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Victor Matheson
College of the Holy Cross, vmatheso@holycross.edu

Robert Baade
Lake Forest College, rbaade@lfc.edu

Callan Henderschott
College of the Holy Cross, cnhend19@g.holycross.edu

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Department of Economics and Accounting
College of the Holy Cross
Box 45A
Worcester, Massachusetts 01610
(508) 793-3362 (phone)
(508) 793-3708 (fax)

https://www.holycross.edu/academics/programs/economics-and-accounting

Professional Sports, Hurricane Katrina, and the Economic Redevelopment of New Orleans: Revisited

By
Victor Matheson[†]
College of the Holy Cross

Robert Baade[††]
Lake Forest College

Callan Hendershott[†††]
College of the Holy Cross

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Abstract

Hurricane Katrina devastated the city of New Orleans in late August 2005, resulting in damage to much of the city's sports infrastructure and the temporary departure of both of New Orleans' major league professional sports teams, the National Football League Saints and the National Basketball Association Hornets. The city spent over $500 million restoring the sports infrastructure in New Orleans, and both teams subsequently returned to the city. In addition, New Orleans has since hosted numerous mega-sporting events including the Super Bowl, NCAA Men's Basketball Final Four, and several college football national championships. This paper examines the economic impact of Hurricane Katrina on professional sports in New Orleans and traces the recovery of the city in conjunction with spectator sports.

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Keywords: Natural disasters, hurricane, New Orleans, economic development, sports, mega-events, Hurricane Katrina, stadiums

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[†]Department of Economics and Accounting, Box 157A, College of the Holy Cross, Worcester, MA 01610-2395, 508-793-2649 (phone), 508-793-3710 (fax), vmatheso@holycross.edu

[††]Department of Business and Economics, Lake Forest College, Lake Forest, IL 60045, 847-735-5136, rbaade@lfc.edu

[†††]Department of Economics, College of the Holy Cross, Worcester, MA 01610-2395, cnhend19@g.holycross.edu

I. Introduction[1]

Hurricane Katrina devastated New Orleans physically and economically after making landfall on August 29, 2005. Full recovery, which generally follows natural catastrophes in the United States given the inflow of funds for reconstruction, seemed less certain in the Crescent City. Citizens and businesses that left New Orleans following the storm exhibited a reluctance to return, and in many ways, the city has yet to fully recover from the devastation of the event even over a decade later. The city's professional sports teams were among those enterprises that departed New Orleans in the wake of Hurricane Katrina. The National Football League (NFL) Saints played home games in three different cities (San Antonio, Baton Rouge, and New York City) during 2005. The National Basketball Association (NBA) Hornets took up residence in Oklahoma City for 35 of their 41 home games during the 2005-2006 season, returning to Louisiana (although playing in Baton Rouge and not New Orleans) for a largely symbolic six games. The Arena Football League's Voodoo abandoned their entire 2006 schedule. The University of New Orleans and Tulane, both National Collegiate Athletic Association (NCAA) Division 1 schools, either cancelled entire seasons for individual sports or played "barnstorming" seasons with no home games.

When we first conducted this analysis, we focused on two questions: what was and is the future of professional and spectator sports in New Orleans, and what roles did sports play and continue to play in the economic redevelopment of the city? The purpose of this paper is to analyze the extent to which the city of New Orleans directed its

[1] Significant portions of this paper originally appeared as Robert Baade and Victor Matheson, "Professional Sports, Hurricane Katrina, and the Economic Redevelopment of New Orleans," *Contemporary Economic Policy*, Vol. 25:4, (October 2007), 591-603. The paper has been updated to reflect the economic redevelopment of New Orleans and the role of sports in the city's recovery over the past decade.

redevelopment dollars toward its sports infrastructure and to ask whether New Orleans benefited economically from its role as host to major professional sports teams and a disproportionate number of mega-sports events given its size and demographics. Did commercial sports enable a rebuilding of New Orleans's storm-ravaged infrastructure or did it force civic trade-offs made even more painful by the storm?

Independent scholarship in general has not supported the thesis that professional sports induce significant increases in economic activity for host cities. New Orleans, however, may be different. The city is smaller and less affluent than other host cities in general, and it may be that the frequency with which large sports events are hosted by New Orleans makes the area an exception to the experience of most cities with regard to sports and economic development. The gravity of the city's economic situation in the wake of Katrina necessitates an individual and more complete appraisal as the strategies for economic redevelopment are evaluated thirteen years after the storm. Answers to the questions raised in this introduction require a review of, among other things, New Orleans' place in the national professional sports landscape, the extent of the damage Katrina wrought, the amount of redevelopment money the city must commit, and the evidence with regard to the impact sports has on host city economies with special attention to the circumstances that surrounded New Orleans in its rebuilding period.

II. New Orleans Prior to Katrina

While New Orleans hosts major league franchises in both the NFL and NBA, with a pre-hurricane metropolitan area population of less than 1.6 million residents, the city was already a small market for any of the major sports leagues in the U.S. As shown in

Table 1, in 2004 New Orleans was the 37st largest metropolitan area in the United States by population and was the 35th largest city out of the 39 hosting a team from one of the five large professional sports leagues in country.

The situation became markedly worse in the following decade. Katrina caused a significant dislocation of the city's residents resulting in the New Orleans metropolitan area suffering the largest percentage drop in population among large American cities between 2004 and 2016. As seen in Table 1, by 2016 New Orleans had dropped to the 41st largest metropolitan area in the US and was the 36th largest city out of 40 "Major League" cities. Furthermore, four metro areas in the country without any major sports franchises, Austin, Virginia Beach/Norfolk, Greensboro, and Louisville, are all larger than New Orleans. Another sixteen larger cities are without an NBA team, including several with strong ambitions to attract a franchise such as Kansas City and St. Louis. Fifteen cities without an NFL franchise have larger population bases than New Orleans, including St. Louis and San Diego, both of which recently lost franchises to Los Angeles, and football hungry San Antonio, which played host to the New Orleans Saints for three of their "home" games during the 2005 season. Not only is New Orleans small, but it is also relatively poor ranking 35th in per capita personal income among the cities listed in Table 2 and 32nd out of the 40 cities with major professional sports franchises. To be fair, however, the city is relatively richer now than in 2004 when it ranked 47th out of the 48 largest US cities in per capita income. Many of the city's poorest residents who were displaced by Katrina did not return.

Another strike against New Orleans is its business climate, as corporations play a major role in keeping a team financially competitive. It is one thing to provide highly

profitable luxury seating; it is another to fill those seats. The city is home to just two Fortune 500 companies: CenturyLink, ranked 168 in 2018, and Entergy, ranked 241th, and there is, therefore, not the market for loges and club seats that can be found in the other NBA and NFL cities with which New Orleans competes. One writer somewhat whimsically stated the NFL financial equation in the following way:

> Instead of fans, the NFL seeks corporations...While the NBA and Major League Baseball have guaranteed contracts for their players, the NFL with its exorbitant TV rights deals and corporate backing has practically given their owners guaranteed dollars…
>
> The way business is done now is the owner convinces his buddies who own the largest businesses in their respective cities to buy majority (sic) of the season tickets and luxury boxes. The result: a term exclusive to the NFL, the guaranteed sellout. Saints owner Tom Benson can't do that in New Orleans because there are no major corporations other than Entergy to back him. (Terrebonne Parrish Courier, 2005)

The competition to host a professional sports team is often as fierce as the competition among athletes on game day, and the lack of population base and both personal and corporate wealth places New Orleans at a considerable disadvantage in supporting and, therefore, retaining either the Saints or the Hornets. Prior to Hurricane Katrina, in fact, New Orleans appeared to be on the verge of losing its NFL franchise. Tom Benson, the owner of the Saints at the time, had reportedly rejected the state's final offer to keep the Saints in New Orleans in late April of 2005. (Benson died in March 2018 at which time his wife took over control of the team. (Underhill, 2018)) The state's offer included not only public financing of over 75 percent of a proposed $174 million Superdome[2] renovation, but also direct cash payments to the Saints totaling $64 million through 2008 and $9.5 million per year after the completion of the renovations to the

[2] The Superdome, opened in 1975, is the home field for the NFL's New Orleans Saints and has also served as the home field for the Tulane University football team in the past. It is now known as the Mercedes-Benz Superdome.

Superdome in 2008 (USA Today, 2005). The state's offer to the Saints, including the annual cash subsidy, would have placed the team in the top half of the financial standings in the NFL.

The fact that Benson would reject such an offer, which included a direct cash subsidy to the team, speaks volumes about the financial realities of the NFL and the inordinate transfer of business risk from teams to their host cities. While the state struggled to meet its contractual cash payments to the team in the wake of reduced tax revenues following the terrorist attacks of September 11, 2001, the only significant financial risk facing Tom Benson was the $81 million he would have been required to pay (representing the subsidies that the Saints have received since 2001), if he broke his Superdome contract, which he could have done following the 2006 season (Konigsmark, 2005). That risk pales in comparison to the $1 billion written offer Benson claims to have received for the team in 2005, a 1,400 percent increase over the $70 million price Benson paid for the Saints in 1985 (Robinson, 2005). The lucrative offer Benson received for the team reflects at least in part the money-making potential of NFL teams, which is explained in large part by the subsidies cities extend to attract a supply of teams that is limited by the NFL and its owners. The value of the Saints has only risen since 2005. Forbes estimates that the franchise was valued at $2 billion in 2017. (Forbes, 2017)

While recognizing New Orleans' shortcomings as it relates to its ability to host professional sports, on the other side of the coin, the city caters to the tourist trade to an extent that distinguishes itself from almost every other American city. The infrastructure that New Orleans has created arguably provides a comparative advantage in hosting events to include commercial sports over most cities in the United States. The city's

performance in attracting outside events supports the idea that it has exercised its comparative advantage. Even though New Orleans is a relatively small city, it ranked fifth in the United States in the number of conventions hosted (Tennessean News Services, 2005). Prior to the storm New Orleans annually attracted more than 10 million visitors who spent in excess of $5 billion per year according to the New Orleans Metropolitan and Tourism Bureau.

The information recorded in Tables 3 and 4 in a general sense indicates the extent to which New Orleans is geared to tourism. The fraction of the New Orleans economy both before and after Katrina that was accounted for by "Leisure and Hospitality" [North American Industrial Classification System (NAICS) 7] in 2004 indicated that New Orleans had a significantly larger tourist component than did the United States overall and most other southern cities in the U.S. that hosted NBA or NFL teams. It is noteworthy that New Orleans tourist sector as measured by employees and payroll in NAICS 7 is roughly 25 percent larger than that of Miami, Florida, which is among the most tourist-friendly cities in the country, and trails only Orlando, home of Disneyworld.

Commercial sport, of course, is one important aspect of the tourist/leisure industry, and it could have played a role in the economic revitalization of New Orleans. Since opening in 1975, the Superdome has hosted numerous sporting events of national significance including the NFL's Super Bowl in 1978, 1981, 1986, 1990, 1997, 2002, and 2013 (Holder, 2018) and the National Intercollegiate Athletic Association Men's Basketball Final Four in 1982, 1987, 1993, and 2003. Furthermore, the Superdome annually hosts the Sugar Bowl, one of college football's top post-season matches and a game which has determined college football's national champion nine times since 1975.

Post-Katrina, New Orleans has continued to host numerous mega-events such as the 2013 Super Bowl, the 2012 NCAA Men's Basketball Final Four, and the 2007 and 2012 College Football National Championship game.

Replacing the infrastructure for professional sports and mega-sports events can be justified if the benefits provided by the facilities exceed the costs incurred in the reconstruction. Both costs and benefits have to be measured over time since the facilities provided a stream of benefits as well as generating costs associated with operations and maintenance (O&M). Comprehensive economic analysis would include not only the explicit benefits but also the implicit benefits and costs, which are difficult not only to measure but in many cases to identify.

Data do exist for New Orleans for the number of establishments, annual payroll, and number of employees for a variety of entertainment related industries defined according to the NAICS and these data are recorded in Table 5.

All data point to the fact that the economic activity accounted for through the "Arts, Entertainment, and Recreation" industry (NAICS 71) for New Orleans is absolutely small, but large when compared to the United States overall. Census data, thus, supports the idea that New Orleans is a tourist-based economy that exhibits an arts-entertainment-recreation industry that is larger than that characterizing the United States as a whole.

The contribution of "Spectator Sports" (NAICS 7112), however, is less than 1 percent by any of the measures identified in Table 3. Despite the high salaries paid professional athletes, the spectator sports industry typically accounts for less than 1

percent of a city's payroll, and, by that measure, the industry is not economically vital to cities in the United States in general to include New Orleans.

Numerous studies of both professional sports franchises and stadiums as well as of mega-events, furthermore, lend support to the notion that sports have little impact on local economies. Analyses of the Super Bowl (Baade and Matheson, 2006; Porter, 1999), NCAA Final Four (Baade and Matheson, 2004), and mega-events in general (Coates and Humphreys, 2002; Baade, Baumann, and Matheson, 2007), for example, have all concluded that these big sporting events have no statistically significant impact on any number of economic variables such as employment, per capita income, metropolitan area-wide gross domestic product, or taxable sales. Coates and Depken (2006) indicated ambivalence about the economic contribution of sports mega-events concluding, "The upshot is, therefore, that these mega-events are not necessarily the economic windfall that their proponents portray them to be." Stadiums and professional franchises (Baade and Dye, 1990; Coates and Humphreys, 1999; Baade, Baumann, and Matheson, 2007) similarly show little in the way of economic benefits for host cities.

Given the economically tenuous state of professional sports in New Orleans prior to Hurricane Katrina, it is difficult to imagine that a disaster of its magnitude would improve to prospects for the industry in the city. The next section of the paper summarizes the extent of the damage with a particular emphasis on the demographic changes that may be sufficiently long-lived to have adversely influenced the prospects for supporting professional sports in New Orleans in the long term.

III. Measuring Katrina's Devastation

Hurricane Katrina, which swept into New Orleans and the Gulf Coast on August 29, 2005, caused far and away the largest damages in real dollar terms of any hurricane in U.S. history, with uninsured losses topping $100 billion (Bloomberg News, 2005) and insured losses estimated at $34.4 billion (Powell, 2005). Its final death toll of over 1,400 also places it among the worst natural disasters ever suffered by the United States. New Orleans was particularly hard hit by the storm, as flood waters remained for weeks after Katrina while levies were repaired, and rebuilding the city was an epic undertaking unmatched in scope and expense in recent U.S. history.

The cost of reconstructing New Orleans itself has been placed at more than $100 billion dollars (Tennessean News Service, 2005). Approximately 80 percent of New Orleans' 188,000 occupied housing units were severely damaged by the storm. Furthermore, more than half of the city's 100,000 owner-occupied homes were built before 1950, and their repair and replacement will require expensive modifications to meet modern building codes designed to prevent future hurricane damage (Tennessean News Service, 2005).

The damage to middle class neighborhoods has substantial implications for the redevelopment effort both as it relates to production and consumption. Without a middle class, New Orleans will not have the workers it needs to run the economy that existed prior to Katrina, and the spending necessary to restore the economy to pre-hurricane levels will be deficient. Katrina devastated the housing stock, schools, and other infrastructure vital to normal life for all socio-economic classes.

The extent of the damage to the social infrastructure must also be carefully assessed since the return of middle class workers and consumers is essential to the

revitalization of the New Orleans economy. Even before Katrina, by nearly every measure of economic development, New Orleans lagged behind other large American cities. Labor force participation rates and employment to population ratios in New Orleans averaged 5 to 10 percent below national levels for most demographic groups (Gabe, et al., 2005). Hurricane damaged areas in Louisiana had poverty rates above the national average (21.4% vs. 12.4%), and New Orleans residents were less likely (55% vs. 66%) to live in owner-occupied housing than residents of other large cities (Gabe, et al., 2005). Finally, the educational attainment of younger adults (age 18 to 34) for storm-damaged areas was generally below that for the rest of the nation. For example, 22.9 percent of young adults in hurricane damaged areas had not completed a high school degree compared with 20.6 percent nationwide, while only 22.5 percent had completed a college degree compared with 29.3 percent nationwide (Gabe, et al., 2005).

These figures had several implications for the likelihood that displaced people would return. First, Katrina hit the economically disadvantaged hardest. Statistics indicate that other places in the nation to which they have relocated improved their opportunities for employment. Second, significant portions of the middle class were displaced in the storm-ravaged area; 47.4 percent of those displaced had education equivalent to some college or above (Gabe, et al., 2005). Third, 45 percent of those displaced did not live in homes that they owned indicating that a significant portion of the people displaced by Hurricane Katrina had weak financial ties to the communities they abandoned. A significant permanent displacement of the population affected by the storm undermined or may have substantially altered the socio-demographic character of neighborhoods mostly adversely affected by the storm. It should also be noted that

virtually entire neighborhoods and parishes were wiped out by the storm, and devastation of that magnitude may well negate any pull that community loyalty and ties may exert in bringing people back. It has been estimated, for example, that Orleans Parish and St. Bernard Parish lost 65.9 and 89.8 percent of their populations over the period October 2005 to January 2006 (Greater New Orleans Community Data Center, 2005). Even if people were inclined to return, much of the infrastructure necessary to rebuild and sustain people had been eliminated. Government programs, furthermore, were unable to fully compensate for lost private infrastructure.

IV. The Economy of New Orleans Post-Katrina and the Sports Industry

The New Orleans economy served the nation as a tourist center and transportation hub for water transport in particular as previously noted, and therefore, any economic redevelopment effort should focus on those industries, an opinion endorsed by members of an *ad hoc* committee of urban experts assembled under the auspices of the Urban Land Institute. The information in Table 6, to be specific, indicates that in July 2005, 32.9 percent of the labor force in New Orleans was employed in the "Trade and Transportation" and "Leisure and Hospitality" sectors. The numbers recorded in Table 6 indicate several things worthy of note as it relates to characterizing the New Orleans economy pre- and post-Katrina. First, the transportation/trade and leisure/hospitality industries, the cornerstones of the New Orleans economy, did recover to some extent. Employment in the transportation and trade sector remain below their pre-Katrina levels, but the numbers employed in the leisure and hospitality sector have fully recovered and now exceed their pre-Katrina levels by a modest amount.

Hurricane Katrina led to a significant temporary contraction of the leisure industry. In the immediate aftermath of the storm there were fewer people flying into New Orleans in comparison to pre-Katrina levels, and a smaller number of establishments to accommodate them. Nearly one year after Katrina, the number of retail food establishments was 44 percent of the level prior to the storm, and the number of hotels open remained below the pre-Katrina level.

Even now over a decade after the storm New Orleans has not fully returned to the population and economic activity levels that existed prior to the storm, although tourism appears to be a fairly bright spot overall. There is compelling scholarship by Davis and Weinstein (2002) to suggest that population and economic activity across cities and regions within a country are not random occurrences, but rather reflect "locational fundamentals," e.g., location on a coast or significant river (physical geography), and economies of scale emanating from "economic clustering." The Davis and Weinstein study is based on 8,000 years of data on Japanese regions, and Japan's population is far more homogenous than that characterizing the United States. The population of New Orleans is particularly diverse.

Other scholarship supports the importance of locational fundamentals in explaining developments relating to population movements following catastrophic events. Evidence following the Chicago Fire of 1871, indicates that the City's recovery from that event depended on location fundamentals specific to neighborhoods (Macaulay, 2005). More recently, economic recovery from the 1992 Rodney King riots in Los Angeles was notably slow as compared to Miami's experience following the devastation of Hurricane Andrew in the same year (Baade and Matheson, 2004; Baade, Baumann,

and Matheson, 2007). Taken together, these findings suggest that heterogeneity as it relates in part to ethnicity, shared values and culture, income and wealth, and education can retard redevelopment and efforts to resettle. Many New Orleans neighborhoods where redevelopment has been slow to occur exhibit marked variation in these characteristics and relatively low rates of home ownership as previously mentioned.

So, what role did spectator sports play in the economy of New Orleans as it attempted to recover from Hurricane Katrina's devastation? First, it is important to note that the Superdome itself, which served an ill-fated role as a center for 30,000 refugees who were unable to escape the city prior to the storm, suffered extensive damage due to Katrina as did other sports facilities throughout the city. In the immediate aftermath of the storm, immediate decisions needed to be made as to the extent of repairs that the city would undertake. Following any emergency repairs, additional consideration would be given towards long-term upgrades to the facility. Finally, the city needed to decide the extent to which it would make direct subsidies available to the city's professional sports teams in order to have the return to and remain in the city.

The extent of the devastation caused by Katrina coupled with the demographic character of New Orleans prior to the storm led to the prospect that residents of the city would resettle elsewhere in the country. The likelihood that New Orleans would return to its pre-Katrina state, in turn, clearly had a bearing on probability that professional sports teams would be able to remain in the city for the long-term. If the chances increased that pro-sport teams will eventually leave due to a lack of fan support that had implications for the efficacy of substantial public investments to replace or repair the professional sports infrastructure.

Following Katrina, plans for completely replacing the Superdome were scuttled, and instead, the city embarked on a multi-stage and multi-hundred million-dollar repair and renovation of the Superdome. The first stage involved repair of the direct wind and water damage caused to the facility by the Hurricane as well and the deterioration of the stadium caused by its use an emergency shelter. These repairs cost roughly $200 million and were finished in time for the Saints to open their season back in New Orleans on September 25, 2006, just over a year after Katrina. An extensive set of renovations was then undertaken including new or refurbished seats, new club facilities and luxury suites, expanded bathrooms, new scoreboards and video systems, and a doubling of the locker room space. This phase was completed for the opening of the 2011 NFL season. The total cost of these two phases of construction cost a reported $336 million, of which $156 million was paid for by the Federal Emergency Management Agency (FEMA). (Associated Press, 2011) While the NFL as a league pledged $20 million towards these repairs, Saints owner Tom Benson, the primary tenant of the facility, paid nothing towards its reconstruction. Louisiana had only a $500 million insurance policy on state buildings along with $100 million in flood insurance, and the Superdome was just one of the many public buildings including schools damaged by the storm, so some have questioned the priority placed on this facility (Corbett, 2006).

Paradoxically, the extent of the devastation and the significant pressure exerted on the public sector to demonstrate its resolve and ability to help the city recover enhanced the prospects that those edifices most representative of the city to the outside world would be restored. Delaney and Eckstein (2003) identified the strength of "local growth coalitions" as vital to understanding public choices regarding the construction of sports

infrastructure. The public choice theory detailed by Delaney and Eckstein helps explain decision making in New Orleans with regard to the rapid reconstruction of the Superdome, and the successful floating of the $294-million bond issue that financed the repair. Not only was there a strong local growth coalition following Katrina, but that local effort was bolstered by a strong national sentiment for helping New Orleans get back on its feet. Ironically, the ineptitude that government displayed arguably at all levels immediately following the storm increased the pressure on government to correct the negative perceptions about its performance. Louisiana Governor Kathleen Babineaux Blanco in announcing the bond sale remarked that, "Rebuilding and reopening the Superdome were critical steps in Louisiana's recovery from hurricanes Katrina and Rita and this bond sale made them possible." (New Orleans City Business, 2006) The Superdome as a symbol of the city's ability to survive and its struggle to recover achieved particular significance as Katrina's impact played out.

The demand for the Saints, the primary tenant of the Superdome, had been given a boost by the increase in the political demand for the Superdome. The political resistance for public subsidies to keep the Saints from marching elsewhere eased, and the successful sale of the bonds to repair and renovate the Superdome corroborates that assertion. The NFL, furthermore, had to temper Tom Benson's desire to move the franchise to keep the League's image from being tarnished further by widely criticized franchise moves from Los Angeles to St. Louis and Oakland and from Cleveland to Baltimore. Indeed, many observers believe that the Saints would certainly have ended up in the greener fields of Los Angeles within a few years after 2005 had Hurricane Katrina not occurred. The "good-cop" role played by the NFL in keeping the Saints in New Orleans may well have

facilitated financial transfers to Tom Benson from a grateful City. All in all, in a peculiar way, financial transfers to Tom Benson had been made easier as a consequence of the storm.

Once again the efficacy of those transfers can be questioned. Given the very small percentage of economic activity in New Orleans accounted for by the sports industry, it may have not been prudent to devote a disproportionate share of scarce redevelopment funds to that sector. An even stronger argument can be made against refurbishing the Superdome to accommodate the financial needs of the NFL Saints since their owner had consistently sought economic concessions from a city and state that were financially stressed even prior to Katrina. In 2001, Saints' owner Tom Benson signed an agreement that required the City to pay him $186 million over the next 10 years in exchange for the "privilege" of having the team play in the Superdome. A fifteen-year extension to this agreement signed in 2011 guaranteed the Saints' owner an additional $392 million in revenues through taxpayer subsidies through 2025. (Alexander, 2013)

The economic incentive for the Saints owner to keep the team in New Orleans was compromised by Katrina. As the small economy of New Orleans lacked the financial wherewithal to support professional sports in the same manner as other cities, especially following Katrina, the Saints increasingly turned to public subsidies to generate revenues for its billionaire owner. Furthermore, unlike the efforts made by large oil companies and small business alike to repair the capital-intensive oil refineries as well as small restaurants and shops in and around the city, there existed little motivation for the Saints to recoup their small investment in infrastructure. This points to a larger problem with the financial structure of the professional sports industry throughout the

United States. Namely, the existence of substantial subsidies for infrastructure undermines a team's commitment to its host city. Absent any meaningful risk to their own capital, what incentive does a team have to stay in a city that experiences a catastrophe on the scale of Hurricane Katrina if the team has little in the way of permanent infrastructure invested in its host city? There is little question that in the vast majority of cases the financial risk accompanying hosting professional sports in the United States is disproportionately borne by the host community. Katrina provided striking testimony to the reality of how subsidies for sports infrastructure have contributed to that financial vulnerability.

Consumer spending on spectator sports by local residents probably also serves to slow down the recovery of the local economy after a natural disaster. The money spent on attending a sports event by residents of the home-team community necessarily precludes them from spending that money on other locally owned and operated entertainment. Furthermore, local expenditures on professional sports may actually reduce total spending in the economy as opposed to simply reallocating money among competing ends. Professional sports, which use national resource markets as opposed to locally owned and operated resources for alternative entertainment or recreational activities, may foster a net outflow of money. Most of the money spent on a night at a professional sports event goes to the athletes and owners of the team who may not live in the community in which they play. Siegfried and Zimbalist (2002) note that while 93% of average employees live in the area where they work, only 29% of NBA players do the same (and the figures are likely to be similar in the NFL and other major leagues). Given the generally poor condition of the city following Katrina, it is even less likely that

millionaire athletes, and those with the financial wherewithal to live elsewhere, chose to reside in the Big Easy in the immediate aftermath of the hurricane. Certainly, owner Tom Benson, who had business interests in San Antonio among other cities, showed little interest in spending money in the city.

Furthermore, the devastation of the middle and lower classes in New Orleans eliminated not just the customers, but also the labor upon which professional sports relies. Each large event at the Superdome requires approximately 2,500 part-time workers. Unfortunately, the lack of housing in New Orleans meant that no such pool of potential part-time workers was readily available in the city. Indeed, good fraction of the workers at the facility will very likely have to come from outside the city. The leakage of money from New Orleans through athletes repatriating their incomes to their primary residences were further enhanced by ordinary workers doing the same thing in some appreciable amount because of a lack of housing in many New Orleans neighborhoods. Post-Katrina, it was even less likely that income generated through commercial sports activities remained in the city.

The prospect of hosting mega-events was perhaps a more important incentive in repairing the city's sports infrastructure. As noted previously, the city was a frequent destination for major sporting events such as the Super Bowl or college bowl games. Mega-events have the economic advantage over hosting professional franchises in that much of the spending comes from outside the region. Most spectators at regular season home games are local residents and their spending at an event does not represent new spending in the region but rather simply reallocates where economic activity occurs in the metropolitan area. A football team's gain may represent a loss for a local restaurant or

music club where the local resident would have spent their entertainment dollars in the absence of a professional sports franchise. On the other hand, attendees at a mega-event are typically from out of town, so their spending represents in inflow of money to the region. Furthermore, mega-events can serve to advertise the city to national or international markets, and especially in the wake of Hurricane Katrina might serve as an indicator that the city is open for business.

V. The "Feel Good" Legacy of Professional Sports in Post-Katrina New Orleans

Although the direct economic impact of the return of professional sports to New Orleans was likely small, a strong case can be made for sports having an important psychological impact. While much of New Orleans' Lower 9th Ward remained a tangle of rubble and destroyed houses more than one year after Katrina, the Superdome reopened for the 2006 NFL season. The restoration of the Superdome and the return of the Saints had clear symbolic significance. In fact, the Saints' return to New Orleans on September 25, 2006, received significant national attention. The game was nationally televised on Monday Night Football and featured musical performances by U2 and Green Day before the game. The team scored their first points in their home city with a dramatic blocked punt in the first quarter. That play is immortalized in a large statue outside the stadium erected in 2012 and named "Rebirth". The statue is said to be "symbolic of New Orleans' resilience in the face of disaster." (Associated Press, 2012)

Those residents who returned to the city embraced the team by purchasing a record number of season tickets for the 2006 season. In fact, in their return to the Superdome following Katrina, season ticket holders purchased every available regular

season ticket for the first time in the history of the franchise. (Associated Press, 2006) The fact that the Saints played for the National Football Conference title in January of 2007, the best performance in the history of the team to that point, further cemented the team in the hearts of the city's residents. And in the decade that followed, the fan base remained solid, selling out every home game, and the waitlist for season tickets grew to 60,000. Their success at the box office was helped in large part by the success of team. In the 39 years prior to Katrina, the Saints had a 0.386 win percentage and had won only one playoff game in their history. In the 12 season since returning to New Orleans, a period coinciding with the acquisition of future Hall of Fame quarterback Drew Brees, the team has amassed a 0.583 win percentage and 6 playoff wins including their only Super Bowl Championship in 2010.

The fans' response, however, failed to impress the Saints owner who noted that, "You haven't seen the total commitment yet. No National Football League team can live on tickets alone… The next big step is that the business community needs to step up." (Corbett, 2006) Limited by the small number of large corporations in the city and the redevelopment priorities faced by the city's small businesses, 40% of the Superdome's luxury suites remained unsold as of May 2006. As luxury suites are not part of the league's revenue sharing deal, they provide significant profits to a team's owner. The fact that Tom Benson was unsatisfied with the millions spent on the first wave of stadium repairs and improvements entirely paid for by others and with record season ticket purchases by local residents boded ill for the Saints' long-term future in New Orleans. Indeed, as noted previously, it took another nearly $400 million in tax subsidies and

another round of taxpayer financed improvements to the Superdome to convince Benson to commit the team to New Orleans through 2025. (Alexander 2013)

It remains to be seen whether the team will be able to maintain its extraordinary level of fan interest in such a small market if the team's fortunes on the field wane. And as noted by Benson, relatively high revenues are the key to keeping teams, but that requires more than ticket sales. Even with strong attendance and generous revenue sharing from the league, the team only ranks in the middle of NFL franchises in terms of annual revenue and is near the bottom in franchise valuation. (Forbes, 2017)

While the majority of the media attention focused on the return of the Saints to the city, New Orleans' other franchises experienced changes in the wake of Katrina. The NBA's New Orleans Hornets, renamed the Pelicans in honor of Louisiana's state bird in 2013, were relatively new to the city when Katrina hit, having arrived in only 2002 after relocating from Charlotte. Prior to the arrival of the Hornet, New Orleans had been without an NBA team since 1979 when the New Orleans Jazz moved to Utah after suffering financial difficulties in Louisiana. Prior to Katrina, the Hornets, like the Jazz before them struggled financially. They were dead last in attendance in the league during the 2004-05 season.

While not as badly damaged as the Superdome, the New Orleans Arena, built in 1999 and currently named the Smoothie King Center, was also unusable in the wake of Hurricane Katrina necessitating a change in venue for the Hornets. An attempt to move the team to Baton Rouge was scuttled because the sports arenas in Baton Rouge were commandeered for coordinating relief efforts for New Orleans. Instead, the team was officially renamed the Oklahoma City/New Orleans Hornets for 2005-06 and 2006-07

NBA seasons, and they played 35 of 41 home games in Oklahoma during each of those seasons. Only 6 games were played in Louisiana in the first season, with the team splitting time between Baton Rouge and New Orleans. On March 8, 2006, the Hornets became the first professional team to play in New Orleans following the disaster. Six games were played in New Orleans in the 2006-07 season.

Given the substantial increase in attendance that the team experienced in Oklahoma City, it was somewhat surprising that the NBA and the Hornets' owner George Shinn committed to keep the team in New Orleans. In retrospect, it appears that the decision to the return the franchise to New Orleans was based more on Shinn's troubled personal history than any sound financial decision-making. By December 2010, without the means to cover the continuing losses of the team and unable to find another buyer, Shinn sold the franchise to the league. (Belson and Beck, 2010) Tom Benson, owner of the Saints, later purchased the team. The team has languished in the bottom quarter of the league in attendance since their return to the city.

Minor league franchise experienced the same sort of temporary boost in attendance due to civic pride as witnessed by the Saints. The New Orleans VooDoo, an Arena Football team owned by Benson, suspended play for the 2006 season due to the damage to the New Orleans Arena. When the team returned in 2007, it led the league in attendance and posted one of the highest average attendance marks in the history of the league. However, the financial success was short-lived. After the 2008 season, Benson announced that the VooDoo were ceasing operations, and the entire league declared bankruptcy within a year.

The New Orleans Zephyrs (now known as the New Orleans Baby Cakes), the city's AAA Minor League Baseball team, suffered only moderate damage to its playing facilities and was able to open its 2006 season at home. Taxpayer funded repairs cost $21 million, and the team supplemented this figure by another $5 million to add new amenities including 16 luxury suites, a swimming pool, and two hot tubs. The stadium also hosted the Tulane University baseball team in 2006 and 2007 as the university's athletic facilities suffered more extensive damage. Like many of the other local sports franchises, the team did experience a bump in attendance in its first year back with a roughly 10% increase in fans during the 2006 season over the previous season (which had ended just a few days before Katrina made landfall). Over the course of the next decade, attendance remained relatively stable for the team at roughly the same level the franchise had experienced prior to Katrina but one-third below the peak the team reached immediately after opening their new ballpark in 1997.

Professional sports teams were not the only organizations to engage in sports-related investment following Hurricane Katrina. Tulane University, for example, engaged in a significant reconstruction program for its athletic complexes as part of its $250 million campus-wide rehabilitation effort following the hurricane (Henderson, 2006). Tulane, unlike the Saints, has a huge financial commitment in its campus, and it is motivated to recoup its past investment. Division 1 intercollegiate sports serve as a recruitment tool for both athletes and prospective students as the school attempts to rebuild its student body.

Apart from permanent sports franchises, mega-events also contributed to the redevelopment of the city. The country's major sports leagues were eager to appear as

helpful contributors to the reconstruction of New Orleans, and the city received favorable treatment in the awarding of major events to the city. The NBA played the 2008 All-Star Game in the city. The College Football National Championship games were played at the Superdome in 2007 and 2012 and will return in 2020. The NCAA Men's Basketball Final Four was played in the city in 2012 and will return in 2022, and the Women's Final Four was played at the New Orleans Arena in 2013. The nation's biggest sporting event, the Super Bowl, took place in New Orleans in 2013 although the event was marred by a 34-minute power outage during the middle of the game. Of course, this type of incident demonstrates the importance of properly maintaining general infrastructure, investments that can often take a back seat to spending on sports infrastructure and the subsidies to the owners of sports franchises in order to convince them to keep their teams in an otherwise unattractive city, economically.

VIII. Conclusions and Policy Implications

Hurricane Katrina induced a massive outflow of residents and businesses from the city of New Orleans. The city's two major professional sports teams, the NFL Saints and NBA Hornets were among the businesses that had to leave due to the extensive damage to their infrastructure. The capital costs and other financial commitments necessary to encourage the return of the Saints and the Hornets for the long term were substantial. The images of the NFL and NBA would have been damaged if the Saints and Hornets had not at least make cameo appearances, but in the longer term, the teams and their leagues demanded greater revenue streams than can be generated in their current facilities. The fact that New Orleans and the State of Louisiana were already directly

subsidizing the teams indicates that pre-Katrina the teams were not generating revenues in their venues that allowed them to be financially competitive in their leagues. This paper has concluded that it may have been financially ill-advised in the post-Katrina world to direct substantial funds at refurbishing and upgrading the Superdome and New Orleans arena or to continue to directly subsidize the franchises specifically to make the teams financially competitive.

Capital expenditures on the Superdome supplant capital expenditures on housing, schooling, and other middle class amenities that will bring the middle class back, and the reconstruction of the Superdome in the short run should have been undertaken only after spending on housing and other infrastructure repairs. Furthermore, restoration efforts for the Superdome and New Orleans Arena should not necessarily be directed towards amenities that provide the highest revenues for sports franchises, but instead providing a multipurpose facility for the general tourist trade. Providing physical accommodation for professional sports teams did not advance the economics interests of New Orleans in the short term. Having done so exacerbated the economic problems that existed in the aftermath of the storm.

One odd consequence of Katrina is that it may well have made it virtually impossible for the Saints to leave New Orleans in the short term, while at the same time requiring substantial public investment to provide accommodations in order to keep the team in the long-run. The opportunity costs for the funds necessary to rebuild the sports infrastructure have never been higher, but the political demand for demonstrable recovery from Katrina to include the highly symbolic reconstruction of sports facilities had sharply shifted the demand for their restoration to the right. The fact that a year after the storm, a

bond issue for $294 million to refurbish the Superdome was sold with relatively little resistance provided striking testimony to this assertion. Tom Benson and the Saints have benefited from financial transfers from the City of New Orleans and the NFL. These transfers very likely would have been strongly contested and may not have occurred at all in the absence of the storm.

Cities in general should be mindful of the fact that subsidies for professional sports teams eliminate the financial incentives teams would have to remain in the community following a natural or manmade disaster. Businesses that have risked their own capital and built infrastructure have a financial stake in their host community, but the Saints and Hornets, as well as most professional sports teams in the United States, have few such ties to their local communities. Paradoxically, cities have contributed in a very substantial way to the incentive for teams to abandon a city in the face of a disaster on the scale of Katrina. The owner of the New Orleans Saints was making his way out of New Orleans before Katrina, and the storm probably has increased his perception of risk and diminished his long-term financial prospects in New Orleans to a point that it is not in his financial interest to stay there without the significant public subsidies that the city has provided.

New Orleans will be rebuilt at the grassroots home by home and business by business. Locational fundamentals may well lead to the restoration of New Orleans long term. The rate at which the city was resettled and restored affected the ability of the NFL Saints and NBA Hornets to generate revenues that encouraged them to remain in the community. The Saints and the Hornets have invested little in infrastructure, and are motivated in large part by the size of future revenue streams in New Orleans relative to

other cities that would like to host them. The City of New Orleans, on the other hand, has invested substantially in infrastructure for the teams, and, as a first step found it necessary to invest further in that infrastructure necessary to encourage the teams to stay. That stay would have been short-lived in the absence of the return of the middle class so necessary to support the team and give the city any chance to recoup its infrastructure investment. To achieve this end, the order of capital expenditures in New Orleans should have been levees, housing, middle class amenities, infrastructure for nonresident businesses, and lastly those industries that cater to the entertainment needs of the middle class.

The role of sports in the economic recovery of the city is dubious aside from serving as a symbol that the city remains vital. The repair of the Superdome and the New Orleans Arena was an expensive tease in that regard. The investment in sports infrastructure did little to provide what was needed for the community to recover from the storm. Sports and the hosting of mega-events may actually undermine longer-term recovery through deflecting capital spending from where it is needed most and crowding out those workers and residents who are involved in the essential rebuilding process. Sport may have provided a pleasant recreational amenity to returning residents, but it is reasonable to ask whether the economic interests of the sport elites, out of financial and economic development necessity, should have taken a seat on the bench in the interest of the greater good.

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Table 1: Summary Statistics for U.S. Metropolitan Areas (2004)

Metropolitan Area	Population	Rank	Per Capita Income	Rank	NFL	NBA	NHL	MLB	MLS	Total
New York-Newark	22,662,795	1	44,959	2	2	2	3	2	1	10
Los Angeles-Riverside	17,284,575	2	35,305	18	0	2	2	2	2	8
Chicago	9,629,435	3	38,389	11	1	1	1	2	1	6
Washington-Baltimore	8,470,401	4	44,836	3	2	1	1	2	1	7
Boston-Providence	7,760,397	5	42,457	4	1	1	1	1	1	5
San Jose-SF-Oakland	7,753,167	6	48,091	1	2	1	1	2	0	6
Philadelphia	6,852,767	7	39,365	9	1	1	1	1	0	4
Dallas-Fort Worth	6,074,414	8	33,923	23	1	1	1	1	1	5
Miami-Fort Lauderdale	5,868,202	9	37,808	12	1	1	1	1	0	4
Detroit-Warren	5,480,176	10	35,374	17	1	1	1	1	0	4
Houston	5,321,109	11	35,124	19	1	1	0	1	1	4
Atlanta	5,220,858	12	35,714	15	1	1	1	1	0	4
Seattle-Tacoma	3,935,449	13	41,338	6	1	1	0	1	0	3
Phoenix	3,637,332	14	32,220	39	1	1	1	1	0	4
Cleveland-Akron	3,564,308	15	33,087	32	1	1	0	1	0	3
Minneapolis-St. Paul	3,490,160	16	40,374	7	1	1	1	1	0	4
San Diego	2,930,007	17	40,314	8	1	0	0	1	0	2
St. Louis	2,822,926	18	35,701	16	1	0	1	1	0	3
Denver	2,799,868	19	39,012	10	1	1	1	1	1	5
Pittsburgh	2,699,639	20	33,533	27	1	0	1	1	0	3
Portland, OR	2,685,494	21	33,045	33	0	1	0	0	0	1
Tampa-St. Petersburg	2,587,771	22	33,034	34	1	0	1	1	0	3
Orlando	2,488,765	23	29,743	45	0	1	0	0	0	1
Sacramento	2,255,401	24	35,912	14	0	1	0	0	0	1
Kansas City	2,213,656	25	32,380	37	1	0	0	1	1	3
Columbus	2,170,450	26	32,413	36	0	0	1	0	1	2
Indianapolis	2,123,265	27	33,639	26	1	1	0	0	0	2
Cincinnati	2,101,112	28	34,970	21	1	0	0	1	0	2
Charlotte	2,035,782	29	33,119	31	1	1	0	0	0	2
Salt Lake City-Provo	1,981,051	30	27,901	48	0	1	0	0	1	2
Milwaukee	1,979,716	31	35,921	13	0	1	0	1	0	2
Las Vegas	1,880,581	32	33,688	25	0	0	0	0	0	0
San Antonio	1,857,602	33	29,683	46	0	1	0	0	0	1
Virginia Beach-Norfolk	1,736,907	34	33,862	24	0	0	0	0	0	0
Raleigh-Durham	1,606,502	35	34,991	20	0	0	1	0	0	1
Nashville	1,587,444	36	34,399	22	1	0	1	0	0	2

New Orleans	**1,578,179**	**37**	**29,043**	**47**	**1**	**1**	**0**	**0**	**0**	**2**
Greensboro-Winston-Salem	1,472,314	38	30,731	43	0	0	0	0	0	0
Hartford	1,451,200	39	41,348	5	0	0	0	0	0	0
Austin	1,410,058	40	33,347	28	0	0	0	0	0	0
Louisville	1,371,885	41	32,121	40	0	0	0	0	0	0
Grand Rapids	1,355,200	42	30,489	44	0	0	0	0	0	0
Jacksonville	1,341,793	43	33,268	30	1	0	0	0	0	1
Birmingham	1,289,938	44	32,297	38	0	0	0	0	0	0
Memphis	1,287,853	45	32,933	35	0	1	0	0	0	1
Greenville, SC	1,262,050	46	27,394	49	0	0	0	0	0	0
Buffalo	1,238,934	47	31,002	42	1	0	1	0	0	2
Oklahoma City	1,212,596	48	31,067	41	0	0	0	0	0	0
Green Bay	294,570	NA	33,329	29	1	0	0	0	0	1

Table 2: Summary Statistics for U.S. Metropolitan Areas (2018)

Metropolitan Area	Population	Rank	Change	Per Capita Income	Rank	NFL	NBA	NHL	MLB	MLS	Total
New York-Newark	23,689,255	1	-	65,960	2	2	2	3	2	2	11
Los Angeles-Riverside	18,688,022	2	-	52,166	13	2	2	2	2	2	10
Chicago	9,882,634	3	-	55,005	11	1	1	1	2	1	6
Washington-Baltimore	9,665,892	4	-	62,317	4	2	1	1	2	1	7
San Jose-SF-Oakland	8,751,807	5	+1	76,988	1	2	1	1	2	1	7
Boston-Providence	8,176,376	6	-1	62,790	3	1	1	1	1	1	5
Dallas-Fort Worth	7,673,305	7	+1	50,344	18	1	1	1	1	1	5
Philadelphia	7,179,357	8	-1	56,314	8	1	1	1	1	1	5
Houston	6,972,374	9	+2	51,442	15	1	1	0	1	1	4
Miami-Fort Lauderdale	6,723,472	10	-1	52,206	12	1	1	1	1	0	4
Atlanta	6,451,262	11	+1	46,204	31	1	1	0	1	1	4
Detroit-Warren	5,318,653	12	-2	47,758	26	1	1	1	1	0	4
Seattle-Tacoma	4,684,516	13	-	61,104	5	1	0	0	1	1	3
Phoenix	4,661,537	14	-	42,218	45	1	1	1	1	0	4
Minneapolis-St. Paul	3,894,820	15	+1	55,486	9	1	1	1	1	1	5
Cleveland-Akron	3,483,311	16	-1	46,444	29	1	1	0	1	0	3
Denver	3,470,235	17	+2	56,319	7	1	1	1	1	1	5
San Diego	3,317,749	18	-1	55,168	10	0	0	0	1	0	1
Orlando	3,202,927	19	+4	39,929	48	0	1	0	0	1	2
Portland, OR	3,160,488	20	+1	47,845	25	0	1	0	0	1	2
Tampa-St. Petersburg	3,032,171	21	+1	43,807	41	1	0	1	1	0	3
St. Louis	2,911,769	22	-4	48,950	21	0	0	1	1	0	2
Pittsburgh	2,635,228	23	-3	49,633	19	1	0	1	1	0	3
Charlotte	2,632,249	24	+5	45,980	32	1	1	0	0	0	2
Sacramento	2,567,451	25	-1	50,829	17	0	1	0	0	0	1
Salt Lake City-Provo	2,514,748	26	+4	42,886	44	0	1	0	0	1	2
Kansas City	2,446,396	27	-2	46,911	27	1	0	0	1	1	3
Columbus	2,443,402	28	-2	45,904	34	0	0	1	0	1	2
San Antonio	2,429,609	29	+4	44,284	38	0	1	0	0	0	1
Las Vegas	2,404,336	30	+2	41,120	46	0	0	1	0	0	1
Indianapolis	2,386,199	31	-4	47,956	23	1	1	0	0	0	2
Cincinnati	2,224,231	32	-4	48,429	22	1	0	0	1	0	2
Raleigh-Durham	2,156,253	33	+2	47,885	24	0	0	1	0	0	1
Austin	2,056,405	34	+6	51,566	14	0	0	0	0	0	0
Milwaukee	2,043,274	35	-4	49,548	20	0	1	0	1	0	2
Nashville	1,987,778	36	-	51,270	16	1	0	1	0	0	2
Virginia Beach-Norfolk	1,830,629	37	-3	46,693	28	0	0	0	0	0	0
Greensboro-Winston-Salem	1,650,019	38	-	40,112	47	0	0	0	0	0	0
Jacksonville	1,603,497	39	+4	44,325	37	1	0	0	0	0	1
Louisville	1,510,945	40	+1	44,525	36	0	0	0	0	0	0
New Orleans	**1,501,213**	**41**	**-4**	**45,245**	**35**	**1**	**1**	**0**	**0**	**0**	**2**
Hartford	1,476,637	42	-3	58,346	6	0	0	0	0	0	0
Oklahoma City	1,445,501	43	+5	44,172	39	0	1	0	0	0	1
Grand Rapids	1,443,508	44	-2	43,570	42	0	0	0	0	0	0

Greenville, SC	1,442,117	45	+1	38,977	49	0	0	0	0	0	0
Memphis	1,369,038	46	-1	43,175	43	0	1	0	0	0	1
Birmingham	1,361,299	47	-3	44,037	40	0	0	0	0	0	0
Buffalo	1,210,481	48	-1	45,933	33	1	0	1	0	0	2
Green Bay	318,236	NA	NA	46,362	30	1	0	0	0	0	1

Table 3: Aggregate Measures of the Fraction of the Economic Activity for Selected Cities and the United States Represented by "Leisure and Hospitality" (NAICS 7) for 2004

Geographic Area/Statistic	NAICS 7 Employees as a % of Total Area Employees	NAICS 7 Annual Payroll as a % of Total Area Payroll	NAICS 7 Establishments as a % of Total Area Establishments
Atlanta	9.67	3.93	7.70
Charlotte	9.34	3.99	7.82
Greenville	9.94	3.62	8.83
Houston	9.14	3.36	7.72
Memphis	11.22	5.58	7.66
Miami	10.75	5.51	7.22
New Orleans	**13.93**	**7.22**	**9.74**
Orlando	19.39	11.93	8.19
Tampa	9.42	4.62	7.78
United States	9.64	4.07	8.10
Atlanta	9.67	3.93	7.70

Source: https://www.bls.gov/cew/

MSA, quarterly census of employment

Table 4: Aggregate Measures of the Fraction of the Economic Activity

for Selected Cities and the United States Represented by "Leisure and Hospitality" (NAICS 7) for 2017

Geographic Area/Statistic	NAICS 7 Employees as a % of Total Area Employees	NAICS 7 Annual Payroll as a % of Total Area Payroll	NAICS 7 Establishments as a % of Total Area Establishments
Atlanta	11.18	4.11	8.86
Charlotte	11.72	4.91	9.26
Greenville	11.15	4.14	10.37
Houston	10.85	3.78	8.88
Memphis	11.14	4.87	10.31
Miami	12.70	6.80	7.54
New Orleans	**16.30**	**8.51**	**11.38**
Orlando	21.36	12.52	9.36
Tampa	12.03	5.63	8.64
United States	11.05	4.62	8.51
Atlanta	11.18	4.11	8.86

Source: https://www.bls.gov/cew/

MSA, quarterly census of employment

Table 5: Aggregate Measures of the Fraction of New Orleans Economic Activity in Total Represented by Spectator Sports for 2004 and 2017

	2004			
Ratio/NAICS number	NAICS 71	NAICS 711	NAICS 7112	NAICS 72
Industry Employees/New Orleans Total	2.33% (1.43%)	0.43% (.29%)	0.13% (.10%)	11.60% (10.52%)
Annual Industry Payroll/New Orleans Total	2.20% (1.01%)	1.00% (.47%)	0.83% (.22%)	5.03% (5.54%)
Industry Establishments/New Orleans Total	1.42% (1.38%)	0.51% (.50%)	0.11% (.07%)	8.32% (8.33%)
	2017			
Ratio/NAICS number	NAICS 71	NAICS 711	NAICS 7112	NAICS 72
Industry Employees/New Orleans Total	2.31% (1.59%)	0.76% (.34%)	N/A (.10%)	13.99% (9.45%)
Annual Industry Payroll/New Orleans Total	2.36% (1.09%)	1.62% (.55%)	N/A (.27%)	6.15% (3.54%)
Industry Establishments/New Orleans Total	1.75% (1.43%)	0.71% (.55%)	0.10% (.06%)	9.64% (7.08%)

NAICS 71: Arts, entertainment, and recreation
NAICS 711: Performing arts and spectator sports
NAICS 7112: Spectator sports
NAICS 72: Accommodation and food services
U.S. percentages given in parentheses. (U.S.)

Source: https://www.bls.gov/cew/

Table 6: Comparing the Pre- and Post-Katrina Economies for the New Orleans MSA

Statistic/Date	July 2005	July 2006	July 2017
MSA Population	1,313,787	1,024,678	1,275,762
Unemployment Rate	[Louisiana = 5.6%] New Orleans = 6.1% (United States = 5.0%)	[Louisiana = 4.2%] New Orleans = 4.9% (United States = 4.7%)	[Louisiana = 6.1%] New Orleans = 5.5% (United States = 4.3%)
Labor Force Size	645,907	507,621 (Down 21.4% from July 2005)	601,519 (Down 6.9% from July 2005)
Population Employed in the Transportation and Trade Sector	122,300	105,200 (Down 14.0% from July 2005)	112,800 (Down 7.8% from July 2005)
Population Employed in the Hospitality and Leisure Sector	86,200	60,600 (Down 29.7% from July 2005)	88,700 (Down 2.9% from July 2005)
Public Transportation: % of the System Operational	100%	17%	100%
Number of Workers Employed by Government	103,100 or 16.0% of the labor force for government at all levels; 15,700 for the federal government or 2.4%	73,600 or 14.5% of the labor force for government at all levels; 12,400 for the federal government or 2.4%	69,800 or 11.6% of the labor force for government at all levels; 12,700 for the federal government or 2.1%
Number of Open Hotels	142	116 (Down 18% from July 2005)	n.a.
Open Retail Food Establishments	100%	44%	100%
Number of Passengers Arriving at the New Orleans Airport	438,578	282,137 (Down 35.7% from July 2005)	525,822 (Up 19.9% from July 2005)

Source: Greater New Orleans Community Data Center, *The Katrina Index,* February 15, 2007, www.gnocdc.org. Accessed on March 3, 2007.

[a]January 2006 statistic. Note the metropolitan population for New Orleans fell by 29.2 percent from July 2005 to January 2006.