

LSU AMC

A single APE was developed for both the proposed VAMC and LSU AMC Tulane/Gravier sites. This APE contains portions of the existing Mid-City NRHD and the eligible NOMHD. The APE also contains five properties individually listed in the NRHP and nine buildings within the APE that are eligible for listing (see table 3-3).

The Proposed Actions include the construction of the LSU AMC in the 15-block area bounded by South Claiborne Avenue, Canal Street, South Galvez Street, and Tulane Avenue. Six of the 15 blocks fall either partially or entirely inside the boundaries of the Mid-City NRHD. The blocks represent only 2.2 percent of the total number of blocks in the Mid-City NRHD. Deutsches Haus and Orleans House will be assessed for integration into the design of the new hospital.

Implementation of this alternative will require the demolition of properties that contribute to the significance of the Mid-City NRHD and are located within the boundaries of the LSU AMC site. This will adversely affect the contributing properties and the Mid-City NRHD itself (36 CFR Part 800.5(a)(2)(i)). Although it may be possible to avoid the adverse effects associated with demolition through the retention of certain historic buildings, these actions also have the potential to meet the adverse effect criteria because they may change the character of the property's setting that contributes to its historic significance (36 CFR Part 800.5(a)(2)(iv)). In addition, visual, atmospheric, and audible elements that may diminish the integrity of the Mid-City NRHD could possibly be introduced under this alternative. In the event that the OFPC fails to secure and ventilate the existing MCLNO buildings, adverse effects may occur through neglect while the State seeks alternative uses for the facilities. It is also possible that adverse effects could result from future uses of the MCLNO buildings if such uses change the character and historic use of the buildings. Should the VA choose to construct a new medical center on the adjacent proposed VAMC site, additional adverse effects to the Mid-City NRHD would occur.

Treatment measures to resolve these adverse effects were developed by VA, FEMA, and the City through consultation among the ACHP, the SHPO, the OFPC, the MBCI, and interested preservation and neighborhood organizations. These treatment measures are set forth in the PA (appendix B), and a discussion of these measures can be found in Section 5.1.

Impacts of Alternatives # 2 through # 4

Alternative # 2 – Lindy Boggs Location

The APE for the Lindy Boggs site was described in Section 3.5.3.1 and illustrated in figure 3-9. The Lindy Boggs APE includes the existing VAMC building at 1601 Perdido Street. The Lindy Boggs APE contains portions of the Parkview NRHD and the Mid-City NRHD, but no properties that are currently listed in NRHP.

The construction of the VAMC on this site may cause indirect adverse impacts to contributing elements of historic districts within the APE though the introduction of visual, atmospheric, or audible elements that diminish their integrity (36 CFR Part 800.5(a)(2)(v)). This alternative

would not adversely affect historic properties within the footprint because buildings that are subject to direct adverse impacts are not historic.

The selection of the Lindy Boggs alternative would result in the existing VAMC hospital no longer operating as a hospital. As discussed under the Impacts of the No Action Alternative, such a change in the use of the building could constitute an adverse effect, as noted in 36 CFR Part 800.5(a)(2)(iv).

Treatment measures to resolve these adverse effects were developed by VA, FEMA, and the City through consultation among the ACHP, the SHPO, the OFPC, the MBCI, and interested preservation and neighborhood organizations. These measures are set forth in the PA (appendix B) and discussed in Section 5.1 of this document.

Alternative # 3 – Ochsner Location

The APE for the Ochsner alternative is described in Section 3.5.3.1 and is illustrated in figure 3-10. The Ochsner APE does not intersect any existing or proposed NRHDs.

This alternative includes the construction of the VAMC at the site adjacent to Ochsner Medical Center (Main Campus) located at 1514 Jefferson Highway. With the exception of the existing VAMC, which is a contributing element to the eligible NOMHD, no historic properties have been identified within the APE for this alternative.

The selection of the Ochsner site would result in the existing VAMC no longer operating as a hospital. As discussed under Impacts of the No Action Alternative, such a change in the use of the building could constitute an adverse impact, as noted in 36 CFR §800.5(a)(2)(iv).

A warehouse on the Ochsner site houses a collection of historic trains, one of which, the Southern Pacific Locomotive 745, is listed in the NRHP. If this site is selected, the warehouse would no longer be suitable storage. Adverse effects to the locomotive would be avoided by allowing ample time for the owner to find suitable replacement storage.

Treatment measures to resolve these adverse effects were developed by VA, FEMA, and the City through consultation among the ACHP, the SHPO, the OFPC, the MBCI, and interested preservation and neighborhood organizations. These measures are set forth in the PA (appendix B) and discussed in Section 5.1 of this document.

Alternative # 4 – Modification/Renovation of MCLNO Facilities

The APE for this alternative is the existing footprint of the MCLNO campus, illustrated by the orange, yellow, and purple structures outlined in figure 1-1, which encompasses Charity Hospital and 22 other buildings. This APE is based on assumptions that repair work would not require pile driving and that no new structure construction would take place. Therefore, vibrations with potential adverse impacts would not extend beyond the APE perimeter.

The APE lies within the eligible NOMHD, a district determined to be eligible by FEMA in consultation with SHPO. Charity Hospital was determined by FEMA to be individually eligible for inclusion in the NRHP in 2005. The Sister Stanislaus Memorial Building was listed in the NRHP in 2003.

This alternative will not adversely affect historic properties within the APE if repairs to character-defining features of these properties conform to the Secretary of the Interior's *Standards for the Treatment of Historic Properties*. It will not require a change in use, introduce elements that will diminish the integrity or historic significance of properties in the APE, or cause the neglect of historic properties that are part of the undertaking. Additional information on staging areas and areas of potential ground disturbance is needed to complete the effects analysis.

Treatment measures to resolve these adverse effects were developed by VA, FEMA, and the City through consultation among the ACHP, the SHPO, the OFPC, the MBCI, and interested preservation and neighborhood organizations. These measures are set forth in the PA (appendix B) and discussed in Section 5.1 of this document.

3.5.4 Archaeology

3.5.4.1 Existing Conditions – Archaeology

The proposed alternatives are situated within the deltaic lobes associated with the Mississippi River deltaic plain. During the Holocene Epoch, delta lobes and open gulf dominated this area. For the last 5,000 years, these deltaic processes have acted to reshape and rework the biological and physical environment of this part of southeastern Louisiana. The dynamic nature of the Mississippi River deltaic plain must have forced the prehistoric and historic inhabitants to select specific locations from which they could exploit the rich and varied natural resources of this region. In addition, the dynamic deltaic processes determined how archaeological deposits, which accumulated in association with these communities, either were preserved or destroyed. Therefore, in the deltaic plain, there should be a strong correlation between the distribution of archaeological deposits and specific deltaic landforms. For example, the project area is situated on the "St. Bernard Delta Complex." As described by Frazier (1967), the landform develops between circa 3400 and 1600 before the present (B.P.). Prehistoric occupation of the St. Bernard Delta Complex could not occur prior to those dates, as the landform was not fully extant.

Prior to historic settlement of the area, the overall project area consisted of inland freshwater swamp deposits, situated on and between the abandoned natural levee of the St. Bernard delta complex distributary for the Mississippi River on the south (i.e., Metairie Ridge; Frazier 1967; Saucier 1994) and Lake Pontchartrain to the north (Saucier 1994). This abandoned natural levee can be associated with a relict drainage of the Mississippi River, which was occupied from 3,400 to 1,600 years ago; it formed the St. Bernard Delta Complex (Frazier 1967; Weinstein and Gagliano 1985).

The geomorphic setting and the associated sedimentology greatly restricts the potential for encountering archaeological deposits within the proposed project areas. From circa 3400 to 1600

B.P., the project area lay on an actively aggrading natural levee of the Mississippi River. As a result, it is highly unlikely that any prehistoric sites dating from that period within the project area will manifest themselves as surface sites. Because of the relatively high rates of sedimentation that characterized the natural levees within this segment of the Mississippi River, it is very likely that the majority of the prehistoric archaeological deposits found within the area will be buried deeply within the natural levee sediments that form the project area (Farrell 1987; Heinrich 1991). Only after the natural levee sediments started to accumulate could archaeological deposits be preserved within the project area. As a result, any prehistoric archaeological deposits within the project area should be less than 3400 years old; however, the project area also has potential for containing both buried and surficial historic deposits.

Cultural Setting

As defined in Louisiana's *Comprehensive Archaeological Plan* (Smith et al. 1983), Jefferson and Orleans Parishes are 2 of 14 Louisiana parishes that comprise Management Unit V, which is located in the southeast portion of the state. The prehistory of Management Unit V extends from circa 10,000 B.C. to A.D. 1700 and it is divided into four general archaeological stages (Smith et al. 1983). These four stages (Paleo-Indian, Archaic, Woodland, and Mississippian) represent developmental segments characterized by dominant patterns of subsistence, social organization, and technology (Bense 1994; Krieger 1953; Willey and Phillips 1958).

Each stage consists of a sequence of chronologically defined periods subdivided into phases based on similar sets of artifacts and other cultural traits characteristic of a particular geographic region (e.g., Jenkins 1979; Walthall 1980). As a result, eight cultural units are used to characterize the prehistoric cultural sequence associated with Management Unit V. These include: the Paleo-Indian (10,000 – 8000 B.C.), Archaic (8000 – 1000 B.C.), Poverty Point (1700 – 500 B.C.), Tchefuncte (500 B.C. – A.D. 100), Marksville (100 B.C. – A.D. 500), Baytown (A.D. 400 – 700), Coles Creek (A.D. 700 – 1200), and Mississippian/Plaquemine (A.D. 1200 – 1700).

Archaeological Methodology

Until a site has been selected and acquired, it is not possible to determine the existence of unknown archaeological sites within the alternative sites or APEs. As part of the Section 106 consultation process, the Federal agencies developed a PA in consultation with the State, SHPO, ACHP, and Consulting Parties. Once a site is selected, studies that are appropriate to the site will be conducted in accordance with the relevant stipulations in the PA.

Alternatives #1 and #4 – Tulane/Gravier Locations and Charity Hospital Site

Because of their proximity to one another, the existing conditions of the Charity Hospital and Tulane/Gravier project areas are discussed together.

Surveys

A records review at the Louisiana Division of Archaeology identified 46 previously conducted archaeological investigations within 1.6 kilometers (1.0 miles) of the existing Charity Hospital and proposed Tulane/Gravier VAMC and LSU AMC project areas (Table E-1 in appendix E). Of these, 21 previous surveys consisted of testing and/or data recovery excavations, conducted for research or planning purposes, at sites that are listed or eligible for listing on the NRHP (Beavers and Lamb 1993; Castille 1978; Davis and Giardino 1983; Dawdy 1998; Dawdy and Ibanez 1997; Earth Search, Inc. 1997; Gibbens 1978; Hardy et al. 2002; Hudson 1972a, 1972b; Jones et al. 1994; Beavers and Lamb 1983; Matthews 1999; Owsley et al. 1984, 1985; Pearson 1986; Shenkel 1971, 1977; Shenkel and Beavers 1978; Yakubik and Dawdy 1995; Yakubik and Franks 1997). Only one previous investigation consisted of a mitigation of NRHP-eligible sites as part of the Federal Section 106 process (Castille et al. 1986). In addition, two investigations consisted of cultural resources surveys and inventories conducted as part of the Section 106 process for a fiber optics line (Klinger and Gray 1999) and a streetcar line (Godzinski et al. 2002). Four investigations were trench monitoring efforts conducted on behalf of the USACE for floodwall construction or improvement projects (Shenkel 1979; Sternberg and Shenkel 1976; Goodwin et al. 1986; Jones and Franks 1992), while an additional four investigations consisted of monitoring efforts for Federal demolition projects after Hurricane Katrina (Gray 2006; Cramer 2006; Paulson et al. 2008; Godzinski et al. 2008). Additionally, three investigations were conducted as survey efforts before development of parks (Shenkel et al. 1980; Boggess 1990) and the 1984 World's Fair (Beavers and Lamb 1983), and another three investigations were conducted to evaluate archaeological sites identified as accidental discoveries (Lee et al. 1997; Dawdy et al. 1998). Finally, eight investigations consisted of background research documents prepared for planning purposes, which did not involve any archaeological field investigations (Beavers 1995; Enplanar, Inc. 1981; Godzinski et al. 1999; Goodwin et al. 1987; Maygarden and Dawdy 1995; Maygarden et al. 2005; Orton et al. 2005; Yakubik 2004).

In spite of the large number of previous archaeological investigations conducted in the vicinity of the existing Charity Hospital and proposed Tulane/Gravier project areas, no field investigations and only two background research documents (Goodwin et al. 1987; Beavers 1995) directly examined a portion of either the existing VAMC or proposed Tulane/Gravier VAMC project areas. In a planning document prepared for the Louisiana Department of Culture, Recreation, and Tourism, Goodwin et al. (1987) evaluated the French Quarter, Faubourg Marigny, and Faubourg St. Marie neighborhoods of New Orleans using the Louisiana State site files, historic documents, and maps, in order to identify portions of the study areas that have high, moderate, and low potential to contain significant archaeological resources. According to this study, the portion of the Central Business District bounded by South Claiborne Avenue, Tulane Avenue, Loyola Avenue, and Perdido Street possesses an elevated potential for containing intact archaeological resources. This evaluation was based in part on the fact that large portions of this study area are covered by parking garages, which are likely to cause less subsurface disturbance to buried cultural resources than would the construction of other types of buildings (Goodwin et al. 1987). Also, in a desktop study prepared for a private engineering firm, Beavers (1995) examined six proposed alternatives for a streetcar line on Canal Street. This document examined only a very limited corridor just outside the northern edge of the proposed VAMC alternative, and did not identify any potential cultural resources within this portion of the study area.

Sites

A total of 121 archaeological sites have been recorded previously within 1.6 kilometers (1.0 miles) of the existing Charity Hospital and proposed Tulane/Gravier VAMC and LSU AMC project areas (Table E-2 in appendix E). These sites are concentrated predominately in four locations: in the French Quarter and Marigny, at the former location of the Lafitte Housing Project along Orleans Avenue, at the former location of the BW Cooper Housing Project along Martin Luther King, Jr. Avenue, and within the corridor of the west approach to the Greater New Orleans (i.e Crescent City Connection) Bridge. No previously recorded sites have been documented within either the Charity Hospital or Tulane/Gravier project areas, due at least in part to a lack of previous cultural resources investigations within these two areas.

All 121 archaeological sites recorded within 1.6 kilometers (1.0 miles) of the Charity Hospital and Tulane/Gravier project areas are described as historic period sites dating to the 18th, 19th, and/or 20th centuries. Only a single site also produced small quantities of prehistoric materials (16OR225). A total of 79 sites (65.3 percent) have been classified as either “historic residential” or “historic residential” with other uses. Other common site types include “historic dump” (n=16, 13.2 percent), “historic commercial” or “historic commercial” with other uses (n=14, 11.6 percent), and “historic scatter” (n=7, 5.8 percent). The remaining site types encompass a wide array of functions, including cemeteries, a firehouse, various governmental buildings, military facilities/fortifications, a market, a park, a convent, schools, churches, plantations, industrial facilities, and others (Table E-2 in appendix E). A total of nine sites (7.4 percent) are listed on the NRHP, and an additional 27 sites (22.3 percent) have been assessed as eligible for listing. Five sites (4.1 percent) have been assessed as potentially eligible for listing, while 42 sites (34.7 percent) are not eligible for listing on the NRHP. Finally, 38 sites (31.4 percent) have not been assessed for NRHP eligibility (Table E-2 in appendix E).

Archaeological Potential – Proposed VAMC and LSU AMC Sites

The soils associated with the proposed Tulane/Gravier sites are Sharkey-Commerce Series soils. These soils most commonly are associated with non-flooded modern and abandoned natural levees (Trahan 1989). This soil series generally develops within poorly drained to very poorly drained, recently deposited alluvium that is, or once was, subject to deep and seasonal flooding from the Mississippi River. Specifically, the Sharkey clay that underlies the Tulane/Gravier sites consists of a poorly drained soil positioned along the lower slopes of the natural levee of the Mississippi River and its distributaries (Trahan 1989). The presence of this soil unit indicates that the Tulane/Gravier sites are situated on the back end of the Mississippi River levee, a landform that may have been suitable for habitation during both the prehistoric and historic periods. However, this landform may have been subject to seasonal flooding, especially prior to implementation of historic and modern drainage projects.

As previously discussed, a total of 121 archaeological sites have been recorded previously within 1.6 kilometers (1.0 miles) of the existing Charity Hospital and Tulane/Gravier VAMC and LSU AMC alternatives. Of these, only one site (16OR225) contained materials that were dated to the prehistoric period. The near absence of reported prehistoric archaeological sites may be due in part to the lack of cultural resource surveys prior to historic and modern development of the

surrounding neighborhoods. The potential for encountering intact prehistoric archaeological sites within the Tulane/Gravier sites is very low, given the high level of disturbance to the project area from both historic and modern building projects. However, there is a high potential for encountering subsurface archaeological features and deposits dating to the late 19th and 20th centuries. Historical research indicated that the Tulane/Gravier project areas were not developed extensively until the latter part of the 19th century. Improvements in drainage made at that time led to rapid settlement of the project area.

Much like today, the proposed VAMC and LSU AMC locations were comprised primarily of residential neighborhoods during the late 19th and early 20th centuries, with a scattering of commercial, educational, and public works facilities throughout the area. Non-residential buildings documented to occur within the proposed Tulane/Gravier VAMC site include Straight University (circa 1877-1950) bounded by Rocheblave Street, Tonti Street, Cleveland Avenue, and Canal Street; McDonough No. 11 School (circa 1883 *Robinson Atlas*) at the northwest corner of South Prieur Street and Palmyra Street; the Delta Moss Factory (1883 *Robinson Atlas*) at the southeast corner of South Galvez Street and Canal Street; H. McManus and Company (1885 Sanborn) on both the east and west sides of South Prieur Street, between Palmyra Street and Cleveland Avenue; First Free Mission Baptist Church (1885 Sanborn) on the north side of Tulane Avenue, between South Derbigny Street and Claiborne Avenue; Baldwin and Company (1893 Sanborn) on the northeast corner of South Tonti Street and Cleveland Avenue; and the Canal and Claiborne Railroad Company, Tulane Avenue Station (1896 Sanborn) bounded by South Rocheblave Street, Tulane Avenue, South Tonti Street, and Bank Street. The discovery of intact archaeological remains related to any of these establishments could constitute a significant cultural resource. In addition, there is high potential for the remains of house and outbuilding foundations, privies, kitchen middens, and other archaeological features related to the late 19th and 20th century residential community that developed within the Tulane/Gravier project areas. Well-preserved examples of domestic archaeological sites could possess high research potential and, therefore, could constitute significant cultural resources.

Archaeological Potential – Charity Hospital Site

Soils associated with the existing Charity Hospital project area are mapped as Urban Land. This mapping unit consists of areas where more than 85 percent of the surface is covered by impervious substances, such as asphalt, concrete, and buildings, as well as artificial fill material (Trahan 1989). Sharkey-Commerce Series soils are mapped to the west of the Charity Hospital project area, while soils of the Harahan-Westwego soil unit are present to the south (Saucier 1994; Trahan 1989). Sharkey-Commerce series soils are associated with natural levees of the Mississippi River and its distributaries, while Harahan-Westwego soils form in level, poorly drained areas associated with former swamps and marshes. The presence of both these soils in the vicinity of the Charity Hospital project area suggest that this project area once was situated at the transition between the lower slope of the Mississippi River natural levee and the adjoining backswamp. This landform may have been suitable for habitation during both the prehistoric and historic periods; however, it would be subject to occasional flooding, particularly prior to implementation of historic and modern drainage projects.

As previously discussed, only one prehistoric archaeological site has been recorded within 1.6 kilometers (1.0 miles) of the Charity Hospital project area. It is possible that many additional prehistoric archaeological sites once were located in the vicinity, but were obscured or destroyed by historic and modern building projects. Archaeological sites dating to the historic period are very common within 1.6 kilometers (1.0 miles) of this project area. Within the French Quarter and Tremé, historic period archaeological sites may date to the 18th through 20th centuries, with the earliest sites (18th century) representing French and Spanish colonial New Orleans. Outside the French Quarter and Tremé, historic period sites tend to date from the mid 19th century and later, representing the expansion of New Orleans as an American city.

No archaeological sites have been recorded within the footprint of the existing Charity Hospital project area. Historic and modern building activities likely would have destroyed any remains of prehistoric archaeological sites that once may have existed at this location. The 1885 Sanborn insurance maps depict a cotton processing facility on the block bounded by Perdido Street, Freret Street, Gravier Street, and Howard Street (La Salle Street), which was converted into the Galloway Coal Company by 1895, and then into the Charity Hospital Power Plant by 1908. Also, the Louisiana Sash, Door, and Blind Manufacturing Company is depicted occupying the block bounded by Gravier Street, Howard Street (La Salle Street), Common Street (Tulane Avenue), and Liberty Street on both the 1885 and 1895 Sanborn maps. J.D. Fletcher Roofing and Sanitary Flooring is depicted on the 1895 Sanborn as occupying the block bounded by Perdido Street, Clara Street, Gravier Street, and Magnolia Street; this changed to Barrett Manufacturing Company (a roofing manufacturing company) by 1908. Perhaps most significantly, the “St. Marks Baptist Church (Colored)” is depicted on the 1895 Sanborn, within a block of (presumably) residential structures bounded by Gravier Street, South Claiborne Street (Avenue), Tulane Avenue, and Magnolia Street. If intact archaeological remains associated with any of these businesses and institutions were identified, they could constitute significant cultural resources.

Extensive development of the MCLNO complex has occurred from the mid 20th century to the present, beginning with the construction of the current Charity Hospital edifice in 1938. These activities likely have destroyed many earlier features and archaeological deposits that once may have been on this property. However, several undeveloped lots within the MCLNO complex were noted, both on aerial photographs and during limited field reconnaissance, which may have the potential for containing undisturbed archaeological resources. These included a lot in front of Charity Hospital at the corner of Tulane Avenue and Liberty Street, a lot south of the Lapeyre-Miltnerberger Home for Convalescents and east of the John Dibert Tuberculosis Hospital within the Charity Hospital complex, a lot on the west side of the John Dibert Tuberculosis Hospital fronting Claiborne Avenue, and a lot on the northwest corner of the existing VA Hospital at the southeast corner of Gravier Street and Claiborne Avenue. Within all of these lots, as well as in several smaller lots examined briefly during reconnaissance, fragments of bricks, slate, concrete, coal, and occasional glass and ceramic artifacts were noted during reconnaissance. These materials may represent the remains of earlier structures that formerly occupied the MCLNO area, or these materials may have been brought in from another location as fill material. Currently, it is not known how extensively these parcels were disturbed by the construction of adjacent buildings, the placement of buried utilities, and other factors. In addition, as noted by Goodwin et al. (1987), the construction of parking garages typically results in less subsurface

ground disturbance than typically occurs with the construction of other types of buildings. This may result in the preservation of archaeological resources beneath the footprints of existing parking garages that currently exist within the MCLNO complex.

Alternative #2 – Lindy Boggs Location

Surveys

Six previous surveys have been conducted within 1.6 kilometers (1.0 miles) of the proposed Lindy Boggs project area (Table E-3 in appendix E). Of these, one investigation (16.7 percent) consisted of a cultural resources survey and inventory conducted as part of the Section 106 process for a fiber optics line (Klinger and Gray 1999), while two investigations consisted of monitoring efforts for federal demolition projects after Hurricane Katrina (Gray 2006; Godzinski et al. 2008). Also, one previous survey consisted of a pedestrian survey of a site on U.S. Postal Service property (Earth Search, Inc. 1997). Finally, two investigations consisted of background research documents prepared for planning purposes, which did not involve any archaeological field investigations (Beavers 1995; Enplanar, Inc. 1981).

Sites

A total of 19 archaeological sites have been recorded within 1.6 kilometers (1.0 miles) of the proposed Lindy Boggs project area (Table E-4 in appendix E). All 19 sites are described as historic period sites dating to the 18th, 19th, and/or 20th centuries. A total of 13 sites (68.4 percent) have been classified as either “historic residential” or “historic residential” with other uses (i.e., industrial, institutional, commercial). The remaining site types include two cemeteries, a school, a cooper shop, a dump, and an artifact scatter (Table E-4 in appendix E). A total of 10 sites (52.6 percent) have been assessed as eligible for listing in the NRHP, and an additional two sites (10.5 percent) occur as non-contributing elements on NRHP-listed properties. One site (5.2 percent) has been assessed as potentially eligible for listing in the NRHP, three sites (15.8 percent) have been assessed as not eligible for listing, and three sites (15.8 percent) have not been assessed for NRHP eligibility (Table E-4 in appendix E).

Two archaeological sites are situated immediately adjacent to the proposed Lindy Boggs project area. Site 16OR145 (Bayou St. John Post Office) was recorded by A. Lee in 1997 during a survey performed prior to the construction of the U. S. Post Office at 501 N. Jefferson Davis Parkway (Louisiana State site files). The site was described as a dense scatter of artifacts dating from the 19th century, which are probably related to both a house that once occupied the lot, and to more recent land filling activities. However, the site was determined to be severely disturbed, and therefore was assessed as not eligible for listing on the NRHP (Earth Search, Inc. 1997). Site 16OR214 (City Square 473) is located within an empty lot just north of Site 16OR145, between North Jefferson Davis Parkway and the American Can Company building. This site was recorded by Earth Search, Inc. at an unspecified date (post-Hurricane Katrina), and described as a dump that contained materials dating from the early 20th century. This site, too, was severely disturbed, and therefore was assessed as not eligible for listing in the NRHP.

There are no NRHP-listed archaeological sites in the Lindy Boggs footprint; therefore, no previously identified archaeological sites will be subject to direct adverse impacts. No NRHP-listed archaeological sites are in the Lindy Boggs APE; therefore, no previously identified archaeological sites will be subject to indirect adverse impacts.

Archaeological Potential

Similar to the proposed Tulane/Gravier VAMC and LSU AMC sites, soils associated with the proposed Lindy Boggs alternative are classified as part of the Sharkey-Commerce Series, which most commonly are associated with non-flooded modern and abandoned natural levees (Trahan 1989). This soil series generally develops within poorly drained to very poorly drained, recently deposited alluvium that is, or once was, subject to deep and seasonal flooding from the Mississippi River. Specifically, the Sharkey clay that underlies the Lindy Boggs alternative consists of poorly drained soil along the lower slopes of the natural levee of the Mississippi River and its distributaries (Trahan 1989). This soil unit indicates that the Lindy Boggs alternative is situated on the back end of the former Mississippi River natural levee. This landform would have been suitable for habitation during both the prehistoric and historic periods, although, may have been subject to seasonal flooding prior to implementation of historic and modern drainage projects.

Geomorphical analysis further indicates that the eastern edge of the Lindy Boggs alternative also may include portions of the old natural levee of Bayou St. John. This levee is characterized by Commerce Soils, which typically are found occupying intermediate and high positions along natural levees. Commerce Soils were well-suited for habitation during both the prehistoric and historic periods, even prior to land draining projects (Trahan 1989). Natives had long recognized that Bayou St. John provided an easily traversed all-water route from the Mississippi River to Lake Pontchartrain (Freiburg 1980). The Chickasaws and the Choctaws were the primary users of the water route, though it was common to several other tribes (Freiburg 1980). For Europeans, Bayou St. John allowed for the shortest portage between the interconnected waterways of Lake Pontchartrain and New Orleans, making the bayou a valuable and strategic means of access to the City.

Although portions of the area encompassing the Lindy Boggs alternative may have been well-suited for settlement, there is little documentation to indicate human occupation of the area prior to the 20th century. The lot encompassing the previously recorded archaeological site 16OR145 served as the former location of a plaster company and small moss factory in 1908; this archaeological site previously was assessed as not eligible for inclusion on the NRHP. The portion of the Lindy Boggs property between St. Louis Street and Conti Street was occupied by rail tracks and facilities associated with the New Orleans Terminal Company Railroad during this period, while the remainder of the property was unoccupied (Sanborn 1908).

Between 1908 and 1957, the configuration of the railroad facilities remained essentially unchanged. In the city blocks south of Conti Street, a scrap yard, an ice company, a steel container company, a seed company, and various other small industrial complexes developed. Similar facilities, such as an industrial supply company, a motorcycle factory, and a warehouse for Sears Roebuck & Company, were developed north of St. Louis Street.

Presently, the footprint of the proposed Lindy Boggs alternative is covered by large buildings and paved parking lots associated with the LBMC and several commercial developments. The block bounded by Bienville Street, North Cortez Street, Conti Street, and North Scott Street, which formerly encompassed the location of the Inland Steel Container Company, is an undeveloped grassy lot (Sanborn 1951). While archaeological remains may be preserved in this undeveloped block, and under several paved parking areas within the proposed alternative, it is unlikely that the remains of the former industrial facilities once located in this area would possess those qualities of significance defined by the NRHP Criteria for Evaluation (36 CFR Part 60.4 [a-d]).

The northeastern corner of the proposed Lindy Boggs alternative encompasses a small grassy lot, which is situated at the corner of North Jefferson Davis Parkway and St. Louis Street. This lot lies approximately 50 meters (164.0 feet) from Bayou St. John. The lot may warrant archaeological investigation due to its proximity to the waterway and to the previously noted archaeological site 16OR145.

Alternative #3 – Ochsner Location

Surveys

Two previous surveys have been conducted within 1.6 kilometers (1.0 miles) of the proposed Ochsner site project area (Table E-5 in appendix E). One survey, conducted on behalf of the Louisiana Department of Transportation and Development (Rivet 1977), consisted of a records review and brief field reconnaissance of a railroad corridor. The other was a cultural resources survey and inventory of a levee improvement project on the West Bank of the Mississippi River, and was conducted on behalf of the USACE (Goodwin et al. 1987). Neither of these previous survey efforts intersected the proposed Ochsner Site project area.

Sites

Four archaeological sites have been recorded within 1.6 kilometers (1.0 miles) of the proposed Ochsner site project area (Table E-6 in appendix E). These consisted of a prehistoric earthen mound (16JE43), a Civil War-era military camp (16JE31), a 19th to early 20th century plantation complex (16JE156), and a historic railroad embankment (16OR152). One site (Site 16JE156) is listed on the NRHP. In addition, the powder magazine at site 16JE31 is listed on the NRHP, although the archaeological component of this site has not been assessed as to its NRHP eligibility. Sites 16JE43 and 16OR152 have been assessed as not eligible for listing in the NRHP. No archaeological sites have been recorded within the boundaries of the proposed Ochsner site project area.

Archaeological Potential

Similar to the other alternative sites, the soils associated with the proposed Ochsner site project area are Sharkey-Commerce Series soils, which most commonly are associated with non-flooded modern and abandoned natural levees (Trahan 1989). This soil series generally develops within poorly drained to very poorly drained, recently deposited alluvium that is, or once was, subject to

deep and seasonal flooding from the Mississippi River. Specifically, the Sharkey clay that underlies most of the Ochsner site consists of a poorly drained soil positioned along the lower slopes of the natural levee of the Mississippi River and its distributaries (Trahan 1989). The presence of this soil unit indicates that the Ochsner site is situated on the back end of the Mississippi River Levee. This landform would have been suitable for habitation during both the prehistoric and historic periods, although it may have been subject to seasonal flooding, especially prior to implementation of historic and modern drainage projects.

Furthermore, as previously discussed, few archaeological sites have been recorded in the vicinity of this proposed project area. The scarcity of recorded prehistoric sites may be due in part to the lack of archaeological research in the area prior to extensive modern development. Sites of the historic period may occur, but are not likely to pre-date the early part of the 20th century when the project area was adapted from agricultural land to residential and commercial properties (Bezou 1973; Sanborn 1937).

A reconnaissance of the proposed Ochsner site project area was made on 5 June 2008, in order to preliminarily identify portions of the property that could be tested for archaeological resources. At that time, almost the entire project area was covered by paved parking lots, helipads, warehouses, and various other structures. Only two locations on the property were undeveloped. The first location was a large rectangular parcel of land near the rear of the property and directly behind the Sears warehouse. This parcel measured approximately 130 meters by 70 meters (426 feet by 230 feet), and encompassed an area of approximately 2.2 acres (0.9 hectare). A layer of sandy fill intermixed with concrete and brick fragments elevated this lot approximately 0.3 meter (1.0 foot), and remnants of a steel reinforced concrete chain wall were present around the perimeter of the lot. According to Mr. William Ward, Systems Vice President of Facilities and Real Estate for Ochsner Health Systems, another warehouse building occupied this parcel until circa 1995, when the building was demolished due to deteriorated condition (Ward 2008). Mr. Ward also indicated that log pilings remain buried throughout the parcel, which supported the foundations of the former warehouse (Ward 2008).

The second undeveloped parcel on the Ochsner site property was a generally triangular-shaped parcel at the rear of the property, bounded by the Illinois Central Gulf Railroad line (north), a railroad spur that turns off the Illinois Central line and extends to between the Sears and A & P warehouses (southeast), and a paved parking lot (west). This parcel is overgrown with tall weeds and some small trees. The surface of this lot is largely covered with a crushed concrete and asphalt fill, and a large pile of discarded railroad ties and fence boards is present in the northeast corner of this parcel.

The use of crushed concrete, asphalt, and/or brick as fill material in both undeveloped lots would make it difficult, if not impossible to conduct archaeological surveys in these locations without first stripping the parcels of the overlying fill. Furthermore, given the degree of development across the entire Ochsner site project area, it is unlikely that any archaeological remains, if present, would remain intact underneath the overlying fills, pavements, and structures that cover the proposed project area. This level of disturbance, combined with the low density of prehistoric sites recorded in the area and the lack of evidence for historic development until the 20th century,

strongly suggest that there is almost no potential for undisturbed archaeological sites to occur within the proposed Ochsner site project area, and no additional work is recommended.

3.5.4.2 Discussion of Impacts – Archaeology

Impacts of the No Action Alternative

Since no construction would occur at any of the sites, there would be no adverse direct or indirect impacts to archaeological resources within or near the project area under the No Action Alternative.

Impacts of the Proposed Actions

Potential archaeological impacts associated with the Proposed Actions are difficult to quantify prior to survey and evaluation. During the next phase of the project, archaeological investigations will be conducted in accordance with the PA. Any sites found during the investigations will be treated in accordance with the methodology and the stipulations of the PA.

As previously discussed, the proposed Tulane/Gravier sites have a low potential for intact, prehistoric archaeological sites and a high potential for intact historic archaeological sites.

Impacts of Alternatives # 2 through # 4

Alternative #2 – Lindy Boggs Site

Similar to the Proposed Actions, potential archaeological impacts associated with this alternative are difficult to quantify. In general, there is a low potential to find intact prehistoric or historic archaeological remains on the site. However, the northeastern corner of this proposed location is a small grassy lot. This lot lies approximately 50 meters (164.0 feet) from Bayou St. John and may warrant archaeological investigation due to its proximity to the waterway and to the previously noted archaeological Site 16OR145. If this alternative is selected and the proposed design would disturb this part of the site, archaeological investigations will be conducted in accordance with the PA.

Alternative #3 – Ochsner Site

Similar to the Proposed Actions, potential archaeological impacts associated with this alternative are difficult to qualify. The level of disturbance on the site, combined with the low density of prehistoric sites recorded in the area and the lack of evidence of historic development until the 20th century, strongly suggests that there is almost no potential for undisturbed archaeological sites to occur within the proposed Ochsner Site, and no additional work is recommended.

Alternative #4 – Repair/Renovate Charity Hospital

Similar to the Proposed Actions, potential archaeological impacts associated with this alternative are difficult to qualify. The potential to find intact prehistoric or historic archaeological

resources on the existing Charity Hospital site is low. However, there are some undeveloped sites associated with the larger MCLNO complex. The level of previous disturbance of these sites is unknown, so these sites may have a potential for intact resources. Therefore, if this alternative is selected and the proposed design would disturb one of these undeveloped sites, archaeological investigations will be conducted in accordance with the PA.

3.6 SOCIOECONOMICS

3.6.1 Population and Housing

3.6.1.1 Existing Conditions – Population and Housing

Existing Locations

The existing VAMC and Charity Hospital are located within Orleans Parish. The most recent official population and housing information on Orleans Parish is from the U.S. Census Bureau (USCB) 2006 American Community Survey (USCB 2008a). Data for this survey were collected from January through December 2006 and combined to create an annual composite. The USCB has also prepared population estimates as of July 2007. Population trends in Orleans Parish are shown in table 3-6. Total population decreased somewhat between the 2000 Census and July 2005, just prior to Hurricane Katrina. As of July 2006, almost one year following Katrina, the population of Orleans Parish was 46.3 percent of the 2005 level. By July 2007, after two years of recovery, the population of the parish had begun to rebound, increasing to 239,124 persons. However, this is still only 52.7 percent of the 2005 (pre-Katrina) population.

Table 3-6. Population of Orleans Parish and Jefferson Parish – 2000 to 2007

	2000 Census	July 2005	July 2006	July 2007*
Orleans Parish	484,674	453,726	210,198	239,124
Jefferson Parish	455,466	449,640	420,891	423,520

Note: 2005 and 2006 estimates were revised with the release of the 2007 Census estimates.

*Orleans Parish and Jefferson Parish have officially challenged their July 2007 Census estimates.

Source: GNOCDC, 2008a

Another method of estimating population recovery is to look at the number of residences actively receiving mail. The Greater New Orleans Community Data Center (GNOCDC) has compiled postal data that identify residential addresses actively receiving mail. The existing locations are in the northwestern portion of New Orleans Planning District 1. This district, which includes the French Quarter, experienced minimal flooding as a whole. As of June 2008, Planning District 1 contained 117 percent of its July 2005 active residences. This is indicative of current population distribution in the parish. More than half (52 percent) of the active residences in New Orleans in June 2008 were located in four largely unflooded planning districts, including Planning District 1. By comparison, those planning districts had contained only 39 percent of the City's households in 2000 according to Census findings (GNOCDC 2008a).

Based on the USCB 2007 population estimates, persons self-designated as minority individuals comprise approximately 69 percent of the Orleans Parish population and 4.5 percent of the population is of Hispanic ethnicity (USCB 2008b). In comparison, the 2000 Census reported approximately 73 percent of the parish population as minority and 3 percent as Hispanic ethnicity (USCB 2008c). In both years, the minority populations were composed largely of Black or African American residents.

In 2006, Orleans Parish had a total of 105,661 housing units, 30 percent of which were vacant (USCB 2008a). In 2000, prior to Hurricane Katrina, there were approximately twice as many (215,091) housing units in Orleans Parish as in 2006, and the vacancy rate was 12 percent (USCB 2008c). This dramatic loss of housing units was primarily the result of damage caused by Hurricane Katrina. According to FEMA estimates, a total of 107,379 housing units were flooded in Orleans Parish and another 26,965 units sustained wind damage. In all, 71 percent of housing units in the parish were damaged. Within New Orleans Planning District 1a (the Central Business District portion of Planning District 1), only 30 percent of housing units were damaged, with 35 percent due to flooding and the remaining 65 percent generally due to wind (FEMA 2006e).

In Orleans Parish, 51 percent of the 73,516 occupied housing units reported in 2006 were owner-occupied and 49 percent were occupied by renters. Sixty percent of the total housing units were in single-unit structures, 35 percent were in multi-unit structures, and 5 percent were mobile homes (USCB 2008a). Within Planning District 1, 12 percent of residential addresses, or 628 units, were unoccupied as of March 2008 based on the number of residences actively receiving mail (GNOCDC 2008a). This is much lower than the 30 percent vacancy rate for Orleans Parish as a whole. The average price of a single-family residence in the Claiborne-Tulane area declined 40 percent from \$179,379 in 2005 to \$107,864 in 2006. The average price rose to \$137,579 in 2007, an increase of 28 percent (UNO 2008).

Availability of affordable housing has been an issue in the years following Hurricane Katrina. Fair market rents in the New Orleans Metropolitan Statistical Area (MSA) have increased about 46 percent, with the monthly rent for a two-bedroom apartment, for example, rising from \$676 in 2005 to \$990 in 2008. Workers in key service sector jobs with labor shortages are having difficulty finding an apartment in the New Orleans area that has affordable rent, defined as 30 percent of their gross monthly income. A total of 8,038 families in Orleans Parish were receiving Disaster Housing Assistance Program vouchers as of June 2008. These vouchers are scheduled to expire in March 2009. There are 2,097 public housing units in the parish (GNOCDC 2008a). According to the Louisiana Housing Finance Agency (LHFA), approximately 19,000 additional affordable rental units are needed in Orleans Parish to reach pre-Hurricane Katrina numbers (LHFA 2008). Permits for new multi-family construction increased significantly in Orleans Parish during 2007, where 2,200 units were permitted to replace inventory destroyed by Hurricane Katrina, compared to 355 units permitted in 2006. Financing for this construction activity, driven by the Gulf Opportunity Zone legislation, has made use of tax exempt bonds and low-income housing credits. Permits for new single-family construction also increased significantly in Orleans Parish during 2007. Permits were issued for 1,026 units, which is a 119 percent increase over the 468 units permitted in 2006 (UNO 2008).

As discussed previously, postal data can be used to identify residential addresses actively receiving mail within each Census block, which can be used to estimate current population levels. Also, available demographic data can be evaluated in order to characterize current residential populations. The Census data sets for 2005 through 2007 are available only on the parish level and not for the smaller geographic entities referred to as statistical areas, including (in order of decreasing size) Census tract, block group, and block. Although block level data are available from the 2000 Census, they are no longer representative of conditions in the areas of concern due to the dramatic changes in population and housing that have occurred in the New Orleans metropolitan area in the wake of Hurricane Katrina, especially within Orleans Parish. In order to provide information that is both representative of current conditions and on a small enough scale to address specific sites, population and housing estimates for 2008 were obtained from the Environmental Systems Research Institute, Inc. (ESRI). Business Analyst demographic database (ESRI 2008) provides information down to the block level. The ESRI demographic and housing profiles are based on recent information obtained from a variety of sources, including residential mail delivery statistics from the U.S. Postal Service, a database of household addresses, and residential construction data (ESRI 2008).

Based on these data, it is estimated that in 2008 there are no residents in the blocks containing the existing VAMC and Charity Hospital. This is not surprising considering that these facilities are located in a part of the Central Business District that is heavily developed with non-residential land uses. Within a one-quarter mile radius of these facilities, the estimated 2008 population is 1,220 residents (ESRI 2008).

Alternative # 1 – Proposed Actions – Tulane/Gravier Locations

The proposed VAMC and LSU AMC Tulane/Gravier sites are located within Orleans Parish. Therefore, the population and housing characteristics of the parish previously described for the existing locations are also applicable to these locations. The proposed VAMC and LSU AMC locations are in the southeastern portion of New Orleans Planning District 4. Large portions of this district experienced flooding associated with Hurricane Katrina. As of June 2008, Planning District 4 had recovered 72 percent of its July 2005 active residences (the same percentage recovered in Orleans Parish as a whole), while seven of the thirteen planning districts had recovered a smaller percentage of their active residences (GNOCDC 2008a).

Planning District 4 experienced a dramatic loss of housing units as a result of damage caused by Hurricane Katrina. According to FEMA estimates, 77 percent of housing units in the district were damaged. Almost all (96 percent) of the damage was due to flooding, with the remaining 4 percent generally due to wind (FEMA 2006e). Within Planning District 4, 35 percent of residential addresses were unoccupied as of March 2008 based on the number of residences actively receiving mail (compared to the 30 percent vacancy rate for Orleans Parish as a whole). This includes 11,345 addresses, which represents a large number of vacant or abandoned residential addresses (GNOCDC 2008a). A total of 70 new residential construction permits that did not have a corresponding demolition permit have been issued within Planning District 4 since Hurricane Katrina. This represents new residential construction, not the result of tear-downs or reconstruction of storm-damaged homes (GNOCDC 2008a).

As described for the existing sites, population and housing estimates for the proposed VAMC and LSU AMC Tulane/Gravier sites for 2008 were obtained from the ESRI Business Analyst demographic database (ESRI 2008), which provides a demographic profile down to the block level based on recent data from a variety of sources, including a database of household addresses, residential mail delivery statistics from the U.S. Postal Service, and residential construction data. Within the proposed VAMC site, the ESRI 2008 demographic profiles estimate 331 persons residing on the site, including 292 individuals, or 88 percent, identified as minority. Within the proposed LSU AMC site, the ESRI 2008 demographic profiles estimate 287 persons residing on the site, including 250 individuals, or 87 percent, identified as minority. Within a one-quarter mile radius of the proposed VAMC and LSU AMC sites, the estimated 2008 population is 2,240 and 2,794 residents, respectively.

Site reconnaissance and ground-truthing of the City of New Orleans Geographic Information System (GIS) database in July 2007 identified 63 occupied residential parcels on the proposed VAMC site. About one-third of these parcels contain two-family units and the other two-thirds contain single-family units, for a total of approximately 83 housing units (USRM 2008a). Reconnaissance and ground-truthing activities at the LSU AMC site conducted in May 2008 identified 31 occupied residential parcels (USRM 2008b). Assuming that one-third of those parcels contain two-family units, the LSU AMC site would contain approximately 41 housing units. Both of the sites are located in Census tract 49, which has an average household size of 2.51 persons according to the 2000 Census, the latest year demographic data are available on the tract level (USCB 2008c). Based on the 83 occupied housing units, the estimated population of the proposed VAMC site would be 208 persons. The 41 occupied residential parcels on the proposed LSU AMC site would represent a population of 103 persons. These populations, especially for the LSU AMC site, are considerably smaller than the populations estimated by ESRI. Therefore, the ESRI estimates provide a conservative representation of the populations residing on the two sites. If the Tulane/Gravier sites were selected, further investigation would be needed to better understand the demographic characteristics of the potentially impacted populations. A survey of the affected households could provide information on the current number of residents and their race and ethnicity, income, primary means of transportation, and rent or mortgage payments.

Community Cohesion

Community cohesion can be described as the unifying force of a group due to one or more characteristics that provide commonality. These characteristics may include such commonalities as race, education, income, ethnicity, religion, language, and mutual economic and social benefits. Community cohesion is the force that keeps group members together long enough to establish meaningful interactions, common institutions, and agreed upon ways of behavior. It is a dynamic process, changing as the physical and human environment changes. In New Orleans, community cohesion is found on a block-by-block, neighborhood, and City level.

New Orleans is a unique city with a deep sense of community, a sense of place. Before Hurricane Katrina, “no city in America...had a larger percentage of its population born in the city” (Shearer n.d.). New Orleanians also tend to remain in the city, generation after generation. Often families live within blocks of each other, having grown up and remained not only in the

city, but within their neighborhood, and sometimes even in the home the family has owned for generations (Shearer n.d., Miller and Rivera 2008). New Orleans in general, and its neighborhoods and homes specifically, forms part of these residents' personal self-identity.

This sense of place plays a role in bringing New Orleanians home to repair their destroyed neighborhoods, despite significant economic and physical obstacles. Even though the housing stock in the Tulane/Gravier area experienced 2 feet of flooding or more, over 50 percent of the residents had returned to their homes by July 2006 (NOCSF 2007). There are a number of cultural and social events, and even types of food, unique to the City that contribute to the place identity and to residents' place attachment (Chamlee-Wright and Storr 2008). The Tulane/Gravier neighborhood is a primarily low-income area, with the majority of the residents African-American (GNOCDC 2002). Research shows that attachment to a place is often strong in lower-income communities (Fried 2000). Within New Orleans, residents in some of the most heavily damaged areas, including low-income areas like the Lower Ninth Ward, have some of the strongest bonds to their neighborhoods (Chamlee-Wright and Storr 2008). Participation in public forums for this PEA indicate there is also a strong place attachment for at least some residents within the Tulane/Gravier neighborhood and the Mid-City NRHD.

Community cohesion also finds expression in formal and informal neighborhood groups. There are several formal neighborhood organizations whose boundaries overlap the proposed VAMC and LSU AMC sites within the Tulane/Gravier neighborhood. The Phoenix of New Orleans is a neighborhood recovery organization for the area bounded by Claiborne Avenue and St. Louis, Broad, and Poydras Streets (PNOLA 2006). The Tulane-Canal neighborhood Development Corporation, with the support of St. Joseph's Catholic Church, has been dedicated since 2001 to providing affordable housing within the Bienville Corridor (Providence n.d.). There are also a number of churches in the area that may include some informal community organizations.

Alternative # 2 – Lindy Boggs Location

The Lindy Boggs site is located in Orleans Parish. Therefore, the population and housing characteristics previously described for the existing locations and the proposed Tulane/Gravier locations are also applicable to this location. There are no residential properties and, therefore, no residents within the proposed Lindy Boggs site boundaries. There are no records of households actively receiving mail in the designated city blocks (GNOCDC 2008b). Within a one-quarter mile radius of this site, the estimated 2008 population is 4,097 residents (ESRI 2008). Given that the Lindy Boggs site has been used for non-residential purposes for some time and the surrounding community has been functioning under those circumstances, community cohesion is not considered to be a concern for this site.

Alternative # 3 – Ochsner Location

The alternative VAMC Ochsner site is located in Jefferson Parish. The most recent detailed population and housing information for Jefferson Parish from the USCB is provided by the 2006 American Community Survey. The USCB has also prepared population estimates as of July 2007. Population trends in Jefferson Parish are shown in table 3-6. Total population decreased somewhat between the 2000 Census and July 2005, just prior to Hurricane Katrina. As of July 2006, almost one year following Katrina, the population of Jefferson Parish was 93.6 percent of 2005 levels. By July 2007, after two years of recovery, the population of the parish had rebounded slightly to 423,520, representing 94.2 percent of the 2005 population. The population fluctuation in Jefferson Parish has not been as great as in Orleans Parish.

Based on the USCB 2007 population estimates, approximately 41 percent of the Jefferson Parish population identified themselves as minority individuals and 9 percent of the population is of Hispanic ethnicity (USCB 2008b). In comparison, the 2000 Census reported 34.5 percent of the parish population as minority and approximately 7 percent as Hispanic ethnicity (USCB 2008c). In both years, the minority populations were composed largely of Black or African American residents.

In 2000, there were 143 persons in the Census block that contains the Ochsner site and another 272 persons in the adjacent blocks between Jefferson Highway and the railroad line to the north (USCB 2008c). However, the Ochsner site itself contains no residential properties or residents (ESRI 2008). Within a one-quarter mile radius of this site, the estimated 2008 population is 1,748 residents (ESRI 2008). Given that the Ochsner site has been used for non-residential purposes for some time and the surrounding community has been functioning under those circumstances, community cohesion is not considered to be a concern for this site.

In 2006, Jefferson Parish had a total of 184,196 housing units, 16 percent of which were vacant. Of the 154,500 occupied units, 67 percent were owner-occupied and 33 percent were occupied by renters. Sixty-nine percent of the total housing units were in single-unit structures, 29 percent were in multi-unit structures, and 3 percent were mobile homes (USCB 2008a). There was a slightly greater number of housing units in the parish in 2000 (187,907) and the vacancy rate was lower (6.2 percent) (USCB 2000c). According to FEMA estimates, a total of 30,737 housing units were flooded in Jefferson Parish as a result of Hurricane Katrina and another 63,076 units sustained wind damage. In all, 53 percent of housing units in the parish were damaged (FEMA 2006e).

Availability of affordable housing has been an issue in the New Orleans area, including Jefferson Parish, in the years following Hurricane Katrina. As mentioned previously, average monthly rents in the New Orleans MSA have risen approximately 46 percent between 2005 and 2008. A total of 3,834 families in Jefferson Parish were receiving Disaster Housing Assistance Program vouchers as of June 2008. These vouchers are scheduled to expire in March 2009. There are 637 public housing units in the parish (GNOCDC 2008a). According to the LHFA, approximately 5,024 additional affordable rental units are needed in Jefferson Parish to reach pre-Hurricane Katrina numbers (LHFA 2008).

3.6.1.2 Discussion of Impacts – Population and Housing

Impacts of the No Action Alternative

Under the No Action alternative, no construction would occur at the existing VAMC and Charity Hospital sites. As there are no residents occupying these sites, there would be no direct adverse impacts on population levels or housing in this area. However, without implementation of the Proposed Actions, the SLVHCS and MCLNO medical systems would continue to operate at their current reduced capacities. The reestablishment of a complete, quality healthcare system and medical training center for the people of New Orleans and for veterans throughout the Gulf Coast Region would not occur. This could have an indirect adverse impact on population levels in Orleans Parish because some former residents would be reluctant to return and new residents would be less likely to move to New Orleans.

Impacts of the Proposed Actions

Direct Impacts

Under the Proposed Actions, the resident population and housing that exist on the proposed Tulane/Gravier VAMC and LSU AMC locations would be directly impacted. The existing residential, commercial, and other structures on these properties would be removed, and hospitals and other medical-related buildings would be constructed in their place. The majority of the areas within these sites are empty lots, vacant structures, or surface parking lots. Less than half of the areas within these sites are currently utilized for active residential or commercial uses. A total of approximately 618 persons are estimated to reside currently on these two sites in a total of 265 housing units. These totals include approximately 331 residents and 140 housing units on the VAMC site and 287 residents and 125 housing units on the LSU AMC site (ESRI 2008). As a direct result of the proposed projects, these residents of the proposed VAMC and LSU AMC sites would be displaced and required to relocate to housing outside of the project areas. Considering the relatively small number of persons that would be displaced, the population of the City would not be significantly affected, though there could be minor changes in the populations of Planning District 4 and other local planning districts if the displaced residents decided to remain in the City.

The displacement of residents would have an adverse effect on housing. However, the level of impact would be reduced through mitigation measures. Mitigation measures are actions taken to avoid, minimize, rectify, reduce, or eliminate the adverse impact (FEMA 2008a). The Uniform Relocation Assistance and Real Property Acquisition Policies Act, also referred to as the Uniform Relocation Act (URA), establishes standards for the acquisition, rehabilitation, or demolition of real property for Federally-funded projects. The URA was passed as Public Law 91-646, and is codified into law at 42 USC Chapter 61. These standards apply to the acquisition of real estate or the displacement of people from homes, businesses, or farms due to the requirements of Federally-funded projects and are administered as amended under 49 CFR Part 24. The objectives of the URA program are: to ensure relocation assistance is provided to displaced persons to lessen the emotional and financial impact of displacement; and to ensure that no individual or family is displaced unless decent, safe, and sanitary housing is available

within the displaced person's financial means (HUD 2005). In addition to the URA, measures contained in the Louisiana Revised Statutes 19:1 through 19:15 will also be followed. These provisions set forth procedures that address the rights of property owners and are to be followed when property is expropriated (taken). Mitigation measures in compliance with the URA and the Louisiana Expropriation Provisions, which would be implemented to reduce the adverse effects of displacement on the residents affected, are described in detail in Chapter 5, Mitigation, of this PEA.

These mitigations measures also apply to businesses and nonprofit organizations, affected by construction of the new VAMC and LSU AMC facilities at the proposed Tulane/Gravier locations. Mitigation measures that reinforce the government commitment to provide housing for those displaced would include provision of replacement housing payments for the increased costs of renting or purchasing a comparable replacement dwelling; provision of "housing of last resort" when comparable decent, safe, and sanitary replacement housing within a displaced person's financial means cannot be made available; and assisting displaced persons by offering services such as transportation to locate replacement housing, social services, or financial referrals, and listings of comparable dwellings.

As described in Section 3.6.1.1, availability of affordable housing has been an issue in New Orleans in the years following Hurricane Katrina. Although availability of rental units in multi-family housing has continued to improve, market pressures have acted to keep rents well above pre-Hurricane Katrina levels. Rents in the Mid-City area as of Fall 2007 had declined about 11 percent from post-Hurricane Katrina highs, but still remain elevated, averaging about \$1,000 for a one-bedroom apartment and about \$1,100 to \$1,500 for a two-bedroom unit. The availability of affordable apartments is expected to improve, however, as units financed through incentives provided under the Road Home Small Rental Program (smaller properties such as duplexes, triplexes, and four-plexes) and Gulf Opportunity Zone financing structures (larger properties) come on the market. There are approximately 2,000 units financed with Gulf Opportunity Zone funding currently in development within Orleans Parish that will add to the inventory of affordable housing within the next six to 12 months. When property owners rebuild through the State's Road Home Small Rental Program, they agree to "bought down" affordable rent levels as a condition of the grant. The Louisiana Recovery Authority has awarded funds to owners of 8,740 units in Orleans Parish, 7,540 of which will be affordable rental apartments (UNO 2008).

Under the Proposed Actions, there would be an adverse impact on community cohesion in the Tulane/Gravier neighborhood. There would be a displacement of community residents, some of whom may have a deep sense of place attachment to their homes and their neighborhoods. Additionally, the proposed sites are located in the middle of the Tulane/Gravier neighborhood and their conversion to medical use would effectively divide the northeast and southwest portions of the neighborhood, except for a six-block connecting corridor on the northwest side. Another effect is the disruption of social networks (child care, informal employment, etc.) that have been established among the residents.

Indirect Impacts

If displaced residents were to remain in Planning District 4, an indirect impact would result from the increase in demand for housing in the neighborhoods within the district. Thirty-five percent of the residential addresses in Planning District 4 are unoccupied, representing a total of 11,345 addresses (GNOCDC 2008a). Thus, the increased housing demand due to the displaced residents of the VAMC and LSU AMC locations would represent about 2 percent of the number of unoccupied residential addresses in Planning District 4. Although these unoccupied residential addresses include heavily damaged homes, it is likely that the available vacancies would include a sufficient number of housing units, given the small percentage of vacancies required to accommodate the displaced residents. FEMA damage assessments following Hurricane Katrina for Planning District 4 indicated damage throughout the district with 24 percent of the building stock habitable, 72 percent that may or may not be habitable (partial occupancy permitted), and 2 percent of the stock unsafe to enter with occupancy prohibited (NOCSF 2007). New residential housing units are continually being added in the City, and this is expected to continue through the time when residents would be required to relocate. For example, in Orleans Parish, 1,251 new residential housing units, including both single homes and multi-family units, were authorized from January through May 2008 (GNOCDC 2008a). The availability of these housing units at costs/rents that could be afforded by the displaced residents is addressed in the Direct Impacts discussion.

Housing values in Orleans Parish have been affected by factors such as the extent of flooding in the particular area, the amount of rebuilding occurring there, the rate at which residents are returning, the rebuilding of damaged infrastructure, and reestablishment of community facilities and services. Changes in pricing have been variable from year to year, a trend that is likely to continue as properties are redeveloped and placed back onto the marketplace. The average price of a single-family residence in the Claiborne-Tulane area declined 40 percent from \$179,379 in 2005 to \$107,864 in 2006. The average price rose to \$137,579 in 2007, an increase of 28 percent (UNO 2008). With the new medical center facilities serving as a catalyst for development and growth in the area, construction and operation of the proposed VAMC and LSU AMC facilities would be expected to result in an increase in property values in the surrounding area.

During the demolition/construction period, employment at the project sites would substantially increase. However, construction-related jobs would be temporary and would be unlikely to cause an influx of residents to the immediate area. After the medical centers are completed and become operational, the substantial increase in demand for workers at these facilities could result in some employees moving to residences in the vicinity of their workplace. The resulting increase in population and demand for housing in the area likely would be small relative to the situation under existing conditions. Also, the indirect impacts on housing could be beneficial due to the need for redevelopment, which the employees' presence would promote. On the other hand, there potentially could be an adverse impact on available housing supply if development of medical support services and facilities result in the loss of existing housing.

Impacts of Alternatives # 2 through # 4

Alternative # 2 – Lindy Boggs Location

Direct and indirect impacts of this alternative on population and housing due to development of the LSU AMC site at the proposed location would be the similar to the impacts described for the Proposed Actions, although the increased demand for housing would be distributed over a somewhat larger geographic area and this alternative would involve displacement of fewer residents. Approximately 287 residents and 125 housing units on the LSU AMC site would be displaced under this alternative, less than half the numbers that would be affected by the Proposed Actions.

Development of the VAMC facility at the Lindy Boggs location would have no direct effects on population or housing because there are no current residents on the Lindy Boggs site. Indirect effects from construction and operation of the VAMC at the Lindy Boggs location would be similar to those described for the Proposed Actions. Indirect effects from development of both the LSU AMC and VAMC sites could be beneficial in that employee demand for housing in nearby areas could stimulate redevelopment and increase property values, and could be adverse if development of medical support services and facilities resulted in the loss of existing housing.

Alternative # 3 – Ochsner Location

Direct and indirect impacts of this alternative on population and housing due to development of the LSU AMC site at the proposed location would be the same as described for the Proposed Actions, though of smaller magnitude due to the smaller size of the development for a single medical facility. Approximately 287 residents and 125 housing units on the LSU AMC site would be displaced under this alternative, less than half the numbers that would be affected by the Proposed Actions.

Development of the VAMC facility at the Ochsner location would have no direct effects on population or housing because there are no current residents on the Ochsner site. Indirect effects from construction and operation of the VAMC at the Ochsner location would be similar to those described for the Proposed Actions. Indirect effects from development of both the LSU AMC and VAMC sites could be beneficial due to potential employee demand for housing in nearby areas which could stimulate redevelopment and increase property values, and could be adverse if development of medical support services and facilities resulted in the loss of existing housing.

Alternative # 4 – Charity Hospital Location

The direct and indirect impacts of this alternative on population and housing from development of the VAMC site at the Tulane/Gravier, Lindy Boggs, or Ochsner locations would be the same as described previously for those alternatives.

Redevelopment of the Charity Hospital site for use by the LSU AMC would have no direct effects on population or housing because there are no current residents on the Charity Hospital

site. Indirect effects from construction and operation of the VAMC at the Charity Hospital site would be similar to those described for the Proposed Actions.

3.6.2 Community Facilities and Services

3.6.2.1 Existing Conditions – Community Facilities and Services

Existing Locations

The existing VAMC and Charity Hospitals are located in Ward 3 and Planning District 1a of the City of New Orleans in Orleans Parish. All local government functions in the ward are performed by the City. New Orleans Police Department District 8 provides protection services, and New Orleans Fire Department District 8 provides fire suppression services in this area (CNO 2008b). All local government functions in the ward are performed by the City. New Orleans Police Department District 1 provides protection services, and New Orleans Fire Department District 1 provides fire suppression services in this area (CNO 2008b).

New Orleans Public Schools providing educational services to residents in the vicinity of the existing locations include one elementary school, one academy for kindergarten and grades 5 and 6, and four high schools (NOLA 2008). There are 11 hospitals in the New Orleans metropolitan area, located in both Orleans and Jefferson Parishes. There are two hospitals and five clinics near the existing VAMC and Charity Hospitals (GNOCDC 2008a). As described in Section 1.1, community healthcare facilities and the services they provide continue to be significantly impacted by the damage sustained as a result of Hurricane Katrina.

Alternative # 1 – Proposed Actions – Tulane/Gravier Locations

The proposed VAMC and LSU AMC sites are located within Ward 3 and Planning District 4 of the City of New Orleans in Orleans Parish. All local government functions in the ward are performed by the City. New Orleans Police Department District 1 provides protection services, and New Orleans Fire Department District 2 provides fire suppression services (CNO 2008b). New Orleans Public Schools in the vicinity of the Tulane/Gravier and Lindy Boggs locations include three elementary schools, one academy for kindergarten and grades 5 and 6, three academies for kindergarten through grade 8, and four high schools (NOLA 2008). There are 11 hospitals in the New Orleans metropolitan area, located in both Orleans and Jefferson Parishes. There are two hospitals and five clinics near the proposed Tulane/Gravier locations. University Hospital, located across Tulane from the proposed LSU AMC site, is part of the MCLNO system; Tulane University Hospital is located in downtown New Orleans near the existing VAMC and Charity facilities.

Alternative # 2 – Lindy Boggs Location

The alternative VAMC Lindy Boggs site is located primarily in Ward 4 and approximately 6.9 acres in Ward 5, and the site is in Planning District 4 of the City of New Orleans in Orleans Parish. All local government functions in the wards are performed by the City. New Orleans Police Department District 1 provides protection services, and New Orleans Fire Department

District 4 provides fire suppression services (CNO 2008b). The public schools and hospitals in the vicinity of the Lindy Boggs location are the same as those described for the Tulane/Gravier locations.

Alternative # 3 – Ochsner Location

The alternative VAMC Ochsner site is located in unincorporated Metairie in Jefferson Parish. Therefore, Jefferson Parish performs all local government functions within the Parish boundaries (Jefferson Parish 2008d). Police protection is provided by the Jefferson Parish Sheriff's Office District 1 (JPSO 2008). The Jefferson Parish Eastbank Consolidated Fire Department provides fire suppression services for the Ochsner location (Jefferson Parish 2008d). The Parish has one school district, the Jefferson Parish Public Schools. Schools in the vicinity of the Ochsner location include three elementary schools, two middle schools, and one high school (JPPS 2006). There are 11 hospitals in the New Orleans metropolitan area, located in both Orleans and Jefferson Parishes (GNOCDC 2008a). Ochsner Hospital is located across the street from the alternative VAMC Ochsner location.

3.6.2.2 Discussion of Impacts – Community Facilities and Services

Impacts of the No Action Alternative

Under the No Action alternative, there would be no construction of medical facilities either at the existing locations used by the VAMC and MCLNO or at alternative locations. The functions currently performed and the existing community facilities and services utilized at these locations would continue as described for existing conditions. Consequently, there would be no changes that would result in direct or indirect impacts on community facilities and services under the No Action alternative.

Impacts of the Proposed Actions

Direct Impacts

The Proposed Actions for the Tulane/Gravier VAMC and LSU AMC sites would satisfy the need for improved and expanded healthcare facilities in New Orleans, as described in Section 1.1.2. As a result, it would have substantial beneficial direct impacts on medical facilities and the delivery of medical services in the City.

Indirect Impacts

Local police and fire districts would be able to adequately serve the proposed medical facilities at these locations. Local schools would not be indirectly affected because of the lack of planned residential development at these sites, and indirect effects on schools from possible increased local population attracted by the development of these sites would be unlikely to result in exceeding the capacities of local schools. Thus, the Proposed Actions would have a predominantly beneficial indirect impact on community facilities and services.

Impacts of Alternatives # 2 through # 4

For each alternative action, the direct and indirect impacts of this alternative on community facilities and services would be essentially the same as described for the Proposed Actions.

3.6.3 Environmental Justice

Environmental justice must be considered for Federal actions under the NEPA process. EO 12898 (59 Federal Register 7629) directs Federal agencies to identify and address, as appropriate, potential disproportionately high and adverse human health and environmental impacts on minority and low-income populations.

The CEQ provides the following information in *Environmental Justice: Guidance Under the National Environmental Policy Act* (CEQ 1997a):

- Disproportionately High and Adverse Human Health Effects. Adverse health effects are measured in risks and rates that could result in latent cancer fatalities, as well as other fatal or nonfatal adverse impacts on human health. Adverse health effects may include bodily impairment, infirmity, illness, or death. Disproportionately high and adverse human health effects occur when the risk or rate of exposure to an environmental hazard for a minority or low-income population is significant (as defined by NEPA) and appreciably exceeds the risk or exposure rate for the general population or for another appropriate comparison group (CEQ 1997a).
- Disproportionately High and Adverse Environmental Effects. A disproportionately high environmental impact that is significant (as defined by NEPA) refers to an impact or risk of an impact on the natural or physical environment in a low-income or minority community that appreciably exceeds the environmental impact on the larger community. Such effects may include ecological, cultural, human health, economic, or social impacts. An adverse environmental impact is an impact that is determined to be both harmful and significant (as defined by NEPA). In assessing cultural and aesthetic environmental impacts, impacts that uniquely affect geographically dislocated or dispersed minority or low-income populations or American Indian tribes are considered (CEQ 1997a).

The environmental justice analysis assesses the potential for disproportionately high and adverse human health or environmental effects on minority and low-income populations that could result from selection of sites for construction of the New Orleans VAMC and LSU AMC facilities. In assessing the impacts, the following CEQ (CEQ 1997a) definitions of minority individuals and populations and low-income population were used:

- Minority individuals. Individuals who identify themselves as members of the following population groups: Hispanic or Latino, American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, or two or more races, meaning individuals who identified themselves on a Census form as being a member of two or more races, for example, Hispanic and Asian.

- Minority populations. Minority populations are identified when: 1) the minority population of an affected area exceeds 50 percent or 2) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.
- Low-income populations. Low-income populations in an affected area are identified with the annual statistical poverty thresholds from the Census Bureau's Current Population Reports, Series P-60, on Income and Poverty.

Environmental justice analysis focuses on residents living within the areas where there could most likely be potentially adverse environmental impacts. For the purposes of this PEA-the areas within one-quarter mile of each site under consideration were identified as the potentially impacted areas. Other populations that could potentially experience adverse impacts are those communities along potential travel routes to be followed by trucks transporting demolition debris from the sites to landfills or recycling centers for disposal. Those communities could experience adverse health effects from exhaust and dust emitted from the trucks and the debris they carry.

3.6.3.1 Existing Conditions – Environmental Justice

Data collection efforts involving the identification of minority and low-income populations that might be affected by implementation of the Proposed Actions or alternatives are central to the identification and consideration of environmental justice issues. The USCB's 2000 Census provides the most detailed data on race/ethnicity and income. However, dramatic changes in population have occurred in the New Orleans metropolitan area in the wake of Hurricane Katrina, especially within Orleans Parish. The 2006 American Community Survey from the USCB provides post-Hurricane Katrina population information; however, the data are available only down to the parish level and not for the smaller statistical subdivisions needed for an environmental justice analysis. In order to obtain demographic information that represents current conditions on an appropriate spatial scale, population and income estimates for 2008 were obtained from the ESRI Business Analyst demographic database (ESRI 2008). The ESRI demographic and income profiles are based on recent information obtained from a variety of sources, such as change in households estimated from address counts, delivery counts, and new housing construction. Both the 2000 Census data and the ESRI 2008 population and income estimates are presented in the environmental justice discussion in order to better identify minority and/or low-income populations that occur in the areas of interest.

A population is considered to be a minority population if the number of minority individuals in the study area exceeds 50 percent or if the number exceeds the State average by 20 percentage points or more. The ESRI 2008 estimates do not include a breakdown of the population reported as white into Hispanic and non-Hispanic ethnicity (as found in the 2000 Census data). Therefore, the 2008 minority population is assumed to include persons identified as all racial categories with the exception of white, plus all persons identified as Hispanic. A population is considered low-income if the percentage of the population in the study area living below the Federal poverty threshold exceeded the state average by 20 percent or more. The ESRI 2008 estimates do not include data on poverty. Therefore, using the ESRI database, a population is

assumed to be low-income if the percentage of households with annual income less than \$15,000 exceeds the State average by 20 percent or more.

Truck travel routes for hauling demolition debris to landfills were examined in order to determine if they pass through environmental justice communities of concern. Debris from the sites in Orleans Parish would be transported along I-10, which is the route the trucks would follow for most of the trip. The potential Tulane/Gravier sites are located adjacent to I-10, with access via two six-lane divided major arterial roadways (Tulane Avenue and Canal Street). The Lindy Boggs site is approximately 1.7 miles from the I-10, via Orleans Avenue. The Ochsner site is located on Jefferson Highway (US 90), which is a six-lane divided major arterial roadway. During demolition, vehicles carrying debris would utilize, for the most part, the major arterial roadways and not the local streets within residential areas.

An analysis of potential truck routes from the proposed Tulane/Gravier sites to four regional landfills that accept demolition debris was performed by USEPA. Areas within one-quarter mile of the truck routes were examined to determine if any of those areas would be considered environmental justice communities of concern, based on 2000 Census data. The four routes each passed through minority and low-income populations that would be considered communities of concern (Augurson 2008). After the site selection process is completed for the VAMC and LSU AMC facilities, specific truck travel routes would be identified and addressed through appropriate mitigation measures at that time. Therefore, it is anticipated that no communities of concern would be adversely impacted along the potential truck routes.

Existing Locations

The existing VAMC and Charity Hospital sites were considered together for the environmental justice analysis. That is, the community located within one-quarter mile of the area containing the existing VAMC and MCLNO facilities was considered as the potentially impacted population. According to the 2000 Census, 2,222 persons lived within one-quarter mile of the existing locations. Of this total population, 1,708 or 76.9 percent were minority and 511 households or 58.3 percent of the households were low income (compared to 19.1 percent of households in the State of Louisiana below the poverty level). The ESRI 2008 demographic profiles estimate 1,220 persons reside in the study area, including 1,020 or 83.6 percent identified as minority and 293 households or 51.0 percent with an annual income of less than \$15,000 (compared to 20.5 percent for the State) (ESRI 2008). Table 3-7 provides the 2000 and 2008 demographic and income profiles for the potentially impacted community surrounding the existing locations, including race, ethnicity, and income. Demographic information is also presented for Orleans Parish and the State of Louisiana.

Based on the 2000 Census information and 2008 demographic estimates, the population located within one-quarter mile of the existing VAMC and MCLNO facilities is greater than 50 percent minority and exceeds the Louisiana average of persons below the poverty level by more than 20 percent. Therefore, based on the CEQ definitions of minority individuals and minority and low-income populations, the population within one-quarter mile of the existing locations constitutes a community of concern for environmental justice purposes.

Alternative # 1 – Proposed Actions – Tulane/Gravier Locations

The proposed Tulane/Gravier locations, including the VAMC and LSU AMC sites, are considered separately for the environmental justice analysis. The on-site residents as well as the surrounding community are addressed for both sites.

Proposed VAMC Site

The population currently occupying the proposed VAMC site was characterized based on the 2000 Census and the 2008 ESRI demographic estimates. According to the 2000 Census, 416 persons lived on the proposed site. Of this total population, 363 or 87.3 percent were minority and 83 households or 45.9 percent were low income (compared to 19.1 percent of households in the State of Louisiana below the poverty level). The ESRI 2008 demographic profiles estimate 331 persons reside on the site, including 292 or 88.2 percent identified as minority, and 61 households or 43.6 percent with an annual income of less than \$15,000 (compared to 20.5 percent for the State) (ESRI 2008). Table 3-8 provides the 2000 and 2008 demographic and income profiles for the population currently occupying the proposed VAMC site, including race, ethnicity, and income.

According to the 2000 Census, 3,392 persons lived within one-quarter mile of the proposed VAMC site. Of this total population, 3,056 or 90.1 percent were minority and 728 households or 54.5 percent were low income. The ESRI 2008 demographic profiles estimate 2,240 persons reside in the study area, including 2,105 or 94.0 percent identified as minority, and 457 households or 52.8 percent with an annual income of less than \$15,000 (ESRI 2008). Table 3-8 provides the 2000 and 2008 demographic and income profiles for the potentially impacted community surrounding the proposed VAMC site.

The population currently residing on the proposed VAMC site as well as the population living within one-quarter mile of the site are greater than 50 percent minority and exceed the Louisiana average of persons below the poverty level by more than 20 percent. Therefore, based on the CEQ definitions of minority individuals and minority and low-income populations, the population on the VAMC site and the population within one-quarter mile of the site are identified as communities of concern for environmental justice purposes.

Proposed LSU AMC Site

According to the 2000 Census, 287 persons lived on the proposed LSU AMC site. Of this total population, 245 or 85.4 percent were minority and 62 households or 48.4 percent of the households were low income (compared to 19.1 percent of households in the State of Louisiana below the poverty level). The ESRI 2008 demographic profiles estimate 287 persons reside on the site, including 250 or 87.2 percent identified as minority, and 53 households or 41.7 percent with an annual income of less than \$15,000 (compared to 20.5 percent for the State) (ESRI 2008). Table 3-8 provides the 2000 and 2008 demographic and income profiles for the population currently occupying the proposed new LSU AMC site, including race, ethnicity, and income.

According to the 2000 Census, 4,796 persons lived within one-quarter mile of the proposed new LSU AMC site. Of this total population, 4,213 or 87.8 percent were minority and 1,067 households or 63.5 percent were low income. The ESRI 2008 demographic profiles estimate 2,794 persons reside in the study area, including 2,624 or 93.9 percent identified as minority, and 612 households or 60.8 percent with an annual income of less than \$15,000 (ESRI 2008). Table 3-8 provides the 2000 and 2008 demographic and income profiles for the potentially impacted community surrounding the proposed new LSU AMC site.

The population currently residing on the proposed LSU AMC site as well as the population living within one-quarter mile of the site are greater than 50 percent minority and exceed the Louisiana average of persons below the poverty level by more than 20 percent. Therefore, based on the CEQ definitions of minority individuals and minority and low-income populations, the population on the LSU AMC site and the population within one-quarter mile of the site are identified as communities of concern for environmental justice purposes.

Alternative # 2 – Lindy Boggs Location

The community located within one-quarter mile of the alternative VAMC Lindy Boggs site was considered as the potentially impacted population. The site does not contain a residential population, therefore only the surrounding community is addressed. According to the 2000 Census, 5,281 persons lived within one-quarter mile of the Lindy Boggs site. Of this total population, 3,207 or 60.7 percent were minority and 603 households or 23.8 percent were low-income (compared to 19.1 percent of households in the State of Louisiana below the poverty level). The ESRI 2008 demographic profiles estimate 4,093 persons reside in the study area, including 2,401 or 58.7 percent identified as minority, and 435 households or 22.9 percent with an annual income of less than \$15,000 (compared to 20.5 percent for the State) (ESRI 2008). Table 3-9 provides the 2000 and 2008 demographic and income profiles for the potentially impacted community surrounding the Lindy Boggs site, including race, ethnicity, and income.

The population located within one-quarter mile of the Lindy Boggs site is greater than 50 percent minority. Therefore, based on the CEQ definitions of minority individuals and minority populations, the population within one-quarter mile of the site is identified as a community of concern for environmental justice purposes.

Alternative # 3 – Ochsner Location

The alternative VAMC Ochsner site, located in Jefferson Parish, was addressed in the same manner as the sites in Orleans Parish. That is, the community located within one-quarter mile of the site was considered to be the potentially impacted population, and is characterized based on the 2000 Census and the 2008 ESRI demographic estimates. The site is composed of non-residential parcels; therefore, there is no on-site residential population. According to the 2000 Census, 1,810 persons lived within one-quarter mile of the Ochsner site. Of this total population, 587 or 32.4 percent were minority and 94 households or 12.9 percent of the households were low income (compared to 19.1 percent of households in the State of Louisiana below the poverty level). The ESRI 2008 demographic profiles estimate 1,748 persons reside in the study area, including 670 or 38.3 percent identified as minority, and 144 households or 19.9 percent with an

annual income of less than \$15,000 (compared to 20.5 percent for the State) (ESRI 2008). Table 3-10 provides the 2000 and 2008 demographic and income profiles for the potentially impacted community surrounding the Ochsner site, including race, ethnicity, and income. Demographic information is also presented for Jefferson Parish and the State of Louisiana.

The population located within one-quarter mile of the Ochsner site does not meet the CEQ definition of minority or low-income because the number of minority persons is less than 50 percent of the population and the percentage of low-income persons is less than the State average. Therefore, this population is not identified as a community of concern for environmental justice purposes.

Table 3-7. Demographic Profile of Population and Income in the Community Surrounding the Existing Locations, Orleans Parish, and the State of Louisiana

	¼ mile radius of Existing MCLNO / VAMC Sites				Orleans Parish				State of Louisiana			
	2000		2008		2000		2008		2000		2008	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population	2,222	100	1,220	100	484,674	100	321,466	100	4,468,976	100	4,500,627	100
Race												
White	535	24.1	200	16.4	135,956	28.1	97,304	30.3	2,856,161	63.9	2,791,775	62.0
Black or African American	1,439	64.8	908	74.4	325,947	67.3	206,242	64.2	1,451,944	32.5	1,512,095	33.6
American Indian or Alaska Native	7	0.3	5	0.4	991	0.2	703	0.2	25,477	0.6	29,914	0.7
Asian	188	8.5	76	6.2	10,972	2.3	8,950	2.8	54,758	1.2	70,991	1.6
Native Hawaiian or Other Pacific Islander	0	0.0	0	0.0	109	0.02	74	0.02	1,240	0.03	1,530	0.03
Some Other Race	21	0.9	14	1.1	4,498	0.9	3,409	1.1	31,131	0.7	36,450	0.8
Two or More Races	32	1.4	20	1.6	6,201	1.3	4,784	1.5	48,265	1.1	57,872	1.3
Ethnicity												
Hispanic or Latino	53	2.4	46	3.8	14,826	3.1	13,882	4.3	107,738	2.4	122,882	2.7
Minority Population												
Total Minority Population	1,708	76.9	1,020	83.6	355,803	73.4	224,162	69.7	1,674,585	37.5	1,708,852	38.0
Income												
< \$15,000 per year per household	543	62.0	293	51.0	57608	30.6	29584	24.2	400,016	24.1	345,777	20.5
Households below poverty level	511	58.3	---	---	48,130	25.6	---	---	316,991	19.1	---	---

Source: USCB 2008c (2000 Census data) and ESRI 2008 (2008 estimates).

Table 3-8. Demographic Profile of Population and Income – Proposed Tulane/Gravier Sites

	Proposed VAMC Site				Proposed LSU AMC Site			
	2000		2008		2000		2008	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population	416	100	331	100	287	100	287	100
Race								
White	61	14.7	39	11.8	48	16.6	37	12.8
Black or African American	337	81.0	276	83.6	225	77.9	236	81.7
American Indian or Alaska Native	2	0.5	2	0.6	2	0.7	2	0.7
Asian	7	1.7	6	1.8	6	2.1	6	2.1
Native Hawaiian or Other Pacific Islander	0	0.0	0	0.0	0	0.0	0	0.0
Some Other Race	5	1.2	4	1.2	5	1.7	5	1.7
Two or More Races	4	1.0	3	0.9	3	1.0	3	1.0
Ethnicity								
Hispanic or Latino	19	4.6	17	5.1	14	4.9	17	5.9
Minority Population								
Total Minority Population	363	87.3	292	88.2	245	85.4	250	87.2
Income								
< \$15,000 per year per household	99	54.7	61	43.6	66	51.6	53	41.7
Households below poverty level	83	45.9	---	---	62	48.4	---	---

Source: USCB 2008c (2000 Census data) and ESRI 2008 (2008 estimates).

Table 3-9. Demographic Profile of Population and Income in the Surrounding Community — Proposed and Alternative Locations in Orleans Parish, Louisiana

	¼ mile radius of Proposed VAMC Site				¼ mile radius of Proposed LSU AMC Site				¼ mile radius of Lindy Boggs Site			
	2000		2008		2000		2008		2000		2008	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population	3,392	100	2,240	100	4,796	100	2,794	100	5,281	100	4,093	100
Race												
White	376	11.1	135	6.0	611	12.7	170	6.1	2,338	44.3	1,692	41.3
Black or African American	2,815	83.0	2,017	90.0	3,913	81.6	2,529	90.5	2,479	46.9	2,013	49.2
American Indian or Alaska Native	9	0.3	5	0.2	8	0.2	4	0.1	24	0.5	16	0.4
Asian	108	3.2	35	1.6	197	4.1	56	2.0	52	1.0	49	1.2
Native Hawaiian or Other Pacific Islander	1	0.03	0	0.0	1	0.02	0	0.0	4	0.1	2	0.05
Some Other Race	54	1.6	33	1.5	33	0.7	17	0.6	245	4.6	196	4.8
Two or More Races	28	0.8	16	0.7	32	0.7	15	0.5	140	2.7	124	3.0
Ethnicity												
Hispanic or Latino	128	3.8	87	3.9	92	1.9	57	2.0	625	11.8	579	14.1
Minority Population												
Total Minority Population	3,056	90.1	2,105	94.0	4,213	87.8	2,624	93.9	3,207	60.7	2,401	58.7
Income												
< \$15,000 per year per household	833	63.6	457	52.8	1,174	71.7	612	60.8	737	29.1	435	22.9
Households below poverty level	728	54.5	---	---	1,067	63.5	---	---	603	23.8	---	---

Source: USCB 2008c (2000 Census data) and ESRI 2008 (2008 estimates).

Table 3-10. Demographic Profile of Population and Income in the Surrounding Community – Alternative Location in Jefferson Parish, Louisiana

	¼ mile radius of Ochsner Site				Jefferson Parish				State of Louisiana			
	2000		2008		2000		2008		2000		2008	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population	1,810	100	1,748	100	455,466	100	446,686	100	4,468,976	100	4,500,627	100
Race												
White	1,292	71.4	1,078	61.7	318,002	69.8	279,942	62.7	2,856,161	63.9	2,791,775	62.0
Black or African American	406	22.4	530	30.3	104,121	22.9	124,474	27.9	1,451,944	32.5	1,512,095	33.6
American Indian or Alaska Native	5	0.3	5	0.3	2,032	0.4	2,153	0.5	25,477	0.6	29,914	0.7
Asian	51	2.8	69	3.9	14,065	3.1	20,010	4.5	54,758	1.2	70,991	1.6
Native Hawaiian or Other Pacific Islander	1	0.1	1	0.1	154	0.0	171	1.0	1,240	0.0	1,530	0.0
Some Other Race	33	1.8	38	2.2	9,239	2.0	10,737	2.4	31,131	0.7	36,450	0.8
Two or More Races	22	1.2	27	1.5	7,853	1.7	9,199	2.1	48,265	1.1	57,872	1.3
Ethnicity												
Hispanic or Latino	108	6.0	117	6.7	32,418	7.1	35,976	8.1	107,738	2.4	122,882	2.7
Minority Population												
Total Minority Population	587	32.4	670	38.3	157,404	34.5	166,744	37.3	1,674,585	37.5	1,708,852	38.0
Income												
< \$15,000 per year per household	178	24.4	144	19.9	30234	17.1	25166	14.6	400016	24.1	345777	20.5
Households below poverty level	94	12.9	---	---	22268	12.6	---	---	316991	19.1	---	---

Source: USCB 2008c (2000 Census data) and ESRI 2008 (2008 estimates).

3.6.3.2 Discussion of Impacts – Environmental Justice

The environmental justice analysis was conducted in order to determine if the Proposed Actions or alternative actions would have disproportionately high and adverse human health or environmental effects on minority and low-income populations. The first step in the analysis is the identification of potential impacts associated with the Proposed Actions and alternatives (FEMA 2008a). This was accomplished in the evaluation of environmental consequences performed for each resource category in Chapter 3 of this PEA.

The second step identifies areas most likely to experience direct or indirect human health or environmental effects, which were determined to be those areas within one-quarter mile of each site evaluated in this PEA, including the sites themselves. The third step focuses on persons living in the potentially affected areas. An analysis was performed to determine whether the potentially affected communities include a minority and/or low-income population. The populations within one-quarter mile of each site were each characterized in Section 3.6.3.1 through evaluation of demographic data to determine whether they constitute a community of concern for environmental justice purposes. Communities of concern were identified for the existing, Tulane/Gravier, and Lindy Boggs locations. No community of concern was identified for the Ochsner location.

The fourth step, which is presented in this Discussion of Impacts section, is to determine if any adverse environmental effects are likely to fall disproportionately on communities of concern, constituting a “disproportionately high and adverse” impact. An adverse effect is considered disproportionate when it is predominantly experienced by a minority or low-income segment of the population; that is, where it is more severe for that segment than for other population segments. Based on the analysis of impacts for all resource categories presented in this PEA, it was determined that there would be no significant adverse human health impacts on residents in the study area. Therefore, there would be no disproportionate and adverse impacts felt by environmental justice communities of concern. Similarly, given the lack of potential significant environmental effects on the physical environment (land, water, biological resources, air, noise) and the built environment (land use, infrastructure, transportation), there would be no disproportionately high and adverse impacts on environmental justice communities of concern because of negative environmental effects. There are two remaining resource categories addressed in this PEA: cultural resources and socioeconomics. The moderate to major effects identified for cultural resources will be addressed through avoidance, minimization and/or mitigation through the Section 106 process. Therefore, socioeconomics was identified as the resource category that could potentially result in disproportionate impacts to environmental justice communities. The results of the environmental justice analysis of socioeconomic impacts, in particular the residential displacement actions that would affect communities of concern, are discussed below.

An integral component of the environmental justice analysis under the NEPA process is public participation. Adequate public participation is important to incorporating environmental justice considerations into the process, by ensuring that potentially affected parties are not overlooked and excluded. The extensive public participation efforts conducted for this PEA are discussed in Section 1.2.4.1, Public Involvement.

Impacts of the No Action Alternative

Under the No Action alternative, the new VAMC and LSU AMC facilities would not be constructed and the SLVHCS and MCLNO medical systems would continue to operate at their current reduced capacities. No construction would occur at any of the alternative locations and no residents would be displaced. Therefore, there would be no direct physical impacts on environmental justice communities of concern at any of the locations. However, there would be a direct adverse impact on those members of the community who are uninsured, given that the MCLNO has been a primary provider of healthcare to uninsured persons in the New Orleans metropolitan area. This could be considered a disproportionately high and adverse impact to low-income populations because the adverse effect would be more severe for that segment than for other population segments. Without implementation of the Proposed Actions, the SLVHCS and MCLNO medical complexes would continue to operate with inadequate facilities. The reestablishment of a complete, quality healthcare system and medical training center for the people of New Orleans and for veterans throughout the Gulf Coast Region would not occur. This could have an adverse indirect impact on minority and low-income populations in Orleans Parish, as well as on the general population of the area.

Impacts of the Proposed Actions

Direct Impacts

The proposed Tulane/Gravier locations, including the new VAMC and LSU AMC sites, are considered separately for the environmental justice analysis. The on-site residents as well as the surrounding community are addressed for both sites. As described in the Existing Conditions discussion in Section 3.6.3.1, environmental justice communities of concern were identified for the populations residing on each site as well as for the populations located within one-quarter mile of each site.

Under the Proposed Actions, the resident populations that currently occupy the proposed Tulane/Gravier VAMC and LSU AMC locations would be directly impacted. The existing residential structures, as well as commercial and other structures on these properties, would be removed and hospitals and other medical-related buildings would be constructed in their place. The majority of the area within these proposed sites is vacant land, vacant structures, or surface parking lots. Less than half of the areas within these sites are currently utilized for inhabited residential or active commercial uses.

A total of approximately 618 persons are estimated to reside currently on these two sites in a total of 265 housing units. These totals include approximately 331 residents and 140 housing units on the VAMC site; 88 percent of whom are minority and 46 percent low income. There are a total of 125 housing units on the LSU AMC site and 287 residents, of whom 87 percent are minority and 48 percent are low income (ESRI 2008). As a direct result of the Proposed Actions, these residents of the proposed VAMC and LSU AMC sites would be displaced and required to relocate to available housing outside of the project areas.

In order to evaluate environmental justice impacts, a determination must be made as to whether any adverse effects are likely to fall disproportionately on a community of concern and whether those effects are significant. As described previously, an adverse effect is considered disproportionate when it is predominantly experienced by a minority or low-income segment of the population; that is, where it is more severe for that segment than for other population segments. The populations residing within one-quarter mile of the VAMC site and the LSU AMC site were each identified in Section 3.6.3.1 as an environmental justice community of concern, based on the proportion of minority and low-income residents. Therefore, the effects from construction of medical facilities at the proposed Tulane/Gravier sites on minority and low-income populations (that is, displacement of those populations) would not appreciably exceed the effects on the general population within one-quarter mile of the sites if the facilities were built at different locations.

The displacement of minority and low-income populations currently residing on the VAMC and LSU AMC sites, including disruption of social networks (child care, informal employment, etc.), is an adverse effect of the proposed actions. However, the relocation of residents is not considered a significant effect if those residents are able to find comparable housing. Mitigation measures would be employed to assist residents in finding suitable replacement housing. Mitigation measures include options to avoid, minimize, rectify, reduce, or eliminate the adverse impacts associated with the Proposed Actions (FEMA 2008a).

As described in Section 3.6.1.2, mitigation measures, in compliance with the URA and the Louisiana Expropriation Provisions, would be implemented to reduce the adverse effects of displacement on the residents, as well as businesses and nonprofit organizations, affected by construction of the new VAMC and LSU AMC facilities at the proposed Tulane/Gravier locations. Mitigation measures that reinforce the government commitment to provide housing for those displaced would include provision of replacement housing payments for the increased costs of renting or purchasing a comparable replacement dwelling; provision of “housing of last resort” when comparable decent, safe, and sanitary replacement housing within a displaced person’s financial means cannot be made available; and assisting displaced persons by offering services such as transportation to locate replacement housing, social services or financial referrals, and listings of comparable dwellings. The mitigation measures to be employed are described in detail in Chapter 5, Mitigation, of this PEA.

As described in Section 3.6.1.1, availability of affordable housing has been an issue in New Orleans in the years following Hurricane Katrina. Although availability of rental units in multi-family housing has continued to improve, market pressures have acted to keep rents well above pre-Hurricane Katrina levels. Rents in the Mid-City area as of Fall 2007 had declined about 11 percent from post-Hurricane Katrina highs, but still remain elevated, averaging about \$1,000 for a one-bedroom apartment and about \$1,100 to \$1,500 for a two-bedroom unit. The availability of affordable apartments is expected to improve, however, as units financed through incentives provided under the Road Home Small Rental Program (smaller properties such as duplexes, triplexes, and four-plexes) and Gulf Opportunity Zone (larger properties) come on the market. There are approximately 2,000 units funded using Gulf Opportunity Zone financing currently in development within Orleans Parish that will add to the inventory of affordable housing within the next six to 12 months. When property owners rebuild through the State’s Road Home Small

Rental Program, they agree to “bought down” affordable rent levels as a condition of the grant. The Louisiana Recovery Authority has awarded funds to owners of 8,740 units in Orleans Parish, 7,540 of which will be affordable rental apartments (UNO 2008).

Indirect Impacts

Benefits to minority and low-income communities also are assessed as part of the environmental justice analysis. The Proposed Actions would support reestablishment of the healthcare system and medical training centers for the people of New Orleans, in particular the indigent, uninsured, and low-income populations who have traditionally been served by the MCLNO, and for veterans throughout the Gulf Coast Region. Improved access to healthcare would have a beneficial indirect effect on minority and low-income populations within the Tulane/Gravier area, as well as throughout New Orleans. Further, employment opportunities would be expanded for the operation and maintenance of the improved medical facilities. These opportunities could provide a long term, beneficial impact for the regional population. The redevelopment of these centers could create a world-class academic medical community that could serve as an economic catalyst for development and growth in the surrounding neighborhoods.

With the new medical center facilities serving as a catalyst for development and growth in the area, construction and operation of the proposed VAMC and LSU AMC facilities would be expected to result in an increase in property values in the surrounding area. After the medical centers are completed and become operational, the substantial increase in demand for workers at these facilities could result in some employees moving to residences in the vicinity of their workplace. There potentially could be an adverse impact on low-income populations if development of medical support services and facilities resulted in the loss of existing housing and an increase in rents. The resulting increase in population and demand for housing in the area likely would be small relative to the situation under existing conditions. Also, as discussed under Direct Impacts above, the availability of affordable apartments in New Orleans is expected to improve as units financed through incentives provided under the Road Home Small Rental Program and the Gulf Opportunity Zone financing structures come on the market. This activity combined with City of New Orleans programs already in place to assist low-income renters would help to mitigate a potential increase in residential rents.

Impacts of Alternatives # 2 through # 4

Alternative # 2 – Lindy Boggs Location

The environmental justice evaluation for development of the VAMC at the Lindy/Boggs location under this alternative would be the same as described for the Proposed Actions. Although the population within one-quarter mile of the Lindy Boggs site was identified in Section 3.6.3.1 as an environmental justice community of concern, the site itself does not contain a residential population. Therefore, relocation of a community of concern would not occur under this alternative and there would be no direct or indirect adverse impacts in regard to environmental justice concerns. Improved access to healthcare provided by Alternative # 2 would have a beneficial indirect effect on minority and low-income populations within the neighborhoods surrounding the Lindy Boggs site, as well as throughout New Orleans.

Alternative # 3 – Ochsner Location

The environmental justice evaluation for development of the VAMC at the Ochsner location under Alternative # 3 would be the same as described for the Proposed Actions. No environmental justice community of concern was identified in Section 3.6.3.1 for the area within one-quarter mile of the Ochsner site and the site itself does not contain a residential population. Therefore, relocation of a community of concern would not occur under this alternative and there would be no direct or indirect adverse impacts in regard to environmental justice concerns. Improved access to healthcare under this alternative would have a beneficial indirect effect on minority and low-income populations within the neighborhoods surrounding the Ochsner site, as well as throughout New Orleans.

Alternative # 4 – Charity Hospital Location

Although the population within one-quarter mile of the existing Charity Hospital site was identified in Section 3.6.3.1 as an environmental justice community of concern, the site itself does not contain a residential population. Therefore, relocation of a community of concern would not occur under this alternative and there would be no direct or indirect adverse impacts in regard to environmental justice concerns. Improved access to healthcare provided by Alternative # 4 would have a beneficial indirect effect on minority and low-income populations within the neighborhoods surrounding the Charity Hospital site, as well as throughout New Orleans. In addition, employment opportunities would be expanded for the construction, operation, and maintenance of the improved medical facilities. These opportunities could provide a long term, beneficial impact for the regional population.

3.7 TRANSPORTATION

3.7.1 Existing Conditions - Transportation

Transportation resources include personal transportation via interstate roads and city arterial streets and public transportation via street cars, buses, passenger railroads, and air transport. Pedestrian access is provided by sidewalks and bicycle access.

3.7.1.1 Existing Locations

Roadway Network

The existing VAMC and Charity Hospital facilities are located one block east of I-10 with access to the facilities from I-10 West via the Canal Street exit, Cleveland Avenue, LaSalle Street, and Gravier Street. From I-10 East, access is from the Poydras Street exit via LaSalle Street and Gravier Street. Major arterials around the facilities also include Tulane Avenue, Poydras Street, South Claiborne Avenue, and Loyola Avenue.

These roads are large enough to have supported pre-Katrina traffic levels when all area medical facilities were fully operational.

Public Transit

The New Orleans area is served by New Orleans Regional Transit Authority (RTA) within the city limits of New Orleans and Jefferson Transit (JeT), the transit provider for Jefferson Parish. JeT provides access from Jefferson Parish to the New Orleans Central Business District and provides service to Louis Armstrong New Orleans International Airport. Both RTA and JeT have routes that provide access to the existing medical facilities. The RTA system has free fares for disabled passengers and the JeT system has reduced fares for riders 65 or older, mobility impaired, disabled, or Medicare card holders.

RTA offers streetcar service along Canal Street, but this line does not provide direct access to any of the existing facilities.

The New Orleans Union Passenger Terminal in the Central Business District provides access to the Amtrak passenger railroad system and the Greyhound bus system. This terminal is approximately 0.5 to 1.0 mile south and southeast of the existing sites. Moderate pedestrian and bicycle access is provided via the contiguous sidewalks and pedestrian signals at most intersections.

3.7.1.2 Alternative # 1 – Proposed Actions – Tulane/Gravier Locations

Roadway Network

The proposed Tulane/Gravier location for the VAMC is located between Tulane Avenue, Canal Street, South Rocheblave Street, and South Galvez Street. Tulane Avenue (US 90) and Canal Street are six-lane divided major arterials, South Galvez Street is a four-lane divided arterial and South Rocheblave Street is a city street. The proposed LSU AMC location is located across South Galvez Street from the proposed VAMC location. It is also bound by Tulane Avenue and Canal Street as well as South Claiborne Avenue.

Access from I-10 West is via the Canal Street exit and access from I-10 East is provided via the Poydras Street exit and South Claiborne Avenue. The proposed Tulane/Gravier sites are directly connected to two six-lane major arterials and two four-lane arterial roads. Vehicles can arrive and depart via I-10 East and West, Tulane Avenue, Canal Street, South Galvez Street, and South Claiborne Avenue, all multi-lane divided highways that are directly connected to one or both of the proposed Tulane/Gravier locations. The interstate and major arterial roads would support the traffic of the proposed VAMC and LSU AMC.

Public Transit

The New Orleans area is served by the New Orleans RTA within the city limits of New Orleans. JeT provides access to the New Orleans Central Business District to Jefferson Parish and provides service to Louis Armstrong New Orleans International Airport. The RTA currently has routes that provide access to the Tulane/Gravier area. RTA also offers streetcar service along Canal Street on the northern side of the proposed Tulane/Gravier area locations.

The New Orleans Union Passenger Terminal in the Central Business District provides access to the Amtrak passenger railroad system and the Greyhound bus system. This terminal is approximately 1 mile south of the Tulane/Gravier locations. Moderate pedestrian and bicycle access is provided via the contiguous sidewalks and pedestrian signals at most intersections.

A proposed greenway corridor, the Lafitte Greenway, is located four blocks to the north along St. Louis Street. The Lafitte Greenway is the old Norfolk Southern Rail Line from Basin Street to Canal Boulevard. Phase 1 is planned to run from Basin Street to Bayou St. John at Jefferson Davis Parkway where it connects with the existing pedestrian and bicycle greenway at Bayou St. John. Once complete, the greenway would provide easier pedestrian and bicycle access to the proposed VAMC and LSU AMC Tulane/Gravier locations. Currently there are contiguous sidewalks and pedestrian signals at most intersections and bicycles could share the road on the lower speed streets.

3.7.1.3 Alternative # 2 – Lindy Boggs Location

Roadway Network

The Lindy Boggs site is located in the Mid-City neighborhood 2.3 miles northwest of the Central Business District in the area bounded by North Carrollton Avenue, Jefferson Davis Parkway, Toulouse Street, and Bienville Street. Access to the site is provided by Canal Street (two blocks south), Orleans Avenue (one block north), Carrollton Avenue, and Jefferson Davis Parkway, which are all four-lane divided arterial streets. On the north and south sides, the site is bordered by Bienville Avenue and Toulouse Street. Bienville is a four-lane divided street connected to Canal Street by Carrollton Avenue, Jefferson Davis Parkway, and six local streets. Toulouse is a two-lane city street. Access from I-10 is via Orleans Avenue/North Claiborne Avenue (1.7 miles) or Carrollton Avenue/City Park Avenue (1.9 miles). All roads around the Lindy Boggs site would be sufficient to support the expected traffic level of a single medical facility. These roads previously provided access to the LBMC and other commercial and industrial sites.

Public Transit

The New Orleans area is served by the New Orleans RTA within the city limits of New Orleans. JeT provides access from the New Orleans Central Business District to Jefferson Parish and provides service to Louis Armstrong New Orleans International Airport. The RTA currently has routes that provide access to the Lindy Boggs area.

RTA offers streetcar service along Canal Street and Carrollton Avenue. The Carrollton Avenue streetcar would provide direct access on the west side of the Lindy Boggs site. The Canal Street streetcar would be accessible two blocks south of the site.

The New Orleans Union Passenger Terminal in the Central Business District provides access to the Amtrak passenger railroad system and the Greyhound bus system. This terminal is approximately 3.3 miles south of the Lindy Boggs locations.

The proposed Lafitte Greenway corridor will provide vastly improved pedestrian and bicycle access to the Lindy Boggs site. The Lafitte Greenway is the old Norfolk Southern Rail Line from Basin Street to Canal Boulevard next to St. Louis Avenue. Phase 1 runs from Basin Street to Bayou St. John at Jefferson Davis Parkway where it connects with the existing pedestrian and bicycle greenway at Bayou St. John. Once Phase 1 is complete it will provide dedicated pedestrian and bicycle access to the site. However, current plans call for the greenway to bisect the Lindy Boggs site west to east from the end of St. Louis Street. If the VAMC were constructed at the Lindy Boggs site, designs would have to incorporate the greenway or the greenway would have to be rerouted around the site.

3.7.1.4 Alternative # 3 – Ochsner Location

Roadway Network

The Ochsner site is located in Jefferson Parish north of the Ochsner Clinic at 1315 Jefferson Highway. Jefferson Highway (US 90), which is a six-lane divided major arterial roadway, provides vehicular access to the property. Access to Earhart Expressway north of the site is provided through a residential area via Deckbar Avenue where east bound traffic can cross the railroad tracks with grade-separated access ramps. Access from I-10 East is via South Carrollton Avenue and Earhart Expressway (3.7 miles) and from I-10 West is via South Carrollton Avenue and South Claiborne Avenue/Jefferson Highway (3.7 miles). All roads around the Ochsner site would be sufficient to support the expected traffic level of a single medical facility. These roads currently provide access to the Ochsner Medical Facility and other commercial and industrial sites.

The Central Business District is 5.1 miles from access to the train station or bus transportation. The Louis Armstrong International Airport is 8.4 miles travel distance.

Public Transit

Local bus transportation is provided by JeT within Jefferson Parish. Jefferson Highway is served by one bus route, E3 Kenner Local Route, which begins at the Louis Armstrong International Airport and terminates at the intersection of Carrollton and Claiborne Avenues. There is currently a stop near the Ochsner Medical Center. At Carrollton Avenue, riders can access RTA routes and the Carrollton Avenue streetcar.

The only major arterial road that provides direct access to the Ochsner site is Jefferson Highway. The six-lane divided road currently provides access to the Ochsner Medical Center and would support traffic to the VAMC if it is constructed at the Ochsner site.

The Ochsner Site has limited access for pedestrians and cyclists. There is a sidewalk on the Ochsner property on the south side of Jefferson Highway. Sidewalks are not contiguous in other areas. Cyclists are not offered a dedicated bicycle lane and would have to share the road with high vehicular traffic volumes, which would be dangerous and prohibitive.

3.7.2 Discussion of Impacts - Transportation

3.7.2.1 Impacts of the No Action Alternative

Since no construction would occur at the existing sites, there would be no adverse direct, indirect, or cumulative impacts on the characteristics of the transportation environment within the project area under the No Action alternative. However, the existing conditions described in Section 3.7.1.1 would continue.

3.7.2.2 Impacts of the Proposed Actions

Direct Impacts

The proposed Tulane/Gravier sites are located close to I-10 and other six-lane divided major arterial roadways. The traffic patterns around the proposed Tulane/Gravier sites, which are in close proximity to the existing medical facility site, would reestablish vehicular usage similar to that prior to Hurricane Katrina. It is believed that the existing roadway network has sufficient capacity to accommodate the traffic patterns that existed prior to the storm and, as the project designs for the Proposed Actions move forward, the entry and exits from the site can be established and the appropriate, design-specific traffic studies can be performed. The focus of these studies will be to confirm the traffic capacity of the highway network, determine the turning movements into and out of the parcels, and confirm the appropriate signalization and turn lanes for traffic movements.

The concept of the hospital facility is more horizontal construction than vertical construction. This will necessitate road closures for the “local” streets that currently run through the proposed Tulane/Gravier sites. For example, it is likely that Cleveland and Palmyra Streets may no longer provide east/west access through the area. Similarly, South Miro, South Johnson, and other north/south through streets may be permanently closed. Local traffic would be studied to ensure that adequate capacity is included in the major arterials to accommodate the local traffic that currently uses the streets that will be converted into hospital complex buildings and campus facilities.

During construction, there would be a large volume of construction vehicles beginning during the demolition phase and continuing through construction. For the most part, these vehicles will utilize the major arterial roadways and not local streets within residential areas.

Indirect Impacts

The Proposed Actions would change the routine traffic patterns in the area due to the closure of local streets and increased traffic on the major arterials along the perimeter of the proposed location. These changes in traffic patterns could have an adverse indirect impact on local residents and business owners in the Tulane/Gravier area surrounding the proposed location by increasing work commute times or redirecting consumer traffic. However, positive indirect impacts include additional public transportation, better pedestrian and cycling options in the area,

and enhanced landscaping and cityscape, all of which could result in a better sense of community in the area.

3.7.2.3 Impacts of Alternatives # 2 through # 4

The transportation facilities at the existing Charity Hospital site and the alternative Ochsner and Lindy Boggs sites are very similar to the Tulane/Gravier sites of the Proposed Actions with the following exceptions:

- The Ochsner and Lindy Boggs sites are not as close to I-10 as the Tulane/Gravier sites or Charity Hospital;
- While the Lindy Boggs site is accessible by two major arterials, Orleans Avenue and Canal Street, the site is not immediately adjacent to either of these streets;
- While the Ochsner site is accessible by two major arterials, Jefferson Highway and Earhart Expressway, the site is immediately adjacent to only Jefferson Highway and Earhart Expressway is accessible only via a local residential road (Deckbar Avenue); and
- There are no feeder streets adjacent to the Ochsner site.

As described in Section 3.7.1.3, the proposed Lafitte Greenway is designed to bisect the Lindy Boggs site. Should the Lindy Boggs site be selected, the planned pedestrian and cycling access to the area would be impacted. The medical facility plans would have to incorporate the existing greenway plan or the section of the greenway would have to be rerouted around the site. Selection of the Lindy Boggs site would also impact the proposed development for the area described in the Master Plan for the Lafitte Greenway (FOLC 2007). The plan currently calls for the entire Lindy Boggs site to be designated as “trail-oriented development” which would integrate land use changes and architecture in the area with the greenway.

3.8 HUMAN HEALTH AND SAFETY

Construction and demolition activities would expose on-site workers to hazards associated with most large construction projects. According to the Occupational Safety and Health Administration (OSHA), the top four causes of construction fatalities are falls, heavy equipment accidents, trenching accidents, and electrocutions. These potential hazards would be expected at each of the proposed and alternative project sites. In general, the sites requiring the greatest amount of demolition would statistically present the greatest occupational risk.

Environmental hazards of demolition, construction, and renovation projects would include working in extreme temperatures (primarily heat stress) and potential exposures to biological hazards such as mosquitoes, ticks, and poisonous spiders (black widow and brown recluse) and venomous snakes (southern copperhead). Buildings set for demolition may also require preliminary remediation for asbestos-containing building material (ACBM), and/or other hazardous materials. Some sites may also require the removal of underground storage tanks (USTs) or leaking underground storage tanks (LUSTs) and remediation of contaminated soils. The following sections present details about the potential hazards that may be associated with each of the sites. This information is presented to determine the potential impact of site selection

(i.e., the selection of one site over another may result in greater risks to site workers). The direct impacts to human health and the environment from the site-specific hazards will be addressed following site selection using the tiered approach described in Section 1.2.

Any work funded by the City using CDBG funds must comply with HUD's Environmental Criteria and Standards (24 CFR Part 51) relative to siting HUD projects near hazardous operations handling conventional fuels or chemicals of an explosive or flammable nature (Subpart C). The purpose of this HUD regulation is to alert those responsible for siting HUD-assisted projects to the inherent potential dangers when such projects are located in the vicinity of hazardous operations. The analysis presented in the following sections did not examine the individual sites' compliance with HUD's siting safety standards published in 24 CFR Part 51.203. This analysis will be part of the second tier assessment once the sites have been selected.

The VAMC project will receive HUD funding from the City using CDBG funds. Any work supported with HUD funds must comply with HUD's Environmental Criteria and Standards (24 CFR Part 51) relative to siting HUD projects near hazardous operations handling conventional fuels or chemicals of an explosive or flammable nature (Subpart C). The purpose of this HUD regulation is to alert those responsible for siting HUD-assisted projects to the inherent potential dangers when such projects are located in the vicinity of such hazardous operations. The following sections describe each site in relation to HUD's siting safety standards published in 24 CFR Part 51.203.

3.8.1 Existing Conditions – Human Health and Safety

The existing human health and safety conditions at the existing VAMC and Charity Hospital sites and the proposed VAMC and LSU AMC Tulane/Gravier sites are provided below. Specific conditions are provided for the proposed VAMC and LSU AMC sites, the proposed Ochsner VAMC site, and the proposed Lindy Boggs VAMC site based on detailed Phase I Environmental Site Assessments (ESAs) and/or Phase II Site Investigations conducted at the sites. Health and safety concerns include the presence of USTs, contaminated soil and groundwater, hazardous materials/hazardous waste, ACBM, lead-based paints, PCBs, and mold.

In accordance with HUD requirements, a survey of above ground storage tanks (ASTs) with a capacity over 100 gallons was conducted for areas within an approximate one-mile radius of the proposed VAMC Tulane/Gravier, Lindy Boggs, and Ochsner sites. Pursuant to 24 CFR Part 51.202(a), HUD assistance cannot be used for a project located less than the ASD from a hazard that has been defined by 24 CFR Part 51.201 unless appropriate mitigation measures are implemented. An ASD, as defined by 24 CFR Part 51.201, means "the distance beyond which the explosion or combustion of a hazard is not likely to cause structures or individuals to be subjected to blast overpressure or thermal radiation flux levels in excess of the safety standards in [24 CFR Part] 51.203." Appropriate mitigation measures are described in 24 CFR Part 51.205 and allow the standards to be eliminated or modified if: 1) the nature of the topography shields the proposed project from the hazard; 2) an existing permanent fire-resistant structure of adequate size and strength will shield the proposed project from the hazard; 3) a barrier is constructed surrounding the hazard, at the site of the project, or in between the potential hazard

and the proposed project; or 4) the structure and outdoor areas used by people are designed to withstand blast overpressure and thermal radiation anticipated from the potential hazard (e.g., the project is of masonry and steel or reinforced concrete and steel construction). However, because of the lack of natural topographic relief in the area, topography is not expected to be an acceptable barrier in any instances. Appendix F identifies the ASTs in the proposed site areas and presents the analysis of the ASDs for each.

3.8.1.1 Existing Locations

The existing VAMC and Charity Hospital buildings were extensively damaged during Hurricane Katrina. University Hospital reopened in November 2006 and operates as the LSU Interim Hospital (MCLNO 2008). VA currently operates the New Orleans VA Outpatient Clinic atop a parking structure at 1601 Perdido Street, but the main VAMC hospital structure is not occupied.

Charity Hospital is closed and has not been occupied by patients since it was evacuated following the hurricane. Following the evacuation, a group of doctors, nurses, and military personnel spent a month decontaminating and cleaning the first three floors with the intent of returning some hospital functions. However, LSU officials determined that the building was beyond repair and ordered the team to suspend its rehabilitation work. No additional rehabilitation activities have been conducted at the facility since then.

The USEPA reports that the following hazardous materials are commonly used in hospitals: mercury, items containing mercury, photographic/x-ray filler solutions, silver recovered from fixer solutions, ethanol, formaldehyde, x-ray film containing silver/metals, spent/off spec/excess laboratory chemicals (solvents, acids, bases), chemotherapy drugs, waste/excess paints and cleaning products, fluorescent light bulbs, high intensity discharge lamps, batteries, computer equipment, lead aprons and shielding, cathode ray tube screens, compressed gasses, and waste/excess pesticides and fungicides (USEPA 2008a). There is no information provided on the amount of hazardous materials that remain in the unoccupied structures of Charity Hospital and the VAMC. The existing New Orleans VAMC is classified under the Resource Conservation and Recovery Act (RCRA) as a conditionally exempt small quantity generator, generating no more than 220 pounds of hazardous waste and 2.2 pounds of acutely hazardous waste per calendar month (URS 2008a).

Based on the age of the existing facilities, it is reasonable to expect that ACBM and lead-based paint, as defined by Louisiana regulations, may be present. Furthermore, VA states mold control is an ongoing problem at the existing VAMC and conditions are most likely similar at other nearby medical facilities, including Charity Hospital. In its Report to Congress, VA states, “The extensive evidence of lingering mold and contamination is a major concern” (VA 2006).

The USEPA states that failure to remove contaminated materials and to reduce moisture and humidity can present serious long-term health risks. Standing water and wet materials are a breeding ground for microorganisms, such as viruses, bacteria, and mold. They can cause disease, trigger allergic reactions, and continue to damage materials long after the flood. Charity Hospital, like many other facilities in the New Orleans area, suffered massive flooding and wind-driven rain damages to the exterior envelope.

If Charity Hospital is to be modified/renovated (Alternative # 4), the exterior of the building must first be addressed, prior to performing interior work, to prevent the continued infiltration of water. A complete mold and moisture damage assessment must be performed within the property and damaged building components must be identified for remediation for moisture, mold, and bacteria. This assessment will result in a detailed remediation protocol to be used by a contractor. This protocol must take into account other hazardous conditions within the building, such as the presence of asbestos, lead-based paint, and radiation sources. The interior of the building must be addressed by a licensed mold abatement contractor to perform complete removal of all building components exposed to floodwaters, containing mold growth, and exhibiting moisture damage. The wall and ceiling cavities must be evaluated in detail, and will likely require additional remediation measures. Containment would need to be installed to prevent the migration of mold and bacteria. Air monitoring must be performed on all floors to ensure that the concentrations of mold spores are not in excess of the outdoor concentrations and are maintained to a minimum to prevent adverse reactions. Clearance sampling for mold and bacteria must be performed at the end of remediation. Due to the presence of other hazards in building components, asbestos and lead clearance testing will be necessary.

According to a Phase I ESA conducted by URS, one LUST and a manufactured gas plant are located at the existing VAMC site (URS 2008a). The LDEQ reports four USTs at Charity Hospital (LDEQ 2007). In 2003, the State issued a compliance order for Charity Hospital to upgrade the cathodic protection and spill/overflow prevention. In a May 2007 inspection, the State reported that the tanks had not been upgraded or removed due to Hurricane Katrina (LDEQ 2007).

3.8.1.2 Alternative # 1 – Proposed Actions – Tulane/Gravier Locations

URS conducted a Phase I ESA for the proposed Tulane/Gravier VAMC site in November 2007 (URS 2008a). The URS ESA included a review of a July 2007 ESA conducted by Materials Management Group, Inc. (MMG) of a 27-city block area (approximately 79 acres in size) bordered by Canal Street to the north, South Claiborne Avenue to the east, Tulane Avenue to the south, and South Rocheblave Street, which included both the proposed VAMC and LSU AMC sites (MMG 2007). An Environmental Data Resources, Inc. (EDR) database search was also performed by URS to search for recognized environmental conditions in the 12-block area (EDR 2007a). The following summarizes the environmental concerns and human health and safety issues associated with the Tulane/Gravier sites that were identified by URS and MMG for the proposed VAMC and LSU AMC sites:

- USTs at five locations within or adjacent to the proposed sites (URS 2008a);
- LUSTs at one location within or adjacent to the proposed sites (URS 2008a);
- Potential petroleum or hazardous material release at 16 locations on or within 0.25 mile from the proposed site (URS 2008a);
- Hazardous materials/hazardous waste, including abandoned cars, drums, tanks, and small and large quantity generators, on or within 0.25 mile from the proposed site (URS 2008a, EDR 2007a);
- Radiation sources at five locations on or within 0.25 mile from the proposed site (URS 2008a);

- Prospective State Brownfield sites at three locations near the proposed sites (EDR 2007a);
- Mold, resulting from flooding caused by Hurricane Katrina;
- Asbestos in older residential and commercial structures; and
- Lead in residential and commercial structures constructed prior to 1978.

The AST survey presented in table F-1 (appendix F) identified 29 ASTs within an approximate mile of the proposed VAMC Tulane/Gravier site (figure F-1 in appendix F). The ASD for one of these ASTs, a 20,000-gallon diesel fuel tank, is greater than the distance of the tank to the site. As such, mitigation measures as defined at 24 CFR Part 51.205 are necessary for compliance with HUD safety standards. As discussed below, these mitigating measures are already in place.

The 20,000-gallon diesel tank (figure F-2 in appendix F) is located in the 400 block of South Prieur Street, southeast of the proposed VAMC Tulane/Gravier site. There is a parking garage directly to the east and a large building immediately adjacent to the tank to the west. This tank is approximately two blocks from the southeastern corner of the proposed site and there are three building structures blocking the line of sight from the tank to the site. Based on the thermal radiation flux mitigation provided by the existing structures, the estimated flux at the site perimeter is reduced to below the HUD safety standard for people exposed in unprotected areas (Rivera 2008). Should the mitigating structures be removed, additional mitigation measures may be required to ensure compliance with the HUD safety standards.

3.8.1.3 Alternative # 2 – Lindy Boggs Location

Environ International Corporation (Environ) performed a Phase I ESA at the existing LBMC (Environ 2006), which makes up 10.5 acres of the southeastern corner of the proposed 40-acre VAMC Lindy Boggs site. The LBMC site is bounded by the Jefferson Davis Parkway on the southeast, Bienville Avenue on the southwest, Roosevelt Street (North Cortez) on the northwest, and Conti Street on the northeast. The LBMC is currently closed and unoccupied.

As discussed previously, the following hazardous materials are commonly used in hospitals: mercury, items containing mercury, photographic/x-ray filler solutions, silver recovered from fixer solutions, ethanol, formaldehyde, x-ray film containing silver/metals, spent/off spec/excess laboratory chemicals (solvents, acids, bases), chemotherapy drugs, waste/excess paints and cleaning products, fluorescent light bulbs, high intensity discharge lamps, batteries, computer equipment, lead aprons and shielding, cathode ray tube screens, compressed gasses, and waste/excess pesticides and fungicides. The Phase I ESA reported the following with respect to as-found conditions (Environ 2006):

Many partially filled or full sharps containers and biohazardous containers and bags were observed throughout various areas of the hospital, and chemical containers were observed in various departments. Many containers of pathology specimens remained in the Pathology Department.

The fixer and developer chemicals and the silver recovery units remained in the [Radiology Department] processing rooms.

... various containers of laboratory chemical, such as xylene, stains, etc. were observed on shelving, within cabinets, and on countertops in the [pathology] laboratory.

Chemicals used in the laboratory and pathology included acids, stains, alcohol, xylene, and formalin, which were observed to be stored in cabinets.

The medical waste does not appear to have been removed since the hospital ceased operations.

Environmental concerns at the Lindy Boggs site based on findings of the Environ Phase I ESA (Environ 2006) and the EDR report (EDR 2006), appendix B of the Phase I ESA, and a subsequent EDR report on the Lindy Boggs site (EDR 2008) are listed below and include concerns at sites identified in the EDR reports that were mapped on or adjacent to the proposed VAMC Lindy Boggs site.

Information was also obtained during a National Emission Standards for Hazardous Air Pollutants (NESHAP) hazardous materials survey prepared by Professional Services Industries, Inc. (PSI) in January 2007 in support of the LBMC demolition. This investigation included asbestos and lead-based paint surveys and a visual inspection for other hazardous materials (PSI 2007). The PSI visual inspection at the LBMC attempted to identify the following: PCB ballasts (approximately 7,000 identified), mercury switches, fluorescent light bulbs (approximately 13,700 identified), sodium vapor lights, lead-acid batteries (> 200 identified), hydraulic lift fixtures (identified), septic tanks/drainfields, USTs/ASTs (identified), 55-gallon drums, paints and related materials (identified), small house hold type cleaners (identified), and biohazard medical waste (identified) (PSI 2007). Environmental concerns include:

- Eight on-site USTs and 11 off-site USTs within 0.25 mile (EDR 2006, 2008);
- Potential petroleum or hazardous material releases from 46 historical auto stations within 0.25 mile of the site (four being inside or adjacent to the site);
- 22 historical drycleaner facilities within 0.25 mile of the site (EDR 2006);
- Hazardous materials/hazardous waste, including small and large quantity generators, within or near the site (EDR 2006);
- Prospective State Brownfield sites (EDR 2008, 2006);
- Mold, resulting from flooding caused by Hurricane Katrina;
- Asbestos in building materials such as floor tiles and mastic, roof flashing, lab counter tops, and pipe insulation (PSI 2007);
- Lead in residential and commercial structures constructed prior to 1978; and
- PCBs in older transformers, fluorescent light fixtures, and hydraulic equipment.

The AST survey presented in table F-2 (appendix F) identified 28 ASTs within an approximate mile of the proposed VAMC Lindy Boggs site (figure F-3 in appendix F). The ASD for each tank is less than the distance from the tank to the proposed project site. Therefore, no mitigation would be required for compliance with HUD safety standards.

3.8.1.4 Alternative # 3 – Ochsner Location

Several Phase I ESAs have been conducted on or near the proposed Ochsner VAMC site dating back to 1991 with the most recent conducted by URS (URS 2008b). The information provided by the URS ESA, which summarized the previous ESAs and provided new information from a recent EDR database search (EDR 2007b), is provided below. In addition to the specific information provided, the URS Phase I ESA also identified “drums, tanks, and containers with unknown contents; abandoned rail cars; trash; and debris.” Environmental concerns at the Ochsner site include:

- Former USTs in the area of the existing Ochsner overflow parking lot (URS 2008b);
- An AST in the cold storage section of the vacant A&P warehouse (URS 2008b);
- Potential petroleum or hazardous material releases based on soil contamination (arsenic and metals) identified along the rail spur and off-site upgradient petroleum releases at three locations within one-eighth mile east-southeast of the site (URS 2008b);
- Groundwater contamination, although No Further Actions were recommended to LDEQ based on a groundwater investigation conducted at the former Sears warehouse (URS 2008b);
- Hazardous materials/hazardous waste from several drums, containers, abandoned railroad cars containing miscellaneous materials, and an abandoned vehicle (URS 2008b);
- Mold, resulting from flooding caused by Hurricane Katrina;
- Asbestos in older residential and commercial structures;
- Lead in structures constructed prior to 1978; and
- PCBs in older light ballasts.

The AST survey presented in table F-3 (appendix F) identified approximately 181 ASTs within approximately 1 mile of the proposed VAMC Ochsner site (figure F-4 in appendix F). The ASD for each tank is less than the distance from the tank to the proposed project site. Therefore, no mitigation would be required for compliance with HUD safety standards.

3.8.2 Discussion of Impacts – Human Health and Safety

3.8.2.1 Impacts of the No Action Alternative

Since no construction would occur at the existing sites, there would be no additional adverse direct, indirect, or cumulative impacts to human health and safety within the project area under the No Action alternative. However, the existing health and safety concerns described in Section 3.8.1.1 would persist.

3.8.2.2 Impacts of the Proposed Actions

Direct Impacts

The Proposed Actions sites contain several USTs, a LUST, and numerous sites of potential hazardous material releases (see Section 3.8.1.2). These sites may require remediation that

would potentially expose workers to hazardous materials and other hazardous environments such as trenches and confined spaces.

As stated previously, the perimeter of the proposed VAMC Tulane/Gravier site is within the ASD of one AST identified during the survey of the area. However, there are many structures between each AST and the perimeter of the proposed sites that would act as barriers to thermal radiation flux and blast overpressure eliminating the need to apply the HUD safety standards at the proposed sites.

Occupational hazards associated with demolition and construction would also be present at the proposed sites. The risks associated with these hazards are typically proportional to the time involved in the tasks. As such, a site with less complicated demolition tasks that would take less time would inherently involve less occupational risks. To compare such risks between proposed sites, the estimated total volume of waste generated from site demolition is compared. As discussed in Section 3.4.2.2, the estimated volumes of waste demolition from the proposed LSU AMC and VAMC sites are 89,000 tons and 48,000 tons, respectively.

However, as discussed previously, new medical facilities are needed to replace the former VAMC and Charity Hospital. New facilities will provide a substantial positive impact to the health and well being of the community.

Indirect Impacts

There is the potential for uncontrolled releases of hazardous materials currently contained within the project areas to cause off-site contamination and result in non-occupational exposures. These releases could occur as a result of on-site activities or off-site transportation of the materials. These impacts would only occur during abatement, demolition, and remediation portions of the project and are expected to be controlled with strict adherence to applicable health, safety, and environmental regulations and the use of BMPs.

For example, without implementation of proper controls, remediation workers could transport hazardous materials such as asbestos fibers or lead dust from the work site to their homes. This would result in non-occupational exposures. Additionally, a truck that pumped oil out of an abandoned UST could be involved in an accident and leak its load into a storm drain or onto a residential property.

In addition, with the demolition and clearing of the Tulane/Gravier sites, there will be a significant amount of solid waste (demolition debris) that must be transported off-site.

3.8.2.3 Impacts of Alternatives # 2 through # 4

The direct and indirect impacts to environmental health and safety for Alternatives # 2 and # 3 would be similar to those described under the Proposed Actions. The Lindy Boggs and Ochsner sites contain several USTs, no LUSTs, and several sites of potential hazardous material releases (see Sections 3.8.1.3 and 3.8.1.4, respectively). In general, however, both of the alternative sites have fewer identified concerns than the proposed Tulane/Gravier sites. These alternative sites

may require remediation that would potentially expose workers to hazardous materials and other hazardous environments such as trenches and confined spaces.

As stated previously, the perimeter of the Lindy Boggs and Ochsner sites are within the ASD of no ASTs. As such, no mitigation measures would be necessary for construction at either site to comply with HUD safety standards.

However, pre-construction activities will involve the demolition of different types of structures at alternative locations. To compare the potential occupational risks, the estimated volumes of waste from the Lindy Boggs site (102,000 tons) and the Ochsner site (70,000 tons) can be compared against the Tulane/Gravier site for the VAMC (48,000 tons).

Therefore, the direct impacts to health and safety at the alternative sites under Alternatives # 2 and # 3 might be greater than the proposed Tulane/Gravier sites due to the nature of the demolition tasks. Additionally, the indirect impacts of increased risks due to off-site waste transportation would potentially be greater.

Under Alternative # 4, the health and safety impacts would include risks associated with pre-demolition tasks such as those expected with the LBMC demolition under Alternative # 2 where lead, asbestos, and mold abatement may be necessary. While remodeling and rehabilitation tasks will carry occupational risks, when waste transportation risks are included, the overall environmental health and safety risks for Alternative # 4 would be less than Alternatives # 2 and # 3.

3.9 BIOLOGICAL RESOURCES

Existing conditions and environmental impacts related to biological resources at the Tulane/Gravier, Ochsner, and Lindy Boggs sites and adjacent areas are discussed in this section. Biological resources include both terrestrial and aquatic habitats and the species of plants and animals they support. The biological resources in the areas of the existing, proposed, and alternative locations include vegetation, wildlife, and their habitats.

3.9.1 Existing Conditions - Biological Resources

Existing and Proposed Tulane/Gravier Locations

The existing VAMC and Charity Hospital locations (Alternative # 4) and the proposed Tulane/Gravier VAMC and LSU AMC sites (Alternative # 1) are located in a highly urban area near the center of the City (figure 1-1). The 30-acre proposed VAMC site includes 12 city blocks and contains approximately 150 residential and 40 commercial parcels (URS 2008a). The proposed site for a new LSU AMC facility is located immediately southeast of the proposed VAMC site, across Galvez Street. This site covers approximately 37 acres, includes 15 city blocks, and supports land uses similar to those of the VAMC site. The existing Charity Hospital is located on approximately 4.3 acres on one city block in the Central Business District. Charity Hospital shares the block with the LSU Medical Center. There are no wetlands or waterbodies

within or adjacent to these locations, as indicated by the National Wetlands Inventory (USFWS 2008).

Very little naturally occurring vegetation remains within the densely developed, urban setting of the existing or proposed sites (URS 2008a). As a result, little diversity exists among the plant and animal communities present. The proposed Tulane/Gravier VAMC and LSU AMC sites are dominated by buildings, paved roads, parking lots, and sidewalks. They contain limited, fragmented areas of vegetation that include grasses and herbs covering empty lots and small fields, small grass lawns associated with residences, ornamental shrubs, and scattered trees, such as palmettos (*Sabal* spp.) and live oaks (*Quercus virginiana*). There are a number of live oaks that line both sides of Banks Street on the south side of the proposed VAMC site. Several of these trees have girths of 8 feet or greater and, therefore, qualify for the Live Oak Registry maintained by the Louisiana Garden Club Federation.

Approximately 4 acres, or 12 percent, of the proposed VAMC site is estimated to be grass-covered open space (see figure 3-5). Similarly, approximately 4 acres, or 11 percent, of the total area of the proposed LSU AMC site is currently open space (see figure 3-6). The properties containing the existing facilities contain even less open space which generally consists of landscaped borders, courtyards, and buffer areas maintained as green space.

Undeveloped open spaces, such as landscaped areas of grass and shrubs or residential lawns, provide limited habitat for wildlife that commonly utilize urban settings. These may include mammals such as the raccoon (*Procyon lotor*), gray squirrel (*Sciurus carolinensis*), and house mouse (*Mus musculus*); birds such as the American robin (*Turdus migratorius*), common grackle (*Quiscalus quiscula*), house sparrow (*Passer domesticus*), and rock pigeon (*Columbia livia*); reptiles such as the green anole (*Anolis carolinensis*); and amphibians such as the Gulf Coast toad (*Bufo valliceps valliceps*).

Alternative # 2 – Lindy Boggs Location

The Lindy Boggs site consists of approximately 40 acres of land in the Mid-City area of New Orleans (figure 2-2). Areas of potential terrestrial habitat on the Lindy Boggs site are limited to a total of roughly 9 acres not covered by buildings or pavement. These areas include small patches or islands of grass in parking lots and along sidewalks, ornamental trees and shrubs lining parking areas and building entrances, and a 2.7-acre vacant lot covered by grass. The remaining 30 acres consist entirely of commercial, industrial, and medical buildings, parking structures, and paved parking. The physical location and urban setting of this site are similar to those of the Tulane/Gravier locations; therefore, similar species potentially could occur in the vegetated areas.

The perimeter of the Lindy Boggs site at its closest point is less than 200 feet west of the south terminus of Bayou St. John. From there, Bayou St. John extends north through the center of New Orleans for approximately 4 miles to its mouth at Lake Pontchartrain. Historically, the bayou began as a natural drainage from the Mississippi River to Lake Pontchartrain, and today its width varies from about 200 to 700 feet (Orleans Levee Board 1996). Bayou St. John is designated as a Natural and Scenic River by Louisiana State legislation (Louisiana Scenic Rivers

Act of 1976, amended 1988, No. 947, Section 1). The bayou has an average salinity of 3.5 parts per thousand and provides suitable habitat for both freshwater and some estuarine aquatic species (LPBF 2006). Common freshwater fish that occur in Bayou St. John include the largemouth bass (*Micropterus salmoides*), sunfish (*Lepomis* spp.), and catfish (*Ictalurus* spp.). Estuarine fishes, such as the inland silverside (*Menidia beryline*) and sheepshead minnow (*Cyprinodon ariegates*), also are found in the bayou, though they do not reproduce there due to the low salinity levels (LPBF 2006).

Alternative # 3 – Ochsner Location

The Ochsner site is approximately 27 acres of developed land adjacent to the existing Ochsner Medical Center (Main Campus) in Jefferson Parish (figure 2-3). This site contains warehouses, small commercial businesses, railroad tracks, access roads, two helipads (one no longer in use), and a parking lot. The land surrounding these structures and features does include some grassy areas but is covered primarily by pavement. The physical setting of this site is very similar to the proposed Tulane/Gravier locations; that is, it is highly developed with similar vegetation types and wildlife.

Wildlife habitat on this site is limited to the only substantially vegetated areas present: a 2.7-acre vacant grass lot behind a warehouse and a 1.4-acre brushy area of trees and shrubs on the northern end of the site and bounded by railroad tracks near the active helicopter landing pad. These 4 acres of marginal habitat cover approximately 15 percent of the site; the remaining 85 percent is limited to commercial parcels, both occupied and vacant. Given the highly urban setting and the habitats available, species similar to those described for the existing and proposed Tulane/Gravier locations would be expected to occur within or adjacent to the Ochsner site.

3.9.2 Discussion of Impacts - Biological Resources

Impacts of the No Action Alternative

Since no construction would occur at the existing sites under the No Action alternative, the existing conditions described in the Section 3.9.1 would continue, and there would be no significant direct or indirect adverse impacts on biological resources within this area.

Impacts of the Proposed Actions

Direct Impacts

Approximately 8 acres of terrestrial habitat (non-continuous acres of open space) would be lost with the construction of new VAMC and LSU AMC facilities at the Tulane/Gravier locations. This acreage consists of fragmented, marginal habitat areas, mainly empty lots and small residential yards, supporting plant and animal communities of minimal diversity and abundance. The direct impact on biological resources from the removal of these habitats would likely be temporary because future design plans for the new facilities would incorporate landscape elements into all facility grounds, including substantial park-like green spaces, curbside trees, and other ornamental trees and shrubs planted in areas surrounding the structures. The live oaks

on Banks Street along the boundary of the proposed VAMC site and other existing street trees in the project area would be protected in accordance with the tree protection requirements of the Code of Ordinances for the City and incorporated into the design of the new facilities when feasible. Thus, there would be no significant direct impacts on biological resources of the proposed Tulane/Gravier VAMC and LSU AMC locations.

Indirect Impacts

No indirect adverse impacts on biological resources are anticipated to occur under the Proposed Actions. BMPs would be employed to control sediment transport and minimize storm water runoff at the construction sites, and there are no wetlands or waterbodies present within or adjacent to the Tulane/Gravier locations. Therefore, no significant indirect impacts on terrestrial or aquatic biological resources would occur as a result of the Proposed Actions.

Impacts of Alternative # 2 through # 4

The direct and indirect impacts on biological resources from the Lindy Boggs and Ochsner alternatives would be essentially the same as those described for the Proposed Actions. The only alternative location where an aquatic community occurs nearby is the Lindy Boggs site. The use of BMPs would prevent indirect impacts from soil erosion and off-site sediment transport on the aquatic community to reach the Bayou St. John adjacent to the Lindy Boggs site. The renovation of the Charity Hospital may have some temporary impacts if green spaces are disturbed during renovation tasks. There would be no significant adverse impacts on biological resources from any of the alternative actions.

3.10 AIR QUALITY

The USEPA, under the requirements of the Clean Air Act of 1963 (CAA), has established National Ambient Air Quality Standards (NAAQS) for six contaminants, referred to as criteria pollutants (40 CFR Part 50). These are carbon monoxide, nitrogen dioxide, ozone, particulate matter (less than 10 microns in diameter [PM₁₀] and particulate matter less than 2.5 microns in diameter [PM_{2.5}]), lead, and sulfur dioxide. The primary standards were established at levels sufficient to protect public health with an adequate margin of safety. The secondary standards were established to protect the public welfare from the adverse effects associated with pollutants in the ambient air. The primary and secondary standards are presented in table 3-11.

Table 3-11. National Ambient Air Quality Standards

Pollutant and Averaging Time	Primary Standard		Secondary Standard	
	Micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)	parts per million (ppm)	$\mu\text{g}/\text{m}^3$	ppm
Carbon Monoxide 8-hour concentration 1-hour concentration	10,000 ¹ 40,000 ¹	9 ¹ 35 ¹	none none	
Nitrogen Dioxide Annual Arithmetic Mean	100	0.053	Same as primary	
Ozone 8-hour concentration	-	0.075 ²	Same as primary	
Particulate Matter <u>PM_{2.5}</u> : Annual Arithmetic Mean 24-hour Maximum <u>PM₁₀</u> : Annual Arithmetic Mean 24-hour concentration	15 ³ 35 ⁴ - 150 ¹	- - - -	Same as primary	
Lead Quarterly Arithmetic Mean	1.5	-	Same as primary	
Sulfur Dioxide Annual Arithmetic Mean 24-hour concentration 3-hour concentration	- - -	0.03 ¹ 0.14 ¹ -	- - 1300 ¹	- - 0.50 ¹

Notes:

¹ Not to be exceeded more than once per year.

² 3-year average of the 4th highest daily maximum 8-hour concentration may not exceed 0.075 ppm, effective as of March 27, 2008.

³ Based on 3-year average of annual averages.

⁴ Based on 3-year average of annual 98th percentile values.

Source: 40 CFR Part 50.

Areas that meet the NAAQS for criteria pollutants are designated as being “in attainment” while areas where a criteria pollutant level exceeds the NAAQS are designated as being “in non-attainment.”

3.10.1 Existing Conditions (All Locations) – Air Quality

Since 1995, all counties/parishes in the metropolitan New Orleans area have been “in attainment” for all criteria pollutants (USEPA 2008b). The standards for these pollutants are provided in table 3-11.

Given that the entire metropolitan area is in attainment, the air quality in each of the existing, proposed Tulane/Gravier, and alternative Lindy Boggs and Ochsner locations should be relatively consistent since there are no major point sources of air pollution near any of the sites.

The air quality impacts from increased traffic in the area following development of the proposed sites would be addressed during the design phase of the project. However, with respect to site selection, increased traffic from site development would be expected to have the least noticeable impact at those sites that are currently located near high-traffic areas.

3.10.2 Discussion of Impacts – Air Quality

3.10.2.1 Impacts of the No Action Alternative

Since no construction would occur at the existing sites, there would be no adverse direct or indirect impacts to air quality within the project area under the No Action alternative. However, the existing conditions described in Section 3.10.1 would persist.

3.10.2.2 Impacts of the Proposed Actions

Direct Impacts

Following implementation of the Proposed Actions, increases in air emissions in the project area would be expected during the demolition and construction period. These emissions would include: 1) exhaust emissions from operations of various types of off-road construction equipment such as loaders, excavators, cranes, generators, etc. and 2) fugitive dust due to earth disturbance, demolition, and construction. Emission performance standards from mobile sources such as off-road equipment are applicable to the source manufacturers, as they are not regulated under the CAA air permit regulations. Therefore, it is not necessary to quantify these emissions given the lack of ambient emissions thresholds that could be used to make the determination of air quality impact significance from these mobile sources.

The off-road vehicles and machinery used in the work area will contribute to air pollution on the project site and in surrounding areas. Off-road engines being produced today must meet relatively modest emission requirements and, therefore, continue to emit large amounts of nitrogen oxides and particulate matter, both of which contribute to serious public health problems. However, the principal air quality concern associated with the proposed activities would be emission of fugitive dust on and near construction areas. The USEPA estimates total suspended particulate emissions from heavy construction operations are about 1.2 tons of particulate per acre of construction activity per month (USEPA 1995).

Demolition of existing structures will also be a potentially significant pollution source that may have a short-term impact on air quality. In addition to general dust and particulates, asbestos can be found in various building materials that could be disturbed during demolition. Roof shingles, floor coverings, ceiling tiles, spray-on insulation, wall covering, and old electrical wire insulation have the potential to contain asbestos. The NESHAP was created by the USEPA pursuant to the CAA, which aims to reduce the release of asbestos fibers during contact with asbestos. All

asbestos abatement activities would be performed prior to demolition and documented in accordance with LDEQ and NESHAP regulatory requirements.

Other hazardous materials such as lead, mercury, PCBs, and mold can also be encountered during demolition. Demolition activities that may disturb hazardous materials will be performed in accordance with prevailing environmental and occupational health and safety laws. Asbestos and lead abatement activities would include dust control practices that would be followed during removal, loading, transportation, and disposal. Air monitoring should be conducted in accordance with regulatory requirements during abatement activities to ensure the safety of workers and the surrounding areas.

However, air quality impacts from construction and demolition will be temporary. Dust emissions would be controlled using standard BMPs. Additionally, the activities making up the Proposed Actions would be similar to those construction activities that have already occurred over the years around the City since Hurricane Katrina.

The demolition and construction projects would result in additional traffic on the surface streets in the area due to a commuting construction workforce and transportation of demolition debris (see Section 3.4.2.2) and construction materials. Total truck miles for demolition debris only would be about 341,000 miles (15,500 loads) over the course of the demolition project. However, since the Tulane/Gravier project sites are very close to I-10 and other high-traffic arterials, the impacts to the overall air quality by emissions from the demolition/construction-related traffic will likely be unnoticeable.

Indirect Impacts

There is the potential for indirect impacts of visual impairments created by airborne dust and vehicle and construction equipment emissions. Additionally, dust could migrate off-site and impact off-site receptors by creating a general nuisance (dirty windows, cars, vegetation, etc.) or a potential health hazard to sensitive populations. These impacts would only occur during the construction period and are expected to be controlled with the use of BMPs during construction.

3.10.2.3 Impacts of Alternatives # 2 through # 4

The direct and indirect impacts to air quality for Alternative # 2 and # 3 would be the same as those described under the Proposed Actions while the impacts of Alternative # 4 would be less. However, cumulative impacts would be reduced if one of the alternative VAMC sites were selected because the VAMC construction site would not be adjacent to the LSU AMC construction site.

The demolition and construction projects would result in additional traffic on the surface streets in the area due to a commuting construction workforce and transportation of demolition debris (see Section 3.4.2.3) and construction materials. Total truck miles for demolition debris only could be as high as 726,000 miles (33,000 loads) over the course of the demolition project, assuming no recycling. However, since the project sites are close to high-traffic arterials, the

impacts to the overall air quality by emissions from the demolition/construction-related traffic will likely be unnoticeable.

3.11 NOISE AND VIBRATIONS

Noise is generally described as unwanted sound, which can be based either on objective effects (hearing loss, damage to structures, etc.) or subjective judgments (such as community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB.

Noise levels are computed over a 24-hour period and adjusted for nighttime annoyances to produce the day-night average sound level (DNL). DNL is the community noise metric recommended by the USEPA and has been adopted by most Federal agencies (USEPA 1974). A DNL of 65 dBA (the A-weighted sound level, used extensively in this country for the measurement of community and transportation noise, represents the approximate frequency response characteristic of the average young human ear) is the level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like construction. Areas exposed to a DNL above 65 dBA are generally not considered suitable for residential use. A DNL not exceeding 65 dBA is considered acceptable while a DNL of greater than 75 dBA is considered unacceptable. A DNL in the range of 65 dBA to 75 dBA is categorized as normally unacceptable. Noise levels that are normally unacceptable or higher will require the implementation of attenuation measures such as shielding affected buildings, incorporating noise insulating materials into building construction, or siting buildings away from the noise source(s) (OFPC 2008).

Noise levels occurring at night generally produce a greater annoyance than do the same levels occurring during the day. It is generally agreed that people perceive intrusive noise at night as being 10 dBA louder than the same level of noise during the day. This perception is largely because background environmental sound levels at night in most areas are about 10 dBA lower than those during the day.

Any work funded by the City using CDBG funds must comply with HUD's Environmental Criteria and Standards (24 CFR Part 51) relative to noise abatement and control (Subpart B) and siting HUD projects in runway clear zones (Subpart D). The purpose of the HUD regulations with respect to noise abatement and control is, among other things, to encourage a suitable separation between major noise sources and noise sensitive development and to provide policy on the use of noise abatement measures.

For this PEA, the current noise levels are presented for one of the Proposed Action sites and, based on the analysis, predictions are made for the other sites. To comply with HUD regulations, the selected site would be specifically assessed for existing noise exposure and future conditions in a second tier analysis. HUD states that, to the extent possible, noise exposure assessments should project conditions that are expected to exist at a time at least 10 years beyond the date of site occupancy.

With respect to runway clear zones, the HUD policy (24 CFR Part 51) states that assistance for construction or major rehabilitation of any real property located on a clear zone site is prohibited for a project to be frequently used or occupied by people. For properties located within 2,500 feet of the end of a civil airport runway or 8,000 feet of the end of a military airfield runway, the Federal Cooperating Agency must obtain a statement of finding from the airport operator stating whether the property is located within a runway clear zone for civil airports or a clear zone or accident potential zone at a military airfield (Subpart D). Local civil and military airfields in the New Orleans area are shown in figure 3-12.

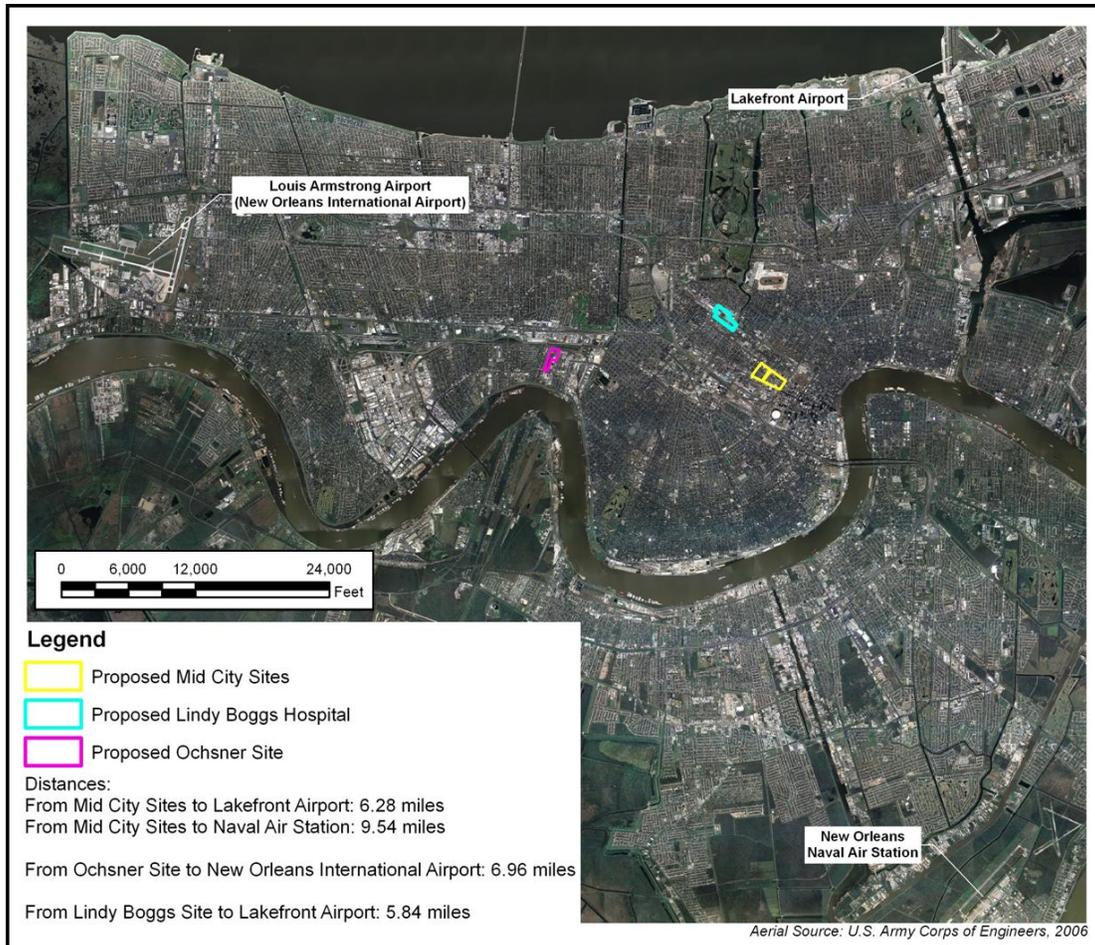


Figure 3-12. Locations of Airfields and Proposed Facility Sites

3.11.1 Existing Conditions – Noise and Vibrations

3.11.1.1 Existing and Proposed Tulane/Gravier Locations

In January 2008, the OFPC conducted a noise assessment survey of the proposed LSU AMC Tulane/Gravier site (OFPC 2008). As previously stated, the site encompasses 15 city blocks bounded by Tulane Avenue, Canal Street, South Claiborne Avenue, and South Galvez Street.

South Claiborne Avenue runs below the elevated I-10. The noise analysis evaluated the site's current exposure levels to noise from the following sources:

- Air traffic from airports/airfields within 15 miles (figure 3-12)
 - Lakefront Airport
 - Louis Armstrong International
 - Naval Air Station, Joint Reserve Base at Alvin Callender Field
- Roadways within 1,000 feet of the site
- Railways within 3,000 feet of the site
 - Illinois Central Railroad (2,712 feet west)

The study concluded that the current noise impacts from aircraft and railways are acceptable ($DNL \leq 55$). However, the DNL from the current traffic sources was 71.7, a normally unacceptable level (OFPC 2008).

Figure 3-13 provides a noise contour map for the proposed LSU AMC site. As shown in the figure, the noise level for the majority of the site is greater than 65 dBA and there are some areas on the perimeter of the site near the major roadways that exceeded 75 dBA. The noise levels on the existing VAMC and Charity Hospital sites are expected to have similar profiles, with noise levels exceeding 75 dBA near major roadways and decreasing noise levels farther from the major roadways.

A noise assessment survey has not been performed on the proposed VAMC Tulane/Gravier site located northwest of the proposed LSU AMC site across South Galvez Street, the proposed VAMC Ochsner site, or the proposed Lindy Boggs site. However, based on the noise contours shown in figure 3-13, the average noise levels for the proposed VAMC Tulane/Gravier site should be less than the average noise levels for the LSU AMC site because the area has more residential properties and there would be less influence from traffic on I-10. However, noise levels along Tulane Avenue and Canal Street are expected to be similar.

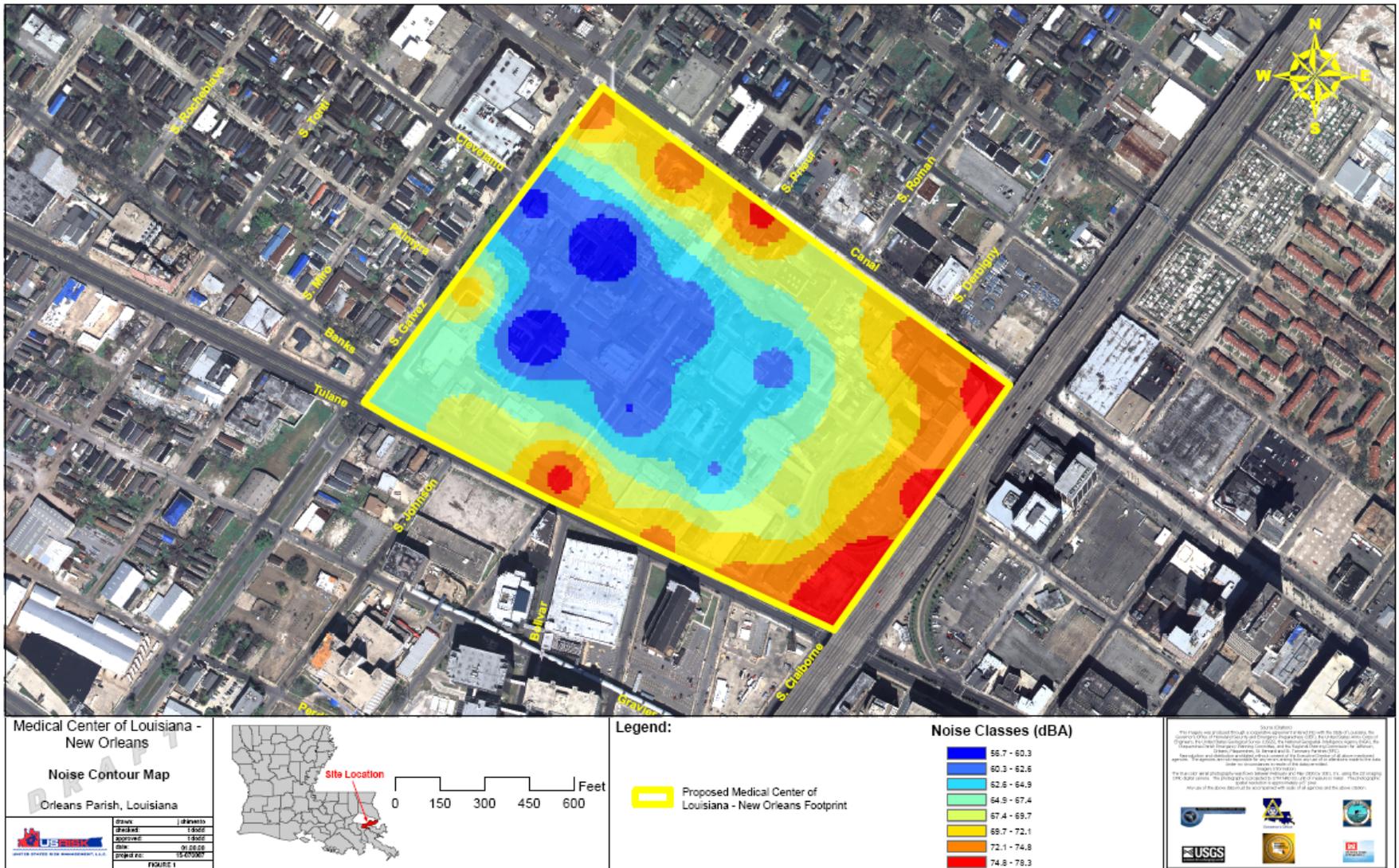


Figure 3-13. Noise Levels at the Proposed LSU AMC Site

3.11.1.2 Alternative # 2 – Lindy Boggs Location

A noise assessment survey has not been performed on the alternative VAMC Lindy Boggs site. Similar to the proposed Tulane/Gravier VAMC site, the alternative Lindy Boggs site is not located adjacent to any major roadways such as I-10 and the average noise levels would be expected to be less than those at the proposed Tulane/Gravier LSU AMC site. The alternative Lindy Boggs site is about 1 mile from I-10 and there are no active rail lines in the vicinity of the site. The Lindy Boggs site is approximately the same distance from the local air fields as the proposed Tulane/Gravier sites.

3.11.1.3 Alternative # 3 – Ochsner Location

A noise assessment survey has not been performed on the alternative VAMC Ochsner site. Similar to the proposed Tulane/Gravier VAMC site, the alternative Ochsner site is not located adjacent to any major roadways such as I-10 and the average noise levels would be expected to be less than those at the proposed Tulane/Gravier LSU AMC site. However, the Ochsner site is located adjacent to several rail lines on the north, but there are no road crossings in the immediate area requiring warning blasts from the train engines. The Earhart Expressway is located just beyond the rail lines and could create routine daytime noise levels on the north side of the site exceeding 65 dBA and enter the unacceptable range. Also, Jefferson Highway (US 90) borders the site on the south and the site is about 4 miles closer to Louis Armstrong International Airport than the proposed Tulane/Gravier VAMC site.

3.11.2 Discussion of Impacts – Noise and Vibrations

For new construction that is to occur in high noise areas, developers would incorporate noise attenuation features to the extent required by HUD environmental criteria and standards contained in Subpart B (Noise Abatement and Control) of 24 CFR Part 51. In accordance with the HUD regulations:

All projects located in the Normally Unacceptable Noise Zone [DNL in the range of 65 dBA to 75 dBA] require a Special Environmental Clearance except an EIS is required for a proposed project located in a largely undeveloped area, or where the HUD action is likely to encourage the establishment of incompatible land use in this noise zone.

Construction noise often impacts neighboring populations, both residential and commercial. To minimize these impacts, the City has a noise ordinance [codified through Ordinance No. 23129, adopted 19 June 2008 (Supplement No. 45, Update 1)/Chapter 66, *Environment*, Article IV, *Noise*]. The ordinance is designed to control and abate noise and authorize the enforcement of noise levels. Section 66-138 lists exemptions from the noise limits provided in the ordinance. These exemptions apply to authorized emergency vehicles when responding to an emergency and some construction and demolition activities. Section 66-138(7) states:

Noises from construction and demolition activities for which a building permit has been issued by the department of safety and permits are exempt from table 3-12 [maximum permissible sound levels] between the hours of 7:00 a.m. and 11:00 p.m., except for those

zoned as RS, RD, or RM residential districts. Construction and/or demolition activities shall not begin before 7:00 a.m. or continue after 6:00 p.m. in areas zoned RS, RD, or RM residential districts, or within 300 feet of such residential districts. Mufflers on construction equipment shall be maintained.

The applicable maximum permissible sound levels for non-exempt activities as given in the noise ordinance are provided in table 3-12.

Ground vibrations often accompany work activities that generate a significant amount of noise as construction activities and heavy-haul traffic will result in varying degrees of ground vibration, depending on the equipment and method used. Such vibrations will spread through the ground and diminish in strength with distance from the source. Buildings founded on the soil near the vibration sources will respond in various ways. The impacts of these vibrations can range from slight vibrations that are barely noticeable to large vibrations that could damage sensitive structures.

Table 3-12. Maximum Allowable Sound Levels for Non-Exempt Activities

Receiving Land Use Category	Time	Sound Level	
		L10 – dBA	L _{max} – dBA
Residential, public space	7 am – 10 pm	60	70
	10 pm – 7 am	55	60
Two-family or multi-family dwelling (intra-dwelling)	7 am – 10 pm	50	60
	10 pm – 7 am	45	55
Business and commercial	7 am – 10 pm	65	75
	10 pm – 7 am	60	65
Industrial	At all times	75	85

L10 – The A-weighted sound pressure level which is exceeded 10 percent of the time period during which the measurement is made.

L_{max} – The maximum A-weighted sound pressure level allowed.

3.11.2.1 Impacts of the No Action Alternative

Under the No Action alternative, noise receptors near the project corridor would not experience additional noise associated with construction activities such as pile driving and vehicles. However, along selected areas of the project area, they would continue to experience ambient noise disturbances exceeding 65 dBA from trucks and cars traveling in the area, and normal operational noise disturbances from the commercial areas within the project area as described in Section 3.11.1.1. Therefore, there would be no direct, indirect, or cumulative impacts beyond those associated with the previously described conditions.

3.11.2.2 Impacts of the proposed Actions

Direct Impacts

Table 3-13 describes noise emission levels for construction equipment expected to be used during the proposed construction activities. As shown on this table, which is based on data from the Federal Highway Administration (FHWA), the anticipated noise levels at 50 feet from the source range from 75 dBA to 101 dBA (FHWA 2006).

Due to the proximity of the proposed project areas to other developed areas, there are a number of residential and commercial properties that could be exposed to adverse impacts from construction noise. Assuming the worst case scenario of 101 dBA, as would be the case during pile driving, all areas within 1,000 feet of the project area would experience noise levels exceeding 65 dBA.

Table 3-13. A-Weighted Sound Levels (dBA) of Construction Equipment and Modeled Attenuation at Various Distances¹

Noise Source	50 ft	100 ft	200 ft	500 ft	1000 ft
Backhoe	78	72	68	58	52
Crane	81	75	69	61	55
Dump Truck	76	70	64	56	50
Excavator	81	75	69	61	55
Front end loader	79	73	67	59	53
Concrete mixer truck	79	73	67	59	53
Auger drill rig	84	78	72	64	58
Dozer	82	76	70	62	56
Pile driver	101	95	89	81	75

Notes:

¹ The dBA at 50 feet is a measured noise emission. The 100- to 1,000-foot results are modeled estimates.

Source: FHWA 2006

The closest residential properties to the proposed Tulane/Gravier LSU AMC site are 100 to 1,500 feet from any point on the project site. These residential properties are located north of Canal Street and south of Tulane near South Galvez. However, based on the existing site conditions, the ambient noise levels along the perimeter of the site generally exceed 68 dBA. Therefore, most construction equipment will not be heard over the typical noise at distances greater than 200 feet. The greatest distance across the project site is about 1,500 feet meaning construction activities near the center of the project site will likely not impact noise levels off-site.

The closest residential properties to the proposed Tulane/Gravier VAMC site are 50 to 1,000 feet from any point on the project site. The nearest residential properties are directly across South Rocheblave Street on the western side of the proposed site and across Canal Street on the northern side of the site. The ambient noise levels north and south of the proposed VAMC site

are assumed to exceed 67 dBA like those along the northern and southern sides of the proposed LSU AMC site. As such, construction activities near the center of the project site will likely not impact noise levels off-site. However, it can be inferred from figure 3-5 that residents on the west side of the proposed site, across South Rocheblave Street, may be able to hear construction equipment at distance of 200 feet or more because the ambient noise level on that side of the site are likely less than 67 dBA.

The construction activities at each of the proposed sites would be expected to create temporary noise impacts above 65 dBA to the limited number of receptors within 1,000 feet of the north end of the project area. However, in accordance with the City noise ordinance, the Proposed Actions would be exempt from complying with the maximum noise levels provided in table 3-12. Because properties located across the sites' perimeter streets within 300 feet of the construction site may still contain residential properties and, therefore, construction and demolition activities must be limited to between the hours of 7:00 a.m. and 6:00 p.m.

The demolition and construction projects would result in additional traffic on the surface streets and arterials in the area due to a commuting construction workforce and transportation of demolition debris (see Section 3.4.2.2) and construction materials. As shown in table 3-13, the noise level of a dump truck at 50 feet could exceed 76 dBA. Routine exposures to these noise levels along the trucks' paths through residential areas could have an adverse impact on receptors.

Since the Proposed Actions sites are located in a historic district, there is a greater likelihood that older, more sensitive structures in the area could be impacted by ground vibrations. Possible impacts on historic properties from vibrations related to demolition/construction activities at all potential sites were evaluated in the determination of the APEs as part of the Cultural Resources discussion (see Section 3.5). Also, vibration monitoring is one of the stipulations of the PA (see appendix B). Additional information on the volume of heavy-haul truck traffic is provided in Section 3.8.2.2.

There are opportunities for noise mitigation to limit impacts to off-site occupied areas. Based on the magnitude of the increased noise levels, these opportunities could include constructing noise barriers, directing truck traffic away from residential areas, placing noisy equipment as far away from the project site boundary as possible, and constructing walled enclosures around especially noisy equipment. Following construction, noise levels would return to existing levels.

Once the new medical facilities are operational, there will be an increase in the current number of emergency medical vehicles running sirens in the area. Emergency medical vehicles are exempt from the City's noise ordinance. Typical ambulance sirens operate in the range of 100 to 120 dBA. While the location for planned emergency vehicle entrances to the medical facilities has not been proposed, it is expected that most of the emergency medical vehicular traffic will be on either Canal Street or Tulane Avenue. These areas already have high ambient noise levels and emergency medical vehicular traffic will increase the average level.

In addition to the noise from emergency medical vehicle sirens, helicopter traffic in the area will increase above current levels as both medical facilities are proposing to operate helipads. Noise

levels near heliports can be on the order of 105 dBA. Noise levels at off-site locations will depend on proximity to the flight path, angle of descent of the helicopter, wind direction, and cloud cover. However, noise from helicopter activities due to medical emergencies and medical transports would be short-term with noise events typically less than 1 minute in length.

Indirect Impacts

No indirect impacts would be expected to result from the Proposed Actions.

3.11.2.3 Impacts of the Alternatives # 2 through # 4

Future conditions for the alternative actions, locating the VAMC at the Lindy Boggs or Ochsner sites (Alternatives # 2 and # 3), would be similar to those described for the Proposed Actions.

The closest residential properties to the proposed Ochsner site are immediately adjacent to the site's western boundary in the Live Oaks Place community. Because the Ochsner site is long and narrow, residential properties will be no farther than about 300 feet from construction activities at all times. The nearest residences to the proposed Lindy Boggs site are across Toulouse Street on the north side of the site and across Bienville Avenue on the south side with the center of the site about 500 feet from the northern and southern site boundaries. Based on the sound levels in table 3-12, the minimum sound level from all listed sources will likely be greater than 60 dBA at the nearest residential property at all times during construction. No information is available on the ambient noise levels in communities adjacent to the proposed alternative sites.

As there are residential properties within 300 feet of both the Lindy Boggs site and the Ochsner site, demolition and construction activities would be limited to between the hours of 7:00 a.m. and 6:00 p.m. However, the table 3-12 maximum noise levels are not applicable.

The demolition and construction projects would result in additional traffic on the surface streets and arterials in the area due to a commuting construction workforce and transportation of demolition debris (see Section 3.4.2.3) and construction materials. Under the various alternatives, there would be as many as 33,000 truck trips transporting demolition debris. As shown in table 3-13, the noise level of a dump truck at 50 feet could exceed 76 dBA. Routine exposures to these noise levels along the trucks' paths through residential areas could have an adverse impact on receptors. However, in contrast to the Proposed Actions, the transportation-related noise impacts of the alternative actions would be spread over two separate areas since none of the alternative approaches involve demolition/construction projects at adjacent sites.

Construction activities and heavy-haul traffic would result in varying degrees of ground vibration in and around the project sites. The impacts of these vibrations would range from slight vibrations that are barely noticeable to large vibrations that could damage sensitive structures. The Lindy Boggs site is adjacent to a historical district that could contain sensitive structures, increasing the potential for adverse impacts. The Ochsner site, while not located adjacent to a historical district, is located close to a residential area. Renovation and rehabilitation efforts at Charity Hospital are not expected to generate the types of ground vibrations that would be

generated at a construction site; thus, these actions would not be expected to have a noticeable impact.

The impact of the Alternative # 4 would be less than the impacts of the other alternatives because Charity Hospital renovations would replace demolition and construction work at the LSU AMC Tulane/Gravier site. Renovations at Charity would mostly consist of interior work with less impact on off-site noise. There are no residential noise receptors within 300 feet of the site and, therefore, construction activities conducted between 7:00 a.m. and 11:00 p.m. would be exempt from the table 3-12 noise limits.

As discussed in Section 3.11.2.2, once a medical center is open at any alternative location, ambulance and helicopter traffic would have short-term impacts on local noise levels which would have an impact on near-by receptors. However, each of the Alternatives # 2, # 3, and # 4 would have less impact than the Proposed Actions because the two operating medical facilities would be geographically separated and emergency vehicle traffic would be less concentrated.

4.0 CUMULATIVE IMPACTS

This section discusses the cumulative impacts that may be associated with the Proposed Actions and alternatives in conjunction with other past, present, and reasonably foreseeable activities within the project areas. (Cumulative impacts occur when the effects of an action are added to the effects of other activities occurring in a particular geographic area and time frame). The analysis is based on the President's CEQ guidance: *Considering Cumulative Effects Under the National Environmental Policy Act* (CEQ 1997b).

The first step in the cumulative impacts analysis is to use the scoping process to identify those resources with the potential to experience significant cumulative effects. To focus the cumulative impact analysis on the issues that are relevant to the eventual decision, the agencies took into account the nature of the environment affected (an urban environment with multiple historic properties and districts) and the issues that would likely receive more than minimal direct or indirect impacts, either adverse or beneficial, from the implementation of the Proposed Actions or the alternatives. Accordingly, this cumulative effects analysis focuses on those three resources – land use, cultural resources, and socioeconomics.

The next step in the analysis involves establishing the geographic scope and time frame for the analysis. The geographic scope of this analysis was limited to those areas surrounding the alternative project sites within the New Orleans metropolitan area. The time frame for this analysis was established as the period after Hurricane Katrina. This time frame was selected because of the substantial impacts that the disaster had on the parishes' pre-Katrina plans and the changes it caused to previously planned activities, such as reprioritization of construction activities and proposed new activities.

Based on these assumptions, various programs were identified that may have impacts on land use, cultural resources, and socioeconomic resources. Several of these programs related to hurricane recovery involve activities or projects located within the area and time frame of the Proposed Actions and alternatives. As a result, these programs have the potential to contribute to cumulative impacts in conjunction with impacts from the Proposed Actions and alternatives. Because there are several Federal and State hurricane recovery programs that may affect multiple resources, they are discussed collectively below prior to the evaluations of cumulative impacts on individual resources.

4.1 HURRICANE RECOVERY PROGRAMS

Of the hurricane recovery programs affecting the New Orleans metropolitan area, five Federal or State programs were identified that may have a potential to contribute to cumulative impacts on resources affected by the Proposed Actions or alternatives. These programs include:

- FEMA Public Assistance Grant Program Critical Infrastructure Projects;
- FEMA Hazard Mitigation Grant Program (HMGP);
- FEMA Demolition Activities;

- USACE Hurricane, Storm, and Flood Protection Activities; and
- Road Home Projects.

4.1.1 FEMA Public Assistance Grant Program Critical Infrastructure Projects

FEMA, through its Public Assistance Grant Program, is involved in multiple projects for the restoration of public infrastructure in New Orleans and Jefferson Parish. These projects include providing grants for debris removal, emergency protective measures, repairing infrastructure to pre-disaster conditions, and infrastructure permanent work beyond its pre-disaster conditions. Many of these projects are exempted from the requirements of NEPA under Section 316 of the Stafford Act, but must comply with all other environmental and historic preservation laws, regulations, and EOs. However, the use of Public Assistance funds for projects other than the repair to pre-disaster conditions (e.g., improved projects and alternate projects) is not exempted from NEPA.

Given the substantial amount of improved and alternate projects that will occur in the parishes, the potential for cumulative impacts associated with areas of concern such as historic properties and environmental justice, potential changes to land use, and the need to restore critical infrastructure in these areas (e.g., schools, police and fire stations, healthcare facilities, government facilities, and utilities), FEMA developed alternative arrangements for NEPA compliance in coordination with the Department of Homeland Security and the CEQ. For more information, see <http://www.fema.gov/plan/ehp/noma>. As part of these alternative arrangements, FEMA developed a GIS tool to assist in the consideration of cumulative impacts. This GIS tool can be accessed at http://www.fema-aa.com/pa_viewer/viewer.htm.

The GIS tool shows approximately 20 projects near the sites identified in Alternative #1 and Alternative #4. These projects, however, are either equipment replacements or minor repairs that have minimal impacts to land use, historic properties, minority and low-income populations, or housing. The GIS tool shows two projects near the site identified under Alternative #2: one project involving replacement of building equipment, and another project supporting temporary housing for essential personnel from the New Orleans SW&B. These projects did not have impacts to land use, historic properties, minority and low-income populations, or housing. Near the site identified under Alternative #3, the GIS tool shows less than 10 projects. These projects are repairs to the Ochsner facilities and have no impacts on land use, historic properties, minority and low-income populations, or housing.

Most of the approximately 20 projects described above that are located near the sites identified in Alternative #1 and Alternative #4 are components of the City of New Orleans Criminal Justice Facility, located within the area bordered by Tulane Avenue, S. Broad Street, I-10, and S. Jefferson Davis Parkway and approximately 1,500 feet west of the proposed Tulane/Gravier VAMC site. FEMA funded preparation of the Justice Facilities Master Plan (FEMA 2007), released in September 2007, to assist the City in planning for long-term reconstruction of the facilities as it moves forward with short-term recovery decisions on whether to renovate, rebuild, or repair existing facilities and infrastructure. However, the City has not yet adopted the plan and has been performing repairs to existing facilities, such as police headquarters and criminal, municipal, and traffic courts.

4.1.2 FEMA Hazard Mitigation Grant Program

FEMA is also involved in multiple projects related to its HMGP. This FEMA program provides funding for activities that mitigate the impacts of future disasters including, but not limited to, retrofitting of commercial and residential structures, reconstruction of homes with hazard mitigation measures, elevation of structures, flood-proofing of structures, and acquisition of facilities.

The State of Louisiana is using part of the available HMGP funds to assist in the Road Home Program efforts (see Section 4.1.5). In particular, HMGP funds will be used for the elevations and reconstruction of some homes identified under the Road Home Program. There are 21 of these projects near the sites identified under Alternatives # 1 and # 4 that the State has submitted to FEMA for review. The State has also submitted one project near the site identified under Alternative # 2 for FEMA review. However, the State and FEMA have not made a decision on whether funding will be made available for these properties or the type of action (elevations or reconstruction) that would be approved.

In December 2007, FEMA announced a program exception that would allow the agency to provide HMGP assistance to actions that were initiated or completed without the agency's approval in the State of Louisiana. FEMA issued a PEA for these activities and executed a PA under Section 106 of the NHPA (FEMA 2008b). Only one project near the sites identified in the alternatives fits the criteria for this HMGP program exception. This project is located near the sites identified under Alternatives # 1 and # 4.

4.1.3 FEMA Demolition Activities

After Hurricanes Katrina and Rita devastated southern Louisiana in 2005, FEMA implemented a disaster response program funding demolition of homes identified by the local government as a threat to public health and/or safety. As a federally funded program, these demolitions are subject to review under Section 106 of the NHPA. FEMA conducts individual historic review of buildings eligible for this program to identify those demolitions that would affect historic properties. From the onset, there was a general acknowledgement that this demolition program would potentially have adverse effects to historic properties, particularly in Orleans Parish with its many NRHDs and widespread devastation. Very early in the process, FEMA recognized that the 106 review and potential adverse effects in Orleans Parish necessitated a programmatic approach.

Building on the Louisiana PA, FEMA initiated consultation leading to a Secondary Programmatic Agreement (2PA) for Orleans Parish private property demolitions. The primary concerns during this consultation revolved around expediting the Section 106 review process, detailing public notice requirements, and outlining a broad strategy of treatment measures designed to mitigate the anticipated adverse effects resulting from the demolitions throughout the City.

Adverse effects resulting from the private property demolitions are programmatically addressed on a specific basis with pre-demolition treatment measures for NRHP-eligible homes. Those buildings which were found to be historic, primarily contributing to historic districts, are

individually attended to in a meeting with all interested parties (FEMA, the City, SHPO, and the National Trust for Historic Preservation, Preservation Resource Center), which examines alternatives to demolition for each property. After this is complete, each NRHP-eligible house is photographed for archival recordation. Finally, before demolition, each building is assessed by a team of historic architects and specialists from the above organizations to identify character-defining architectural elements to be removed prior to demolition. Once removed, these items are given to the Preservation Resource Center, a local non-profit preservation advocacy group to be resold into the community.

Since the Orleans Parish demolition program is ongoing, cumulative effects on the district can not be conclusively determined. At the present time, there are 104 completed or active FEMA funded demolitions of NRHP-eligible buildings in the Mid-City Historic District and 15 in Parkview NRHD. These demolitions are scattered throughout the Mid-City District with the exception of the northwestern most section. All of these buildings were condemned by the City as a threat to health and safety, approved for FEMA funding by Public Assistance, and completed all building specific pre-demolition treatment measures as detailed above. Across the entire City, there are 538 completed or active FEMA-funded demolitions of NRHP-eligible buildings, all contributing to districts.

In addition to the individual level, the 2PA details treatment measures designed to benefit the City as a whole and mitigate the potential loss of historic elements by demolition. In concert with the NPS, FEMA is in the process of completing an individual level inventory of eight NRHDs, including Mid-City. This inventory is digitally based, with a detailed description collected by a historic preservationist at each building within the district. This data is entered into a geographic information system database along with locational information and linked photos of each building. This data, after collection and verification by FEMA, will be turned over to the SHPO to serve as the basis for individual level inventory of NRHD. This data will also be shared with New Orleans's HDLC, amended in consultation with the HDLC, in order to provide useful data to the City.

In order to mitigate potential loss to the historic fabric of New Orleans, the 2PA also stipulates geo-referencing of historic maps. These maps can be brought into the digital environment as a layer to investigate changes over time in Louisiana. At the onset of the disaster, FEMA worked with staff at SHPO to create a draft copy of archaeology probability zones for the Orleans Parish area. This digital map is used to aid in selecting properties to be monitored and is referenced in the 2PA. At the conclusion of the demolition program, FEMA will update this map using the data collected during the implementation of the 2PA during the demolition process and monitoring efforts. Overall, the treatment measures contained in Orleans Parish's 2PA serve to mitigate adverse effects for the City and State as a direct result of the FEMA-funded private property demolition program.

4.1.4 U.S. Army Corps of Engineers Hurricane, Storm, and Flood Protection Activities

The USACE manages the Hurricane Storm Damage Risk Reduction System (HSDRRS) and the Southeast Louisiana Urban Flood Control Program (SELA). During Hurricanes Katrina and Rita, surge and waves caused 50 major levee breaches in the HSDRRS (USACE 2008a). Thirty-

four of the City's 71 pumping stations were damaged, and 169 of the system's 350 miles of protective structures were compromised (USACE 2008a). Repairs and improvements to the HSDRRS after Hurricanes Katrina and Rita required alternative arrangements under the NEPA process. The alternative arrangements were enacted to accelerate the award of contracts for hurricane and storm damage reduction projects, to reduce the risk of loss of life and property should another storm event occur, and to ultimately aid in the economic recovery of the greater New Orleans area.

The environmental assessments for the HSDRRS projects are organized into Individual Environmental Reports (IERs) for groups of projects based on similarity of environmental issues, construction features, and independent utility within a given hydrologic unit or sub-basin. The GNOHDRRS projects most likely to contribute to cumulative impacts, because of their location and the protection that they would provide, are the IER # 2, # 3, # 4, # 5, and # 11 projects.

- IER # 2 - Lake Pontchartrain and Vicinity (LPV), West Return Floodwall on the boundary of Jefferson and St. Charles Parishes. This project includes proposed replacement of 17,900 feet (3.4 miles) of floodwalls along the line between Jefferson Parish and St. Charles Parish.
- IER # 3 - LPV, Jefferson East Bank along the south shore of Lake Pontchartrain. This project includes the proposed rebuilding of 9.5 miles of earthen levees, upgrade of foreshore protection, replacement of two floodgates, construction of fronting protection, and construction or modification of breakwaters at four pumping stations just east of the St. Charles Parish – Jefferson Parish line to the western side of the 17th St. Canal.
- IER # 4 - LPV, New Orleans Lakefront Levee, west of the Inner Harbor Navigation Canal (IHNC) in Orleans Parish. This project area consists of four reaches (LPV 101-104) on the south shore of Lake Pontchartrain within the LPV system totaling approximately 5.8 miles in length between the 17th Street Canal and the IHNC.
- IER # 5 - LPV, New Orleans East, New Orleans Lakefront Levee to Citrus Lakefront Levee, New Orleans Airport Floodwall to Paris Road in Orleans Parish. This project includes a range of alternatives to protect Orleans and Jefferson Parishes from storm-surge-induced flooding through the 17th Street, Orleans Avenue, and London Avenue Outfall Canals, while not impeding the ability of the area's internal drainage system to remove storm water.
- IER # 11 - New protection features for the IHNC. New levees, floodwalls, barriers, and gates and/or modifications to existing similar structures would be constructed on the Lake Pontchartrain and the Lake Borgne ends of the IHNC to prevent storm surges from entering New Orleans from the IHNC.

The USACE HSDRRS projects would provide additional flood protection for Orleans and Jefferson Parishes, which would ultimately encourage new development or redevelopment within these areas.

The SELA program includes both the east and west banks of the Mississippi River in Orleans and Jefferson Parishes, with an objective to reduce damages due to rainfall flooding in Orleans, Jefferson, and St. Tammany Parishes. Nine contracts have been awarded in Orleans Parish, with eight having been completed (USACE 2008b). Improvements in the drainage system in Orleans

Parish support the master drainage plan for the parish and generally provide flood protection on a level associated with a 10-year rainfall event, while also reducing damages for larger events.

The HSDRRS and SELA projects would provide additional flood protection for southeastern Louisiana, which would ultimately encourage new development, restoration, and/or redevelopment within Jefferson and Orleans Parishes. Assuming that development efforts follow the applicable planning documents, the HSDRRS and SELA projects would provide indirect beneficial cumulative effects to land use, cultural resources, and socioeconomics by lowering insurance rates, creating new jobs and services, and protecting existing cultural resources from storm surge and flooding. Cumulative adverse impacts from HSDRRS and SELA projects that are relevant to the Proposed Actions and alternatives described in this PEA would include increased traffic, noise, air pollution, and disruption or destruction of unknown historic sites. The increase in traffic, noise, and air pollution would end after construction efforts for the HSDRRS are completed.

4.1.5 Road Home Projects

The Road Home Program is one of the major initiatives launched by the State of Louisiana in the area. The intent of the program is to provide funding to individual homeowners for three options: to stay and rebuild, to sell their home and relocate within the State, or to sell their home and relocate outside of the State. One of the funding sources for this program comes from the HUD CDBG program. More information on the Road Home Program can be found at <http://www.road2la.org>.

The Road Home Program's GIS tool (<http://wimbydb.road2la.org/WIMBY/Maps.do>) shows that of the 13 homeowners on the Alternative # 1 site that have made their selection, almost 100 percent have decided to stay; only one applicant has sold his house. The site considered under Alternative # 2 does not have homeowners, but in the areas next to the site under consideration there are seven applicants that have decided to stay. In the area near Alternative # 3, seven applicants have made their selection to stay. In the area near the site considered under Alternative # 4, there are no Road Home applicants.

Federal disaster recovery appropriations are also used to fund larger projects in the City. The City's Office of Community Development (OCD) was consulted to determine the location of major projects funded with Federal disaster recovery appropriations in the study areas surrounding the proposed VAMC and LSU AMC site locations. The OCD identified only one apartment complex project that is ongoing, located at 710 South Broad Street, east and southeast of the proposed Tulane/Gravier sites (New Orleans OCD 2008). This project involves the construction of a 250-unit apartment complex at the old LF Gaubert & Co. warehouse site. The warehouse demolition was completed in November 2007, and the foundation and parking lot demolition was completed in May 2008. Construction completion is scheduled for the third quarter of 2009 (Harris 2008). Another housing project, whose developer has applied for housing tax credits and CDBG piggyback funding from the Louisiana Recovery Authority (LRA)/OCD, is proposed for the 3100 block of Bienville Street approximately one-half mile northwest of the proposed Tulane/Gravier sites. Named Bienville Square, it is a mixed-income housing development with 50 new apartment units and an on-site community center to be

constructed on a site bounded by Bienville Street, North Salcedo Street, North Rendon Street, and Conti Street (The Times-Picayune 2008).

4.1.6 Other Projects in the Area

In addition to evaluating the major hurricane recovery programs in the area, other tools and methods were used for identifying activities that had the potential to affect the identified resources of land use, cultural resources, and socioeconomics.

City of New Orleans Capital Improvement Projects

The City maintains a webpage (<http://neworleans.iprojweb.com/map.aspx>) that identifies capital improvement projects and includes a mapping tool. No facility projects were identified at any of the alternative sites. The map shows some sidewalk repair and asphalt overlay projects at the site identified in Alternative # 2.

FEMA Gulf Coast Recovery Office Transparency Initiative

A map developed by the FEMA Gulf Coast Recovery Office (<http://www.femarecovery.gov/gcromaps/>) was examined to identify other FEMA projects in the area. However, this map only shows the amount of FEMA funding provided for facilities in the area and does not provide a description of work, if any, that is being undertaken.

Louisiana Cancer Research Consortium

In 2002, the Louisiana Legislature passed Senate Bill 73 creating the Louisiana Cancer Research Consortium in New Orleans (<http://www.lcrc.info>). House Bill 157, also passed in 2002, increased the tax on cigarettes and earmarked a portion of this as funding for the Consortium, potentially providing \$10 million annually. This Consortium is a cooperative venture with Tulane University, LSU, and Xavier University (as of May 2007), as participants. It was decided to build the Consortium on Tulane Avenue between South Claiborne Avenue and South Derbigny Street. The building will be a 10-story, 175,000 square-foot facility with four parking decks. The groundbreaking ceremony was held in December 2002, and the last required property was acquired in 2005, shortly before the landfall of Hurricane Katrina. The advent of the hurricane postponed the project and ground was re-broken in October 2007. The planning stages have been completed and the State has appropriated funding and bonds for the construction of the Consortium. Currently, they are driving test piles prior to construction commencement. The Consortium is slated to be complete and fully functional by mid 2010.

National Park Service Historic Building Recovery Grants

On 24 July 2006, the Louisiana SHPO received more than \$10 million in Federal funds in an effort to save, make habitable, and preserve the character of historic properties in areas damaged by Hurricanes Katrina and Rita. Congress has provided these funds through the NPS to preserve, stabilize, rehabilitate, and repair historic properties. Funds are also available for planning and

technical assistance. Four people have received Historic Building Recovery Grants to make repairs and renovations to their homes within the sites identified under Alternative # 1.

Other Projects

Information was requested from local and State agencies on projects near the alternative sites; however, no responses were received.

The sections below follow the remaining steps in the cumulative effects analysis, as established by the CEQ guidance (CEQ 1997b). The discussions in this chapter are organized by resource area (land use, cultural resources, and socioeconomics). References are made to the discussions of existing environment provided in Chapter 3 to avoid unnecessary repetition.

4.2 LAND USE

To determine the cumulative impacts on land use from the Proposed Actions and alternative actions, past, present, and reasonably foreseeable future developments in the vicinity of each project location were considered using a trends analysis. These developments were identified based on the assumption that the recommendations of adopted planning documents, including the 1999 Land Use Plan (NOCP 1999), the Unified New Orleans Plan (UNOP) (NOCSF 2007), and "Envision Jefferson 2020", the Jefferson Parish Comprehensive Plan (Jefferson Parish 2003), would be implemented. The cumulative effects on land use of past and present projects are reflected in the descriptions of the affected environment in Section 3.3.1.

The UNOP is the foundation for the City recovery plan and for the release of CDBG funds by the LRA to the City for recovery projects. The UNOP, which identifies recovery projects for the City, was approved by the NOCP, endorsed by resolution of City Council, and submitted to the LRA. On June 25, 2007, the LRA accepted the UNOP as the foundation for the Orleans Parish recovery plan and approved the New Orleans Strategic Recovery and Redevelopment Plan as the official recovery plan for Orleans Parish. The City recovery plan prioritizes 17 areas for redevelopment. This cumulative impact analysis reflects construction of projects that are located in proximity to the alternative sites and that were identified in the UNOP as having high recovery value for the City. (To assist in addressing projects of City-wide significance, the UNOP assigned a "Recovery Value".)

Cumulative future impacts under the No Action alternative were evaluated without consideration of the Proposed Actions or alternative actions. The No Action alternative represents the future conditions of the project sites if development were to occur as planned under the UNOP land use plan or the Jefferson Parish Comprehensive Plan. These conditions are described in Section 4.2.1 below.

Cumulative future impacts under the Proposed Actions (Alternative # 1) and Alternatives # 2, # 3, and # 4 were identified based on direct and indirect effects of each alternative in combination with other planned projects, which were identified based on implementation of the UNOP and the Jefferson Parish Comprehensive Plan. The direct effects of removing existing buildings, re-designating land uses, and constructing the VAMC and LSU AMC facilities were quantified

based on available information. Indirect effects were described qualitatively, based on research drawn from information from other recent medical complex proposals, including environmental documents. Indirect effects include the establishment of supportive services in proximity to the project sites, such as pharmacies, medical offices, and lodging.

Effects were evaluated using existing and proposed land use data in GIS format provided by GCR & Associates (Poche 2008) and the Jefferson Parish Planning Department (Cassagne 2008). These data were used to describe planned land use changes within the individual site boundaries, as well as in the study area surrounding each site. Based on the expected 10-year planning horizon of the UNOP adopted in 2007, the cumulative scenarios describe anticipated development conditions through the year 2017.

4.2.1 No Action Alternative

Under the No Action alternative, the existing VAMC and MCLNO facilities, which were severely damaged as a result of Hurricane Katrina, would not be rehabilitated or replaced. There would be no construction of new facilities or modification of the existing structures, and medical services would continue to be provided using the interim arrangements currently in use. The hurricane recovery programs discussed in Section 4.1, including the critical infrastructure projects, mitigation and demolition activities, Road Home projects, and USACE flood protection activities, would continue under the No Action alternative.

The following sections describe the future land use trends at each of the proposed and alternative project locations based on implementation of the UNOP and the Jefferson Parish Comprehensive Plan, without the Proposed Actions or alternative actions.

4.2.1.1 No Action – Tulane/Gravier Locations

Residential and Commercial land uses currently occupy the approximately 74-acre Tulane/Gravier sites, as shown in figure 4-1 and table 4-1. (Acreages in tables 4-1 through 4-7 were derived from GIS data and are approximations.) Additionally, the study area includes Institutional, Industrial, and Park/Open Space uses surrounding the site.

The UNOP recommends revisions to the existing land use designations within the site and study area to establish a vibrant, Mixed-Use Neighborhood anchored by a redeveloped medical district and the revitalization of neighborhood commercial uses. Under the UNOP, the Tulane/Gravier sites would continue to include land designated for Commercial and Single/Two-Family Residential uses. Neighborhood Commercial uses would be supported along Canal Street as it develops a “main street” identity between Claiborne and Broad Streets, and at the Galvez Street intersection, as described in the UNOP District 4 Plan (NOCSF 2007). Existing residential designations would largely remain, with the addition of a Mixed-Use parcel along Canal Street.

Within the study area, additional commercial corridors are proposed along Galvez Street, Broad Street, and Claiborne Avenue. Galvez Street would develop into a promenade-like corridor with nodes of Mixed-Use activity occurring at major intersections, including Poydras Street, Tulane Avenue, Canal Street, and St. Louis Street. The street would include Office, Commercial, and

Residential uses, and would provide a link for the surrounding Tulane/Gravier and Treme neighborhoods to the proposed Lafitte Corridor Greenway, as described in the UNOP District 4 Plan (NOCSF 2007). Similarly, Broad Street and Claiborne Avenue would include portions of the redeveloped Medical District, as well as supporting Office and Mixed-Use space.

To accommodate this development, the UNOP land use plan would increase the amount of land devoted to Institutional designations within the study area to promote redevelopment of the Medical District (figure 4-2). The amount of land devoted to Single and Two-Family Residential land would be reduced to allow additional Multi-Family housing to be provided in new Neighborhood Mixed-Use and Urban Mixed-Use designations. There would also be increased Parks and Open Space land to enhance the improved character of the area, attract residents, and provide connections to the City's larger green space network.

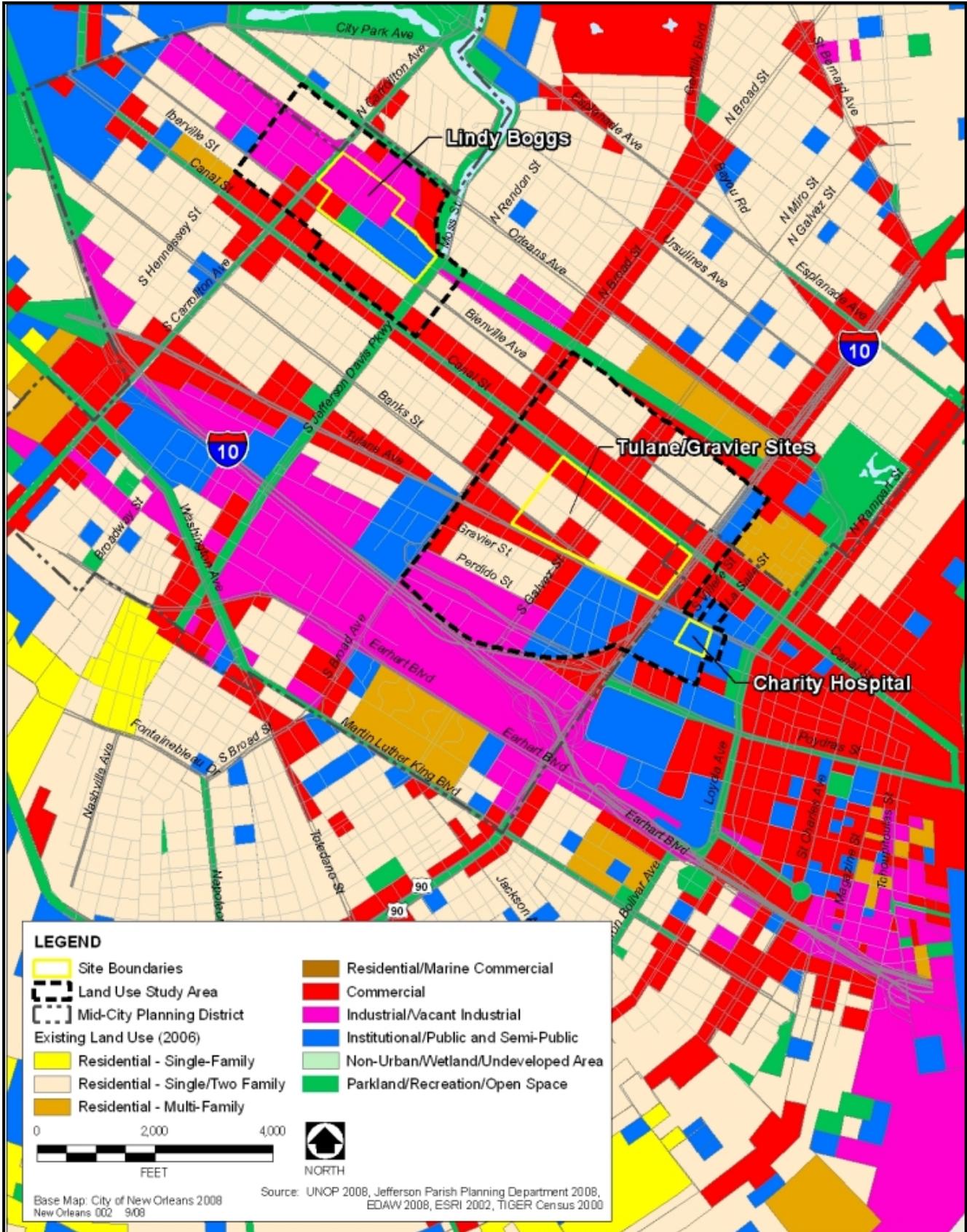


Figure 4-1. Existing Land Use – Tulane/Gravier, Lindy Boggs, and Charity Hospital Locations

**Table 4-1. Existing and Planned Land Use within Tulane/
Gravier Site Boundary and Study Area**

Land Use	Site				Study Area			
	Existing		Planned		Existing		Planned	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Commercial	43	59	-	-	160	35	-	-
Industrial/Vacant Industrial	-	-	-	-	49	11	-	-
Institutional/Public and Semi-Public	-	-	-	-	82	18	115	25
Parkland/Recreation/Open Space	-	-	3	4	12	3	71	16
Residential - Single/Two Family	30	41	24	32	148	33	110	24
Neighborhood Commercial	-	-	44	60	-	-	89	20
Neighborhood Mixed-Use	-	-	3	4	-	-	22	5
Regional Commercial	-	-	-	-	-	-	5	1
Urban Mixed-Use	-	-	-	-	-	-	42	9
Total	74	100	74	100	452	100	453	100

Source: Based on modeling using GIS data from the UNOP (Poche 2008).
Note: Differences in column totals due to rounding.

4.2.1.2 No Action – Lindy Boggs Location

Existing land uses on the approximately 44-acre Lindy Boggs site include Industrial, Institutional, Commercial, and Park/Open Space, as shown in figure 4-1 and table 4-2. The study area additionally includes Residential uses.

Based on the UNOP City-wide and district plans, the Lindy Boggs site would be developed as Mixed-Use along Carrollton Avenue and Jefferson Davis Parkway, with possible reuse of the medical facilities on the former Lindy Boggs hospital site.

The Lindy Boggs’ study area would likely develop as an entire Mixed-Use Neighborhood surrounding any re-use that might occur at the former hospital site. Mixed-Use development would line Carrollton Avenue, Canal Street, and Jefferson Davis Parkway, all of which are a part of the City’s green space network. Improvements to this network, including the addition of bike lanes, would support plans for a river-to-lake corridor and provide an amenity for the area’s new residents. Mixed-Use properties along Canal Street would support plans for its revitalization by allowing diverse neighborhood-oriented uses, including small businesses and offices, and Residential uses above the street-level shops.

To allow this area to redevelop as a vibrant neighborhood and provide flexibility in use, the UNOP land use plan re-designates the existing Industrial and Commercial properties as Neighborhood and Urban Mixed-Use (figure 4-2).

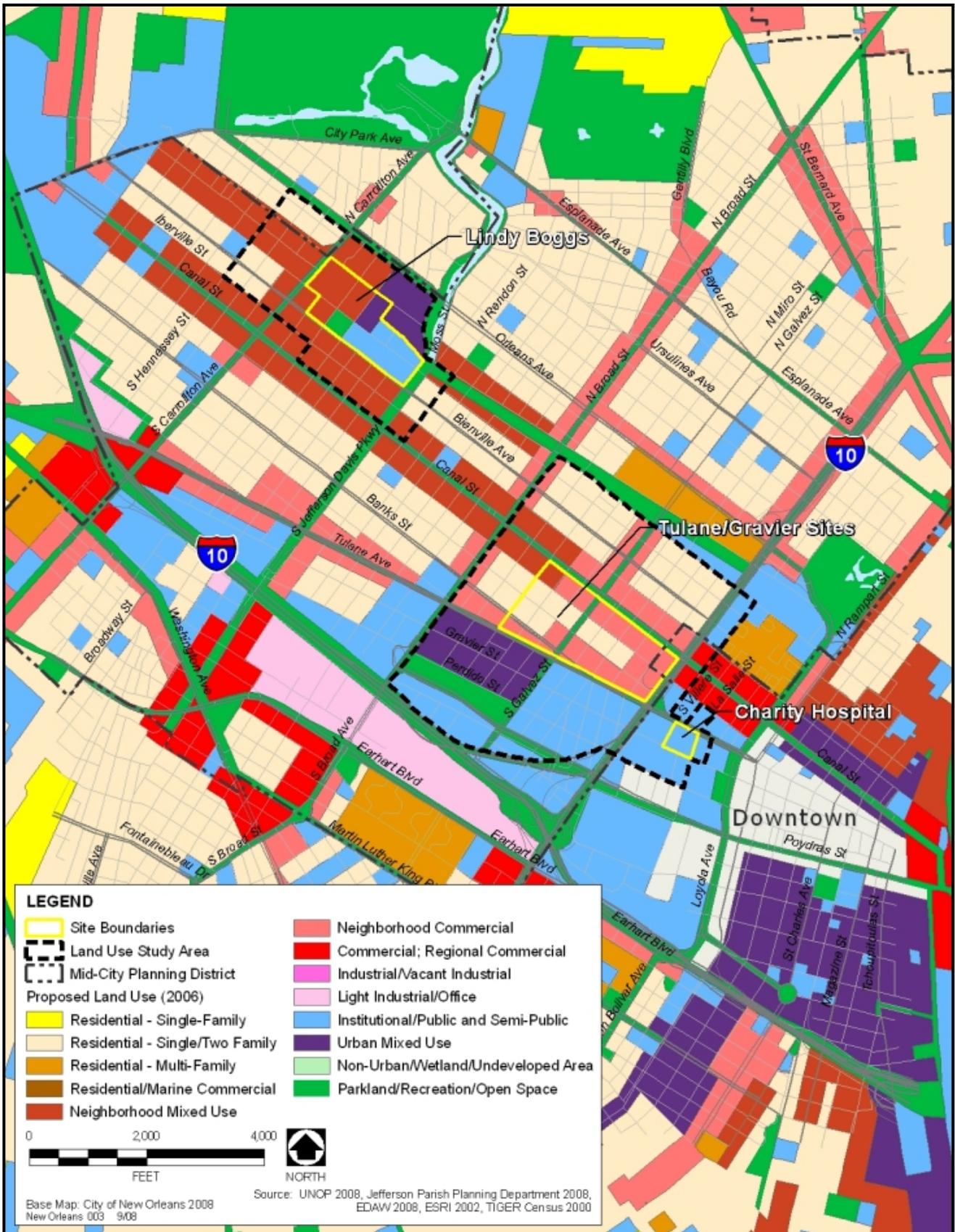


Figure 4-2. Proposed Land Use – Tulane/Gravier, Lindy Boggs, and Charity Hospital Locations

Table 4-2. Existing and Planned Land Use within Lindy Boggs Site Boundary and Study Area

Land Use	Site				Study Area			
	Existing		Planned		Existing		Planned	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Commercial	3	7	-	-	43	24	-	-
Industrial/Vacant Industrial	20	45	-	-	61	34	-	-
Institutional/Public and Semi-Public	18	41	18	41	18	10	18	10
Parkland/Recreation/Open Space	3	7	3	7	15	9	16	9
Residential - Single/Two Family	-	-	-	-	42	23	30	17
Neighborhood Mixed-Use	-	-	18	41	-	-	93	52
Urban Mixed-Use	-	-	5	11	-	-	23	13
Total	44	100	44	100	179	100	180	100

Source: Based on modeling using GIS data from the UNOP (Poche 2008).

Note: Differences in column totals due to rounding.

4.2.1.3 No Action – Ochsner Location

Jefferson Parish has adopted the land use and transportation elements for Envision Jefferson 2020 – Jefferson Parish Comprehensive Plan to guide future development and redevelopment through comprehensive growth strategies. (The UNOP does not address Jefferson Parish).

Manufacturing and Wholesale Trade land uses account for the majority of the approximate 25-acre Ochsner site (figure 4-3 and table 4-3). The study area additionally includes Residential, General Sales/Service, and Healthcare uses.

According to the Jefferson Parish Comprehensive Plan, the site is planned for re-designation to Hospital land use, to complement the existing adjacent Ochsner Medical Center New Orleans (Jefferson Parish 2003). The existing on-site uses, including warehouses, parking lots, helicopter landing pads, and a railroad spur, would likely be phased out to allow expansion of the surrounding medical facilities.

The study area is envisioned to develop as a largely Medical and Light Industrial area, which will allow for expansion of the existing medical facilities while integrating adjacent residential areas. Mixed-Use and Low-Medium Density neighborhoods would provide housing for the local workforce population, while non-residential portions of Mixed-Use properties would develop with uses compatible to the medical facilities.

To achieve this, a large portion of land designated for Manufacturing and Wholesale Trade would be re-designated for Hospital use. The Low-Medium Density land along the western boundary of the study area would change to Mixed-Use, and additional Mixed-Use land would act as a buffer between the hospital site north of Jefferson Highway and the adjacent Light Industrial properties (figure 4-4).

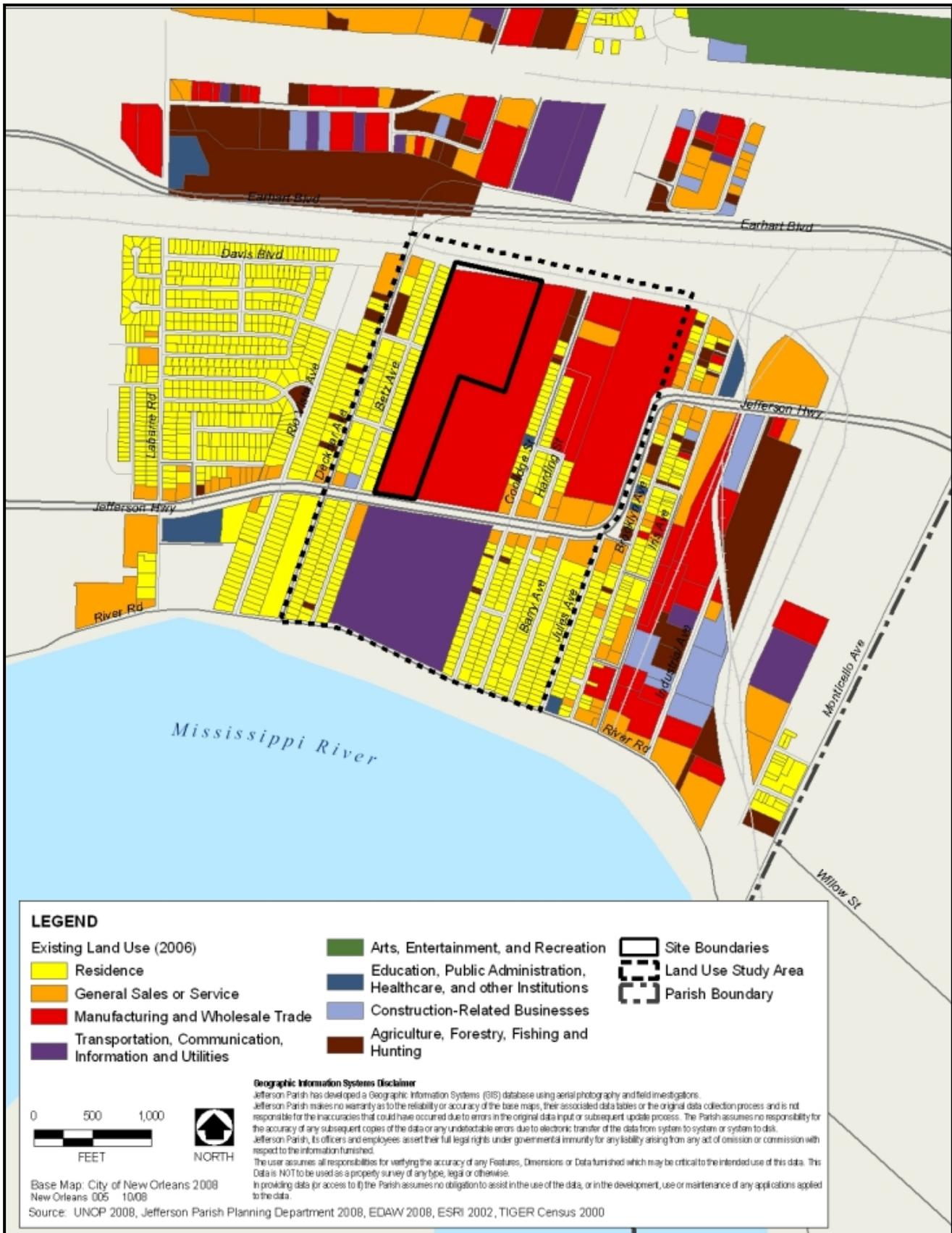


Figure 4-3. Existing Land Use – Ochsner Location

Table 4-3. Existing and Planned Land Use within Ochsner Site Boundary and Study Area

Land Use	Site				Study Area			
	Existing		Planned		Existing		Planned	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Residence	-	-	-	-	46	28	21	13
General Sales or Service	-	-	-	-	9	6	2	1
Manufacturing and Wholesale Trade	25	100	-	-	76	47	39	23
Education, Public Administration, Healthcare, and other Institutions	-	-	25	100	29	18	78	46
Construction-Related Businesses	-	-	-	-	0	0	0	0
Agriculture, Forestry, Fishing and Hunting	-	-	-	-	3	2	-	-
Neighborhood Mixed-Use	-	-	-	-	-	-	29	17
Total	25	100	25	100	164	100	169	100

Source: Based on modeling using GIS data from Jefferson Parish Comprehensive Plan (Cassagne 2008).
Note: Differences in column totals due to inclusion of road area in planned land use GIS data.

4.2.1.4 No Action – Charity Hospital Location

Institutional land uses currently occupy the existing Charity Hospital site, as shown in figure 4-1 and table 4-4. The site has been evaluated using the Tulane/Gravier land use study area, as it is a part of the Medical District and will be affected by related development, including the possible VAMC construction on the Tulane/Gravier site. In addition to land categorized as Institutional Use, the study area includes Commercial, Industrial, Park/Open Space, and Single/Two-Family Residential designations.

The UNOP land use plan maintains the site’s Institutional land use designation, but recommends revisions to the existing land use designations within the study area, to establish a vibrant Mixed-Use Neighborhood anchored by a redeveloped Medical District and revitalization of the Neighborhood Commercial uses. The existing Charity Hospital is located within the area designated as the Medical District, which is identified in the UNOP District 1 Plan as having significant economic development opportunity (NOCSF 2007). Though the Charity Hospital itself remains closed, other components of the MCLNO complex have reopened since Hurricane Katrina and would likely continue to operate as medical facilities, contributing to the redevelopment of the Medical District. The potential to reuse the existing Charity Hospital as a mixed-income residential building for employees of surrounding hospitals was described in the UNOP District 1 Plan in the event that renovation as a medical facility is found to be infeasible. Both types of reuse would support plans for redevelopment of the Medical District.

As with discussion of the Tulane/Gravier site in Section 4.2.1.1, planned land uses within the study area would enhance redevelopment of the Medical District. Neighborhood Commercial uses would be supported along Canal Street as it develops a “main street” identity between Claiborne and Broad Streets, and at the Galvez Street intersection, as described in the UNOP

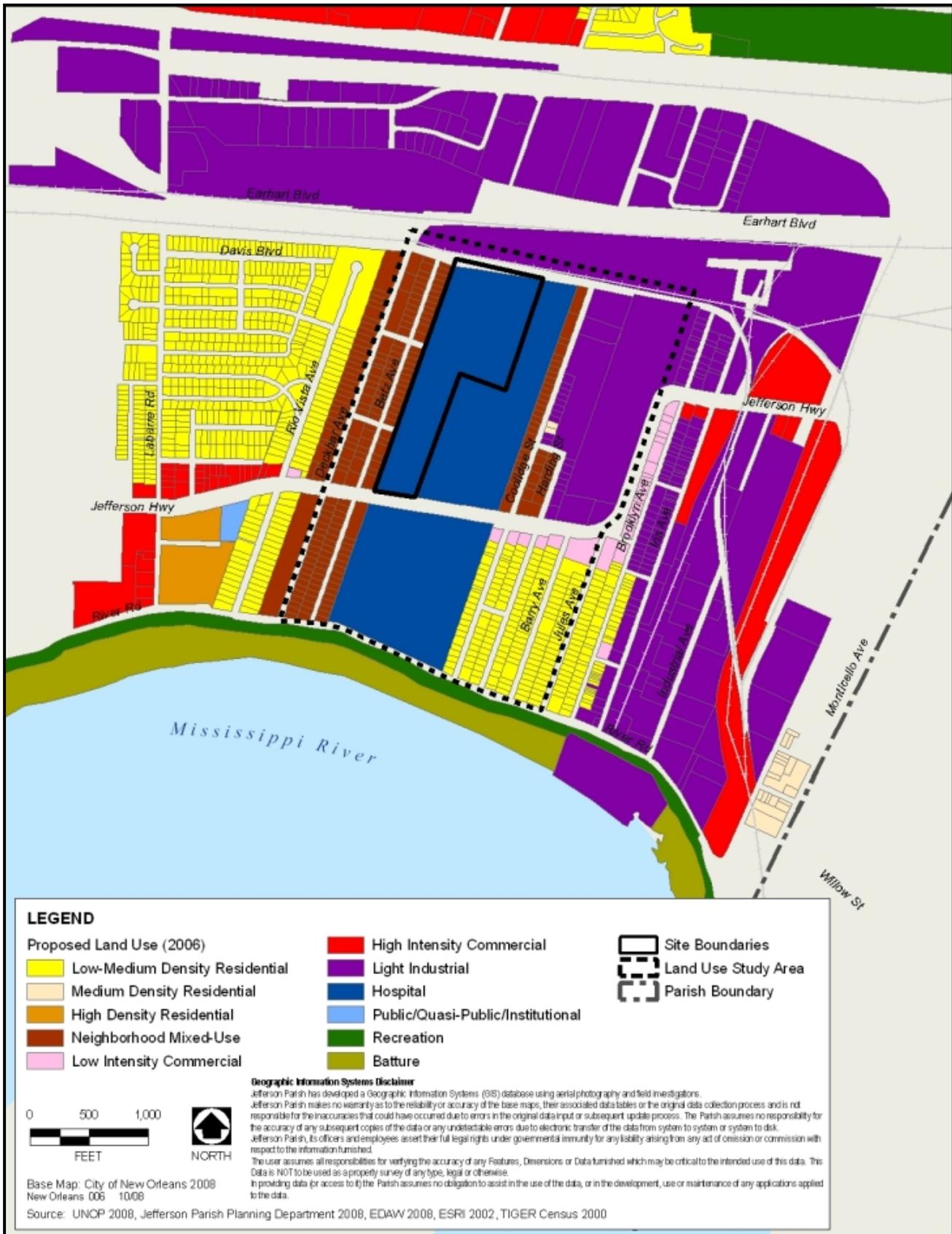


Figure 4-4. Proposed Land Use – Ochsner Location

District 4 Plan (NOCSF 2007). Existing Residential designations would largely remain, with the addition of a Mixed-Use parcel along Canal Street.

Within the study area, additional commercial corridors are proposed along Galvez Street, Broad Street, and Claiborne Avenue. Galvez Street would develop into a promenade-like corridor with nodes of Mixed-Use activity occurring at major intersections, including Poydras Street, Tulane Avenue, Canal Street, and St. Louis Street. The street would include Office, Commercial, and Residential Uses, and would provide a link for the surrounding Tulane/Gravier and Treme neighborhoods to the proposed Lafitte Corridor Greenway, as described in the UNOP District 4 Plan (NOCSF 2007). Similarly, Broad Street and Claiborne Avenue would include portions of the redeveloped Medical District, as well as supporting Office and Mixed-Use space.

To accommodate this development, the UNOP land use plan would increase the amount of land devoted to Institutional designations within the study area to promote redevelopment of the Medical District (figure 4-2). The amount of land devoted to Single and Two-Family Residential land would be reduced to allow additional Multi-Family housing to be provided in new Neighborhood Mixed-Use and Urban Mixed-Use designations. There would also be increased Parks and Open Space land to enhance the improved character of the area, attract residents, and provide connections to the City’s larger green space network.

Table 4-4. Existing and Planned Land Use within Charity Hospital Site Boundary and Study Area

Land Use	Site				Study Area			
	Existing		Planned		Existing		Planned	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Commercial	-	-	-	-	160	35	-	-
Industrial/Vacant Industrial	-	-	-	-	49	11	-	-
Institutional/Public and Semi-Public	5	100	5	100	82	18	115	25
Parkland/Recreation/Open Space	-	-	-	-	12	3	71	16
Residential - Single/Two Family	-	-	-	-	148	33	110	24
Neighborhood Commercial	-	-	-	-	-	-	89	20
Neighborhood Mixed-Use	-	-	-	-	-	-	22	5
Regional Commercial	-	-	-	-	-	-	5	1
Urban Mixed-Use	-	-	-	-	-	-	42	9
Total	5	100	5	100	452	100	453	100

Source: Based on modeling using GIS data from the UNOP (Poche 2008).

Note: Differences in column totals due to rounding.

4.2.2 Alternative # 1 – Proposed Actions – Tulane/Gravier Locations

Under the Proposed Actions, the VAMC and LSU AMC would be developed at the Tulane/Gravier sites, resulting in the removal of existing residential and commercial properties, the construction of new medical facilities, and a change in the site’s existing underlying land use designations. This action would remove 94 occupied residential parcels, 43 occupied commercial parcels, 126 vacant and unoccupied residential and commercial parcels, and 197

empty lots. It would also further reduce the land available to these uses by re-designating the underlying land uses to Institutional.

Based on the planned land use designations provided in the UNOP, the study area would largely consist of Institutional uses after implementation of the Proposed Actions, a substantial increase when compared to the No Action alternative, as shown in table 4-5. The amount of land designated as Neighborhood Commercial and Single and Two-Family Residential would be reduced. Commercial corridor development along Canal Street, Galvez Street, Broad Street, and Claiborne Avenue described in Section 4.2.1.1 would still be expected to occur, with modifications to accommodate medical uses along parts of Canal and Galvez Streets. Removing the planned Mixed-Use land from major intersections along these roads would not undermine the planned revitalization of these streets, but would instead change the type of development nodes that occur there (from Mixed-Use to Medical nodes).

Table 4-5. Land Use in Tulane/Gravier Study Area under No Action and Proposed Action Scenarios

Land Use	No Action		Proposed Action	
	Acres	Percent	Acres	Percent
Institutional/Public and Semi-Public	115	25	189	42
Parkland/Recreation/Open Space	71	16	67	15
Residential - Single/Two Family	110	24	86	19
Neighborhood Commercial	89	20	45	10
Neighborhood Mixed-Use	22	5	19	4
Regional Commercial	5	1	5	1
Urban Mixed-Use	42	9	42	9
Total	453	100	453	100

Source: Based on modeling using GIS data from the UNOP (Poche 2008).

Development of the VAMC and LSU AMC hospitals, in conjunction with the Bio-Innovation Center and Louisiana Cancer Research and Treatment Center proposed in the UNOP (NOCSF 2007), would help to anchor the New Orleans Medical District, which has been identified as an important economic driver in both the region and State. In instances of other major medical districts that have been developed in other regions, secondary services that support the primary medical facilities commonly develop on adjacent and nearby properties. In the case of medical centers, this often involves development of adjacent and nearby properties into short-term lodging or rental properties to serve visiting staff and family members, private medical offices, restaurants and other retail food establishments, businesses that provide support services to the medical facilities, and other compatible services, such as pharmacies. Given the large area of land designated for Institutional use within the study area, and the Commercial and Residential properties removed to allow development of the Proposed Actions, it is reasonable to expect that demand would exist for additional Residential, Commercial, and/or Mixed-Use Land to be provided adjacent to and near the VAMC and LSU AMC facilities.

To better understand the secondary land uses that could develop in areas surrounding the hospitals, these future land uses are correlated with new employment that would be created. Specifically, redevelopment activities occurring in the area surrounding the proposed hospitals would result in new businesses (e.g., medical-related businesses), thereby creating new employment opportunities. These new employment opportunities would be in addition to employment generated by the proposed hospitals. The additional local employment would be generated through what is commonly referred to as the “multiplier effect.” Two different types of additional employment are tracked through the multiplier effect: indirect and induced employment.

Indirect employment includes those additional jobs that are generated through the expenditure patterns of direct employment associated with a project (i.e., spending by the employees of the hospital and expenditures by the hospital in the purchase of goods and services supporting its operation). For example, employees of the hospitals would spend money in the local economy and the expenditure of that money would result in creating additional jobs. Indirect jobs tend to be located in relatively close proximity to the places of employment and residence.

Induced employment follows the economic effect of employment beyond the expenditures of the employees within the project area to include jobs created by the stream of goods and services necessary to support businesses in the project area (i.e., spending from business activity and employees that exist as a result of the indirect effects of the hospital). For example, when a manufacturer that receives orders from the hospital buys products or sells products, the employment associated with those inputs or outputs is considered induced employment.

The proposed project is anticipated to generate indirect and induced employment opportunities in the surrounding area. For example, when a patient is released from hospital care, that patient may require products (e.g., medicine) and services (e.g., physical therapy) provided by a pharmacy or private medical practice. The pharmacist and physical therapist hold jobs that were indirectly caused by the hospital. When they spend their income in the local economy, the jobs created by this third-tier effect are considered induced employment.

Increased future employment generated by hospital employee and patient needs ultimately results in physical development to accommodate those employees. It is the characteristics of this physical space and its specific location that determines the type and magnitude of land use effects created by this additional economic activity. Although the economic effect can be predicted, the actual environmental implications of this type of economic growth are too speculative to predict or evaluate, because the specific locations of affected businesses and employees are unknown, and they can spread throughout the New Orleans metropolitan region and beyond.

Unforeseen future development can be spurred by the construction of certain major projects that have the effects of creating unique and currently unmet market demands, or by creating economic incentives for future projects by substantially increasing surrounding property values. These types of impacts are most often identified for projects developed in areas that are currently lacking a full spectrum of commercial services. For example, newly developing residential areas may be lacking in a full range of support commercial uses. This support commercial demand

can cause increased pressure for rezones or comprehensive plan amendments aimed at providing adequate land to accommodate businesses seeking to serve the unmet demand.

Although the hospitals are located in an urban, developed area of New Orleans, surrounding land uses primarily consist of Residential and Commercial (i.e., small business) land uses. Land uses that support hospitals (e.g., medical offices, pharmacies, food services, lodging) are limited in the study area. Therefore, development of the hospitals would reasonably be expected to increase pressure for rezones and land use plan amendments to allow development of hospital-supporting land uses. As a result, the overall land use distribution in the areas surrounding the hospitals could differ from land uses envisioned in the 1999 Land Use Plan (NOCP 1999) and revised in the UNOP (NOCSF 2007).

The compatibility of new development that specifically supports the hospitals with existing land uses and the general character of surrounding areas were considered as a part of the 1999 Land Use Plan and the UNOP. Through appropriate site design and review of future medical-related projects, cumulative adverse land use compatibility impacts, such as visual intrusion, noise, and traffic, would be avoided. The UNOP District Recovery Plan for District 4 identifies part of the Tulane/Gravier LSU AMC site as the location for development of the LSU/VA Regional Medical Center, which is Item 8 of the District 4 Recovery Planning Projects (NOCSF 2007). The hurricane recovery programs discussed in Section 4.1 would have minimal adverse effects on land use in the vicinity of the Tulane/Gravier sites; thus, the cumulative adverse impact on land use of these programs in conjunction with the Proposed Actions would be minimal.

The UNOP land use plan designates land adjacent to the site for Neighborhood Commercial, Urban and Neighborhood Mixed-Use, Institutional, and Single and Two-Family Residential. Based on the description of indirect effects that occur in proximity to medical facility developments, adjacent Commercial and Mixed-Use land is compatible with medical facility development and can support secondary services, including medical offices, pharmacies, and restaurants. Land designated for Single and Two-Family Residential use would be expected to experience relatively greater indirect change than the other land uses.

4.2.3 Alternative # 2- Lindy Boggs Location

Under Alternative # 2, the VAMC would be developed on the Lindy Boggs site, and the LSU AMC would be developed on the Tulane/Gravier site or at Charity Hospital. Development of the VAMC at the Lindy Boggs site would result in the removal of existing Light Industrial, Medical, and Commercial facilities, as well as the removal of Park Land. Land use on the site is Commercial, with a mixture of Retail (grocery and hardware stores), Industrial (warehouses and abandoned railroad facilities), and Office (hospital and general office). The former LBMC occupies approximately 26 acres of the proposed site. Development would result in the construction of a new medical facility, and reduce the land available to these uses by re-designation of the underlying land uses to Institutional.

In conjunction with this alternative, the LSU AMC potentially would be developed at the Tulane/Gravier site, resulting in cumulative impacts as described for Alternative # 1, or the Charity Hospital site, resulting in cumulative impacts as described for Alternative # 4.

Based on the planned land use designations provided in the UNOP, the Lindy Boggs study area would largely consist of land designated for Neighborhood Mixed-Use and Institutional uses after implementation of Alternative # 2, as shown in table 4-6. Compared to the No Action alternative, the amount of land designated for Institutional use would increase, while land for Neighborhood and Urban Mixed-Use would be reduced in this scenario. Land designated for Mixed-Use along Canal Street would still be available to support plans for its revitalization as described in Section 4.2.1.2.

Table 4-6. Land Use in Lindy Boggs Study Area under No Action and Alternative # 2 Scenarios

Land Use	No Action		Alternative # 2	
	Acres	Percent	Acres	Percent
Institutional/Public and Semi-Public	18	10	44	25
Parkland/Recreation/Open Space	16	9	12	7
Residential - Single/Two Family	30	17	30	17
Neighborhood Mixed-Use	93	52	75	42
Urban Mixed-Use	23	13	18	10
Total	180	100	180	100

Source: Based on modeling using GIS data from the UNOP (Poche 2008).

The types of cumulative effects that can reasonably be expected to occur in proximity to the VAMC facility on the Lindy Boggs site would be similar to those described in Section 4.2.2, such as development of lodging, offices, and pharmacies as a result of the VAMC project in conjunction with planned land uses in the vicinity. Based on the UNOP land use plan, which designates much of the land adjacent to the site for Mixed-Uses, the Lindy Boggs study area is already planned to be relatively compatible with future Medical use on the site. Mixed-Use land provides opportunity for Commercial and Office development, as well as Residential development above street-level businesses, to accommodate the indirect effects related to medical facility development. The supply of Mixed-Use land makes re-designation to another use less likely than if the surrounding area were designated for Single and Two-Family Residential use. The hurricane recovery programs discussed in Section 4.1 would have minimal adverse effects on land use in the vicinity of the Lindy Boggs site; thus, the cumulative adverse impact on land use of these programs in conjunction with Alternative # 2 would be minimal.

The development of the LSU AMC facility on the Tulane/Gravier site, bounded by Canal Street, I-10, Tulane Avenue, and Galvez Street, would be expected to cause relatively more indirect land use change than the VAMC development at the Lindy Boggs site. This portion of the Tulane/Gravier site is adjacent to Neighborhood Commercial, Single and Two-Family Residential, and Institutional land. Single and Two-Family Residential land to the southwest, north, and northeast of the site would be expected to experience the most indirect change from the hospital development, as it is least compatible with those secondary services described in Section 4.2.2.

4.2.4 Alternative # 3- Ochsner Location

Under Alternative # 3, the VAMC would be developed on the Ochsner site, and the LSU AMC would be developed on the Tulane/Gravier site or at Charity Hospital. Under Alternative # 3, the Ochsner site would be developed for the VAMC, resulting in the removal of the existing warehouses, parking lots, helicopter landing pads, and railroad spur. Development of a new medical facility would be consistent with the planned land use designation.

In conjunction with this alternative, the LSU AMC potentially would be developed at the Tulane/Gravier site, resulting in cumulative impacts as described for Alternative # 1, or the Charity Hospital site, resulting in cumulative impacts as described for Alternative # 4.

Based on the planned land use designations provided in the Jefferson Parish Comprehensive Plan (Jefferson Parish 2003), the Ochsner study area would largely consist of land designated for Hospital and Light Industrial uses after implementation of Alternative # 3, as shown in table 4-7. This represents no change from the No Action alternative, as the Jefferson Parish Comprehensive Plan has designated this site for potential expansion of the adjacent Ochsner Hospital Campus.

Table 4-7. Land Use in Ochsner Study Area under No Action and Alternative # 3 Scenarios

Land Use	No Action		Alternative # 3	
	Acres	Percent	Acres	Percent
Hospital	78	46	78	46
Light Industrial	39	23	39	23
Low Intensity Commercial	2	1	2	1
Low-Medium Density Residential	21	12	21	12
Medium Density Residential	0	0	0	0
Neighborhood Mixed-Use	29	17	29	17
Total	169	100	169	100

Source: Based on modeling using GIS data from Jefferson Parish Comprehensive Plan (Cassagne 2008).

Note: Percent columns do not total 100 due to rounding.

The types of cumulative effects that can reasonably be expected to occur in proximity to the VAMC facility on the Ochsner site would be similar to those described in Section 4.2.2, such as development of lodging, offices, and pharmacies as a result of the VAMC project in conjunction with planned land uses in the vicinity. Based on the Jefferson Parish Comprehensive Plan (Jefferson Parish 2003), which has designated land adjacent to the site for Mixed-Use and Hospital uses, the Ochsner study area is already planned to be compatible with future Medical use on the site. Mixed-Use land has been designated to provide flexibility for the expansion of the Ochsner Hospital Campus and integration of Residential uses. The redesignation of land due to indirect effects resulting from implementation of Alternative # 3 is unlikely since the area is currently planned for hospital development. The hurricane recovery programs discussed in Section 4.1 would have minimal adverse effects on land use in the vicinity of the Ochsner site;

thus, the cumulative adverse impact on land use of these programs in conjunction with Alternative # 3 would be minimal.

The development of the LSU AMC facility on the Tulane/Gravier site, bound by Canal Street, I-10, Tulane Avenue, and Galvez Street, would be expected to cause relatively more indirect land use change than the VAMC development at the Ochsner site. This portion of the Tulane/Gravier site is adjacent to Neighborhood Commercial, Single and Two-Family Residential, and Institutional land. Single and Two-Family Residential land to the southwest, north, and northeast of the site would be expected to experience the most indirect change from the hospital development, as it is least compatible with those secondary services described in Section 4.2.2.

4.2.5 Alternative # 4- Renovation/Modification of Charity Hospital

Under Alternative # 4, the existing Charity Hospital site would be renovated for use as the LSU AMC instead of developing a new LSU AMC at the Tulane/Gravier location. In conjunction with this alternative, a new VAMC also would be constructed at one of the three potential VAMC sites (Tulane/Gravier, Lindy Boggs, or Ochsner), and the cumulative impacts on land use from development of the VAMC site at each of these possible locations would be the same as described previously for Alternatives # 1, # 2, or # 3.

Under the modification/renovation alternative, the existing Charity Hospital would be modified or renovated for use as the new LSU AMC facility, consolidating the medical resources housed in the current MCLNO complex into a single facility at 1532 Tulane Avenue.

Based on the planned land use designations provided in the UNOP (NOCSF 2007), the existing Charity Hospital site is already planned for Institutional uses; therefore, implementation of this alternative would not result in a change to underlying land uses. The types of cumulative effects that can reasonably be expected to occur in proximity to the LSU AMC facility on the existing Charity Hospital site would be similar to those described in Section 4.2.2, such as development of lodging, offices, and pharmacies as a result of the LSU AMC project in conjunction with planned land uses in the vicinity. The hurricane recovery programs discussed in Section 4.1 would have minimal adverse effects on land use in the vicinity of Charity Hospital; thus, the cumulative adverse impact on land use of these programs in conjunction with Alternative # 4 would be minimal.

The existing Charity Hospital site and the surrounding properties are designated for Institutional use in the UNOP land use plan and include existing medical facilities, indicating that the area is already planned to accommodate some indirect development associated with the hospital.

4.2.6 Conclusions

Under the Proposed Actions, the change in land use on the Tulane/Gravier VAMC and LSU AMC sites to Medical use likely would contribute to cumulative effects on land use in conjunction with the types of secondary services described above. The change to Medical land use would reduce the amount of available land zoned for Residential, Commercial, Office, and Industrial uses in the Tulane/Gravier area. However, given the numerous areas of Open Space,

surface parking lots, and damaged structures available for re-development in the City, the change in land use to Medical on these sites would likely have a negligible effect on the availability of land for other uses. As a result of the intensive development and job creation that would occur at these medical sites, land use patterns in some surrounding areas could be affected. For example, redevelopment projects in areas of the City near the Medical District could result in a cumulative demand for increased land to be used for commercial development in nearby areas that may currently have other land uses.

Land in the other three quadrants of the New Orleans Medical District, adjoining the VAMC and LSU AMC Tulane/Gravier sites to the south and southeast, currently is owned predominantly by medical-related or government institutions. Also, the UNOP District Recovery Plan for District 4 identifies part of the Tulane/Gravier LSU AMC site as the location for development of the LSU/VA Regional Medical Center (NOCSF 2007). Conversion of the VAMC and LSU AMC sites to Medical land use would complement the current and planned Medical land uses in other sections of the Medical District, contributing to a cumulative beneficial effect on land use in the district by promoting and increasing the rate of its development. It would also be expected to indirectly affect surrounding land uses that do not support likely secondary services. In conjunction with other projects in the City, the increase in employment associated with the new medical facilities and the resulting demand for services in the vicinity of the Medical District would be expected to stimulate business in surrounding commercial areas. In addition, the demand for housing for workers and visitors at the new medical facilities on these sites in conjunction with other projects in the district and the City may promote the redevelopment of existing residential neighborhoods or the creation of new areas of Residential land use.

The hurricane recovery programs that would continue under the Proposed Actions would have minimal effects on land use at the proposed locations, as discussed in Section 4.1. The critical infrastructure projects, mitigation and demolition activities, and Road Home projects that will be performed in the vicinity of the sites generally would involve a continuation of existing land uses. Thus, the cumulative impact of these programs on land use would be minimal. Overall, the contribution of the Proposed Actions to cumulative impacts on land use would be incremental but predominantly beneficial.

4.3 CULTURAL RESOURCES

Louisiana's Orleans Parish contains 28 historic districts and more than 100 additional individual properties listed in the NRHP. Jefferson Parish has two historic districts and 16 additional individual properties listed in the NRHP. As such, it would be difficult to embark on a major construction project within Orleans Parish without impacting some feature of historic significance. However, following Hurricane Katrina, many construction/reconstruction projects are planned or are ongoing. When combined with the Proposed Actions and other alternatives for the VAMC and LSU AMC, the impacts of these other projects would add to the cumulative impact on cultural resources.

4.3.1 No Action Alternative

Under the No Action alternative, the existing VAMC and MCLNO facilities, which were severely damaged as a result of Hurricane Katrina, would not be rehabilitated or replaced. There would be no construction of new facilities or modification of the existing structures, and medical services would continue to be provided using the interim arrangements currently in use. The following sections discuss the effects of the No Action alternative on cultural resources based on implementation of the UNOP and Jefferson Parish Comprehensive Plan, without the Proposed Actions or alternative actions.

Until a site is cleared, the effects on archaeological properties are unknown. Construction has the potential to damage previously undiscovered archaeological artifacts. Once excavation of the site after demolition is complete and rights-of-way have been granted, there would be the potential for previously undiscovered artifacts to be found and preserved.

4.3.1.1 No Action – Tulane/Gravier Locations

Residential and commercial properties currently occupy the footprints of the Proposed Alternatives. Under the UNOP, the Tulane/Gravier sites would continue to include land designated for Commercial and Single/Two-Family Residential uses. Over 78 percent of the buildings within the VAMC footprint and 44 percent inside the LSU AMC footprint are historic structures. Residents of historic buildings inside the footprints could take advantage of FEMA's HMGP to minimize damages that future hurricanes may cause to their homes. Any changes to the exterior, including any elevation of the structure, may change the building's contributing status within the Mid-City NRHD. Some individuals have been apprehensive about applying for grants with FEMA or the Road Home Program with the press surrounding the construction of the adjacent hospitals. Selection of the No-Action Alternative could encourage Mid-City residents to investigate their options and restore these historic structures. Increased Institutional use around the neighborhood as projected by the UNOP would bring in new residents to occupy vacant historic properties. Other programs affecting the area include the FEMA demolition program. Under these actions, historic properties would be demolished because of their condition following Hurricane Katrina.

Under UNOP, Neighborhood Commercial uses would be supported along Canal Street as it develops a "main street" identity between Claiborne and Broad Streets, and at the Galvez Street intersection, as described in the UNOP District 4 Plan (NOCSF 2007). Existing Residential designations would largely remain, with the addition of a Mixed-Use parcel along Canal Street.

Within the study area, additional commercial corridors are proposed along Galvez Street, Broad Street, and Claiborne Avenue. Galvez Street would develop into a promenade-like corridor with nodes of Mixed-Use activity occurring at major intersections, including Poydras Street, Tulane Avenue, Canal Street, and St. Louis Street. The street would include Office, Commercial, and Residential uses, and would provide a link for the surrounding Tulane/Gravier and Tremé neighborhoods to the proposed Lafitte Corridor Greenway, as described in the UNOP District 4 Plan (NOCSF 2007). Many of the intersections along Galvez Street inside the footprints no longer include historic buildings, so increased construction in this area would have minimal

effects. Broad Street and Claiborne Avenue would include portions of the redeveloped Medical District, as well as supporting Office and Mixed-Use space. These areas are currently Mixed-Use, with many businesses operating out of historic residences converted to other uses. If this pattern of adaptive reuse continues, it would not significantly damage the historic integrity of the area. New construction would necessitate the demolition of historic structures.

The UNOP land use plan would increase the amount of land devoted to Institutional designations within the study area to promote redevelopment of the Medical District (figure 4-2). The amount of land devoted to Single and Two-Family Residential land would be reduced to allow additional Multi-Family housing to be provided in new Neighborhood Mixed-Use and Urban Mixed-Use designations. This reduction would occur in eight blocks of the Mid-City NRHD, which represents a 2.8 percent loss of area to the district as a whole.

4.3.1.2 No Action - Lindy Boggs

Based on the UNOP City-wide and district plans, the Lindy Boggs site would be developed as Mixed-Use along Carrollton Avenue and Jefferson Davis Parkway, with possible reuse of the medical facilities on the former Lindy Boggs hospital site.

The Lindy Boggs study area would likely develop as an entire Mixed-Use Neighborhood surrounding any re-use that might occur at the former hospital site. Mixed-Use development would line Carrollton Avenue, Canal Street, and Jefferson Davis Parkway. Mixed-Use properties along Canal Street would support plans for its revitalization by allowing diverse neighborhood-oriented uses, including small businesses and offices, and Residential uses above the street-level shops. The plan to reuse the Lindy Boggs hospital does not affect historic properties. Under the UNOP, six adjacent residential blocks within the Mid-City NRHD, representing 2.1 percent of the district as a whole, would be converted to Commercial Use. If historic buildings are adaptively reused, the buildings would not necessarily lose any historic integrity. New construction would necessitate the demolition of historic structures. The UNOP converts adjacent blocks within the Parkview NRHD from Commercial to Mixed-Use. It is unlikely that this change would cause a substantial loss of historic integrity.

4.3.1.3 No Action - Ochsner

Actions of the Jefferson parish Comprehensive Plan would not affect built historic properties near the Ochsner location because there are no identified immobile historic properties with the alternative APE.

4.3.1.4 No Action - Renovation/Modification of Existing MCLNO Facilities

Institutional land uses currently occupy the existing Charity Hospital site, as shown in figure 4-1 and table 4-4. The site is a part of the Medical District and will be affected by related development, including the possible VAMC construction on the Tulane/Gravier site. In addition to land categorized for Institutional Use, the study area includes Commercial, Industrial, Park/Open Space, and Single/Two-Family Residential designations.

The UNOP land use plan maintains the site's Institutional land use designation, but recommends revisions to the existing land use designations within the study area, to establish a vibrant Mixed-Use Neighborhood anchored by a redeveloped Medical District and revitalization of the Neighborhood Commercial uses. The potential to reuse the existing Charity Hospital as a mixed-income residential building for employees of surrounding hospitals was described in the UNOP District 1 Plan in the event that renovation as a medical facility is found to be infeasible. This change would affect the building's status as a contributing element to the eligible NOMHD but not the determination of FEMA that the building is individually eligible for the NRHP. As long as alterations to the building do not affect the exterior architectural elements, the building would remain individually eligible. If adaptively reused, other historic buildings of MCLNO would no longer contribute to the eligible NOMHD but a change in use would necessarily negate later nomination to the NRHP.

4.3.2 Alternative # 1 – Proposed Actions – Tulane/Gravier Locations

The 123 contributing elements slated for demolition in the VA footprint represent 3 percent of the contributing elements inside the Mid-City NRHD, while the 42 contributing elements slated for demolition inside the LSU AMC footprint represent 1 percent. Should the new medical facilities be constructed at the adjacent Tulane/Gravier site as described under the Proposed Actions, the cumulative impact would be the loss of historical significance of 18 blocks from the Mid-City Historic District, which is only 7 percent of blocks in the district. The combined total of contributing elements lost (165) is 4.4 percent of the total number of contributing elements in the district. The contributing elements are a mixture of building types including shotguns, creole cottages, sidehalls, raised basements, and commercial structures. While these building types are among the oldest in the Mid-City NRHD, no type is unique to the district. All types and styles in the Mid-City NRHD can be found in other NRHDs around the City.

State and Federal actions are ongoing to preserve historical sites in the City. On July 24, 2006, the Louisiana SHPO received more than \$10 million in Federal funds in an effort to save, make habitable, and preserve the character of historic properties in areas damaged by Hurricanes Katrina and Rita. Congress has provided these funds through the NPS to preserve, stabilize, rehabilitate, and repair historic properties. Funds are also available for planning and technical assistance.

A beneficial cumulative impact of the proposed alternatives is the creation of the Mid-City Historic Preservation Mitigation Program. Should VA select the preferred alternative, VA will support the SHPO in its effort to develop and implement a program to promote the preservation and rehabilitation of contributing elements within the Mid-City Historic District. VA, in consultation with the SHPO, will identify and assess eligible preservation activities related to the proposed VAMC site mitigation, and will work with the SHPO to implement such mitigation. In addition, the City will contribute \$400,000 to the SHPO program and the State will provide an additional \$300,000 should they select LSU AMC. This program will fund historic renovations for more than 60 properties within the Mid-City NRHD. The VA and City have also agreed to reimburse the SHPO up to \$600,000 and \$200,000, respectively to move historic one-story residences from the proposed VAMC Tulane/Gravier site to lots within the Mid-City NRHD. The SHPO will prioritize the buildings of exceptional architectural importance, apparent

structural integrity, and those having a physical condition suitable for moving. Vacant lots within the Mid-City NRHD will be made available to homeowners at cost of legal transaction by the City. This program will save historic properties and restore historic streetscapes.

The SHPO program will allow residents of the Mid-City NRHD to rehabilitate their properties using historic elements. Many of these elements will become available as residences within the footprint are demolished under the architectural salvage plan, as outlined in the PA. Under this program, historic doors, façade windows, quoins, louvered shutters and hardware, and columns would be removed from houses slated for demolition and donated to a local non-profit organization for resale to residents of Orleans Parish.

In addition to the treatment measures outlined above, the City has agreed to assist in the local historic district designation of the Mid-City NRHD. The HDLC is the City's regulatory agency for local historic districts (outside the Vieux Carre) that safeguards the elements of cultural, social, economic, political, and architectural significance in New Orleans. A local district designation would strengthen preservation efforts in the Mid-City NRHD by encouraging homeowners to use historic materials in renovation, make sympathetic additions, and restore a building's overall historic integrity.

Additional preservation efforts outlined in the PA include the design and implementation of a public interpretation plan of the VAMC in New Orleans, the Deutsches Haus, the Orleans House, McDonough 11, and the Mid-City NRHD. This plan may include oral and written histories. These materials will be developed into a permanent exhibit inside the current Mid-City NRHD boundaries, as well as a website and possibly a traveling exhibit.

Selection of a new site for the VAMC will eliminate the need for the existing VAMC to operate as a VA medical facility. Similarly, selection of a new site for the LSU AMC will eliminate the need for Charity Hospital and other buildings of the MCLNO campus to operate as LSU medical facilities. At this time, final disposition of the VAMC is unknown. If restored as a medical facility, the buildings would continue to contribute to the eligible NOMHD. If demolished or restored to another use, the buildings would not be contributing elements. Rehabilitation into other uses would affect the building's contributing status to the eligible NOMHD but would not prohibit later individual nomination to the NRHP.

If the LSU AMC alternative is selected, the OFPC will develop a plan to encourage adaptive reuse of the nine historically significant buildings that were part of MCLNO. The buildings will be offered to other agencies within the State of Louisiana for reuse, and these agencies could continue to use the buildings as medical facilities, which would not affect their contributing status to the eligible NOMHD. Rehabilitation into other uses would affect the building's contributing status but would not prohibit later individual nomination to the NRHP. If State agencies are unable to use the buildings, the State will make the buildings available to interested buyers. To encourage interest in Charity Hospital, the State will prepare a marketing study of tax incentives, grants, and development incentives. The exterior of Charity Hospital will continue to be protected by the deed of preservation easements to the SHPO or other legally empowered entities. These uses would comply with the UNOP guidelines for the area which are labeled Institutional/Public and Semi-Private in figure 4-2.

The selection of the Proposed Actions represents a change in land use in the Tulane/Gravier area as well as the Mid-City NRHD. The increase in Institutional use in the project footprints would cause residential influx in other portions of the City, potentially in the Mid-City NRHD or other historic districts. The community would be informed about available monies, increasing the number of people who apply and receive historic preservation grants.

The Proposed Actions would bring an influx of health-related businesses to the area. Many of these businesses, such as doctors' offices and home-care staffing, could adaptively reuse historic residential buildings. The people who work in the new facilities and their related support systems could move into the Tulane/Gravier area and utilize the Mid-City Historic Preservation Mitigation Program operated by the SHPO and other grants available to restore historic buildings.

The VAMC/LSU AMC project could impact cultural resources beyond the boundaries of the project site. During construction, impacts on off-site cultural resources within the Mid-City Historic District or other historic districts could arise indirectly as a result of ground vibrations from construction and heavy-haul traffic, noise, and air quality. The viewshed of historic properties in the area would be altered, causing a potentially adverse effect on the integrity of the properties' setting. The horizontal footprint of the new facility will not be decided until the schematic design phase.

Until a site is selected, the effects on archaeological properties are unknown. Construction has the potential to damage previously undiscovered archaeological artifacts. Once excavation of the site after demolition is complete and rights-of-way have been granted, there may be potential for previously undiscovered artifacts to be found and preserved.

4.3.3 Alternative # 2 – Lindy Boggs Location

The Lindy Boggs VAMC site is sandwiched between the borders of the Mid-City Historic District and the Parkview Historic District; however, no portion of the site falls within either historic district. Furthermore, no cultural resources were identified on the Lindy Boggs site. No individually listed historically significant properties were identified in the Lindy Boggs APE, thus reducing the likelihood of Alternative # 2 contributing to the cumulative impacts to an individually listed historic property. However, while not included in the APE, Bayou St. John is located within a block of the eastern side of the site. Bayou St. John, from Lake Pontchartrain to Lafitte Street, is listed as a historic site in the NRHP. Should the VAMC project and other projects in the vicinity adversely impact Bayou St. John, primarily by impacting water quality, the cumulative impact could be significant.

Based on the UNOP City-wide and district plans, the Lindy Boggs site would be developed as Mixed-Use along Carrollton Avenue and Jefferson Davis Parkway, with possible reuse of the medical facilities on the former Lindy Boggs hospital site.

The Lindy Boggs study area would likely develop as an entire Mixed-Use Neighborhood surrounding any re-use that might occur at the former hospital site. Mixed-Use development would line Carrollton Avenue, Canal Street, and Jefferson Davis Parkway. Mixed-Use properties along Canal Street would support plans for its revitalization by allowing diverse neighborhood-

oriented uses, including small businesses and offices, and Residential uses above the street-level shops. The plan to reuse the Lindy Boggs Hospital does not affect historic properties. Under the UNOP, six adjacent residential blocks within the Mid-City NRHD, representing 2.1 percent of the district as a whole, would be converted to Commercial Use. If historic buildings are adaptively reused, the buildings would not necessarily lose any historic integrity. New construction would necessitate the demolition of historic structures. The UNOP converts adjacent blocks within the Parkview NRHD from Commercial to Mixed-Use. It is unlikely that this change would cause a significant amount of integrity loss.

The VAMC project at the Lindy Boggs site could impact cultural resources beyond the boundaries of the project site. During construction, impacts on off-site cultural resources in the Mid-City and Parkview Historic Districts or other historic districts could arise indirectly as a result of ground vibrations from construction and heavy-haul traffic, noise, and air quality. When combined with other non-VAMC sources of similar impacts, such as other demolition or construction projects that may occur in the vicinity, there could be an adverse cumulative impact on nearby resources that are considered significant contributors to the historic districts.

Construction of a VAMC at Lindy Boggs has the potential to alter the viewshed of adjacent historical properties in the Mid-City and Parkview NRHDs. This effect will not be as significant at Lindy Boggs as at the Proposed Actions because of the height of the current LBMC. The main building of the current facility is five stories. In consultation with SHPO, the VA agreed not to exceed six stories with the proposed VAMC. The horizontal footprint of the new facility will not be decided until the schematic design phase. It may or may not alter the viewshed of historic properties in the adjacent historic districts.

Selection of a new site for the VAMC will eliminate the need for the existing VAMC to operate as a medical facility. At this time, final disposition of the VAMC is unknown. If restored as a medical facility, the buildings would continue to contribute to the eligible NOMHD. If demolished or restored to another use, the buildings would not be contributing elements. Rehabilitation into other uses would affect the building's contributing status to the eligible NOMHD but would not prohibit individual nomination to the NRHP.

Selection of Alternative # 2, the Lindy Boggs site, would bring an influx of health-related businesses to the area. Many of these businesses, such as doctors' offices and home-care staffing, could adaptively reuse historic residential buildings. The people who work in the new facilities and their related support systems could move into the area and utilize grants available to restore historic buildings.

Selection of the Lindy Boggs site for the VAMC would decrease the cumulative impacts from other construction projects in the Mid-City NRHD Tulane/Gravier area. Under Alternative # 2, the LSU AMC would be constructed at the proposed 15-block Tulane/Gravier location or the existing buildings of MCLNO would be rehabilitated.

4.3.4 Alternative # 3 – Ochsner Location

Jefferson Parish, location of the Ochsner site, has far fewer historically significant properties and districts than Orleans Parish. The Ochsner VAMC site is not located near either of the two historic districts located within Jefferson Parish; however, the site houses a collection of historic trains owned by a local hobby club. One of these trains, the Southern Pacific Locomotive Number 745, is listed in the NRHP and believed to be the only remaining 2-8-2 locomotive constructed at the Southern Pacific Railroad's Algiers Shop. No other historically significant properties were identified on the Ochsner site or in the Ochsner APE reducing the likelihood of Alternative # 3 contributing to the cumulative impacts to a historically significant property. In the PA, VA agrees to allow ample time for the owners of the historic train to find an appropriate location and move it to that property. This would minimize the adverse effects to the train. As the new location is not known at this time, the effects of the new location are unknown.

Selection of a new site for the VAMC will eliminate the need for the existing VAMC to operate as a medical facility. At this time, final disposition of the VAMC is unknown. If restored as a medical facility, the buildings would continue to contribute to the eligible NOMHD. If demolished or restored to another use, the buildings would not be contributing elements. Rehabilitation into other uses would affect the building's contributing status to the eligible NOMHD, but would not prohibit individual nomination to the NRHP.

Selection of the Ochsner site for the VAMC would also decrease the cumulative impacts from other construction projects in the Mid-City Historic District Tulane/Gravier area. Under Alternative # 3, the LSU AMC would either be constructed at the proposed 15-block Tulane/Gravier location or the existing Charity Hospital facility would be rehabilitated.

4.3.5 Alternative # 4 – Renovation/Modification of Charity Hospital

The selection of Alternative # 4 would result in beneficial impacts to the cultural resources of the eligible NOMHD through preservation of a historically significant medical facility in the district. The eight other historic buildings of MCLNO would also benefit by preserving their original use.

The potential for adverse effects are limited to necessary renovations and additions to the exterior of Charity Hospital. Alterations of this kind could lessen the building's significance, causing a loss of integrity. Any loss of integrity has the potential to alter the criteria under which the building was determined eligible or remove the building from the NRHP. The building would continue to be a contributing element to the NOMHD.

Renovating MCLNO facilities would eliminate the need to construct a new LSU AMC at the proposed Tulane/Gravier site in the Mid-City Historic District. This action would eliminate the adverse impacts (direct, indirect, and cumulative) to the cultural resources within the footprint of the proposed 15-block project site.

Under Alternative # 4, the VAMC would be constructed at one of the previous three sites described: the Tulane/Gravier site, the Lindy Boggs site, or the Ochsner site. Alternative # 4, combined with construction of the VAMC at the Ochsner site, would likely contribute the least

to adverse cumulative impacts since the Ochsner site is not near historical districts and there are no immobile on-site properties listed in the NRHP.

4.4 SOCIOECONOMICS

4.4.1 Population and Housing

4.4.1.1 No Action Alternative

Under the No Action alternative, the VAMC and MCLNO would continue to operate at their current reduced capacities, with the inadequate facilities preventing the reestablishment of a complete, quality healthcare system and medical training center for the population of New Orleans and for veterans throughout the Gulf Coast Region. Other hospitals, smaller medical facilities, and healthcare services, as well as other types of facilities and services in the City have also been impacted since the 2005 hurricanes. As a result of these operational reductions, some former residents may be reluctant to return and new residents may be less likely to move to New Orleans. Thus, the No Action alternative, in conjunction with reductions in other facilities and services, could contribute to a cumulative adverse impact on population levels in Orleans Parish and an associated reduction in the demand for housing.

The hurricane recovery programs that would continue under the No Action alternative would have minimal effects on land use at any of the four potential project locations, as discussed in Section 4.1. The critical infrastructure projects, mitigation and demolition activities, and Road Home projects that will be performed in the vicinity of the alternative sites would improve existing facilities, which would benefit population and housing. USACE hurricane, storm, and flood protection activities would reduce the risk of loss of life and property should another storm event occur. Together the hurricane recovery programs would contribute to beneficial cumulative impacts on population and housing.

In summary, the incremental contribution to cumulative impacts on population and housing from no action regarding the VAMC and MCLNO would not be significant.

4.4.1.2 Alternative # 1 – Proposed Actions – Tulane/Gravier Locations

Based on the land use trends analysis presented in Section 4.2, the amount of land in the study area surrounding the Tulane/Gravier locations designated as Single and Two-Family Residential would be reduced by approximately 5 percent under the Proposed Actions compared with the No Action alternative. Given the large area of land that would be designated for Institutional Use within the study area (42 percent), and the Residential properties that would be removed to allow development of the Proposed Action, it is reasonable to expect that demand would exist for additional Residential land to be provided adjacent to and near the VAMC and LSU AMC facilities. The residents displaced from the Tulane/Gravier VAMC and LSU AMC sites, as well as additional residents attracted to the area by new employment that would be created as a result of the Proposed Actions, would require housing. Suitable housing would likely be available in the vicinity or elsewhere in Orleans Parish; therefore, the Proposed Actions would not contribute appreciably to a cumulative adverse impact on housing in conjunction with other redevelopment

projects in the City. These cumulative impacts would be beneficial due to the need for redevelopment, which would be promoted by the presence of additional employees in the area and the increased availability of medical services. The hurricane recovery programs discussed in Section 4.1 would have mainly beneficial effects on population and housing in the vicinity of the Tulane/Gravier sites; thus, the cumulative impacts on population and housing of these programs in conjunction with the Proposed Action would be mainly beneficial.

4.4.1.3 Alternatives # 2, # 3, and # 4 – Alternative Actions

For Alternatives # 2 and # 3, the land use trend analysis indicates that the amount of land within the study area designated as Single and Two-Family Residential would remain the same as under the No Action alternative. The Alternative # 2 and # 3 study areas are already planned to be relatively compatible with Future Medical use on the sites. For Alternative # 4, the surrounding properties are designated for Institutional use in the UNOP land use plan and include existing medical facilities, indicating that the area is already planned to accommodate some indirect development associated with the hospital.

Alternatives # 2, # 3, and # 4 would result in incremental contributions to cumulative impacts on housing that would be beneficial overall, similar to those described for the Proposed Actions. However, the impacts associated with the displacement of residents and resultant need for housing would be even smaller because fewer residents would be displaced from either the VAMC or the LSU AMC site individually under each of these alternatives compared to the number affected on both of these sites together under the Proposed Actions.

The hurricane recovery programs discussed in Section 4.1 would have mainly beneficial effects on population and housing in the vicinity of the Lindy Boggs, Ochsner, and Charity Hospital locations; thus, the cumulative impacts on population and housing of these programs in conjunction with Alternatives # 2, # 3, and # 4 would be beneficial.

4.4.2 Environmental Justice

4.4.2.1 No Action Alternative

Under the No Action alternative, new VAMC and LSU AMC facilities would not be constructed but rather the existing VAMC and MCLNO facilities would continue to operate at their current reduced capacities; no displacement of residents would occur. Therefore, there would be no cumulative adverse impacts on environmental justice communities of concern for any of the alternative locations and no disproportionately high and adverse impacts to minority or low-income populations would be expected. The hurricane recovery programs, as discussed in Section 4.1, would continue under the No Action alternative. These activities would have mainly beneficial effects on housing at any of the four potential project locations. The cumulative impact of these programs on environmental justice would be minor.

However, implementation of the No Action alternative would inhibit the restoration of medical facilities and services in Orleans Parish, which could have a cumulative adverse impact on minority and low-income populations in the parish. This could be considered an environmental

justice issue because it may disproportionately impact those minority and low-income populations who rely on the MCLNO for healthcare services.

4.4.2.2 Alternative # 1 – Proposed Actions – Tulane/Gravier Locations

The residents occupying the Tulane/Gravier VAMC and LSU AMC sites, who have been identified as environmental justice communities of concern, would be displaced under the Proposed Actions. This includes approximately 300 persons, based on results of site reconnaissance of occupied residences. Changes in land use under the Proposed Actions, identified through the trends analysis presented in Section 4.2, include a 5 percent decrease in Single and Two-Family Residential land within the study area. Development of the hospital facilities would reasonably be expected to increase pressure for rezoning and land use plan amendments to allow development of hospital-supporting land uses in the area surrounding the facilities. Land designated for residential use would be expected to experience relatively greater indirect change from redevelopment activities than the other land uses. The adverse impacts on the displaced residents would be reduced through the use of mitigation measures.

Availability of affordable housing has been an issue in New Orleans in the years following Hurricane Katrina. Although availability of rental units in multi-family housing has continued to improve, market pressures have acted to keep rents well above pre-Hurricane Katrina levels. Mitigation measures, in compliance with the URA and the Louisiana Expropriation Provisions, would be implemented to reduce the adverse effects of displacement on the residents, as well as businesses and nonprofit organizations, affected by construction of the new VAMC and LSU AMC facilities at the proposed Tulane/Gravier locations. Mitigation measures that reinforce the commitment to provide housing for those displaced would include provision of replacement housing payments for the increased costs of renting or purchasing a comparable replacement dwelling; provision of “housing of last resort” when comparable decent, safe, and sanitary replacement housing within a displaced person’s financial means cannot be made available; and assisting displaced persons by offering services such as transportation to locate replacement housing, social services, financial referrals, and listings of comparable dwellings. (The mitigation measures are discussed in more detail in Section 5.4, Mitigation Measures Associated with Environmental Justice.) Any displacement of residents that would occur in conjunction with other rebuilding efforts planned or ongoing in the vicinity of the proposed locations also would be addressed through mitigation measures.

Therefore, there would be no cumulative adverse impacts on environmental justice communities of concern under the Proposed Actions and no disproportionately high and adverse impacts to minority or low-income populations would be expected. However, it is anticipated that all population groups would greatly benefit from the increased amount of quality healthcare services and the expanded employment and growth opportunities.

The hurricane recovery programs discussed in Section 4.1 would have mainly beneficial effects on housing in the vicinity of the Tulane/Gravier sites; thus, the cumulative impacts on environmental justice of these programs in conjunction with the Proposed Action would be mainly beneficial.

4.4.2.3 Alternatives # 2, # 3, and # 4 – Alternative Actions

Each of these alternatives involves the displacement of residents from one of the Tulane/Gravier sites. Alternatives # 2 and # 3 include construction of the LSU AMC at the Tulane/Gravier location, while Alternative # 4 includes construction of the VAMC at the Tulane/Gravier location. Therefore, fewer residents would be displaced under these alternatives than under the Proposed Actions. The adverse impacts on those residents would be reduced through use of mitigation measures. Any displacement of residents that would occur in conjunction with other rebuilding efforts planned or ongoing in the vicinity of the proposed locations also would be addressed through mitigation measures. Therefore, there would be no cumulative adverse impacts on environmental justice communities of concern for any of the alternative locations and no disproportionately high and adverse impacts to minority or low-income populations would be expected. In addition, all population groups would greatly benefit from the expanded employment opportunities for construction, operation, and maintenance of the improved facilities.

The hurricane recovery programs discussed in Section 4.1 would have mainly beneficial effects on housing in the vicinity of the Lindy Boggs, Ochsner, and Charity Hospital locations; thus, the cumulative impacts on environmental justice of these programs in conjunction with these alternatives would be mainly beneficial.

4.5 SUMMARY OF CUMULATIVE IMPACTS

This section summarizes for each alternative the conclusions regarding the potential for significant cumulative impacts on the components of the existing environment evaluated above.

4.5.1 No Action Alternative

The No Action alternative would not substantially contribute, in conjunction with effects from other projects or activities in the City, to significant cumulative impacts on most components of the potentially affected environment. However, socioeconomic impacts on community medical facilities and services under existing conditions, which were the basis of the need for the Proposed Actions, would continue under the No Action alternative to contribute to the significant impacts on medical facilities and healthcare that have existed in the community since 2005.

4.5.2 Proposed Actions – Tulane/Gravier Locations

The Proposed Actions for the Tulane/Gravier VAMC and LSU AMC sites would not substantially contribute, in conjunction with effects from other projects or activities in the City, to significant cumulative impacts on most components of the potentially affected environment. The Proposed Actions would reduce the cumulative adverse impact from the hurricane-related loss of medical facilities and services in the community. The only adverse cumulative impacts to which the Proposed Actions could substantially contribute would be impacts on cultural resources and environmental justice that may result from other redevelopment activities in the community. However, adverse impacts on cultural resources from the proposed activities on these sites would be avoided if possible and minimized to the extent practicable, and any

remaining impacts would be mitigated such that they would not be significant. Similarly, unavoidable adverse environmental justice impacts would be mitigated. However, it is anticipated that all population groups would greatly benefit from the expanded employment opportunities for construction, operation, and maintenance of the improved facilities.

4.5.3 Alternative # 2 – Lindy Boggs Location

Alternative # 2 would not substantially contribute, in conjunction with effects from other projects or activities in the City, to significant cumulative impacts on most components of the potentially affected environment at the Lindy Boggs VAMC site or the Tulane/Gravier LSU AMC site. Only the impacts identified for cultural resources at the Tulane/Gravier LSU AMC site potentially could contribute to substantial cumulative adverse impacts that may result from other redevelopment activities in the community. Adverse impacts on cultural resources from the proposed activities on the Tulane/Gravier LSU AMC site that could contribute to cumulative impacts would be avoided if possible and minimized to the extent practicable, and any remaining impacts would be mitigated such that they would not be significant. Similarly, unavoidable adverse environmental justice impacts would be mitigated. However, it is anticipated that all population groups would greatly benefit from the expanded employment opportunities for construction, operation, and maintenance of the improved facilities.

4.5.4 Alternative # 3 – Ochsner Location

Alternative # 3 would not substantially contribute, in conjunction with effects from other projects or activities in the City, to significant cumulative impacts on most components of the potentially affected environment at the Ochsner VAMC site or the Tulane/Gravier LSU AMC site. Only the impacts identified for cultural resources at the Tulane/Gravier LSU AMC site potentially could contribute to substantial cumulative adverse impacts that may result from other redevelopment activities in the community. Adverse impacts on cultural resources from the proposed activities on the Tulane/Gravier LSU AMC site that could contribute to cumulative impacts would be avoided if possible and minimized to the extent practicable, and any remaining impacts would be mitigated such that they would not be significant. Similarly, unavoidable adverse environmental justice impacts would be mitigated. However, it is anticipated that all population groups would greatly benefit from the expanded employment opportunities for construction, operation, and maintenance of the improved facilities.

4.5.5 Alternative # 4 - Renovation/Modification of Charity Hospital

Alternative # 4 would not substantially contribute, in conjunction with effects from other projects or activities in the City, to significant cumulative impacts on most components of the potentially affected environment. Only the impacts identified for cultural resources at the proposed Tulane/Gravier VAMC site potentially could contribute to substantial cumulative adverse impacts that may result from other redevelopment activities in the community. Adverse impacts on cultural resources from the proposed activities on the Tulane/Gravier VAMC site that could contribute to cumulative impacts would be avoided if possible and minimized to the extent practicable, and any remaining impacts would be mitigated such that they would not be significant. Similarly, unavoidable adverse environmental justice impacts would be mitigated.

However, it is anticipated that all population groups would greatly benefit from the expanded employment opportunities for construction, operation, and maintenance of the improved facilities. If under Alternative # 4 the VAMC were located at the Lindy Boggs or Ochsner locations, there would be no potentially significant impacts associated with these sites.

5.0 MITIGATION

This chapter describes the general mitigation measures VA, FEMA, the City, and State have agreed to implement to reduce or avoid adverse impacts upon historic and archaeological resources as well as the impacts to minority and low-income populations at the potential alternative locations.

5.1 MITIGATION MEASURES FOR HISTORIC PROPERTIES

The mitigation measures to reduce or avoid adverse impacts upon historic and archaeological resources were determined and agreed upon pursuant to the NHPA Section 106 consultation process and are described in full in the PA which can be found in full in appendix B. VA, FEMA, the City, and State, in consultation with Federal, state, and local agencies and organizations per the ACHP regulations for implementing Section 106 (36 CFR Part 800), identified a sequence of avoidance, minimization, and mitigation to reduce these potential adverse impacts. VA, the State, and the City will each identify a single person to act as a community point-of-contact regarding the implementation of their respective treatment measures stipulated in the PA. The nature of the existing conditions at each of the proposed VAMC and LSU AMC locations guided the determination of the mitigation measures presented in this PEA.

One treatment measure that is applicable for all potential site alternatives would be implemented by the respective agencies to avoid adverse effects on historic properties. The agencies have agreed to securing and ventilating the existing VAMC and the nine historic MCLNO facilities to avoid further deterioration pending final arrangements regarding reuse or disposition. The VAMC and Charity Hospital are already being secured and ventilated and this would continue. Additional site specific actions are described below.

5.1.1 Alternative #1 – Proposed Actions – Tulane/Gravier Locations

5.1.1.1 Measures to Avoid Adverse Effects to Historic Properties

Under the Proposed Actions, the historic properties that exist on the Tulane/Gravier VAMC and LSU AMC locations and those in the surrounding APE would be subject to potential adverse effects. To avoid adverse effects to these historic properties, the agencies would take three additional avoidance measures: site security, retention of historic properties and design review.

5.1.1.1.1 Site Security

The agencies have agreed to ensure reasonable measures to provide adequate site security at the chosen location to prohibit, to the extent possible, looting and vandalism to historic properties contained within the site. Security measures may include exterior lighting, on-site security, and regular monitoring.

5.1.1.1.2 Retention of Historic Properties

The agencies would retain and reuse some structures and architectural features of other structures and assess the feasibility of avoiding or reusing others. VA would retain and rehabilitate the historic Pan-American Life Insurance Company building and integrate it into the design for the replacement VAMC. VA would assess the retention and rehabilitation of the Dixie Brewery for similar integration. If it is not possible to reuse the entire structure, VA will identify the significant features of brewery and integrate them into the design of the replacement VAMC. Prior to any repair or renovation efforts, at either building, VA will document the buildings using digital photography; the resulting materials would be available on the project website.

The State would retain to the extent feasible, either through avoidance or integration into the design plan, the Deutsches Haus and Orleans House. Prior to any repair or renovation efforts at the Deutsches Haus and Orleans House, the buildings will be documented through digital photography. If it is not possible to reuse these structures, the State would evaluate the feasibility of moving the cultural activities of the Deutsches Haus and the structure of the Orleans House to suitable locations within the Mid-City NRHD. If demolition cannot be avoided, the buildings would be documented, including digital photography and narrative reports, and featured in the public interpretation plan described below. If the State determines that neither the removal nor retention of the Orleans House is practicable, after documentation they will consider permitting a non-profit historic preservation third-party organization to disassemble and move the structure provided they can come to an acceptable agreement within the State's timeline. If State determines that it is feasible to retain the Deutsches Haus and Orleans House, the schematic design and design development plans for the rehabilitation and re-use will be included in the overall site design review described below.

5.1.1.1.3 Design Review Process

Immediately following the site selection announcement by VA or State/LSU, VA and FEMA will begin preparation of a joint or separate site specific EA(s) in accordance with NEPA and the PEA to analyze the potential environmental impacts of the design, construction, and operation of the proposed medical facilities. Acquisition of all land within the boundaries of the selected site may commence upon site selection. VA, FEMA, State, and the City acknowledge and recognize that design plans for VA and LSU Medical Centers may involve both plans for the immediate construction and utilization of facilities within the selected sites and may also involve long-term planning goals and objectives to accommodate future needs for expansion of the respective campuses.

For a period of 30 days following site selection, VA and State will receive comments from interested consulting parties concerning methods to incorporate and/or integrate into the design historic properties on the periphery of the selected site. No demolition of historic properties on the selected site will take place during this 30-day comment period.

VA and State will convene two design review sessions where all interested consulting parties that participated in the Section 106 process, including the SHPO, are invited to participate. The design team will provide a presentation on the design progress, discuss design options, explain

what steps were taken to meet the design goals and solicit Consulting Party input. The website will be used to post comments from the consulting parties and summary responses from the agencies.

5.1.1.2 Measures to Minimize Adverse Effects to Historic Properties

To minimize potential adverse impacts should the Tulane/Gravier locations be selected, VA, FEMA, State, and City have agreed to two treatment measures: vibration monitoring and phased demolition and construction. The VA and City have agreed to two additional minimization treatment measures: moving historic properties and interim treatment of the Dixie Brewery and Pan-American Life Insurance Company Building.

5.1.1.2.1 Vibration Monitoring and Phased Demolition & Construction

To safeguard all historic structures within the APE during demolition and construction, the agencies would develop a vibration tolerance and monitoring program designed by a structural engineer experienced in traditional materials. Additionally, to minimize concentrated, indirect adverse effects to the surrounding neighborhoods, the agencies will phase demolition and construction to the extent possible. The State will phase demolition and construction activities as necessary to ensure that the treatment measures stipulated in the Programmatic Agreement can be implemented. Additionally, prior to any demolition, State will provide the Chairman of the ACHP with a notification in writing that a funding stream for design and construction has been identified and a business plan has been approved for the proposed hospital.

5.1.1.2.2 Moving Historic Properties

The VA and City will support SHPO by providing up to \$600,000 and up to \$200,000 respectively, for a total of up to \$800,000, for moving one-story residential buildings of exceptional architectural importance to the Mid-City NRHD from their current locations within the PROPOSED VAMC site to new parcels within the Mid-City NRHD. Should VA select the Tulane/Gravier location for the replacement VAMC, following the site selection decision, the SHPO would evaluate and prioritize the buildings of the most exceptional architectural importance, apparent structural integrity, and physical condition which may affect suitability for moving. During the acquisition process, the property owners of the candidates for moving would be notified that up to \$40,000 in these reimbursement monies may be available to them to cover costs associated with moving the building. Through its redevelopment agency, the City may provide additional assistance to the property owner by making available, at cost of a transaction fee or legal fee, a vacant lot in the Mid-City NHRD suitable to receive the moved building. The owner must agree to move the candidate building within the timeframe established during the acquisition process and must agree to any other terms and conditions established by the SHPO in administration of the Mid-City Historic District Mitigation Program.

5.1.1.2.3 Interim Treatment

Subsequent to site selection and within six months of acquisition, the City and VA will secure and ventilate the Dixie Brewery and Pan-American Life Insurance Company Building to minimize deterioration of these structures. Such stabilization will secure the exterior of the buildings and character-defining features and ornamentation.

5.1.1.3 Measures to Mitigate Adverse Effects to Historic Properties

The agencies would apply five general mitigation measures to reduce the remaining potential adverse impacts should Alternative # 1 be selected: Mid-City Historic Mitigation Program, recordation, architectural salvage plan, public interpretation plan, and Local Historic District Designation nomination. Additionally, under Alternative # 1, the State would undertake one further mitigation measures with respect to the reuse and/or disposition of the historic buildings of the former MCLNO.

5.1.1.3.1 Mid-City Historic Mitigation Program

Should Alternative #1 be selected, to mitigate adverse effects to the Mid-City NRHD, VA, State, and City will support the SHPO in its effort to develop and implement a program to promote the preservation and rehabilitation of contributing elements within the Mid-City NRHD, which would be adversely affected by the site selection. The VA, State, and City would remit to the SHPO \$700,000, \$300,000, and \$400,000 respectively for a total of \$1.4 million, for eligible historic preservation project costs incurred within the Mid-City NRHD.

5.1.1.3.2 Recordation

Prior to any transfer, sale, demolition, or architectural salvage, VA and State will document all historic properties within the project footprints that will not be retained, including the former VA Hospital, VA Manager's and Nurses Quarters, McDonogh School No. 11, Sewerage Pumping Station No. 15, and Charity Hospital. The recordation will include digital photography and narrative reports as described in the PA found in appendix B. VA and State will post the resulting recordation data and materials to the project website.

5.1.1.3.3 Architectural Salvage

The agencies would develop and implement an architectural salvage plan for the removal and reuse of important architectural elements from these historic properties that will not be retained. The details of the architectural salvage plan are described in appendix B Section 106 Programmatic Agreement – Appendix 4.

5.1.1.3.4 Public Interpretation

The VA and State would design and implement a public interpretation program related to the Mid-City NRHD, the existing VAMC, Old Charity Hospital, McDonogh School No. 11,

Deutsches House, and Orleans House. This program may include oral histories, museum quality permanent displays, traveling exhibits, a publicly accessible website, and popular publications. The public interpretation program plan and resulting materials would be posted to the project website.

5.1.1.3.5 Local Historic District Designation

Should any neighborhood group wish to pursue local historic district designation for the Mid-City NRHD within the next two years, the City would fund a nomination report and FEMA would provide the City's Historic District Landmarks Commission with data that was gathered and prepared for identification and evaluation of the Mid-City NRHD.

5.1.1.3.6 Reuse and/or Disposition of the Historic Buildings in the former Medical Center of Louisiana at New Orleans

Should the State select the Tulane/Gravier location for the LSU AMC, they will address the reuse and/or disposition of the nine historically significant buildings that were part of the former MCLNO. First, the State and LSU would develop a strategic plan to foster and encourage the adaptive reuse of the nine buildings that were all damaged by Hurricane Katrina. LSU would initially determine which of these buildings it would retain for use. Subsequently, any buildings not reusable by LSU would be offered to other state agencies. Should these state agencies not elect to use the buildings, they would be made available to other interested parties after consultation with the SHPO. In the process of evaluating the reuse or transfer of these properties from State control, the State would promote adaptive reuse of these facilities and solicit consulting party and community input through public meetings and/or forums held at no less than two points.

If it is determined that Charity Hospital is not suitable for use by a state agency, the State and/or LSU will take input from the City, the Downtown Development District, the Regional Planning Commission, and the SHPO, with respect to the future use of Charity Hospital. Following the conclusion of the design process for the new LSU AMC, State and/or LSU will prepare a marketing study that will consider tax incentives, grants, financing, or other development incentives for the rehabilitation of this historic structure. This marketing study will be posted to the project's website and distributed to the consulting parties. For a minimum of three years following completion of the marketing study, the State and/or LSU will actively attract and encourage offers from public or private entities to rehabilitate and reuse the existing historic Charity Hospital building. Transfer of the property will be subject to legislative approval and the conditions listed in the PA (Appendix B). If this effort is unsuccessful after three years, they may dispose of the property as they see fit with no further obligations under the PA. Finally, the State will contract for the National Register nomination of Charity Hospital and will ensure the appropriate documentation for that nomination is submitted to the SHPO within one year.

5.1.2 Alternative # 2 – Lindy Boggs Location

No historic properties have been identified on the Lindy Boggs site, although some are located within the surrounding APE.

5.1.2.1 Measures to Avoid Adverse Effects to Historic Properties

Should this site be selected, in addition to the avoidance measures of securing and ventilating the existing VAMC, immediately following the site selection announcement VA will begin preparation of a site specific EA in accordance with NEPA and the PEA to analyze the potential environmental impacts of the design, construction, and operation of the proposed medical facilities. Acquisition of all land within the boundaries of the selected site may commence upon site selection. VA acknowledges and recognizes that design plans for the VA Medical Centers may involve both plans for the immediate construction and utilization of facilities within the selected sites and may also involve long-term planning goals and objectives to accommodate future needs for expansion of the respective campuses. VA will consider in its schematic design plans a range of facility development solutions, which will utilize setbacks, materials selections, landscaping, site layout, modifications to building footprints, massing and other appropriate techniques to improve compatibility with the Mid-City NRHD.

VA will convene two design review sessions where all interested consulting parties that participated in the Section 106 process, including the SHPO, are invited to participate. The design team will provide a presentation on the design progress, discuss design options, explain what steps were taken to meet the design goals and solicit Consulting Party input. The website will be used to post comments from the consulting parties and summary responses from the agencies.

5.1.2.2 Measures to Minimize Adverse Effects to Historic Properties

In the event it is not possible to avoid all potential adverse impacts, VA has agreed to two minimization measures for the Lindy Boggs site. Should this site be selected, VA would: 1) develop a vibration tolerance and monitoring program during demolition and construction designed by a structural engineer experienced in traditional materials to safeguard all historic structures within the APE; and 2) phase demolition and construction to the extent possible to minimize concentrated indirect adverse effects to the surrounding neighborhoods.

5.1.2.3 Measures to Mitigate Adverse Effects to Historic Properties

Two mitigation measures would be applied to reduce the remaining potential adverse impacts to the existing VAMC. Prior to demolition or architectural salvage, VA will document the former VA Hospital and VA Manager's and Nurses Quarters. The recordation will include digital photography and narrative reports as described in the PA found in Appendix B. VA will post the resulting recordation data and materials to the project website. Additionally, VA would design and implement a public interpretation program related to the history of the VAMC. This program may include oral histories, museum quality permanent displays, traveling exhibits, a

publicly accessible website, and popular publications. The public interpretation program plan and resulting materials would be posted to the project website.

5.1.3 Alternative # 3 – Ochsner Location

5.1.3.1 Measures to Avoid Adverse Effects to Historic Properties

Only one historic property has been identified at the Ochsner site and within the surrounding APE. Southern Pacific Locomotive Number 745, a historic property being stored in a warehouse on the Ochsner site, is listed in the NRHP and believed to be the only remaining 2-8-2 locomotive constructed at the Southern Pacific Railroad's Algiers Shop. To avoid adverse effects to this historic property, should the Ochsner site be selected, VA would provide sufficient notice to the owners to allow them to secure a new location and move the locomotive to a location outside the proposed Ochsner site. It is the view of VA, echoed by the ACHP at the 25 September 2008 consultation meeting that VA has no responsibility in selecting or controlling the receiving site; therefore, VA would not consider such a site as part of the APE for this alternative.

5.1.3.3 Measures to Mitigate Adverse Effects to Historic Properties

Should the Ochsner location be selected for the replacement VAMC, VA would implement the two mitigation measures described in Section 5.1.2.3 Measures to Mitigate Adverse Effects to Historic Properties.

5.1.4 Alternative # 4 – Charity Hospital Location

If the State and FEMA select the alternative of modifying and renovating the existing Charity Hospital, potential adverse effects must be considered on the existing facility and any historic structures within the APE.

5.1.4.1 Measures to Avoid Adverse Effects to Historic Properties

As stated in the introduction to this chapter, the State will secure and ventilate all nine historic properties within the former MCLNO within six months of site selection to avoid further deterioration. This stabilization will secure the exterior envelope of the buildings and the character-defining features and ornamentation. Summary reports of the stabilization measures will be provided to FEMA for comment, then the revised draft will be submitted to SHPO and the consulting parties. The State will post summary reports of the stabilization measures on the project website. Additionally, following site selection, the State shall ensure reasonable measures to provide adequate site security to prohibit, to the extent possible, looting and vandalism to historic properties contained within the site. Security measures may include exterior lighting, on-site security, and regular monitoring.

5.1.4.2 Measures to Minimize Adverse Effects to Historic Properties

To minimize adverse effects, the State would:

- Develop a vibration tolerance and monitoring program designed by a structural engineer experienced in traditional materials to safeguard all historic structures within the APE during demolition and construction;
- Consider the Secretary of Interior's *Standards for Rehabilitation* in the repair/renovation design with emphasis on preservation of the exterior front entrance and lobby interior; and
- Submit design drawings to the SHPO and the City's Historic District Landmarks Commission for comment.

5.1.4.3 Measures to Mitigate Adverse Effects to Historic Properties

Under Alternative # 4, prior to any repair or renovation efforts to Charity Hospital, the State will document building with digital photography and narrative reports. This recordation will be performed by or under the direct supervision of an individual who meets the Secretary of the Interior's Professional Qualification Standards for history, architectural history, or historic architecture. State will post the recordation data and resulting materials to the project website.

5.2 TREATMENT STRATEGIES FOR ARCHAEOLOGICAL RESOURCES

While historic structures have already been identified at the various alternative locations, the nature of any archaeological sites or artifacts is currently undetermined because of existing development in the area. Therefore, working in conjunction with the ACHP and SHPO pursuant to the PA, VA, FEMA, the City, and State have agreed to general treatment strategies to mitigate potential adverse effects on archaeological resources at all site locations pending final site selection.

Once archaeological resources are identified, VA and/or FEMA and State will develop one or more data recovery plans as mitigation measures for adverse effects on NRHP-eligible archaeological sites. The data recovery plans are detailed in the Programmatic Agreement (PA) in Appendix B. They may employ a sampling strategy, and/or include oral histories, public outreach (such as a public archaeology program) and data recovery. VA and/or State will ensure a comprehensive report for each project is prepared as stipulated in the PA. These reports will ultimately be submitted to SHPO and the MBCI for review and comment. VA and/or State as appropriate will curate all archaeological materials from these projects in accordance with the appropriate standards or regulations as stipulated in the PA.

If human remains are discovered during the archaeological survey, demolition, or construction, all work in the vicinity will be stopped immediately. If, at the time of discovery, the remains are on federally owned land and are determined to be American Indian, the responsible federal agency shall consult relevant federally recognized tribes to develop a plan for the appropriate

treatment of those remains in accordance with the Native American Graves Protection and Repatriation Act (25 USC § 3001 et. seq. as appropriate) as stipulated in the PA. If the remains are determined to be non-native, or if the remains are not located on federally owned land, the responsible agencies shall follow the procedures outlines in the Louisiana Unmarked Human Burial Sites Act (R.S. 8:671 et. seq.). If the remains are not located on federally owned land the responsible agencies shall also notify the City Attorney's Office, the New Orleans Police Department and Orleans Parish Coroner's Office. Local law enforcement officials shall assess the nature and age of the remains. Disposition of the remains would be pursuant to Federal and state laws based on the nature and age of the remains as determined by local law enforcement officials.

5.3 POST-REVIEW DISCOVERIES

If potential historic properties or unanticipated effects on historic properties are identified after site selection, VA and/or City and State would notify FEMA (for the State alternative), SHPO, the City and/or VA (for the VA alternative), the relevant federally recognized tribes, and the ACHP within 48 hours of discovery. VA or State (as appropriate) immediately shall secure the jobsite and suspend work in the vicinity of the affected resource. Pursuant to the stipulations in the PA, the agencies would consult to resolve the adverse effects. The agencies will ensure that all contractors are aware the requirements of the PA.

5.4 MITIGATION MEASURES ASSOCIATED WITH ENVIRONMENTAL JUSTICE

As discussed in Section 3.6.1.2, construction of the new VAMC and LSU AMC facilities at the proposed Tulane/Gravier locations would result in the displacement of businesses and other non-residential activities currently located on the sites. Mitigation measures would be implemented, where feasible, to reduce the adverse effects of displacement on the businesses and employees affected. Similarly, as discussed in Section 3.6.3.2, the resident populations that currently occupy the proposed Tulane/Gravier VAMC and LSU AMC locations would be displaced and required to relocate to housing outside of the project area if the two facilities were constructed at those sites. The populations residing on both sites were determined to be minority and low-income populations and, therefore, were identified as environmental justice communities of concern. The adverse impacts of construction of the facilities at the proposed locations on those populations would be reduced through mitigation measures.

Mitigation measures include options to avoid, minimize, rectify, reduce, or eliminate the adverse impacts associated with the Proposed Actions (FEMA 2008a). The mitigation measures to be applied would comply with the requirements of applicable Federal and state statutes, including the URA and the Louisiana Revised Statutes (LA RS) Title 19 - Expropriation. The URA establishes standards for the acquisition, rehabilitation, or demolition of real property for Federally-funded projects. These standards apply to the acquisition of real estate and the displacement of businesses, nonprofit organizations, or farms, and the displacement of people from homes due to the requirements of Federally-funded projects. They are administered as amended under 49 CFR Part 24. The objectives of the URA are:

- To provide uniform, fair, and equitable treatment of persons whose real property is acquired and who are displaced in connection with Federally-funded projects;
- To ensure that no individual or family is displaced unless decent, safe, and sanitary housing is available within the displaced person's financial means;
- To encourage and expedite acquisition by agreement and without coercion;
- To ensure relocation assistance is provided to displaced persons to lessen the emotional and financial impact of displacement; and
- To help improve the housing conditions of displaced persons living in substandard housing.

Responsibilities for agencies conducting projects under the URA include the following:

- Appraise property before negotiations and include the property owner in the appraisal process;
- Provide a written offer for property acquisition; and
- Pay for property before possession, including reimbursement for property title transfer.

For residential and nonresidential displacements, the responsibilities under the URA also include:

- Provide a written notice for displacement;
- Provide relocation advisory services to displaced businesses, nonprofit organizations, and residential tenants and owner occupants;
- For nonresidential displacements, provide financial assistance for moving expenses and for reestablishment expenses; and
- For residential displacements, provide financial assistance for moving expenses and for the added cost of renting or purchasing comparable replacement housing.

The LA RS 19:1 through 19:15 set forth procedures that address the rights of property owners and are to be followed when property is expropriated (i.e., taken by government). According to these procedures, the owner of property to be taken must be provided information from the appraisal, including the methodology used, and offered just compensation in an amount equal to at least the lowest appraised value (LA RS 19:2.2). An aggrieved owner can approach the courts to determine compensation (LA RS 19.4-19.9).

Mitigation measures, in compliance with the URA and the Louisiana Expropriation Provisions, would be implemented to reduce the adverse effects of displacement on the businesses, nonprofit organizations, and residents affected by construction of the new VAMC and LSU AMC facilities at the proposed Tulane/Gravier locations. Mitigation measures that would be taken to minimize the impacts of business relocation, business activity loss, and employment loss may include:

- Reimburse at fair market value any owner whose nonresidential property is acquired as a result of implementing the project;
- Compensate for reasonable expenses associated with reestablishment, including the search for replacement facilities;
- Provide relocation advisory assistance, including determining the relocation needs and preferences of each eligible business or nonprofit organization and explaining available services, eligibility requirements, and procedures for obtaining such assistance;
- Compensate for any direct loss of real property; and
- Reimburse moving expenses for all eligible businesses displaced by the project.

Mitigation measures that would be taken to minimize the adverse impacts of relocation on residents may include:

- Reimburse at fair market value any owner whose residential property is acquired as a result of implementing the project;
- Compensate for any direct loss of real property;
- Reimburse moving expenses for eligible displaced persons;
- Compensation up to \$40,000 per home (up to a total of \$800,000) for the cost of relocating contributing elements to the Mid-City NRHD from their position in the footprint of the VA Tulane/Gravier location to a new location within the Mid-City NRHD but outside of the footprint. Eligible structures for moving will be identified by the SHPO based on architectural importance, apparent structural integrity, and physical condition.
- Provide relocation advisory services, such as determining the relocation needs and preferences of eligible displaced persons and explaining available services, eligibility requirements, and procedures for obtaining such assistance;
- Assist eligible displaced persons by offering services such as transportation to locate replacement housing, social services or financial referrals, and listings of comparable dwellings;
- Provide replacement housing payments for the increased costs of renting or purchasing a comparable replacement dwelling;
- Coordinate with neighborhood and parish housing organizations to identify programs to address other needs of displaced persons; and
- Provide “housing of last resort” when comparable decent, safe, and sanitary replacement housing within a displaced person’s financial means cannot be made available.

The term “housing of last resort” applies to additional alternative assistance for displaced owner-occupants and tenants. It may involve the use of replacement housing payments that exceed the URA maximum amounts. It may also include the use of project funds to undertake special measures such as the construction, rehabilitation, or relocation of housing. Use of this provision

is required when comparable replacement dwellings are not available within the monetary limits provided in the URA. This is a common situation in high-cost housing areas or with very low income tenants who do not live in subsidized housing at the time of displacement (HUD 2008).

6.0 LIST OF PREPARERS

Table 6-1. PEA Preparation Team	
PEA Section	Team Member
Project Manager Proposed Actions/Alternatives	Roberta Hurley, Earth Tech
Physical Environment	Doria Cullom, Earth Tech
Land Use/Socioeconomics/ Environmental Justice	Susan Provenzano, AICP, Earth Tech Steve Dillard, Earth Tech
Infrastructure	Tony Collins, Earth Tech
Cultural Resources	Katy Coyle, R. Christopher Goodwin & Associates Kate Kuranda, R. Christopher Goodwin & Associates Kelly Wittie, R. Christopher Goodwin & Associates Lindsay Hannah, R. Christopher Goodwin & Associates
Transportation	Kyle Parker, PE, Earth Tech
Human Health and Safety	Katie Broom, Earth Tech Laura Sanchez, PG, Earth Tech
Biological Resources	Erika Schreiber, Earth Tech Steve Dillard, Earth Tech
Air/Noise/Transportation	Kevin Taylor, PE, CHP, Earth Tech
Cumulative Impacts – Land Use	Joshua Lathan, EDAW Susan Provenzano, AICP, Earth Tech
Mitigation	Susan Provenzano, AICP, Earth Tech Carol Butler Freeman, Earth Tech
Project Support	Ashley Bray, Earth Tech Tony Collins, Earth Tech
Administrative Support	Bonnie Freeman, Earth Tech
Technical Editor	Nikki Thomas, Earth Tech
Quality Assurance	Evelyn Rogers, PE, Earth Tech

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