In the Storm’s Wake: Emergency Management at Tulane University After Hurricane Katrina

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In the Storm’s Wake:  
Emergency Management at Tulane University After Hurricane Katrina

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To Grace and David,
who have brought immeasurable joy to my life.
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Abstract

In the last twenty years, some of the most high profile emergencies in the United States have occurred on college campuses. Accordingly, the ability to effectively manage large-scale crises has never been of greater importance for American higher education. However, many campuses still struggle to prepare for these events. Although the academic literature provides accounts of institutional responses to emergencies, there has been no examination of the long-term effects that large-scale emergencies have on an institution’s subsequent approach to emergency management. Does enduring a large-scale emergency fundamentally change the way university leaders consider effective emergency management and, if so, how is this translated into practice?

This dissertation explores this question by analyzing the reverberations of one of the most devastating emergencies in recent higher education history: the evacuation and temporary closure of Tulane University in response to Hurricane Katrina. The study gains insight into the hurricane’s lasting impact on Tulane’s emergency preparations and procedures through qualitative interview data from conversations with current and former administrative leaders at the university (n=20). I analyze these data using Leonard & Howitt’s (2007) framework for emergency management, which asserts that making specific distinctions among emergencies may facilitate more effective preparations for events that are difficult to anticipate. This research is the first application of Leonard and Howitt’s (2007) framework to a collegiate setting.
Findings suggest that the administrators who facilitated Tulane’s response to Hurricane Katrina exhibited the unique capabilities Leonard and Howitt (2007) deem necessary to manage an unprecedented disaster. However, the changes in the university’s post-Katrina emergency planning appear to have been oriented towards enhancing preparations for future routine incidents and did not formally incorporate the specific capabilities that had facilitated their success during the response to Hurricane Katrina.
Chapter 1. Introduction

Emergencies are an inevitable phenomenon on college campuses.¹ These events range from expected and common occurrences like accidental deaths and student suicides to larger-scale and potentially mission-threatening events like Hurricane Katrina. Irrespective of scope, potential loss, or the extent to which these events can be foreseen, any emergency can be devastating to a community’s wellbeing and have lasting physical, emotional, financial, and reputational consequences (Mitroff, Diamond, & Alpaslan, 2006).

The ability to effectively anticipate and manage these events has never been of greater importance for American higher education. In the last decade, some of the most high profile emergencies in the United States have occurred on college campuses.² Following the destruction wrought by Hurricane Katrina in 2005, which resulted in more than 1800 deaths and $135 billion dollars in damage in the Gulf Coast region of the United States, Tulane University’s then-President, Scott Cowen, “feared that the university might never reopen” (Plyer, 2016; Knabb, Robe, & Brown, 2005; Elliott & Pais, 2006; Blake, Landsea, & NHC Miami, 2006).

¹ Higher education researchers and practitioners do not distinguish between the terms “emergency” and “crisis” in the literature. I broadly use the word “emergency” to encompass all events that pose as risks to college communities. When describing the literature I employ the authors’ voices and use the terms present in their writing. Later, I distinguish between “emergencies” and “crises” and discuss the implications for doing so.
² In this dissertation, I use “college” and “university” interchangeably in reference to traditional, four-year institutions of higher education in the United States.
In 2007, an undergraduate murdered thirty-two people at Virginia Tech in one of the deadliest recorded shootings in United States history (Hauser & O’Connor, 2007). In 2012, Pennsylvania State University Assistant Football Coach Jerry Sandusky was found guilty of sexually assaulting children on campus and at his home, the details of which were covered up by university officials. Penn State President Graham Spanier was forced to resign and renowned Football Coach Joe Paterno was fired. The university eventually settled with twenty-six of Sandusky’s victims for nearly sixty million dollars (LaTorre, 2013). In 2018, Michigan State University reached a $500 million dollar settlement with 332 people who were sexually abused by Larry Nassar, a former sports doctor at the university, in what has been deemed the “worst sex abuse case in sports history” (Associated Press, 2018). These events have caused devastating trauma, the loss of many lives, severe financial consequences, and turmoil, among other ramifications. They have also “alerted university leaders and governing boards to the full danger of natural and manmade disasters” and have motivated many to reassess their institution’s emergency management strategies (Mitroff, Diamond, & Alpaslan, 2006).

Despite institutions’ growing concern about preparations to face such incidents, readying a campus for a substantially disruptive emergency remains challenging for most. A review of the emergency management literature specific to higher education suggests it is not effectively supporting practice regarding large-scale emergencies (Hahn, 2014). Evidence of the frustration and difficulty
that campus leaders encounter as they seek to improve their institutions’
emergency readiness appears in anecdotes throughout the literature on higher
education. It is also compellingly relayed by participants in Harvard’s annual
Crisis Leadership in Higher Education program, where institutional leaders
including presidents, chancellors, provosts, police officers, and communications
professionals from around the world learn about strategies to more effectively
anticipate and handle critical incidents.³

If practitioners recognize the need to prioritize emergency preparedness and
are motivated to do so, why do so many campuses struggle to implement and
sustain improvements to their emergency response capabilities? The academic
literature to date sheds little light on this question: although it provides accounts of
institutional responses to emergencies, there has been no examination of the long-
term effects that these events have on subsequent practice after a school has
experienced a crisis. Does enduring a large-scale emergency fundamentally
change the way university leaders consider effective emergency management and,
if so, how is this translated into practice?

This dissertation explores this question by analyzing the events and
reverberations of one of the most devastating emergencies in recent higher
education history: the evacuation and temporary closure of Tulane University in
response to Hurricane Katrina. Tulane is an ideal site for investigating this

³ Faculty from Harvard’s Graduate School of Education and Kennedy School of
Government jointly facilitate a weeklong program aimed at improving emergency
management practices on college campuses.
question because it endured an unanticipated event of enormous magnitude. In light of Hurricane Katrina’s devastation, Tulane’s response has been considered a success based on multiple external measures. The university managed to reopen within five months despite sustaining $500 million dollars in damage and operating at a $120 million dollar deficit as of December 2005 (Informal communication with Tulane administrator, April 9, 2012).4 Two years after Hurricane Katrina, enrollment at Tulane was on the rise, with a 56 percent increase in the number of matriculating students in 2007 over the previous year. The number increased another 20 percent in the fall of 2008 (Cowen, 2009). In 2010, Tulane received nearly 44,000 applications for undergraduate admissions, “the largest [number of applications] of all private universities in the country” that year according to an email President Cowen sent to the university community (Hoover, 2010). The university also surpassed its record for research awards in 2008 (by 15 percent) for more than $160 million in funding and, additionally, completed a $700 million capital campaign despite the attrition of approximately half of the development staff following the hurricane (Cowen, 2009). In the same year, Kaplan/Newsweek named Tulane as one of the twenty-five “Hottest Schools in America” (“Tulane: A Plan for Renewal,” n.d.). Three years after Katrina, the university appeared to have endured the crisis and recovered.

4 In April 2012, I communicated with two employees at Tulane. The purpose was to learn more about the university’s experience during Hurricane Katrina in order to complete a course project. These employees are also participants of the current study.
The following study examines the events at Tulane during and after the 2005 hurricane, with particular attention to whether and how the incident prompted lasting changes in the institution’s policies and preparation for future emergencies. A previous dissertation (Johnson, 2007) examined Tulane’s response to Hurricane Katrina. The following study moves beyond that by examining how Tulane’s leadership subsequently reflected on the response and the hurricane’s lasting impact on the school’s emergency preparations and procedures.

The study addresses the following research questions about Tulane and its Hurricane Katrina experience:

1. How did Tulane prepare for emergencies before Hurricane Katrina?

2. How were the institution’s emergency preparedness efforts helpful during and immediately after Katrina? What were the limitations of these efforts?

3. In retrospect, how do Tulane’s administrative leaders evaluate the response?

4. Have emergency management practices at Tulane changed since the hurricane?

I gained insight into these questions by conducting and analyzing twenty semi-structured interviews with current and former senior administrative leaders at Tulane about the experience and related emergency management matters.\(^5\) I also examined secondary source materials, including published articles and publicly

\(^{5}\) I use the terms “informants,” “participants,” and “interviewees” to specifically refer to the individuals who participated in the study unless otherwise noted.
available interviews given by senior officials from the university about Tulane and Hurricane Katrina. Lastly, I examine these findings in light of a theoretical framework for understanding emergency management by Leonard and Howitt (2007). These authors argue that making specific distinctions among emergencies may facilitate more effective preparation for events that are difficult to anticipate (Leonard & Howitt, 2007). My work is the first to apply this framework to a collegiate setting, yielding insights about Leonard and Howitt’s (2007) theory as well as effective emergency management practices in higher education.

The analysis contributes to a small but growing collection of research about emergency management in higher education. My findings suggest that the administrators who facilitated Tulane’s response to Hurricane Katrina exhibited the unique capabilities Leonard and Howitt (2007) deem necessary to manage an unprecedented disaster. However, the changes in the university’s post-Katrina emergency planning focused on updating preparations for routine incidents. They did not directly consider how they might build into their plans and practices the approaches they had employed in the “non-routine” Katrina crisis.

This dissertation is organized into eight chapters. Following the introduction, Chapter Two presents a review of the emergency management literature specific to colleges and universities. The second chapter also introduces the theory of distinguishing between disaster types that offers a new framework for understanding emergency preparedness in higher education.
Chapter Three outlines the research design and methodology for the study. Chapter Four presents a narrative account of the events around Hurricane Katrina, reconstructed from my analysis of published sources and informal conversations with Tulane administrators with a focus on how university’s leaders navigated the crisis and the role and limitations of prior planning in guiding their response (Hahn, 2012).

The next two chapters examine the findings from my interviews with members of Tulane’s former and current administration. Chapter Five focuses on the university’s approach to emergency management before Hurricane Katrina. Chapter Six examines the informants’ reflections on the university’s response to the hurricane while Chapter Seven addresses how Tulane’s approach to emergency management changed in the remaining years of Scott Cowen’s presidency. In the final chapter, I analyze the findings with Leonard and Howitt’s (2007) theory and discuss the implications of these findings for practice (See Appendix A throughout the dissertation for a description of keys terms and people).

This dissertation informs both research and practice on emergency management in a higher education setting. The analysis contributes to our understanding of one institution’s experience responding to an unprecedented event and draws practical and theoretical insights from this account. For practitioners, Tulane’s experience reveals the potential reasons for and consequences of effective emergency management. Indeed, the university’s success in responding to Hurricane Katrina may have contributed to its leadership
overlooking the need to codify some of the processes that were critical to their success. For researchers, the analysis generates new hypotheses based on the use of Leonard and Howitt’s (2007) framework for emergency management, suggesting new avenues of research that will help improve institutional readiness for future crises.
Chapter 2. Literature Review and Theoretical Framework

Chapter Two provides a review of the emergency management literature and explicates the theoretical framework used later in the analysis. It is organized in three sections. The first presents a descriptive overview of the emergency management literature specific to higher education. This includes a discussion about the types of emergencies addressed by the literature, key terminology and definitions, and a summary of effective emergency management practices. I also note the absence of one critical distinction pertaining to the way emergencies are characterized in the literature. In the second section, I present Leonard and Howitt’s (2007) theory as a promising framework for addressing a critical gap in the higher education emergency management literature, and in the final section, I discuss colleges as organizations and the implications that their unique features have for emergency management.

Higher Education Emergency Management Literature

Emergency management is a field aimed at managing risk and limiting the loss of life and property from an emergency. Haddow, Bullock, & Coppola (2017) have written, “A simple definition for emergency management is a discipline that deals with risk and risk avoidance” (p. 2). Although risk avoidance is an inherent part of human nature, emergency management, as a field, is relatively new, tracing to the Cold War era of the 1950s (Haddow, Bullock, & Coppola, 2017). The field has evolved substantially since then, spurred in the United States by destructive events like Hurricane Betsy in 1965, the 1979 accident at the Three Mile Island
nuclear power plant, Hurricane Hugo in 1989, the 9/11 terrorist attack, and Hurricane Katrina (Haddow, Bullock, & Coppola, 2017). In 1978, President Carter began the process of consolidating all emergency preparation and response capabilities and programs into a single federal agency, which led to the establishment of the Federal Emergency Management Agency (FEMA) in 1979 (Haddow, Bullock, & Coppola, 2017).

According to FEMA, the common standard for best practice encompasses risk assessment and a four-phased approach to emergency management. A risk assessment involves considering the different types of hazards that could affect an organization and the nature and scope of potential loss—in other words, what assets might be in jeopardy and to what extent. With an understanding of potential risks, the current standard for best practice requires investing in four phases of emergency planning. These include: mitigation, preparedness, response, and recovery. To the extent possible, organizations should seek to prevent an emergency from happening and, if prevention is not possible, to limit the consequences and loss from an emergency. For those risks that cannot be mitigated, an organization should prepare for an emergency in advance. For example, organizations in hurricane-prone regions typically have evacuation plans. Organizations should also prepare for the response phase, which involves enacting

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6 FEMA presents three categories of hazards including natural hazards (e.g. hurricanes, tornadoes, flooding, pandemics, etc.), man-made hazards (e.g. accidents, terrorist attacks, riots, etc.), and technological hazards (e.g. loss of data, loss of connectivity, hardware failure, etc.) (Plan ahead for disasters, n.d.).
pre-established plans and the actions that must happen during an emergency to reduce loss. The final phase involves planning for the recovery or period following the emergency in order to reestablish equilibrium or resume operations (Plan ahead for disasters, n.d.).

The emergency management field has only minimally addressed the complexities of preparing for and responding to emergencies within a college setting. Demand from higher education practitioners for guidance on handling crises has spurred the development of a subset of emergency management literature that addresses colleges, but this literature is relatively new and undeveloped. Furthermore, the challenges that institutions are experiencing suggest that this literature may not be adequately supporting practice.

The higher education emergency management literature is limited in quantity and scope. Most of the available articles and books are prescriptive in nature and are grounded in the first-hand experiences of presidents, provosts, police chiefs, and communications and student affairs professionals who have led institutions through a range of emergency situations. Some practitioners draw from several different emergency incidents they have experienced while working in higher education (Hargis, Bird, & Phillips, 2014; Wildes, 2007; Powell, 2008). Others derive lessons from specific cases (Lawson, 2014; Mason, 2014; Nelson, 2014; Brown, 2014; O’Rourke, 2014; Cowen, 2009). Writers typically extrapolate from their particular experiences a set of non-event-specific recommendations that may be useful for other practitioners in a range of emergencies. For example,
Mike Nelson, the vice president for student affairs and vice provost for academic affairs at the University of Alabama, authored a chapter about the 2011 Tuscaloosa tornado in the edited book, *Managing the Unthinkable: Crisis Preparation and Response for Campus Leaders* (2014). Following a thorough description of the event, he offers six general recommendations to inform future emergency preparedness, including suggestions like the creation of a plan with partners outside of the university community and developing a plan to help employees personally cope with the emotional effects of an event (Nelson, 2014).

The primary dimension upon which the literature varies is the detail associated with the recommendations. Some writers focus closely on one component of emergency response, like an institution’s communications strategy (Lawson, 2007; Lawson, 2014; Hincker, 2014; Parrot, 2014). Others assume a more general approach like that of Mike Nelson, described above. Though the practitioners contributing to this body of literature represent a range of institutions, there is little material that purposefully addresses the unique complexities confronting different types of institutions such as public and private universities, community colleges, or those serving the growing population of nontraditional college students.⁷ This has led to recommendations that are either excessively

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⁷ Characteristics that define nontraditional college students include age (students are typically older, over age 24), living off-campus, working full-time while in school, have dependents, or having taken time off before matriculation (National Center for Education Statistics, 2014).
generic or overly specific in order to be practically useful to many institutions
given the multitude of dimensions involved in emergency preparedness.

**Emergencies addressed by the literature.** The emergency management
literature specific to higher education categorizes emergencies primarily based on
the event’s source. These include man-made emergencies (e.g., school shootings),
environmental emergencies (e.g., hurricanes, tornadoes, and floods), and events
originating in campus facilities (e.g., power outages, fires, and lab explosions)
(Siegel, 1994; Zdziarski, Dunkel, & Rollo, 2007; Myer, James, & Moulton, 2011;
Wildes, 2007). The literature most frequently cites weather-related events (Miser
& Cherrey, 2009; Foote, 1996; Duncan & Miser, 2000; Siegel, 1994; Zdziarski,
Dunkel, & Rollo, 2007; Hyatt, 2010; Foster & Lipka, 2007; Cufaude, 2002;
Browning, Kubick, Rigsby, & Roberts, 2010) and episodes of school violence
(Siegel, 1994; Zdziarski, Dunkel, & Rollo, 2007; Myer, James, & Moulton, 2011;
Nicoletti, Spencer-Thomas, & Bollinger, 2001), specifically campus shootings
(Hemphill & Hephner LaBanc, 2010). Accordingly, the literature focuses on
larger, more destructive emergencies that occur less frequently, like school
shootings, as opposed to smaller-scale events that are more limited in scope.

**Definition and conceptualization of “Emergency.”**

The literature demonstrates a surprising lack of clarity surrounding the
definition of an emergency in a higher education setting. While several texts
provide a framework and language for conceptualizing emergency management on
college and university campuses (Myer, James, & Moulton, 2011; Zdziarski,
Dunkel, & Rollo, 2007), the overwhelming majority of work, specifically the practitioner-based literature, does not. Researchers and practitioners rarely define terminology or explicate central concepts and so terms like “emergencies,” “crises,” “events,” and “hazards” are often used interchangeably (Zdziarski, Dunkel, Rollo, 2007; Myer, James, & Moulton, 2011; Zdziarski, 2006; LaBanc et al., 2010).

The lack of specificity of the language used to discuss emergency management is revealing of the current state of discourse, practice, and conceptualization of emergencies in higher education. Following high-profile events like the Virginia Tech shooting, practitioners sought to improve emergency management practices. However, they have not considered the ways that crises vary, other than by source and scale, and what these variations imply for effective preparation and response. This lack of nuance is problematic because it results in the same approach to managing all crises. A more sophisticated understanding of emergencies and the dimensions upon which they vary can lead to better strategies for emergency preparedness, a motivating force of this research.

The most commonly accepted definition of crisis is that of Dr. Eugene Zdziarski (2006) who, based on common characteristics gleaned from the emergency management literature, has proposed that:

A campus crisis is an event, often sudden or unexpected, that disrupts the normal operations of the institution or its educational mission and threatens the well-being of personnel, property, financial resources, and/or reputation.
of the institution. In a strict sense, a crisis usually affects the entire institution. (Zdziarski, 2006, p. 4)

In addition to presenting three defining attributes of campus crises, namely the elements of surprise, disruption, and potential for loss, Zdziarski’s conceptualization of “crisis” involves a fourth dimension related to scope. He distinguishes between disasters, crises, and critical incidents based on level of severity and potential threat to the institution and surrounding community. Zdziarski’s “disaster” is defined as an all-of-community event “that disrupts normal operations of not only the institution but the surrounding community as well” (Zdziarski, 2006, p. 4). A crisis, however, is more limited in scope; although it “disrupts the entire institution,” a crisis is contained to campus and does not affect the surrounding community (Zdziarski, 2006, p. 4). A critical incident is “an event that causes a disruption to part of the campus community” but does not disrupt or affect the entire institution or the surrounding community Zdziarski, 2006, p. 4).

The several texts that endeavor to define key terms rely on Zdziarski’s definition. Myer, James and Moulton (2011) concede that, “We’d like to think we could do better and come up with a really spiffy definition for crisis in institutions of higher education, but for now, Zdziarski’s (2006, p. 5) definition seems to capture the essence” (p. 17). They append Zdziarski’s language by referencing the timeline of a crisis and that it can “turn into a transcrisis that becomes residual and long lasting” (Myer, James and Moulton, 2011, p. 17). This is the only language to
acknowledge that emergencies are not necessarily singular, discrete events with
defined beginnings and ends. Myer et al.’s sentiment is representative of the
remaining literature: when writers feel compelled to define “crisis,” they use
Zdziarski’s definition (Myer, James and Moulton, 2011; Catullo, Walker, &
Floyd, 2009; Miser & Cherrey, 2009). Interestingly, however, the literature that
cites Zdziarski (2006) typically provides a partial definition; the fourth dimension
that differentiates among disasters, crises, and critical incidents is generally
omitted, as is any discussion about transcripts (Myer, James and Moulton, 2011;
Catullo, Walker, & Floyd, 2009; Miser & Cherrey, 2009). The latter omission is
noteworthy because it obscures an important dimension about managing campus
emergencies: there is often no clear endpoint and the effects of an event can linger
and even trigger additional emergencies.

Within the literature grounded in first-hand experience, writers rarely
discuss the way crises or emergencies are conceptualized or defined. Instead,
meaning is implicitly stated through examples. Some practitioners offer brief
descriptions of the situations that they have professionally encountered and, in
doing so, they establish credibility by describing the events that have informed
their expertise. Ken Wildes, the former Director of University Communications at
the University of Pennsylvania and Northwestern University, for example, begins
his (2007) op-ed by writing:

I have managed the full range of crises in an academic environment,
including student suicides, laboratory explosions, animal-rights activism,
campus visits by controversial public figures, serious campus-security issues, severe financial distress, and the controversial death of a teenager who was participating in a clinical trial.

Similarly, Powell (2008) writes:

During my career, I’ve had to deal with campus robberies and dead crows, students trampling on an American flag, and, tragically, a student publicly committing suicide. I’ve had to calm a college president who wanted to verbally attack a popular cultural figure at a public forum (it would have been harmful to the university and potentially fatal to the president’s career).

Others implicitly convey their meaning of emergencies or crises through categorical references to events like “violence” and “natural disasters” (Foster & Lipka, 2007) or reference several types of events like hurricanes, fires, earthquakes, data security breaches, mass shootings, rapes, riots, SARS, hostage-taking, chemical spills or food poisoning (Duncan & Miser, 2000; Foster & Lipka, 2007; Bataille, Billings, & Nellum, 2012; Connolly, 2012). Lastly, some imply their meaning of emergency through references to well-known events like Hurricane Katrina or the shooting at Virginia Tech (Selingo, 2008; In Search of Safer Communities, 2008; Building A Disaster-Resilient University, 2003; Carey, 2006; Carlson, 2010).

Miser and Cherrey (2009) summarize the scenario-based phenomenon of defining emergencies through examples: “Student affairs colleagues have
developed ways to define crisis work that is done on college campuses through the listing of situations such as death of a student, life-threatening injuries, loss of life and/or property” (p. 603). Collectively, the literature conveys that crises and emergencies are negative and unpredictable events that pose a threat to human capital, financial resources, as well as the core functions of the institution, specifically teaching, research, and public service (Selingo, 2008; Wildes, 2007; Foote, 1996; FEMA, 2003; Bataille, Billings, & Nellum, 2012; Brown, 2008).

In summary, the literature demonstrates a lack of nuance and agreement about the characteristics that distinguish emergencies from one another and what this means for emergency preparedness and response. Few writers explicitly define the language they use and practitioners frequently imply meaning by citing examples they have professionally encountered. This lack of clarity may persist because the field does not perceive a need for greater precision in the language used to discuss emergency management practices; the distinctions currently made about these events (e.g. scope and scale) are relatively simplistic. Nevertheless, this ambiguity may have implications for the way practitioners think about emergency management and, accordingly, the way colleges and universities prepare for the inevitable. How can researchers and practitioners effectively articulate sound emergency management practices when the language and conceptualization of crises remain unclear?

**Effective emergency management.** Despite ambiguity, the emergency management literature specific to colleges and universities argue that the primary
objectives of emergency management are twofold. Institutional leaders should seek to prevent or mitigate the negative consequences associated with emergencies and crises and strive to restore community wellbeing to pre-event levels, if not surpassing pre-event levels. Doing this well, according to the higher education emergency management literature, requires a constant and ongoing effort to maintain readiness (Myer, James, & Moulton, 2011; Zdziarski, Dunkel, & Rollo, 2007). Campus leaders must continually strive to prepare their schools in order to minimize damage and ensure an expedient recovery. This requires attention to maintaining, updating, discussing, and practicing contingency plans, ensuring employees understand their responsibilities, as well as ensuring the readiness and availability of material resources like potable water, food, additional phones, and contact information. Instead of focusing on the period of time following an event, the literature conceptualizes emergency management on an elongated timeline consisting of phases that account for the time before, during, and after an emergency (Myer, James, & Moulton, 2011; Zdziarski, Dunkel, & Rollo, 2007; LaBanc et al., 2010; Miser & Cherrey, 2009; Action Guide for Emergency Management at Institution of Higher Education, 2010). The periods before and after an event are recognized as critically important to minimizing losses and restoring community wellbeing, and this implies the importance of considering emergency management on an ongoing basis instead of as a reactionary process (Zdziarski, Rollo, & Dunkel, 2007). This approach further reinforces the idea of emergencies as discrete episodes and generally does not account for the possibility
of an event that may linger or be without an obvious endpoint, as captured by Myer, James, and Moulton’s (2011) description of a transcrisis. Institutions must be proactive and constantly invest in preparing for the next emergency; according to the literature, the ability to effectively minimize damage and restore institutional equilibrium depends on the planning and training efforts that are undertaken in advance (Siegel, 1994; LaBanc et al., 2010; Dunkel & Stump, 2001; Myer, James, & Moulton, 2011; Bataille & Cordova, 2014; Stafford, 2014; Rollo & Zdziarski, 2001b; Sherwood & McKelfresh, 2007; Hincker, 2014; Lawson, 2014; Nelson, 2014; Abraham, 2014; Gores; 2014; Wilson, 2007; Miser & Cherrey, 2009).

Within the phased approach to emergency management the literature focuses on the period of time before an event occurs and, specifically, on planning, mitigation, and training efforts (Rollo & Zdziarski, 2001b; Zdziarski, Rollo, Dunkel, 2001; Hincker, 2014; Stafford, 2014; Siegel, 1994; Nicoletti et. al, 2001; Myer, James, & Moulton, 2011; Bataille & Cordova, 2014; Nelson, 2014; Dunkel & Stump, 2001; Wilson, 2007; Miser & Cherrey, 2009). The implicit objective is for the institution to pre-establish as much of its response for a given emergency as possible. To this end, authors argue that colleges and universities should organize their emergency management services around the process of developing and maintaining thorough contingency plans that can be rapidly executed (Siegel, 1994; Nicoletti et al., 2001; Myer, James, & Moulton, 2011; Nelson, 2014; Miser & Cherrey, 2009). Accordingly, the work associated with emergency management
is shifted to the period of time before an event takes place and is aimed at eliminating potential friction when emergency response plans are implemented. The literature advocates that institutions develop a variety of plans, some larger and more general (LaBanc et al., 2010), as well as corresponding sub-plans for areas like data security and business continuity in addition to individual contingency plans for specific scenarios (Nicoletti et al., 2001; Rollo & Zdziarski, 2001b; Miser & Cherrey, 2009). As fire departments, military units, and the police regularly train for high-risk, high-intensity situations, so too should colleges and universities, according to authors. By planning and practicing ahead of time, institutions are theoretically able to reduce the amount of organizing that would otherwise be required in the midst of an emergency. The rationale is for maximum efficiency through a substantial investment in planning and practice.

Five themes emerge as integral to effective pre-event planning. They include the development of contingency plans, establishing emergency management teams, forging interagency partnerships, developing a strategy for news and communications, and proactively managing student mental health. The following sections describe these components of effective emergency preparedness in higher education.

**Contingency plans.** According to the literature, the importance of written plans cannot be overstated: they are the foundation of sound emergency management practice on college campuses (Bataille & Cordova, 2014; Zdziarski, Dunkel, and Rollo, 2007; Myer, James, and Moulton, 2011; Abraham, 2014).
Zdziasrski, Dunkel, and Rollo (2007) argue, “The existence of a written crisis management plan is perhaps the single most important crisis management tool a campus can have” (p. 74). The importance of planning is stressed for several reasons. First, institutional leaders have the opportunity to outline their response to an event without being affected by the chaos or stress of an emergency situation. This should facilitate a more thorough, organized response. Second, emergency management plans assign roles and responsibilities and clearly dictate decision-making authority so that people understand what they are expected to do when an event takes place. This is intended to reduce confusion and facilitate a swift reaction. Third, plans can be refined through practice and experience and this can improve an institution’s response. Lastly, plans convey a sense of order, control, and organization, which can be reassuring in the midst of an emergency.

Although the literature demonstrates consensus regarding the importance of establishing emergency response plans, there is little agreement about the process of creating these plans, their level of specificity, or their focus. Institutions are encouraged to create many plans. These range from event-specific contingency plans for likely emergencies to worst-case scenarios (Siegel, 1994; Nicoletti et al., 2001; Myer, James & Moulton, 2011; Abraham, 2014). Others advocate for an additional, all-encompassing plan that is sufficiently broad to account for a range of possible events (LaBanc et al., 2010; Myer, James, & Moulton, 2011). There is also a call for plans at varying levels of the institution including individual departments that need to account for their own potential emergencies. For
example, the literature advocates that the Chemistry department should develop plans based on potential accidents that could occur in a lab setting. Furthermore, the literature makes compelling arguments for the need to develop data security plans, business continuity plans, communications plans, and recovery plans in advance of potential emergencies. Generating, consistently maintaining, and coordinating all of the aforementioned plans is in keeping with the objective of pre-determining as much of an institution’s response as possible. When an emergency occurs, the objective is to have developed, maintained, and rehearsed the institutional response so that leaders are prepared to execute (Bataille & Cordova, 2014).

According to the literature, plans should assign roles and responsibilities as well as specify decision-making authority. Furthermore, they must be regularly maintained and updated in order to account for personnel changes and transitions as well as reflect lessons learned from managing similar events. Part of this ongoing maintenance must also reflect adaptations based on learning from other institutions’ experiences in managing emergencies (Myer, James, & Moulton, 2011; Zdziarski, Dunkel, & Rollo, 2007).

**Teams.** The literature states that teams are central to the process of preparing for and responding to campus emergencies (Hargis, Bird, & Phillips, 2014; Zdziarski, Dunkel, & Rollo, 2007; Myer, James, & Moulton, 2011; Bataille & Cordova, 2014). They are integral in developing, maintaining, and practicing an institution’s various response plans and they are typically responsible for
executing these plans. Authors advise that emergency management teams should be diverse in terms of the institutional offices they represent. Bataille and Cordova (2014) assert that variation in perspective enhances situational awareness and can facilitate more effective decision-making. Teams are instrumental in both anticipating potential emergencies as well as responding in the immediate aftermath of an event and coordinating the recovery process. Multiple teams, each with unique directives, responsibilities, and event-specific training may be helpful (Bataille & Cordova, 2014).

A specific kind of team has become prevalent on college campuses in recent years, specifically Threat Assessment Teams (TATs). The literature advocates that institutions should establish TATs in an effort to prevent emergencies by meeting regularly to monitor and share information about potentially troubled students (Nicoletti, Spencer-Thomas, & Bollinger, 2001). The purpose of these small groups is to reduce episodes of campus violence through the “careful and contextual identification and evaluation of behaviors that raise concern and may precede violent activity on campus” (LaBanc et al., 2010, p. 69). These teams have become an increasingly formalized component of many institutions’ emergency management strategies following high-profile examples of school violence like the 1999 shooting at Columbine High School when two students murdered 12 classmates and one teacher or the massacre at Virginia Tech (Myer, James, & Moulton, 2011; Abraham, 2014). They are typically small and comprised of representatives from campus law enforcement, health services,
residential life, and student affairs (Myer, James, & Moulton, 2011). In order to be effective, the literature suggests the group must meet regularly and invest considerable time in training and ongoing education (LaBanc et al., 2010). Regular exercises and training along with consultation with the institution’s general counsel’s office are also necessary to ensure the group abides by the laws governing the tracking and sharing of sensitive information (LaBanc et al., 2010, p. 69). Ideally, team members should meet weekly as well as attend regular trainings and conferences (LaBanc et al., 2010). By emphasizing the importance of teams, and particularly Threat Assessment Teams composed of representatives from a range of departments, the literature conveys the importance of information sharing in preventing some emergencies as well as the need to establish effective working relationships among administrators before they have to work with each other during an emergency.

The literature also advocates that institutions should consider establishing teams responsible for responding to emergencies and coordinating the institution’s recovery. Bataille and Cordova (2014) make the case that “campus leaders should also consider having multiple teams depending on the type of crisis” (p. 105). These teams may also be responsible for supporting the process of generating and maintaining emergency management plans in addition to preparing the community for their respective roles in the event of an emergency (Zdziarski, Dunkel, and Rollo, 2007). Other responsibilities include accounting for the campus community’s physical and mental health needs, responding to personnel concerns,
assisting with conflict management, and providing ongoing support following an emergency (Myer, James, and Moulton, 2011).

In addition to assembling groups of people to consider an institution’s preparation and response to emergencies, the writing on emergency management calls for leaders to prioritize the work associated with cultivating high functioning teams. This is necessary in order to ensure they perform effectively in an emergency. The team should work well together and value team cohesion and group consensus, meet and train regularly, represent a range of departments, and maintain a strong relationship with the president or chancellor. Team members must communicate effectively and reach agreement on each person’s specific role and responsibilities (Zdziarski, Dunkel, & Rollo, 2007; Bataille & Cordova, 2014; Nelson, 2014). It is imperative that individuals have the time to allocate towards these objectives, which must be viewed as “a form of continuing education” (Zdziarski, Dunkel, and Rollo, 2007, p. 59).

According to Zdziarski, Dunkel, and Rollo (2007), “when comprehensive teams are assembled, and there is effective leadership, team operations are clearly defined, and there is team training, crisis management teams can effectively manage any campus crisis” (p. 71).

**Training.** Practicing for emergencies and testing contingency plans is a critically important dimension of effective emergency management (Lawson, 2014) and is integral to supporting effective teams. Training should occur regularly and is aimed at “[allowing] the team to function in a learning
environment before it is called upon in an actual campus-wide crisis” (Jones et al., 2010, p. 166). The objective is to help the emergency response team develop confidence and competence through practice as well as “test the effectiveness and reliability of the procedures you laid out in the crisis management plan and assimilate to the role you will play during an actual crisis” (Myer, James, & Moulton, 2011, p. 129). Accordingly, training events can facilitate improved team functioning as well as contribute towards improving the institution’s emergency response plans. Training may occur in various forms including tabletop exercises, role-playing, drill exercises, and full-scale exercises, each of which present unique strengths and weaknesses (Myer, James, & Moulton, 2011). Tabletop exercises are not resource-intensive and are therefore relatively easy to organize and execute, but they lack realistic complexity. As a result, they can “provide only a superficial test of the crisis management plan because the lifelike chaos that often emerges during a real crisis is missing” (FEMA, 2006 in Myer, James, & Moulton, 2011, p. 131). The most effective training will occur regularly and will approximate the actual emergency situation as closely as possible in terms of the feelings, behaviors, and thoughts that members of the emergency response team will experience during an actual event (Myer, James, & Moulton, 2011; Lawson, 2014). Staging a full-scale exercise that resembles a real emergency is expensive and time-consuming but constitutes the most realistic and, therefore, effective form of training (Myer, James, & Moulton, 2011; Zdziarski, Dunkel, & Rollo, 2007).
The literature further advocates that institutions should embed redundancies in their training and preparatory efforts in the event some members are unavailable when an emergency occurs (Bataille & Cordova, 2014; Harrison, 2014; Zdziarski, Dunkel, & Rollo, 2007).

**Interagency partnerships.** In the event of a large-scale emergency that surpasses an institution’s resources, it is imperative that the university has interagency agreements with local and state partners who can support the response (Mason, 2014; Dunkel & Stump, 2007; Stafford, 2014; Brown, 2014; LaBanc et al., 2010). In addition to honing response plans for specific potential emergencies, establishing and maintaining relationships beyond the institution are critical for a sound emergency response (Bataille & Cordova, 2014; Dunkel & Stump, 2007). Developing mutual aid agreements with local police and fire departments as well as considering how to effectively partner with state police, the American Red Cross, the FBI, FEMA, and the Department of Homeland Security are critical (Zdziarski, Dunkel, and Rollo, 2007; Dunkel & Stump, 2007). Forging relationships and establishing mutual aid agreements with local agencies is especially important because institutions are likely to work with them more frequently than with state and federal organizations (Dunkel & Stump, 2007). Doing so requires that the individuals leading the institutional response effort have a working knowledge of how these groups are organized (Dunkel & Stump, 2007) and develop working relationships with their counterparts in these organizations (Dunkel & Stump, 2007; Myer, James, & Moulton, 2011; Bataille & Cordova,
The literature also advises establishing relationships with private businesses like electric companies, telecommunications vendors, and mental health professionals who may be able to supply valuable resources or equipment (Zdziarski, Dunkel, and Rollo, 2007; Dunkel & Stump, 2007; LaBanc et al., 2010). Doing so can mitigate potential conflict about authority and “turf” as well as facilitate a better coordinated response (Dunkel & Stump, 2007). Practitioners also cite the importance of campus presidents and chancellors maintaining collegial relationships with local representatives like the mayor and county officials which will “facilitate access to resources and increase trustworthiness” in the midst of an emergency (Brown, 2014, p. 93).

Communications. Preparing to respond to the media and maintaining the capability to quickly disseminate information to the campus community are critically important emergency management practices (Lawson, 2007, 2014; Stafford, 2014; Siegel, 1994; Bataille & Cordova, 2014). The literature argues that colleges and universities should have an internal emergency communications plan in place that can be rapidly executed. This can be instrumental in mitigating additional loss by notifying the community of existing threats or providing the campus community with basic instructions that will enable a more effective response. The objective of the plan is to disseminate information as efficiently as possible and reach all target audiences, which could include students, parents, faculty, staff, and alumni (Lawson, 2007, 2014; Zdziarski, Dunkel, & Rollo, 2007). Reaching these audiences requires choosing the best method of sharing the
information, whether it is through the institution’s website, phone recordings, text message alerts, emails, phone calls, or partnering with the media (Lawson, 2014; Myer, James, & Moulton, 2011).

The literature stresses the importance of anticipating the needs of the media and treating them as partners who can aid in conveying the institution’s message repeatedly and consistently (Duncan & Miser, 2000; Lawson, 2014; Stafford, 2014). The extent to which a campus is able to effectively work with the media can have a meaningful effect on the community’s perception of how well the institution is responding to the event and can also be an effective way to share information with the public (Lawson, 2014; Bataille & Cordova, 2014).

Another component of effectively managing communications is pre-scripting as much content as possible to reduce error as well as the demands on staff in the midst of an emergency. This includes generating templates of messages that can be readily distributed and identifying a spokesperson ahead of time.

**Student mental health.** Due to the established connection between mental illness and incidents like suicide, the literature argues that institutions must prioritize student mental health as part of their effort to prevent crises (Knowles & Dungy, 2010). This requires reducing the stigma that is often associated with mental illness and helping students access mental health resources. In doing so, the literature advocates that institutions develop a method for tracking and sharing information about potentially troubled students (Knowles & Dungy, 2010). By consolidating information in a central location, the literature argues that
institutions will be better positioned to follow these students and intervene before a behavioral health emergency occurs (Knowles & Dungy, 2010).

**Summary: Higher education emergency management literature**

In summary, the literature characterizes effective emergency management as an effort focused primarily on advanced planning and coordination in order to ensure that resources like specific contingency plans and agreements with local partners are available if needed. This type of preparation encompasses both specific contingency plans as well as broader efforts like maintaining relationships with internal and external partners, cultivating high performance teams, and improving the climate related to student mental health through sharing information among departments and early intervention. In order to achieve this level of preparation, emergency management must be a central, and even daily, institutional priority reflected by a substantial investment of time and financial resources. Many institutions have sought to accomplish this through bureaucratic expansion in the form of an office or administrative position aimed at coordinating and maintaining preparatory efforts. Such a position keeps senior leaders from being encumbered with the constant work associated with emergency preparedness. Given the cost of this preparation, and particularly in light of the emergency management challenges that college leaders are experiencing, there is a need to critically examine the strategy advocated by the literature.

The preceding examination of the emergency management literature reveals several important findings that are pertinent to a study of emergency preparedness
at Tulane. First, there is no common definition within the field for terms like “emergency” and “crisis.” As previously described, such terminology is used interchangeably and the only distinctions made among high-risk events pertain to their scope and consequences. Because the literature makes only basic distinctions among emergencies, based on features such as scale, it is no surprise that the lack of nuance in terminology is carried forward in the general, broad-strokes advice that authors give. The literature asserts that practitioners can sufficiently prepare for all emergencies by developing contingency plans, training highly effective teams to develop and carry out these plans, addressing media relations and communications, proactively attending to student mental health concerns, conducting routine training exercises, and establishing interagency partnerships. The literature implicitly suggests that with enough preparation, colleges should be able to scale their efforts in order to effectively respond to any event. Given practitioners’ difficulties and the resource intensive nature of these efforts, it is important to consider the implications and potential shortcomings of this approach. This is problematic in its assumption of available resources: planning in a way that is consistent with the literature’s recommendations requires extensive resources, namely money and time, which many institutions do not have. Furthermore, this type of planning can contribute to a sense of false security in which administrators perceive they are ready but, in reality, are ill-equipped to effectively manage emergencies that they have not anticipated.
By failing to clearly define terms like *crisis* and *emergency* and by broadly categorizing potentially existential events like Hurricane Katrina alongside more common emergencies, the literature oversimplifies campus threats. Offering general advice for disparate kinds of events suggests that all emergencies, from individual student concerns to more complex and destructive events, warrant a similar type of preparation and response. Although a single student death may be destabilizing for a subset of the campus community, such an event, though tragic, intuitively requires a very different institutional response than a mission-threatening emergency like Hurricane Katrina. In order to articulate this difference along with a more nuanced discussion of corresponding strategies for preparation and response, practitioners and researchers must refine their thinking about what defines an emergency beyond citing differences in scale.

**Theoretical Framework**

Leonard and Howitt’s (2007) framework for emergency management is aimed at improving readiness for especially complex events. Although not written explicitly for colleges and universities, their theory is especially promising for the higher education community because it addresses a unique approach for preparing for low-probability, high-threat events that are difficult to anticipate. Leonard & Howitt (2007) differentiate between two types of events, those that are routine and those that are defined by novelty (See Appendix C for a model of Leonard and Howitt’s theoretical framework and Appendix D for a side-by-side comparison of routine and novel events). Routine emergencies are relatively predictable and, as a
result, can often be anticipated, planned for, and effectively managed by executing pre-established response plans and drawing from lessons learned during similar events (Leonard and Howitt, 2007). Within the context of higher education, examples of routine emergencies could include alcohol poisoning, acquaintance rape, or even a student suicide. While these are serious events, they are known to occur on college campuses, and therefore protocols for responding to them can be developed and practiced. True “crisis emergencies,” however, are defined by their novelty, either in terms of threats that have not been previously encountered or in the form of a routine emergency whose scope exceeds what an institution is equipped to manage (Howitt & Leonard, 2009, p. 5). Crisis emergencies or “true crises” can also result from a combination of routine events that occur simultaneously and introduce new challenges.

According to Leonard and Howitt, “an important consequence flows from considering novelty to be the defining feature of a crisis. Because of the novelty, predetermined emergency plans and response behavior that may function quite well in dealing with routine emergencies are frequently grossly inadequate or even counterproductive” (Howitt & Leonard, 2009, p. 5). The novelty introduces considerable challenge in terms of anticipating, preparing for, and handling crises and requires a different approach to emergency management, specifically one that deviates from a focus on pre-established plans. Howitt and Leonard (2009) argue that true crises require “different capabilities” for assembling an effective response, beginning with the need to recognize the event’s novelty followed by the
ability to improvise a response that sufficiently accounts for these features. An effective response relies on creativity and adaptability in the face of great uncertainty. In other words, when confronted by a novel event:

>[N]o one is a “substantive” expert—no one knows what to do. When no one knows what to do, response leaders, under stress, have to think their way through—developing an understanding of a situation with potentially great and unknown uncertainties, analyzing possible courses of action, and then executing untried, untested and unperfected sequences of action.

(Leonard & Howitt, 2006, p. 10)

However, “[e]quipping organizations to recognize the novelty in a crisis and improvise skillfully is thus a far different (and far more difficult) matter than preparing them mainly to implement preset emergency plans” (Howitt & Leonard, 2009, p. 6).

When Leonard and Howitt’s (2007) distinction is applied to higher education, it becomes clear that the current orientation towards emergency management singularly prepares colleges for routine emergencies. Yet practitioners today are increasingly concerned about events that would fit Leonard and Howitt’s definition of a true crisis: while they may be of low probability for occurring, they would be highly destructive if they did. Hurricane Katrina raised concerns about environmental disasters. The deaths at Virginia Tech along with the threat of terrorism make campuses alarmed about the possibility of large-scale violence. Finally, events like the redacted Rolling Stone article about the rape
culture at UVA remind institutions that crises can have serious reputational consequences. The discussion does not account for the skills that are required to manage unanticipated developments, like the ability to innovate in high-stress environments. While advanced planning is adequate for routine emergencies and is an important foundational element in preparing for novel emergencies, true crises require innovative solutions. Although it is useful for colleges to develop business continuity plans and mutual aid agreements, Leonard and Howitt’s (2007) theory suggests that these alone will not be sufficient in the context of a true crisis. Contingency planning is an inadequate approach for managing novel emergencies, which are the very events that practitioners are most interested in learning how to better cope with. The result is that colleges are exclusively preparing for routine events and making little, if any, investment in harnessing and developing the skills that are already present on their campuses to handle true crises. From this perspective, it is unsurprising that practitioners are frustrated and concerned about the adequacy of their readiness for mission-threatening events.

Applying the novel/routine distinction to the literature’s presentation of effective emergency management demonstrates that the current strategy is insufficient to achieve the desired outcome at many institutions, which is to better prepare for emergencies of all kinds, not simply the ones they can predict. Colleges and universities are fairly adept at responding to routine events and it is important that schools are invested in this type of emergency preparedness for the most frequently occurring events. However, when all emergencies are approached
as routine, through a reliance on exhaustive planning with the intent of pre-
programming as much of the response as possible, the institution will be poorly
prepared when a true crisis occurs. Even if an institution adheres to the guidance
that they should generate contingency plans for a range of possible emergencies,
an event will inevitably occur that deviates, perhaps entirely, from pre-existing
plans. The lack of discussion about how to prepare for what cannot be anticipated
represents a substantial gap in the literature.

In addition to the inevitable reality that an institution will encounter a novel
event for which there is no contingency plan, maintaining the level of planning
specified by the literature is unrealistic for many campuses because doing so
requires considerable investments in time and financial resources. Understandably,
it is now common practice for institutions to delegate emergency management
responsibilities for the very reason that senior leaders cannot devote the time
required to constantly prioritize emergency preparation and readiness. The college
is not an organization primarily concerned with risk management. Other facets of
university life take priority, especially when emergencies do not occur daily, or
even weekly. Given the cost of the approach advocated by the literature and the
fact that it is insufficient for managing an entire category of emergencies,
specifically true crises, it is imperative that the field redefines the way it considers
emergency management.

**Elements of an effective response.** Leonard and Howitt argue that
effectively managing true crises requires a distinct skillset from the abilities that
lend themselves to efficiently responding to routine emergencies. Routine emergencies present recognizable, previously experienced events that involve greater clarity. The factors that lend themselves to effectively coping with these events involve expertise that results from repeated exposure, scripts that outline specific courses of action, roles, and responsibilities, and an experienced leader who can make immediate recognition-primed decisions based on identifying “patterns of circumstances [that] trigger appropriate, nearly automatic responses” (Leonard & Howitt, 2007, p. 3). Leonard and Howitt argue that this type of critical incident requires well-established, practiced scripts, and the leader’s ability to effectively execute the pre-scripted emergency plan. According to Leonard and Howitt, these skills, though important for effectively managing routine emergencies, are insufficient to cope with a true crisis.

True crises present novel circumstances and, as a result, more ambiguity about the circumstances and what information is most relevant or critical to decision-making (Leonard & Howitt, 2007). There are no scripts to guide the response and so leaders must create novel solutions or significantly modify the routines for more predictable emergencies. Doing this well necessarily requires an organization to test out courses of action that have not been previously executed and therefore may not be perfect as well as substantial collaboration with people from different parts of the organization and beyond the organization who can contribute the unique skills that may be required by the circumstances (Leonard & Howitt, 2007). Leonard and Howitt also note the importance of a “variably
flattened organization” that lends itself to gathering information and maintaining situational awareness (Leonard & Howitt, 2007, p. 4). According to Leonard and Howitt, the absence of a pre-scripted response plan requires leaders to make cognitively-driven decisions (as opposed to more instantaneous recognition-primed decisions) and “proceed through a standard analytical process: the identification of objectives, the development of alternatives, the prediction of likely results from different approaches, and the choice of best action” (Leonard & Howitt, 2007, p. 4).

Leonard and Howitt argue that if institutions make more nuanced distinctions among emergencies based on the presence of novel characteristics, they can specifically prepare for true crises. However, this requires a fundamental rethinking about the way colleges and universities conceive of and approach emergencies. For example, institutions would need to develop the capacity to establish situational awareness in the midst of considerable uncertainty as well as innovate in high stress environments (Leonard & Howitt, 2006)(See Appendix E for a description of organizational characteristics important for responding to true crises). Fortunately, many of the characteristics that distinguish colleges from other organizations can be advantageous for managing true crises. Higher education’s flatter, more inclusive governance structure accounts for multiple perspectives and this can facilitate the process of rapid innovation and creative problem solving. Furthermore, skills like creativity, innovation, and problem solving can assist leaders in addressing campus emergencies, especially true
crises, and are also attributes that colleges and universities value and cultivate. The challenge is in harnessing these potential advantages and more purposefully applying them towards effective emergency management (Hahn, 2014).

A critical first step towards preparing for novel events requires an expansion of the present conceptualization of emergencies; practitioners and researchers must more clearly articulate what constitutes an emergency and, specifically, differentiate between events based on the presence of novel features. The current dialogue is muddled and this is evidenced by the lack of agreement surrounding the basic definition of an emergency. If this persists, it is implausible that the current orientation towards emergency management will ever expand to account for novel events. Leonard and Howitt’s (2007) work contributes an important yet missing distinction to the literature of emergency management that may prove particularly valuable to institutions of higher education seeking to prepare for events that defy leaders’ efforts and abilities to plan ahead. This is especially important in complex organizations like colleges and universities in which the unique organizational characteristics make emergency management more challenging.

**Colleges as Organizations**

Robert Birnbaum and J. Victor Baldridge, esteemed scholars of higher education organization, governance, and leadership, have written extensively about the features that distinguish colleges. In their respective works, Birnbaum and Baldridge present characteristics that distinguish colleges and universities
from other kinds of organizations such as businesses. They note that institutions of higher education are complex organizations, differentiated by features like decentralization, goal ambiguity, and increasing environmental vulnerability (Baldridge, 1978; Birnbaum, 1988; See Appendix B for a description of qualities differentiating colleges as organizations). Because traditional management theories common to businesses may not be applicable to colleges and universities (Birnbaum, 1988), an exploration of these characteristics may inform our understanding of the challenges associated with emergency management in a collegiate setting.

Effectively managing emergencies presents a challenge for any organization but may be especially difficult to accomplish on a college campus. The governance structure, for example, involves faculty, administrators, and governing boards sharing control of the institution’s central functions (e.g. teaching, research, and service). Basic questions of power and control are not straightforward and “the authority of various constituencies to participate in or make decisions is often unclear and frequently contested” (Birnbaum, 1988, p. 28). Unlike in a traditional business or government body, the college president’s role is highly symbolic, sometimes more so than it is “instrumental,” and “there is no center of authority analogous to the owners of the corporation, to the cabinet member, governor or mayor” (Corson, 1979, p. 7 cited in Birnbaum, 1988 p. 28). Furthermore, decisions are not made unilaterally the way they can be within a business context (Birnbaum, 1988). Together, the decentralized and distributed
nature of leadership in higher education may complicate emergency management and slow the decision-making process, which can exacerbate damages.

Beyond the challenges associated with shared decision-making, colleges have become increasingly decentralized organizations due to faculty specialization and reduced administrative control leading to “schools or departments [becoming] the locus of decision making [in which] the larger institution may become an academic holding company, presiding over a federation of quasi-autonomous subunits” (Birnbaum, 1988 p. 17). As a result, even seemingly basic efforts like adopting a common, university-wide calendar can become difficult to accomplish. Considering emergency management from this perspective highlights the formidable challenge facing institutional leaders who must be able to coordinate an effective response in this unique landscape under highly stressful circumstances. It is not surprising then, that colleges and universities continue to struggle with how to more effectively prepare for and respond to emergencies.

Birnbaum (1988) also cites the increasing vulnerability from the external environment as a unique feature of higher education organizations. Traditional campuses are often open and accessible to the public. Typically, this includes campus grounds as well as many buildings and facilities and is in keeping with values of openness and service to the greater community. This introduces added risk at many institutions where visitors may enter and exit campus at their will. A college can reduce risk by closing the campus to visitors, but doing so would be
antithetical to its values. Accordingly, institutions assume considerable risk that they must be able to effectively manage.

Beyond the physically open nature of many colleges, institutions are vulnerable because they celebrate the diversity of ideas and encourage discourse even when it is polarizing. In this way, they invite the broader debates that are occurring nationally and internationally. In the 30 years since Birnbaum’s discussion of the influences of the external environment, concerns related to security in various forms have made campus openness a charged issue. Many institutions require identification to access certain spaces but also maintain open grounds; there are digital walls but increasingly available open resources; institutions prize the importance of free speech but are rocked by division regarding free speech versus providing a platform for speech that offends community members. Colleges are further vulnerable to the judgments of external constituency groups like alumni because they often rely on donations for financial sustainability, and risk instability if their positions oppose the values and interests of donors.

In addition to the features cited in Baldridge’s and Birnbaum’s work, there are other notable characteristics of higher education institutions that can affect their ability to manage emergencies. Many universities are organized to support a unique constituency group—undergraduate students—many of whom traditionally begin college during late adolescence and have not enjoyed independence until they move into a college dormitory. The transitional period from adolescence to
adulthood is marked by rapid cognitive development and physical growth but can also be a dangerous phase due to risk-taking behavior often involving sexual activity, substance use, illegal activity, and unsafe driving (The Science of Adolescent Risk-Taking, 2011). Despite the demise of in loco parentis in the 1960s which restricted institutions’ oversight of students’ private lives, colleges and universities maintain a “duty of care” based on the unique relationship they have with students and act as “facilitators of student development” (Lee, 2011, p. 89).

Another important dimension of higher education to consider is the role of tenure as a cornerstone of the academic profession. Tenured faculty members fulfill a critical role through teaching, research, and service and their tenured status affords them privileges and protection that employees in most other organizations do not have. Tenure is historically rooted in the protection of academic freedom, which is considered “fundamental to the advancement of truth” (AAUP, 1940). At their core, “Institutions of higher education are conducted for the common good” and this “depends upon the free search for truth and its free exposition” (AAUP, 1940). This sacred value, however, can also pose challenges in the midst or aftermath of an emergency when the institution is limited in its ability to control outspoken faculty members.

These fundamental organizational characteristics of colleges—multiple missions, goal ambiguity, decentralization, vulnerability to external forces, shared governance and decision-making, the undergraduate student population, and the
role of tenure—present obstacles for effective emergency management and underscore the difficulty of responding to emergencies in higher education. However, the literature does not account for this complexity. It neither discusses how institutions should address the problematic aspects of these organizational characteristics nor does it address how these features may facilitate an effective response (Hahn, 2014).

Tulane’s experience with Hurricane Katrina offers an opportunity to observe the implications of these organizational features for emergency management and consider how university leaders can account for the challenges they pose and make use of the potential advantages.

**Summary**

A review of the emergency management literature specific to higher education reveals several critical limitations. First, the literature does not employ a common definition of crisis and does not make meaningful distinctions among events beyond addressing scale. Even when scale is addressed, there is an implicit assumption that large-scale emergencies can be managed using the same approach. By focusing exclusively on the scale of events and failing to clearly articulate the dimensions upon which emergencies vary, the literature singularly approaches emergency management from the perspective of contingency planning, practice, and detailed coordination.

Leonard and Howitt’s (2007) theory about emergency management appears to be especially relevant to higher education leaders because the theory identifies
the type of emergencies that represent the most serious threat to the well-being of their institutions and specifies the unique skills that are required to effectively manage these true crises. Making specific distinctions among emergencies, according to Leonard and Howitt (2007), may facilitate more effective preparation for events that are difficult to anticipate. This will be the first application to an analysis of a major crisis in higher education.

This dissertation examines Tulane University’s preparation and response to Hurricane Katrina, one of the most devastating natural disasters in American history and an iconic example of a novel emergency. Examining Tulane’s approach to emergency management may inform our understanding of Leonard and Howitt’s (2007) theory as well as enhance our general understanding of effective emergency management practices in higher education. More specifically, while the literature provides accounts of institutional responses to emergencies, there has been no examination of the long-term effects that these events have on subsequent practice. Does enduring a large-scale emergency fundamentally change the way university leaders consider effective emergency management and, if so, how is this translated into practice? This study will shed light on these questions and generate hypotheses that will inform future research on emergency preparedness and response in a higher education context.
Chapter 3. Research Design and Methodology

This study examines how leaders at Tulane reflected on the institution’s response to Hurricane Katrina and the way this experience informed Tulane’s subsequent approach to emergency preparedness. To answer the guiding research questions, I designed an interview-based study with Tulane administrators who were knowledgeable about Tulane’s response to Hurricane Katrina in 2005 and the way emergency management practices evolved in the years between Katrina and the retirement of Tulane’s President, Scott Cowen, who led the university through the crisis and retired in 2014.\(^8\)

To attain varied in-depth perspectives on actual historic events, and thus to answer the questions posed for the study, I employed a research strategy centered on responsive interviewing. This technique allows the researcher to “examine the complexity of the real world by exploring multiple perspectives” and, in doing so, yields “more thoughtful and nuanced conclusions” than is possible with many other methods (Rubin & Rubin, 2012, p. 4). Charmaz (2006) asserts that qualitative interviewing allows for “an in-depth exploration of a particular topic or experience, and thus, is a useful method for interpretive inquiry” (p. 25). In short, this form of qualitative research is an effective method for developing meaningful insight into a complex phenomenon like Hurricane Katrina’s influence on emergency management at Tulane.

\(^8\) Following the initial round of data collection, I restricted the study to Dr. Cowen’s presidential term. A more thorough explanation of this is provided later in Chapter 4.
This chapter explains my methodological approach for site and participant selection, data collection, and analysis. It also explores several challenges that emerged during data collection and addresses the study’s limitations.

**Site Selection**

The present gap in emergency management literature exists, in part, because conducting research on crisis management in higher education is difficult. Although there are numerous examples of novel emergencies that have affected colleges and universities, few institutional representatives are able or willing to participate in research. For some, the trauma of a past event makes it difficult to recount their experience. Some may prefer not to open old wounds or make themselves vulnerable to scrutiny, especially if they feel they may be perceived as having contributed to the emergency or to a poor response. Many others are ineligible because of pending lawsuits or settlements involving nondisclosure agreements.

In my exploration of crises at colleges and universities, Tulane emerged as the most promising opportunity to study an institution’s experience in the context of a novel emergency. The university received positive attention for its response to Hurricane Katrina and many senior leaders who were present for the event have publicly discussed their experiences. The public documentation of Tulane’s experience also provides useful corroborating evidence against which to consider my own data. Additionally, more than ten years have passed since the Hurricane Katrina occurred and this allows me to explore any effect from the experience on
university policy and practice. Lastly, this case aligns with Leonard and Howitt’s (2007) characterization of a “true crisis” and offers an opportunity to apply their theoretical framework in a higher education context.

Recruiting Tulane’s participation required gaining approval from the university’s former president, Dr. Scott Cowen, who led the institution from 1998-2014. He was president during Hurricane Katrina and remained the university’s leader until his retirement eight years after the storm. Dr. Cowen’s support of the research was necessary for the advancement of the study and facilitated participant recruitment. The former president has remained in New Orleans and is still an active member of the Tulane community, in which he continues to teach.

**Participant Recruitment**

After discussing the proposed study with Dr. Cowen, I began recruiting additional participants. In preparation for this, I developed a list of twenty-one prospective interview candidates who were in senior administrative leadership positions at Tulane before, during, and immediately after Hurricane Katrina. I identified these individuals through secondary source material about Tulane’s experience during Hurricane Katrina and located all contact information using the directory located on the university’s website, publicly available profiles on the networking site LinkedIn, and through basic Internet searches.

I contacted the initial group of prospective interview candidates by email with a description of my research interests and a copy of the consent agreement (see Appendix F for the general recruitment letter and Appendix G for the
participant consent form). Many responded enthusiastically to my first email about the study. After ten days, I sent a follow-up email to the remaining individuals. I sent a third and final follow-up message approximately ten days after the second message. When scheduling interviews, I requested time for sixty to ninety-minute conversations, either in-person or by phone depending on availability, with the opportunity to follow-up by email or phone.

During my initial contact with participants, I shared a consent form approved by Harvard’s Committee on the Use of Human Subjects (CUHS) and described the steps I would take to ensure their privacy. I explained that, because of their position at Tulane and the high-profile nature of the university’s Katrina experience, I could not guarantee their anonymity even if I withheld their names. To maximize their privacy, I assured participants that I would not quote them with attribution unless I sought their approval. This is in keeping with Harvard’s standards for case research and was approved by CUHS as a Level 3 study involving human subjects. Furthermore, I discussed my interest in recording the interviews and the rationale for doing so, namely, that it would allow me to focus more on the conversation than on taking notes. At the beginning of each interview, I again sought permission to record the interview and all participants consented to the recording. In accordance with CUHS guidelines, I stored identifiable digital

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9 CUHS designates research levels based on potential adverse risk to participants and requires additional steps to ensure participants’ privacy and data security. For example, researchers working with Level 3 data must sign contracts with any vendor who will collect, process, host or store data with privacy related language that has been approved by Harvard’s Office of General Counsel.
data, including audio files, transcribed interviews, memos, and listening notes, on a password-protected computer in a locked office. I stored hard copies of identifiable data, including interview transcripts and field notes, in a fireproof document safe within a locked office.

I anticipated that while conducting interviews, study participants would suggest other people with perspectives relevant to my research questions. In accordance with CUHS requirements, I invited them to share my recruitment email and contact information with anyone who might be interested in participating. This yielded four additional interviews.

**Data Collection**

This study is based on twenty semi-structured interviews that I conducted between April 19, 2016 and July 14, 2016. I made one weeklong trip to New Orleans to interview participants and to collect additional data in the form of documents and observations.

During my campus visit, I met with ten people, or half of my study’s participants. I conducted nine of the remaining ten interviews by phone and one by video call using Skype software. Of the initial twenty-one people I contacted, three declined participation and two did not respond to my final follow-up email. The interviews lasted, on average, 67 minutes and ranged in length from 40 minutes to 92 minutes. I used a semi-structured approach to the interviews to allow for follow-up questions and clarification as well as the possibility of exploring
unanticipated but relevant ideas that were introduced (see Appendix H for the interview protocol).

Initially, I designed the study to examine Hurricane Katrina’s influence on emergency preparedness at Tulane from 2005 to present day. I planned to speak with key players during the Katrina response and recovery as well as individuals currently in the same positions. Notably, at the time of data collection there were multiple people who remained at Tulane, some in the same roles, since Hurricane Katrina. This continuity has been valuable in exploring questions related to changes in practice over time. However, during the initial phase of data collection, some participants sought to describe the way practice changed under the leadership of Dr. Cowen’s successor and compare their leadership styles. To maintain the study’s focus on Hurricane Katrina’s influence on practice and not delve into the compounding effect of a transition in presidential leadership, I restricted the timeline to Dr. Cowen’s presidential term from July 1998 until his retirement in June 2014.

In addition to conducting interviews on campus, I sought other sources of data during my visit. On my first morning in New Orleans I observed an information session at the Office of Undergraduate Admissions and a tour for prospective undergraduates and their families in order to develop a richer understanding of the institution than I had been able to glean from the school’s website and publicly available articles about Tulane. Given the remarkable way in which Hurricane Katrina has shaped Tulane, I suspected that the admissions
representative might briefly discuss the university’s Katrina experience, and I wanted to understand how the institution would frame and present this information. Furthermore, I hoped to develop a better understanding of Tulane’s culture and how representatives describe what makes the university unique. I took detailed notes and sought to be as unobtrusive as possible. Following the tour, I expanded my notes into research memos while the experiences remained fresh in my memory. Additionally, I collected an assortment of documents available at the admissions office. These included campus maps, a brief history of the institution, descriptions of important programs, as well as key facts and figures.

Document research was an important component of the study. Reconstructing what happened to the university and how the leadership made decisions was necessary in order to answer the research questions. I relied on a range of sources to reconstruct the timeline of events and key individuals in the days before Katrina through the end of Dr. Cowen’s presidency. These included materials from Tulane, books and book chapters written by Dr. Cowen, higher education periodicals, major news sources, and publicly available transcripts from speaking engagements and interviews with the former president.

Analysis

After completing all interviews, I worked with a company to transcribe each audio file. I hired the company based on a recommendation from an IRB.

10 The admissions officer and student guide generally discussed Hurricane Katrina in terms of Tulane’s commitment to public service especially within New Orleans.
administrator at CUHS and asked a Data Security Officer from HGSE to vet the company to ensure they met the security requirements for managing Level 3 data. I asked the people transcribing my interviews to provide verbatim transcripts while excluding verbal ticks such as “um” as well as false starts. Next, I listened to each interview while following the transcript to correct any errors and ensure accuracy. In the process of doing this, I took notes about major themes that emerged across multiple interviews and I highlighted important quotations.

After reviewing each transcript in this manner, I expanded the notes I took while listening to the interview. I described the key points each person emphasized during the course of our conversation and noted how these points agreed and disagreed with those raised in other interviews. The process of writing these listening notes and reflecting on the points of convergence and divergence across interviews illuminated additional themes and helped me become familiar with the data. These notes were also helpful preparation for the subsequent analysis.

After ensuring the accuracy of each transcript, I used the qualitative research software program NVivo to organize and categorize the data. I began with an emergent (emic) coding technique in which I generated and defined codes based on themes that emerged from each transcript. This was an iterative process that involved identifying themes within and across transcripts, defining codes to represent these themes, and then refining the definitions or expanding the coding categories to include sub-categories as I moved through the data multiple times. Next, I coded the data using an etic approach in which I used codes that I had
generated before conducting interviews based on my research questions, document research, and literature review. In the process, I noted instances of overlap between my previously established codebook and the codes I developed during the emic coding; this was indicative of particularly important codes.

Throughout this process, I advanced my thinking through free writing sessions, often beginning with the basic prompt, “What are these data telling me, and how?” Over time, these analytic memos converged on key ideas that I developed into a set of emergent findings accompanied by supporting evidence from across the transcripts.

Each component of this process was critical to my analysis, particularly the informal memos I composed along the way. It was through these writing exercises that I was able to see a narrative emerge from the data related to my research questions.

In addition to writing analytic memos, I discussed my emergent findings with several peers who are acquainted with my research and with my advisor and committee chair. The opportunity to share and discuss my emergent findings with Professor McLaughlin was especially helpful; she posed important questions that required me to examine assumptions that I was bringing to the research and helped me consider my data from a different perspective. This led me to additional questions and follow-up conversations with some of the study’s participants. During these conversations, I sought clarification about points participants made during the initial interviews and I sought to check the validity of my findings. I did
this by sharing with participants some of the themes that had emerged from the data and asking them to describe the extent to which these accurately characterized their perspectives. Lastly, during the process of organizing and writing the findings, I reviewed the transcripts and coded data specifically looking for evidence that refuted my claims to ensure I was not oversimplifying my analysis or inadvertently overlooking a critical perspective.

**Research Challenges: Memory, External Events, and Leadership Transition**

Three challenges emerged during the research that have implications for the data interpretation. These include: 1) the role of fading memories, 2) the influence of high-profile emergencies that affected other colleges and universities, and 3) participants’ interest in discussing the 2014 presidential transition following President Cowen’s retirement.

**Memory.** All participants of the study mentioned changes in Tulane’s emergency planning following Hurricane Katrina. They agreed that the university’s experience had led to improved practice and a greater focus on emergency preparedness. However, their descriptions of those changes varied, sometimes greatly, as will be discussed in Chapter Seven, and many people expressed difficulty in recalling details related to shifts in policies or procedures. The effect of memory about an event that occurred eleven years before the interviews raises questions – both for me as the researcher, as I expect they will for the reader – about details that participants could no longer recall. I have sought
to include as much information as I could glean from the interviews, and I note the inconsistencies in descriptions when they occur.

**Other high-profile emergencies.** This dissertation aims to explore Hurricane Katrina’s influence on emergency preparedness at Tulane between 2005 and President Cowen’s retirement in 2014. While the university’s experience with Katrina certainly led to changes, other events during this period may have also influenced practice at Tulane. Numerous participants of the study referenced or alluded to the 2007 shooting at Virginia Tech, for example, as having informed Tulane’s decisions about emergency preparedness and the need to expand the scope of institution’s preparations at Tulane in the remaining years of Dr. Cowen’s presidency.

Several participants also underscored the pace at which Tulane’s leaders modified emergency procedures and protocols after Katrina. They described the long-lasting nature of Tulane’s recovery from the hurricane and explained that, even though the university reopened in January 2006, the university’s recovery from Katrina’s physical and financial consequences lasted for years, citing as one example that the final floors of the library had just reopened in March 2016 (Participant interview, April 19, 2016). Some changes in Tulane’s emergency planning seemed straightforward to the study’s participants. For example, everyone acknowledged that the president should not have remained on campus and risked becoming isolated and cut off from the rest of the community, and therefore should evacuate in the event of another substantial hurricane. However,
other changes, which will be explored in Chapter Seven, occurred more gradually. According to participants, the leadership team could not immediately prioritize overhauling emergency management in the wake of Hurricane Katrina because of the ongoing work associated with the recovery coupled with the ongoing chaos in New Orleans. Although they identified numerous aspects of practice that required being changed through an initial After Action Review, implementing some of these changes occurred more slowly.

**Leadership transition.** Discussing Hurricane Katrina’s influence on emergency preparedness at Tulane was inherently a discussion about institutional change. While describing the hurricane’s effect on practice, many participants shifted into discussing changes specific to the presidential leadership transition and how they perceive that these developments affected emergency preparedness at Tulane. This study does not endeavor to explore emergency management in the context of leadership transitions, so I do not analyze these findings later in the dissertation. I will, however, address specific aspects of emergency preparedness post-2014 that are unrelated to presidential leadership. The rationale for doing so is twofold. First, President Cowen and his colleagues initiated several critical changes that were not fully implemented until after his retirement. For example, Dr. Cowen relocated the Office of Emergency Preparedness and Response (OEPR) to the Tulane University Police Department (TUPD) in the final year of his presidency and, according to some participants of the study, it took time to recognize the implications of this change. Second, some people commented on
aspects of emergency readiness that remained consistent even at the time of data collection. Because of this, I have included some data pertaining to the years after Dr. Cowen’s retirement, even though the focus of this study is on the years in which he was president.

I will reference the roles of memory, other high profile emergencies, and the presidential leadership transition in the subsequent chapters and address their implications for understanding the findings in Chapter Seven.

**Study Limitations**

As with any research, this study has limitations many of which are related to the aforementioned research challenges. The amount of time that has passed since Hurricane Katrina allows for an exploration of questions about changes in practice, but it also means that participants’ memories have faded, sometimes substantially. While many participants reported difficulty remembering specific details, I also observed consistency in some very specific information. This led me to consider the extent to which participants were retelling a common narrative that has been told and retold during the last ten years, and to wonder about what may have been forgotten. Triangulating information from the interviews with primary documents like the university’s emergency operations plans and hurricane response plans before and after Hurricane Katrina would have greatly strengthened the findings by revealing additional changes in policies or procedures over time. The Committee on the Use of Human Subjects restricted me from using these documents unless they were publicly accessible. While hurricane plans appear to
have been publicly available in the past, it was not possible to locate them in Tulane’s library, the university archives, or online. This represents the most substantial limitation to my study because I was unable to incorporate a second and potentially illuminating stream of data.

In order to build rapport, I began each interview by inviting participants to share their Katrina experience in terms of their role at the university. I recognized my status as an outsider – a researcher from a northern institution who did not live through Hurricane Katrina and who could be perceived as someone seeking to evaluate or judge their experiences – and wanted to convey my respect for the traumatic nature of the event and what they had endured. While effective for developing rapport, this coupled with the passage of time contributed to participants sometimes struggling to recall details or engage with certain aspects of their experience that were most relevant to the study.

**Summary**

This study explores the effect of Tulane’s Hurricane Katrina experience on the university’s subsequent approach to emergency preparedness and response. To answer the motivating research questions, I designed an interview-based study with current and former Tulane administrative leaders to learn about emergency management at the university before Hurricane Katrina and how practice evolved in the years after the storm. To appreciate the findings, however, it is necessary to have a broad understanding of the institution and the event. The following chapter
presents Tulane, Hurricane Katrina, and Tulane’s experience before, during, and after the storm.
Chapter 4. Hurricane Katrina and Tulane University

The following chapter describes Tulane University’s experience with Hurricane Katrina, from the days leading up to the hurricane’s Gulf Coast landfall through the remaining years of Scott Cowen’s presidency. First, I provide an overview of how Hurricane Katrina developed as a storm. Next, I provide descriptive information about Tulane and the university leadership’s experience and decision-making immediately before, during, and after the storm, through the institution’s reopening in January 2006. The chapter concludes with a brief description of Tulane’s experience during two subsequent hurricanes that occurred in remaining years of Dr. Cowen’s presidency.

Hurricane Katrina

On August 23 2005, a tropical depression developed two hundred miles south of the Bahamas (“Hurricanes in History,” n.d.). It grew into a tropical storm the following day. The United States National Weather Service tracked the storm through the Bahamas and then west towards the coast of southern Florida, and named it Katrina (“Hurricanes in History,” n.d.; Howitt & Scott, 2008). Tropical Storm Katrina strengthened as it moved toward the Atlantic coast of Florida where it developed into a hurricane shortly before making initial landfall on August 25.

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11 Contextual information in Chapter 3 about Tulane’s story and the experiences of its senior leaders during Hurricane Katrina has been exclusively derived from public material, including all quotations. This dissertation does not contain attributed or identifying quotations from any interviews conducted for this study.

12 Chapter 4 draws from a paper completed in 2012 for a course on leadership and crisis management at Harvard Business School (Hahn, 2012).
On August 26, Katrina passed across southern Florida and back over the warm waters of the Gulf of Mexico, where it developed into a massive and powerful Category 5 hurricane with winds reaching 175 mph (Knabb, Robe, & Brown, 2005; “Hurricanes in History,” n.d.; Hurricane Katrina: Ten Years Later, n.d.; see Appendix I for the Saffir-Simpson Wind Scale). The hurricane moved northward and appeared to be taking aim at the Florida panhandle, but in an unexpected turn, the storm’s trajectory shifted toward the Gulf Coast of Louisiana (Howitt & Scott, 2008). Figure 1 displays Hurricane Katrina’s forecasted path as of Friday, August 26 (in purple) with its actual track (in turquoise) and both points of landfall.

Shortly after 6:00AM CST on Monday, August 29, Hurricane Katrina made landfall near Buras, Louisiana in Plaquemines Parish along the state’s southeastern coast (Knabb, Robe, & Brown, 2005). Although Katrina weakened to a strong Category 3 hurricane hours before hitting Buras, sustained winds still reached 125 mph upon landfall (Knabb, Robe, & Brown, 2005; “Hurricanes in History,” n.d.). Katrina continued northward and made its second and final landfall at the border between Mississippi and Louisiana near the mouth of the Pearl River (Knabb, Robe, & Brown, 2005; “Hurricanes in History,” n.d.).

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13 The Saffir-Simpson Hurricane Wind Scale is the National Hurricane Center’s classification system for hurricanes. It is organized by five categories ranging from least severe (Category 1) to most severe (Category 5). Major hurricanes are defined as Category 3, 4, or 5 storms (“Saffir-Simpson Hurricane Wind Scale,” n.d.).
At maximum strength, the National Weather Service assessed Hurricane Katrina as a Category 5 storm. The strongest wind gust officially recorded was 113mph but, due to early equipment failure, this was noted 2.5 hours ahead of the first landfall in Buras and so stronger gusts could not be recorded (Knabb, Robe, & Brown, 2005). The Pearl River County Emergency Operations Center in Poplarville, MS, however, unofficially recorded gusts up to 117 mph (Knabb, Robe, & Brown, 2005). Meteorological experts at the National Hurricane Center have reported that “[o]verall, it seems likely that most of the city of New Orleans experienced sustained surface winds of Category 1 or Category 2 strength (Knabb,
Robe, & Brown, 2005, p. 8) and, at one point, hurricane-strength winds could be felt 90 miles from the storm’s center (Knabb, Robe, & Brown, 2005).

Hurricane Katrina produced a 24 to 28-foot storm surge—the largest recorded in U.S. history (Knabb, Robe, & Brown, 2005; “Hurricane Katrina,” 2012)—that affected most of coastal Mississippi. This caused an inundation of water that moved at least six miles inland and as much as 10-12 miles inland at rivers and bays (“Storm Surge,” n.d.; Knabb, Robe, & Brown, 2005).

New Orleans, which is situated 62.5 miles northwest of Buras, was squarely in Hurricane Katrina’s path. Despite Katrina’s magnitude, residents of New Orleans were initially relieved because it appeared that the city had been spared the catastrophic damage that many feared. However, the city’s levee system had not been designed or maintained to sustain a hurricane of Katrina’s magnitude and, on Tuesday, August 30, the levees broke (Schwartz, 2006; Treaster & Kleinfeld, 2005; Howitt & Scott, 2008a) and New Orleans was inundated. Then-mayor Ray Nagin estimated that 80 percent of the city had flooded with water as deep as 20 feet (Treaster & Kleinfeld, 2005). This caused widespread havoc.

Despite the mayor’s recommendation to evacuate on Saturday, August 27 and a subsequent mandatory evacuation issued on Sunday, August 28, an estimated 70,000 people remained in the city, many of whom underestimated the hurricane’s potential destruction or were physically unable to leave (Howitt & Scott, 2008). Images of drowned bodies, people trapped on rooftops, and the horrific conditions inside the Superdome sports arena where an estimated 10,000-15,000 people
sheltered became symbolic of Katrina’s devastation (Treaster, 2005; Senate Report No. 109-322, 2006).

Hurricane Katrina was responsible for more than 1,800 deaths, the displacement of over a million Gulf Coast residents, the destruction of more than 90,000 square miles of Gulf Coast housing, and an estimated $135 billion in damage (Plyer, 2016; Knabb, Robe, & Brown, 2005; Elliot & Pais, 2006; Blake, Landsea, & NHC Miami, 2011; “Hurricane Katrina,” 2005). Indeed, Elliot & Pais (2006) submit that “[i]n the U.S. history, there are no precedents for this degree of sudden devastation and outmigration from a major urban region” (p. 302).

Although rarely noted in summaries of Hurricane Katrina, the storm also had a devastating effect on many of the region’s colleges and universities.

**Tulane University at the time of Hurricane Katrina**

To fully appreciate Hurricane Katrina’s effect on Tulane, one must understand the makeup of the institution and the leaders who facilitated the response. In 2005, Tulane was a highly selective, private research institution located in New Orleans, Louisiana and it remains so today. The last official enrollment data before Hurricane Katrina is dated from 2004 and shows 11,548 full-time students, including 6,759 undergraduates and 4,789 full-time graduate and professional students (“Fall 2004 Enrollment Profiles,” n.d.). Tulane awarded degrees in the liberal arts, sciences, engineering, architecture, law, business, medicine, tropical medicine, public health, and social work (“About Tulane,” n.d.).
The university was comprised of two main campuses, both located in New Orleans. The Health Sciences Campus, situated near the central business district and just north of the Superdome, was home to the School of Medicine, the School of Public Health and Tropical Medicine, Tulane Medical Center, Technology Services, and Government Relations (“About Tulane,” n.d.). The Uptown Campus was the heart of the university community and where the majority of academic departments were housed (See Figure 2 below for a map of Tulane’s Uptown Campus and Figure 3 for a map of New Orleans marked with the location of Tulane’s campuses) (“About Tulane,” n.d.). Several other components of the institution, including the Primate Center, a research facility, and satellite campuses associated with the Business School and the School of Continuing Studies, were located outside of New Orleans or in other cities and states (“About Tulane,” n.d.).
Figure 2. Tulane University Uptown Campus map as of November 2015 (“Campus Map,” n.d.).

Figure 3. City map of New Orleans featuring Tulane campus locations (“City map,” n.d.).
Tulane’s presence and the importance of its relationship with the city were readily apparent. Although freshman and sophomores typically lived on campus in university housing, upperclassmen and graduate students gravitated to non-university housing adjacent to the Uptown Campus. Additionally, the university was the city’s largest employer with more than 4,400 employees (“About Tulane,” n.d.). The university had an important, though sometimes strained, relationship with New Orleans. This is partly attributed to the difference in demographics between the student population, which has been, on average, wealthier than the local community.

**Tulane’s leadership.** Dr. Scott S. Cowen was Tulane’s fourteenth president and led the university from July 1998 until his retirement in June 2014. During this time, President Cowen maintained dual appointments as a Professor of Business at Tulane’s School of Business as well as a Professor of Economics at Tulane’s School of Liberal Arts (“Office of President,” 2012). Before joining the Tulane community, President Cowen was a Professor of Economics and dean of the Weatherhead School of Management at Case Western University, where he worked for 23 years (“Office of President,” 2012).

**Tulane anticipates the storm.** On August 26, President Cowen issued his first statement about the storm as Katrina passed over Florida and began to strengthen in the Gulf of Mexico. In an email to the Tulane community, he indicated that university officials were “monitoring Hurricane Katrina” and that “Tulane University [was] operating under normal conditions” (“Message from the
President,” August 26, 2005; see Figure 5 for a timeline of events). However, in recognition that Katrina was growing in force, the president and his colleagues implemented the university’s hurricane response plan. The plan outlined procedures for securing campus and evacuating students, and it provided a timeline to guide the President’s decision-making based on the number of hours before the storm made landfall.

The following morning, August 27, approximately 1,700 first-year students and their families arrived for move-in day. The president and his colleagues proceeded to have first-year students move into residence halls but hosted a substantially shorter convocation devoid of the typical grandeur. It lasted ten minutes in which the president, wearing a t-shirt and shorts instead of the usual regalia, welcomed students to Tulane and then instructed them to evacuate as soon as possible (Cowen & Cowen, 2010). Shortly after, President Cowen emailed the university community stating that all students should evacuate New Orleans; the residence halls would close at 6 p.m. and classes would be cancelled through Thursday, September 1st, 2005 (Cowen, 2005). Although the freshman had arrived on campus for move-in and orientation, most undergraduates had not yet returned to campus; as a result, the number of students to evacuate was only a portion of the number of enrolled students. Nevertheless, Cynthia Cherrey, Tulane’s then-Vice President for Student Affairs, recalled the challenges associated with Katrina’s timing and overlap with new student orientation:
It was probably the worst day of the year that we could have had a hurricane because we didn’t have the time to really prep the students [or] have the meetings on every floor where [university administrators] get all of [students’] personal info and what their personal evacuation plans [are] ("Katrina Remembered," 2010).

Despite the smaller number of students on campus, Hurricane Katrina’s timing introduced additional dimensions of challenge in carrying out an evacuation and maintaining accountability of students’ wellbeing. Approximately 600 students and the varsity football team were unable to go home or evacuate themselves and required assistance from the university. Although students were expected to have self-evacuation plans, the university was prepared to accommodate students who needed support, which they did through pre-contracting with a bus company and making arrangements for an evacuation site. Yvette Jones, Tulane’s Senior Vice President and Chief Operating Officer, left the city with these evacuating students on a bus to Jackson State University, the pre-arranged evacuation location where a former Tulane colleague of Cowen’s was the university’s president (Cowen, 2005). The students took up residence in Jackson State’s gymnasium. This is where many Tulane freshmen spent their first night of college in 2005.

**Tulane weathers the storm.** Proceeding with the evacuation, as outlined in Tulane’s 2005 hurricane response plan, President Cowen ordered all students, faculty and staff to leave the Uptown campus; it was empty by the end of Saturday, August 27. As stipulated in the plan’s procedures, in the event of a
Category 4 or 5 hurricane, the university’s Emergency Operations Group—the President, Chief Financial Officer, Vice President for Communications, Director of Emergency Management, and the Chief of Police for the Uptown campus—remained on campus. The only other people with them were several maintenance employees and university police officers who remained on campus voluntarily (Cowen & Cowen, 2010; Cowen, 2007). The group stayed in the university’s Emergency Operations Center located in the Reily Center, Tulane’s recreational facility, which was connected to a back-up generator and stocked with supplies to sustain the team in an emergency (Cowen, 2005).
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<th>Date</th>
<th>Hurricane Katrina</th>
<th>Tulane University</th>
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<tbody>
<tr>
<td>8/23/05</td>
<td>• Tropical depression forms near Bahamas</td>
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<tr>
<td>8/24/05</td>
<td>• Tropical depression grows into a tropical storm</td>
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<tr>
<td>8/25/05</td>
<td>• Tropical storm reaches hurricane strength; named Katrina by NWS</td>
<td>• President Cowen sends first email to Tulane community, advising that Tulane authorities will monitor the storm while business continues as usual</td>
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<td></td>
<td>• Makes first landfall in Florida</td>
<td>• Cowen activates hurricane plan</td>
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<td>8/26/05</td>
<td>• Passes across FL and into the Gulf of Mexico</td>
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<td></td>
<td>• Strengthens to a Category 5 hurricane over warmer Gulf waters</td>
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<tr>
<td>8/27/05</td>
<td>• New Orleans Mayor Ray Nagin advises all citizens to evacuate</td>
<td>• Orientation begins; first year students move-in</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cowen hosts abbreviated 10 min convocation, instructs new students to leave immediately</td>
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<tr>
<td></td>
<td></td>
<td>• Most leave with their families or self-evacuate based on personal evacuation plans required of all students</td>
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<tr>
<td></td>
<td></td>
<td>• Tulane evacuates remaining students to Jackson State Univ. using pre-contracted charter buses</td>
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<tr>
<td></td>
<td></td>
<td>• Residence Halls close at 6pm</td>
</tr>
<tr>
<td>8/28/05</td>
<td>• Mayor Nagin orders mandatory evacuation</td>
<td>• Cowen remains on campus with specified colleagues per Tulane’s Hurricane Plan</td>
</tr>
<tr>
<td>8/29/05</td>
<td>• 2nd landfall occurs near Buras, LA, classified as a strong Category 3 hurricane</td>
<td>• Following landfall, Cowen finds no major damage on campus and cleanup appears routine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Groups expects to reopen university in a week</td>
</tr>
<tr>
<td>8/30/05</td>
<td>• Levees in New Orleans break</td>
<td>• After levees break, Cowen estimates 70% of the Uptown campus is flooded</td>
</tr>
<tr>
<td></td>
<td>• New Orleans floods</td>
<td>• Server crashes (Tulane email and website are down)</td>
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<td></td>
<td></td>
<td>• Cowen and colleagues are stranded at Tulane</td>
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<tr>
<td>8/31/05</td>
<td></td>
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<tr>
<td>9/1/05</td>
<td></td>
<td>• Cowen and colleagues are stranded at Tulane</td>
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<td></td>
<td></td>
<td>• Colleagues in Houston orchestrate rescue</td>
</tr>
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<td></td>
<td>• Only communication is through text messaging – a new phenomenon at this point</td>
</tr>
<tr>
<td>9/2/05</td>
<td></td>
<td>• Cowen and colleagues rescued and relocate to Houston</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cowen announces Tulane’s closure for fall semester</td>
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</table>

*Figure 5. Timeline of Hurricane Katrina and progression of events at Tulane*
Katrina made landfall shortly after 6 a.m. on Monday morning, August 29. Later that day, President Cowen and his colleagues ventured out to assess the hurricane’s impact and although they encountered significant debris, there had been no flooding and the group was optimistic about reopening the university within a week (Participant interview, May 20, 2016). Not long after, on that same day, President Cowen was listening to a radio he had been carrying around and learned that multiple levees had broken. He recalled knowing what it meant for the levees to breach, but did not know what the consequences or scope of impact would be. Because of this, the group decided to stay in the Emergency Operations Center on campus for one more night (Cowen, 2005; “Cowen interview with Figley,” n.d.).

When the team awoke on Tuesday, August 30, approximately 70% of the Uptown campus had flooded with roughly two feet of water (Cowen, 2005; “Cowen interview with Figley,” n.d.). However, the water surrounding the Reily Center, where President Cowen and his team were taking shelter, was eventually seven feet deep (Informal communication with Tulane administrator, April 9, 2012). That day, the group lost access to power, functional plumbing, and running water, and their food supplies began to dwindle. Furthermore, their only form of communication with the outside world was through text messaging. Cowen recalls, “So what we became was [this] little island up here” (“Cowen interview with Figley”, n.d.). Using boats that were stored in the Reily Center, the group paddled around campus breaking into buildings where they thought they might
find food and water for the day (“Cowen interview with Figley”, n.d.). Cowen remembers that this was also when “the looting started, and people started coming around campus” (“Cowen interview with Figley”, n.d.). Several facilities employees and Tulane police officers who had volunteered to remain on campus guarded the Uptown campus around the clock with personal firearms (Participant interview, May 20, 2016). Many continued to do so until mid-to-late November (“Cowen interview with Figley” n.d.; Informal communication with Tulane administrator, April 9, 2012).

Although the flooding on the Uptown campus paled in comparison to what was happening in other areas of New Orleans, the Emergency Operations Group was stranded. Using text messaging, Cowen communicated with Anne Baños, his Chief of Staff, who was in Houston and, together, they orchestrated the leadership group’s evacuation. Anne worked through various contacts, including members of Tulane’s Board of Trustees as well as people who worked with her husband in the oil industry, and eventually gained access to helicopters to evacuate her colleagues. On September 2, Baños had to dispatch helicopters three times to rescue the group (Cowen, 2007; Participant interview, April 25, 2016). One attempt failed when the helicopter was commandeered by members of the National Guard once it arrived in New Orleans. A second attempt was thwarted when the pilot could not locate the pick-up location due to widespread flooding and the inability to recognize local landmarks. On a third attempt, the pilot and his son, who was coincidentally a Tulane alumnus, located the president and his
colleagues who were waiting on a levee signaling with a Tulane banner that had been originally hung on campus for freshman orientation (Informal communication with Tulane administrator, April 9, 2012; Informal communication with Tulane administrator, April 11, 2012).

Figure 4. Hurricane Katrina flooding estimated depth and extent on August, 31, 2005 (“Hurricane Katrina flooding,” n.d.).

President Cowen described what he left behind that day in New Orleans:

“By the time we finally evacuated to Houston, Texas, on the Friday after the storm, Tulane University no longer existed” (Cowen, 2007). Not only had Tulane’s Uptown and Downtown campuses sustained damage, but the city had been devastated: “New Orleans was near anarchy and the city’s infrastructure was destroyed,” he later wrote (Cowen & Cowen, 2010). It was not until the president
arrived in Houston that he saw images from the Superdome and elsewhere in New Orleans and he “feared that the university might never reopen (Cowen & Cowen, 2010). Cowen and his colleagues knew they would be unable to return to New Orleans for the foreseeable future, and it became apparent that opening the university for the fall semester would be impossible. That afternoon, on September 2, the president announced that, for the first time in the school’s history, Tulane would close for a semester (Cowen & Cowen, 2010).

The Tulane community, including more than 13,000 students, had scattered across the country and for a brief period of time, the president had no way to account for their whereabouts or even communicate with them. The levee failures and widespread flooding caused interruptions to the university website, the emergency website, and Tulane’s email system. As part of the hurricane response plan, leaders shut down the university’s servers, all located in New Orleans, and posted an emergency website which was hosted by BellSouth. The emergency site was the primary conduit for sharing information but it crashed at some point after August 30, briefly leaving President Cowen unable to communicate with students, faculty, and staff. After quickly reaching out to alumnus and Yahoo co-founder David Filo, Tulane leaders were able to use Yahoo’s servers to resurrect the university’s website as well as create a second, temporary email system for the Tulane community (Participant interview, April 19, 2016). Participants of the study explained that restoring a website and email system was an immediate priority and occurred within days of the President’s evacuation to Houston.
During his early hours in Houston, President Cowen felt helpless ("Cowen interview with Figley", n.d.). Unable to sleep the first night, he called his wife who had evacuated to New York in advance of Katrina’s arrival, and he recalled telling her, “I have no idea what to do. None. I just have no idea what we are going to do” ("Cowen interview with Figley", n.d.). With his wife on the other end of the line, the president reflected on how he had persevered through other periods of chaos in his life. He acknowledged, “my [simple] way of doing things is try to drive out from my line of sight anything I can’t control because why should I burn up a lot of psychic energy if I can’t control it anyway. So, what is it that I can control? What’s the priority on those things that I can control” ("Cowen interview with Figley”, n.d.). In the years since the hurricane, President Cowen has said he believes this approach to decision-making was critical to the university’s survival after Hurricane Katrina.

**Governance.** Tulane’s structure for shared governance, which included the Board of Trustees, President Cowen, and the Faculty Senate was upended in the chaos that ensued following Hurricane Katrina. Immediately after President Cowen’s evacuation to Houston, he had a call with the Board of Trustees who authorized the president to begin making unilateral decisions on behalf of the institution. In doing so, the president effectively bypassed the typical shared governance structure of the institution and operated independently of the Board of Trustees and the faculty senate. An interviewee recalled that Board members acknowledged that the university’s dire circumstances required immediate
decision-making and requiring the president to adhere to the traditional shared governance structure would be impractical. Trustees had confidence in the president and they conveyed:

[Y]ou have the full authority to do what you feel you have to do – go ahead and do it. We’re not going to second guess [you], we’re not going to challenge [you]. We have faith [so] do what you have to do. The board really did vest [Scott] with the authority to make any and all decisions (Participant interview, May 20, 2016).

According to Cowen, the circumstances following Hurricane Katrina “forced the temporary suspension of shared governance” at Tulane and this lasted beyond the university’s January 2006 reopening (Cowen, 2018a, p. 137). A participant in the study recalled that “typical university leadership structures and procedures resumed in some manner in the spring of 2006,” but “true shared governance did not return until the declaration of [financial] exigency was lifted in 2008” (Participant interview follow-up, May 12, 2018). Cowen describes this chapter of his presidency as an “anomalous situation” in higher education and an “experiment in “benevolent dictatorship’” (Cowen, 2018a, p. 65).

Understanding the change in Tulane’s governance structure immediately after Hurricane Katrina is important because the period during which shared governance was temporarily suspended was a critical time for the university. Not only were the president and his colleagues focused on the immediate recovery in order to reopen Tulane for the spring semester, they were simultaneously thinking
about the institution’s long-term viability. According to the former president, this required a “fundamental reimagining and restructuring” of the university, the planning of which occurred during the period of Cowen’s “benevolent dictatorship” (Cowen, 2018a, p. 65). Aspects of the Renewal Plan, addressed in more detail in the pages that follow, became highly controversial because it entailed the “restructuring of certain programs, departments, and tenured faculty positions” (Cowen, 2018a, p. 58).

**Tulane’s recovery.** Upon arriving in Houston, the prospect of regrouping in the wake of the hurricane felt monumental and nearly insurmountable. The Tulane community was scattered and disconnected; the university had sustained meaningful physical damage due to flooding; and New Orleans had been utterly devastated. Many of President Cowen’s staff and faculty had sustained property damage and, in some cases, even lost their homes, so the colleagues he was relying on to support Tulane’s recovery were also in the midst of coping with their own trauma and losses (Informal communication with Tulane administrator, April 9, 2012; Participant interview, May 23, 2016; Participant interview, April 19, 2016; Participant interview, May 16, 2016).

In keeping with the need to focus on areas in which he had some control, the president and his colleagues quickly identified the three most pressing matters that needed to be addressed that day (“Cowen interview with Figley”, n.d.). President Cowen believed “through sheer luck, or good judgment, or maybe both, we picked the right things” (“Cowen interview with Figley”, n.d.). In retrospect,
the president cited these decisions as being paramount to Tulane’s recovery. First, the team committed to reopen the university on January 16, 2006, the start of the second semester (“Cowen interview with Figley”, n.d.). Dr. Cowen described the decision as “hubristic” and said that “at the time, we had no idea how we would do it, how much it would cost, who would do it, or how we would pay for it” (Cowen, 2007). Nevertheless, he believed that announcing the reopening would instill a sense of confidence within the community. He also believed that if they could not reopen Tulane for the spring semester, “it would probably never open again” (Cowen, 2007). Second, President Cowen and his colleagues committed to pay employees while the university was closed. Although this decision cost Tulane $200 million dollars, the president believed it was of critical importance (“Cowen interview with Figley”, n.d.). Recognizing that these were members of the Tulane family who were struggling with their own turmoil, the president did not want to compound problems by disrupting their pay (Cowen, 2007). He explained, “We recognized that it is the people who make for great universities, and without those people you have nothing” (Cowen, 2007). Lastly, President Cowen sought help from nine higher education associations to enroll displaced Tulane students at other colleges and universities for the semester. The higher education community rallied around Tulane and other Gulf Coast institutions and many schools offered to immediately register students, free of cost. Tulane students eventually enrolled in over 600 institutions throughout all 50 states and some foreign countries (“Katrina Remembered,” 2010).
Throughout his time in Houston, President Cowen understood the importance of communicating with the Tulane community as often as possible. In the weeks following the hurricane, the president sent multiple emails at pre-announced times each day with updates about the recovery, regardless of whether he had new information to report. He explained his rationale and acknowledged, “[the community] is anxious, they want information, and they want a little structure in their life during a time of chaos. So we tried to do that” (“Cowen interview with Figley”, n.d.). It was also important to President Cowen that he craft the messages himself and, though he worked closely with Debbie Grant, Vice President for University Communications and Marketing, and her staff to write the updates, the messages were from the president and in the president’s own voice (Informal communication with Tulane administrator, April 11, 2012).

While Tulane’s senior leaders eventually had confidence that they could reopen the university in January, one person recalled the striking observation, “We’d be an island because the rest of New Orleans is shot” (Informal communication with Tulane administrator, April 11, 2012). The majority of the city’s schools, housing, grocery stores, and hospitals, for example, had been severely damaged. Not only did the president and his colleagues need to repair Tulane’s physical damage, but they would also have to ensure that the students, faculty, and staff would have access to basic necessities if they were going to return. “So,” the president said, they spent the fall months building “a self-contained village” (Cowen, 2007).
The team of administrators headquartered in Houston along with President Cowen had grown in size to approximately 40-50 people including senior administrative leaders, Deans, and several members of the faculty, all of whom were living together in an apartment building Anne Baños had rented ("Cowen interview with Figley", n.d.). The leadership structure was command and control: President Cowen assigned people to jurisdictions and dictated the objectives and priorities ("Cowen interview with Figley", n.d.). Each morning, the group convened around Cowen and paper flip charts to address a litany of tasks, puzzles, and problems. Before generating the daily objectives, Cowen would flip to the previous day’s goals and ask if they had been accomplished ("Cowen interview with Figley", n.d.). Each day they generated a new list. Dr. Cowen described the process: “We’d be sitting in a room like this and we’d say, ‘Mail. That’s your problem. You solve it. Here’s the outcome we expect.’ In some [cases], there were bigger [challenges]. We’d put groups together and say, ‘You have 48 hours’” ("Cowen interview with Figley”, n.d.). Working painfully long days, the group soldiered on for weeks. In October, President Cowen and his team returned to

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14 In the following chapters, I reference the group of people who facilitated Tulane’s response to Hurricane Katrina. Several individuals, including Anne Baños, Yvette Jones, Debbie Grant, and Tony Lorino were members of the president’s cabinet and therefore had more influential and visible roles. However, they were part of a substantially larger group of people who were initially headquartered in Houston to work on the response. General references to the “group” or “team” refer to the 40-50 individuals while references to the senior administrators or the cabinet members refer to President Cowen and his most senior colleagues.
New Orleans, where they continued preparing the university to reopen in January (\textit{Katrina Remembered}, 2010).

Between September and December 2005, President Cowen and his colleagues accomplished remarkable work. They solved part of their housing dilemma by chartering a 2000-berth luxury cruise ship from Israel, which they docked on the Mississippi River in order to house students, faculty, and staff who would otherwise have no place to live (Participant interview, May 23, 2016; Participant interview, May 16, 2016). The team opened community health clinics to ensure access to high-quality healthcare and convinced the Orleans Parish school board to charter Lusher Elementary, a public school serving K-8 students near Tulane’s Uptown campus, in addition to providing $1.5 million in order to open the school. The president and his team added a high school and ensured Lusher was ready to open its doors on January 17, 2006 to the approximately 1,000 children of faculty and staff at Tulane, Loyola, Dillard, and Xavier universities (Cowen, 2007; \textit{“Cowen interview with Figley”}, n.d.). These examples represent only a portion of the group’s extensive work during the recovery months.

**The Renewal Plan.** President Cowen and his colleagues made the decisions they deemed necessary to take care of the Tulane community and reopen the university. However, these decisions came at a significant financial cost. The university had sustained over $500 million dollars in damage and, by December, was operating at a $120 million dollar deficit (Informal communication with
Tulane administrator, April 9, 2012). In December 2005, the president and the Board of Trustees announced the Renewal Plan. It was aimed at, “strengthening [Tulane’s] commitment to building a world-class educational and research institution, and implementing measures to ensure the university's financial stability” (“The University Announces,” 2005). A participant of the study and former board member described the plan as “all about cutbacks” and explained that “change is never easy, but we had to do it” to survive financially (Participant interview, May 24, 2016).

President Cowen was the chief architect of the Renewal Plan and designed the university’s restructuring at the same time he and his staff were working towards the university’s reopening in January 2006. This required the President to maintain an intense focus on both the university’s short-term and long-term viability (Cowen, 2018a). The Renewal Plan called for many substantial and controversial changes to secure the university’s sustainability. However, the rapid pace of decision-making did not allow for the typical debate among stakeholders that defines shared governance. President Cowen nevertheless sought feedback from constituencies including the Board of Trustees, senior administrative colleagues, trusted advisors, and the President’s Faculty Advisory Committee (PFAC) (Cowen, 2018a). According to one participant of the study, the PFAC was a “group of elected senators who served in an advisory role to the president [and] were designated to serve on behalf of the University Senate in times of emergency or when it was not possible to [assemble] a Senate meeting” to include school
breaks and summer the months (Participant interview follow-up, May 12, 2018).

The PFAC convened once during October and multiple times during November 2005 to “hear the proposed recommendations of the renewal plan and to provide input” (Participant interview follow-up, May 12, 2018). This committee’s participation is noteworthy because some of the most controversial elements of the plan called for the elimination of academic programs and firing tenured faculty members.

As the president and his team became more organized with their efforts to reopen Tulane, President Cowen created a small sub-committee of Board members to participate in developing the Renewal Plan (Participant interview, May 20, 2016). In addition to including the Board’s perspective in the university’s restructuring, President Cowen also established a group of current and former presidents and provosts to act as a sounding board and help him think about the long-term implications of the restructuring effort (Participant interview, May 20, 2016; Participant interview, April 19, 2016).

Although unanimously supported by the Board of Trustees, the Renewal Plan was controversial because it called for a series of cuts aimed at reducing the university’s budget by $60 million dollars in addition to plans for reorganizing certain curricular offerings, academic departments, faculty and staff positions, and athletics (Selingo, 2005). The closure of the women’s college was among the most contentious decisions and involved the consolidation of Sophie Newcomb Memorial College with Tulane College. As of July 1, 2006, the schools merged
and became Newcomb-Tulane College. This was difficult for many Newcomb alumnae who had great “pride and personal identification” with the college and were outraged by its closure (Participant interview, May 24, 2016; Mangan, 2011).

Like many components of the Renewal Plan, consolidating Newcomb and Tulane had been debated for decades. According to a former board member, the decision to merge the colleges after Hurricane Katrina was obvious because Newcomb was “an overhead center that [...] we couldn’t afford” (Participant interview, May 24, 2016). However, Newcomb supporters, including descendants of Josephine Louise Newcomb whose donation established the women’s college, waged a five-year legal battle against the university arguing that the closure disregarded the original intent of Josephine Louise Newcomb’s gift (Mangan, 2011). In 2011, the Louisiana Supreme Court upheld a lower court’s ruling in favor of Tulane and did not require the university to reopen Newcomb College (Mangan, 2011).

The Renewal Plan further called for the elimination of seven of nine engineering departments, roughly one-third of Tulane’s doctoral programs, and laid off 233 faculty members, 65 of whom were tenured (“A Plan for Renewal,” 2005; Selingo, 2005). It also reduced Tulane’s commitment to athletics by halving the number of NCAA Division 1-A teams (“A Plan for Renewal,” 2005). These decisions sparked some concern, controversy, and at times a “level of rage” that Cowen recalls as “staggering,” particularly over the elimination of so many tenured faculty positions (Cowen, 2018a, p. 90). This eventually led to the
university’s 2007 censuring by the American Association of University Professors, a nonprofit association driven to “advance academic freedom and shared governance” (AAUP Mission, n.d.).

President Cowen has publicly stated that the reduction of certain academic programs and the elimination of faculty positions, “were, by far, the most painful decisions we had to make but they were necessary in order to maintain financial viability and quality” (Cowen, 2010). Despite the controversy surrounding aspects of the university’s post-Katrina restructuring, the former president has noted that the Renewal Plan still “generally won the backing of a deeply engaged and committed campus” and that despite the outrage, the faculty never held a vote of no-confidence in him, even after the AAUP’s censure (Cowen, 2018a, p. 65).

In spite of everything Tulane and its community endured as a result of Hurricane Katrina, President Cowen and his colleagues reopened the university, as promised, in January 2006 and students, faculty, and staff flocked home. An estimated 87% of students and 90% of faculty members returned for the spring semester and were greeted by a grand reopening celebration (“Katrina Remembered,” 2010).

Following Katrina, Tulane has formally strengthened its commitment to New Orleans and has played an integral role in rebuilding the city. President Cowen institutionalized a commitment to service by launching the Center for Public Service (CPS) which “supports a University curriculum and research agenda by uniting academics and action, classroom and communities through
which students, faculty, and community partners dedicate themselves to the transformation of civic life” (“Center for Public Service Mission, Vision and Core Values,” n.d.). CPS coordinates and manages a set of public service requirements for graduation, which involve all students enrolling in a service learning course and participating in one of five service learning programs that range from internships to research and international study. By embedding public service in the core activities of the institution, Tulane, post-Katrina, has re-branded itself as a university community committed to “the transformation of civic life” (“Center for Public Service Mission, Vision and Core Values,” n.d.).

**Extended recovery.** Reopening the university was a considerable success given the unprecedented challenges facing Tulane’s senior administrative leaders, but daily operations remained difficult according to participants of the study. Although Tulane had successfully reopened, the university’s leadership still confronted substantial difficulty in day-to-day operations. A participant of the study reflected on the 2006 spring semester as being even “harder” than the immediate recovery in Houston because they were simultaneously coping with the ongoing work required to repair and rebuild campus, the challenges associated with New Orleans’ devastation, and the needs of returning students (Participant interview, May 23, 2016). This illustrates the difficulty in identifying the endpoint of a crisis.

Despite everything that the city and university had endured, one participant explained that students still returned to campus wanting a collegiate experience
that was “almost the same” as it had been before in terms of the social programs and offerings that had been a core element of undergraduate life prior to Katrina (Participant interview, May 23, 2016). After the reopening, Tulane’s administrative leaders “wrestled with making sure [students had] a great collegial experience” (Participant interview, May 23, 2016). This required, for example, planning a new student orientation for returning first-year students in addition to a reorientation program for upperclassmen. Tulane’s leadership strived to provide this collegial experience at the same time they continued to rebuild the university while contending with other emergent challenges.

Following Tulane’s reopening, one participant of the study explained that returning faculty and staff were “expected to do their jobs, but in a harder way” (Participant interview, May 23, 2016). At the same time they were managing the personal upheaval of rebuilding homes and reestablishing their own lives in a devastated New Orleans, Tulane’s employees were also considering how to address problems like student safety and the heightened problems with crime and personal security in the area surrounding the Uptown campus (Participant interview, May 23, 2016). Many administrators were simultaneously inundated with questions and interest from students, faculty, and staff who wanted to volunteer their time to help rebuild the city. However, the university had yet to develop a structure for managing volunteer interest, so simply responding to the volume of phone calls was difficult and time-consuming (Participant interview, May 23, 2016).
In addition to challenges associated with resuming operations, Tulane’s administrative leaders confronted the negative responses from many constituents over aspects of the Renewal Plan. According to one participant, this resulted in devoting significant amounts of time to fielding angry calls from parents and alumni primarily focused on the closure of certain departments and the consolidation of Newcomb and Tulane colleges (Participant interview, May 23, 2016).

The stress on the university’s staff was compounded by changes to the academic calendar intended to help students catch up on courses they had missed during the closure. During the summer of 2006 – one year after Hurricane Katrina – Tulane offered a more robust academic term than usual and this meant there was no “no change in the pace for one and a half to two years” for Tulane’s employees (Participant interview, May 23, 2016). All the while, the university’s leadership had to consider the coming hurricane season and the new dimension of stress this induced as a result of Katrina’s trauma.

Subsequent hurricanes. The anxiety associated with hurricane season persisted for years after Hurricane Katrina. Tulane’s leadership recognized that the university would eventually be affected by another storm and devoted considerable resources towards enhancing the institution’s emergency preparedness and response capabilities, the subject of this research. In the remaining years of Scott Cowen’s presidency, there were six hurricanes in the Gulf of Mexico and two that made landfall near New Orleans – Hurricane Gustav
in 2008 and Hurricane Isaac in 2012 (Chronological List, 2010). Many participants referenced these subsequent hurricanes while speaking about the evolution of emergency preparedness and response at Tulane. They noted an effective response to Gustav but described a decidedly problematic response to Hurricane Isaac. To more fully explore Hurricane Katrina’s effect on practice and policy, it is worthwhile to briefly consider the university’s experience during these two other storms.

**Hurricane Gustav.** Hurricane Gustav initially appeared to be a massive storm, at one point intensifying into a Category 4 hurricane. Although the storm weakened after passing over Cuba, Gustav regained some strength and made landfall on August 30, 2008 as a Category 2 hurricane approximately 85 miles southeast of New Orleans in Cocodrie, Louisiana (Water Level, 2008).

As the hurricane developed, Tulane activated and proceeded with the university’s Hurricane Plan including a student evacuation to Jackson State, but there were notable procedural differences to some aspects of the response. Well in advance of Gustav’s landfall, President Cowen and his senior administrative colleagues evacuated to Nashville, Tennessee where they continued to monitor the hurricane and run the university from afar (Marinello, 2008). A small team of employees including the Emergency Response Director, Chief Financial Officer, 

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15 Three hurricanes made landfall in Texas, including Hurricane Rita, which struck less than a month after Hurricane Katrina while the university was temporarily closed. The sixth storm, Hurricane Wilma, approached Mexico’s Yucatan Peninsula and then veered sharply northeast towards south Florida (Chronological List, 2010).
and a professor of clinical medicine remained at Tulane to “provide on-campus leadership” and they were joined by 29 Tulane police officers and 12 employees from the facilities department who were tasked with monitoring the university’s grounds and power plant (Marinello, 2008). The university also preemptively switched from the city’s power grid to the university’s generator before Gustav’s landfall to prevent “critical buildings” (research facilities and the vivarium) from losing power (Marinello, 2008).

The Emergency Response Director later described the institution’s response to the hurricane as a success and stated that “Gustav was a good test of [the] plan and [the] response” and that “overall [the response] went pretty smoothly” (Marinello, 2008).

**Hurricane Isaac.** Hurricane Isaac struck the Gulf Coast of Louisiana four years later on August 27, 2012. Isaac was a strong tropical storm as it moved through the Gulf of Mexico and strengthened into a Category 1 hurricane with winds reaching 80 mph before making landfall in Plaquemines Parish, part of the New Orleans metropolitan region that was devastated by Hurricane Katrina (Maniscalo, 2017).

The National Weather Service characterized Isaac as a slow-moving storm that led to significant rainfall in south-central Louisiana on August 29 and 30 though it paled in comparison to the destruction wrought by Hurricane Katrina (Maniscalo, 2017). The human cost was also different; according to the National Oceanic and Atmospheric Administration (NOAA) there were no reported injuries
from Hurricane Isaac and only one “indirect death” when someone drowned in rough surf days before the storm’s landfall (Maniscalco, 2017). Although Isaac was substantially different from Katrina in terms of scale and damage, participants of the study characterized Tulane’s response to the storm as poor and miscalculated.

In accordance with the 2012 Hurricane Plan and Hurricane Isaac’s strength, the university’s leadership and Emergency Operations Director did not issue an evacuation order. Instead, students who lived in campus residence halls were instructed to shelter-in-place while students living off-campus were told to refer to their personal hurricane plans. The decision to shelter-in-place became problematic as the storm evolved into a prolonged rain event that caused widespread power outages. According to participants, Isaac was different from typical hurricanes because it “hung over the city” instead of making landfall and continuing to move through the area, and this contributed to localized flooding and the loss of power (Participant interview, April 25, 2016). As one person recalled, “we assumed a storm is […] a 12-hour incident, and it’s over, so that became a bit of a challenge” (Participant interview, April 20, 2016).

Tulane’s facilities, including the residence halls where students took shelter, lost power on the first day of what became a three-day rainstorm. One person described the realization among senior leaders in the midst of Hurricane Isaac that the dormitories were not connected to the university’s generator:

[A]bout 12 hours into power being down, […] someone revealed that, "Oh, [the residence halls] are not on the generator" […] so they only had
emergency lighting for four hours. [We] had students in dorms, [...] 3,000 of them, in the dark, no power, no electricity, no air [conditioning]”

( Participant interview follow-up, August 25, 2017).

The power outage further contributed to problems with the university’s ability to feed and “[take] care of students” (Participant interview follow-up, August 25, 2017; Participant interview, April 25, 2016). One participant recalled that, “[the university’s senior leadership] got very, very angry about the way [the Hurricane Isaac response] was handled” and this person attributed the poor response to having been “too relaxed” about the approaching storm (Participant interview, April 25, 2016).

Tulane’s experience during Isaac was revealing of the difficulty associated with deciding whether to temporarily close and evacuate, an expensive and disruptive move, ahead of a storm whose conditions can evolve unpredictably. In hindsight, the decision to shelter-in-place was not the best course of action even though it appeared to be appropriate at the time a decision was required, about 60 hours ahead of landfall, the amount of time necessary to request the pre-contracted transportation and safely evacuate students before a storm’s arrival (Participant interview, July 14, 2016). Hurricane Isaac further revealed aspects of the university’s infrastructure – like the lack of secondary power for residence halls – that still warranted upgrading.

Despite numerous improvements to the university’s emergency preparedness and response capabilities following Hurricane Katrina, Isaac
underscored the need to continue refining both policies – like sheltering students on campus – and operations – like the need to more effectively manage emergency rations and ensure secondary power to dormitories. According to participants of the study, the president said that students “would never, ever, shelter-in-place again as long as he was president of the university, and he was right, [they] never did” (Participant interview, July 14, 2016). Isaac also spurred an evaluation of Tulane’s organizational chart and eventually led to changes in reporting, which will be discussed in Chapter Seven.

**President Cowen’s retirement.** Dr. Scott Cowen retired as Tulane’s 14th president on June 30, 2014 following a 16-year career leading the university. His presidency at Tulane encompassed periods of profound challenge, enormous growth, and remarkable transformation. At the point of his retirement, the university was thriving. Applications for undergraduate admissions had quadrupled, the university had set a record for the largest university capital campaign in Louisiana’s history, and had been twice-named as one of America’s Hottest Schools according to Newsweek magazine (President Emeritus, 2014). Dr. Cowen has noted that one of the formative lessons that came from leading Tulane through Hurricane Katrina was to “make sure [the] university not only [survived] but [became] stronger and better because of the tragedy” (Cowen, 2018b, p. 127). According to participants of the study as well as numerous external measures, this has surely been true for Tulane.
Dr. Cowen and his wife have remained in New Orleans, their “adopted home,” where the President Emeritus has continued teaching a leadership course for Tulane undergraduates and remains dedicated to his extensive work aimed at improving the city’s public education system (Cowen, 2013; Cowen, 2014; Cowen, 2018a).
In the next three chapters I describe the study’s findings based on semi-structured interviews with twenty current and former Tulane administrators. Together, these findings establish the benchmarks against which I will compare participants’ accounts of the university after Katrina to determine how the institution’s approach to emergency preparedness evolved following the storm.

Chapter 5. Findings on Emergency Management Before Hurricane Katrina

Chapter Five presents a description of the university’s emergency response preparations leading up to Hurricane Katrina. Participants described an exclusive focus on hurricane planning and the ability to evacuate students in the event of a storm. They further cited administrators’ confidence in these preparations and in their ability to effectively execute the plan.

Focus on Hurricanes

Participants described Tulane’s approach to emergency preparedness before Hurricane Katrina almost exclusively in terms of hurricane readiness. When I asked about the central elements of the university’s emergency response apparatus in the years before the hurricane, participants universally focused on this singular threat. Ensuring sound preparations for hurricane season was (and remains) important given the regularity with which the region is affected by these storms. Participants described hurricane season – the annual period from June through November when Atlantic hurricanes typically form – and the implicit understanding that everyone prepares for these events; it’s part of life in New
Orleans. One person explained, “Well, we always had a hurricane plan; everybody in New Orleans has a hurricane plan” (Participant interview, June 2, 2016).

Although participants universally described Tulane’s consistent preparation for hurricanes, they were also direct in noting the absence of planning or consideration for other types of emergencies. Indeed, only one participant among the twenty mentioned any non-hurricane-related form of emergency preparation; this individual briefly noted, after discussing the Hurricane Plan at length, the institution’s plans for individual student emergencies such as suicides or deaths. Several participants similarly characterized the institution’s focus: “Truthfully, I think our emergency preparedness was only for hurricanes. I don’t think we had a comprehensive plan beforehand” (Participant interview, April 19, 2016). These accounts suggest that preparation for hurricane season comprised the extent of the university’s emergency readiness before Katrina.

In addition to noting the university’s regular exposure to hurricanes, some participants attributed the focus on storm preparation to the absence of any other kind of critical incidents in the institution’s history. One person recalled, the “most impactful situation [before Katrina] would’ve been the Civil War, when we did close down” (Participant interview, April 19, 2016), while another echoed, “We had had only hurricanes” (Participant interview, April, 25, 2016). These events

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16 This interviewee commented that the Office of Student Affairs prepared for tragic yet expected student emergencies. These plans did not require the President’s or cabinet’s management. No other participants referenced planning for routine student emergencies or other critical incidents before hurricane Katrina.
were “routine and part of life on the Gulf Coast” and Tulane planned accordingly (Participant interview, April 25, 2016). Participants explained that, before Hurricane Katrina, the university did not recognize the need for additional preparation or planning. In hindsight, one person reflected, “We had good idea of what to do in a hurricane, we had no idea what to do in a fire or a tornado or a building collapse or any kind of illness outbreak” (Participant interview, April 25, 2016).

Participants described having felt confident about the university’s readiness and their capacity to manage hurricanes. The cornerstone of this preparation was a document known as the Hurricane Plan. Participants resoundingly agreed, “We had a plan, a written plan that we thought was robust” (Participant interview, April 19, 2016). Many reflected on how thorough they thought their planning had been: as Katrina approached, they knew what they were doing based on their experience managing other storms according to the Hurricane Plan. Hurricanes were a known threat and participants described the preparation for this type of emergency as something the institution approached seriously and confidently.

**The “Hurricane Plan.”** Participants consistently described the Hurricane Plan in terms of two objectives: 1) safeguarding students by having a sound evacuation plan, and 2) securing campus facilities to minimize structural damage. One person explained, “Really, the protocol was to make sure we [got] everybody out safely and make sure that anything that’s of value or operational importance in the building has been protected” (Participant interview, May 18, 2016). Although
participants referenced both components of the plan, most spoke almost exclusively the student evacuation and did not provide as much detail on actions to protect campus facilities.

**Student evacuation.** Participants described two facets to the university’s student evacuation plan. First, the university historically required students to have their own self-evacuation plans. Undergraduates were expected to submit their plans at the beginning of each academic year, indicating where they would go in the event of a university-wide evacuation as well as their means of transportation. According to participants, requiring self-evacuation plans reduced the number of students that the institution would be required to relocate. Others explained that requiring students to self-evacuate was also logical: a large portion of student population hailed from the Gulf Region and could go home or evacuate with family. Several people noted that the practicality of this strategy shifted as the university became more geographically diverse. According to one person, “[In 2005], for the most part, kids [were] from over 500 miles away from home” (Participant interview, April 25, 2016). Self-evacuation became a less reliable option as more students from beyond the Gulf Region matriculated.

The second aspect of Tulane’s plan for evacuating students entailed specific preparations to relocate students who could not self-evacuate. One person explained that by 2005, “Eighty-three percent of the students [came] from more than 500 miles away […] and we had a substantial poor student population, so we’d always end up with some population of students that we had to shelter”
The university covered these students’ evacuation plans through an agreement with Jackson State University in Jackson, Mississippi. A memorandum of understanding (MOU) between the institutions stipulated Jackson State’s willingness to temporarily shelter displaced Tulane students. Several people referenced the connection to Jackson State as a key dimension of the Hurricane Plan.

In addition to the MOU with Jackson State, Tulane’s Hurricane Plan included pre-arranged transportation services for student evacuees by contracting with an out-of-state bus company. Study participants emphasized the importance of the institution’s contract with a transportation company based in Mississippi rather than a company from Louisiana. Multiple people noted that the university had been “far more proactive and showed far more foresight” in its hurricanes preparations than the city (Participant interview, May 18, 2016). They had anticipated potential problems and, for example, “knew enough […] not to have [a contract with a bus company] from Louisiana because Louisiana would always – [in] a hurricane – […] secure all transportation” (Participant interview, May 23, 2016). Accordingly, the university maintained a contract with a company based in Mississippi. The foresight and thoughtfulness of their planning ensured a streamlined evacuation in which “the university successfully got every student off of campus [and] of those students that did not have their own emergency plan, the university had buses ready to go with chaperones” (Participant interview, May 18, 2016).
Securing campus grounds. The second component of the Hurricane Plan addressed the university’s grounds and facilities. Participants typically spoke about this aspect of the Hurricane Plan briefly and in generalities. One person noted, “We took everything off the wall, unplugged our computers” (Participant interview, April 25, 2016). Someone else said, “We had a plan that we covered all the windows with hurricane-proof windows and stuff” (Participant interview, May 16, 2016). A different interviewee characterized the process of securing facilities as a central part of hurricane planning and addressed it in greater specificity by recalling the steps the university took to protect assets like “[moving] the servers up to the third floor and making sure […] everybody shut down their computer, and secured anything […] that would be vulnerable to flooding” (Participant interview, May 18, 2016). However, the individual simultaneously reflected on how insufficient this process had been for a storm of Hurricane Katrina’s magnitude.

Executing the Hurricane Plan

In executing Tulane’s Hurricane Plan, the university’s governance structure, the philosophy underpinning their approach to emergency response, and the information that they relied on to make these decisions all shaped their actions in response to Katrina.

President Cowen made all key decisions related to the execution of the Hurricane Plan in consultation with his cabinet, a small group of senior administrators with long standing affiliations with Tulane. They reported that they
respected each other and enjoyed working together and with President Cowen. The critical decision to temporarily close and evacuate during a storm rested with President Cowen in consultation with this senior administrative team.

Making the call to evacuate the institution during a storm was critically important but challenging. Participants explained that student safety was the administrators’ first priority, but if the president waited too long there would not be sufficient time to get students out of New Orleans. At the same time, closing unnecessarily was both very costly – one person noted that calling for the pre-contracted buses to evacuate students cost the university thirty thousand dollars—and also very disruptive to academic life (Participant interview, July 14, 2016). Some participants recalled an instance earlier in President Cowen’s term when a hurricane changed course after he had mandated an evacuation. The city was unscathed and the university had closed unnecessarily. Participants recalled that this frustrated Cowen and that he wanted to avoid another unwarranted evacuation in the future (Participant interview, July 14, 2016).

When deciding whether to evacuate or have students shelter in place during a storm, the president and his cabinet members followed information from the National Hurricane Center about a storm’s magnitude, predicted time of landfall, and projected strength at landfall. Prior to Katrina, Tulane’s Hurricane Plan stated that students would typically shelter in campus residence halls during Category 1 and 2 hurricanes and would evacuate in the event of a Category 3, 4, or 5
hurricane. A participant who had been part of President Cowen’s cabinet prior to Hurricane Katrina described the Hurricane Plan in action:

We would sit down and revisit [the storm’s progress] at certain markers – [or] hours away [from landfall], 72 hours, 48 hours – and then we would make decisions about what we were going to do based on where the storm [was], the category of the storm, and the potential strength of the storm. We did have an evacuation plan to take kids to Jackson, Mississippi. At the time, that was our only place to evacuate kids. We [also] had a plan for the closure of campus, and we had what I will call a passable plan to get kids to the airport. (Participant interview, April 25, 2016)

**Senior leadership remained on campus.** During a temporary closure and evacuation, participants explained the Hurricane Plan called for several senior administrators to accompany students to Jackson State University and supervise the evacuation site until it was safe to return to New Orleans. In describing the administrators’ role in the Hurricane Plan, however, most participants focused on the requirement for a small group of senior officials to remain on campus – even during major hurricanes, when students were required to evacuate. The Plan called for the president and several members of his cabinet to shelter in the Emergency Operations Center (EOC) located in the Reily Center, the university’s recreational facility located on Tulane’s Uptown campus. According to participants, the EOC was routinely stocked with resources including food, water, phones, a backup generator, and office supplies. The Reily Center was chosen for this purpose
because it was “pitched as the only building on campus that absolutely would withstand a Cat 5 hurricane” (Participant interview, July 14, 2016).

**Preparation: Experience and Review of Plan**

In addition to describing the student evacuation and the sub-plan for a small leadership team to remain in the Emergency Operations Center during substantial hurricanes, participants also described how they trained in preparation for these events. Participants noted two forms of preparation: 1) experience executing the Hurricane Plan during actual storms and 2) annual reviews of the Hurricane Plan, and informal tabletop exercises. Among participants who were affiliated with the cabinet, there was remarkable consistency in their comments regarding the value of previous experience and how this had prepared them for the unique challenges of Hurricane Katrina. Some also referenced tabletop exercises and meetings aimed at maintaining familiarity with the Hurricane Plan, but there was substantial variation in their accounts regarding what these exercises involved and how frequently they occurred.

**Experience.** The group of senior administrators who worked with President Cowen during and immediately after Katrina had executed the Hurricane Plan multiple times during previous storms. One participant recalled: “we'd had multiple [hurricanes], seven different storms up to that point […] so people really understood what they were supposed to be doing and not be doing” (Participant interview, April 25, 2016).
Tulane’s leaders were familiar with the plan and their individual roles and responsibilities, and they had substantial experience working through the Hurricane Plan together. One interviewee commented that “[W]e had worked together for many years so we knew each other. […] We knew how we thought, so we would reach a consensus, and if we didn’t [the president] would make the [final decision]” (Participant interview, May 20, 2016). Many participants attributed the university’s successful response to hurricanes, including Hurricane Katrina, to this combination of experience and the interpersonal dynamics of the team.

**Annual review.** Participants also referenced traditional forms of practicing and preparing for emergencies, including the senior leadership team’s annual review of the plan and occasional tabletop exercises. However, there was little consistency in how participants, including those who were affiliated with the cabinet, described the frequency and type of these preparations. Some participants recalled several annual cabinet meetings to “review […] hurricane protocols and plans” and “occasionally, two or three table top exercises [to] simulate a hurricane, and how would we respond, [and] what [the] timeline of decision making [would be]” depending on the need to evacuate or shelter in place (Participant interview, April 20, 2016). Other participants reflected that “we had never done [any practice or drills] before Katrina” (Participant interview, July 14, 2016).

Several people described a “dry run” in 2004 and how useful this was in preparing them for the Katrina evacuation in 2005 (Participant interview follow-
up, August 25, 2017). This was not a purposefully scheduled drill. Instead, it was a storm that appeared to be heading in their direction but changed course after the president had called for an evacuation. Some people discussed this exclusively in terms of a frustrating situation in which they had evacuated unnecessarily while others couched it in terms of full-scale practice. Data from the interviews suggest some annual discussion of the Hurricane Plan among the president and cabinet members and also an annual tabletop exercise. However, the added value of these events seems limited based on participants’ recollections, especially in comparison to their consistent descriptions of the leadership teams and the benefit of real life experience. This is meaningful because it suggests that formal training may have had a relatively small impact compared to actual experience that interviewees recalled as having been more useful in coping with Hurricane Katrina.

**Tulane’s Emergency Response Apparatus**

In 2005, Tulane’s Office of Emergency Preparedness and Response (OEPR)\(^ {17} \) officially managed the university’s Hurricane Plan. However, participants did not discuss the office or the responsibilities of the Emergency Manager in describing preparations before Katrina. People did, however, note that the Office of Emergency Preparedness and Response “didn’t have a deep bench in terms of personnel – it was basically the [Emergency Manager]” who had experience with environmental health and safety matters but not emergency

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\(^ {17} \) The name of the office changed at least once between 2005 and 2014, although the specific timing is unclear. OEPR may have formerly been the Office of Emergency Management and/or the Office of Emergency Response.
management (Participant interview follow-up, August 25, 2017; Participant interview, April 25, 2016).

Several people characterized the Emergency Manager as a “coordinator” and noted that the person was not, in practice, involved in decision-making either with respect to authoring the Hurricane Plan or executing the plan during an actual storm (Participant interview follow-up, August 25, 2017). The Emergency Manager was neither a member of the president’s cabinet nor part of the team that worked with the president in the immediate aftermath of Hurricane Katrina. One person conveyed the modest nature of the Emergency Manager’s role in Tulane’s emergency response apparatus by noting that he “was not in the room” during informal After Action Reviews predating Katrina and that administrators did not look to him as an authority on emergency preparedness or response (Participant interview, April 25, 2016; Participant interview follow-up, August 25, 2017).18

Although the Office of Emergency Preparedness was responsible for the Hurricane Plan “on paper,” participants said the president acted as the de facto Emergency Manager in collaboration with his senior leadership group. One participant said, “[the Emergency Manager] was to write the Plan and, on paper, he would have been the one who implemented whatever decisions were made” by the president and cabinet, but as another person noted, “there was no question,

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18 An After Action Review (AAR) is a reflective process in which an organization evaluates its response to a critical incident in order to identify opportunities to improve practice. According to FEMA, conducting rigorous AARs facilitates “a disciplined process for implementing corrective actions and continually improving preparedness” (“Exercise Evaluation,” n.d.).
Scott was the Emergency Manager” (Participant interview follow-up, August 25, 2017).

**The “Sort-of” infrastructure.** The institution’s emergency management office had a limited role in maintaining Tulane’s storm preparations, and there was no alternative formal structure for emergency response before Katrina. President Cowen and the senior leadership group managed the university’s emergency response efforts and made decisions related to activating the Hurricane Plan, including university closure and evacuating students. One participant recalled that Tulane had not yet implemented the Federal Emergency Management Agency (FEMA) emergency management program, named the National Incident Management System (NIMS), when Hurricane Katrina occurred. However, they characterized the unique command structure that was in place, made up of the
university president and cabinet, as highly effective. One participant recalled, “my understanding is that [Tulane] didn’t have any common operating picture that resembled anything like ICS, which again, thanks to Scott’s leadership and his ability to be flexible, and make decisions on the fly, they were able to get by” (Participant interview, April 18, 2016). One individual named the system in a way that aptly captured the others’ descriptions: the university’s approach to emergency management involved a “sort-of infrastructure” that informed decision-making during a crisis and was comprised of the president and cabinet members. The interviewee explained, [We] did not have an all-hazards plan. We didn’t have anything as well developed [as the Hurricane Plan] if there was a shooter on campus, if there

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19 The U.S. Department of Homeland Security (DHS) introduced NIMS in 2004, intending that it provide a common structure and language for government and non-government organizations during emergencies of all types and sizes. NIMS was developed following the September 11, 2001 terrorist attacks, which underscored the need for a national approach to emergency management organized around a “core set of doctrine, principles, terminology, and organizational processes to enable effective, efficient and collaborative incident management at all levels” (NIMS, 2004). At the point of its introduction in March 2004, the government also provided a timeline for implementation; any organization receiving federal preparedness funds would be required to demonstrate compliance by the end of FY 2006 (NIMS, 2004). This included colleges and universities like Tulane. The government mandated organizations demonstrate NIMS compliance by the end of Fiscal Year 2006 (September 30, 2006) in order to receive federal preparedness funds from the Department of Education, the Department of Homeland Security, or the Department of Health and Human (NIMS, 2004). Hurricane Katrina occurred in 2005, shortly after NIMS was introduced but a year in advance of the deadline for compliance.

20 NIMS mandates the use of the Incident Command System (ICS), a chain-of-command structure that facilitates emergency response and had been in wide usage prior to the development of NIMS. ICS was developed in the years following a devastating 1970 fire season in southern California (NIMS, 2004).
was a bomb on campus, or suddenly a disease. […] We had sort-of an infrastructure for it, but nothing that I would say was elaborate. (Participant interview, May 20, 2016)

Another participant characterized this infrastructure by explaining,

I don’t think [Tulane] had anything remotely resembling an ICS structure in 2005. What [the university’s leadership] did, and what a lot of universities continue to do, is they went into an emergency mode. We had the Emergency Operations Group, which […] was the president’s cabinet. […] They would pretty much process [and] deal with the emergency, and I’ll tell you, even after we changed [some emergency response protocols and procedures at Tulane], a lot of stuff still got decided by that group.

( Participant interview, July 14, 2016)

The data suggest that this group of senior officials that comprised the “sort-of” infrastructure operated based on norms born of experience and relationships rather than codified policy.

Participants never explicitly defined the team of senior administrators as an “infrastructure” for emergency management, but conveyed how President Cowen and his cabinet functioned during pre-Katrina hurricanes and would, they believed at the time, function in the midst of other substantial emergencies that might arise. Informants seemed to suggest that they believed this system could be extended to other kinds of crises when needed, both before and after Hurricane Katrina. In short, the “sort-of” infrastructure was a well-oiled machine comprised of an
effective group of senior administrators, strong presidential leadership, and the Hurricane Plan. This was the foundation of Tulane’s emergency planning for hurricane season and was the extent of the university’s emergency preparations and readiness efforts.

The focus on hurricanes was important given the certainty that the institution would be affected by these events. One person reflected that in the years leading up to Katrina, New Orleans had been affected by approximately one hurricane, on average, every year. Another person recalled that during President Cowen’s first seven years, there were “there were probably six or seven hurricanes with three where we had to do evacuation[s]” (Participant interview, May 20, 2016). In other words, hurricanes were, and continue to be, routine events that required a substantial investment. As of 2005, Tulane had not been affected by any other comparably threatening incidents and, according to many participants, did not perceive a need for additional contingency planning. One person indicated, “We really had not had any [other] emergency situation. We had had only hurricanes” (Participant interview, April 25, 2016). Another participant, also asked about how Tulane prepared for other types of emergencies before Katrina, laughed and noted, “we were less worried about invasion by aliens and much more worried about hurricanes” (Participant interview, May 18, 2016).

Summary

Before Hurricane Katrina, Tulane’s approach to emergency management focused on hurricane planning, and this was the only type of large-scale
emergency the university had ever experienced. Participants described having felt confident about the university’s preparations and their capacity to manage storms of varying sizes. Although the university had a dedicated office for emergency management, no one perceived the need to plan for other types of critical incidents. The Emergency Manager maintained and updated rudimentary aspects of the Hurricane Plan but participants acknowledged that, in practice, President Cowen fulfilled this role. The president, in consultation with his cabinet, made all decisions involved in activating and executing the Hurricane Plan, which primarily focused on issues related to evacuating students and securing campus facilities.
Chapter 6. Evaluation of Tulane’s Response

Chapter Six endeavors to describe participants’ evaluation of Tulane’s response to Hurricane Katrina. While their perspectives on the response varied in some ways, as will be discussed, the study’s participants consistently described the institutional response as extraordinary given the unprecedented circumstances. One respondent captured the prevailing attitude:

Quite honestly, I think what we did was goddamn amazing. It was just unbelievable that we were able to pull it off on a shoestring budget with people who, this is not what they were trained to do. […] None of us were trained in emergency management. (Participant interview, May 31, 2016)

In their evaluations, informants emphasized the final outcome: Tulane’s survival and, ultimately, a transformation of the institution that was catalyzed by Katrina. They frequently observed the gaps in their preparations at the same time as they described their successes and relayed memories of how shocking and unforeseen Katrina had been. Indeed, most of their critiques regarding aspects of failed planning were situated in otherwise positive, sometimes even heroic, narratives about Tulane’s survival. Interviewees attributed the university’s successful response to four common factors including, presidential leadership, a culture that facilitated innovation, an effective leadership team, and the generosity of other people, companies, and institutions of higher education. They further evaluated the university response in terms being a “catalyst for change,” both individually and for the institution (Cowen, 2018a, p. 110).
The following chapter explicates these findings and is organized in five sections. The first section discusses the way participants framed the Tulane’s response in terms of the university’s survival and the unprecedented context of the event. In the second section, I present aspects of the response that interviewees perceived as especially successful, namely the student evacuation and the leadership group’s improvisational skills. The third section of the chapter explores participants’ explanation of these successes and focuses on the factors that enabled skillful improvisation. In Section Four, I describe how participants evaluate the university’s response as a catalyst for positive change individually and institutionally. The chapter ends with Section Five, an exploration of how participants addressed oversights and gaps in planning.

**Section I: Success as Survival**

The study’s participants frequently grounded their evaluation of Tulane’s successful response to Hurricane Katrina in the institution’s endurance, recovery, and ability to thrive in the wake of an unprecedented disaster. As one person said, “All in all, the outcome tells you the value, [of] how good a job we did” (Participant interview, April 20, 2016). Another participant underscored the final outcome by placing the university’s experience in a historical context, noting that current students were unaware of how devastating the event had been to the post-Katrina institution they knew. The participant explained:

I think what we did was amazing with what we had, and given that we didn’t know what we were getting into. Would we have won World War II
any differently? Well, probably, but we didn’t know we were going to be
bombed at Pearl Harbor, and so you do what you can at the time, and [now]
Tulane is alive and well and healthy […] and today’s students don’t even
know how to spell Katrina. (Participant interview, May 31, 2016)

Like many participants in the study, this individual acknowledged that elements of
administrators’ preparation and response to Hurricane Katrina were problematic
while also minimizing these observations in light of the successful final outcome.
For many participants, the problems revealed in hindsight became somewhat more
acceptable given the end result.

Participants cited quantitative evidence to define and underscore the
accomplishments of Tulane’s president and the leadership group. Several noted
the high percentage of students who returned to the university for the 2006 spring
semester instead of transferring to other institutions. According to informants,
Tulane’s retention rate was especially noteworthy because New Orleans continued
to suffer well beyond the date of Tulane’s reopening due to the devastation of
local infrastructure, the loss of life, and the diaspora that occurred when people
fled the city, many of them permanently. One person noted that 93 percent of
students returned and this was “amazing […] when you consider 1,600 [students]
were first-time freshmen who spent hours on this campus and came back to [a]
city that was hurting, and damaged, and not what it [had been]” (Participant
interview, April 19, 2016). Another interviewee recalled a statistic about the city
that the president was especially proud of: “the population in Orleans Parrish
increased 20 percent the day we opened the school again, 20 percent” (Participant interview, April 19, 2016).

**Context of final outcome.** Tulane, however, did not merely reopen. Participants emphasized that Tulane *thrived* in the years following Hurricane Katrina and, according to some, became a “better Tulane […] by a long shot” because of its Katrina experience (Participant interview, July 14, 2016). According to many interviewees, the outcome was even more impressive because of the difficult context in which the response took place. People described the devastation in New Orleans, how staff members were simultaneously coping with institutional and personal effects of Katrina, and how perilously close Tulane came to permanent closure.

**Context: A “do-or-die moment” for the university.** According to participants, the weeks following Hurricane Katrina were defined by profound uncertainty; the university’s viability was unclear even to its most senior leaders. One person recalled that “it was not clear to me – and at that point I was pretty familiar with the finances of the university and the situation – it wasn’t clear to me that Tulane was going to survive. It really wasn’t” (Participant interview, May 24, 2016). Tulane was in a perilous financial situation because of the hurricane, and according to one informant, there was “a brief period of time [immediately after Katrina] when [the president and several senior administrators] discussed, ‘Let’s just liquidate the endowment and close the doors’” (Participant interview, July 14, 2016). Another person remembered learning that, “by the middle of September, [it
was estimated [Tulane] had about 45 days of working capital left in the bank so, if you didn’t start making decisions right away, you were literally going to be bankrupt in a month and a half” (Participant interview, April 20, 2016). It was, in the words of the former president, “Tulane’s do-or-die moment” (Cowen, 2018a, p. 186).

The university was also in jeopardy of losing its students and faculty who could have transferred to other institutions instead of returning to New Orleans. “If we hadn't opened in January, chances are Tulane would not be here,” one person explained (Participant interview, April 19, 2016).

The uncertainty surrounding Tulane’s future and ability to survive was also recognized well beyond Tulane. As the leadership assembled in Houston, reporters from the Chronicle of Higher Education and the Wall Street Journal arrived to cover the university’s experience and expected “to write the story of Tulane’s demise” (Participant interview, April 19, 2016).

**Context: A devastated New Orleans.** The devastation in New Orleans interfered with Tulane’s efforts to reopen the university. The city’s damaged infrastructure presented numerous obstacles that exceeded the scope of Tulane’s (and the City’s) professional expertise. One person described the devastation:

[New Orleans] was deserted. [...] Water, mold, [no] infrastructure, no sewer, no water, no electricity, no telephones, nothing in this major metropolitan area, and those are all things that are horrible, but a thousand
people had died and others were missing. It was horrible … horrible.

Everything collapsed. (Participant interview, April 19, 2016)

Another informant recalled the leadership group’s collective realization that, while they were dependent on the city to provide “amenities” like “sewer, water, [and] power,” which they hoped would be restored by January, other basic necessities would still be lacking and they had to be “prepared to do everything, from a Tulane grocery store to a Tulane cleaners if that’s what it took” (Participant interview, May 18, 2016). Other participants described working on problems like the lack of housing for upperclassmen who lived off-campus and the need to provide K-12 education for the children of returning faculty and staff.

Coping with the devastation in New Orleans became more challenging when problems collided and one obstacle interfered with the ability to deal with another one. A participant recounted one such situation involving the impact of limited available housing in New Orleans on the restoration of campus facilities. Many of Tulane’s buildings sustained wind and water damage and required massive restoration before they could reopen.21 Initiating the restoration, however, was complicated by a shortage in available housing for the 1500 contracted employees working on restoring the university’s facilities (Tulane University Recovery, n.d.). Before Belfor, the disaster recovery and restoration company

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21 A BELFOR Property Restoration case study described this as “the biggest single restoration project in company history.” It required 1500 employees to repair 87 buildings, of which 62 were located on the Uptown Campus (“Tulane University Recovery, n.d.”)
working with Tulane could begin making repairs, the university had to establish living quarters for the company’s workers. They decided to house workers on the upper floors of the campus dormitories, but this required first removing everything that the first-year students had unpacked in the hours before evacuating (Participant interview, May 23, 2016). In other words, nothing was easy or straightforward. In the wake of the exodus from New Orleans after Katrina, there was substantial difficulty in accomplishing what would have been everyday tasks under normal circumstances. One interviewee explained:

The doctors had left, the psychiatrists had left, the pharmacists had left, the dentists had left. Supermarkets were only open three hours a day. If you brought clothes into the dry cleaner, they’d tell you it would take two and a half weeks to get back a pair of pants because there was no one to work the machines. Restaurants had lines outside of them because there were no wait staffs, there were no cooks. Half of the population of New Orleans was gone, so the context is very important because anything that you wanted to get done was difficult; services were just not available. (Participant interview, May 31, 2016)

Coping with these problems required the university’s leadership to rapidly generate and implement creative solutions for obstacles that were far beyond their previous experience or expertise. One participant laughed and said, “I was in charge of the cruise ship that we got [to provide temporary housing for returning
students] – I had never seen a cruise ship [before Katrina]” (Participant interview, May 16, 2016).

**Context: Personal adversity.** In addition to the infrastructure problems facing the university, the study’s participants were individually affected by the adversity the hurricane had brought to their own lives. Although they did not speak extensively about their personal situations, many referenced the considerable challenges that everyone had to simultaneously contend with during Tulane’s response and recovery. Multiple participants of the study discussed the “pressure [that catastrophes like Katrina] generate” for employees who must continue “slogging through their work [while] their families may be in a different state, their house may be in ruins, their car may be trashed” (Participant interview, April 19, 2016). Everyone who supported the university’s response addressed issues like personal property damage, communicating with FEMA, and dealing with insurance companies. One member of the team lost his home (Participant interview, May 31, 2016).

The personal impact of the crisis on participants was profound. One person explained that it is impossible to fully understand the devastation and trauma of Hurricane Katrina without having experienced the event and seen the aftermath in New Orleans. The participant commented, “I still get flashbacks when it rains around April and May. […] I think everybody really has a form of PTSD [Post-Traumatic Stress Disorder] and I’m not ashamed to admit [this] (Participant interview, April 18, 2016). The individual described speaking with someone from
a different region of country and realizing something during the conversation: “[I]t dawned on me, people just don’t get it. […] The people [who did not experience Hurricane Katrina] just didn’t grasp it” (Participant interview, April 18, 2016).

Participants noted that the capacity to work “10 hour days” despite their own difficulties and personal loss was critical to the team’s success, as was the president’s willingness to quickly excuse employees from working on the response if they were struggling to contribute because of the stressful circumstances (Participant interview, April 19, 2016; Participant interview, April 25, 2016). One person attributed the resilience of Tulane’s administrative leaders during Hurricane Katrina to “big personal hurdles” they had individually experienced earlier in their lives and perceived this resilience as an important dimension of the group’s effectiveness (Participant interview, April 25, 2016).

Section II: Informants’ Evaluation of Tulane’s Hurricane Katrina Response

All participants evaluated the university’s response to Hurricane Katrina in positive terms and typically cited two aspects of the response that were especially successful: the student evacuation and the senior leaders’ capacity to improvise. Participants also delved into the factors that they believe facilitated this success, which is explored in the following section.

 **Student evacuation.** Across interviews, participants universally perceived the student evacuation as “[t]he best part of the plan,” both in its conception and execution (Participant interview, April 19, 2016). One person explained:
Even before Katrina, we had a student evacuation system that was amazing as far as tracking students. It was just absolutely amazing how well we did that because we’d done it before; we’d practiced it, [and] we’d worked all the kinks out of [the] system. (Participant interview, July 14, 2016)

Several people emphasized the excellence of the student evacuation by comparing it to the city’s inadequate planning to evacuate citizens or provide emergency shelter, which has been widely criticized. One participant said, “[Tulane], I think, was far more proactive and showed far more foresight in anticipating some of the problems than, for example, than the city did” (Participant interview, May 18, 2016). To these respondents, Tulane’s evacuation procedure was particularly commendable in light of the problems the city faced in evacuating citizens.

**Improvisation.** Tulane’s leadership team quickly exhausted the extent of their pre-Katrina hurricane planning because the plan assumed a resumption of school within several days following a hurricane. According to participants, the fact that the plan wasn’t sufficient for the situation they were facing required President Cowen and his colleagues to “fly by the seat of [their] pants everyday trying to figure out what to do” (Participant interview, May 31, 2016; Participant interview, May 18, 2016). Multiple people used the same phrase – “fly by the seat of your pants” – to explain the improvisation that characterized Tulane’s response; one participant elaborated, “there was no handbook, there was no manual. […] there was nothing that could guide us” (Participant interview, April 19, 2016). Another interviewee described what it was like to arrive in Houston and confront
the reality that there was nothing to guide the team’s response. This person recalled:

The protocol was to be away for a day or two, not to be away for a couple of months and close the university, so we sort of rewrote the book as we read along using the guidelines as principles, but the truth was this was so unprecedented in higher education anywhere […] that I won’t say we threw out the rule book, but we had to rewrite it as we went. We didn’t write it down, we just figured it out […] and said [to ourselves], “This is how it's going to be.” (Participant interview, May 31, 2016)

Many of the study’s participants expressed pride in what the leadership group accomplished given that they were forced to innovate in the midst of such stressful, extreme circumstances. Several people noted that even “in [Tulane’s] complete disaster recovery mode,” the university was still “lending a helping hand to other colleges” in New Orleans that were not as “well organized” as Tulane (Participant interview, April 19, 2016; Participant interview, May 31, 2016).

Informants rightfully characterized the leadership group’s capacity to improvise in the face of extreme turmoil and uncertainty as an impressive feat. Many attributed this success, especially related to effective improvisation or their ability to “fly by seat of [their] pants” to interrelated factors including leadership, culture, and the dynamics of the senior leadership team.
Section III: Explanations of Success

Throughout the interviews for this study, participants ascribed the university’s successful response to four key factors. They include: 1) strong presidential leadership, 2) team culture, 3) an effective senior leadership team, and 4) the generosity of other people, companies, and institutions of higher education.

Explanation of success: Presidential leadership. Participants unanimously agreed that President Cowen’s leadership was a leading factor in the university’s survival and the group’s capacity to innovate. One person described his leadership as “nothing short of magnificent” (Participant interview, May 18, 2016). Others praised the president for having “encouraged out of the box thinking” which was critical to the group’s ability to generate solutions to so many novel problems. He did this, in part, by establishing an experienced team of administrators and fostering a culture of honesty and respect among them long before Hurricane Katrina. Participants spoke especially highly of President Cowen’s approach to decision-making, which one person explained in the following way:

[People] prefer decision to indecision, even when they disagree with what the decision is; the indecision is troubling to people. It frustrates [them], it can frighten them, it can demoralize them, confuse them. […Being decisive] is where Scott excelled. (Participant interview, April 20, 2016)

Not only was Cowen willing to make decisions in the midst of uncertainty, he was able to make contentious decisions that, while difficult at the time, were critically
important to the university’s survival. One person explained that President Cowen had, “been criticized harshly by [individuals] who are old-time Tulane people, but anybody with any sense realizes that the hard decisions he had to make were the things that saved Tulane” (Participant interview, April 18, 2016). Making those decisions, however, required the president to have “the ability to step outside the rules and do things that weren’t in the plans” like bypassing the faculty senate (Participant interview, July 14, 2016). The former president has publicly attributed the freedom to make decisions to the unprecedented nature of the event and the trust he had earned from the Board of Trustees during the first seven years of his presidency (Cowen, 2018a). The magnitude of the events led others to look to him for leadership, and they felt comfortable doing so because he had also earned their respect and trust as president. Cowen has since reflected, “If Katrina had happened in the second rather than the seventh year of my presidency, I don’t think I would have had anywhere near the kind of support I got from my board, my staff, and indeed the faculty” (Cowen, 2018a, p. 142).

Another participant defined the “genius of the critical incident response” as the president’s ability “to accurately understand what the real crisis was” (Participant interview, April 20, 2016). According to this person, President Cowen skillfully identified and prioritized the key elements of the emergency to ensure Tulane’s survival. Repairing the university’s facilities was an obvious problem. What was less obvious, according to this participant, was the instinct to immediately prioritize the need to re-recruit the undergraduates and reinforce the
resolve and vitality of Tulane’s community while it was dispersed across the country. The participant argued that the importance of this could have been obscured in the midst of such turmoil, and that it would have been disastrous if students had decided to transfer instead of returning to New Orleans. Participants agreed that the president’s decision to devote time to traveling around the country in the midst of the recovery work, and giving the students “pep [talks]” and “fiery, passionate [speeches]” in which he told them “Come home [to Tulane, because] it’s going to be fine” was pivotally important (Participant interview, April 19, 2016; Participant interview, May 31, 2016).

Participants gave examples of other decisions or actions by the president that were similarly crucial to Tulane’s survival. These included his focus on regularly communicating with the extended Tulane community and willingness to continue paying employees despite facing a financial disaster.

**Explanation of success: Culture.** President Cowen established a culture among his senior cabinet members during the initial seven years of his presidency that facilitated the university’s successful response to Hurricane Katrina. One person summarized this as a culture of “transparency and candor” among the university’s senior administrative leaders (Participant interview, May 20, 2016). Someone else noted:

[The] biggest thing that factored [into the successful Katrina response was] the culture in the president’s office. The culture was one of collegiality and inclusivity and working things out together […] Your contribution [was]
expected and appreciated. I think that more than anything else contributed to our ability to react to Katrina. (Participant interview, July 14, 2016)

These norms, established by the president before Katrina, were instrumental to group’s success and were rooted in the respect and trust that members of the team had for each other and for the president.

President Cowen cultivated an atmosphere of respect among his cabinet members and he demonstrated this by valuing their ideas and soliciting their candid perspectives. Before Katrina, the president made decisions, “especially [in] stressful situations” by gathering his cabinet members and “[debating]” different courses of action (Participant interview, May 20, 2016). According to participants, he consistently expressed an interest in understanding “what [was] on your mind, not what you think [he wanted] to hear” (Participant interview, May 20, 2016). He communicated his respect for each member of the group and established a way of working together, particularly in the midst of stressful circumstances, in which his colleagues felt comfortable sharing their ideas even if this led to “disagreements” (Participant interview, May 20, 2016). Decision-making was a “very collaborative process” at the senior most level of the university and was facilitated by a culture in which members of the group felt personally respected and that their ideas were valued (Participant interview, May 20, 2016). Another person characterized “the key to success” as a team that was “responsive and willing to venture ideas” (Participant interview, April 20, 2016).
According to participants, the culture of collaboration was a defining aspect of the senior administrative leadership’s response to Hurricane Katrina. One informant described a manifestation of this culture while explaining the process for setting daily priorities during their work in Houston (Participant interview, April 25, 2016). Each morning, the president convened the group to discuss the previous day’s accomplishments and determine and assign the current day’s priorities. The president used a large flip chart to create a list, and as people went “around the room and [talked] about what we [each] thought the priorities were, […] Scott […] would say “Yes, that makes the list. No, it doesn’t – hold that for tomorrow. Hold that for two days from now”” (Participant interview, April 25, 2016). Recognizing the value of each person’s perspective – that everyone had something to offer and that this would improve their ability to cope with novel problems—facilitated the group’s successful innovation. Members of the team felt comfortable sharing creative, different ideas and were not hindered by the concern of being judged by their colleagues. In other words, creativity was not stifled by a fear of judgment. One person described the culture and process for generating creative ideas by recounting that you could “make suggestions […] and [they] could be stupid, [but] nobody would look you in the face and say, “That’s stupid” and chastise you for it. They would just ask you for the thought process behind it and try to make it better” (Participant interview, July 14, 2016).
President Cowen had created the conditions in which team members felt comfortable proposing new ideas, discussing them openly, and acting on decisions without second-guessing themselves or each other.

The culture was further enhanced by the president’s philosophy towards urging people to take on new, unfamiliar “[jobs] that [would] make them stretch” as one person described (Participant interview, May 20, 2016). Cowen has publicly articulated this an important element of his leadership style, informed by his experience coping with undiagnosed dyslexia as a young person (Cowen, 2018a). In his words, “I’m the sort of person who learns by doing: I grew into my jobs” (Cowen, 2018a, p. 7). Prior to Hurricane Katrina, when a staff member expressed hesitation about having enough experience for a new position, someone recalled that the president assured her that she had “time to learn [how to manage the new responsibilities]” and said, “I am here” if she needed help (Participant interview, May 20, 2016). Accordingly, when Katrina occurred part of the established culture among Tulane’s senior administrative leaders involved a willingness to tackle new challenges. Similarly, President Cowen was willing to let people “grow into” new roles, which implicitly meant an understanding that performance might not be perfect while they tried something new.

Some participants described a tolerance for imperfection as another dimension of the culture that contributed to their success following Hurricane Katrina. Given the circumstances and the nature of the unprecedented number of new challenges, making mistakes during the Katrina response was inevitable.
However, a concern about making mistakes did not hinder decision-making. One person explained the ethos:

[Y]ou’ve got to just tell your people what you want the outcomes to be and let them go do it, [even] if it's ugly or it's messy or some china gets broken along the way. […] You can’t sit there and wring your hands; things have to happen too fast […] so you just have to plough through to the end and then worry about the broken china on the back end. (Participant interview, April 25, 2016)

This was critically important during the Katrina response because members of the group were not held back by a concern or fear of making mistakes. As one person recalled, the president would “tell people what to do [but] not how to do it” (Participant interview, April 25, 2016). An important element of their success, according to a different participant, “[relied] on not being afraid to make decisions” (Participant interview, May 20, 2016). The culture empowered members of the senior administrative leadership team to make decisions even in the midst of such uncertainty. As another participant noted, “you might make mistakes, but at least you tried. If you don’t do anything, nothing happens” (Participant interview, May 20, 2016).

**Explanation of success: Leadership team.** The cohesion of the senior leadership team was instrumental to Tulane’s response and recovery. Participants agreed that, “the pre-existing relationships between the folks [in the president’s cabinet] are probably the thing that got everybody through” (Participant interview,
July 14, 2016). For the team members, the experience bonded them and they spoke about their colleagues with great admiration. They described the team’s defining characteristics as its shared priorities, commitment to the university, and mutual respect for each other and for President Cowen. This contributed to a group that worked together like “a well-oiled machine” (Participant interview, April 25, 2016). An informant attributed this to “having worked together for many years” – “[knowing] each other” and knowing how “everyone thought” (Participant interview, April 25, 2016; Participant interview, May 20, 2016). Participants further described the group’s loyalty to each other and to the president. Beyond each person’s professional competence and knowledge of the institution, the members of this group genuinely liked each other.

**Explanation of success: External support and assistance.** Participants underscored the value of financial and operational assistance from outside businesses, the higher education community, and private citizens to the university’s recovery. Shortly after the hurricane, Deutsche Bank offered a “$150 million line of credit, a loan, no security” and according to one person, “that's really what we used to bankroll the place” after the storm (Participant interview, April 19, 2016). This was critically important because when Hurricane Katrina struck, there was a “whole semester’s worth” of tuition money, “millions of millions of dollars” in checks that were inaccessible because they were left “sitting in [the] mailroom underwater” (Participant interview, April 19, 2016).
Another participant recounted a phone call from the university’s investment counselors at Cambridge Associates who said, “we will house any of your financial staff that you want here in Boston in our headquarters and we don’t want to charge any fees for this year – we want to do all this work, anything you need, *gratis*” (Participant interview, May 24, 2016). Others mentioned that Tulane’s long-term partner, Coca-Cola, set up a call center in Houston for the university immediately after the hurricane. The company refused payment and only asked, as one participant recalled, “Do you need anything else? Can we help you?” (Participant interview, May 16, 2016). The financial support was critical to their success but participants also acknowledged these examples of kindness were also humbling and meaningful.

Many of the study’s participants described the generosity of the higher education community in enrolling Tulane students for the semester free of charge. One person explained that, “[the institutions who enrolled Tulane students for the Fall semester] charged [our students tuition] but they gave the money to us. Higher education rescued us” (Participant interview, April 19, 2016). Another informant’s statement captured the collective perspective: “I think one of the things that will forever stand out in my mind about this whole event is the goodness of people” (Participant interview, May 16, 2016). Most of the participants in this study cited the importance of presidential leadership and the senior leadership team in the university’s response and recovery, in keeping with the predominant public narrative about Tulane’s experience during and after Hurricane Katrina. Yet unlike
most of the public accounts of these events, the study’s participants also emphasized the critical importance of other people, businesses, and organizations, whose generosity proved instrumental to the university’s survival.

Section IV: Catalyst for Change

Participants of the study collectively evaluated the institution’s response to Hurricane Katrina as something that catalyzed substantial change for themselves personally as well as for the university. In doing so, they discussed the positive growth and transformation that occurred as a result of having endured an unparalleled crisis.

Catalyst for change: A “life-changing” experience. Many informants characterized their participation in the university’s response to Hurricane Katrina as a transformational or “life-changing” experience (Participant interview, May 31, 2016). One person explained:

Sometimes I think people want to believe they can do something really hard, something meaningful, that “Yeah, this is a challenge, but I think I’m up for it; I can do this.” I personally think we saw that in our staff and our faculty, our students, our administrators, our board, our donors, our alumni […]. It was the time of my life. It really was. And I don’t say [that] like it was the best time of my life; it was the most rewarding time of my life. The work we did, the meaningfulness, the people I got to work with who […] are still friends of mine. […] It meant the world [to me]. (Participant interview, April 19, 2016)
Several interviewees explained the significance of their work, and sometimes even joy in aspects of an experience that was generally stressful and traumatic. One person characterized the months before Tulane’s reopening as “fun” and said, “you knew you were making progress. It was really hard work, very frustrating [because] everybody was being stretched to do things they’d never done, and they did it” (Participant interview, April 19, 2016). As described earlier, some discussed the “amazing resilience” of the people involved in such a difficult but ultimately successful response to Hurricane Katrina (Participant interview, May 23, 2016). Another participant observed the “positive effects” of having been part of the recovery team in the sense that many of the team members moved into more senior positions at Tulane and elsewhere after the crisis (Participant interview, May 31, 2016). This person also described the learning that had come from Katrina, saying, “It was a great experience; I learned a great deal about emergency response and how to handle things, and [about] leadership” (Participant interview, May 31, 2016). Despite the personal and professional difficulties participants recalled, many described having still been positively changed because of their experiences supporting Tulane’s response.

Catalyst for change: Transformation of the university. In addition to recounting personal change and growth in the wake of Katrina, participants evaluated Tulane’s response to Hurricane Katrina as a catalyst for positive change for the university. Many people characterized the events around Katrina as difficulties that eventually led to institutional improvement (Participant interview,
June 2, 2016; Participant interview, July 14, 2016). One person said, “[Hurricane Katrina] was a tragedy, but we built something better, I think. [Tulane] is thriving like it never has before because of the reimagining” the storm prompted (Participant interview, June 2, 2016).

According to participants, President Cowen and his colleagues accomplished this transformation by taking advantage of the circumstances and the university’s “financial exigency” to make controversial but strategic decisions (Participant interview, May 31, 2016). As one person explained, they did not “waste a good crisis” (Participant interview, April 20, 2016). Another interviewee commented, “Katrina gave you the opportunity to say, ‘Okay, now, we have a financial crisis – we have to rebrand ourselves. We have to reconfigure the institution and now we can do this’” (Participant interview, April 19, 2016).

Participants cited several examples of decisions that were motivated by Katrina and led to transformative change at the university, including the merging of the men’s and women’s colleges, eliminating specific doctoral programs, combining the sciences and engineering into a single school, and closing certain departments (which resulted in firing a number of tenured faculty members) (Participant interview, April 19, 2016). One participant explained:

My point is when you have a crisis, and if you were ever going to make some changes, that was a good time to do it because there was financial exigency. There were reasons to do it, and if you’re going to do it, you might as well make some of the tough changes that you’ve been thinking
about that are financially beneficial and academically sound, and so we did it all. (Participant interview, May 31, 2016)

Participants commended President Cowen for “[using] the crisis as the lever to make [the] tough decisions” in the Renewal Plan, and noted that “many of the things you see in the Renewal Plan were things that were being debated at Tulane for decades” (Participant interview, April 20, 2016).

Several people noted the difficulty of making these decisions and commended the president for having had the courage to act. One person explained, “It took guts on Scott’s part, and [the] rest of us as well, to say, ‘Screw the Faculty Senate. We’re just doing this’” (Participant interview, May 31, 2016). This person later explained that the circumstances necessitated rapid decision-making where there was usually a prolonged process involving discussions among different university stakeholders like the faculty and the Board of Trustees. Because there was no time to “negotiate with the Faculty Senate over the wording of every sentence” or “negotiate with the Executive Committee” or “pass everything by the Board,” the participant recounted, “[President Cowen and his colleagues] bypassed the usual shared governance conversations, which often take two years to decide what kind of light bulb to use” (Participant interview, May 31, 2016). This allowed for substantial changes on an expedited timeline, which someone else characterized as “probably the most liberating time” (Participant interview, April 19, 2016). This participant continued and said, “I mean we built the campus
in four months – I can’t hire an architect in four months [right now], so [...] you just got things done” (Participant interview, April 19, 2016).

Section V: Oversights and Gaps in Planning

Participants uniformly described Hurricane Katrina as an incident that was beyond anyone’s imagination. The common perspective was that the event had been so far beyond the boundaries of previous experience that it was impossible to prepare for such a crisis, forcing the university’s leadership to respond in the moment. As one interviewee said, “no one ever thought that anything like this could ever happen” (Participant interview, May 31, 2016). Tulane had resumed operations quickly following other storms. The assumption that the university could reopen within days of any hurricane was a flawed aspect of Tulane’s Hurricane Plan, as revealed by Katrina. As one person said, “we’d always assumed we’d be able to get back in three days” (Participant interview, July 14, 2016). No one considered the possibility of a prolonged closure and, as a result, the Hurricane Plan and all other preparations failed to account for a sustained disruption.

Participants also noted the distinction between planning for a hurricane versus planning for the recovery period that followed. One person commented, “our plan was really about getting through the incident, not the recovery” (Participant interview, April 19, 2016). Another informant noted that the plan “never anticipated that we would not be able to come back within a couple of days; that wasn't even thought of” (Participant interview, April 25, 2016).
**Framing mistakes as opportunities.** Participants referenced specific mistakes and gaps in Tulane’s emergency planning, but instead of framing these as failures, many participants discussed the university’s oversights in positive terms and characterized them as opportunities to learn or improve emergency readiness for subsequent hurricanes. One participant described a series of lessons that led to refinements in Tulane’s preparations, explaining, “there were a lot of things that we learned and we changed” (Participant interview, May 20, 2016). The participant began by regretting that the institution had not backed up its IT system long before Katrina but, continued to explain that this led to a critical improvement and better approach: “We learned so many things, you know we said, ‘Okay, we can’t have backup systems for our IT in Louisiana, and [so] we got [better] backup systems” (Participant interview, May 20, 2016). The same participant explained that the experience of losing power in the Emergency Operations Center led the team to add a generator to the president’s home on campus. Another participant wondered aloud, “[W]ho knew that we would ever have to bring in the company like Belfor to setup in the middle of campus, to gut dozens of buildings?” (Participant interview, April 19, 2016).

Later, the same participant who noted the lesson about Belfor discussed revisiting the “weak” aspects of the Hurricane Plan after Katrina:

[W]e knew absolutely what worked and what didn’t work and we right away started reworking our plans. […] We knew we had to address some of the weak points of the plan and we had learned so much. […] and those]
lessons learned were immediately incorporated into plans” (Participant interview, April 19, 2016).

Another informant said the following about the temporary loss of the university email system: “I mean one of the things of course we learned was about redundancy in your systems” (Participant interview, May 18, 2016). In this sense, participants framed the university’s mistakes, some of which were substantial, as opportunities for learning and improvement rather than as egregious or negligent errors. What some emergency management experts might consider serious omissions in Tulane’s preparations –not having adequately backed up the university’s IT systems and not having considered the possible need for renovation work in the event of a more substantial weather event – stood out to participants as needs they could not have imagined before Katrina. In hindsight, having survived and recovered from catastrophe, participants viewed the discovery of these oversights as opportunities to strengthen their planning and preparation for future hurricanes.

**A critical voice.** One participant had a noticeably less forgiving perspective regarding the shortcomings of the university’s hurricane planning, but still evaluated the response in positive terms.\(^22\) This person explained that, even though Tulane’s leadership overcame an absence of planning for prolonged closure and

\(^{22}\) While interviewing other participants of the study, one person suggested that this individual left the university after having mismanaged a professional obligation that led to President Cowen’s frustration. The individual, however, did not refer to his/her transition from Tulane in negative terms nor did the person negatively characterize his/her relationship with President Cowen.
citywide catastrophe, the institution’s pre-Katrina preparations were less organized and thorough than is reflected in public narrative and the interviews for this study, which characterize Tulane’s Hurricane Plan as robust. This participant explained, “there certainly wasn’t [any structure or person] that could put together the kind of documentation that FEMA [wanted]” (Participant interview, July 14, 2016). This explains why Tulane “ended up paying a substantial amount of money back to FEMA after Katrina,” which this person estimated at approximately “40 million-something dollars” (Participant interview, July 14, 2016). This interviewee’s perspective stands out in a collection of accounts that are more forgiving of the university’s oversights in planning.

During the course of this interview, this participant also provided a different perspective on Tulane’s pre-bid contracts. While others focused on the contracts that were in place for an out of state bus company to relocate students during an evacuation, this participant highlighted that the institution did not have a similar pre-bid contract in place with Belfor, the company Tulane quickly hired to restore its facilities after Katrina. The person explained,

We should have had pre-bid contracts [with companies like Belfor] that make FEMA happy […]. They should be coming up for renewal and we need to get on the renewing of those contracts. The more I looked, the more it became obvious that a whole bunch of folks thought we had pre-approved contracts but we had never actually gone through the process of getting [the] contracts pre-approved. (Participant interview, July 14, 2016)
The participant believed that some of the complications and “early craziness”
during the response could have been avoided “had [there been] an [Incident
Command System] in place early on,” and this would have also saved the
university a substantial amount of money (Participant interview, July 14, 2016).

Even though this participant was less forgiving of some of the oversights in
the university’s preparations than other people, the participant nonetheless stated
that what President Cowen and his colleagues achieved was remarkable and that,
“Tulane is a better Tulane [years later] than it was in 2004 by a long shot” because
of the way the university’s leadership managed the response and recovery
(Participant interview, July 14, 2016).

Summary

Participants offered largely positive evaluations of the university response
to Hurricane Katrina. Their observations focused on the university’s survival and
transformation into a “better Tulane” as a result of its experience as evidence of its
effective response to the crisis. They emphasized the impressiveness of this
outcome by describing the extraordinarily difficult context in which the
university’s leaders performed in this crisis. Participants described this as a turning
point in the university’s history; the stakes for Tulane could not have been higher
and they were met in the midst of the team’s personal devastation and trauma, the
university’s financial limitations, and a surrounding city in ruins.

In keeping with Leonard and Howitt’s framework for emergency
management, participants characterized Hurricane Katrina as an event beyond the
realm of imagination. It quickly rendered their otherwise careful planning – aimed at hurricanes and not widespread flooding – insufficient – which then required the university’s leadership group to improvise their way through the event and recovery. Participants identified the ability to improvise as a critical factor in their success and were justifiably proud of what President Cowen and his colleagues accomplished.

This positive evaluation also carried into the way many described the university’s mistakes or gaps in planning, which most characterized as learning opportunities that eventually led to improved preparations for future hurricanes. One participant, however, maintained a more critical stance on these shortcomings. While this individual, like other participants, praised the leadership team’s capacity to mount a successful response despite profound obstacles, the person was alone in emphasizing the problematic aspects of Tulane’s Hurricane Plan before Katrina.
Chapter 7. Changes in Practice

Hurricane Katrina’s influence on Tulane’s subsequent approach to emergency preparedness and planning was a central theme in many interviews. In the following chapter, I present findings on how participants discussed changes in emergency planning and response after the hurricane. As noted in the previous chapter, Hurricane Katrina was personally and professionally defining for many participants of the study. They noted that the university’s experience made people aware of the institution’s vulnerability to other potential catastrophes and also led to a greater investment in emergency preparedness. Participants described five categories of changes to practice at Tulane: 1) organizational restructuring, 2) new responses to Katrina-specific obstacles, 3) professionalization of emergency management, 4) revision of emergency plans, and 5) changes in individuals’ mindset regarding emergency preparedness.

Organizational Change at Tulane

Participants of the study explained that changes to the university’s organizational structure were among the first shifts in Tulane’s emergency preparedness after Hurricane Katrina. Immediately following the leadership team’s return to campus, they conducted a rigorous After Action Review (AAR) of their preparations and response to Hurricane Katrina. In this review, where they surfaced lessons that had already emerged from their experience, participants reported that the AAR led to approximately “fifty things we were going to change” about the Hurricane Plan (Participant interview, April 25, 2016). One of
the most immediate changes involved relocating the Office of Emergency Preparedness and Response (OEPR). Following the AAR, the president reassigned the office to report to his chief of staff (Participant interview, April 25, 2016). According to participants, this was symbolically important and also had an effect on practice.

In reassigning the Office of Emergency Preparedness and Response to report to the president’s chief of staff, President Cowen “elevated the whole subject [of emergency management…] to a much higher level than it had ever been” (Participant interview, May 20, 2016). One person explained that this was “very important” because with OEPR located much closer to the president on the university’s organizational chart, President Cowen was “even more engaged with it” than he had been before Katrina (Participant interview, May 20, 2016). Elevating the office further demonstrated a greater investment in emergency preparedness and ensured the Office of Emergency Preparedness and Response received more attention from the highest levels of university leadership. As one person explained, with this change, “[emergency preparedness] became a topic of discussion all the time” and “rose up from being something that, we know it’s there but we don’t really pay [it] that much attention, to a major line item at the university” (Participant interview, July 14, 2016). The Office of Emergency Preparedness and Response reported to President Cowen’s chief of staff and remained in that position until another reorganization in 2013.
In addition to elevating the Office of Emergency Preparedness and Response in the institution’s organizational structure, Tulane increased its financial investment in emergency readiness. This “[ratcheting] up” of Tulane’s commitment to emergency readiness included the allocation of more funding to OEPR and an increase in the office’s employees (Participant interview, May 20, 2016). Before Hurricane Katrina, the OEPR was staffed by a single director. Following Katrina, the president’s chief of staff oversaw the initial “revamping [of] the Hurricane Plan,” during which it became clear that Tulane needed to provide funding to conduct a national search and hire an experienced OEPR director (Participant interview, July 14, 2016).

In 2007, the university hired a new Director of the Office of Emergency Preparedness and Response who came to Tulane from an oil company with a presence in the Gulf of Mexico, where he was “[responsible] for all of the offshore rigs during Hurricane Katrina” (Participant interview, April 25, 2016). One person commented that the new director brought “good industry experience not only in hurricane planning but in preparing for all-hazards” (Participant interview, April 25, 2016). His appointment was seen as bringing substantial improvements in emergency planning and practice (Participant interview, July 14, 2016). After this appointment Tulane leaders acknowledged the need to further expand the Office of Emergency Preparedness and Response in order to accommodate the large volume of work associated with rewriting emergency plans and preparing for hurricane season and they established an associate director position.
As participants conveyed, the Office of Emergency Response was staffed on a part-time basis, through the Chief of Staff’s office, until the new Director was hired. One person commented: “Up until that point, it had been assumed that you could do emergency management with just one person doing it part-time” (Participant interview, July 14, 2016). Thus, the institution did not make a full-time staffing investment in emergency management until 2008 — between two to three years after Katrina.

Participants described two more key organizational changes that occurred in 2012 or 2013, before President Cowen’s 2014 retirement. First, participants recalled the university hiring a consultant, to “work with [Tulane’s leadership] and just take a look at [the] emergency procedures” (Participant Interview, April 25, 2016). The consultant recommended that Tulane create a full-time position for a business continuity specialist. One person explained that the university took action on this recommendation with the intent of eventually creating additional positions for more business continuity specialists. However, Tulane struggled to fill the first position because few applicants possessed the desired expertise. The participant explained:

We wanted to hire somebody and we were going to commit to growing this staff over time, but we wanted somebody to come in with the architecture or the business continuity plan and work through, initially, the schools and colleges, and then out to the business units for putting this together. We had
Tulane eventually hired a business continuity specialist, but “she lasted about six months,” after which the university launched two more failed searches “and then we just sort of abandoned the whole thing” (Participant interview, April 25, 2016).

Participants also described the consultant as having been “instrumental” in transforming the university’s “sixteen all-hazard plans” for specific potential emergencies into “a comprehensive emergency operating plan” (Participant interview, April 25, 2016). The same administrator further credited the consultant with having created Tulane’s first “recovery plan for facilities” (Participant interview, April 25, 2016).

The final organizational change before Cowen’s departure, moving the Office of Emergency Preparedness and Response from the Department of Auxiliary Services to Campus Operations, occurred in Cowen’s final year of his presidency. According to several participants, this move was also prompted by the consultant’s evaluation. One person explained the rationale: “it just makes more sense for [OEPR] to be housed under the operations side of the house, as opposed to the auxiliary side” (Participant interview, April 18, 2016). During the same period of time, President Cowen consolidated the Tulane University Police Department (TUPD), formerly separated into two forces overseeing the Uptown Campus and the Downtown campus/medical complex, into a single police force and hired a new police superintendent, to run it. Following TUPD’s
reorganization, President Cowen then moved the Office of Emergency Preparedness and Response to the Tulane University Police Department. One study participant who noted that the new Superintendent “had the bandwidth and the experience to supervise The Officer of Emergency Response” also explained that “emergency preparedness and public safety have to go hand-in glove” (Participant interview, May 20, 2016). Even though repositioning the Office of Emergency Preparedness and Response effectively moved the office lower in the university’s organizational chart – previously the Director had reported one level below the President’s Office – it prevented campus police and emergency response working in “different silos” (Participant interview, May 20, 2016). To enhance coordination, university leaders implemented a dual reporting structure so that the chief of police reported to the senior vice president for operations but also to the president’s chief of staff with respect to anything regarding emergency preparedness or response. The organizational change and use of a dual reporting structure worked well because of the expertise and skill of the new chief of police, who was “the right person” for the role and “very technologically advanced” (Participant interview, May 20, 2016).

In July 2013, one year before President Cowen’s retirement, Tulane hired a new director for the Office of Emergency Preparedness and Response. Once President Cowen moved the OEPR to the campus police department, the objective was for the new director to work with the police superintendent to “pull all the
pieces together and develop a true all-hazards approach to emergency response” (Participant interview, April 18, 2016). President Cowen retired in July 2014.

**Changes in Response to Katrina-specific Obstacles**

Many of the specific changes in emergency preparedness practice that participants described were in direct response to obstacles they encountered during Hurricane Katrina. Some of these included the policy regarding the president’s evacuation, procedural changes to employee pay, and allocating additional resources to protect critical university systems like the website, email, and student and personnel records.

Participants consistently reported that the president’s decision to remain on campus during Hurricane Katrina was a mistake. However, this had been in keeping with the Hurricane Plan’s guidelines and had not been problematic during other storms. In hindsight, participants acknowledged that this was poor planning. They collectively described an immediate post-Katrina procedural change in the Plan specifying that the president would no longer remain on campus in the event of an evacuation.23 Several participants elaborated that in future storms, a small contingency of employees from TUPD and the Facilities Services department

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23 The former president has recently noted that the question about “[w]hether the president should remain on campus in a disaster became a point of future debate [after Hurricane Katrina]” because although he was “trapped there” for five days, he believes his “presence had symbolic value, conveying hope and purpose” (Cowen, 2018a, p. 141. According to Cowen, “[a]lthough the requirements that the president stay “aboard the ship” is no longer in the [emergency] plan, […]he[…] stayed for subsequent hurricanes, simply because [he] couldn’t find it in [himself] to leave” (Cowen, 2018a, p. 141).
would remain in Tulane’s Emergency Operations Center while a business continuity team comprised of the university’s senior leadership would, “all pick up and […] go to another location where they [would] run the university” (Participant interview, July 14, 2016). The person further explained that a business continuity team “is what, de facto, came together in Houston after Katrina” and that following the hurricane they formally incorporated this structure into their written plan (Participant interview, July 14, 2016).

**Business continuity.** Participants described additional obstacles that led to procedural changes related to the university’s absence of business continuity planning before Hurricane Katrina. According to many informants, Katrina revealed the problematic assumption that the university would reopen shortly after a hurricane, and this exposed Tulane’s lack of business continuity planning to ensure that critical functions, like access to the university’s email systems, could continue without interruption. Several participants addressed changes introduced post-Katrina to improve the university’s capacity to endure a longer closure and facilitate a more efficient reopening. In 2006, for example, the university developed a “basic template for business continuity” and required all departments to use it (Participant interview, April 25, 2016). The purpose of the template was to assist departments and offices in tracking their inventory and “accounting for assets” in the event of another substantial water event or hurricane (Participant interview, April 25, 2016).
In addition to the consultant’s recommendation to create a full-time position for a business continuity specialist, one person described adding days into the academic calendar to allow for flexible scheduling in the event of an emergency:

The other thing I think the university is doing a much better job of post-Katrina is that we designed and prepared our schedule around the possibility [of closure], so if you have to cancel classes on certain days you're okay. [...] similar to what the schools up north learned a long time ago on snow days. (Participant interview, May 16, 2016)

Another Katrina-related obstacle that prompted change pertained to the problems administrators experienced disbursing paychecks immediately after Hurricane Katrina. President Cowen has publicly discussed his immediate commitment to paying employees even during the university’s closure and perilous financial circumstances. He has written: “We felt it was imperative that we continue to pay our employees, even though the university was closed, so that they would have time and resources to devote to addressing the hurricane’s impact on their homes and families (Cowen & Cowen, 2010, p. 5). However the mechanics of getting money to employees became difficult.

Before Hurricane Katrina, Tulane required faculty and staff to have direct deposit arrangements with banks but, according to one participant, the university “didn't really monitor it, so we were still printing paper checks” (Participant interview, April 25, 2016). When everyone fled New Orleans in advance of
Hurricane Katrina and scattered around the country, it was difficult to distribute
the physical paychecks. After Hurricane Katrina, the university enforced the pre-
existing policy that required employees to use direct deposit and no longer allowed
printed checks. Just as President Cowen’s extended stay on campus led to a new
policy regarding the president’s evacuation, the challenges that emerged around
employee pay during Hurricane Katrina prompted a new, straightforward policy
that, had it been in place before Katrina, would have simplified the university’s
Katrina response.

Participants spoke of several other changes prompted by Katrina-specific
challenges. Some mentioned the decision to back up the university’s Information
Technology services after Tulane’s reopening, and relocating servers, placing at
least one out of state to enable ongoing access to the university’s website and
email system and systems like payroll and enrollment and in the event of another
flood. They cited two other changes to mitigate service interruptions: the
relocation of HVAC systems from the ground floor of university buildings to
higher points, and the relocation of the Emergency Operations Center from the
Reily Center to the Cogeneration Plant to reduce the likelihood of losing power
and communications during future incidents.

In the days following Katrina, the university leadership faced numerous
well-documented challenges in communicating from the Emergency Operations
Center and maintaining contact with the dispersed Tulane community. After
reopening, university leaders made improvements to the university’s
communications systems. In addition to backing up IT services, Tulane invested in additional modes of communication to enable the university to effectively distribute information during future events. One person described a “call-in system” for employees to report their location and wellbeing to help the university maintain accountability for its people (Participant interview, April 19, 2016). Another interviewee described the implementation of an alternate email system: “Everybody has alternate email addresses if the Tulane server goes down. […] The technology we’ve acquired will allow us to use our computers or our tablets from [anywhere, including] the top of a mountain” (Participant interview, April 19, 2016). Others discussed a notification system that would allow the university to quickly distribute emergency information through multiple channels including email, text message, and phone calls.

Another example of the added “depth” they sought in emergency planning vis-à-vis enhanced communications and business continuity was encouraging staff to maintain phone numbers with area codes. When Katrina happened, the “cell towers got overloaded” and mobile phones with a local 504 area code did not work (Participant interview, May 23, 2016). One person explained, “[I] didn’t ask [my direct reports] to have a Tulane cellphone. In many ways, I preferred that they keep their [personal] cellphone [explaining that Tulane] will pay for it because it has a different area code” (Participant interview, May 23, 2016). Doing so would facilitate communication during a future incident if cell towers became overloaded as they did during Hurricane Katrina.
The university made additional improvements to reinforce campus facilities and infrastructure against future large-scale hurricanes and minimize potential disruption. One person recalled that there was a campus-wide evaluation of university buildings that guided these improvements. The same participants explained:

All infrastructure now is slated to be either improved or has been made safe for that kind of water event again. […] Raising all of your equipment, that’s one thing that’s been done, another thing is going toward the Cogen system, and the electrical grid, all of that was improved, drainage was improved so that [campus] would drain faster [in the event of widespread flooding].

(Participant interview, April 18, 2016)

In addition to physically improving Tulane’s infrastructure, the interviewee noted that the Facilities Department played a more substantial role in discussions about emergency preparedness and response than it had pre-Katrina.

Despite these changes, numerous participants expressed lingering concerns about the quality of Tulane’s business continuity planning or described this as the area “where we have the most work to do right now that we’re probably the farthest behind on” (Participant interview, April 18, 2016). These participants shared the belief that this domain of emergency readiness needed to be strengthened and it was not yet sufficient to manage a closure of more than two to four weeks (Participant interview, July 14, 2016; Participant interview, April 18, 2016; Participant interview, May 20, 2016).
Student evacuation. Although participants of the study described the student evacuation as one of the most successful elements of Tulane’s response to Hurricane Katrina, some explained that they still recognized the need for “more depth” in their evacuation planning (Participant interview, May 23, 2016). For example, participants described an increase in student evacuation sites from one to three locations to account for different storm trajectories and avoid sending students somewhere in a storm’s path. Some recalled that Hurricane Katrina tracked north through Jackson, Mississippi and cut power at Jackson State, where Tulane students had temporarily evacuated. In addition to multiple student evacuation locations, some noted the addition of three evacuations sites for the university’s leadership team as well. These plans also included contracts for essentials like food and bedding for students and for hotel accommodations for the university’s leadership.

Future restoration. After Katrina, Tulane developed a standing contract with a restoration company to handle facilities repair in the event of a disaster. The process of identifying a company in the midst of the disaster had amounted to, in the words of one person “grabbing Belfor and just kind of throwing them in there and saying, get started” (Participant interview, July 14, 2016). Tulane faced significant financial consequences as a result of their approach to hiring Belfor to complete restoration work following Katrina. In August 2013 – eight years after the hurricane – New Orleans’ local newspaper, the Times-Picayune, reported that Tulane owed FEMA $46.2 million because “it didn’t follow federal standards in
awarding contracts for repairing Hurricane Katrina-related damages” (Pope, 2013). By developing a standing contract in advance of any restoration being needed, Tulane hoped to avoid the problems they faced in their dealings with Belfor.

**Professionalization of Emergency Preparedness and Response**

The third category of change following Hurricane Katrina pertains to what one participant called the “professionalization of emergency management” at Tulane (Participant interview, May, 16, 2016). A different participant described a shift in perspective after the hurricane that brought newfound respect for emergency management because, “[senior officials at Tulane] and everybody else kind of realized they didn’t exactly know the science behind it. I think they recognized emergency management as a profession at that point, whereas, before it had really not been” (Participant interview, July 14, 2016). According to this participant, this recognition translated into an interest in hiring experienced personnel with backgrounds in emergency management. In addition to hiring a new, experienced director of emergency management, Tulane adopted a traditional Incident Command structure, NIMS compliance, and made a shift towards an all-hazards approach to emergency planning (Participant interview, April 25, 2016; Participant interview, July 14, 2016).

Participants cited several other shifts in practice that reflect an increasingly professionalized approach to emergency management. They described the explicit effort to strengthen the university’s relationship over time with key partners at the
city, state, and federal levels. As one participant explained, developing strong interagency partnerships was an important aspect of effective emergency response because “[y]ou get such a better response and assistance if you’ve got those relationships built on the front end” (Participant interview, April 18, 2016). The same participant explained that this has remained a priority at Tulane in the intervening years, adding that, “we spend a significant amount of time continuously enforcing our partnerships and our relationships with the local and state authorities” (Participant interview, April 18, 2016). The interviewee also cited the example of TUPD buying a bomb sniffing dog for the Louisiana State Police, which could not afford one, and commented, “[W]hat does that do for your relationship? That makes your relationship solid because you’re helping them out when you don’t have to. But if [we] need a bomb dog…” (Participant interview, April 18, 2016).

While discussing the improved relationships with outside agencies, several participants specifically noted establishing improved communications with these partners. One example they provided was Tulane’s conversion to interoperable radios to communicate with agencies like the local fire and police departments. One participant explained using interoperable radios was an important lesson for first responders and emergency managers taken from the September 11 and became a standard element of emergency preparedness throughout much of the country following the terrorist attack but, “[d]ue to a funding issue, [interoperable radios] never made it to South Louisiana. The need to “get on the same page of
operating with a standard operating picture […] one of the biggest lessons learned” for Tulane’s administrative leaders as a result of Hurricane Katrina (Participant interview, April 18, 2016). Within several years of Hurricane – around the time when the Office of Emergency Preparedness and Response was moved to the campus Police Department – Tulane replaced its existing radios with a completely interoperable 800 mHz radio system that would facilitate better communication with various responders.

Participants described President Cowen implementing a much more rigorous After Action Review (AAR) process following Hurricane Katrina. Although the process existed before Katrina, it was less formal and did not involve going “through every step” of the review (Participant interview, April 25, 2016). After Hurricane Katrina, this changed considerably. Participants recalled that the President’s cabinet, “religiously,” would:

[S]it after every event, with everybody in the room that needed to be there including the emergency management team, and we would walk through every piece. Did this go well? Did this not go well? What do we need to change? What do we need to tweak? We would document it. We would document that we made the change. We would document that everybody was educated on the change. (Participant interview, April 25, 2016)

Lastly, several participants noted an increase in more formal emergency exercises after Katrina. They described annual tabletop events for the President and his cabinet. According to participants, these exercises typically occurred at the
outset of hurricane season and continued to focus on storms for years after Hurricane Katrina. While these exercises existed before Katrina, they now occurred with greater regularity. Despite a persisting emphasis on hurricane planning and readiness, the institution implemented large-scale, mandatory exercises including departments across the university. One person described a separate “massive” and “campus wide” drill with 80 people from offices like Student Affairs, Housing, Transportation, Communication, Facilities, and Athletics where they would work through multiple scenarios (Participant interview, April 25, 2016). Participants reported that these drills continued focusing on hurricanes but the focus eventually broadened to include other types of incidents like active shooters and bomb threats.

During the course of my interviews, all participants conveyed an increasingly professionalized approach to emergency management at Tulane that began immediately after Hurricane Katrina. As one person noted, there was a “systematizing [about] what [the university would] do when there’s a critical incident” and by the time of President Cowen’s retirement in 2014, emergency management had Tulane had evolved into an “automated, professionalized system” (Participant interview, May 16, 2016).

Emergency Plans

Another fundamental change in emergency preparedness and planning at Tulane that occurred following Katrina was an emphasis on emergency plans. All participants discussed changes to the plans either in terms of policies and
procedures – like the president evacuating for hurricanes – or the nature of the plans, and noted that these became more thorough after Hurricane Katrina. One interviewee said Tulane’s leadership completely re-wrote the Hurricane Plan between 2006 and 2011. Someone else recalled that the president and chief operating officer had “ripped [the plan] to shreds” and that something much better was established in its place (Participant interview, April 19, 2016).

One participant explained that revisions to the institution’s plans between January and June 2006 focused on “[beefing] up” the Hurricane Plan based on the understanding that “this could happen again” (Participant interview, May 31, 2016). Others echoed that, for years after Katrina, Tulane’s emergency planning devoted substantial attention to hurricane readiness, and this meant a more detailed, nuanced, and expansive Hurricane Plan. Participants described planning for larger, more destructive hurricanes and creating specific sub-plans for hurricanes based on their strength and category. In addition to these changes, another participant explained, they sought to add “depth” to the plan, by considering, for example, “If Plan A doesn’t work, what’s Plan B?” (Participant interview, May 23, 2016).

As the nature of the institution’s emergency planning changed, expectations also shifted for offices at lower levels of the university administration. Participants explained that following Katrina every department and academic unit was required to have its own hurricane plan and emergency procedures. Several people specifically referenced planning that was newly required for “the research arm” of
the university in order to limit the loss of samples and data during future
hurricanes or a prolonged loss of power (Participant interview, April 25, 2016;
Participant interview, July 14, 2016; Participant interview, April 19, 2016).

Although much of Tulane’s post-Katrina emergency planning focused on
hurricanes, the university’s Katrina experience also led leaders to consider the
university’s readiness for other types of critical incidents; this became a more
pressing concern as they witnessed different kinds of emergencies at other
colleges and universities around the country. Numerous participants referenced the
rise of campus shootings as well as several other weather-related incidents as
shaping their view of Tulane’s emergency planning (Participant interview, May
20, 2016; Participant interview, April 25, 2016; May 23, 2016). During the same
period in which leaders revised Tulane’s plans for hurricane readiness, from 2006-
2011, they also developed a set of 16 additional contingency plans to account for
other possible emergencies and called these “all-hazard plans” (Participant
interview, April 19, 2016).

In 2013, the final year of Cowen’s presidency after OEPR was relocated to
TUPD, the police superintendent and director of OEPR began reorganizing
Tulane’s plans into a traditional all-hazard plan. At the time of the data collection
for this study, Tulane’s emergency planning reflected a single all-hazards plan
accompanied by “23 annexes” for specific emergencies like active shooters,
hazmat spills, fires, and weather events like tornados and hurricanes (Participant
interview, April 18, 2016).
Personal and Institutional Mindset

Some participants described the way Hurricane Katrina had affected all facets of life for the city’s residents. Although indirectly related to the university’s emergency planning and readiness, many participants described how the experience fundamentally changed their own ways of thinking about emergency response. Most notably, many people described the way Hurricane Katrina had made them aware that horrible events could occur and profoundly affect them personally as well as the institution. In turn, this led them to think and plan for other types of critical incidents that could affect the university. In this sense, participants described a new awareness of vulnerability after Katrina and a keen recognition of the necessity to prepare for other types of incidents. However, many of the same participants also described enjoying a newfound confidence that they developed during the university’s successful Katrina response. One person explained that, as a result of Katrina, they discovered that they, “[had] some sort of natural instinct and understanding” and additionally had the confidence that, in the event of another highly destructive hurricane, that “people […] will be able to do the right thing in [the] situation (Participant interview, April 25, 2016).

Participants also acknowledged having discovered the extent of their own resilience because of Hurricane Katrina.

At different points during the interviews, many participants conveyed the way their Katrina experience revealed and then underscored the value of having an excellent emergency plan. One person explained that one of the lessons that had
emerged from Tulane’s Hurricane Katrina experience was the realization that “everything has to have a plan” (Participant interview, April 19, 2016) while someone else similarly expressed, “you’ve got to have a very solid plan” (Participant interview, April 19, 2016). Not only did this participant emphasize the newly recognized importance of having an effective plan, they emphasized that a critical change following Hurricane Katrina regarded the need to follow that plan. As one person said, after Katrina, Tulane’s leadership rigidly adhered to the Hurricane Plan – they were “no longer loosey-goosey about it” (Participant interview, April 19, 2016). If the plan specified that a certain decision should be made at a specific time relative to a hurricane’s projected landfall, they would make the decision, whereas before Katrina the plan was treated more as a guideline or tool, after Katrina it became “ironclad” (Participant interview, April 19, 2016).

Participants further described a heightened sensitivity to hurricanes that persisted for years following Katrina. They described the fear that every subsequent hurricane would be disastrous on a comparable scale. One person described a substantial rainstorm the year following Hurricane Katrina:

[T]he year after Katrina, we had a real strong rain event, and I literally sat up at the side of my bed, looking up to at the window of my bedroom going, “Please, not again.” I didn’t think I could [endure another event like Katrina] again. (Participant interview, April 18, 2016)
The same participant also described this as a shared fear among people who had experienced Hurricane Katrina and explained, “[a] lot of people [would] really succumb to those feelings at the beginning of hurricane season, it’s hard” (Participant interview, April 18, 2016). Many people echoed this view, including people who were immediately involved the university’s response and recovery as well as people who were peripherally involved or came to the university after Katrina. A participant who joined the Tulane community after Hurricane Katrina explained, “Tulane got to where we became the international expert on hurricanes post-Katrina, but we got so stuck on the hurricane piece [and so we] never really thought about [an] all-hazards” plan (Participant interview, April 18, 2016).

All participants noted that the persisting focus and concern about hurricanes was something that the institution’s community struggled to move past and some argued that this impeded the university’s adoption of an all-hazards approach to emergency management.

Participants described how the Katrina experience had influenced their personal mindsets regarding emergencies, but they also talked about the university more broadly. Specifically, participants conveyed that, in the wake of Katrina, emergency preparedness and planning “became part of the fabric at Tulane” while someone else explained that it became a meaningful part of university ethos (Participant interview, April 25, 2016). This participant explained that following Hurricane Katrina, “[emergency management at Tulane] was supported, funded,
and resourced; it became part of doing business” (Participant interview, May 20, 2016).

**Hurricane Isaac**

Participants briefly referenced their learning from Hurricane Isaac and the policy changes that resulted from this 2012 storm. Informants collectively noted that the university would never have students shelter in place again after what they agreed was a poorly managed response. If a storm posed a threat, with “whatever probability of hitting New Orleans,” Tulane would evacuate (Participant interview, July 14, 2016; Participant interview follow-up, August 25, 2017; Participant interview, April 19, 2016). In addition to eliminating the shelter-in-place policy for lesser storms, according to one participant, the institution discussed the purchase of an additional generator to ensure the residence halls would have a backup source of power. Although the change regarding Tulane’s shelter in place policy resulted from problems during Hurricane Isaac, the university’s experience is noteworthy because it reveals the challenges that had persisted since Katrina.

**Summary**

In summary, participants described post-Katrina emergency management changes in numerous ways. These changes spanned five categories. First, Katrina led the university to make changes to its organizational structure primarily by

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24 A brief summary of Tulane’s experience during Isaac is located at the end of Chapter Four.
expanding the department of Emergency Readiness and Preparedness and seeking an experienced director for this office. Second, the university made immediate changes to address specific obstacles that emerged during Hurricane Katrina. Third, participants described Katrina as having been a catalyst for professionalizing the university’s approach to emergency management. This was a process that began immediately after Katrina and lasted throughout the remainder of Cowen’s presidential term, to 2014. This shift was mostly clearly evidenced by the institution’s effort to hire people with more experience in emergency management and, eventually, in their adopting a traditional ICS structure and all-hazards plan. Fourth, participants almost unanimously emphasized a change in emergency plans involving both the Hurricane Plan as well as the development of additional contingency plans to account for other potential critical incidents. As one person explained, what had been “a 2-inch binder [of emergency plans] probably became a 4-inch binder” following Katrina (Participant interview, May 23, 2016). Lastly, participants described the way Katrina had affected their personal mindsets regarding emergencies and planning. Interestingly, people described a simultaneous recognition of resilience and confidence in knowing what to do as well as a lingering fear that all hurricanes would become disasters of Katrina’s magnitude. Participants also conveyed the all-encompassing nature of Katrina’s impact by explaining that emergency management had become a fundamental aspect of the university identity. An interviewee explained that the university’s leaders had become “world experts” on hurricane planning and
response, while others explained that emergency preparedness and planning simply became part of the “fabric” at Tulane.

The changes described in this chapter are especially striking in light of Leonard and Howitt’s framework and participants’ discussion of Tulane’s response in Chapter Six. Although informants characterized Hurricane Katrina as an unfathomable event that the university survived because of factors like improvisation, teamwork, and creativity, the subsequent changes to emergency preparedness did not translate the implications of their Katrina experience into later emergency planning. Instead, participants described improvements to emergency readiness that were chiefly aimed at improving what Leonard and Howitt would characterize as routine emergency planning. This is a critical finding – one that will be the crux of the final chapter – and reveals the difficulty of transcending the routine domain of emergency planning despite having successfully guided an institution through an unprecedented disaster.
Chapter 8. Discussion and Implications

The purpose of this study was to understand a university’s experience coping with a novel emergency and examine how this experience influenced the institution’s later approach to emergency preparedness. Tulane’s response to Hurricane Katrina, one of the most devastating natural disasters in American history, offers a unique opportunity to explore the relationship between experience and future practice. In the preceding chapters, I presented findings on the state of Tulane’s emergency preparedness before Hurricane Katrina, participants’ perception of how well the university managed the response, and also how participants described changes to emergency preparedness after Hurricane Katrina. In Chapter 8, I analyze these findings using Leonard and Howitt’s (2007) theory about the distinction between routine and novel incidents. The authors did not specifically derive their theory for a higher education context, so the following analysis provides insights into the way one university coped with a novel emergency and into the application of their theory to practice. I will conclude by offering several recommendations for future research.

Leonard & Howitt’s Framework for Emergency Management

Hurricanes are an inevitable part of life on the Gulf Coast. The people and organizations in the region embrace this inevitability and the risks of these storms. Because of their regularity, hurricanes are typically routine emergencies according to Leonard & Howitt’s (2007) framework for emergency management. They can be deadly and exceptionally destructive, but it is still possible to effectively
prepare for most hurricanes by developing thorough plans and practicing for them in advance. Furthermore, the responses to routine emergencies improve over time as people are repeatedly exposed to these incidents. Gulf Coast residents, for example, are accustomed to dealing with hurricanes, and have been able to hone their responses based on experience (Leonard & Howitt, 2004; Howitt & Leonard, 2009).

Leonard and Howitt (2007) note a challenge in balancing the distinct preparatory efforts required to effectively cope with routine versus novel events. Routine emergencies account for the overwhelming majority of incidents an organization will encounter and, while it is possible to develop sound contingency plans, organizations can problematically expect that emergencies will continue to be routine and therefore conform to pre-scripted emergency response plans. When an event like Hurricane Katrina evolves into true crisis, organizations can be vulnerable to the unexpected features of the incident and ill-equipped to respond.

Evidence from this study suggests that Tulane viewed and treated hurricanes as “routine events” before Hurricane Katrina, but the catastrophe that unfolded in New Orleans was anything but routine. Participants described a local and institutional culture in which Gulf Coast residents rarely evacuate for hurricanes, even if required by the city. One person recalled, “one of the things down here, believe it or not, is that you don’t leave for hurricanes. […] So the mythology was you stay and you just ride it out” (Participant interview, May 20, 2016). Many citizens who had disregarded previous evacuation orders without
issue consequence made the same decision during Hurricane Katrina and suffered fatal consequences as a result. More than 971 people died in Louisiana alone and, according to a review of mortality data, 40 percent of fatalities were the result of drowning (Brunkard, Namulanda, & Ratard, 2008). Although the consequences for Tulane were not deadly, analyzing the university’s experience in light of Leonard and Howitt’s (2009) theory highlights the institution’s problematic assumptions about the kinds of emergencies it might encounter. None of the participants considered the possibility that Hurricane Katrina could deviate so substantially from other hurricanes.

Interviewees explained that Hurricane Katrina initially appeared to be like other hurricanes that had affected the region. One person recalled that “news of the hurricane was a little bit ho-hum for everybody” because they were so focused on events for new student orientation and freshman move-in the next day (Participant interview, April 25, 2016). Even as Hurricane Katrina grew in size and strength, there was no indication that the storm would be appreciably different from other hurricanes they had experienced, and accordingly, the leadership called for an evacuation and assumed they would return to New Orleans and reopen the university within a week.

Hurricane Katrina remained a routine event upon making landfall, and moving northward through Louisiana as a massive rain and wind event. Participants who had remained at Tulane during the storm noted that Katrina was routine even after making landfall. The morning after the hurricane came ashore,
the senior administrative leaders emerged from the Emergency Operations Center and observed “some shingles down, obviously tree branches, [and] some windows broken” (Participant interview, May 20, 2016). The same participant remembered, there was “no water on [campus]” that morning and the consensus was “this is not bad, we skirted a bullet here and we’ll be open in a week” (Participant interview, May 20, 2016). To this point in its trajectory, Hurricane Katrina had been a routine event and, based on all previous experience, university administrators believed the emergency was essentially over.

Tulane’s Hurricane Plan effectively guided the initial part of its Hurricane Katrina response, and this was a source of pride for many participants. Although they had not anticipated the breeched levees and flooding, they believed the planning they had completed was sound, especially in regards to the student evacuation. In short, Tulane was well equipped to manage routine hurricanes, and participants were justifiably proud of their extensive preparation for these storms.

The quality of the university’s preparations for ordinary hurricanes is noteworthy because many other people and organizations in New Orleans struggled to deal with these aspects of Hurricane Katrina. Given the routine nature of hurricanes in the Gulf Region, evacuating, for example, should have been routine for most citizens and organizations, even if people frequently chose to remain in their homes. However, it was not and this had deadly consequences. Tulane’s Hurricane Plan was “robust,” according to participants, but could not account for Hurricane Katrina’s novel features including widespread flooding, the
city’s devastated infrastructure, or the need for a prolonged closure (Participant interview, April 19, 2016). Although Katrina was initially a routine event, the novel features that emerged were so extreme that Tulane’s senior leaders had exhausted the Plan shortly after the hurricane’s landfall.

Applying Leonard and Howitt’s (2007) framework, Hurricane Katrina can be understood as an example of a routine emergency that became a true crisis. The transition from a routine event into a true crisis occurred when the city’s levees failed and New Orleans flooded. Until then, as many participants noted, Tulane’s Hurricane Plan effectively guided the university’s response to the storm.

Several participants described this transition in their own words. One participant explained, “it was not the hurricane – it was definitely the levees breaking; the city sits in a bowl so it just filled up with water and it didn’t have anywhere to go” (Participant interview, June 2, 2016). Many interviewees specifically distinguished between the routine aspects of the hurricane, which they had been well prepared for, and the novel elements that they had never fathomed. No one had considered a situation where the university would be unable to resume normal operations within a week – and once the city flooded, Tulane’s senior leaders were operating in unfamiliar territory.

The difficulty in managing what Leonard and Howitt (2007) refer to as a “true crisis” is in preparing for something that cannot be predicted. These events, defined by novelty, require leaders to improvise and respond without the benefit of a contingency plan. When the levees failed and the city flooded, Tulane’s
leadership had exhausted the Hurricane Plan and this required them to “fly by seat of [their] pants,” relying on the strength of their leadership, a skilled senior administrative team, and their own ingenuity to guide the university’s response and recovery (Participant interview, April 25, 2016; Participant interview, May 31, 2016; Participant interview, May 18, 2016). While some organizations, like Tulane, can effectively respond to a true crisis without having planned for a novel event, Leonard and Howitt (2007) argue that developing specific skills and competencies can improve an organization’s performance when confronted by a crisis defined by novelty.

**Effective management for true crises.** Leonard & Howitt (2007) contend that organizations can prepare for true crises by honing certain capabilities that will facilitate an effective response to an unforeseen catastrophe. Doing so, according to these authors, can improve an organization’s response to the novel aspects of an emergency and also limit potential loss. However, this raises several critical questions: In the context of higher education, which is unique compared to the kinds of organizations Leonard and Howitt have previously studied, what are the elements of an effective response to a novel emergency? How can institutions improve their capacity to manage these unforeseen, low-probability, high-threat events? Applying Leonard and Howitt’s (2009) ideas about preparing for novel events to Tulane’s experience during Hurricane Katrina sheds some light on these questions.
Leonard and Howitt (2006) argue that five organizational attributes are critical for successfully navigating a true crisis. These include: 1) flexibility in scale, 2) flexibility in scope, specifically the capacity to integrate people into the response from different parts of the organization and from key external agencies or organizations, 3) the ability to establish situational awareness despite significant uncertainty, which Leonard and Howitt describe as successfully “scanning for information, organizing what is known, defining and seeking information about what appears to be relevant and unknown, and processing and disseminating the resulting common operating picture to the relevant response officials and organizations,” 4) the ability to improvise or innovate in the presence of considerable stress and uncertainty and, 5) the capacity for fault-tolerant execution, which speaks to an organization’s willingness to try new courses of action that are “likely to work imperfectly” (Leonard & Howitt, 2006, p. 21). The data from this study reveal evidence of all five characteristics and support Leonard and Howitt’s argument that a successfully managed true crisis will reflect these capabilities.

*Flexibility in scale.* Hurricane Katrina required an unprecedented response from Tulane that ranged from repairing damaged campus facilities to accounting for critical problems with local infrastructure that affected the university’s ability to reopen. For example, Tulane’s leadership had to address the lack of available housing for returning students, faculty and staff as well as accommodate the
educational needs of their employees’ children whose schools would still be closed.

Participants in this study described the approach required to survive and recover from Hurricane Katrina. In the midst of addressing these unprecedented challenges, the president devoted considerable time to visiting crowds of displaced Tulane students in major cities around the country to re-recruit them to come home to Tulane. One person characterized this by saying they had been “strategic and tactical all at once” in simultaneously managing the big picture as well as fine-grained details like removing, bagging, and labeling the possessions that students had left behind in dorm rooms (Participant interview, April 19, 2016). Another participant conveyed something similar but described this in terms of tremendous “political instinct” and the capacity to correctly “identify the problem,” which this person argued was more about the ability to reopen than about problems involving damaged facilities (Participant interview, April 20, 2016).

In accordance with Leonard and Howitt’s (2006) theory that well-managed novel emergencies require flexibility in the scale of response, this study suggests that Tulane’s leadership demonstrated the ability to manage an event with implications on a scale they had not previously experienced. The challenges themselves were unique and substantial, including their ability to address the absence of K-12 education for the children of Tulane’s returning faculty and staff, but also required the capacity to strategically identify problems they had never experienced and could have overlooked or misread in the midst of chaos, like
recognizing the importance of re-recruiting students and demonstrating loyalty to employees by continuing to pay them.

*Flexibility in scope.* Leonard and Howitt’s (2007) argue that harnessing talent from across an organization is critical to managing new and complex emergencies. In the case of Tulane, President Cowen and a team of senior administrators facilitated the university’s response to Hurricane Katrina and orchestrated the university’s reopening in January 2006. Although this group comprised chiefly President Cowen and members of his cabinet, other individuals from the university community – administrators and some faculty members – were asked to join the group as well. Based on participants’ descriptions, these people were invited not because of expertise in any singular area but because of their exceptional competence, dedication to the university, and the capacity to work in a challenging environment.

Conversely, participants also cited the president’s willingness to excuse people from working on the university’s response to Hurricane Katrina if they were struggling to be effective given the stressful circumstances. One person explained:

Some people who were [in the] upper administration did not do very well in that [stressful] setting and I think mainly because people didn't work well in that kind of that pressure […] and so] we brought people in. For example, [someone] suggested the then-Dean of the Law School and he was brought in as well [because we] knew how talented he was […] So we worked
probably 10 or 12 hours a day, certainly 7 days a week, and it's like a blur; I can't tell you exactly what I did, other than the fact that I was doing something all the time. What it was I was doing, honestly, I cannot remember. (Participant interview, April 20, 2016)

There is also evidence in this study of effective partnerships among Tulane’s leadership and key people in the New Orleans community as well as the broader higher education community. For example, in describing the process of chartering Lusher Elementary School, one person recalled President Cowen working with the Secretary of the Department of Education in Louisiana. Others described the role of the co-founder of Yahoo, a Tulane alumnus, in reestablishing the university’s email communications and website in the days after the hurricane. Others conveyed the importance of partnerships with higher education associations along with many other colleges and universities who helped by immediately enrolling displaced Tulane students free of charge. One participant recalled the president soliciting guidance and advice from colleagues around the country and explained:

[H]e knew people all over the country, and so, he called on them [and said,]

“What do I do? What about this? Help me solve this.” So […] in addition to working with his Tulane team, he was acquiring counsel and advice from people all over the country. (Participant interview, April 19, 2016)

The data reveal that people from across and beyond the university played an important role in Tulane’s survival and recovery from the hurricane,
demonstrating the university’s flexibility in harnessing the necessary talent in order to effectively cope with the event.

_Situational awareness._ Leonard and Howitt identify situational awareness as key to dealing with novel situations. Participants in this study described several examples of the university leadership building situational awareness immediately following the hurricane. President Cowen established a daily routine in Houston for the leadership group that supported Tulane’s response to the hurricane. He began each day with a meeting where the entire group would review progress or “wins” from the day before and discuss the priorities for the present day (Participant interviews, April 19, 2016). Some participants said the team often reconvened at the end of many days to discuss progress on various problems like solving how to distribute physical paychecks to dispersed employees without mailing addresses. Holding frequent meetings fostered greater awareness among members of the group of the different ongoing components of the response and enabled them to support each other by sharing insights or ideas.

President Cowen and his colleagues sought improved situational awareness on a larger scale during the crisis by creating a call-center and general university email account that allowed members of the displaced Tulane community to communicate questions and concerns with the university’s leadership. An interviewee described heartrending emails from students who, for example, were seeking information about pets they had left behind because they assumed they would return within several days (Participant interview, April 19, 2016). The
emails were a window into students’ and employees’ concerns, and this helped the president and his colleagues understand and expediently address their needs.

A participant credited President Cowen’s daughter – then enrolled in a PhD program outside of Louisiana but still wanting to support her father and university – with creating the most useful tool in maintaining situational awareness during the university’s temporary closure (Participant interview, May 20, 2016). She continuously monitored Internet blogs for discussions among Tulane community members and summarized her observations regarding their concerns in a daily memo for the president and his colleagues. Each day, she would “summarize what people were talking about and worried about” and this allowed Tulane’s leadership to efficiently address their concerns and problems (Participant interview, May 20, 2016). These daily summaries first alerted the president and his colleagues to the potential problems with housing availability and lack of K-12 school opportunities for the children of returning faculty and staff (Participant interview, May 20, 2016). Monitoring this information focused the leadership on specific problems that they could quickly begin to address and, and as one person said, "would allow us to determine what we needed to do next or what information would be helpful to [the scattered Tulane community]” (Participant interview, May 20, 2016).

**Capacity to innovate under stress.** Tulane’s capacity to successfully innovate in the midst of an unprecedented disaster is in part what makes the university’s response to Hurricane Katrina noteworthy. The university leadership
team improvised many aspects of Tulane’s response and recovery and many credited their success to the team’s culture and dynamics, their shared values and objectives, and their loyalty, respect, and fondness for each other. The extraordinary circumstances demanded creative solutions and the social dynamics of the group facilitated their ability to solve complex problems.

The university leadership team’s ability to overcome unthinkable obstacles and reopen the university depended on their ability to generate new solutions in the midst of tremendous stress and uncertainty. According to participants, the team’s dynamics facilitated their ability to do innovative work under immensely stressful circumstances.

**Fault-tolerant execution.** The qualities that contributed to the group’s ability to innovate were also related to their capacity for fault-tolerant execution. In other words, participants described an approach to decision-making and execution that implicitly accepted mistakes as an inevitable part of the circumstances in which they were working. The mutual respect and shared values among the team created an environment in which people were willing to share new, imperfect ideas that were not always successful. One person spoke about the inherently “messy” aspect of their work as an expected part of the process and argued that the ability to tolerate this messiness is necessary to be “effective in emergency situations” (Participant interview, April 25, 2016). The person explained, “you just have to plough through to the end and then worry about the ‘broken china’ on the back end” (Participant interview, April 25, 2016). The same
participant explained that the president’s approach to decision-making during the response and recovery was consistent with this view; he told people “what to do, not how to do it” (Participant interview, April 25, 2016) and there was an implicit understanding that people “might make mistakes” (Participant interview, May 20, 2016). The respect among colleagues created an environment where people felt secure in thinking “out of the box” and executing without a fear about making mistakes (Participant interview, July 14, 2016).

Tulane demonstrated a highly effective response to an emergency that Leonard and Howitt (2007) would define as a true crisis based on its novel characteristics – namely the unprecedented scale of the disaster and the university’s prolonged closure that no one had anticipated. The data reveal that Tulane’s leadership team embodied the five characteristics that Leonard and Howitt argue are critical for effectively managing true crises. Although it is not possible to attribute the university’s success to the presence of these features, Tulane’s experience reflects important aspects of Leonard and Howitt’s framework and reinforces its potential use to improve institutional readiness for true crises in a higher education context.

Potential divergence from theory. Despite the fit between Tulane’s response to Hurricane Katrina and Leonard and Howitt’s model for managing true crises, the university’s experience appears to diverge from the theory in one notable way. Participants described the president’s establishment of a “command-and-control environment” upon his arrival in Houston (Participant interview, April...
As noted earlier, President Cowen refers to this period of suspended shared governance as “an anomalous situation” that created “an experiment in “benevolent dictatorship”” (Cowen, 2018a, p. 137). Although, the president also sought to “flatten” the organization, which is in keeping with Leonard and Howitt’s theory, the researchers set forth that hierarchical and authority-based approaches typical of command-and-control leadership are more effective during routine emergencies where the event is clearly defined and a leader can issue directives in accordance with pre-existing plans. According to Leonard and Howitt (2007), true crises, especially those characterized by evolving circumstances, are more effectively managed by flattening an organization and maximizing collaboration in order to enhance the understanding of a situation as it changes. As previously discussed, there is substantial evidence of President Cowen’s collaborative approach to the Katrina response, and while his simultaneous use of a command-and-control structure is at odds with Leonard and Howitt’s theory, the president’s leadership was nonetheless highly effective for Tulane.

Although participants described a command-and-control environment, which is seemingly at odds with Leonard and Howitt’s (2007) theory, evidence from this study demonstrates that the spirit of shared governance – namely the collective participation in decision-making among senior administrators, trustees, and the faculty —remained intact. Tulane’s experience following Hurricane Katrina can thus be interpreted as an example of shared governance that was
transformed, and not suspended (Cowen, 2018c). The extreme nature of the circumstances following Hurricane Katrina required changes to the traditional processes for proposing ideas, debating them, and implementing change, but there is ample evidence that the “command-and-control” environment was, in practice, a transformed version of the university’s traditional governance model.

The spirit of shared governance is most clearly evidenced by President Cowen’s efforts to include Tulane’s faculty and trustees while designing the Renewal Plan. According to participants, the president and his colleagues consistently sought input from a sub-committee of highly “engaged” trustees who acted as a “sounding board” and helped “shape the [Renewal] [P]lan” (Participant interview, April 19, 2016). Furthermore, the President’s Faculty Advisory Committee (PFAC) offered insights on the Renewal Plan, which Dr. Cowen has credited for helping foster the community’s acceptance of the Plan (Cowen, 2018a; Cowen, 2018c). As one participant summarized, the command-and-control approach still “[involved] getting others’ input and thoughts as we went along” (Participant interview, April 19, 2016).

President Cowen’s approach to assembling the broader response team in Houston – which one participant described as “[picking] people who we thought could get things done” – led to a group of experienced people who “understood the

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25 Dr. Cowen recently articulated a similar interpretation of Tulane’s governance structure following Hurricane Katrina, which he describes as a “more effective and unencumbered version of shared governance” rather than the suspension of it (Cowen, 2018c).
various parts of the university” including administrators and at least one faculty member (Participant interview, April 19, 2016; Participant interview, May 20, 2016).

This study points to the flexibility of Tulane’s governance model during the university’s recovery from Hurricane Katrina. However, the data do not suggest that shared governance changed in a lasting way. As one person noted, “We’re back to that old model [of governance and decision-making]. […] We built the campus in four months – [and now] I can’t hire an architect in four months” (Participant interview, April 19, 2016). Nevertheless, evidence of the transformation of shared governance at Tulane reaffirms the fit between Leonard and Howitt’s (2007) framework and a higher education setting where collaboration is central to university governance.

Post-Katrina Evolution of Emergency Management at Tulane

In addition to examining the university’s management of the Katrina crisis, a remarkable effort in the face of dire circumstances, this dissertation assesses changes in Tulane’s emergency preparations and planning after Hurricane Katrina. In the aftermath of a critical incident, it is common for organizations to adapt their future emergency planning to account for the potential reoccurrence of a similar incident (D. Leonard, Harvard Business School lecture, 2013). A participant referenced this phenomenon and explained it as an inherent challenge or “problem” with emergency management:
The general problem with emergency management is [...] you're typically fighting the last war, but it’s not the last war that needs to be fought, it’s whatever the new war is. (Participant interview, April 20, 2016)

By “fighting the last war” organizations develop plans after an emergency so that, if the same event were to happen again, it could be handled as a routine incident. However, this approach does not address “whatever the new war is” since a novel emergency, by definition, will not conform to pre-existing emergency plans. Leonard and Howitt (2009) have observed that organizations often do not react to novel emergencies by improving their capacity to manage other true crises. Was this true of Tulane’s experience in the years after Hurricane Katrina? Several insights emerged from an analysis of the data regarding Katrina’s effect on the university’s subsequent emergency planning.

One of the study’s foremost insights is the difficulty of operationalizing the implications of Tulane’s experience with Hurricane Katrina. Participants described many changes to emergency management following Katrina, but none of these improvements focused on the distinct need, and ability, to prepare for the next unexpected and disruptive event. This finding is noteworthy because it reveals the inherent difficulty of transcending a natural inclination towards routine planning even for the incredibly talented leaders at Tulane who were both experienced in dealing with non-routine crises and motivated to improve emergency management following Hurricane Katrina.
The missed opportunity to operationalize what Tulane’s leadership endured during university’s response to Hurricane Katrina is especially striking because participants discussed the Katrina response both in language and logic that is consistent with Leonard and Howitt’s framework. Many informants seemed to implicitly grasp the routine/novel distinction as they discussed Tulane’s Hurricane Katrina experience and what this event had revealed about effectively dealing with an unexpected catastrophe. For example, they described the hurricane as an unimaginable crisis that took Tulane – and the city – by surprise and quickly rendered the hurricane planning useless, requiring the president and his colleagues to improvise the response and recovery. Participants also recognized and perceived that successful improvisation was a substantial factor in the university’s success. Given this interpretation, it would be reasonable to have expected they would attempt to ready the university for the next unprecedented event by incorporating the features that had led to their success with Katrina in their crisis planning and preparations. Yet they focused, instead, on identifying the weaknesses in routine systems and attending to them. Even though participants articulated the challenges of managing a novel emergency and the implications for an effective response, these lessons were seemingly absent from subsequent planning.

**A routine focus.** Although Tulane’s leaders exhibited the five capabilities Leonard and Howitt (2007) believe are necessary to manage true crises during the response to Hurricane Katrina, the post-Katrina changes in emergency
management at Tulane were primarily aimed at preparing for routine emergencies. Thus, the data from this study suggest that experiencing a novel event, as Tulane did during Hurricane Katrina, may not lead a university to consider more substantial preparations for future novel events. In keeping with evidence from this study, President Cowen recently noted that one of the “valuable lessons” he took from Katrina included the need to “develop very detailed and tested protocols for handling all types of emergencies and risks” noting that he would have “preferred an established set of protocols to curtail and master contingent events up to and including hard-to-imagine disasters” instead of having to “[galvanize] and [improvise] in the face of an emergency” (Cowen, 2018b, p. 127).

Participants of the study discussed changes to procedures and protocols that they believed would ready Tulane for larger, more destructive hurricanes as well as other types of critical incidents. In doing so, they were demonstrating what Leonard and Howitt characterize as an expansion of routine emergency planning. For example, participants described a substantial increase in event-specific contingency planning and some people referenced the eventual development of as many as 16 to 23 new plans that could guide the administration’s response to future emergencies. Participants also described considerable changes to the Hurricane Plan, which became more nuanced and detailed after Hurricane Katrina. One interviewee described that the formerly “2-inch binder” with Tulane’s Hurricane Plan “probably became a four-inch binder” because of increase in planning (Participant interview, May 23, 2016).
Although a full case study of Tulane’s experience during Hurricane Isaac was not completed as part of this research, participants’ accounts of Tulane’s Isaac experience are in keeping with the finding that university maintained a “routine” focus on emergency preparedness even after Hurricane Katrina. Like Katrina, informants described Hurricane Isaac as a storm that appeared ordinary at first, but deviated from their established protocols as the weather system evolved into a multi-day rain event that lingered over the city. One person articulated that their problem during Isaac resulted from their approach to planning. The informant said, “We [had] continued to plan as if [future storms] were Katrina” and later acknowledged “we were well planned out [for hurricanes] if we left campus” (Participant interview follow-up, August 25, 2017). However, Isaac, like Hurricane Katrina, deviated from this thoughtful planning and resulted in students sheltered in residence halls without power for three days. The limited data pertaining to the university’s experience during Hurricane Isaac seem to suggest a subsequent example whereby the university approached an event with the expectation that it would be (and remain) routine.

The university’s response to Hurricane Katrina demonstrates both the importance of being able to effectively manage novel events and the distinct skills Leonard and Howitt argue are the foundation for a successful response. For Tulane, this may have meant the difference between reopening the university and permanently closing. Even though the university’s leadership did not expressly prepare themselves manage an event like Katrina, they rose to the occasion and
were successful in their response to the crisis. Interestingly, however, data from this study including the observations about Hurricane Isaac suggest that Tulane’s experience during Katrina did not necessarily lead to the formal codification of planning, policies, or procedures aimed at preparing for future novel events.

An adequate investment in preparing for routine emergencies is critical, according to Leonard and Howitt (2009), because these incidents represent the overwhelming majority of emergencies an organization will encounter. Constituents also have high expectations that an organization will respond effectively to these more predictable events. From this perspective, Tulane’s investment in developing contingency plans for a range of emergencies better positions the university’s leadership to cope with higher probability threats like fires, tornadoes, and an active shooter scenario, the last of which reflects a trend in higher education towards preparing for episodes of campus violence following the Virginia Tech massacre. According to Leonard and Howitt’s (2007) theory, these changes are important even if they were not aimed at better positioning the university for another true crisis.

Participants identified a possible rationale for implicitly focusing on routine incidents while not immediately addressing their readiness for the possibility of other unanticipated catastrophes. For many, Hurricane Katrina revealed the strength of their individual resilience and the leadership team’s ability to manage an unprecedented catastrophe. Given the threat of permanent closure and the magnitude of Hurricane Katrina’s obstacles, it is hard to envision a more
challenging or devastating emergency. The team’s successful management of the crisis instilled confidence in many members of the group about their ability to manage other devastating events. In case of another large-scale emergency, one person explained that they would probably "fall back into the roles [they] played” during the Katrina response (Participant interview, April 19, 2016). Another interviewee explained that despite the substantial expansion in emergency planning after Hurricane Katrina, there was little substantive change in terms of how the president and his colleagues made decisions, worked together, and managed emergencies. Hurricane Katrina had demonstrated that their “sort-of infrastructure” and approach to collaboration and decision-making had worked even in the most difficult circumstances. The interviewee summarized, “we codified more of [the emergency response plan], we expanded it, but basically it was what it was before, but more of it is on a piece of paper now” (Participant interview, May 20, 2016). Those who facilitated Tulane’s response to Hurricane Katrina implicitly understood how to work together during a true crisis, and despite a substantial increase in planning and allocation of funding to OEPR, the process for decision-making, collaboration, and management remained unchanged.

Hurricane Katrina made Tulane’s leaders aware of their ability to perform well in the midst of a true crisis without any formal preparation for managing this type of novel emergency. The individuals who participated in Tulane’s response to Hurricane Katrina recognized their success at what Leonard and Howitt have described as “rapid improvisation under stress embedded in fear” (D. Leonard,
Crisis Leadership in Higher Education lecture, Harvard University, March 11, 2013). The team had already demonstrated the capabilities necessary to manage an unprecedented event so formalizing these competencies into subsequent planning may not have been a priority given the need to address critical gaps in their planning like backing up Information Technology services. As participants explained, if another large-scale emergency took place, they would respond by working together and making decisions as they had during Katrina, which one person referred to as reverting “back to our Katrina mode” (Participant interview, April 19, 2016).

Participants attributed Tulane’s outcome following Hurricane Katrina to the quality of its leadership and the group of people who participated in the university’s response. As the years passed, however, the composition of the group slowly changed because of the personnel shifts that occur frequently in higher education. The evolution in staffing inherently altered the dynamics of the team that would come together in the event of another catastrophe. The qualities that facilitated the original group’s success in 2005, including the competencies specified by Leonard and Howitt’s (2007) theory, had emerged organically. These capabilities were neither purposefully developed for the sake of emergency readiness nor engineered into Tulane’s subsequent strategy for emergency preparedness. As a result, they depended on consistency in staffing.26

26 The former president has recently shared this interpretation noting that “I still don’t know for certain whether the emergency management plan we created
**Business continuity.** Tulane made numerous changes and improvements to practice after Hurricane Katrina and continued to develop their approach to emergency preparedness throughout Dr. Cowen’s presidency. One participant noted that emergency readiness continues to evolve at Tulane even in the present day as OEPR strives to be “to be more innovative, [and more] progressive” (Participant interview, April 18, 2016). Given the university’s focus on addressing the gaps in planning that Hurricane Katrina exposed and the professionalized system for emergency preparedness at Tulane, it is noteworthy that so many participants cited ongoing challenges associated with business continuity planning.

The absence of business continuity planning was a major obstacle during Hurricane Katrina when it became clear that even critical university systems were not backed up. In the years after the hurricane, participants described adding “redundancies” to systems so as to ensure uninterrupted access to important systems and information like the university’s website, email system, and Human Resources records (Participant interview, May 16, 2016; Participant interview, May, 18, 2016). One participant estimated that within five years of Katrina Tulane had made “substantial strides towards the ability to close the university for up to a month” (Participant interview, July 14, 2016).

Despite these advancements, many participants also described challenges with the institution’s business continuity planning. Tulane’s leadership endeavored remains part of institutional memory, given that many senior staff with personal experience of the storm have since departed” (Cowen, 2018b, p. 131).
to improve the university’s readiness for another prolonged closure, even if only for several weeks, but participants described ongoing obstacles to achieving this goal. One interviewee described the consultant’s recommendation to create a full-time position for a business continuity specialist that ultimately went unfilled (Participant interview, April 25, 2016). Another noted that the university did not codify the courses of action that had been vital to Tulane’s survival during Hurricane Katrina, like the agreement for students to temporarily enroll tuition-free at other institutions. The participant said, “What we never did was we never codified that, we never said, ‘Hey, maybe this is a template.’ […] it is something that we should have done.” The interviewee attributed this, in part, to “sheer neglect” (Participant interview, May 20, 2016). This participant explained that if another event occurred, they would have “instantaneously [known] what to do, and who to call”; for example, they would have immediately contacted “Baylor again and [said], ‘Would you take our medical school?’” (Participant interview, May 20, 2016).

Another participant stated that business continuity planning was the area of emergency preparedness where Tulane was “farthest behind” as of the time of the interview. The person stated:

[W]hat we’re probably the farthest behind on is business continuity. […] I wouldn’t [say we’re] dragging our feet, but have we prioritized it high enough? No, we haven't. It’s not as glamorous […] as trying to prepare for
the event, however it’s deadly important – how are you going to survive post event? (Participant interview, April 18, 2016).

Even though business continuity was revealed as one of Tulane’s most substantial gaps in planning before Hurricane Katrina, and the institution’s leaders sought to improve this aspect of preparation, it nevertheless remains one of the more modest elements of emergency preparedness at the university. Indeed, the former president has noted that developing a “contingency plan for the education of students if we again had to close the main campus for a full semester” is one of the foremost pieces of work he wishes, in hindsight, had been finalized before his retirement (Cowen, 2018b, p. 134).

Tulane’s persistent challenge regarding business continuity is noteworthy because it suggests that the institution’s successful management of Katrina may be a double-edged sword. The catastrophe revealed an astounding resilience, competence, and instinct among the Tulane’s administrative leaders, but did their acclaimed success also lessen the urgency to follow-through with the implementation of necessary changes? As noted, participants imagined that, after their experience during Hurricane Katrina, they would instinctively know what to do in a future emergency. Accordingly, they perceived little risk in not codifying these agreements – the same individuals could replicate this way of doing things. The team’s ability to overcome an unimaginable crisis gave them confidence that they could do the same if a new crisis emerged. However, this could only remain
true as long as the composition of the staff remained the same, and in higher education this is rarely the case.

Tulane’s successful response and recovery after Hurricane Katrina have been widely documented and discussed. The dominant narrative is a heroic one, and this study contributes to the evidence that President Cowen and his colleagues accomplished something remarkable. At the same time, the findings of this study highlight oversights in Tulane’s pre-Katrina emergency preparations and limitations in the impact of the Katrina experience on the university’s planning and preparations for future emergencies. The data from this study suggest that Tulane’s success – which signified that the university’s leaders could effectively improvise in the face of a disaster – may have contributed to a diminished sense of urgency to fully address and codify important changes. Without such planning, and in the face of personnel changes, Tulane now faces a loss of institutional wisdom as many of people who were involved in the university’s response to Hurricane Katrina have retired or transitioned to new opportunities. This aspect of the study’s findings represents a cautionary tale for other universities about the challenges of implementing changes in practice, and demonstrates that this can also be difficult even following a resoundingly excellent demonstration of leadership.

It may also be the case that whereas it is more straightforward to make procedural changes like requiring employees to receive their pay electronically, implementing Leonard and Howitt’s (2007) strategies to manage true crises may
be more difficult. How does an institution develop the ability to recognize novelty, enhance its situational awareness, or hone its capacity to improvise? Tulane’s experience suggests that further developing Leonard and Howitt’s (2007) ideas in order to more easily integrate them into emergency planning would be helpful for colleges and universities.

**Conclusion**

Examining Tulane’s response to Hurricane Katrina in the context of Leonard and Howitt’s (2007) framework reveals multiple insights and recommendations for future research. First, the findings of this study offer examples of the competencies that Leonard and Howitt deem to be important for successfully managing a true crisis. An original impetus for the study was to explore whether enduring a catastrophe like Katrina would fundamentally alter the way university leaders consider effective emergency management and, if so, how this might be translated into future practice. Although the findings demonstrate a sound fit between Leonard and Howitt’s (2007) theory and Tulane’s experience, questions remain about the way institutions can uniquely account for true crises in emergency preparations. Future research should also continue to explore the fit between theory and experience at other institutions that have been affected by novel emergencies. Do other institutions’ experiences also demonstrate these characteristics? Furthermore, additional research should seek to understand how qualities like those demonstrated by Tulane’s senior administrative leaders during Hurricane Katrina might be translated into a system that can enhance an
institution’s readiness to cope with true crises. Lastly, Tulane’s experience revealed a substantial change in the university’s governance structure immediately after Hurricane Katrina, which participants suggested was critical for efficient decision-making. How does shared governance function at other universities in the midst of a true crisis and is it possible for this unique model of governance to facilitate the collaboration that Leonard and Howitt argue is key to successfully navigating a true crisis?

Tulane’s experience during Hurricane Katrina will deservedly remain an extraordinary example of how a university managed one of the most catastrophic natural disasters in this country’s history and can be viewed as a triumph of the human spirit. While this research has yielded critical insights for researchers about the utility of Leonard and Howitt’s (2007) theory, this study also serves as a cautionary tale for practitioners about the consequences of success. Tulane’s response to Hurricane Katrina was remarkable but demonstrates the potential for success and confidence to minimize the urgency to codify plans and therefore ensure critical knowledge and wisdom are retained and make a lasting contribution to an institution’s emergency preparations.
References


Cufaude, J. B. (2002). Leadership: Do you have what it takes to lead your staff and colleagues during difficult times? *NACUBO Business Officer*, 35(10).


### Appendix A: Terms, acronyms, and key people referenced in the research

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>After Action Review (AAR)</td>
<td>Systematic in which an organization evaluates its response to a critical incident to identify opportunities to improve practice.</td>
</tr>
<tr>
<td>All-hazard planning</td>
<td>All-hazards planning is aimed at preparing organizations for a range of potential critical incidents.</td>
</tr>
<tr>
<td>Business continuity planning</td>
<td>Planning that ensures critical functions of an organization are operational even during an interruption or temporary shutdown; Planning that facilitates a swift resumption of normal operations after an interruption.</td>
</tr>
<tr>
<td>Incident Command System (ICS)</td>
<td>Chain-of-command structure that facilitates emergency response and had been in wide usage prior to the development of NIMS. ICS was developed in the years following a devastating 1970 fire season in southern California (NIMS, 2004)</td>
</tr>
<tr>
<td>National Incident Management System (NIMS)</td>
<td>Common structure and language for government and non-government organizations during emergencies of all types and sizes. Provides national approach to emergency management organized around a “core set of doctrine, principles, terminology, and organizational processes to enable effective, efficient and collaborative incident management at all levels” (NIMS, 2004). Any organization receiving federal preparedness funds, including colleges, must be NIMS compliant.</td>
</tr>
<tr>
<td>Office of Emergency Preparedness and Response (OEPR)</td>
<td>The office that coordinates emergency planning and preparations at Tulane.</td>
</tr>
<tr>
<td>Tulane University Police Department (TUPD)</td>
<td>Tulane’s police force</td>
</tr>
</tbody>
</table>
Appendix A (cont.): Terms, acronyms, and key people referenced in the research

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Operations Group (EOG)</td>
<td>Tulane’s senior leadership in charge of decision-making during emergencies at the time of Hurricane Katrina. Members included Chief Financial Officer, Vice President for Communications, Director of Emergency Management, and the Chief of Police</td>
</tr>
<tr>
<td>Emergency Operations Center (EOC)</td>
<td>The reinforced and provisioned location in the Reily Center where President Cowen stayed during Hurricane Katrina. The EOC was relocated to the Cogeneration Plant after Hurricane Katrina</td>
</tr>
<tr>
<td>Business continuity planning</td>
<td>Planning that ensures critical functions of an organization are operational even during an interruption or temporary shutdown; Planning that facilitates a swift resumption of normal operations after an interruption.</td>
</tr>
<tr>
<td>Incident Command System (ICS)</td>
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<tr>
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</tr>
</tbody>
</table>
Appendix A (cont.): Terms, acronyms, and key people referenced in the research

<table>
<thead>
<tr>
<th>Key Player</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scott Cowen</td>
<td>President of Tulane (1998-2014)</td>
</tr>
<tr>
<td>Anne Baños</td>
<td>President’s Chief-of-Staff during Katrina</td>
</tr>
<tr>
<td>Yvette Jones</td>
<td>Executive Vice President during Katrina and recognized as second in command</td>
</tr>
<tr>
<td>Debbie Grant</td>
<td>Vice President for University Communications an Marketing during Katrina</td>
</tr>
<tr>
<td>Tony Lorino</td>
<td>Senior Vice President for Operations and CFO during Katrina</td>
</tr>
</tbody>
</table>
## Appendix B: Characteristics Differentiating Colleges from other Organizations

### Characteristics Differentiating Colleges from other Organizations

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Theorist</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal ambiguity</td>
<td>J. V. Baldridge (1978)</td>
<td>There is no single mission but a plurality of goals (e.g. teaching, research, service to the community) (p. 20).</td>
</tr>
<tr>
<td>Colleges as client-serving institutions</td>
<td>J. V. Baldridge (1978)</td>
<td>Colleges are “people-processing” institutions and the clients (or the clients’ parents) affect institutional decision-making (p. 20).</td>
</tr>
<tr>
<td>Problematic technologies</td>
<td>J. V. Baldridge (1978)</td>
<td>“Processing” students cannot be done in a routinized, technical way; students have different needs and requirements which require a holistic approach (p. 21).</td>
</tr>
<tr>
<td>High professionalism dominates academic task</td>
<td>J. V. Baldridge (1978)</td>
<td>Colleges are dominated by “highly-trained professional groups [to] deal with the complex, nonroutine problems of clients using a broad repertoires of the skills necessary for the task” (p. 22).</td>
</tr>
<tr>
<td>Fragmented professional staffs</td>
<td>J. V. Baldridge (1978)</td>
<td>The university is comprised of a diverse group of professionals coming from many disciplines but no individual discipline dominates.</td>
</tr>
<tr>
<td>Topic</td>
<td>Author</td>
<td>Year</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-----------------</td>
<td>------</td>
</tr>
<tr>
<td>Increasing environmental vulnerability</td>
<td>J. V. Baldridge</td>
<td>1978</td>
</tr>
<tr>
<td>Difficulty quantifying achievement</td>
<td>R. Birnbaum</td>
<td>1988</td>
</tr>
<tr>
<td>Governance (complex relationships among stakeholders and subsequent implications for decision-making)</td>
<td>R. Birnbaum</td>
<td>1988</td>
</tr>
<tr>
<td>Decentralization</td>
<td>R. Birnbaum</td>
<td>1988</td>
</tr>
</tbody>
</table>
### Inflexibility of resources

<table>
<thead>
<tr>
<th>R. Birnbaum (1988)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A large component of institutional resources are fixed: “[I]nstitutional prestige or attractiveness to students or to potential donors, are tied into networks of external relationships that are virtually impossible to change” while “the personnel complement on most campuses is largely fixed through tenure and contractual provisions” (p. 17).</td>
</tr>
</tbody>
</table>

### Confusion of organizational levels

<table>
<thead>
<tr>
<th>R. Birnbaum (1988)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizations are comprised of three levels of responsibility: technical, managerial, and institutional. The technical level would encompass teaching and research while the institutional level (trustees and presidents) “[ensures] that the organization is able to respond appropriately to uncertainty of external social forces.” However the distinctions between these levels “can be difficult if not impossible to maintain” where, for example, faculty members are also board members (p. 18-19).</td>
</tr>
</tbody>
</table>

### Prestige and rank

<table>
<thead>
<tr>
<th>R. Birnbaum (1988)</th>
</tr>
</thead>
<tbody>
<tr>
<td>into the small subunit for which they feel affinity and from which they can defend their influence and status” (p. 17).</td>
</tr>
<tr>
<td>Hierarchy</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>In traditional business firms, rank and prestige are the same; the CEO has attained the highest rank and the most prestige within the organization. However, within higher education “prestige and rank may not be identical. While the institution may confer rank, prestige may be conferred by professional groups outside the university. For example, a department chair may have less prestige than a junior faculty member who recently won a large award or grant (p. 20).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lower interdependence of parts</th>
<th>R. Birnbaum (1988)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The activity in one department is “likely to have little effect on another” department (p. 21).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control over “raw materials”</th>
<th>R. Birnbaum (1988)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions is largely responsible for who matriculates and most public institutions admissions is nonselective (p. 21).</td>
<td></td>
</tr>
</tbody>
</table>

Adapted from Leonard & Howitt, 2006.
**Appendix D: Side-by-Side Comparison of Defining Characteristics of Routine and Crisis Emergencies**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Routine Emergencies</th>
<th>Crisis Emergencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situational awareness</td>
<td>High; well-defined</td>
<td>Low; many unknowns</td>
</tr>
<tr>
<td>Scripts and contingency plans</td>
<td>Comprehensive, well-developed, helpful</td>
<td>Existing scripts are partially, if not completely, insufficient</td>
</tr>
<tr>
<td>Need to adapt contingency plans</td>
<td>Limited need to make modifications</td>
<td>Critically important to adapt plans</td>
</tr>
<tr>
<td>Leadership</td>
<td>Authority-based</td>
<td>Generally collaborative</td>
</tr>
<tr>
<td>Organizational Structure</td>
<td>Hierarchical</td>
<td>Flattened</td>
</tr>
<tr>
<td>Defining competence</td>
<td>Execute scripts or contingency plans</td>
<td>Recognize novel features of the events; improvise and execute and unpracticed, unscripted response</td>
</tr>
</tbody>
</table>

Adapted from Leonard & Howitt, 2006.
**Appendix E: Organizational characteristics necessary for effective response to routine and crisis emergencies**

<table>
<thead>
<tr>
<th>Organizational Characteristic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility in scale</td>
<td>An organization must be capable of addressing events of different sizes and magnitudes as well as making adjustments as conditions evolve.</td>
</tr>
<tr>
<td>Flexibility in scope</td>
<td>An organization must be capable of integrating individuals, responders, and/or decision-makers into the response process from within various parts of the organization itself and also from different agencies and/or jurisdictions.</td>
</tr>
<tr>
<td>Ability to establish situational awareness despite considerable uncertainty</td>
<td>An organization must be able to establish situational awareness despite the context of the novel situation in order to “effectively direct scanning for information, organizing what is known, defining and seeking information bout what appears to be relevant and unknown, and processing and disseminating the resulting common operating picture to the relevant response officials and organizations.”</td>
</tr>
<tr>
<td>Ability to improvise or innovate under high stress</td>
<td>The organization must be able to “organize a creative process of invention, probably combining existing response routine elements and possibly developing new ones.”</td>
</tr>
<tr>
<td><strong>Organizational Characteristic (cont.)</strong></td>
<td><strong>Description (cont.)</strong></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Capacity for fault-tolerant execution</td>
<td>The organization must be able to “effectively direct and coordinate actions that are previously untested, and which are therefore likely to work imperfectly.”</td>
</tr>
</tbody>
</table>

Adapted from Leonard & Howitt, 2006, p. 21.
Appendix F: Recruitment Letters

Recruitment letter for Dr. Scott Cowen

Dear __________,

My name is Elisabeth Hahn and I am a doctoral student at Harvard’s Graduate School of Education. I am writing because my dissertation research focuses on emergency management in higher education and I am proposing a study that examines Tulane’s response to Hurricane Katrina, the factors that enabled this successful response, and what this has meant for subsequent emergency management efforts at Tulane.

I developed an interest in Tulane’s Hurricane Katrina experience while taking a course on emergency management at Harvard’s Business School. One assignment asked students to identify an organization that had experienced a crisis and analyze it using course principles. With little prior knowledge of the university, I chose Tulane’s response to Hurricane Katrina and quickly became fascinated by the university’s story.

Through this initial and brief exploration, my research interests began to focus on the way colleges and universities manage low-probability, high-risk events where the standard emergency protocols and preparation are insufficient. Tulane is a remarkable example of a university that not only encountered one of these events but navigated it with great success.

For my dissertation, I would like to study the long-term implications that Hurricane Katrina has had on emergency management at Tulane. This research is vitally important. Not only is there value in further exploring Tulane’s experience, there is very little research specific to higher education about preparing for and responding to catastrophic events. The proposed study would offer a more nuanced understanding of the way your university endured a large-scale crisis and what this has meant for Tulane’s subsequent approach to emergency preparedness. In addition to the written records, my primary data source would be interviews with you and the other individuals who were, and are, integral to emergency management at Tulane.

I am very interested in your perspective. Would it be possible to meet you in person for an interview sometime during the next several months? I would hope to have the opportunity to sit down and talk with you for several hours, if your schedule allows, and can come to New Orleans whenever it's convenient for you.
Thank you in advance for your thoughtful consideration. Please let me know if you have questions about the study; I would be pleased discuss the project with you in more detail, either by phone or in person.

Sincerely,
Elisabeth Hahn

*General recruitment letter*

Dear _____________________,

My name is Elisabeth Hahn and I am a doctoral student at the Harvard Graduate School of Education. My research interests focus on the way colleges and universities prepare for crises. For my dissertation, I am conducting a study about emergency management practices at Tulane during and after Hurricane Katrina. The purpose of the research is to explore the way a catastrophic event influences subsequent approaches to emergency readiness. This understanding will illuminate new questions and guide future research.

I have already reached out to Scott Cowen and he has agreed to participate.

I will be collecting information about your experience at Tulane as it relates to Hurricane Katrina and the university’s emergency management policies and procedures. However, I will not quote you or other participants with any sort of attribution unless and I seek and receive permission. Attached to this email is a consent form that describes how I will store, use, and destroy materials associated with our interview.

Are there any times between [DATE and DATE] when you are available to meet for approximately ninety minutes? I will be in New Orleans and hope to have the opportunity to talk with you in person. If this time is inconvenient, please let me know and perhaps we can make arrangements for a phone call.

You may contact me by email at elisabeth_hahn@mail.harvard.edu or by phone at (703) 819-2508. I welcome any additional questions about the research and look forward to speaking with you soon.

Warmly,

Elisabeth Hahn
Appendix G: Participant Consent Form

<table>
<thead>
<tr>
<th>Study Title: In the Storm’s Wake: Emergency Management at Tulane University After Hurricane Katrina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher: Elisabeth Hahn</td>
</tr>
</tbody>
</table>

**Participation is voluntary**

It is your choice whether or not to participate in this research. If you choose to participate, you may change your mind and leave the study at any time. You may also withdraw from participation after the interview. In this case, your interview records will be removed from the analysis. Refusal to participate or stopping your participation will involve no penalty or loss of benefits to which you are otherwise entitled.

The purpose of this research is to understand Tulane University’s response to Hurricane Katrina and the legacy this event has had on the institution’s subsequent approach to emergency management.

**How long will I take part in this research?**

Your participation will involve one 60-90 minutes interview with the possibility of follow-up by phone or email.

**What can I expect if I take part in this research?**

As a participant, you will be asked questions about your role at Tulane during and after Hurricane Katrina or about your current role regarding emergency preparedness at Tulane. With your permission, I will tape record the interviews so I don't have to make as many notes.

What are the risks and possible discomforts?

There are no anticipated risks.

**Are there any benefits from being in this research study?**

I cannot promise any benefits to you or others from your taking part in this research. However, possible benefits include the opportunity to tell your story, share your perspective, and make a contribution to valuable research.

**If I take part in this research, how will my privacy be protected? What happens to the information you collect?**

I will use the data you provide for my dissertation at the Harvard Graduate School of Education, and possibly for future articles or presentations. Because of your position and employment at Tulane, it is possible that you may be identifiable even if your name is not used. I will seek to protect your identity by
not quoting you with any sort of attribution unless I seek and receive permission to do so.

I will store interview transcripts and handwritten notes in a fireproof document safe located in a locked office. I will store electronic files on an encrypted, password protected computer. I will retain the data for seven years following the completion of the project. After seven years, I will shred physical data and will use the computer’s secure destruction feature to permanently delete electronic files.

The information with your name on it will be analyzed by the researcher and may be reviewed by people checking to see that the research is done properly. The information may also be seen by transcribers and thesis committee members.

**If I have any questions, concerns or complaints about this research study, who can I talk to?**

The researcher for this study is Elisabeth Hahn who can be reached at [Redacted personal contact information]. The faculty sponsor is Judy McLaughlin who can be reached at [Redacted personal contact information]

- If you have questions, concerns, or complaints,
- If you would like to talk to the research team,
- If you think the research has harmed you, or
- If you wish to withdraw from the study.

This research has been reviewed by the Committee on the Use of Human Subjects in Research at Harvard University. They can be reached at 617-496-2847, 1414 Massachusetts Avenue, Second Floor, Cambridge, MA 02138, or cuhs@fas.harvard.edu for any of the following:

- If your questions, concerns, or complaints are not being answered by the research team,
- If you cannot reach the research team,
- If you want to talk to someone besides the research team, or
- If you have questions about your rights as a research participant.

**Statement of Consent**

I have read the information in this consent form. All my questions about the research have been answered to my satisfaction.

**SIGNATURE**

Your signature below indicates your permission to take part in this research. You will be provided with a copy of this consent form.
Appendix H: Interview Protocol

1. How did Tulane prepare for emergencies prior to Hurricane Katrina?
   a. Were there specific plans for different scenarios?
   b. Did the university make distinctions about emergencies or categorize them based on certain characteristics?

2. Did the university prepare for other large, highly destructive events? If so, describe the nature of these preparations.

3. Prior to Hurricane Katrina, what are some of the other crises or emergencies that Tulane faced?

4. In terms of a crisis situation, what were Hurricane Katrina’s defining characteristics?
   a. What enabled the institution to respond to an event with these features?
   b. How is Tulane preparing/prepared to respond to an event with similar characteristics?

5. How did the university’s preparations factor into its response to Hurricane Katrina?
   a. What aspects of Tulane’s emergency preparedness efforts proved useful during Katrina?
   b. In the midst of the event, do you recall anything else that would have been helpful to have done ahead of time?
   c. In the months and years that followed the hurricane, did you think of anything that would have been helpful to have done ahead of time?

6. If you were to grade the university’s response to Katrina, how well do you think it went?

7. If you had to do it all over again, would you do anything differently? If so, what?
8. Did the university make structural or procedural changes to emergency management practices in the years since Hurricane Katrina?
   a. If so, please describe?

9. Do you think there are other things that the school *should* do based on what happened during Katrina?

10. In what ways has the university prepared itself for other similarly catastrophic events?

11. How has the university’s experience with Hurricane Katrina affected the way you think about effective emergency management practices in higher education?
   a. Is this reflected by institutional policies and procedures?
   b. If so, please describe.
Appendix I: Saffir-Simpson Wind Scale

<table>
<thead>
<tr>
<th>Storm Category</th>
<th>Sustained Wind Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>74-95 mph</td>
</tr>
<tr>
<td></td>
<td>64-82 knots</td>
</tr>
<tr>
<td>2</td>
<td>96-110 mph</td>
</tr>
<tr>
<td></td>
<td>83-95 knots</td>
</tr>
<tr>
<td>3*</td>
<td>111-129 mph</td>
</tr>
<tr>
<td></td>
<td>96-112 knots</td>
</tr>
<tr>
<td>4*</td>
<td>130-146 mph</td>
</tr>
<tr>
<td></td>
<td>113-136 knots</td>
</tr>
<tr>
<td>5*</td>
<td>157 mph ≤</td>
</tr>
<tr>
<td></td>
<td>137 knots ≤</td>
</tr>
</tbody>
</table>

*Denotes a major hurricane as defined by the National Hurricane Center
Adapted from: http://www.nhc.noaa.gov/aboutsshws.php