# APPENDIX D
# AIR QUALITY ANALYSIS

NOVEMBER 2015

# LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

**STATE PROJECT NO. H.004825.2/FEDERAL AID PROJECT NO. H004825**

LA 28

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

U.S. Department of Transportation Federal Highway Administration

# AIR QUALITY TECHNICAL REPORT

# WIDENING LA 28 EAST FROM LIBUSE TO HOLLOWAY ENVIRONMENTAL ASSESSMENT

## RAPIDES PARISH, LOUISIANA

PROVIDENCE

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ADT | Average Daily Traffic |
| CO | Carbon Monoxide |
| CAA | Clean Air Act |
| CAAA | Clean Air Act Amendments |
| $CO_2$ | Carbon Dioxide |
| DOTD | Department of Transportation and Development |
| FHWA | Federal Highways Administration |
| HEI | Health Effects Institute |
| HR | Hour |
| IRIS | Integrated Risk Information System |
| Pb | Lead |
| LA | Louisiana |
| MSAT | Mobile Source Air Toxics |
| MOVES | Motor Vehicle Emission Simulator |
| NAAQS | National Ambient Air Quality Standards |
| NATA | National Air Toxics Assessment |
| NEPA | National Environmental Policy Act |
| $NO_2$ | Nitrogen Dioxide |
| $NO_x$ | Nitrogen Oxide |
| $O_3$ | Ozone |
| PM | Particulate Matter |
| $PM_{10}$ | Particulate Matter (diameter between 2.5 and 10 micrometers) |
| $PM_{2.5}$ | Particulate Matter (diameter of 2.5 micrometers or smaller) |
| PPB | Parts per Billion |
| PPM | Parts per Million |
| ROW | Right-of-Way |
| SIP | State Implementation Plan |
| $SO_2$ | Sulfur Dioxide |
| STIP | State Transportation Improvement Program |
| $\mu g/m^3$ | Micrograms per Cubic Meter |
| USEPA | United States Environmental Protection Agency |
| VOC | Volatile Organic Compounds |
| VPD | Vehicles per Day |
| VMT | Vehicle Miles Traveled |

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## 1.0 INTRODUCTION

The Louisiana Department of Transportation and Development (DOTD) proposes to expand a portion of Louisiana (LA) Highway 28 East starting from its western intersection with LA 3128 in Libuse to its eastern intersection with LA Highway 1207 in Holloway in Rapides Parish, Louisiana.

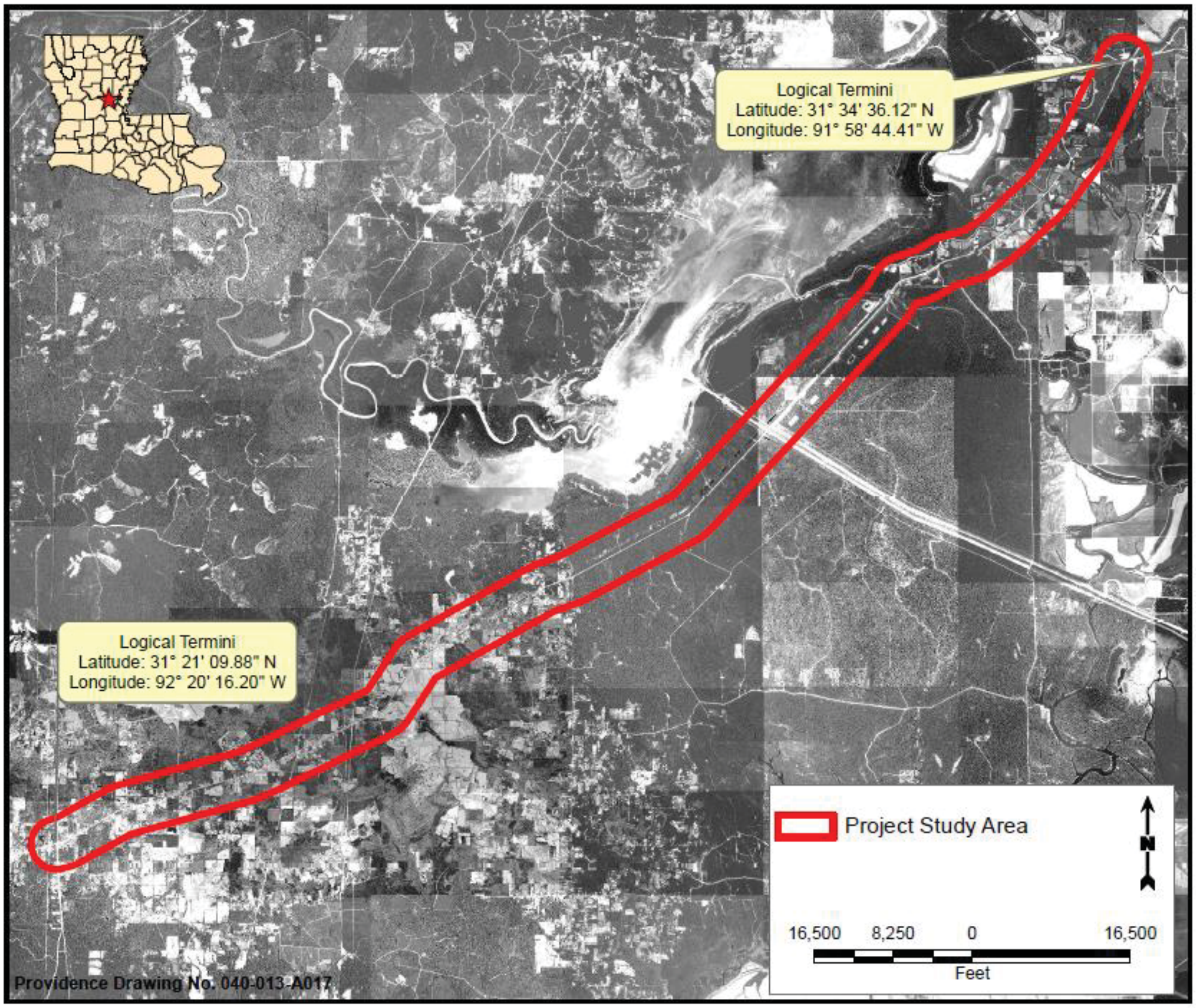
The purpose of the proposed project is to increase the capacity of the existing roadway to bring this section of LA 28 up to current design standards. The proposed project is needed to provide the capacity necessary to serve increasing traffic demands in the area.

This air quality technical report summarizes the results of the air quality assessment for the LA 28 Widening project.

## 2.0 EXISTING CONDITION AND PROPOSED BUILD ALTERNATIVE

The existing LA 28 roadway within the project construction limits is a southwest-northeast oriented roadway. The proposed project construction area is 7.25 miles in length and is classified as a rural principal arterial. The existing LA 28 facility consists of four (4) lanes and a central two-way left turn lane until it tapers to a non-divided, two-lane section without turn lanes east of LA 1205. The lanes are 12-feet wide with 8-foot shoulders along the 4-lane section and 10-foot shoulders along the 2-lane section. The posted speed limit within the project corridor is generally 55 miles per hour (mph) east of LA 1205 and 45 - 50 mph west of LA 1205. The typical existing right-of-way (ROW) width varies from approximately 100 feet east of LA 1205 to 150 feet west of LA 1205. **Figure 1** shows the overall site location.

**FIGURE 1**
**SITE LOCATION MAP**




*Base map comprised of ESRI World Imagery Maps dated June 2013.*

For the purpose of this analysis, vehicular traffic data within the project limits have been examined to determine potential air quality impacts within the proposed project corridor for the base year (2016) and design year (2036). The maximum projected Average Daily Traffic (ADT) in vehicles per day (vpd) for different sections within the project corridor is shown in the **Table 1**.

**TABLE 1**
**PROJECTED MAXIMUM ADT WITHIN THE LA 28 PROJECT CORRIDOR**

| Location | Maximum ADT (vpd) | |
|---|---|---|
| | 2016 (Base Year) | 2036 (Design Year) |
| LA 28 at LA 3128 | 15,491 | 25,384 |
| LA 28 at LA 1205 | 14,987 | 24,558 |
| LA 28 at LA 116 | 12,310 | 20,171 |
| LA 28 at Gene Gunter Road | 13,319 | 21,825 |
| LA 28 at LA 1207 | 10,223 | 16,751 |

Source: Widening LA 28 East Stage 1 Traffic Analysis, Alliance Transportation Group, February 2015

A total of two alternatives are being considered for the Proposed Action. These alternatives include the Build (Preferred) Alternative, and the No-Build Alternative. A description of each alternative is provided below.

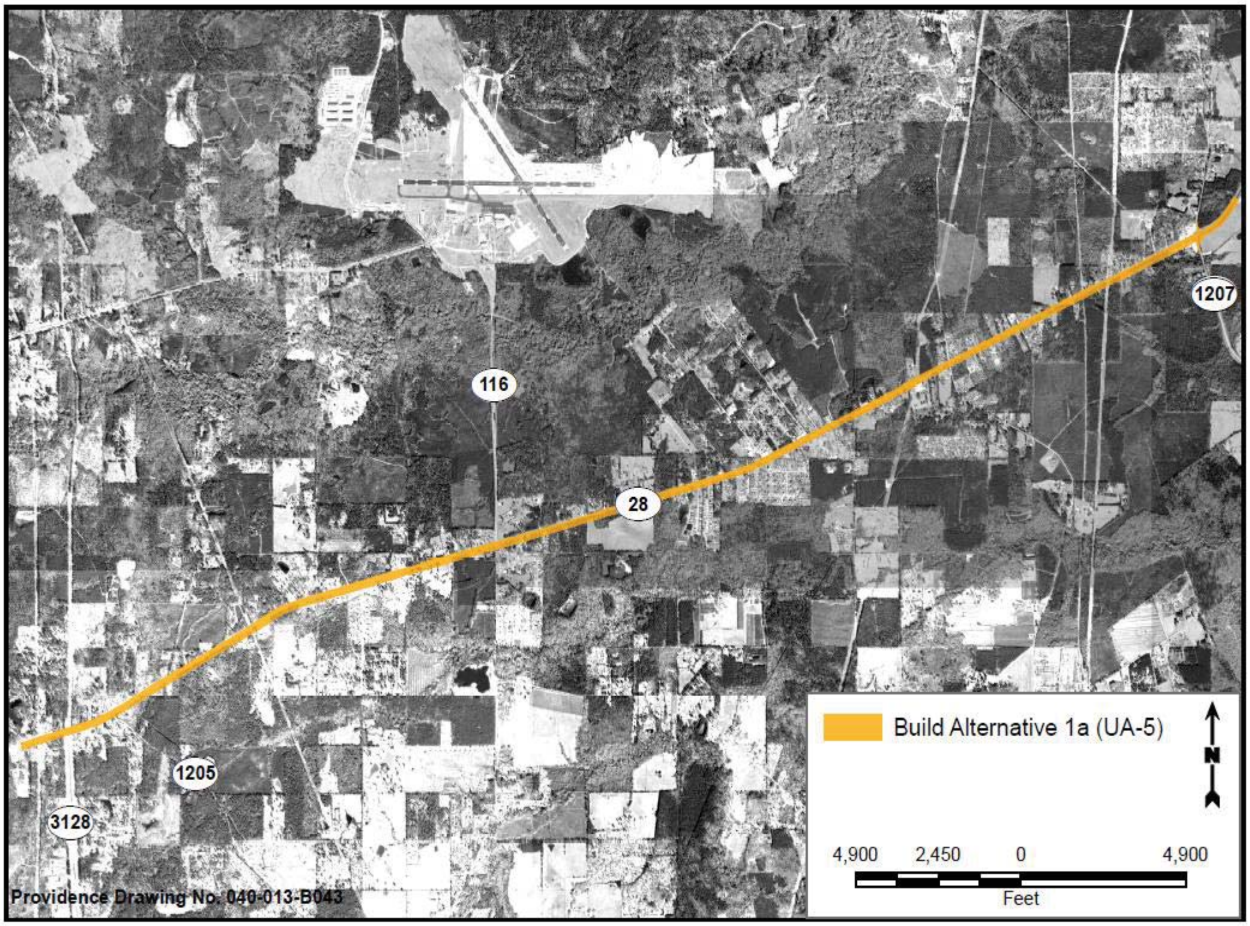
### 2.1 Build (Preferred) Alternative

The Preferred Alternative will be an Urban Arterial 5 with a design speed of 60 miles per hour. The proposed arterial will have four 12-foot travel lanes, two phased signalized J-turns, a dual lane roundabout at LA 1207, a 30-foot raised median, and an 8-foot outside shoulder width. **Figure 2** shows the Preferred Alternative.

### 2.2 No-Build Alternative

The No-Build Alterative would abandon the proposed improvements to LA 28 and would maintain the current roadway alignment and traffic capacity. The No-Build Alternative would involve taking no action to address increasing traffic capacity within the project corridor as identified in the Project Need. Routine maintenance of LA 28 would continue as needed, including pavement work and other rehabilitation efforts, as needed. Routine maintenance would not do anything to widen or otherwise increase capacity of the existing LA 28 roadway.

**FIGURE 2**
**PREFERRED ALTERNATIVE BUILD ALTERNATIVE 1A**




*Base map comprised of ESRI World Imagery Maps dated June 2013.*

## 3.0 EXISTING AIR QUALITY

This section provides an overview of air quality standards and the regulatory setting, existing air quality and National Ambient Air Quality Standard (NAAQS) compliance, regional attainment and the attainment status for the area potentially affected by the proposed project, and mobile source air toxics (MSATs).

## 3.1 Air Quality Standards and Regulatory Setting

Background emissions are influenced by a number of factors, including climate, topography, wind conditions, and the production of airborne pollutants by natural or artificial sources. Tailpipe emissions from cars and trucks produce approximately a third of the air pollution in the United States and are a major source of carbon monoxide (CO), oxides of nitrogen/nitrogen dioxide ($NO_x$/$NO_2$), and volatile organic compounds (VOCs). Ozone ($O_3$), which is not directly emitted from automobiles (or other sources), is formed in the atmosphere by chemical reactions involving VOCs, $NO_x$, and sunlight. Carbon monoxide is the primary component of vehicle exhaust and contributes approximately 60 percent of all CO emissions in the United States. Particulate matter (PM) emissions are also important if the local environment includes a high concentration of diesel emission sources, such as heavy trucks. In addition, mobile source air toxics (MSAT) emissions are associated with motor vehicle sources.

In compliance with the requirements of the Federal Clean Air Act (CAA) of 1970 and the Clean Air Act Amendments (CAAA) of 1977 and 1990, the United States Environmental Protection Agency (USEPA) promulgated and adopted the NAAQS to protect public health, safety, and welfare from known or anticipated effects of six criteria pollutants. The six criteria pollutants are ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM with an aerodynamic diameter of 10 microns or less ($PM_{10}$) and 2.5 microns or less ($PM_{2.5}$), and lead. The NAAQS define the allowable concentrations of pollutants that may be reached but not exceeded during a given period of time. The purpose of these standards is primarily to protect human health and secondarily, human welfare with a reasonable margin of safety. The CAA requires that all states attain compliance through adherence to the NAAQS, as demonstrated by the comparison of measured pollutant concentrations with the NAAQS.

The NAAQS are typically measured in units of micrograms per cubic meter ($\mu g/m^3$), parts per million (ppm), or parts per billion (ppb). The NAAQS primary and secondary standards are shown in **Table 2**.

**TABLE 2**
**NATIONAL AMBIENT AIR QUALITY STANDARDS**

| Pollutant | Averaging Period | Threshold for Standard | Primary NAAQS | Secondary NAAQS |
|---|---|---|---|---|
| Carbon Monoxide (CO) | 1-hr | Not to be exceeded more than once per calendar year. | 35 ppm | None |
| | 8-hr | Not to be exceeded more than once per calendar year. | 9 ppm | None |
| Lead (Pb) | Rolling 3-Month Average | Not to be at or above this level. | 0.15 μg/m$^3$ | 0.15 μg/m$^3$ |
| Nitrogen Dioxide ($NO_2$) | 1-hr | The three-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed this level. | 0.100 ppm | None |
| | Annual | Annual mean. | 0.053 ppm | .053 ppm |
| Particulate Matter ($PM_{10}$) | 24-hr | Not to be exceeded more than once per year on average over three years. | 150 μg/m$^3$ | 150 μg/m$^3$ |
| Particulate Matter ($PM_{2.5}$) | 24-hr | The three-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed this level. | 35 μg/m$^3$ | 35 μg/m$^3$ |
| | Annual | The three-year average of the weighted annual mean concentrations from single or multiple community-oriented monitors is not to exceed this level. | 12 μg/m$^3$ | 15 μg/m$^3$ |
| Ozone ($O_3$) | 8-hr (2008 std) | The annual fourth-highest daily maximum 8-hour concentration averaged over three years at each monitor within an area must not exceed this level. | 0.075 ppm | 0.075 ppm |
| Sulfur Dioxide ($SO_2$) | 1-hr | The three-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed this level. | 0.075 ppm | None |
| | 3-hr | Not to be exceeded more than once per year. | None | 0.5 ppm |

Source: USEPA 2015

### 3.2 Regional Air Quality and Attainment Status

The project area is located about 130 miles inland from the Gulf of Mexico and has a warm, humid subtropical climate. Average monthly high temperatures ranges from 60°F in January to 95°F in July. Average annual precipitation is 60 inches. Prevailing winds are from the south or southeast, with the influence from Gulf of Mexico air to the south quite pronounced. Afternoon sea breeze activity off the Gulf of Mexico allows for efficient mixing of local air pollutants. As a result, long-term air pollution episodes resulting from stagnant air masses are uncommon. Air pollution episodes in central Louisiana are usually associated with the high temperatures and intense sunlight of the summer months, which are more conducive to ozone production than the winter months.

Outdoor air quality in a given location is described by the concentration of various pollutants in the atmosphere. Air quality is a function of several factors, including the quantity and dispersion rates of pollutants in the region, temperature, the presence or absence of meteorological inversions, and topographic features of the region.

The USEPA designates geographic areas in a state with respect to meeting the NAAQS as attainment, nonattainment, or unclassifiable. Areas transitioning from nonattainment to attainment are termed maintenance areas. The nonattainment areas are designated based on the degree of violation of the NAAQS. For ozone, the designations are marginal, moderate, serious, severe, and extreme. For each nonattainment area, the USEPA requires a separate local plan detailing how NAAQS levels will be met. These plans are incorporated into a State Implementation Plan (SIP) for the state. Transportation projects in nonattainment areas are coordinated with the SIP under what is called the conformity process.

The proposed project is located in Rapides Parish which is in an area in attainment of all NAAQS; therefore, the transportation conformity rules do not apply and a transportation conformity analysis not required.

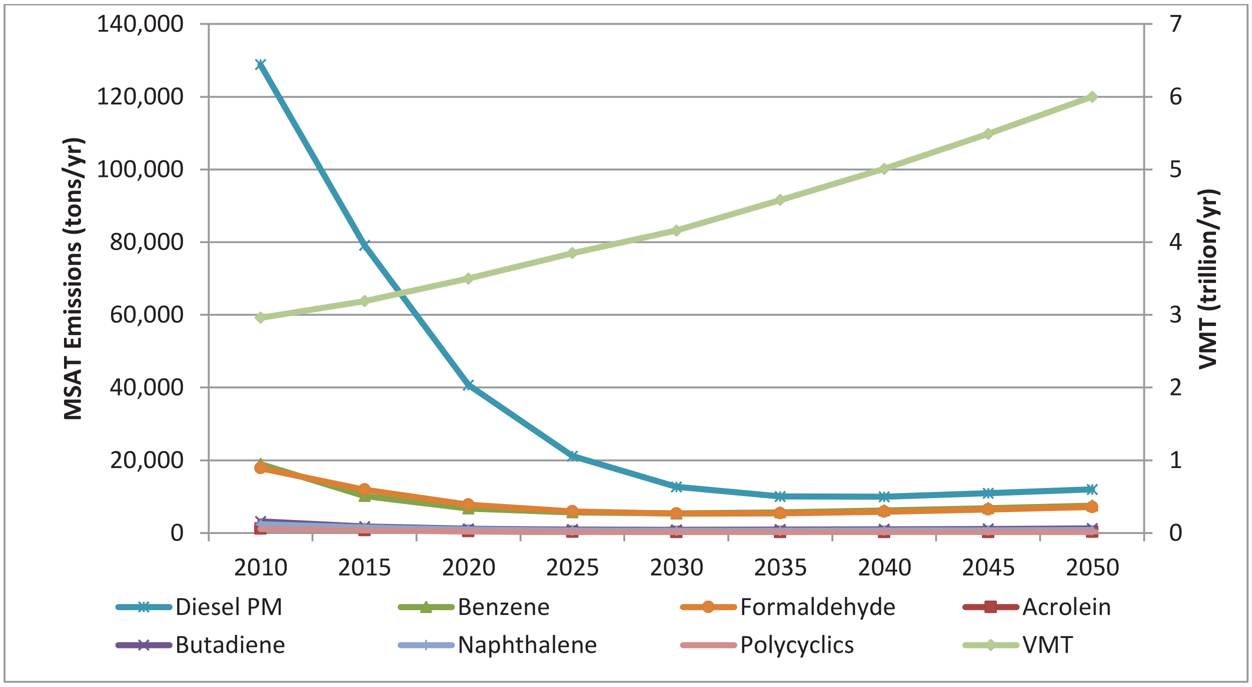
### 3.3 Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are NAAQS, the USEPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries). The MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

Controlling air toxic emissions became a national priority with the passage of the CAAA of 1990, whereby Congress mandated that the USEPA regulate 188 air toxics, also known as hazardous air pollutants. The USEPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (http://www.epa.gov/ncea/iris/index.html). In addition, the USEPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (http://www.epa.gov/ttn/atw/nata1999/). These seven compounds are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While the Federal Highways Administration (FHWA) considers these compounds as the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future USEPA rules.

The 2007 USEPA MSAT rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. Based on an FHWA analysis using USEPA's MOVES2010b model, as shown in the **Figure 2**, even if vehicle activity (vehicle-miles traveled, VMT) increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

**FIGURE 3**
**PROJECTED NATIONAL MSAT EMISSION TRENDS**
**2010 – 2050 FOR VEHICLES OPERATING ON ROADWAYS**
**USING USEPA'S MOVES 2010B MODEL**




Source: USEPA MOVES2010b model runs conducted during May – June 2012 by FHWA

MOVES – Motor Vehicle Emissions Simulator
Note: Trends for specific locations may be different, depending on locally derived information representing vehicle traveled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors.

## 4.0 AIR QUALITY ANALYSIS

This section provides results of the air quality analysis, provides a qualitative assessment of potential mobile source air toxics emissions along the project corridor, and discusses construction-related air emissions and potential mitigation activities.

### 4.1 Carbon Monoxide Traffic Air Quality Analysis

Carbon monoxide is a product of incomplete combustion and occurs when carbon in the fuel is partially oxidized rather than fully oxidized to carbon dioxide ($CO_2$). CO reduces the flow of oxygen in the bloodstream and is particularly dangerous to persons with heart disease. Exposure to CO can impair visual perception, manual dexterity, learning ability, and performance of complex tasks.

Louisiana is currently in attainment statewide for CO. The proposed action is consistent with the current DOTD 2015-2018 State Transportation Improvement Program (STIP). The traffic projections for the proposed action as shown in **Table 1** do not exceed 140,000 vehicles per day. CO analyses performed, assuming worst-case scenarios, for projects with similar ADT to the proposed project such as the Pecue Lane Widening and Interchange project in East Baton Rouge Parish have shown no violations of the NAAQS. Therefore, it was determined that the proposed project will not violate the NAAQS for CO, like similar projects modeled have previously demonstrated. Hence, air quality modeling for CO will not be required.

## 4.2 Mobile Source Air Toxics Analysis

The proposed project adds capacity and the design-year traffic projections within the project limits indicate an ADT of less than 140,000 vehicles per day; therefore, a qualitative MSAT analysis has been performed for the Preferred and No Build Alternatives.

### *4.2.1 Qualitative MSAT Analysis*

**Project Specific MSAT Information**

A qualitative MSAT analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from various alternatives of a project. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, found at:
http://www.fhwa.dot.gov/environment/air_quality/air_toxics/research_and_analysis/mobile_source air toxics/msatemissions.pdf.

For each alternative in this document, the amount of MSAT emitted would be proportional to the VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for the Preferred Alternative is higher than for the No-Build Alternative along LA 28 because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the local transportation network. This increase in VMT means MSATs under the Preferred Alternative would probably be higher than the No- Build Alternative along LA 28. However, substantially higher levels of MSAT are not expected along the project corridor compared to the No-Build Alternative. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to EPA's MOVES emission model, emissions of all priority MSATs except diesel particulate matter decrease as speed increases. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of USEPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent from 2010 to 2050. The project-specific conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. In addition, the national projections reflect an earlier start year (2010 versus 2020) and longer study duration (40 years versus 30 years). However, the magnitude of the USEPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the project corridor are likely to be lower in the future in virtually all locations.

In addition, there may be localized areas within the project limits where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. The localized increases in MSAT emissions would likely be most pronounced along new roadway sections constructed closer to adjacent residential areas. However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of USEPA's vehicle and fuel regulations.

In sum, under the Preferred Alternative in the design year, it is expected there would be higher MSAT emissions within the project corridor relative to the No- Build Alternative due to increased VMT. There could be slightly elevated but unquantifiable changes in MSATs to residents and others in a few localized areas where VMT increases, which may be important to members of sensitive populations. However, on a regional basis, USEPA's vehicle and fuel regulations coupled with fleet turnover will cause region-wide MSAT levels to be significantly lower than today in almost all cases.

**Incomplete or Unavailable Information for Project-Specific MSAT Health Impacts Analysis**

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with the proposed alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The USEPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the CAA and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The USEPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the IRIS, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (USEPA, http://www.epa.gov/iris/). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile source Air Toxic Analysis in National Environmental Policy Act (NEPA) Documents. Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, http://pubs.healtheffects.org/view.php?id=282) or in the future as vehicle emissions substantially decrease (HEI, http://pubs.healtheffects.org/view.php?id=306).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (http://pubs.healtheffects.org/view.php?id=282). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The USEPA (http://www.epa.gov/risk/basicinformation.htm#g) and the HEI (http://pubs.healtheffects.org/ getfile.php?u=395) have not established a basis for quantitative risk assessment of diesel PM in background settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the USEPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires USEPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than one in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld USEPA's approach to addressing risk in its two step decision framework.

Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable. Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities, plus improved access for emergency response, that are better suited for quantitative analysis.

## Impacts of the No-Build Alternative

The No-Build Alternative would result in gradually increasing VMT as traffic volumes increase and traffic congestion worsens along LA 28 over time. However, MSAT emissions will likely be lower than present levels in future years as a result of USEPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent from 2010 to 2050.

## Conclusion

A qualitative MSAT assessment has been provided relative to the various alternatives of MSAT emissions and has acknowledged that the project's Preferred Alternative may result in increased exposure to MSAT emissions in certain locations. However, since concentrations and duration of exposures are uncertain, the health effects from these emissions cannot be estimated.

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA. The FHWA, USEPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this emerging field.

### 4.3 Construction-Related Air Emissions

During the construction phase of this project, temporary increases in air pollutant emissions may occur from construction activities. The primary construction-related emissions are particulate matter (fugitive dust) from site preparation which is temporary in nature (only occurring during actual construction). The potential impacts of particulate matter emissions will be minimized by using fugitive dust control measures such as covering or treating disturbed areas with dust suppression techniques, sprinkling of water in dust prone areas, covering loaded trucks, and other dust abatement controls, as appropriate.

The construction activity phase of this project may also generate a temporary increase in MSAT emissions from construction activities, equipment and related vehicles. The primary construction-related MSAT emissions are particulate matter from site preparation and diesel particulate matter from diesel powered construction equipment and vehicles.

The MSAT emissions will be minimized by federal measures that require the use of low emission diesel fuel for non-road diesel construction equipment operated within the project area, and by provisions that would be included in the plans and specifications that require the contractor to minimize construction air quality impacts through abatement measures such as limits on construction equipment idling and other emission limitation techniques, as appropriate.

However, considering the temporary and transient nature of construction-related emissions, as well as the mitigation actions to be utilized, it is not anticipated that emissions from construction of this project would have any significant impact on air quality in the area.

## 5.0 CONCLUSIONS

**Table 3** provides a summary of the results of the air quality analysis for this project. Detailed explanations of these findings can be found in the previous sections of the air quality technical report. Air quality modeling for CO and PM will not be required. No hot-spot analysis is necessary, since the area has not been identified as nonattainment or maintenance and is in compliance with all NAAQS. The project has low potential MSAT effects since the current and projected vehicle traffic does not exceed the FHWA threshold (140,000 vehicles per day). Also emissions for the design year 2036 will likely be lower than 2016 base case levels as a result of USEPA's national control programs that are projected to reduce annual MSAT. Temporary and localized increases in PM and MSAT emissions may result from construction-related activities. Potential impacts would be minimized through appropriate abatement measures. Based on the results of the air quality analysis, the project is not expected to cause or contribute to any violations of the NAAQS and no adverse air quality impacts associated with the implementation of the proposed project are expected.

**TABLE 3**
**SUMMARY OF AIR QUALITY ANALYSIS FOR THE LA 28 PROJECT**

| Analysis | Results |
|---|---|
| CO Hotspot | Not Required |
| PM Hotspot | Not Required |
| MSATs | Low Potential Impacts |
| Construction Impacts | Temporary & Localized Low Impacts |

## 6.0 REFERENCES

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