

**AFTER KATRINA: COMPARISONS OF POST-DISASTER PUBLIC  
PROCUREMENT APPROACHES AND OUTCOMES IN THE NEW  
ORLEANS AREA**

Christopher L. Atkinson and Alka K. Sapat\*

**ABSTRACT.** Hurricane Katrina remains the “most destructive disaster in U.S. history” (Farber & Chen, 2006). The purpose of this article is to examine the public procurement practices followed by local government officials in and around New Orleans within the context of Hurricane Katrina, and define impacts of disaster on procurement processes. Original and primary data drawn from interviews with officials working in and with public procurement are used to examine the role of institutional culture and practices which encourage or constrain active, responsible behavior. We find that this behavior influences the quality, including the transparency and fairness, of purchasing responses.

**INTRODUCTION**

Research and practice in the field of public procurement has seen significant strides in the last two decades (Prier & McCue, 2009; Snider & Rendon, 2008; Thai, 2001). While there are a few studies that have focused on the issue at the federal level (Drabkin & Thai 2007; Friar, 2006), one area that has been neglected in both disaster research and in research on procurement has been the issue of disaster/emergency<sup>1</sup> procurement and the role played by procurement practices prior to and after disaster. Yet disaster

---

\* Christopher L. Atkinson, Ph.D., is Small Business Development Manager, Office of Economic and Small Business Development, Broward County, Florida, USA. His research interests include local government administration, emergency management, and environmental policy. Alka K. Sapat, Ph.D., is an Associate Professor, School of Public Administration, Florida Atlantic University. Her research interests include disaster and crisis management, environmental policy, and intergovernmental administration.

procurement is one form of government action that is critical to the economic recovery of communities. Disaster procurement is also important since hazard events increase complexities and constraints to even well-functioning procurement systems, highlighting the importance of transparency and effectiveness. Procurement systems which fail to respond effectively during and after disasters may have long-term negative impacts on the recovery and resilience of communities. Moreover, while disaster procurement at the federal level is important, the role played by local-level procurement managers is critical. Despite the importance of this issue, there has been little to no scholarly investigation of disaster procurement at the local level. This paper seeks to fill these gaps in procurement research by focusing on local disaster procurement practices within the context of Hurricane Katrina.

Hurricane Katrina was chosen as it remains the “most destructive disaster in U.S. history...[damaging] more property than any previous natural disaster...it was also the deadliest...since 1928” (Farber & Chen, 2006, p. 2-3). The storm wrought a dreadful human toll. Katrina is responsible for the deaths of 1,836 people (Levitt & Whitaker, 2009, p. 2). Approximately 35,000 people had to be rescued due to the storm’s impacts (Picou & Marshall, 2007, p. 14). The hurricane devastated 90,000 square miles of land (p. 6), its 140 mph winds breaching “nearly every levee in metro New Orleans,” where the flood protection system failed in 53 separate locations (Levitt & Whitaker, 2009, p. 2). The extent of ruin associated with this tragedy is well known.

Past research has focused extensively on Katrina as a social and societal catastrophe (Brunnsma, Overfelt, & Picou, 2007; Brinkely, 2007; Bullard & Wright, 2009; Cooper & Block, 2007; Dyson, 2006; Horne, 2006; Van Heerden & Bryan, 2007). Less research has focused on the role of government in responding to the ever-present threat of disasters, with processes that optimally or at least effectively respond under duress. With disasters on the rise in both number and severity (Seneviratne, Baldry, & Pathirage, 2010), how government responds to disasters plays a critical role in overall response and recovery as an area rebounds from the shock and returns to normal.

In order to provide a more in-depth understanding of this subject, the main questions that we seek to answer are as follows:

1. What were the main issues in disaster procurement that arose in the context of Hurricane Katrina?
2. Were there variations in local level disaster procurement practices? If so, what factors help explain those variations?

To address these questions, we begin with a discussion of disaster procurement in the first section of the paper. Disaster procurement is a subset of procurement practice and research that requires additional attention, given the disruption in normal government and other activities during crises; this section explains how disaster procurement is different from regular procurement practice and the implications of the differences. In the second section, we discuss the study area, research design, and the methodology used in the collection of our qualitative data, which took the form of interviews. These provided valuable information on the state of procurement in the area before and after Hurricane Katrina. This is followed by a discussion of the results and an analysis of disaster-related procurement practices, focusing on issues of transparency and accountability of local governments in achieving procurement accessibility. We conclude by noting the potential of procurement opportunities in and after a disaster scenario for encouraging business resilience, and the policy implications and prescriptions for procurement practices that can be derived from this research.

## THEORETICAL FRAMEWORK

### Disaster Procurement

Contracting practices in times of disaster is an aspect of public procurement in need of research attention. Disaster and emergency procurement has been examined at the federal level (Drabkin & Thai, 2007; Friar, 2006; U. S. Government Accountability Office, 2006), but coverage is still thin relative to the importance of the subject. There have been few attempts beyond the occasional scattered sentence in a disaster book or essay about contracting which delve deeply into local contracting practices in these cases (King, 2009). Criss (2006) addressed strategic sourcing for contractors under emergency situations, but the focus was not on contracting practices in government. Le Masurier, Wilkinson, & Shestakova (2006) examined approaches to public procurement in the context of New Zealand's

earthquakes. Zuo (2010) focused on a review of procurement and contract arrangements used in disaster reconstruction in New Zealand's floods, the 2004 Indian Ocean Tsunami and flood and earthquake events in China. There remains a need for further research in this area; neglecting the strategic focus of government in sourcing in emergencies represents a missed opportunity, given how such practices may affect an area's future after a hazard event.

Despite the lack of research on this phenomenon, disaster procurement is a critical issue. Local government agencies can often find themselves at the mercy of hazard events much the same as the public does. How local government agencies plan for events, so that they can engage in operations even under response/recovery conditions, is consequential to assuring advantageous outcomes. In this section, we examine the milieu of government disaster procurement from the federal level to the local level, situating the local government's role in context of its disaster procurement responsibilities for not only quality product at a fair price, on a timely basis, but also in responsibility to the community. We also address the implications of procurement authority during disasters, including the avoidance of corrupt practices and issues related to planning for disaster procurement.

### **Government Disaster Procurement: Federal to Local**

Soon after Hurricane Katrina wrought its destruction, Cray noted that "a series of exemptions to competitive bidding and other procurement requirements adopted by the Federal Emergency Management Agency (FEMA) and the Army Corps of Engineers [had] effectively turned the Gulf region reconstruction and cleanup contracts into a feeding frenzy for 'disaster profiteers' - a network of crony contractors for whom the \$200 billion cleanup and reconstruction promises to be a significant windfall" (2005, p. 19). In examining disaster procurement at the federal level, Wilkinson (2007) suggested that the federal government failed to plan for disaster procurement in that it did not provide a quick response or quality products at reasonable prices. Further, the environment of federal contracting for the response and recovery effort led to a scenario where "cronyism trumps competence" (p. 245).

Local firms were mostly left out of response/recovery contracting; where they were included, they played a subcontracting role "at cost"

(Wilkinson, 2007, p. 246). The Stafford Act (Section 307, 42 U.S.C. 5150) includes provisions for award of Federal contracts to local businesses, but this amounts to a preference that is difficult to implement: It states that “preference shall be given, to the extent feasible and practicable, to those organizations, firms, and individuals residing or doing business primarily in the area affected by such major disaster or emergency” (Stafford Act, p. 13). Because the act’s language states “to the extent feasible and practicable,” the matter is subjective in application and perhaps too easily dismissed as optional. Where smaller companies at one time had an opportunity to subcontract and gain experience in working in this context (for example, AshBritt after Hurricane Andrew), opportunities are now minimal and growing more difficult to access for small firms (Cray, 2005). The existing language in the act serves a largely symbolic purpose but does not translate well to benefit for small local firms.

Federal procurement processes behave quite differently from local government procurement processes. Federal processes are deeply regulated, with nuances in interpretation and a need for outcomes that match national objectives, which may not align well with local objectives. There is little chance for local governments to impact federal procurement processes, which are national and invoked by federal law upon introduction of federal assistance. It is then all the more important that local processes are clear and procurement outcomes are made transparent. Transparency and accountability of procurement processes is important to local business communities because it provides a virtual window on the responsiveness of local government at a critical nexus between the business community and the government itself—the procurement role (Drabkin & Thai, 2007). But, the goal of acquiring needed products and services at reasonable prices, while maintaining transparency and keeping opportunity open to local businesses, requires a delicate balancing act that is difficult to accomplish in practice.

### **Implications of Emergency Procurement Authority during Disasters**

The procurement role is given to complexity even under normal circumstances, and the introduction of hazard events can challenge and defeat systems intended to provide for fairness and accountability. Unforeseen circumstances, such as emergencies, present scenarios which are difficult to manage; regulators may

consider these special circumstances and seek to improve responsiveness of processes. Special authorities, including contracting with no competition, are typically made available to address emergency situations (Newman, 2005). While sensible pricing and acquiring the goods/services needed remain the primary considerations, the principle challenge of disaster procurement is the significant time constraint for providing goods and services in light of response/recovery needs. Normal protocols, with “multiple checks and balances to ensure fiscal responsibility in the expenditure of tax dollars, and the fair and equitable distribution of contracts related to goods and services” (Newman, 2005) are eschewed in favor of prompt responses.

Timeliness becomes a factor which can crowd out other considerations, and this can lead to poor outcomes. Snider and Rendon observed that while timeliness may have been served in responding to Hurricanes Katrina and Rita, other important outcomes were not served – contracts were quick but required amendment, were “grossly overpriced,” or were seen as sweetheart deals (2008, p. 322).

Given the tendency for misuse, broad authorities present in emergency procurement rules require that all decisions be made as fairly as possible, given the absence of the usual checks and balances. Such an effort, which considers “environmental concerns, employment issues, alternative welfare considerations, or the protection of domestic industry,” may lead to “less optimal outcomes...achieved in terms of the price/quality combination” (Schultz & Søreide, 2008, p. 517). Nevertheless, the choice not to consider other values in implementation of procurement schemes is a selection with far-reaching ramifications of its own.

For instance, the decision to contract outside a county or region in an emergency is a common procurement decision. If the product or service can be procured within the area, though, that is also a decision that could be made under emergency procurement authority, which not only provides the product/service needed, but also supports the local community’s recovery effort. Growing the local economy and helping small businesses are secondary considerations, when the main goal of procurement – having the goods and services needed, when they are needed – poses such pressing demands during disaster. Still, a coordinated, careful procurement process,

which considers the implications of an action and attempts, as much as possible, to afford competition and transparency throughout while addressing local concerns, can make the difference between a positive outcome for procurement and ultimately the government and community, or open the door to criticism for the appearance or existence of corrupt practices.

The problem with an “uncoordinated, hurried” approach to procurement, in an environment where “financial controls are reduced, funding levels can soar, and staff change frequently,” is that it is a recipe for corruption and fraud (Schultz & Søreide, 2008, p. 516). Procurement officials may engage in corrupt practices because they feel they can get away with it, there is some value in doing so, and they have an opportunity to personally influence the decision being made (p. 519). In emergency procurement, all three factors are potentially in play. Schultz and Søreide (2008) provide examples of corrupt behaviors that include using emergency authority when there is no real emergency or beyond the time of the emergency, misapplication of discretionary authority, matching specifications against those of the firm desired, restricting bid invitations, and caving to political influences in award decisions (p. 523-4).

The cost of corruption to a community is essentially the difference between full and open competitive solicitations, and those under emergency procurement authorities where the special authority is misapplied. The difference can be up to 20-30% of the contract value (Schultz, & Søreide, 2008, p. 518). We may see the results in buying too much of a product, overpaying for products and services delivered, and purchases of products or services not needed. Corruption can lead to poor construction quality, which can result in increased loss of life (Seneviratne, Baldry, & Pathirage, 2010, p. 384). Use of non-competitive procurement approaches increased at the federal level by 115% from 2000 to 2005, and \$8.7 billion was awarded through no-bid contracts for emergency procurement (Lander, Kimball, & Martyn, 2008, p. 18-19). Considering the tendency toward fraud, additional fraud detection resources and more auditors “in proportion to procurement spending” were recommended (p. 24). The presence of substantial cash flows into a community after a disaster event creates additional opportunity for corruption and can put additional stress on local government institutions.

### **Planning for Disaster Procurement**

Given the potential problems discussed above that can arise in disaster procurement, there is a need to include procurement activities in the disaster planning processes that accompany disaster preparedness and response. Procurement should not be seen, as Snider noted, as solely a *means* activity—procurement has a strategic role to play in “determining organizational ends” (2006, p. 274). Procurement has been distanced from policy and seen as a tool; however, the procurement role is more than a mere mechanism for acquiring products, because its outcomes and impacts are policy-related ends in themselves. Achieving recovery from the hazard event, rebuilding public facilities, and assuring accountability and transparency while obtaining value for money are all policy ends. Involving procurement before and after a disaster in meaningful ways can become a hallmark of government that is itself resilient, and will help its community recover more quickly. Prior research and practice suggest some ways in which this can be done—for instance, through prior planning, the use of purchasing cards, manual back-up systems, and more inclusion of local businesses. These are discussed in greater detail below, to explicate the kinds of disaster procurement practices that can be helpful and to illustrate the kinds of practices that were followed by some local governments in the New Orleans area after Katrina.

#### ***Prior Planning***

Peters (2006) commented that agencies have had success in ordering products and services before a disaster strikes, to facilitate how the agency will respond in the aftermath of a hazard event. This minor planning step may prove a point of critical preparedness, in that using supply lines when they are still open is far easier than seeking procurement after a disaster strikes. Pre-event contracting can be very helpful to cities and counties, because it avoids the seller’s market of a post-event scenario, and guards against price gouging. As an example, Palm Beach County, Florida government has engaged in pre-need contracting for fuel in the event of hurricanes.

#### ***Purchasing Cards***

While alternative approaches to tracking procurement are important, the literature stresses the importance of purchasing cards

(p-cards), which require less effort and time to complete purchases while expediting the procurement process overall (Anderson, 2002; Avery, 1996; Boulianne, 2004; *Two New Studies...*, 1999). There is suggestion that purchasing cards “produce more accurate management information and control” (“Simplified Purchasing”, 2005, p.64). The use of this approach is seen as a best practice in procurement, even with the potential for abuse (Gupta & Palmer, 2008), and the sense that management may not maintain total control over purchasing under a purchasing card system (Palmer, Gupta, Davila, & Mills, 2002).

In the context of a disaster, the use of purchasing cards has been seen as “indispensable...the new standard for effective disaster response; critical supplies were secured faster under the worst conditions with maximum oversight and minimal abuse” (Parslow, 2007, p. 44). In Louisiana after Katrina, the cards were seen as a benefit because they could be accepted by vendors that would not accept purchase orders, and their use could be restricted for certain category codes. According to Parslow (2007, p. 47), a senior vice president at Visa USA, “there was not a single instance of purchasing card abuse during the crisis period.”

### ***Manual Back-up Systems***

There are also needs in disaster procurement to provide for manual systems to back-up any technological enhancements which may fail during a hazard event. For example, e-procurement will likely not be possible in the days and weeks following a hurricane, for any local or regional vendors that might be interested in pursuing the local work offered. Even if the government’s systems are working fine, there is no guarantee that the public will be able to access them (e.g. that power is on, and internet access is available). Instead, local procurement officials might have a paper-based vendor directory available or even use the phone book to contact directly local vendors that might be interested in immediate contracting needs of the city or county. As an additional step, it might add a little time to the process to allow for a more complete response. However, the benefit – including avoiding backlash for sending recovery work out of the area – is considerable.

***Including Local Businesses***

As mentioned above, pre-existing contracts are seen to be an advantage in quick response to the disaster, but pose a potential disadvantage to local businesses that are not involved in the contracts. The interest in post-disaster contracts can be great: “The Army Corps of Engineers reported receiving over 6,300 phone calls within two weeks after Katrina landed, many from local and regional contractors who have complained that their calls [seeking work] were ignored” (Cray, 2005, p. 20). With contracting left up to the prime contractors for disaster response contracts arranged pre-event, regulations for small business inclusion are circumvented. Prices may prove advantageous, but the trade-offs made for other considerations are obvious. For our purposes, pre-existing contracts are seen generally as an advantage because they best fulfill the procurement role – products when needed at reasonable prices, which during a legitimate emergency may mean the difference between life and death.

In summary, past research (albeit somewhat sketchy) shows us that disaster procurement is challenging and that local governments may have to face a number of issues. As noted in our research questions, the focus of this paper is examining the issues that local governments faced with regard to procurement in the context of Hurricane Katrina and the manner in which different local governments dealt with these issues. Before we discuss these issues with regard to local government procurement practices in response to Hurricane Katrina, we first describe our study area and methodology.

**STUDY AREA AND METHODS****Study Area**

To study the impact of Hurricane Katrina, we chose to focus on New Orleans and the surrounding parishes. The New Orleans Metropolitan Statistical Area (MSA) includes the parishes of Orleans (City of New Orleans), St. Bernard, Jefferson, St. Charles, Plaquemines, St. John the Baptist, and St. Tammany.

We chose this area for our study for the following reasons: (1) this area was particularly hard-hit by Hurricane Katrina, so focusing on this area allows us to understand how major disasters affect and can be affected by procurement practices; (2) disparities in response and

recovery rates varied across parishes which allows us to explore if and how procurement practices played a role in recovery; and 3) there are cultural and demographic differences between the parishes which allow us to examine if these differences affected procurement practices. We now turn to an examination of the social and demographic characteristics of the New Orleans Metropolitan Statistical Area (MSA).

### **The New Orleans Metropolitan Statistical Area: Social and Demographic Characteristics**

In considering the context of public procurement in the New Orleans MSA, we begin with a review of the city's background. According to the U.S. Census, New Orleans is a city of 343,829 that is 60.2% African-American, down from 67.3% in the year 2000, when the population was 484,674. There are 24.4% residents who are below the poverty line. The poverty level is lower than it was in 2000, when it was 27.9% (U.S. Census, 2012). The unemployment rate among the African-American community is historically high—13.1% in 2000, while the unemployment rate for the Caucasian community was 3.6% (Frailing & Harper, 2007, p. 58). Caucasian families earn over twice as much as African-American families earn, according to the census (Frailing & Harper, 2007, p. 58).

The jobs available in New Orleans have changed dramatically since 1964. Manufacturing jobs, which paid well, disappeared, and were replaced by relatively low-paying, low benefit, service-sector jobs, such as those supporting the restaurant and tourism trade (Frailing & Harper, 2007, p. 61). This change led to declining population in the city overall; as the manufacturing jobs declined, the white population of New Orleans began to leave. This scenario “perpetuated the disadvantage of the majority of the city's residents” (Frailing & Harper, 2007, p. 63).

The parishes around New Orleans are distinct from Orleans Parish in demographics, industry, and outcomes. Jefferson Parish, for example, saw an increase of white middle-class residents beginning in the 1940s. Presently, most of the population in the suburbs of New Orleans is in Jefferson Parish. Demographically, the parish is about 70% White and 23% African-American. After Katrina, the parish led the nation in job growth. The parish's major areas of business are “healthcare, retail and manufacturing, and professional

services for the offshore oil and gas industry” (Village Profile, 2012). Plaquemines Parish, to New Orleans’s east, has a major economic base in seafood, port traffic, and services to the oil and gas industry. The parish’s demographic composition, like that of Jefferson Parish, is about 70% White. Plaquemines Parish claims it was “first parish hit” by Katrina [and] “first to recover.”

### METHODOLOGY

Qualitative data techniques were used for this study in the form of a series of interviews with local government officials in the City of New Orleans (Orleans Parish) and surrounding parishes. This technique was chosen because this research is exploratory in nature; the purpose of this research was also to gather information not only on local procurement rules and regulations, but also how such rules were being practiced and implemented. Also, we sought to understand how local officials perceived their roles and functions in disaster procurement. To acquire these deeper understandings, we needed to have in-depth interviews with key procurement personnel; surveys or secondary data would not have allowed us to explore such issues. Interview data as noted by Miles and Huberman (1994, p. 10) provide “richness and holism, with strong potential for revealing complexity; such data provide ‘thick descriptions’ that are vivid, nested in real context.” Questionnaires, while potentially providing a broader scope of data from more officials, would not have provided the rich responses received that allowed for expanding knowledge in this area.

The New Orleans area interviews were conducted in July and August, 2010. Timing for the interviews – approximately five years after Katrina, allowed officials ample time to contemplate what had happened in the storm and its ramifications, as well as to inform about what had occurred within the organizations since the storm. Because the interviews dealt with issues of accessibility and transparency in procurement processes, analysis of the interview texts is particularly well-suited to answering the research questions posed in this paper.

For the New Orleans Metropolitan Area, eight interviews were conducted with personnel or officials representing the City of New Orleans and/or the Orleans Parish School Board. Two interviews (one solo interview, and one with two participants from the same agency)

were conducted outside Orleans Parish but within the Metropolitan Statistical Area. One interview, with an official from the New Orleans Airport, is not considered here as it does not directly relate to local procurement practices.

The approach to the interviews is cross-sectional—each respondent was interviewed once. The interviews used the same basic set of general questions. If a certain question provoked discussion or comment, the discussion was pursued to gain additional understanding from the interviewee. Each interview had the potential to be unique and representative of the particular subject's perspective, their institution, the disaster event and its impact, and the operational context of all factors, thus providing for maximum variation which is desirable in qualitative analysis (Byrne, 2001, p. 497).

The transcribed interviews became the project's field text reports (Clandinin, 2006, p. 32). The reports were examined for the open coding step (Corbin & Strauss, 2008, p. 198), using the MaxQDA program, using line by line review to generate categories noting points of interest. The categories were then related to their subcategories (the "who," "what," "when," "why," "how," and "with what consequences") through a process of axial coding (Corbin & Strauss, 2008, p. 198). Finally, there is selective coding, when "the major categories are finally integrated to form a larger theoretical scheme" (Corbin & Strauss, 2008, p. 103), and theory is developed. Interviews were taken as a group and analyzed for themes and commonality that may support the construction of theory. As concepts emerged, from axial to selective coding, a system of codes developed that yielded a working thematic base that functioned across all texts.

The interviews were conducted by contacting administrators and officials directly, first via postal mail and email, and then via follow-up by phone. Questions regarding the nature of the inquiry were addressed and confidentiality of the responses was assured. All protocols concerning human subjects were followed, in accordance with the permission received by the authors' Institutional Review Board. As a result, all interviewees in this study will be referred to as "an official" from the particular case area in question, without further identifying language. Interviews in New Orleans were conducted in

person and face-to-face with the interviewee, with one exception that was conducted by phone due to scheduling conflicts.

The interviews made use of a fairly consistent questionnaire, which was altered to suit the particular job functions of the interviewee but otherwise held basic themes, such as fairness and effectiveness of public policies and programs, constant.

The interview questions centered on the following topics:

1. The kinds of procurement practices employed
2. Fairness and effectiveness of procurement programs;
3. Effectiveness of economic development programs, including small business development programs;
4. Perceptions of public corruption, and existence of undue influence in public decisionmaking;
5. Priorities for development;
6. Disaster recovery;
7. Business capacity and vulnerability; and
8. The relationship and interactions of government with the local business community.

Given the uniqueness of these cases, context must be considered, but local government procurement from one locale to another is not so unique in overall scope of effort and intended outcomes. Therefore, *moderatum* generalizations (Payne & Williams, 2005) from the results reviewed below may perhaps be made to other cases of local government procurement in disaster.

## RESULTS

Our first research question was: What were the kinds of procurement practices that arose in the aftermath of Katrina? We also sought to know if there were variations in local disaster procurement practices after Katrina.

The results from the interviews indicate that a number of issues arose with respect to disaster procurement. The story of local government responses to Katrina provides a glimpse into extreme circumstances that were chaotic: "We were moving in the right direction [before Katrina]. When Purchasing was able to get a few people here [after the flood waters receded], it was chaos. Nobody here knew what they were doing. .. Purchasing order forms were

printed, but the people who were giving permission didn't know themselves what they should have done" (Interviewee code #1).

In New Orleans, there was little tracking of products received, nor any sense of full and open competition. New Orleans did not utilize purchasing cards during the disaster response. A respondent mentioned instances of items being procured during the response that were no longer needed, but accepted anyway, projects not accomplished to specification, and unlicensed contractors allowed to engage in city business (Interviewee code #1). One of the main reasons usually given for not using purchasing cards – maintaining control over purchases and outcomes – has little merit in the New Orleans case. A lack of control in purchasing was present before the storm and remained part of the operating context during response and recovery. Further, there was a tendency to stay under emergency procurement authority for too long.

Because an environment existed where enforcement of rules and regulations did not occur, the result was, in the view of the interviewees, damage to procurement fairness and transparency. As one respondent noted, "the corrupt environment had resulted in a place that was perceived as hostile to business" (Interviewee code # 2). Generally speaking, the obstacles noted by most of the respondents were the lack of opportunity for staff to engage procurement operations in a manner that was fully accountable, transparent, responsive to the public, and efficient.

In comparative terms, New Orleans had practices that were sub-optimal for producing desirable procurement outcomes prior to the disaster (Carmack, 2008). This arguably made the city more vulnerable, in that the procurement processes did not function particularly well before the storm, and the situation only worsened during the crisis. When the storm hit, problems in existing structures worsened. There had been efforts at reform of manual, inefficient processes, but because the institution had historically had a certain approach to processes such as procurement, which had expectations of certain outcomes that were less than fully competitive, those reform processes were unsuccessful.

During the recovery period and the time since the storm, there have been efforts throughout the MSA to become more responsive to the need to be administratively prepared for disasters, and to be more accountable and transparent generally speaking. This is

particularly true of New Orleans (Carmack, 2008), but New Orleans has had farther to climb than the surrounding parishes in what it needed to do to reduce vulnerability and ensure a more resilient response during the next crisis event.

We find variations across local governments in their responses to Katrina. Confidence in procurement operations was lowest in New Orleans, where the interview data show awareness of a belief extant in the community that local government is ineffective in its procurement operations. There is indication of an accompanying lack of transparency and accountability, particularly in New Orleans. Because the situation in the immediate aftermath of the storm was so adverse, there was an initial period where procurement officials tried their best with the resources available, both financial and administrative.

The responses from the surrounding parish interviews show substantial variation with the responses from interviewees in New Orleans. In parishes surrounding New Orleans, best practices in procurement and procurement planning, such as those discussed earlier in this paper, were pursued before the storm. Consequently, even with the challenges of disaster, procurement officials were able to engage in the work of response and recovery such that those parishes were able to respond more completely, at a faster rate.

For analysis, we examined the interview data and responses for common threads. As seen from these data, respondents focused on areas that were seen as an advantage for disaster procurement, and those concerns which were seen as obstacles. By advantages, we mean those areas where best practices in procurement were evident, or where understanding of a shortfall in administrative support existed along with a support for reform. For obstacles, respondents noted areas that were deviations from best practice in procurement, where there was a lack of accountability and transparency, and where there existed potential for corruption. Analysis for the City of New Orleans is presented as Table 1.

The table organizes codes based on themes from the interviews into either procurement advantages or obstacles; it shows how many times the individual code appeared in interviews in the New Orleans MSA, and then how many times that code appeared in interviews for the case area (in Table 1, we refer to New Orleans). A percentage column shows the prevalence of each code relative to the whole MSA.

**TABLE 1**  
**Advantages and Obstacles in New Orleans Procurement**

Parent Code	Code	All coded segments in New Orleans MSA	Codes related to New Orleans responses	%
Advantage	Reforming/Improving Procurement Processes	22	11	50%
Advantage	Acknowledgment of Corruption	8	8	100%
Advantage	Transparency and Accountability	8	4	50%
Advantage	Insistence on Standard Enforcement of Rules	21	2	10%
Advantage	Evidence of Procurement Standards	9	2	22%
Obstacle	Deviations from Best Procurement Practice	9	9	100%
Obstacle	Lack of Employees/Staffing	9	9	100%
Obstacle	Elimination of Local Opportunity from Federal Projects	7	7	100%
Obstacle	Small Business Program Ineffective	6	6	100%
Obstacle	Lack of Transparency	5	5	100%
Obstacle	Previous Mayoral Administration as Source of Problem	5	5	100%
Obstacle	Well-connected Company Receiving Contract	4	4	100%
Obstacle	Questionable Use of Funds	3	3	100%
Obstacle	Regular Procurement Process Not Full and Open	6	2	33%
Obstacle	Emergency Procurement Other than Attempt at Full and Open	4	2	50%
Obstacle	Potential for Undue Influence	4	2	50%
Obstacle	Purchasing Environment Changed Negatively Due to Disaster	2	2	100%
Obstacle	Reforms Potentially not Significant	2	2	100%
Obstacle	Procurement Not Sufficiently Competitive	2	2	100%
Obstacle	Contract Performance Issues	2	2	100%
Obstacle	Alleged Theft	2	2	100%
Obstacle	Official Support of Primes over Subs	2	2	100%
Obstacle	Not What You Know, but Who You Know	2	2	100%

Table 1 illustrates that the interview responses focused more on the obstacles to successful procurement that existed in New Orleans than on advantages in that respect. This indicates an environment constrained by obstacles, which are reflected in both policy/practice and institutional considerations. When advantages were mentioned, they were in the context of the recognition of problems (e.g. efforts at reform, acknowledgment of corrupt practices). The obstacles, however, are significant and systemic, particularly the references to procurement through other than full and open competition leading to negative outcomes (contract performance issues, theft, questionable uses of funds, and potential for undue influence in the procurement process). Positive themes, such as the insistence on standard enforcement of rules and evidence of procurement standards were not mentioned in the responses from New Orleans officials as often as they were mentioned by officials in the surrounding parishes. As a result, the environment for procurement in New Orleans could be seen as relatively more negative, as far as the potential for positive outcomes that reflect best procurement practices.

When asked about openness of public procurement in the city, one official commented, “most of the public bid contracts are bids and people have opportunities to bid on them...the city is required to accept the lowest bid” (Interviewee code #3). Contrast this statement with that of another official, who commented,

When you say procurement, you are really talking about requests for proposals, you’re not talking about invitations to bid...[which] are covered by public bid laws...in your requests for proposals, particularly in the areas of the funds that the city has spent over the last five years for Katrina recovery. There have been a lot of issues (Interviewee code #1).

The official went on to describe a possible source of the credibility gap in public procurement in the city:

A lot of general funds have been used...it’s that perception of why are you using bond funds to fix the streets when, you know we have all these potholes and you’re not fixing them, but on the other hand you’re spending bond funds for consultants to work on recovery projects and more money has been spent on the consultants than has been spent on the projects. The public sees this (Interviewee code #1).

Table 2 presents the results of the qualitative analysis of interview data from responses from parishes surrounding New Orleans. The data presented here indicate that positive thematic elements – such as the insistence on standard enforcement of rules and evidence of procurement standards – were relatively more evident in the responses from interviewees from surrounding parishes. Additionally, there was more discussion of the “advantages” of procurement practices in the surrounding parishes, including enhanced use of technology, e-procurement, emergency contracts, plus easy vendor registration and accessibility of bids. There was a sharp contrast in the discussion in these parishes as compared to the more barrier-laden landscape of procurement in post-disaster New

**TABLE 2**  
**Advantages and Obstacles in Procurement Operations of Surrounding Parishes**

Parent Code	Code	All coded segments in New Orleans MSA	Codes related to Surrounding Parish responses	%
Advantage	Insistence on Standard Enforcement of Rules	21	18	86%
Advantage	Reforming/Improving Procurement Processes	22	11	50%
Advantage	Evidence of Procurement Standards	9	7	78%
Advantage	Technology	6	5	83%
Advantage	Transparency and Accountability	8	4	50%
Advantage	Entity having Emergency Contracts in Place	2	2	100%
Advantage	System Encouraging Vendors to Bid (System is Competitive)	2	2	100%
Advantage	Easy, Accessible Vendor Registration	2	2	100%
Advantage	Accessible Means of Submitting Bids	3	2	67%
Advantage	Aversion to Designating Sole Sources	3	2	67%
Advantage	Little Push-back on Reforms/High-level Support of Reforms	2	2	100%
Obstacle	Regular Procurement Process not Full and Open	6	4	67%
Obstacle	Scapegoating of Overseeing Offices	4	4	100%
Obstacle	Emergency Procurement Other than Attempt at Full and Open	4	2	50%
Obstacle	Potential for Undue Influence	4	2	50%

Orleans; there was greater emphasis on good procurement practices such as competition, best value, and control of process, even in a disaster environment,

Nevertheless, respondents from the surrounding parishes also perceived obstacles that kept them from optimal outcomes in process, notably where the process for certain procurements was not competitively full and open, and where there was the potential for undue influence in contract awards. As indicated by the interview responses, there were challenges, but relative to New Orleans, the challenges were fewer in number and much less indicative of a general problem that likely affected procurement outcomes.

From the key themes of the interview data summarized in these tables, it appears that the two neighboring parishes focused more heavily on open and accessible government, transparency, and insistence on standards/rules-based approaches to procurement in an effort to keep systems operating fairly. The responses from those areas also indicated that practices in those areas included active demonstrations of e-procurement systems that supported such efforts. Online bidding systems, for example, which are increasingly seen as a best practice in public procurement, were in use in one of the surrounding parishes. It should be pointed out that New Orleans has transitioned to an e-procurement system in the years since Katrina, but the transition post-storm was a major undertaking that reflected a break with institutional norms.

As noted by an official from a nearby parish, electronic bidding procedures were being implemented, in addition to the more common sealed bids to which firms there are accustomed. Note was also made by this interviewee of transformations underway; as one of the interviewees stated:

We're [going] to a whole new computer system...we're going to have whole new requisitions done in the database instead of coming to us on paper...so all of the staff has to learn this new system. Anytime there's changes there's friction...it's going to be better...everybody gets used to it (Interviewee code #4).

An official in another parish outside New Orleans also mentioned the move toward more accountable and transparent purchasing practices: "We have an electronic procurement site which was

initiated my first year here—it was a very lovely undertaking because people in government don't like change." The official went on:

In government...people see things and want to make them better and [there are] people who see things and just let them continue. I don't have to see it and let it go. I will work at it until it makes sense and I will fix it so that it gets better. (Regarding the perception that one must "know someone" to get a parish contract, the official responded with certainty), "you don't need to know somebody, you need to have the best price"(Interviewee code #5).

Responses also indicated a strong insistence on regulations by some respondents and refusal to use discretion in ways that could prove to be indefensible.

When I get something from a department and it says this is a sole source, I will write them back and say there is no such thing as a sole source. It may be that they are used to dealing with this vendor, and you know they know he can get it...it's not a purchasing issue. This is no...sole source" (Interviewee code #5).

These responses seem reflective of an environment that holds full and open competition in high regard, and makes no apologies for it. That such efforts have been allowed to proceed, possibly creating a more responsive and accountable government procurement apparatus, is an indication that the institution is willing to allow such change, if not encourage it. This sharply contrasts with the New Orleans experience, where such changes to provide protections and transparency were difficult to institute. Similar responses would have been expected in New Orleans, because non-competitive purchasing is frowned upon by procurement best practices; this however was not the case.

To draw some broader implications from our data, the inferences are that government institutions in New Orleans are not merely mirrors for social forces. The decisions government makes or does not make in the city likely have something to do with maintenance of political coalitions (March & Olsen, 1984). Staff seeking to change the system from within appeared to be facing institutional constraints because their operating assumption—that it was the right thing to do to change the process—was incorrect as far as the institution is

concerned. Authority within organizations can be passively resisted by opposition norms (Nee, 2003, p. 33). We might infer that the “rules of the game” (North, 2009) for a procurement system in this case seem to be subject to the whims of the institutional elite on a day-to-day basis, rather than based in best practices of the profession, and informed by informal processes as much as, if not more than, formalized structures and authorities.

In neighboring parishes, officials were allowed to consider their perception of what is right in defining their procurement systems. We infer that the personal notion of appropriateness is reflected in and consonant with the institution, which in turn considers the larger context of how procurement systems are ideally operated. The authority vested in the procurement official is substantial—with significant discretion and not beholden to political interests. With such authority, there is a potential of open and honest procurement. It is worth pointing out that the institution itself “allowed” such professional accountability on the part of procurement officials in these other parishes, and in fact inspired such behavior in seeking to upgrade and enhance systems, and institute best practices.

Other implications we draw from our data are the linkages with other aspects of institutional culture. From our data we see the commonality between the positive themes from the interviews and traits of resilient communities as noted in Paton and Johnston (2006). Denial of problems and inability of institutions to run programs effectively are harbingers of man-made disasters. Efforts toward reforming processes in institutions that have cultures averse to such changes are bound to failure. Recognizing that there was no attempt to push the conversation in the interviews one way or the other, given that the same loose questionnaire was applicable to all interviews, the deep differences in responses from one case to the next—even from one interview to the next—are indicative of great differences in culture and policy between local government institutions. In a positive sense, reform can work and procurement processes can be improved and enhanced, and certain institutional cultures apparently support this. Such action leads to improved outcomes for the affected community. In a negative sense, no amount of reformist tendency on the part of individual staff can overcome an institution opposed to such measures. When an institution is faced with disaster, it is perhaps too late to consider

reform to existing processes, given that the administrative damage is already done. The time to consider changes to processes is before the challenge presents itself.

### CONCLUSION

Disaster procurement is an area which has not received much attention from the procurement research community. In this paper, we sought to address this gap by considering differences in procurement approaches in New Orleans and surrounding parishes impacted by Hurricane Katrina. We found that official responses were informed by the existence of open and accountable systems prior to the impact of the hurricane event, and those parishes which did not have systems that considered procurement best practices found response and recovery to be relatively slower and more difficult.

The broader implications of this research are that the response of local governments to disaster through procurement and other programs reveals a great deal about the accountability and transparency of the government institution, and whether the institution itself constrains or encourages official behavior in a way that is favorable or hostile to community interests.

From the interviews, we see that the tendencies in public procurement that were in place prior to the storm remained as either encouraging factors or constraints to adequate response during the response and recovery phase. An ineffective process, which lacks accountability, in place before the storm hit was a major constraining factor for a proactive response in the aftermath. In other locations, a strong purchasing system, which functioned well, provided for transparency and accountability in contract awards, and kept records as might typically be expected under normal circumstances, functioned more resiliently when faced with the challenge of the disaster, and paved the way for a stronger and quicker rebound period for the governmental entity and community.

The implications and some policy prescriptions that could be drawn from this research are that local governments can respond to the threats that disasters pose to institutional processes by encouraging proactive reform of outdated procurement processes, by moving to procurement systems which emphasize transparency while

maximizing opportunity in obtaining information about solicitations, and by improving vendor outreach and registration processes. Such efforts require recognition of the need at a high level of government and a championing of such efforts as priority.

Reaching out to the local vendor community before a disaster strikes, and seeking to involve local businesses in procurement opportunities would also help by serving two valuable ends: both actions allow local businesses to know more about how local government procurement works, so that they can approach the process without fear or confusion and actually be successful through contract awards; and they encourage the local government to better understand the capabilities and capacities of the local business community, so in time of crisis, the emergency procurement that is made might be targeted toward resources extant in the community. Open communication between government and the business community is a fundamental consideration; assuring accountability can lead to a stronger connection with the business community in a crisis situation, better outcomes for government, and a more efficient and complete recovery for the community.

Governments should foster an environment where openness is a characteristic of internal processes, as well; efforts to improve and enhance processes, and identify weaknesses in programs and systems, should be encouraged. Not all hazards faced by communities result in disasters, but a mindset within the institution that discourages active thinking and problem solving may play a role in turning a hazard into a disaster by limiting discretion and the ability of staff to be responsive and effective. Certainly the opportunities exist in procurement for personal responsibility and accountability; there is bravery in protecting the public interest through responsible government, particularly in disaster situations, and staff should feel empowered to do what is right for the public.

The research in this paper is exploratory, and hence, limited in its inferences (Corbin & Strauss, 2008, p. 81). Other limitations are the use of interview data and the focus on one area only. Interviews with procurement officials were requested from all parishes in the MSA but not all procurement officials accepted. Because the review is incomplete, there may be some bias in the comparison of New Orleans to the rest of the MSA; however, the assertions made here are limited. It is entirely possible that some parishes not interviewed

are more like New Orleans, and others more like those parishes that were interviewed and which are discussed here. The broader implications are nevertheless worth our consideration.

Our inferences and discussion are not conclusive; rather they are offered in the hope of spurring further discussion on the topic of disaster management. Future research could further explore issues related to disaster procurement in other geographical locations and through other methods; this can be critical in improving procurement in this area and indispensable to the cause of creating more resilient cities and counties.

#### NOTES

1. Procurement related to emergencies and disasters is often referred to as emergency or contingency contracting (Drabkin & Thai, 2007; Peckinpaugh, 2001). "Emergency contracting describes those circumstances where urgent requirements are generated as a result of natural or man-made disasters. Contingency contracting includes those requirements generated to meet peacekeeping, special and military operations (contingency operations)" (Drabkin & Thai, 2007, p. 84). For the purposes of this paper, we refer to these procurement issues as disaster procurement. We use this definition because it provides a broader understanding that encompasses contracting as well as other procurement practices for not only emergencies and contingencies, but also bigger events like disasters. Disasters as compared to emergencies also have different connotations in research on the topic (See Britton, 2005; Quarantelli, 2000).

#### REFERENCES

- Anderson, S. W. (2002). "Purchasing Cards Grow Up." *Credit Card Management*, 15 (5): 56.
- Avery, S. (1996). "Software Helps Buyers Manage Purchasing Card Programs." *Purchasing*, 121 (2): 90.
- Boulianne, E. (2004). "P-card Makes Purchasing Easier." *CA Magazine*, 137: 7, 12.
- Brinkley, D. (2007). *The Great Deluge: Hurricane Katrina, New Orleans, and the Mississippi Gulf Coast*. New York: Harper.

- Britton, N. R. (2005). "What's a Word? Opening up the Debate." In R. W. Perry & E. L. Quarantelli (Eds.), *What Is a Disaster? New Answers to Old Questions* (pp. 60-68). Bloomington, IN: Xlibris.
- Brunsmas, D. L., Overfelt, D., & Picou, J. S. (2007). *The Sociology of Katrina: Perspectives on a Modern Catastrophe*. Lanham, MD: Rowman & Littlefield.
- Bullard, R. D., & Wright, B. (2009). *Race, Place, and Environmental Justice after Hurricane Katrina: Struggles to Reclaim, Rebuild, and Revitalize New Orleans and the Gulf Coast*. Boulder, CO: Westview.
- Byrne, M. (2001). "Sampling for Qualitative Research." *AORN Journal*, 73 (2): 494, 497-498.
- Carmack, L. (2008). "BuySpeed Delivers Bang for the Buck in the Bayou." [Online]. Available at [http://govpro.com/technology/hardware\\_software/buyspeed\\_delivers\\_bang\\_2](http://govpro.com/technology/hardware_software/buyspeed_delivers_bang_2). (Retrieved on March 28, 2012).
- Clandinin, D. (2006). *Composing Diverse Identities*. Hoboken, NJ: Taylor & Francis Ltd.
- Cooper, C. & Block, R. (2006). *Disaster: Hurricane Katrina and the Failure of Homeland Security*. New York: Henry Holt.
- Corbin, J. M. & Strauss, A. L. (2008). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (3rd ed.). Thousand Oaks, CA: Sage.
- Cray, C. (2005). "Disaster Profiteering: The Flood of Crony Contracting Following Hurricane Katrina." *Multinational Monitor*, 26 (9 & 10): 19-24.
- Criss, R. M. (2006). "Strategic Sourcing in an Emergency Contracting Environment." *Contract Management*, 46 (1): 12.
- Drabkin, D. & Thai, K. V. (2007). "Emergency Contracting in the U.S. Federal Government." *Journal of Public Procurement*, 7 (1): 84-103.
- Dyson, M. E. (2006). *Come Hell or High Water: Hurricane Katrina and the Color of Disaster*. New York: Basic Civitas.
- Farber, D. A. & Chen, J. (2006). *Disasters and the Law: Katrina and Beyond*. New York: Aspen.

- Frailing, K. & Harper, D.W. (2007). "Crime and Hurricanes in New Orleans." In D. L. Brunson, D. Overfelt, and J.S. Picou (Eds.), *The Sociology of Katrina: Perspectives on a Modern Catastrophe*. (51-70). Lanham, MD: Rowman and Littlefield.
- Friar, A. (2006). "Federal Contracting in Emergencies: A Critical Skill." *Contract Management*, 46 (3): 22-24.
- Gupta, M. & Palmer, R. J. (2008). "A Brief History and Review of Purchasing Card Use by the U.S. Government: 1990-2005." *Journal of Public Procurement*, 8 (2): 174-199.
- Horne, J. (2006). *Breach of Faith: Hurricane Katrina and the Near Death of a Great American City*. New York: Random House.
- King, R. J. (2009). "Post-Katrina Profiteering: The New Big Easy." In R. D. Bullard, & B. Wright (Eds.). *Race, Place, and Environmental Justice after Hurricane Katrina: Struggles to Reclaim, Rebuild, and Revitalize New Orleans and the Gulf Coast* (pp. 329-361) Boulder, CO: Westview.
- Lander, G. H., Kimball, V. J., & Martyn, K. A. (2008). "Government Procurement Fraud." *The CPA Journal*, 78 (2): 16-24.
- Le Masurier, J., Wilkinson, S., & Shestakova, Y. (2006). "An Analysis of the Alliancing Procurement Method for Reconstruction Following an Earthquake." *Proceedings of the 8<sup>th</sup> U.S. National Conference on Earthquake Engineering*. San Francisco, California.
- Levitt, J. I. & Whitaker, M. C. (2009). *Hurricane Katrina: America's Unnatural Disaster*. Lincoln, NE: University of Nebraska.
- March, J. G. & Olsen, J. P. (1984). "The New Institutionalism: Organizational Factors in Political Life." *The American Political Science Review*, 78 (3): 734-749.
- Miles, M. B. & Huberman, A. M. (1994). *Qualitative Data Analysis* (2nd ed.). Thousand Oaks, CA: Sage.
- Nee, V. (2003). "New Institutionalism, Economic and Sociological." [Online]. Available at <http://www.soc.cornell.edu/faculty/nee/pubs/newinstitutionalism.pdf>. (Retrieved on March 13, 2012).
- Newman, D. (2005). "Procurement's Role in an Emergency or Disaster." *Summit*, 8:5 (September). [Online]. Available at

[www.allbusiness.com/government/1110889-1.html](http://www.allbusiness.com/government/1110889-1.html). (Retrieved on March 5, 2012).

- North, D. C. (2009). *Institutions, Institutional Change and Economic Performance*. Cambridge, UK: Cambridge University.
- Palmer, R. J., Gupta, M., Davila, A., & Mills, T. (2002). Purchasing Cards Come of Age: A Survey of State and Local Governments. *Government Finance Review*. [Online]. Available at <http://www.gfoa.org/downloads/GFRAug02.pdf>. (Retrieved on March 13, 2012).
- Parslow, D. (2007). "Smart Preparedness includes Purchasing Cards." *Government Finance Review*, 23 (6): 43-47.
- Paton, D., & Johnston, D. M. (2006). *Disaster Resilience: An Integrated Approach*. Springfield, Ill.: Charles C Thomas.
- Payne, G. & Williams, M. (2005). Generalization in Qualitative Research. *Sociology*, 39 (2): 295-314.
- Peckinpough, C. (2001). "Contingency Contracting." *Federal Computer Week*, 15 (33): 38.
- Peters, K. M. (2006). "Dodging Disasters." *Government Executive*, 38 (6): 38-46.
- Picou, J. S. & Marshall, B. K. (2007). "Introduction: Katrina as a Paradigm Shift: Reflections on Disaster Research in the Twenty-first Century." In D. L. Brunsma, D. Overfelt, and J.S. Picou (Eds.), *The Sociology of Katrina: Perspectives on a Modern Catastrophe*. (1-22). Lanham, MD: Rowman and Littlefield.
- Prier, E. & McCue, C. P. (2009). "The Implications of a Muddled Definition of Public Procurement." *Journal of Public Procurement*, 9 (3 & 4): 326-370.
- Quarantelli, E. L. (2000). Emergencies, Disasters and Catastrophes are Different Phenomena. [Online]. Available at <http://dspace.udel.edu:8080/dspace/bitstream/handle/19716/674/PP304.pdf>. (Retrieved on March 23, 2012).
- Schultz, J. & Søreide, T. (2008). "Corruption in Emergency Procurement." *Disasters*, 32 (4): 516-536.
- Seneviratne, K., Baldry, D., & Pathirage, C. (2010). "Disaster Knowledge Factors in Managing Disasters Successfully."

*International Journal of Strategic Property Management*, 14: 376-390.

"Simplified Purchasing." (2005). *International Journal of Productivity and Performance Management*, 54 (1/2): 63-65.

Snider, K. F. (2006). "Procurement Leadership: From Means to Ends." *Journal of Public Procurement*, 6 (3): 274-294.

Snider, K. F. & Rendon, R. G. (2008). "Public Procurement Policy: Implications for Theory and Practice." *Journal of Public Procurement*, 8 (3): 310-333.

Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 100-707), amended as of June 2007 (Stafford Act). [Online]. Available at <https://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=3564>. (Retrieved on March 28, 2012),

Thai, K. V. (2001). "Public Procurement Re-examined." *Journal of Public Procurement*, 1 (1): 9-50.

"Two New Studies Find Missed Opportunities in Supplier Management." (1999). *Supplier Selection & Management Report*, 99 (1): 1, 10-12.

U.S. Census Bureau (2012). "Orleans Parish, Louisiana Quick Facts." [Online]. Available at <http://quickfacts.census.gov/qfd/states/22/22071.html>. (Retrieved on March 14, 2012).

U. S. Government Accountability Office (2006). Enhanced Leadership, Capabilities, and Accountability Controls Will Improve the Effectiveness of the Nation's Preparedness, Response, and Recovery System. [Online]. Available at <http://www.gao.gov/new.items/d06618.pdf>. (Retrieved on March 14, 2012).

Van Heerden, I. & Bryan, M. (2006). *The Storm: What Went Wrong and Why during Hurricane Katrina: The Inside Story from One Louisiana Scientist*. New York: Viking.

Village Profile (2012). Jefferson (LA) Chamber of Commerce. [Online]. Available at <http://www.villageprofile.com/louisiana/Jeffersonparish/05/topic.html>. (Retrieved on March 14, 2012).

- Wilkinson, K. J. (2007). "More Effective Federal Procurement Response to Disasters: Maximizing the Extraordinary Flexibilities of IDIQ Contracting." *Air Force Law Review*, 59: 231-286.
- Zuo, K. X. (2010). *Procurement and Contractual Arrangements for Post-Disaster Reconstruction* (Doctoral Thesis). Auckland, New Zealand: University of Auckland.

After Katrina: Comparisons of post-disaster public procurement approaches and outcomes in the New Orleans area. *Journal of Public Procurement*, 12(3), 356-385. Book Chapters. Atkinson, C. L. (2017). Intents and outcomes for local businesses in post-disaster contracting under the Stafford Act. In A. L. LePore (Ed.), *The future of disaster management in the U.S.: Rethinking legislation, policy, and finance*. New York: Routledge. Atkinson, C. L. (2016-2019).