

facilities when feasible. Thus, there would be no significant direct impacts on the biological environment of the proposed Tulane/Gravier VAMC and LCU AMC locations.

Indirect Impacts

No indirect adverse impacts on the biological environment are anticipated to occur under the Proposed Actions. BMPs would be employed to control sediment transport and minimize stormwater 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 the biological environment 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 of the reach of 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 the biological environment 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 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	
	µg/m ³	parts per million (ppm)	µg/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 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 non-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 non-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 non-road vehicles and machinery used in the work area will contribute to air pollution on the project site and in surrounding areas. Non-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) (Louisiana Office of Facility Planning and Control 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 of New Orleans using CDBG funds must comply with HUD's Environmental Criteria and Standards (24 CFR 51) relative to noise abatement and control (Subpart B) and siting HUD projects in runway clear zones (Subpart D) (HUD 2008a). 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 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 (HUD 2008b). Local civil and military airfields in the New Orleans area are shown in figure 3-9.

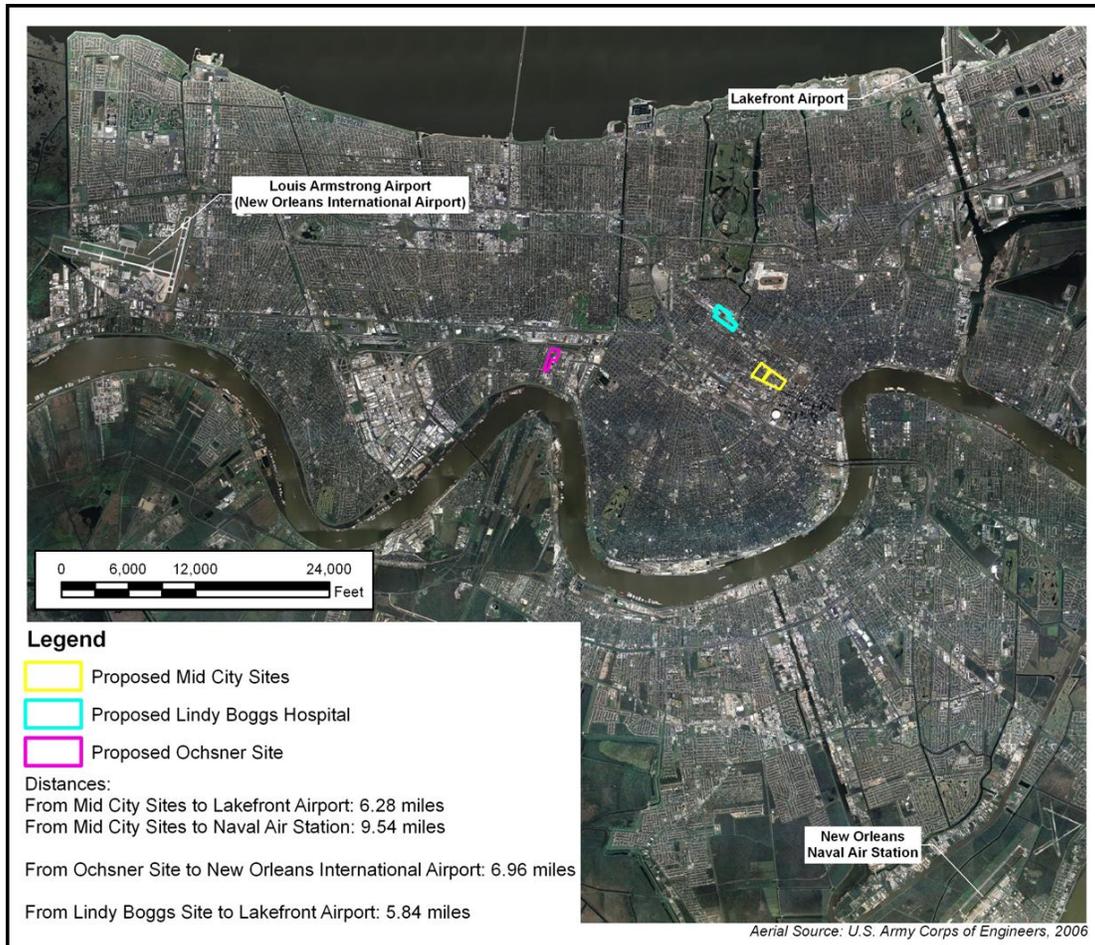


Figure 3-9. Locations of Airfields and Proposed Facility Sites

3.11.1 Existing Conditions – Noise and Vibrations

3.11.1.1 Existing and Proposed Tulane/Gravier Locations

In January 2008, the State’s Office of Facility Planning and Control conducted a noise assessment survey of the proposed LSU AMC Tulane/Gravier site (Louisiana Office of Facility Planning and Control 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 3-9)
 - 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 (Louisiana Office of Facility Planning and Control 2008).

Figure 3-10 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 3-10, the average noise levels for the posed 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.

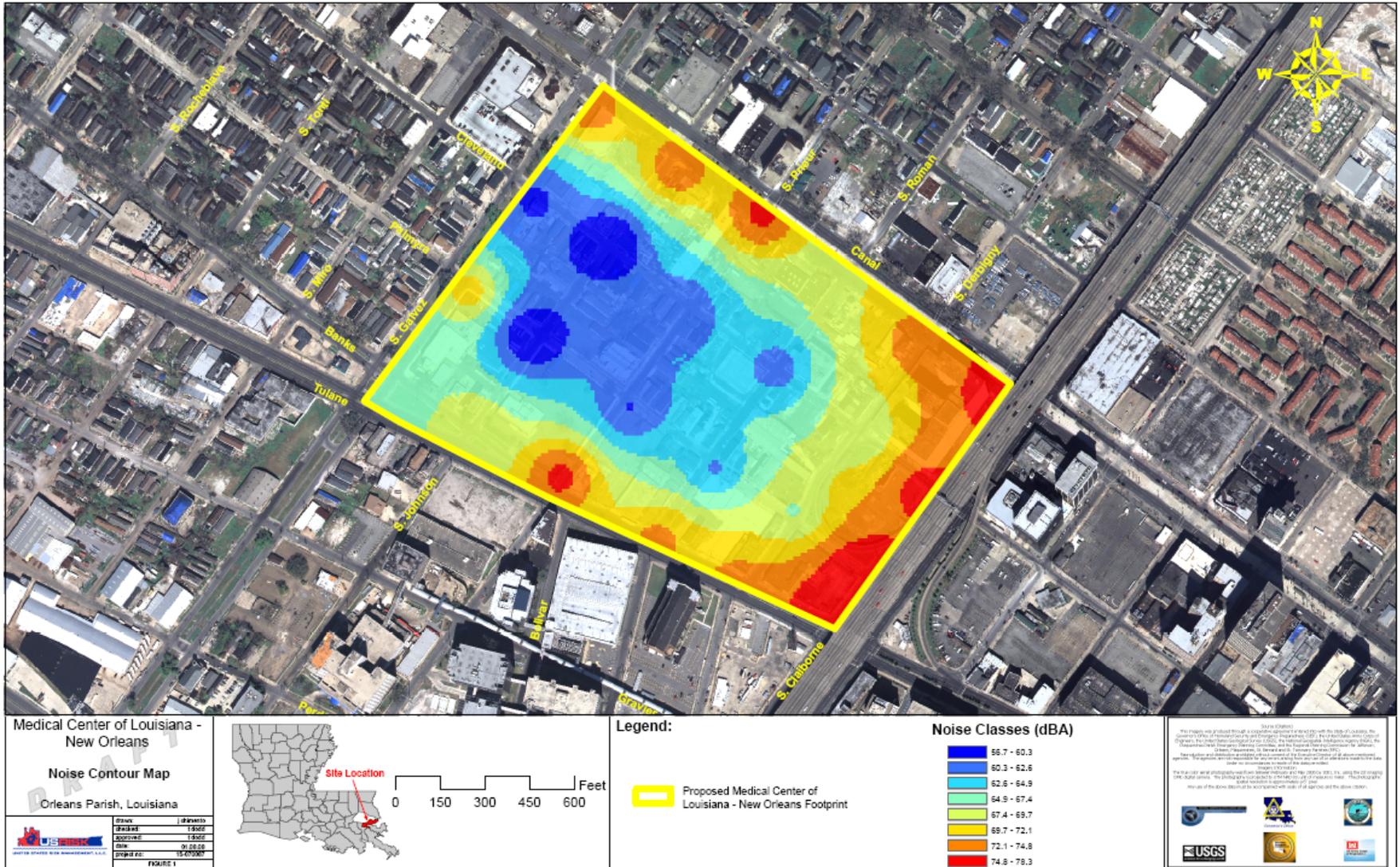


Figure 3-10. Noise Levels at the Proposed LSU AMC Site

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 of New Orleans 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 3-11.

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 ft is a measured noise emission. The 100- to 1,000-ft 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 3-2 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 3.4.2.3) 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 D). 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 Council on Environmental Quality (CEQ) guidance: *Considering Cumulative Effects Under the National Environmental Policy Act (CEQ1997)*.

The first step in the cumulative effects 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 to 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 Action or the alternatives. Accordingly, this cumulative effects analysis will focus 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
- FEMA Demolition Activities

- United States Army Corps of Engineers (USACE) Hurricane, Storm, and Flood Protection Activities
- 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 Executive Orders. However, the use of Public Assistance funds for projects other than the repair to pre-disaster conditions (e.g., improved projects and alternate projects) are 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, utilities), FEMA developed alternative arrangements for NEPA compliance in coordination with the Department of Homeland Security and the Council on Environmental Quality. 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 twenty 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 Sewage and Water Board. 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 ten projects. These projects are repairs to the Ochsner facilities and have no impacts to land use, historic properties, minority and low-income populations, or housing.

4.1.2 FEMA Hazard Mitigation Grant Program

FEMA is also involved in multiple projects related to its Hazard Mitigation Grant Program (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, acquisition of facilities, etc.

The State of Louisiana is using part of their available Hazard Mitigation Grant Program (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 Programmatic Environmental Assessment (PEA) for these activities and executed a Programmatic Agreement under Section 106 of the NHPA (FEMA 2008c). 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 National Historic Preservation Act. FEMA conducts individual historic review of buildings eligible for this program to identify those demolitions which 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 National Register Historic Districts 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 Programmatic Agreement, 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 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 of New Orleans (CNO).

Adverse effects resulting from the private property demolitions are programmatically addressed on a specific basis with pre-demolition treatment measures for NR 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, CNO, SHPO, National Trust for Historic Preservation, Preservation Resource Center) which examines alternatives to demolition for each property. After this is complete, each NR 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 (PRC), 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 National Register eligible buildings in the Mid-City Historic District and 15 in Parkview Historic District. These demolitions are scattered throughout the Mid-City District with the exception of the north-western most section. All of these buildings were condemned by the City of New Orleans 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 NR 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 National Park Service, FEMA is in the process of completing an individual level inventory of eight National Register Historic Districts (NRHD), including Mid-City. This inventory is digitally based, with a detailed description collected by a historic preservationist at each building with 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 Historic District Landmarks Commission (HDLC), amended in consultation with the HDLC, in order to provide useful data to the City of New Orleans.

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 of New Orleans and State of Louisiana 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 Greater New Orleans Hurricane Storm Damage Risk Reduction System (GNOHSDRRS) and the Southeast Louisiana Urban Flood Control Program (SELA). During Hurricanes Katrina and Rita, surge and waves caused 50 major levee breaches in the GNOHSDRRS (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 GNOHSDRRS 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 GNOHSDRRS 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 GNOHSDRRS projects most likely contribute to cumulative impacts, because of their location and the protection that they would provide include the Individual Environmental Report (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 ft (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, and the 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 stormwater.
- 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 GNOHSDRRS 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 ten-year rainfall event, while also reducing damages for larger events.

The GNOHSDRRS 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 GNOHSDRRS 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 GNOHSDRRS and SELA projects that are relevant to the Proposed Action and alternative 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 GNOHSDRRS 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 of New Orleans. 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 S. 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, M. 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 of New Orleans maintains a webpage that identifies capital improvement projects at <http://neworleans.iprojweb.com/map.aspx>. This includes a mapping tool at <http://neworleans.iprojweb.com/map.aspx>. 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.

National Park Service Historic Building Recovery Grants

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 National Park Service 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 1997). 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 of New Orleans recovery plan and for the release of CDBG funds by the Louisiana Recovery Authority (LRA) to the City for recovery projects. The UNOP, which identifies recovery projects for the City, was approved by the New Orleans City Planning Commission, 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 of New Orleans 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 Action 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 Sections 4.2.1 and 4.2.1.1 through 4.2.1.4 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, pers. comm. 2008) and the Jefferson Parish Planning Department (Cassagne, pers. comm. 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, and 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.

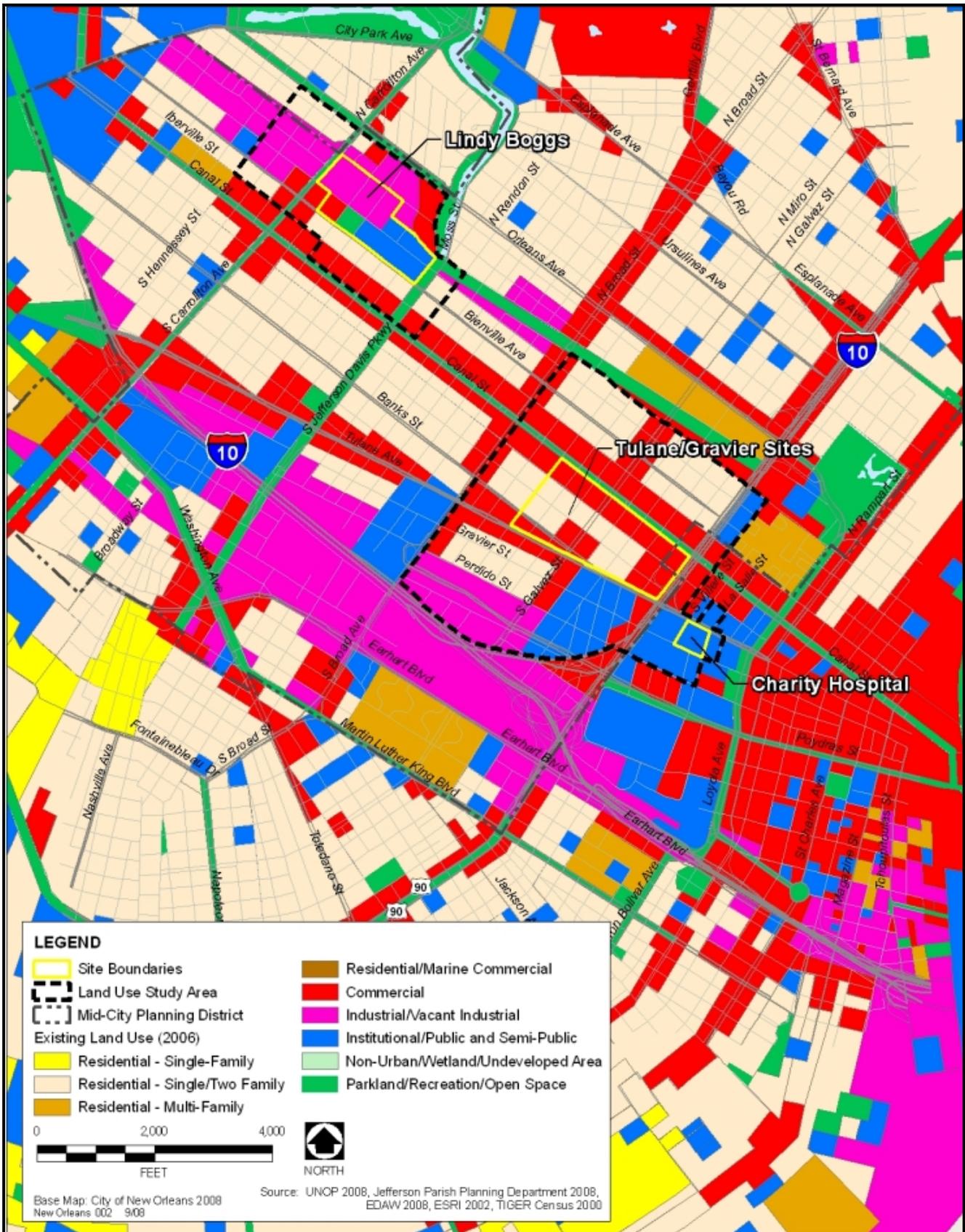


Figure 4-1. Existing Land Use – Tulane/Gravier, Lindy Boggs, and Charity Hospital Locations

**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, pers. comm. 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 Citywide 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).

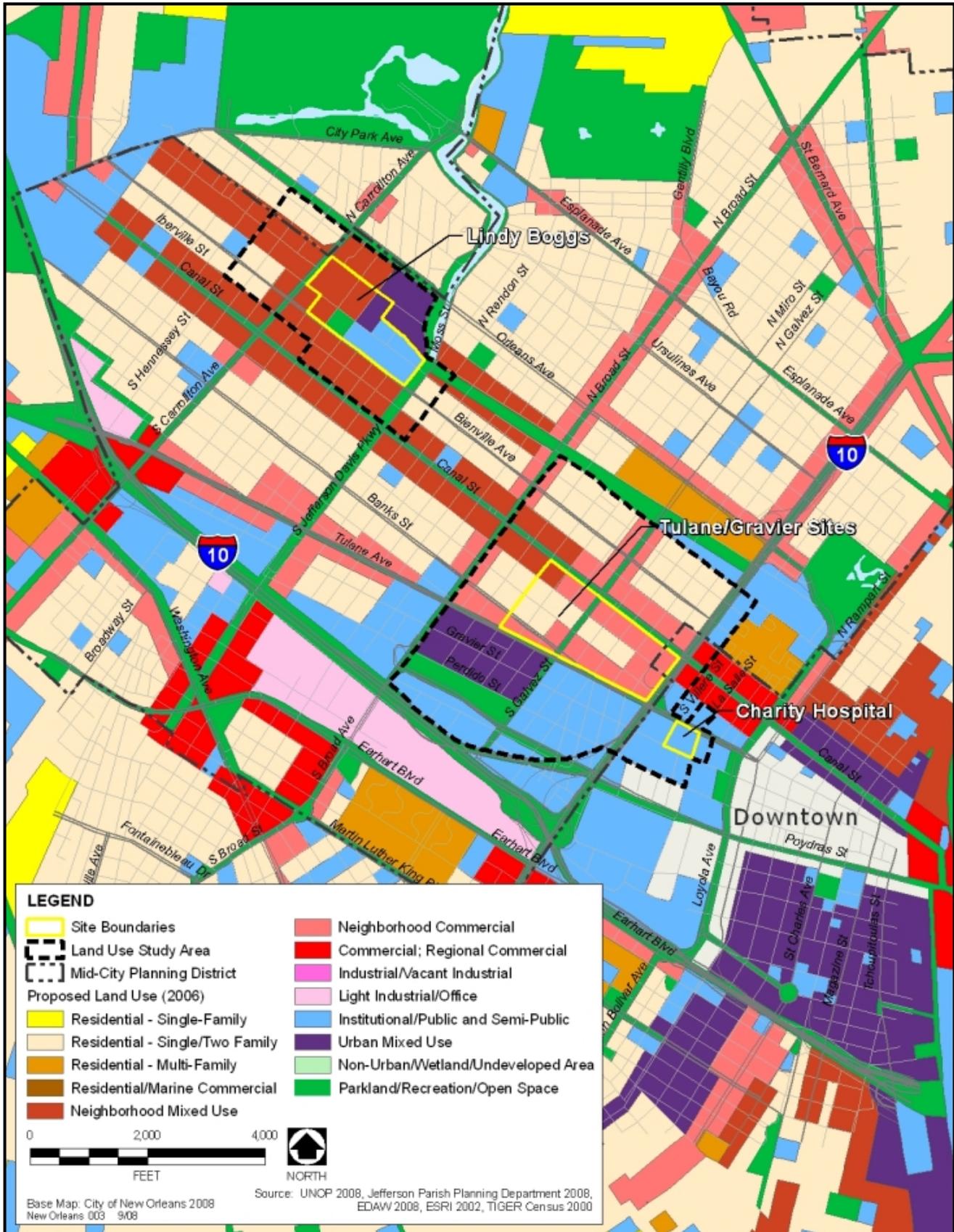


Figure 4-2. Proposed Land Use – Tulane/Gravier, Lindy Boggs, and Charity Hospital Locations

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, pers. comm. 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).

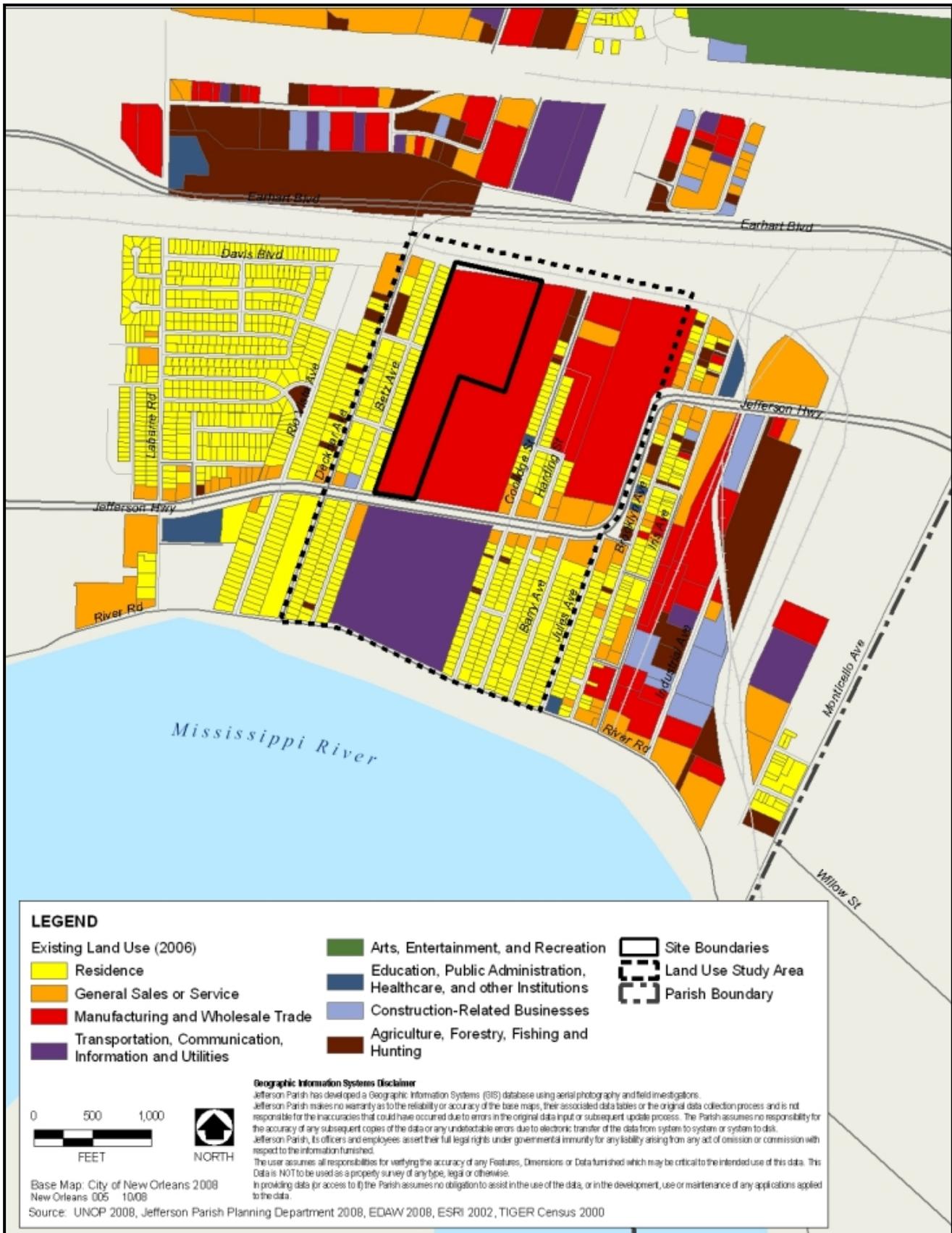


Figure 4-3. Existing Land Use – Ochsner Location

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, pers. comm. 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

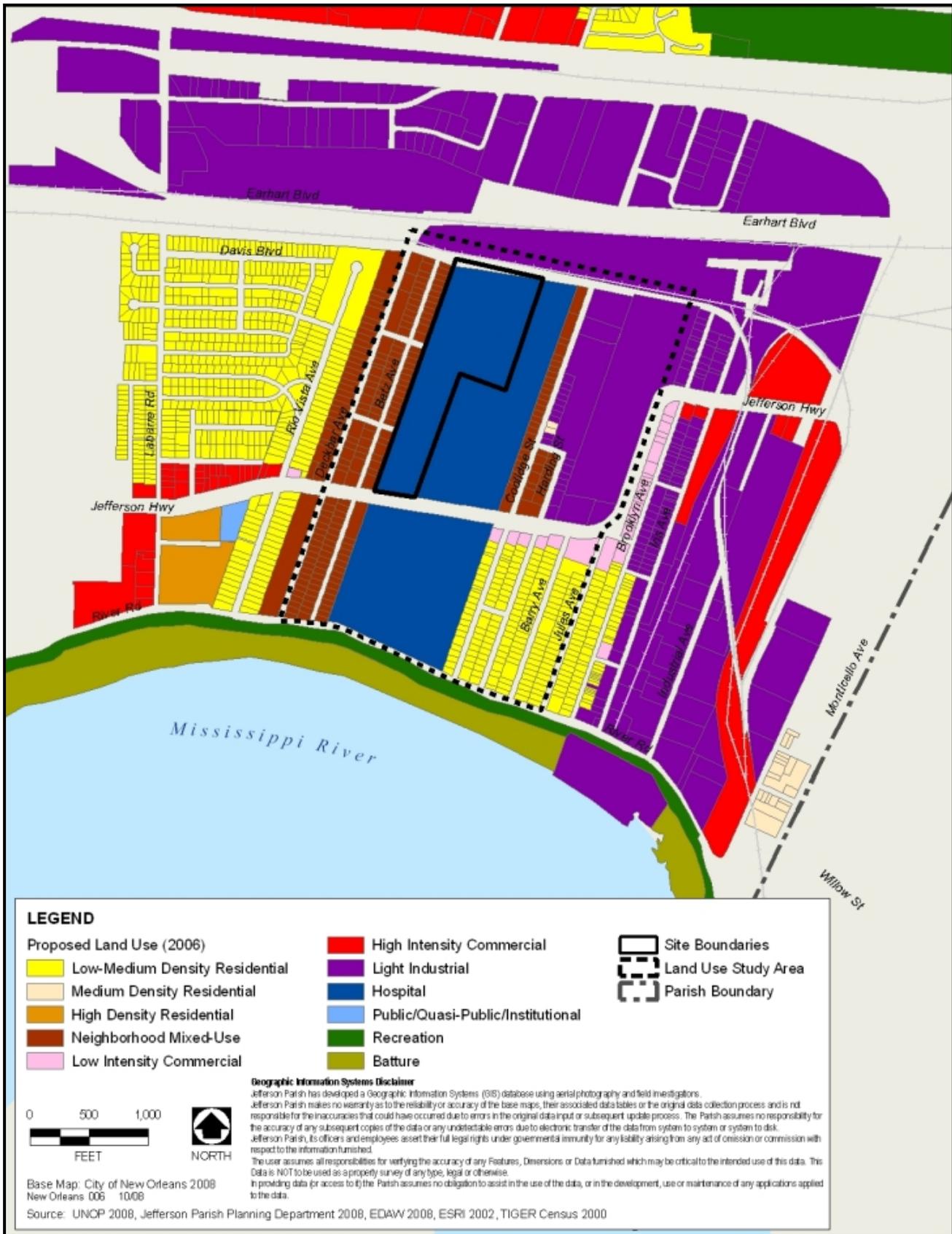


Figure 4-4. Proposed Land Use – Ochsner Location

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, pers. comm. 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 Action, 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, pers. comm. 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 Action, 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, pers. comm. 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, Interstate 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, pers. comm. 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, Interstate 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. Excavation of the site after demolition is complete and right-of-ways have been granted may yield 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 Hazard Mitigation Grant Program 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 includes 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, 2007a). 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, 2007a). Many of the intersections along Galvez Street inside the footprints no longer include historic buildings so increased construction in this area would be minimal. 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 8 blocks of the Mid-City NRHD which represents a 2.8 percent loss of blocks to the district as a whole.

4.3.1.2 No Action - Lindy Boggs

Based on the UNOP Citywide 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.

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 has 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 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 proposed NOMHD but not the determination of FEMA that the building is individually eligible for the NRHP. As long as alterations to the building did 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 proposed 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, and raised basements as well as commercial structures. While they 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 of New Orleans.

State and Federal actions are ongoing to preserve historical sites in the City of New Orleans. 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 National Park Service 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 RPC Site 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 RPC site mitigation, and will work with the SHPO to implement such mitigation. In addition, the City of New Orleans will contribute \$400,000 to the SHPO's program and the State will provide an additional \$300,000 should they select LSU AMC. This program will fund historic renovations to more than 60 properties within the Mid-City NRHD.

The SHPO's 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 programmatic agreement. 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 of New Orleans 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 proposed 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 proposed NOMHD but would not prohibit later individual nomination to the NRHP.

If the LSU AMC alternative is selected, FP&C 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 proposed NOMHD. Rehabilitation into other uses would affect the building's contributing status but 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 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 potential 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. Excavation of the site after demolition is complete and right-of-ways have been granted may yield the 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, none of the site is within either historic district. Furthermore, no cultural resources were identified on the Lindy Boggs site. No individual 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 Citywide 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 alternatives 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 proposed 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 proposed 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 Historic District's 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 National Register 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 to 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 proposed 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 proposed 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's 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 proposed 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 medical centers 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 medical systems 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. They would likely find suitable housing 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 rezones 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 or financial referrals, and listings of comparable dwellings. 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 of New Orleans, 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 of New Orleans, 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 of New Orleans, 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 of New Orleans, 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 of New Orleans, 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 GENERAL 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. VA, FEMA, the City, and State, in consultation with Federal, state, and local agencies and organizations per the ACHP's regulations for implementing Section 106 (36 CFR Part 800), identified a sequence of avoidance, minimization, and mitigation to reduce these potential adverse impacts. The nature of the existing conditions at each of the proposed VAMC and LSU AMC locations guided the determination of the general mitigation measures presented in this PEA. Specific mitigation measures based on these general measures would be developed after final site selection.

Two general avoidance measures that are applicable for all potential site alternatives would be implemented by the respective agencies to avoid adverse effects on historic properties. These general avoidance measures include: 1) ensuring that site security at the chosen location, which would include possible lighting and monitoring and 2) securing and ventilating the existing VAMC and the nine historic MCLNO facilities to avoid further deterioration pending final arrangements regarding reuse or disposition. Additional site specific actions are described below.

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

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 two additional avoidance measures:

- In an effort to be sensitive to the architectural character of the Mid-City NRHD, the agencies would utilize treatments, setback, scale, and massing selections when designing the new facilities, and would solicit input from the consulting parties on the design of the new facilities; and
- 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 the historic Pan-American Life Insurance Company building and integrate it into the design for the replacement VAMC. VA would assess the retention of Dixie Brewery for similar integration. If it is not possible to reuse the entire facility, VA would retain and integrate the significant features of the Dixie Brewery into the design of the replacement VAMC. The State would assess the feasibility of avoiding and/or retaining the Deutsches Haus and the

Orleans House in the design for the new LSU AMC. 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 the structures cannot be reused or moved they 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 or retention of the Orleans House is practicable, 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.

Historic properties that are selected for retention and re-use as part of the replacement VAMC and LSU AMC would be stabilized pending the final facility design to minimize potential adverse effects. 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.

Five general mitigation measures would be applied to reduce the remaining potential adverse impacts under Alternative # 1.

- Within one year of site selection the agencies would support the SHPO sponsored Mid-City Historic Preservation Mitigation Program. This program would be designed to promote the preservation and rehabilitation of historic properties contributing to the historic significance and characteristics of the Mid-City NRHD which would be adversely affected by this alternative;
- Prior to any transfer, sale, demolition, or architectural salvage of the existing historic facilities or any historic properties within the footprints, the agencies would record and document, using digital photography and narrative reports, all historic properties that would not be maintained;
- The agencies would develop and implement an architectural salvage plan for the removal and reuse of important architectural elements from these historic properties;
- The agencies would design and implement a public interpretation program related to the Mid-City NRHD, the existing VAMC, and Old Charity. This program would include oral histories, museum quality permanent displays, traveling exhibits, a publicly accessible website, and popular publications; and
- 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.

Under Alternative # 1, the State would undertake two additional mitigation measures with respect to the proposed NOMHD. First, the State and LSU would develop a strategic plan to foster and encourage the adaptive reuse of historically significant buildings that were part of the

former MCLNO and that were 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 put up for public auction after consultation with the SHPO. The State would promote adaptive reuse of these facilities and solicit consulting party and community input in the process.

If it is determined that Old Charity is not suitable for use by a state agency, the State in consultation with the City and the SHPO, will prepare a marketing study that considers tax incentives, grants, financing, or other development incentives for the rehabilitation of this historic structure. For a minimum of two years, the State would actively attract and encourage offers from public or private entities to rehabilitate and reuse the historic facility. Conditioned upon legislative approval, the State will deed an exterior and selective interior preservation easement to an appropriate third-party non-profit historic preservation organization prior to transferring ownership. State would stipulate that any rehabilitation or improvements to the property be made in accordance with the Secretary of the Interior's *Standards for Rehabilitation*. This strategic plan may be discontinued if it has been unsuccessful after two years. Finally, the State will contract for the National Register nomination of Charity Hospital and insure the 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. To avoid adverse effects to these surrounding historic properties, the agencies would utilize treatments, setback, scale, and massing selections that would be sensitive to the architectural character of the Mid-City and Parkview NRHDs when they design the replacement VAMC, and they would solicit consulting party input on the design of the new facility.

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, the 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.

Two mitigation measures would be applied to reduce the remaining potential adverse impacts to the existing VAMC. To reduce impacts, the VA would: 1) document the VAMC and the VA Managers and Nurses Quarters with digital photography and narrative reports prior to any transfer or sale of the existing facilities and 2) design and implement a public interpretation program related to the existing VAMC. This program would include oral histories, museum quality permanent displays, traveling exhibits, a publicly accessible website, and popular publications.

5.1.3 Alternative # 3 – Ochsner Location

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 National Register 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.

Two mitigation measures would be applied to reduce the remaining potential adverse impacts to the existing VAMC. To reduce impacts, the VA would: 1) document the VAMC and the VA Managers and Nurses Quarters with digital photography and narrative reports prior to any transfer or sale of the existing facilities and 2) design and implement a public interpretation program related to the existing VAMC. This program would include oral histories, museum quality permanent displays, traveling exhibits, a publicly accessible website, and popular publications.

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. 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 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.

Under Alternative # 4, prior to initiation of repair work, the State would document the building with digital photography and narrative reports to mitigate any further adverse effects.

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 FEMA may consider a range of mitigation measures for adverse effects on National Register-eligible archaeological sites, such as individual site data recovery, representative site data recovery, education and public involvement efforts (possibly including oral histories and a public archaeology program), or other reasonable and good faith efforts commensurate with the scale of the undertaking, its effects on archaeological sites, and the significance of the adversely affected National Register-eligible archaeological sites. Weekly field reports and Management Summary Reports will be submitted to SHPO and Mississippi Band of Choctaw Indians at regular intervals

5.3 POST-REVIEW DISCOVERIES

If potential historic properties or unanticipated effects on historic properties are identified after site selection, VA and FEMA would notify the SHPO, the ACHP, federally recognized Tribes and the City within 48 hours of discovery; if City is the current owner of the property at the time of discovery, the City will notify VA, the SHPO, the ACHP, and the federally recognized Tribes within 48 hours of discovery. If construction is underway, work would be suspended and the job site secured pending consultation with these agencies. If construction has not commenced, the consulting parties would also be notified and invited to discuss resolution of adverse effects. The agencies would ensure that all contractors are aware of, and abide by, the stipulations of the PA.

If human skeletal remains are discovered during the archaeological survey, demolition, or construction, all work would be stopped immediately. VA and FEMA would notify the City, the appropriate Police Department and Parish Coroner's Office, the SHPO, and federally recognized tribes immediately. Additionally, the Louisiana Division of Archaeology would be contacted within 72 hours. 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.

5.4 MITIGATION MEASURES ASSOCIATED WITH ENVIRONMENTAL JUSTICE

As discussed in Section 3.6.3.2, 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 3.6.1.2, 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 2008). 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;
- 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.

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