BATON ROUGE AREA
CLEAN AIR ACTION REPORT

Prepared for

ADVANCE
A U.S. Environmental Protection Agency Program

EPA'S OZONE AND PM ADVANCE PROGRAM

[2016 UPDATE]

Prepared by

Baton Rouge
CLEAN AIR COALITION

Capital Region Planning Commission
CRPC

Louisianacleanfuels

May, 2017

INTRODUCTION

This document has been prepared to satisfy the annual "Path Forward Plan" requirement for the Baton Rouge Area under EPA's Ozone and PM Advance Program. As with the original report prepared in 2013 and updated the last two years (2014, 2015), this report has been prepared as a cooperative effort of the Baton Rouge Clean Air Coalition, the Capital Region Planning Commission, and Louisiana Clean Fuels.

This report is a third update to the original and more comprehensive 2013 report. The 2013 report provided extensive background information on the Baton Rouge area including physiography, land use, climate, economy, transportation, and air quality. It also served to chronicle ozone attainment history and detail numerous voluntary emission reduction measures that have been or are being taken to mitigate the area's ozone levels. The 2013 report along with the 2014 and 2015 updates can be found on the Baton Rouge Clean Air Coalition (BRCAC) website at http://www.brcleanair.com/archives/archivesreports. This update report addresses Baton Rouge Area Advance Program activities undertaken in 2016 and those planned for 2017 and can also be found on the BRCAC website.

SOCIOECONOMIC UPDATE

Population

According to the U.S. Census Bureau American Community Survey (ACS), the Baton Rouge MSA had a population of 831,399 with 229,186 individuals residing in the City of Baton Rouge in 2015. The population of the metropolitan area experienced 3.5 percent growth between the 2010 and 2015 ACS. Local population is projected to grow, with nearly 15,000 new residents expected by 2018.

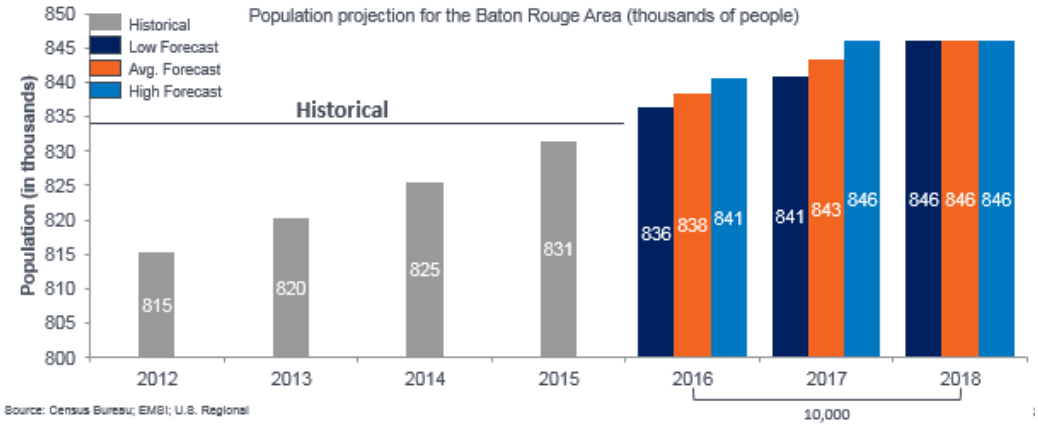


Figure 1. Population growth in the Baton Rouge area.

Economy

As shown in Figure 2, the Baton Rouge metro area has experienced a 2.8 percent over-the-year growth rate in jobs with 414,600 average employment in 2016 and an unemployment rate of 4.4 percent for December 2016. Eighty percent of the local industry sectors experienced employment growth over the last year, led by the Education & Health Services and Trade, Transportation & Utilities sectors.

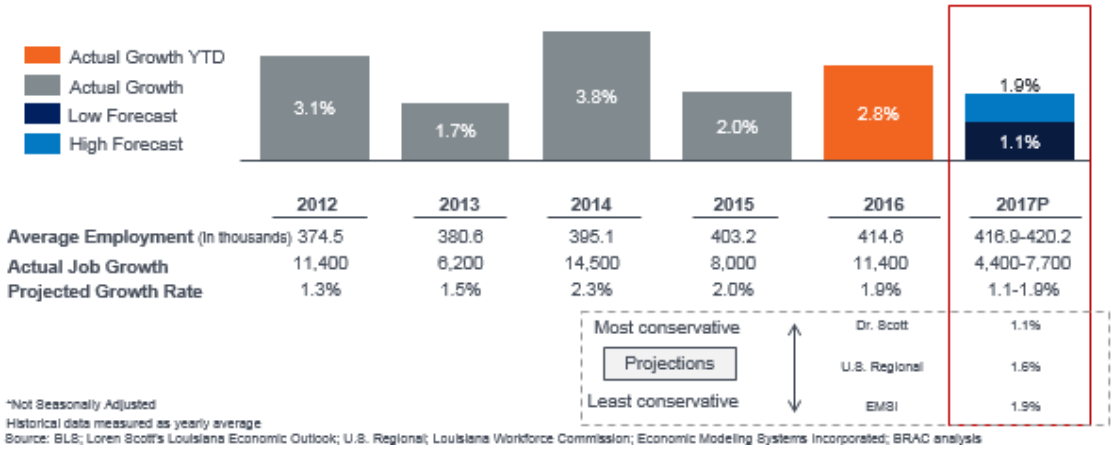


Figure 2. Job growth in the Baton Rouge area.

Continued growth is projected in most industries. Most notably, forecasted growth for construction in 2017 ranges from 1,113 to 1,519 net new jobs (2.1-2.7 percent). In manufacturing, the projections indicate potential growth ranging from 278 to 691 additional jobs (0.6-2.0 percent).

The emission reduction credit rule changes discussed later in this text will help to ensure that in the event that the region slips back into non-attainment, there will be an avenue by which this growth can continue without adverse impact on air quality. These rule changes would allow emissions caused by additional construction or manufacturing operations to be offset by corresponding projects to reduce emissions locally. In addition, the reduction in emissions will contribute to the quality of place in the region, which is important to talent recruitment and retention and to economic development efforts as a whole.

OVERVIEW OF AIR QUALITY AND METEROLOGICAL CONDITIONS

This overview of air quality and meteorological conditions was taken from, “Louisiana Air Quality Summary – January 1 through December 31, 2016” prepared for DEQ by Sonoma Technology Inc.

Louisiana Air Quality Summary

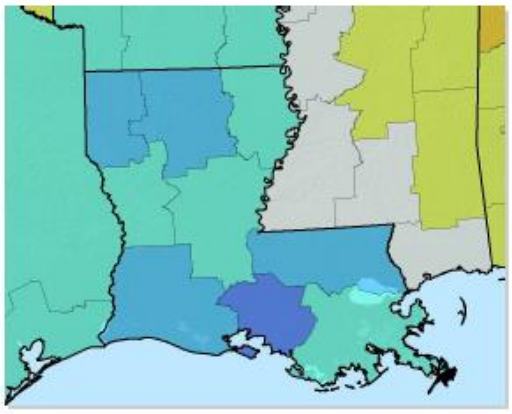
January 1 through December 31, 2016

Overview of Meteorological Conditions

Both temperature and precipitation in Louisiana were above normal for the year compared to the 1981-2010 average. Although the higher temperatures aided ozone formation, the large number of storm systems that moved through Louisiana brought rain and cloud cover, limiting the number of high ozone days. The Baton Rouge area experienced the wettest year on record, with over 11 inches falling on a single day on August 12. All of the USG days in 2016 were for ozone and occurred between April and September. During these months, daily high temperatures were ~1°F above average. Ozone levels are typically highest during these months because warm temperatures and sunlight enhance the formation of ground-level ozone.

2016	Baton Rouge	New Orleans	Shreveport
Average temperature (Average temperature departure from 1981-2010 normal) (°F)	70.2 (+2.1)	74.2* (+3.7)	70.3* (+2.9)
Average daily maximum temperature during high ozone months: April-Sept (Average departure from 1981-2010 normal) (°F)	88.7 (+0.6)	89.2 (+2.2)	88.8 (+1.1)
Precipitation (Precipitation departure from 1981-2010 normal) (inches)	90.56 (+29.92)	62.89* (+5.58)	55.89* (+9.25)

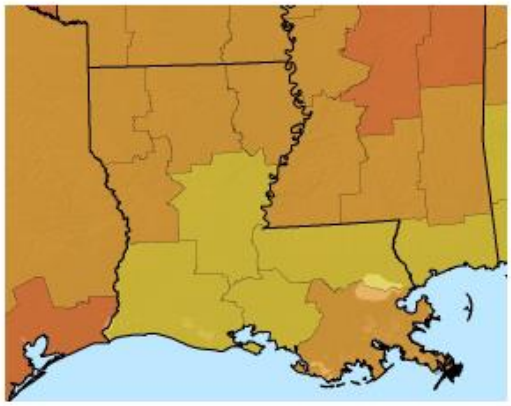
**December data were unavailable from the National Climactic Data Center for New Orleans and Shreveport. Therefore, only January-November 2016 data were used in historical comparisons.*



Precipitation Anomalies (inches)
Jan-Dec 2016
Versus 1981-2010 Average

-21" -15" -9" -3" +3" +9" +15" +21"

Below Normal Above Normal



Temperature Anomalies (°F)
Jan-Dec 2016
Versus 1981-2010 Average

-3° -2° -1° 0° +1° +2° +3°

Below Normal Above Normal

Louisiana Air Quality Summary

January 1 through December 31, 2016

Summary of Observed High Ozone Days

In addition to June 24, 10 other days in 2016 reached USG ozone AQI levels. The majority of these high ozone days occurred in Baton Rouge (7) and New Orleans (3). Lake Charles also had one USG ozone day. Of these 11 days, 8 had a next-day forecast of 84 AQI or greater, and all 11 had a same-day forecast of 84 AQI or greater.

The highest ozone levels of the year were observed on July 1, 2016, in Baton Rouge, when the AQI was 140. An upper-level ridge of high pressure over the southeastern U.S. on this day dramatically reduced vertical mixing, trapping pollutants near the ground. The upper-level ridge also produced warm temperatures and sunny skies, enhancing ground-level ozone formation. Furthermore, light winds limited pollutant dispersion, allowing pollutants to accumulate in the Baton Rouge area.

Date	City	Pollutant	Next-Day Forecast	Same-Day Forecast	Observed AQI
4/4/2016	Lake Charles	Ozone	61	100	112
4/5/2016	Baton Rouge	Ozone	84	84	112
4/5/2016	New Orleans	Ozone	51	84	105
5/7/2016	Baton Rouge	Ozone	93	100	112
5/8/2016	New Orleans	Ozone	90	100	119
5/23/2016	Baton Rouge	Ozone	67	87	126
5/30/2016	Baton Rouge	Ozone	100	100	101
6/23/2016	Baton Rouge	Ozone	87	87	101
6/25/2016	Baton Rouge	Ozone	90	90	101
7/1/2016	Baton Rouge	Ozone	90	100	140
7/2/2016*	New Orleans	Ozone	100	100	126

**An Air Quality Advisory Day was issued for Baton Rouge on July 2, but not for New Orleans.*

Louisiana Air Quality Summary

January 1 through December 31, 2016

2016 Count of Days in Each AQI Category by City

The tables below show a count of days in each AQI category for each city during 2016. Air quality was Good (AQI<51) on the majority of days throughout all Louisiana forecast cities. USG ozone levels were reported in Baton Rouge, New Orleans, and Lake Charles. USG $PM_{2.5}$ days were not reported in any of the forecast cities, nor were any Unhealthy AQI levels reported for either pollutant.

Ozone Only

AQI Category	Baton Rouge	Lafayette	Lake Charles	Monroe	New Orleans	Shreveport	Thibodaux
Good	288	331	336	336	318	319	334
Moderate	68	32	22	18	43	45	24
USG	8	0	1	0	3	0	0
Unhealthy	0	0	0	0	0	0	0
Missing	2	3	7	12	2	2	8

$PM_{2.5}$ Only

AQI Category	Baton Rouge	Lafayette	Lake Charles	New Orleans	Shreveport	Thibodaux
Good	215	249	239	302	251	345
Moderate	147	49	115	62	58	14
USG	0	0	0	0	0	0
Unhealthy	0	0	0	0	0	0
Missing	4	68	12	2	57	7

As is presented in the Louisiana Air Quality Summary above, 2016 was an anomalous year with respect to weather, and few conclusions can yet be drawn about air quality trends by comparing 2016 to previous years. The Baton Rouge area experienced the wettest year on record, and the large number of storm systems passing through the area brought rain and cloud cover that limited the number of high ozone days.

AIR QUALITY UPDATE

OZONE

The Baton Rouge area achieved attainment with the 2008 ozone standard in 2013 (based on 2011-2013 monitoring data) with a design value of 75 ppb (parts per billion). This design value was equal to the existing 2008 8-hour ozone standard. This standard was the third ozone NAAQS standard that the area has met as the standard has been progressively lowered. This achievement was two years ahead of the federal attainment date for the area. In 2014, the area's design value declined further to 72 ppb (based on 2012-2014 data). In 2015, the design value further declined to 71 ppb (1 ppb above the new 2015 standard of 70 ppb). Even with the unusual number of storm systems experienced in 2016, the ozone design value remained virtually unchanged from the previous year at 72 ppb.

The 2016 ozone design values for Baton Rouge Area monitors are shown in Figure 3 and are compared to all state monitors in Figure 4. The LSU and Carville monitors are the only two in the state that exceed the new 2015 ozone standard, and that by only 1 to 2 ppb.

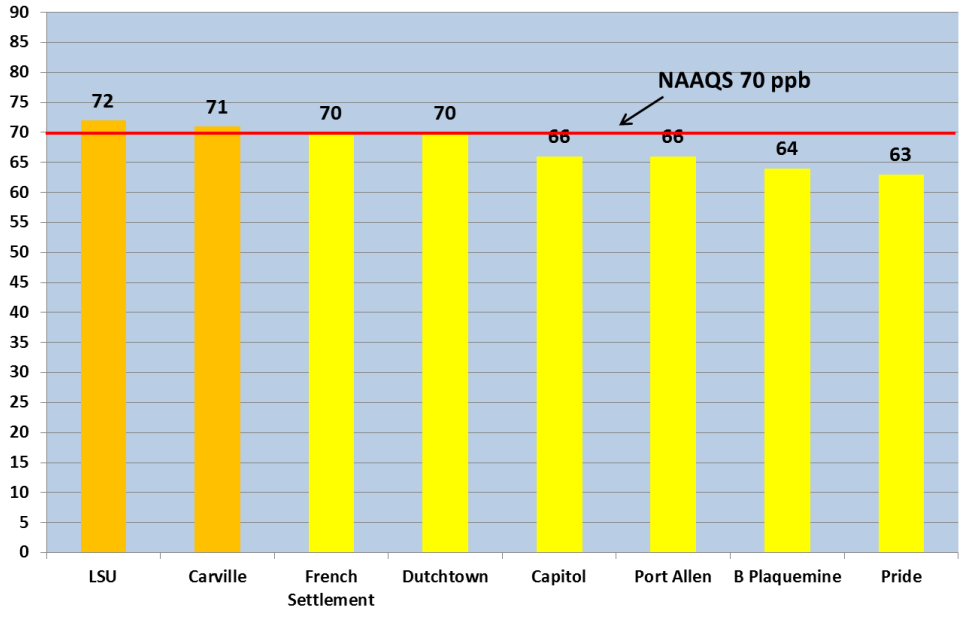


Figure 3. Baton Rouge area 8-hr design value as of December 2016

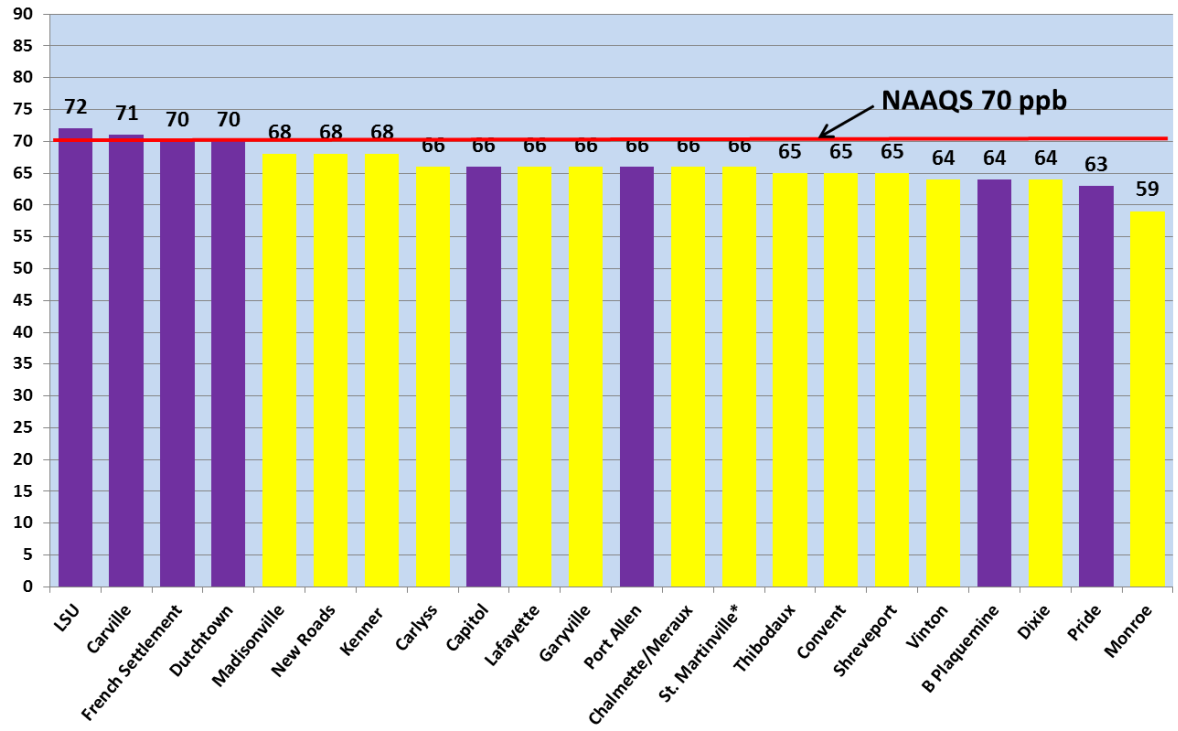


Figure 4. Louisiana 8-hr Ozone Design Values 2016 (Baton Rouge area monitors in purple).

The overall downward trend in 8-hour ozone design values for the Baton Rouge area is presented in Figure 5. This progress in bringing the local ozone levels down is remarkable given the emissions challenges for the area such as a heavy industrial corridor, marine commerce activity on the Mississippi River, state government offices, two major universities, an airport, and heavy interstate traffic through the center of the urban area.

Looking at the area's design values for the past three years (72 ppb in 2014, 71 ppb in 2015, 72 ppb in 2016) it is tempting to conclude that the area has "hit a wall" with respect ozone levels. This suggests that further substantial emission reductions will be required to meet the 2015 ozone standard of 70 ppb.

The expansion of the LDEQ's Emission Reduction Credits (ERC) banking system to include mobile sources of emission (expected to go into effect in May of 2017) should result in a substantial increase in emission reduction projects that will lead to a decrease in ozone levels.

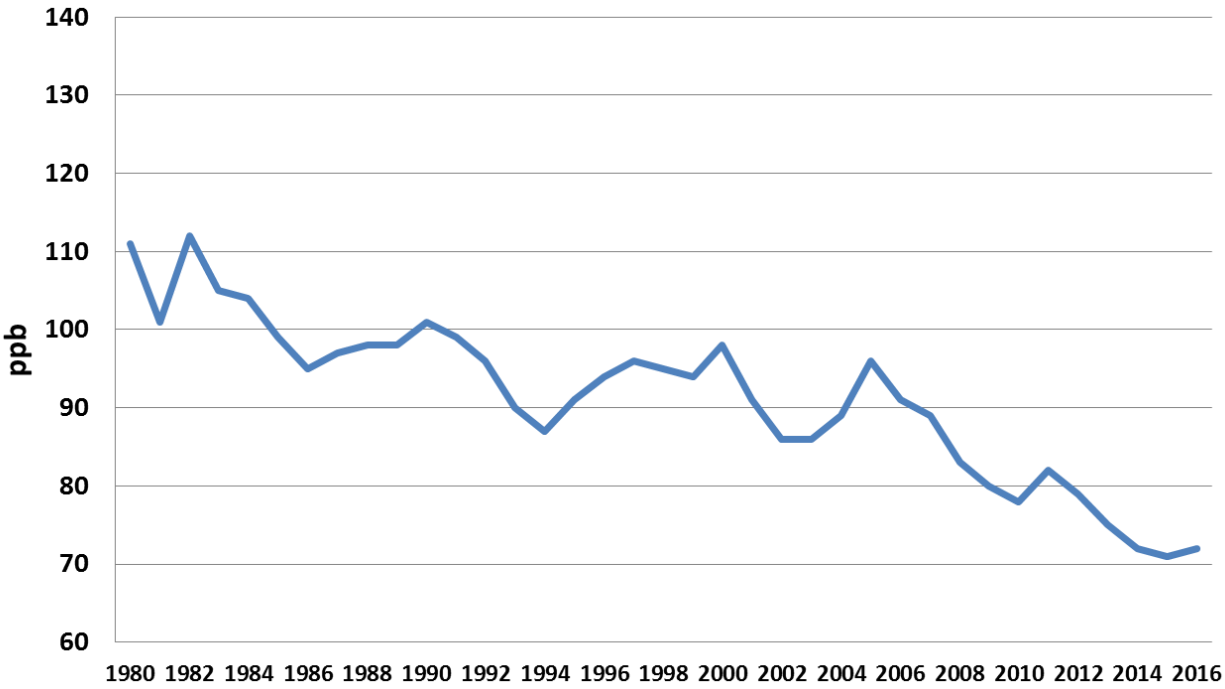


Figure 5. Baton Rouge area 8-hour ozone design values.

Regional Airshed Modeling

In 2013, LDEQ with the support of major stakeholders committed to a new round of very sophisticated statewide ozone modeling. The modeling was completed in 2014 and was expected to facilitate intelligent choices in ozone mitigation measures among the state's major urban areas to help prevent these areas from falling from attainment into nonattainment with the current ozone standard. It was also expected to provide a look into possible future circumstances should the ozone standard be lowered, which it was. The modeling was also to provide capability to test various emission reduction strategies for efficacy at lowering ozone levels. The results of future year (2017) modeling are summarized in Figure 6. These modeled projections indicated that the Baton Rouge area would likely fall into nonattainment with EPA's recent revision of the ozone NAAQS (70 ppb) because of the design value for the LSU monitor.

EPA-modeled ozone levels projected for 2025 accompanying the release of the new 2015 ozone standard show that all Baton Rouge area monitors will be in compliance by 2025 (Figure 7). According to EPA, the 2025 projections include the impacts of on-the-books rules as well as emissions reductions necessary to meet the 2008 ozone NAAQS of 75 ppb.

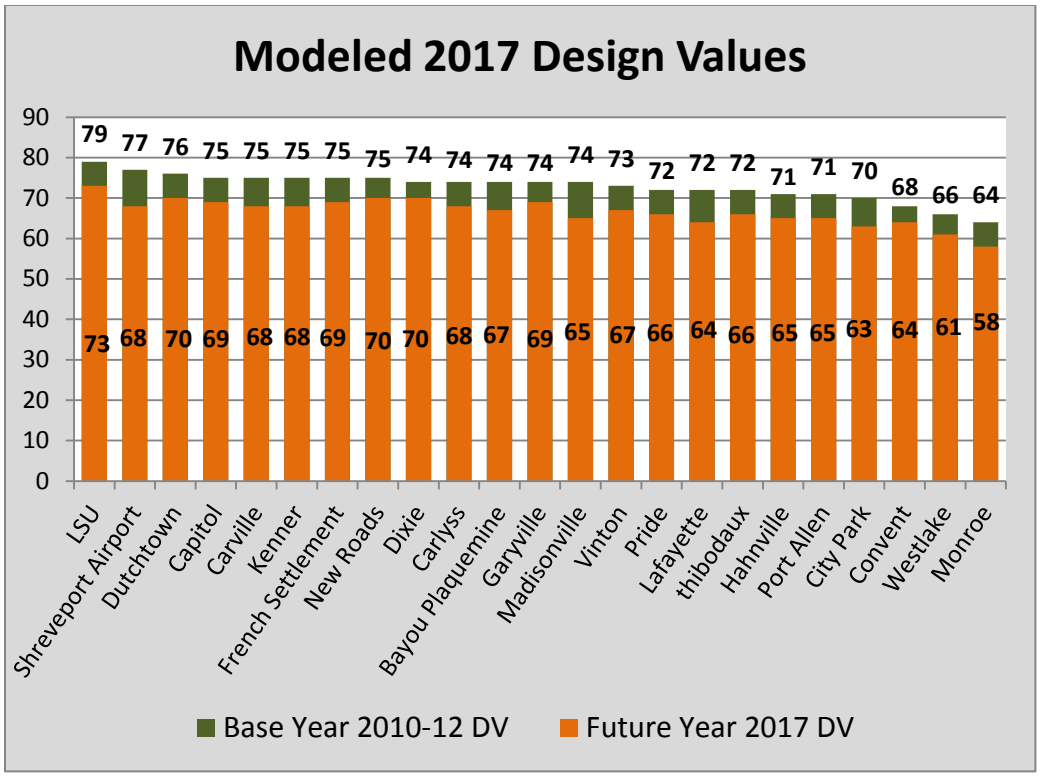


Figure 6. Regional Airshed-modeled 2017 8-hour ozone design values for Louisiana.

STATE	MONITOR	O3 DESIGN VALUE
Louisiana	***Ascension***	62
Louisiana	Bossier	64
Louisiana	Caddo	62
Louisiana	Calcasieu	66
Louisiana	***East Baton Rouge***	67
Louisiana	***Iberville***	65
Louisiana	Jefferson	64
Louisiana	Lafayette	60
Louisiana	Lafourche	61
Louisiana	***Livingston***	62
Louisiana	Orleans	59
Louisiana	Ouachita	55
Louisiana	Pointe Coupee	62
Louisiana	St. Bernard	58
Louisiana	St. Charles	60
Louisiana	St. James	58
Louisiana	St. John the Baptist	62
Louisiana	St. Tammany	62
Louisiana	***West Baton Rouge***	59

Figure 7. EPA 2025 modeling projections for Louisiana monitors (EPA, 2015).

FINE PARTICULATE MATTER ($PM_{2.5}$)

Annual $PM_{2.5}$ data for the Baton Rouge area shows a downward trend over the period 2005 – 2015 (Figure 8). The Bayou Plaquemine monitor was discontinued with EPA approval and as requested in DEQ's 2014 Annual Network Assessment. Monitoring data for 2016 was not available at the time of preparation of this report. However, given that 2016 was an extraordinarily wet year, it is anticipated that fine particulate levels would have been suppressed. This appears to be the case, because 2016 AQI data for $PM_{2.5}$ show more "good" days and fewer "moderate" days than 2015. However, the Baton Rouge area had poorer AQI values for fine particulates among all Louisiana metro areas for both 2015 and 2016.

In a January 15th 2015 Federal Register announcement, EPA reported that all areas of Louisiana including the 5-parish Baton Rouge ozone nonattainment area are classified as either unclassifiable or attainment for the annual $PM_{2.5}$ NAAQS based on 2012 monitoring data.

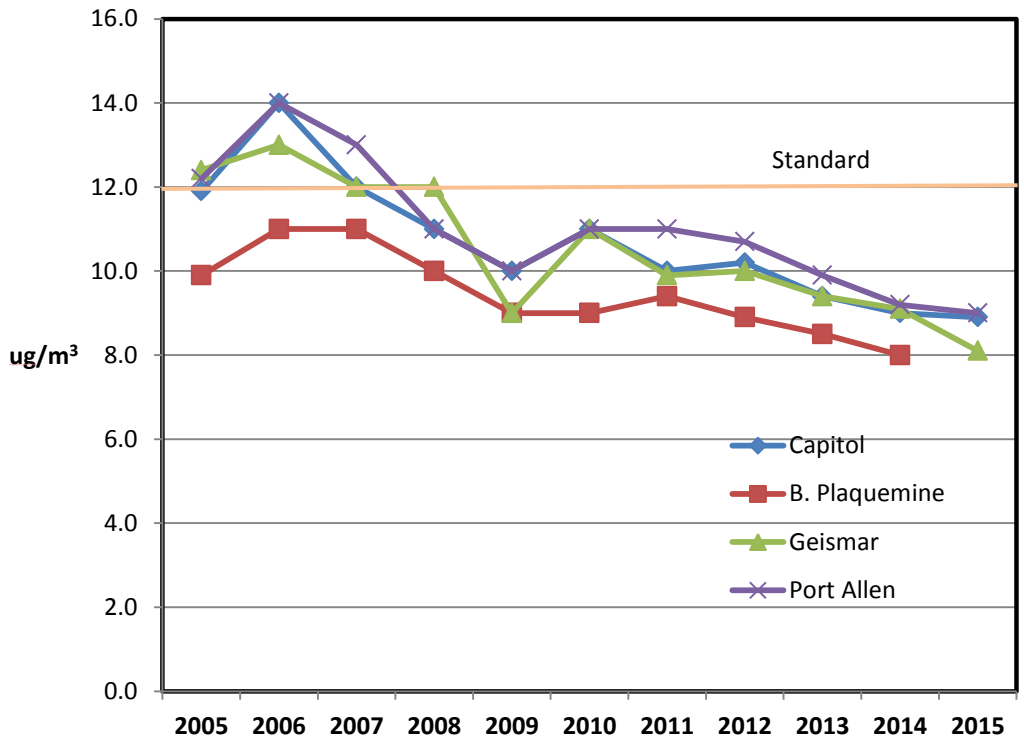


Figure 8. $PM_{2.5}$ annual mean value trend chart for the four Baton Rouge area monitors.

EXPECTATIONS FOR EPA'S NEW REVISED OZONE STANDARD

In October 2015, EPA finalized a new, more stringent standard for ozone. This new standard was set at 70 parts per billion (ppb). On September 29, 2016, LDEQ submitted its formal nonattainment area designation recommendations for the new standard to EPA. The LDEQ recommendations for all parishes were "Unclassifiable/Attainment" with the exception of the historical five-parish Baton Rouge nonattainment area, for which the recommended designation was "nonattainment" (Figure 9). EPA is currently scheduled to respond to the LDEQ recommendations by June 1, 2017 and complete initial area designations by October 1, 2017 using 2014 through 2016 ozone monitoring data. Once the final designation process has been completed, LDEQ will have 3 years within which to submit an attainment plan. The attainment date based upon an expected "'marginal" classification would be October 2020.

In Louisiana, the historical Baton Rouge 5-Parish Nonattainment Area is the only area not meeting the 2015 standard at this time. As can be seen in Figure 4, the area has two monitors that are above the standard's threshold at 71 ppb and 72 ppb and two monitors that are at the standard.

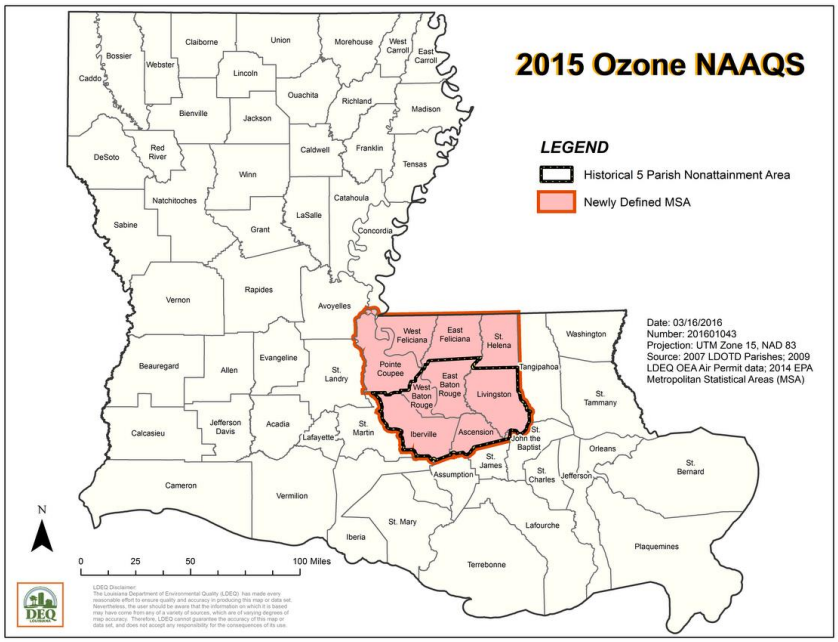


Figure 9. Expected nonattainment parishes under the new 2015 ozone standard. (It is not known at this time if the recently added parishes to the Baton Rouge MSA will be designated non-attainment.)

There is uncertainty at this time about whether the recent national elections will impact the 2015 ozone standard implementation schedule. Under the new Administrator, EPA has

requested a stay of ongoing litigation of the new standard in order for EPA to further review petitions for reconsideration of the standard, and new national legislation has been proposed that would extend compliance with the 2015 standard until 2025.

2016 VOLUNTARY EMISSION REDUCTION ACTIVITIES

ALTERNATIVE ENERGY

Because of its basic mission, Louisiana Clean Fuels (LCF) has been the most involved of the three Baton Rouge area Advance Program partners with promoting alternative fuels as a strategy for improving local air quality. The following includes discussions of some of its efforts during 2016 as reflected in its annual report submitted to the Department of Energy (DOE).

Infrastructure Availability for Alternative Fuels in Louisiana

While our local CNG infrastructure improved slightly during 2014, 2015 and 2016 had some challenges. The CNG Station at the EBR Airport is still under contract to be rehabilitated but still lacks sufficient volume commitments for the investors to approve breaking ground. Meanwhile, there is a great deal of activity at other potential sites around the state, including in Sorrento and West Baton Rouge Parish. At least one of these 3 stations should break ground in 2017. Additionally, the CNG station in Leesville was delayed due to the wide spread flooding in our state in August 2016. The station recently opened to the public in April of 2017.

EV infrastructure development is slow in Louisiana when compared to other states, but 2016 has seen a significant increase in infrastructure. On October 17th, the mayor of Baton Rouge unveiled a new City-Parish initiative called “Green Park Baton Rouge”, a program that will let drivers of electric cars charge their vehicles for free at 8 public parking spots in the downtown area.

Electric vehicles parking in metered spots get to charge their cars for free but must pay normal parking fees. LCF is working with the Baton Rouge Area Foundation to expand the parking program to the rest of the parish as well as encourage businesses to install workplace charging.

2 Transit Fleets win funding for 100% Electric Buses:

Capital Area Transit System (CATS)
On Monday, October 17th, the Capital Area Transit System (CATS), announced the purchase of three electric buses to add to the existing fleet. CATS has been awarded more than $2.3 million by the Louisiana Department of Transportation and Development through the federal Congestion Mitigation and Air Quality Improvement (CMAQ) Program to purchase three electric buses and charging systems to support them. CATS will cover 20 percent of the total cost of the

project, which will cost more than $2.8 million. The three new buses, which should arrive in Baton Rouge in early 2017, will help support a planned Bus Rapid Transit line on Florida Boulevard.

Sportran
The City of Shreveport recently received a $3.9 million federal grant to bring six electric buses into SporTran's fleet by summer of 2017. Shreveport was one of 20 cities nationwide to receive a federal grant through the Federal Transit Administration Lo-No Emission 2016 Competitive Grant Program. Shreveport's $3,905,377 award will be used to purchase six zero-emission electric buses, three depot chargers and an en-route fast charger.

Alternative Fuel and Advanced Technology Vehicles in Louisiana

The alternative fuels market in Louisiana is still dominated by CNG with nearly 80% of the alternative fuel used in the state being CNG. However, UPS has made a huge impact on the mix of fuels use in our state by utilizing biodiesel in many of their trucks and adding propane vehicles to their fleet in 2014 and CNG vehicles in 2015. Additionally, St. Landry Solid Waste has increased their RNG production capacity with an expansion to their facility in 2015. St. Landry is now fueling 10 Progressive Waste haulers on 100% renewable natural gas.

Refuse haulers, beverage and food distribution trucks, and fixed route delivery trucks have great alternative fuel adoption potential in Louisiana for 2017. These fleets are ideal candidates for CNG, Propane, EVs and biofuels. A relatively new fuel that is showing strong sales according to Renewable Energy Group in Geismer, Louisiana is Renewable Hydrocarbon Diesel (RHD). This drop in replacement for diesel requires no alterations to the vehicles. Pat O'Keefe, CEO of Nexgen Fuel and vice president of Golden Gate Petroleum, a California-based distributor of renewable diesel, said fleets can expect similar environmental results. "Renewable diesel reduces emissions of greenhouse gases from 13-90%, and CO2 life-cycle emissions approximately 60-90%," he said. "The cetane rating of renewable diesel is between 75 and 90 versus 48 to 52 for petroleum diesel, which means that renewable diesel burns more completely — and therefore cleaner — than petroleum diesel." (via http://www.government-fleet.com) UPS, an LCF member, utilizes RHD as part of their "rolling laboratory" and has reported no performance issues by switching to renewable diesel. Look for this fuel to gain popularity in the coming year.

Adoption of alternative fuels continues to grow from 3.5 million gallons in 2015 to approximately 7.2* million gallons of petroleum displaced in 2016 through alternative fuels, VMT reductions, idle reduction and electrification project. Fleets vehicles in the LCF territory reported approximately 75,000* lbs of NOx reductions in 2016 (This amount accounts for NOx

reduction from alternative fuel and hybrid vehicle projects only. It does not include VMT reduction, fuel economy or idle reduction projects which were significant in 2016).

Future Uncertainty

Going forward, there is a great deal of uncertainty about the future of national alternate fuels programs following the recent change of administrations. Budget projections from the new administration for 2018 for both EPA and DOE show large reductions and elimination of numerous long-standing programs.

ENERGY EFFICIENCY

During 2016, the Louisiana Department of Natural Resources (DNR) began renewed efforts to develop and conduct training of construction professionals on compliance with the 2009 building code that went into effect in January 2015.

DNR continued to support the work being conducted under contract by the University of Louisiana at Lafayette to conduct surveys and recommend energy efficiency activities at industrial, commercial, and governmental facilities in Louisiana.

DNR also continued to support the work being conducted under contract with Louisiana's two Clean Cities organizations (Louisiana Clean Fuels and the Southeast Louisiana Clean Fuel Partnership) in promoting the use of cleaner transportation fuels in the state.

Likewise DNR continued to offer low interest loans to homeowners and other entities for energy efficiency projects.

As with alternative fuels, there is considerable uncertainty about the future of federal funding of energy efficiency programs following release of the new Administration's 2018 for the Department of Energy.

EPISODIC CONTROLS

All of the episodic controls described in the 2013 Advance Report and 2014 and 2015 Updates have continued through 2016. These include Ozone Action Days, EnviroFlash, and Industry Ozone Action Days.

Local industries have agreed to continue to work with the DEQ to maintain the Industry Ozone Action Day program even though the area is in attainment with the ozone and $PM_{2.5}$ standards. As the "trigger" level for calling an Action Day is a "projected" 90% of the standard, this remains a very aggressive concession by industry to do its part to continue its commitment towards air quality standard compliance for the area.

URBAN HEAT ISLAND

Baton Rouge Green's urban forestry program, NeighborWoods, continues to be active in the Baton Rouge area, with an estimated 35,000 trees planted in the urban environment by the organization's volunteers and supporters. These trees help produce shade and keep ambient temperatures down thereby lowering ozone levels. The organization also has a number of other programs that are a benefit to our area including:

- Living Roadway sites, where sponsors make an annual tax deductible contribution, for which they receive recognition, if desired, on a sign at the sponsored site. Sponsorship funds are used to pay for weed control, fertilizing, pruning, and mulching of the trees.
- City Citrus which provides local sources of public fruit by planting Satsuma and other citrus trees on maintained, but underused urban spaces.
- i-Tree Inventory. Through geospatial "cloud" technology along with the U.S. Forest Service's i-Tree analysis, this inventory of our urban canopy will quantify environmental and economic benefits to our community.

CAPITAL REGION PLANNING COMMISSION

Congestion Mitigation for Air Quality (CMAQ) Projects:

The Capital Area Transit System (CATS) applied for a Federal Highway Administration CMAQ grant in order to procure three electric buses. The application was approved. CATS is planning to procure three new electric buses in 2017 and will be modifying the existing Florida Blvd Limited route to a modified Bus Rapid Transit route. The route will be rebranded and will be marketed to attract more riders.

Travel Demand Management Program:

The Capital Region Planning Commission (CRPC) will develop and implement a three-year (2017 – 2019) region-wide Transportation Demand Management program in the Capital Region. A consultant team has been selected to help implement this project. Following are some of the tasks that will be accomplished during this period.

TASK 1.0 OUTREACH

Under this task, the Consultant and CRPC will develop a methodology for public outreach, including outreach to employers, agencies, institutions and the general public. This task is to involve and inform key stakeholders and decision-makers of the TDM strategy/plan development, progress, analysis and findings. This task also includes significant marketing

and public outreach/awareness about TDM activities. Outreach to employers is included in this task to engage them in the TDM activities and participation. This task will include development and administering of a TDM Market Demand Survey to guide further outreach activities and identify an array of incentives that the community supports. This task also includes specific stakeholder interviews, focus group meetings, public outreach events all geared toward educating the public and area employers about the benefits of TDM and Ride Sharing. This will also include education about federal tax incentives/benefits associated with TDM programs.

TASK 2.0 RIDESHARE/TDM PLAN DEVELOPMENT

Under this task, a framework plan for Rideshare and TDM will be developed. This plan will include key industries/businesses/educational institutions that should be approached for inclusion in the TDM program. In development of the plan, the CRPC staff and Consultant Team will analyze commute patterns, regional employers and employment locations, demographic information and relative socioeconomic data to prioritize employer outreach and how to appropriately educate and incentivize public participation. The plan will also consider: park and ride survey and needs analysis as it relates to carpooling and vanpooling; long term funding and program sustainability; HOT analysis and other travel time reducing strategies to provide incentives for carpooling and vanpooling; guaranteed ride home and other ridesharing incentives; the array of TDM strategies such as compressed work weeks, alternate work schedules, flexible work schedules, and teleworking.

TASK 3.0 DEVELOP BRAND, MARKETING PLAN AND MARKETING TEMPLATES

Primary tasks include the early development of a cohesive branding strategy including a logo, title slogan, taglines and visuals for the Ride Share and TDM program which will be developed through engagement of the MPO Technical and Policy committees as well as input from key stakeholders.

Development and implementation of a marketing plan includes identification of communication goals, message development, web, social media, broadcast, video, and print components. Consultant will prepare templates for outreach materials to be used at events and meetings.

Development of public outreach materials such as, (but not limited to): newsletters, email blasts, social media presence and presentation are included in this task.

TASK 4.0 DEMONSTRATION PROGRAM, LONG TERM STRATEGY DEVELOPMENT, SOFTWARE ANALYSIS

This task will explore ways for the CRPC MPO to continue operating the TDM program at the close of the consultant contract. The Consultant will deliver a long term staffing plan and budget, marketing and outreach materials and any other materials recommended to achieve this goal.

Additionally, a replicable program should be created such that it can be shared among the MPOs throughout the state. The Consultant will develop strategies that they may be tailored to other MPOs in a way that allows them to establish successful regional programs. As each MPO region is currently working on various TDM programs, the Consultant will develop recommendations that can be implemented by all MPO regions with regard to successful TDM programs. This will include quarterly learning sessions throughout the contract duration where all MPOs can ask questions and take advantage of the technical assistance provided under this contract. The Consultant will develop topical discussion sessions in conjunction with LADOTD and the MPOs to provide maximum technical assistance.

The Consultant will also research and develop legislative recommendations requiring TDM measures for large employers, if deemed appropriate or beneficial for the region. Work under this task will include development of a White Paper outlining benefits and drawbacks of legislating TDM. The paper will include examples of successful states that have legislated TDM requirements as well as areas with successful TDM programs where it is not mandated. The paper will also outline ways in which TDM is funded when adherence is voluntary.

Finally, the selected consultant will review the ride match software utilized by the Capital Region MPO and provide recommendations on other software that should be considered by the Capital Region MPO and/or other MPOs throughout the state.

TASK 5.0 VANPOOL FEASIBILITY STUDY

The main objectives of this task are to determine the feasibility of vanpooling in the region, long term funding strategies for vanpooling, vanpool structure, and identifying the best entity for establishing and operating a vanpool. Principal tasks should *include but not be limited to*:

- Establishing and facilitating a working group that includes area employers, government representatives, the transit agency and other interested stakeholders.

- Assessment of the region's physical, corporate and socioeconomic conditions relative to vanpools.
- Identification of the most beneficial vanpool routes or commute distances
- Evaluation of commuter trip patterns and coordination with neighboring MPOs if needed.
- Develop vanpool ridership projections for the first five years with strategies to grow vanpool riders (i.e. seat subsidies)
- Review alternative operating models and present a preferred alternative.
- Identify appropriate metrics for measuring performance within the preferred alternative operational model.

In addition to the aforementioned tasks, CRPC has been working on the development of a web-based Information Resources Center to support BRCAC and LDEQ in the implementation of the new strategy to expand the LDEQ emission reductions banking program to mobile sources. This website became active for review and further development early in 2017 and can be found at http://www.laerc.com/. The website provides background on the revised LDEQ ERC banking program; list projects, service providers, and helpful resources; and maintains a real time summary of emission reduction credits in LDEQ's banking system.

BATON ROUGE AREA INDUSTRY ACTIVITIES

PM 2.5

Sulfur Dioxide is a recognized precursor to atmospheric $PM_{2.5}$ concentrations. To comply with the EPA's SO2 1-hour ambient air standard implementation guidance, industry entities teamed with the LDEQ to perform the necessary modeling, monitoring site selection and installation of two new monitors to facilitate compliance. In addition to purchasing the monitors, the industry entities paid for the operation of the monitoring stations until the start of the next LDEQ fiscal year beginning July 1, 2017. In addition, all the industry associations will be subject to a fee increase proposed by LDEQ following authorization in the 2016 Louisiana Legislative Session to support, among other things, the continued maintenance of the entire LDEQ air quality monitoring network. This increase goes into effect July 1, 2017.

Though driven by regulatory requirements, the collaboration between industry and the LDEQ on this issue demonstrates the joint commitment to air quality and clearly demonstrates the ideals of the advance program.

“Hybrid” Air Permitting Program

The Baton Rouge area achieved ozone attainment status with the 2008 ozone NAAQS on March 21, 2017. As such, the Clean Air Act allows the area to revert to the Prevention of Significant Deterioration (PSD) air permitting program. The PSD program allows for certain de minimis air emission increases from point sources without “offsetting” these emissions.

Several years ago (though it was slightly modified recently), LDEQ and industry agreed on a “hybrid” air permitting rule when the Baton Rouge area achieved attainment status. While this was originally intended for a “short duration” period during two ozone ambient air quality standards, it will now be the Baton Rouge area permitting requirements for the foreseeable future as it is part of the maintenance plan for the area.

The hybrid program mixes the concepts of PSD and the Non-Attainment New Source Review (NNSR) permitting programs. While the hybrid relaxes some of the “thresholds” in the NNSR program, it retains “offset” requirements to minimize certain emission increases.

This is an excellent example of how industry has worked with the agency to further the “long-term” betterment of air quality in the Baton Rouge area.

The Clean Air Coalition has continued discussions on a series of regulatory actions that will continue to allow industrial growth in Baton Rouge while simultaneously improving air quality. The three regulatory actions (two adopted in late 2015 and the last adopted in early 2017) all center on the expansion of the flexibility of the emission banking program needed for Nonattainment New Source Review Permitting.

The driving impetus for these rules is based on the current drivers of the area’s ozone formation. In the early 1980’s, the area required a VOC-reduction strategy. The area is now in a NOx-reduction strategy. Due to the aggressive approach to reduce VOC emissions, the ability to create excess VOC reductions for the emission bank has become more difficult and expensive.

The first rule (identified as AQ354) allowed for the “interpollutant” trading of NOx and VOC emissions. While primarily intended to assist industry to generate credits for nonattainment permitting, it does encourage industry to voluntarily reduce the more impactful NOx emissions to ozone formation to offset the “typical” VOC increases from the petrochemical industry expansions.

The second rule (AQ353) allowed for the continuation of the bank as the Baton Rouge area moved in and out of the various ozone standards. This rule encourages industry to continue to make early voluntary emission reductions without fear that these reductions would be confiscated due to a temporary period of attainment designation.

The final rule (AQ365S), and maybe most important to maintaining ozone compliance, will allow emission reduction credits to be obtained by controlling "mobile" sources. This rule is expected to become final on May 20, 2017. This rule opens multiple opportunities in a large, industrial, heavily trafficked (intersection of I-10 and I-12) and major port city; the opportunities for mobile emission reduction emissions are virtually unlimited. As the reductions achieved will be traded on a greater than "one-to-one" basis (i.e. greater emission reductions from mobile sources are needed to offset projected point source increases), the overall air quality in Baton Rouge benefits from this rule.

On January 26, 2017, the LDEQ, with its partners, hosted a workshop on the rule and the potential opportunities available to create these emission reductions. Over 100 people attended cementing the interest of this concept for the Baton Rouge area.

In summary, while this triumvirate of rules helps industry grow in the area by allowing offsets, the area benefits greatly from their implementation and the goals of the Advance Program are promoted by their adoption.

PUBLIC OUTREACH AND EDUCATION

The Baton Rouge Clean Air Coalition, Capital Region Planning Commission, Louisiana Clean Fuels, LDEQ, and LDNR are all continuing public outreach and education activities as described in our 2013 Advance Report and the 2014 and 2015 Updates.

BRCAC

BRCAC continued to maintain its Facebook page and website and continued its program sharing information with its stakeholders on developments at the local, state, and federal level related to air quality. BRCAC was also actively involved in public education/outreach associated with the LDEQ revision to the ERC banking rule to include mobile sources. BRCAC and LDEQ organized and jointly sponsored a conference in January 2017, providing information concerning implementation of the new rule.

LCF

LCF outreach activities for 2016 were documented in their 2015 Transportation Technology Deployment Report completed in April 2016. Including its stakeholder meetings, LCF reported 49 outreach events featuring alternate fuels and AF fleets reaching an estimated audience of 712,338 individuals in Louisiana. LCF also continued public information and outreach activities through its online newsletter, social media accounts and their website.

LDEQ

LDEQ scheduled interviews around the state for Air Quality Awareness month. In addition, LDEQ promotes air quality awareness at events like Earth Day, conferences, school and more. DEQ has set up a notification system that the public can access to get notification when a monitor has an exceedance of Ozone, SO2 and/or PM2.5.

CRPC

CRPC outreach activities are described in concert with their major tasks described previously in the 2016 Voluntary Emissions Reduction Activities section.

LDNR

The Louisiana Department of Natural Resources continued its outreach activities associated with their agency responsibilities for promoting energy efficiency and alternate fuels.

OTHER

EPA School Flag and Anti-Idling Programs

Last year, we were impressed to learn that one local school had undertaken a project on its own to protect students from vehicle emissions by posting anti-idling messages for student drop-off and pick-up areas of the school (see figure 10).

Figure 10. Anti-idling signs posted at a local school.

BRCAC has backed LDEQ's effort to build on the anti-idling signs idea by submitting an application for a region-wide program for possible beneficial environmental project (BEP) funding through LDEQ's enforcement program.

Revision of LDEQ's ERC Banking Rule to Include Mobile Sources

As discussed earlier, in 2014, BRCAC proposed a new strategy for the generation of emission reduction credits to further local emission reductions and provide a new means of obtaining much-needed emission reduction credits for local projects development. This strategy essentially involved opening up eligibility for emission reduction credits to mobile and area sources. This proposal was well received by all stakeholders and work began on further defining particulars of the strategy. The strategy and its development are described in detail in the 2014 and 2015 Baton Rouge Advance Program Update Reports. The initial rulemaking was proposed in September, 2016 and re-proposed with substantive revisions in March of 2017. The rule AQ365 is expected to become final in May of 2017.

Implementing this new ERC strategy will help mitigate air quality and economic development constraints of the current "point source only" banking system and provide a number of valuable benefits for the Baton Rouge area such as:

- Allow for continued economic and transportation development (increased availability and lower costs for ERCs, which are now scarce and costly)
- New ERC projects can start reducing emissions and improving air quality in a relatively short period of time (which is a goal of EPA's Advance Program in which we participate)
- Provide for overall ratcheting down of emissions in the nonattainment area through the emission offsets required for permits for new sources of pollutants

- Reduce emissions from important ozone precursor sources not easily regulated by DEQ (e.g. on-road and off-road mobiles sources)
- Facilitate overall emissions reductions in pursuit of attainment and maintenance of ozone and $PM^{2.5}$ NAAQS
- Provide funding opportunities for those with emission reduction projects they would like to pursue, but have no funding
- Substantially further interest in clean diesel

The Baton Rouge Clean Air Coalition sees implementation of AQ365 as a valuable tool in helping the Baton Rouge area achieve and maintain attainment of national air quality standards

2017 PLANS

All of the Baton Rouge Advance participants (BRCAC, LCF, and CRPC) plan to continue with their ongoing activities into 2017.

One major effort all three organizations in 2017 is the completion and implementation of the new strategy to grant emission reduction credits for mobile and area sources as well as point source projects. This will involve further development of ERC Information Resources Center website being maintained by CRPC and public education and outreach in the Baton Rouge area for promulgation and then implementation of the final rule. BRCAC continues to monitor the implementation of federal programs that will result in future reductions of ozone and PM within the Baton Rouge Area including fuel standards, EPA engine rules, the Cross State Air Pollution Rule (a/k/a Transport Rule), and other state and federal actions, including consent decrees and settlements.

A principal challenge to our three organizations in 2017 will be dealing with the uncertainties brought the Administration changes following the 2016 national elections.