well to answer the following question. How do the characteristics of your neighborhood for each of these areas affect resiliency? Consider the principles of resiliency and how they relate to these characteristics. Feel free to give me some examples of each of these areas. Are there ways in which they connect to other areas to make the neighborhood stronger or weaker as a whole?

Resiliency Thinking Part 2 (30 minutes)

We've talked about your neighborhood's qualities including both strengths and weaknesses. Now I'd like you to think about how your neighborhood could become stronger. What resources or characteristics would strengthen your neighborhood? How do they relate to the principles of resiliency?

A poster with the principles of resiliency will be viewable as well as a blank big sheet next to each major area to brainstorm how to strengthen resiliency.

How would these resources or characteristics add value to your neighborhood? Why would they make it more resilient?

Take notes on this follow-up question which should provide the data for constructing indicators.

<u>Conclusion (2 minutes)</u>

I hope you found this session to be fun and useful. Your input has been extremely helpful to me. I believe that the neighborhood is a force that is seriously underrated and can offer solutions to many problems that society faces today. While I cannot promise to make your neighborhood more resilient, I hope that you will use insights brainstormed today to guide and improve your neighborhood's resiliency. What strategies and projects that directly impact your neighborhood could you create? Are there ways you can personally strengthen your neighborhood over time? Neighborhood resiliency is not built overnight, but I hope that you will find a benefit in making it a long-time goal. I'd like to now close and thank you all for coming and investing in your neighborhood today.

APPENDIX C

HEART OF GLENDALE VISIONING HANDOUT

The Heart of Glendale

Resiliency Principles

1. **Redundant**: Have a "Plan B"
2. **Diverse**: Don't Put all of your eggs in one basket
3. **Efficient**: Use resources in the best way - don't be wasteful
4. **Autonomous**: Be able to take care of yourself
5. **Strong**: Strengthen your good traits
6. **Interdependent**: Make sure your resources are connected so they can help each other
7. **Adaptable**: Be flexible, able and willing to change
8. **Collaborative**: Work together

APPENDIX D

THUNDERBIRD PALMS VISIONING HANDOUT

Thunderbird Palms

Map of Thunderbird Palms area showing streets including W. Thunderbird Rd., W. Voltaire Dr., W. Eugie Ave., W. Willow Ave., W. Pershing Ave., W. Surrey Ave., W. Wood Ave., W. Sweetwater Ave., W. Dahlia Dr., W. Aster Dr., W. Windrose Dr., W. Corrine Dr., W. Columbine Dr., W. Larkspur Dr., and landmarks: Fry's, Banner Thunderbird Medical Center, Banner Sleep Disorder Center, Sunset Palms Park, Marshall Ranch Elem., Arizona Canal.

N

Resiliency Principles

1. **Redundant**: Have a "Plan B"
2. **Diverse**: Don't Put all of your eggs in one basket
3. **Efficient**: Use resources in the best way - don't be wasteful
4. **Autonomous**: Be able to take care of yourself
5. **Strong**: Strengthen your good traits
6. **Interdependent**: Make sure your resources are connected so they can help each other
7. **Adaptable**: Be flexible, able and willing to change
8. **Collaborative**: Work together